MAPPING AND SAMPLING REPORT
ON THE TIDE CLAIMS GROUP
(TIDE CLAIMS 83, 85, 87, 89, 91)

SKEENA M. D.

NTS 104 B/6E

LATITUDE: 56° 14'

LONGITUDE: 130° 04'

BY: OSCAR BARIA

OWNER AND OPERATOR: ESSO RESOURCES CANADA LTD.

JANUARY 1984

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I INTRODUCTION

The Tide claims (83, 85, 87, 89,91) is situated 26 miles by dirt road north of Stewart B. C. and directly east of Scottie Gold Mines and was staked by Newmont Mining claimed on February 27, 1967 after the Trojan Horse Tunnel was driven.

The claims were transferred over to Esso Resources (present owner and operator) when Newmont relinquished its ownership over the Granduc Mine.

Prior to Newmont, this claim belonged to the Rainbow and the Rainbow extension claim groups and in 1947 were controlled by the Cassiar Rainbow Gold Mines Ltd. Construction of the tunnel commenced in 1967 to avoid serious snow slide conditions and completed in 1968.

Cassiar Rainbow tested the E - W trending shear zones with eleven drill holes, mostly dipping south (see figure 3) trenches and with picked samples, however, with no economically significant results.

Field work commenced in August 17 to 19 and from September 1 to 16, 1983 to determine and reassess the potential of the claims because of its relative closeness to the Scottie Gold Mine and the high possibility of the presence of a stratabound gold bearing horizon.

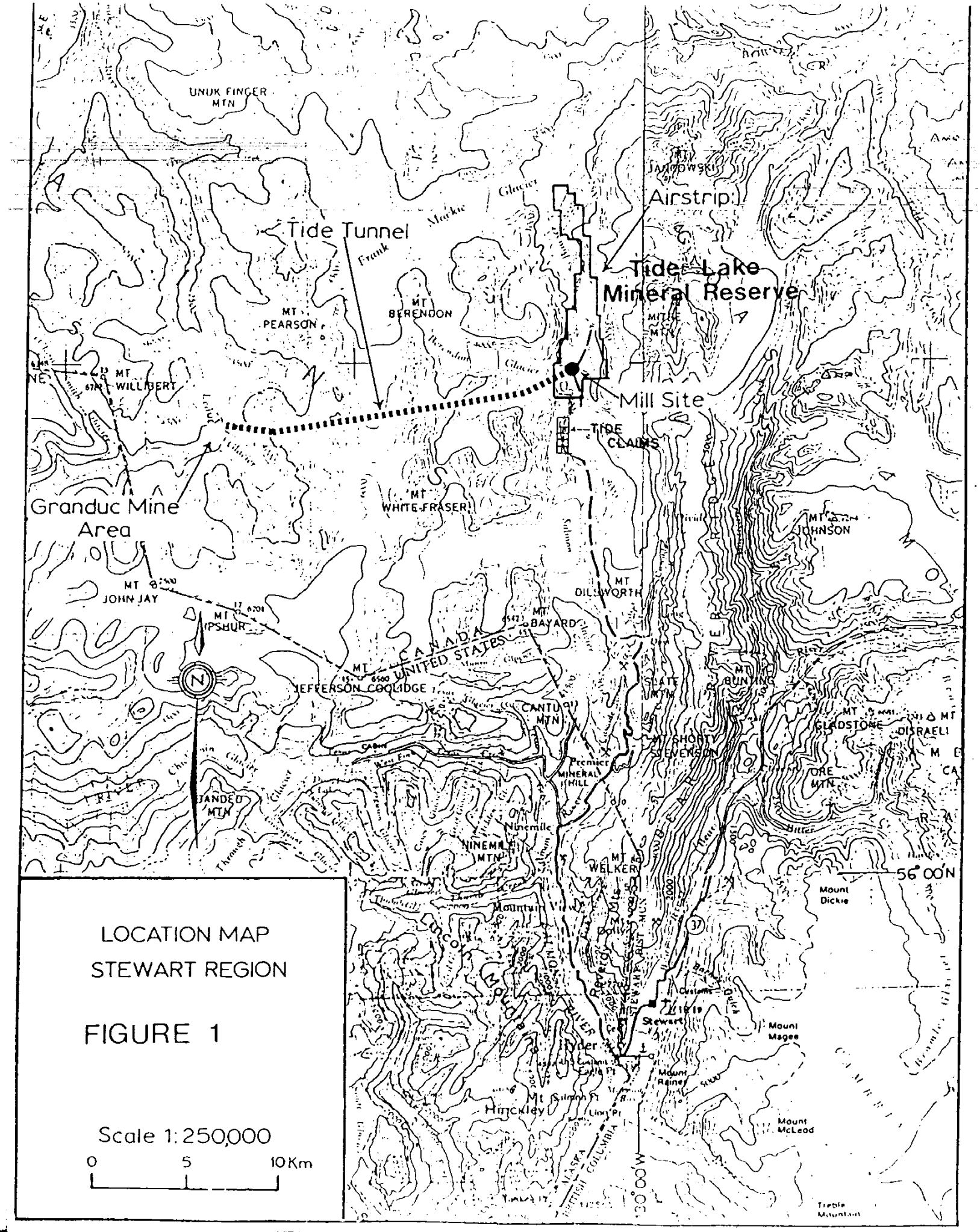
Mapping and sampling were done on the claim group over a total area of 110 hectares at 1: 10,000 scale. Reconnaissance mapping and sampling was done outside the claims to fit the claim geology in the regional stratrigraphy. The Trojan Horse Tunnel was mapped to locate any mineralization intercepted in the tunnel. Only one good section on the east ~~west~~ wall was found to be potentially significant (0.168 oz. / ton over 2.7 m or 9 ft.). There was no continuation of mineralization on the westwall.

II LOCATION AND ACCESSIBILITY

The Tide claims are located east of Summit Lake, and accessible by dirt road 26 miles from Stewart, B. C.
Please see location map (figure 1).

III PHYSIOGRAPHY

The topography has considerable relief from crest and ridges at 3000' to 3700 feet elevation, the Trojan Horse Ridge is flanked east and west by deep glacially cut valleys. The Summit Lake to the west of the claims is dammed by the Salmon Glacier forming a deep lake with seasonal marginal water level. The lake drains towards the Salmon River from time to time exposing a silty flat valley.



LOCATION MAP
STEWART REGION

FIGURE 1

Scale 1:250,000

0 5 10Km

PHYSIOGRAPHY continued

The area is very thinly vegetated because of its high relief and the presence of numerous avalanche skidways and a generally thin top soil cover.

Precipitation is particularily high with winter snowfall averaging 60 feet.

IV PREVIOUS WORK

The claims have been previously explored by Cassiar Rainbow Gold Mines Ltd. driving 11 holes testing east - west striking shear zones.

Several trenches were dug across shear zones and channel sampled, however, with very little significant results. The Trojan Horse Tunnel has been prospected with no significant mineralization encountered. Please see accompanying report at index .

It is worthwhile to mention that numerous workers have studied the regional geology of North Western B. C. which included the general vicinity of Trojan Horse Ridge.

V REGIONAL GEOLOGY

The geology of Tide Lake area in which our claims are located is made up of an extensive sequence of volcanic and sedimentary formations overlain by the Bowser assemblage and with no district bottom limit. The Hazelton extends areally well beyond the Stewart region of which the limits were distinguished by fossil and structural evidence. The upper stratigraphic boundaries were accurately recognized where the assemblage is overlain by the Bowser units with an apparent angular unconformity. In the Tide area the Hazelton unit trends north with the Bowser units in the east and bounded in the west by granodioritic intrusions. As indicated in the stratigraphic column figure the Hazelton assemblage where deposited early Jurassic (Sinemurian) and middle Jurassic (lower callovian) time. This also represents an eugeosynclinal island arc volcanic and sedimentary assemblage.

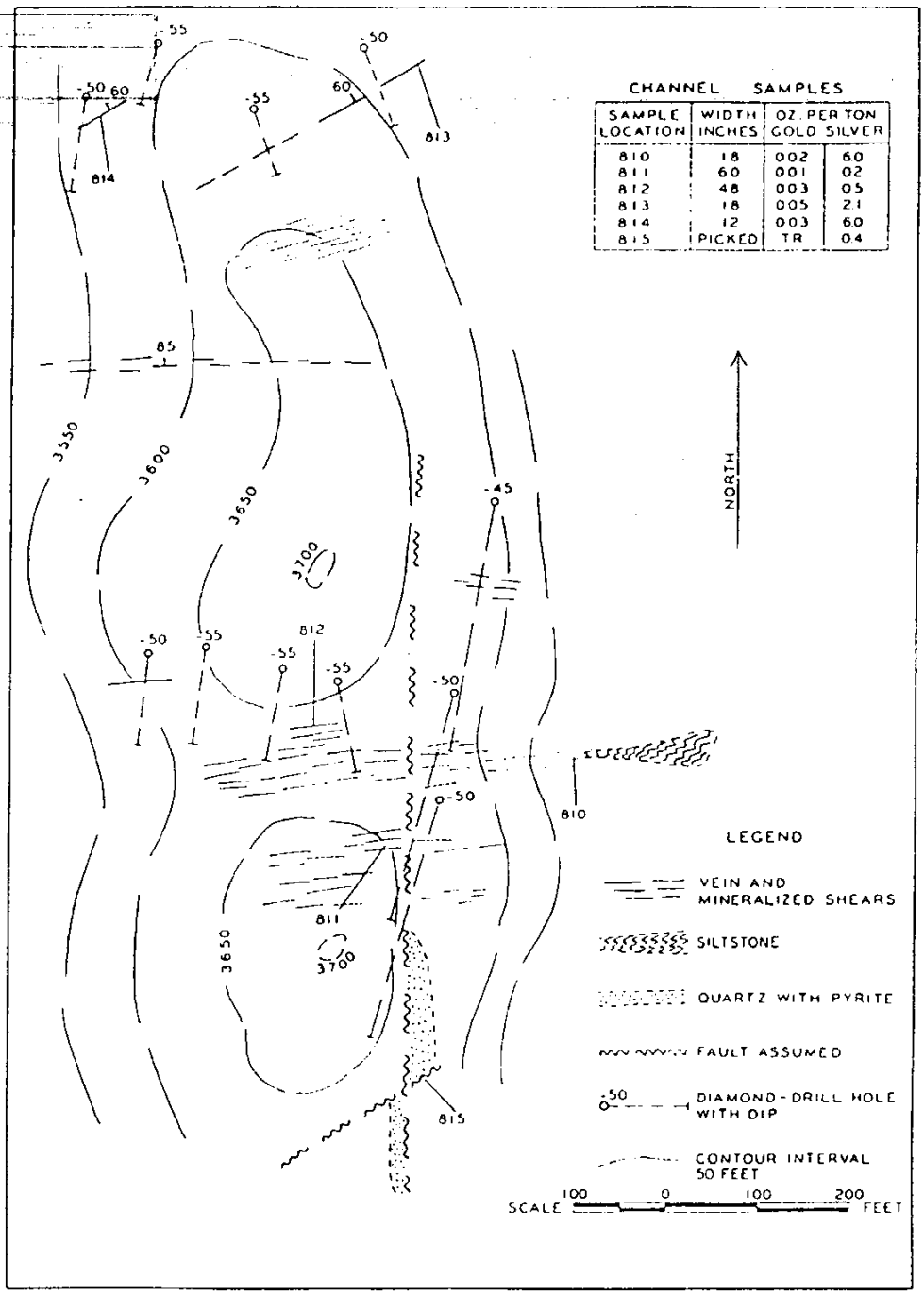


Fig. 3. Cassiar Rainbow Gold Mines, Limited—plan of surface, showing veins, shears, diamond-drill holes, and assays.

Note: Taken from B. C. Department of Mines and Petroleum Resources, Bull. No. 58, Geology and Mineral Deposits of the Stewart area, B. C. , 1971.

REGIONAL GEOLOGY

It is noteworthy to say that most major and most of the smaller precious metal deposits occur with the Hazelton Group (see map # 1) (Aldrick 1983).

Recent reconnaissance of the Tide Tunnel revealed a unit of volcanic breccia resembling Hazelton volcanics. Earlier tunnel mapping by Newmont showed a 10,000' thick unit of argillite in contact with the granodiorite. All units west of the Summit Lake stock dips west. All these indicate that an antiform structure may be present.

VI 1983 FIELD SEASON

A total of 23 man days were spent in mapping and sampling both surface and underground exposures including the 8 days spent in mapping the Trojan Horse Tunnel. The old trenches were resampled and the areas surrounding the claims (Tide 83, 85, 87, 89, 91) were mapped.

VII LOCAL GEOLOGY

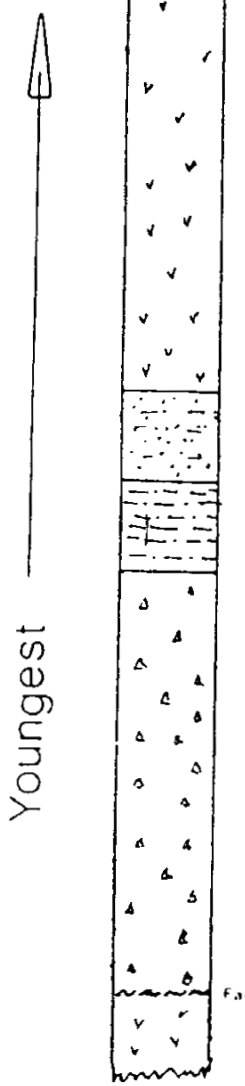
The claims covers mostly volcanic breccia and agglomerates with a few small greenschist sections. The rocks trend north and steeply dipping east ($\blacktriangleright 80^{\circ}$).

These volcanic breccias are overlain by mostly siliceous siltstones and argillites, although, graywacke, phyllitic and pebble conglomeratic occur. Angular to sub-angular fragments are found in the volcanic breccias. Some of these fragments are so chemically corroded and rounded so as to be considered as agglomerates.

Overlaying the volcanic breccia are argillites which are well bedded and continuous. Sulphides (mostly py) are found in this unit in very thin laminations creating gossans with long areal extent. Intercalated and overlying the argillites are siltstones in varying degrees of silicification, generally very fine grained and in some portions, the quartz has been recrystallized. In this case, dissemminated py / po is present in low quantities.

FIGURE 2

Stratigraphic Column of Hazelton Group at Trojan Horse Ridge



Units:	Thickness
Grey and maroon epiclastic volcanics	> 300 metres
Massive andesite	1500 m
Volcanic siltstone Argillite	300 m
Shales and siltstone	300 m
Volcanic breccia	1400 m
undifferentiated Volcanics	> 300 m

Early to middle Jurassic in age

LOCAL GEOLOGY continued

Because of the snow cap, the volcanic breccia was not delineated. There is a high possibility that the silstones, argillites and greywacke exposed by the Salmon Glacier would extend north and west of the volcanic breccia.

Towards the south of the Trojan Horse Ridge is an irregularly shaped body of andesite previously unreported or mis-identified in earlier reports or maps. The andesite porphyry should be given due attention because of its spatial relationship with the volcanic breccia, being a mineralized unit.

The andesite porphyry is seen grading to greenschist farther south of the Trojan Horse Ridge and towards the contact with sedimentary rocks. In certain sections this rock has been altered to maroon color, although the porphyry feldspar grains could still be seen and are very distinct.

Towards the north, the volcanics were cut off and displaced by a north east trending fault and bounded by the Summit Lake diorite.

Figure 2 shows the stratigraphic column at the Trojan Horse Ridge and the relative position of the claims in the stratigraphy of the Hazelton group.

Vii MINERALIZATION

The most significant result of the mapping and sampling of the Trojan Horse Ridge is the identification of a potentially mineralized horizon, located at the contact between the volcanic breccia, and the argillites east of the ridge. Normal assays at the contact approximate 0.05 oz. per ton. ?Au? Stringers of pyrite and pyrrhotite occur parallel to bedding especially in the argillites. Graphite or graphitic horizons occur with the sulphides with associated fine stringers or discrete laminations of calcite. Away from the contact, gold values drop dramatically except where quartz sulphide rich shear zones occur.

MINERALIZATION continued

The quartz rich shear zones, trending westerly, occur within the volcanic breccia. None of these shear zones were ever seen in the overlying argillites. One quartz sulphide rich zone runs west to east and then extended towards the north after coming in contact with the argillites. This particular sulphide rich zone is exposed west of the road, in the tunnel and on top of the ridge, all of which has been sampled and mapped (see map 3, 4 and 5). Numerous white quartz veins trending westerly, some up to 2 feet thick, are relatively barren. Although pockets of sulphides are found in a few places. The quartz sulphide rich zones normally carry grades of 0.01 oz. / T or less, although, a few areas on the same zone might carry values up to 0.05 oz. / T. ?Au?

Mapping and sampling in the Trojan Horse Tunnel shows no correlation between the quartz veins and sulphide mineralization. Since anomalous values (0.01 oz./T) ?Au? are normally found in samples containing abundant sulphides one can safely say that gold mineralization is genetically related to sulphide mineralization. However, no study has yet been done to determine which among the sulphide phases harbour gold. Anomalous copper values correlate well with anomalous gold values, although no straight line relationships were found between them.

The only economically significant gold mineralization encountered in the tunnel is 0.168 oz. / ton over 2.7 m or 9 feet, found on the east wall 675 meters from the south portal. Sampling on the west wall did not show any continuation of mineralization. Analysis of the same sample by a separate Laboratory showed the same result. The host rock for this anomaly is the same quartz sulphide rich rock described earlier (see map # 3).

Sulphide mineralization in the volcanic breccia, as a unit, is highly irregular and sporadic. They are mostly disseminated, sometimes euhedral grains of pyrite and pyrrhotite, very rarely do they form stringers. If found as stringers they contain traces of chalcopyrite.

IX CONCLUSION AND RECOMMENDATION

The quartz sulphide rich zones and the volcanic Breccia - Argillite contact horizon were identified as potentially economic mineralized zones of which require further and more detailed investigation.

The sampling in the Tunnel of the quartz sulphide zone showed that gold mineralization is very sporadic or intermittent in nature. This fact should be taken into account in any future exploration activity which would mean that a lot more exposure or accumulated data is required in the case of any future grade, tonnage estimates and ore delineation.

XI REFERENCE

Alldrick, D. V. (1983) — Salmon River Project, Stewart, British Columbia, B. C. Ministry of Energy, Mines and Petroleum Resources. Paper 1983 - 1 page 182 - 195

Grove, E. W. (1971) — Geology and Mineral Deposits of Stewart Area, B. C. Ministry of Energy, Mines and Petroleum Resources, Bull. 58, 219 pp.

Tipper H. W., Richards, T. A. (1976) — Jurassic Stratigraphy and History of North - Central British Columbia, Geol. Surv. of Canada, Bull. 270, 73 pp.

APPENDIX ONE

PROCEDURE for Cu, Pb, Zn and Ag by atomic Absorption

1) Weigh out 1 gm of sample (-100 mesh rolled 50x) into a 400 ml griffin low form beaker.

2) Add 25 mls of HCl, cover with a watchglass and digest for 5 minutes.

3) Add 5 mls of HNO_3, 2-3 mls of HF and 10 mls of $HClO_4$ and heat strongly to absence of fumes.

4) Remove to cool, add 25 mls of HCl and wash down watch-glass and beaker sides with 50 mls of water.

5) Recover and heat to boiling to dissolve all salts, remove and transfer with washing to a 200 ml volumetric flask containing 25 mls HCl.

6) Cool, bulkup to the mark and mix. Filter enough sample for AA work or dilutions through a #2 whatman filter into a clean and dry 100 ml beaker.

7) Run the filtrate and/or its dilutions for Cu, Pb, Zn and Ag. See Note 2.

NOTE 1) All water used is demineralized and all acids are concentrated technical grade.

2) It is necessary that the HCl concentration be maintained at 25% V/V for all solutions requiring Ag to be determined. If Ag is not required, the HCl concentration can be reduced to 10% V/V.

APPENDIX TWO

COST STATEMENT

The following direct cost were incurred:

Wages: August 17 to 19, September 1 to 16, 1983, January 2 - 5, 1984;	
23 days; one Geologist; $ 157.43* / day	$ 3620.85
Cleaning, washing and scaling of the Trojan Tunnel in preparation for mapping:	
September 7, 1983; One front end loader including operator; 8 hours	
at $ 95.00 / hr.	$ 760.00
six men; one day; $ 156.15* / man / day	936.91
Equipments:	
One pick-up truck; ten days; 160 miles; $ 0.33 / mile	$ 52.80
Miscellaneous (office supplies, sample bags, tags, picks etc.)	250.00
Chemical Analysis:	
40 samples; Canada Wide processing analysis by Au, Ag, Pb, Zn, Cu;	
$ 5 / sample	$ 200.00
40 samples; min-nen; fire assay; Au; $ 5 / sample	200.00
TOTAL EXPENSES	$ 6,322.36

* Wages and Benefits

APPENDIX THREE

STATEMENT OF QUALIFICATIONS

I, Oscar R. Baria of Stewart, B. C., do hereby certify that :

1) I graduated with a Bachelor of Science Degree in Geology from the University of the Philippines in 1977.

2) I have been employed since that time in various Mining and Exploration Companies as Geologist in Minerals. Since March 1982, I have been employed by Canada Wide Mines Ltd. as Geologist involved in various mining and exploration activities.

Cassiar Rainbow (Locality 3)

These showings, formerly on the Rainbow and the Rainbow Extension claim groups, in 1947 were controlled by the Cassiar Rainbow Gold Mines, Limited and at that time were located by C. D. E. Barker, of Premier. The showings are on the ridge locally known as the "Trojan Horse," on the east side of Summit Lake. This ground had been previously explored, and a map on page 65 of the British Columbia Minister of Mines Annual Report for 1920 shows the White Moose and War Eagle near this location. Access is now by the Granduc road which skirts the lower slope of the ridge above the lake. A road tunnel through the Trojan Horse, completed in 1968 (drilled and tested in 1967) in order to avoid a serious snowslide situation, passed under the showings without intersecting significant mineralization.

Country rocks consist of intercalated green Hazelton volcanic breccias, conglomerates, and sandstones, and their metamorphic equivalents. These steep-dipping north-trending epiclastics are cut by a series of almost east-west rusty-weathering shears containing quartz, minor pyrite, and other sulphides. The ridge rocks are cut by a number of post shear dykes ranging in thickness from a few inches to 20 feet, which appear to have characteristics of the Premier dyke swarm.

A synopsis of the work performed at the property (1947, p. 86), plus a sketch map (Fig. 28), follows:—

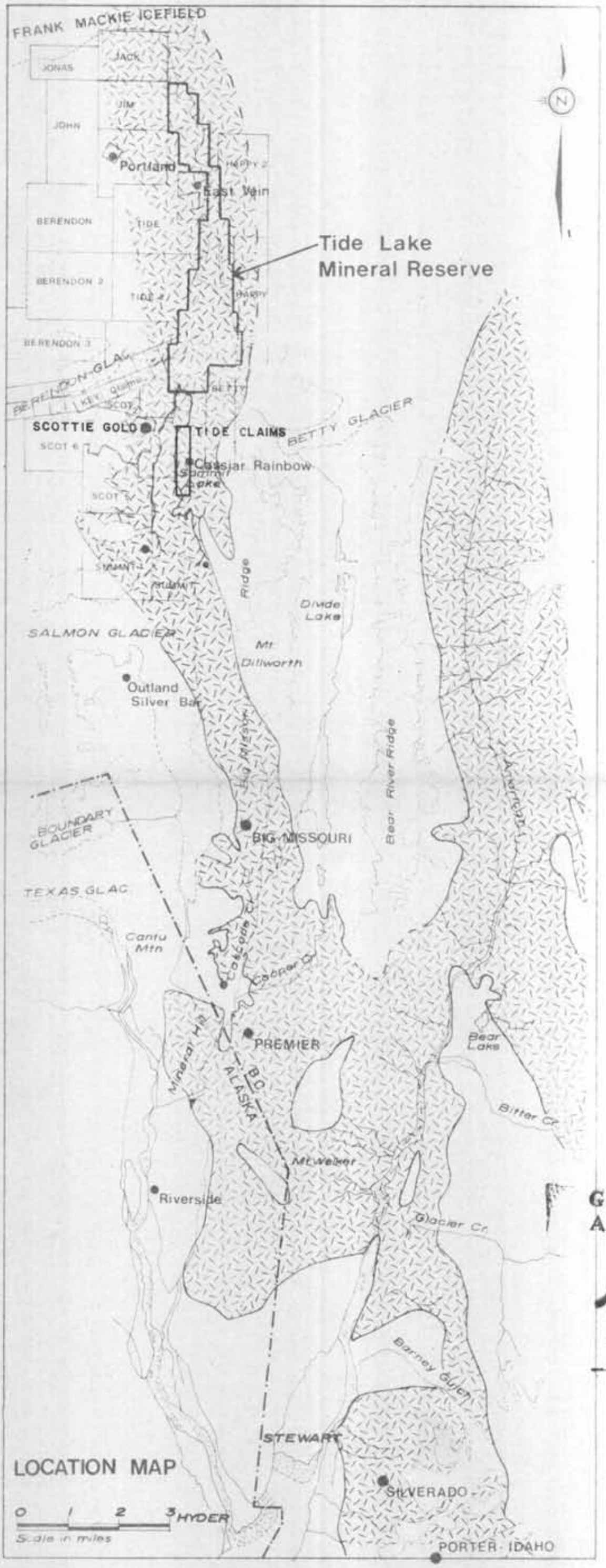
> Trenches and some natural outcrops expose wide zones of shearing that strike westerly and dip steeply northward. This shearing can be followed for 600 feet across the top of the ridge and extends farther down the slopes. Unless trenched, shear zones are poorly exposed, since they have been more susceptible to erosion than the unsheared rocks. One zone, partly exposed on the surface, is seen in the drill-core to be about 160 feet wide, but much of this width is not intensively sheared. Within the shears, pyrite is abundant, silicification is common, and stringers of white quartz and carbonate are numerous. Sphalerite, galena, pyrrhotite, chalcopyrite, and arsenopyrite are found in parts of the shear which is generally restricted to widths of not more than 5 feet. A few veins less than 2 feet wide occur where there is less shearing. The core from the diamond-drill holes resembles material observed in surface exposures, although shearing is more noticeable and sulphides appear to be more abundant. Figure 28, based on a pace and compass traverse, shows the shears, the location of samples, and location of the diamond-drill holes.
>
> Assays of three samples (810, 811, and 812) taken from shear zones and of two (813 and 814) veins gave the following results:—

Sample	Width	Gold	Silver
	Inches	Oz. per Ton	Oz. per Ton
No. 810	18	0.02	6.0
No. 811	60	0.01	0.2
No. 812	48	0.03	0.5
No. 813	18	0.05	2.1
No. 814	12	0.03	6.0

> A topographic break, consisting of a northerly trending line of low ground and ponds, and with low bluffs along the west side except where shearing is intensive, may mark a major fault. The rocks on both sides of the break are similar massive, sheared tuffs without markers to indicate displacement. The mineralization is found on both sides of the break, but may be younger than the presumed fault. In the south a zone of quartz and pyrite up to 25 feet wide is found on both sides of the break. A picked sample of quartz-pyrite mineralization (815) assayed: Gold, trace; silver, 0.4 ounce per ton.

[Reference: *Minister of Mines, B.C.*, Ann. Rept., 1947, pp. 86–88.]

Note: Taken from B. C. Department of Mines and Petroleum Resources, Bull. NO.58 Geology and Mineral Deposits of the STewart Area, B. C. 1971. Grove, E. W.



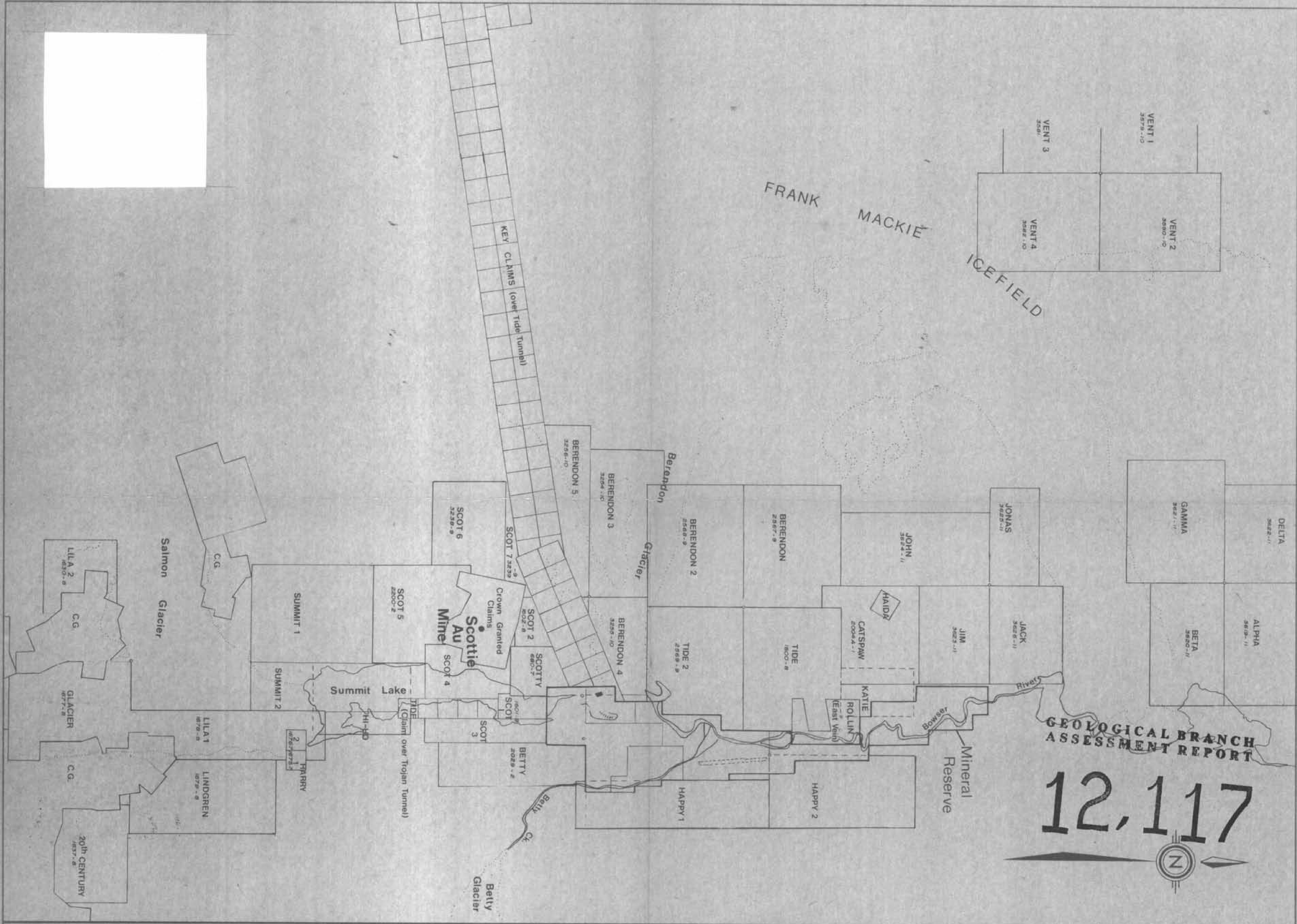
Hazelton Group Volcanics

- Past or present precious metal producer
- Precious metal prospects

BERENDON 2 MINERAL CLAIM

SCALE – 1 inch : 2 miles

MAP # 1



CANADA WIDE MINES LTD.

GRANDUC MINE · STEWART, B.C.

APP. BY	DEPT.	DATE

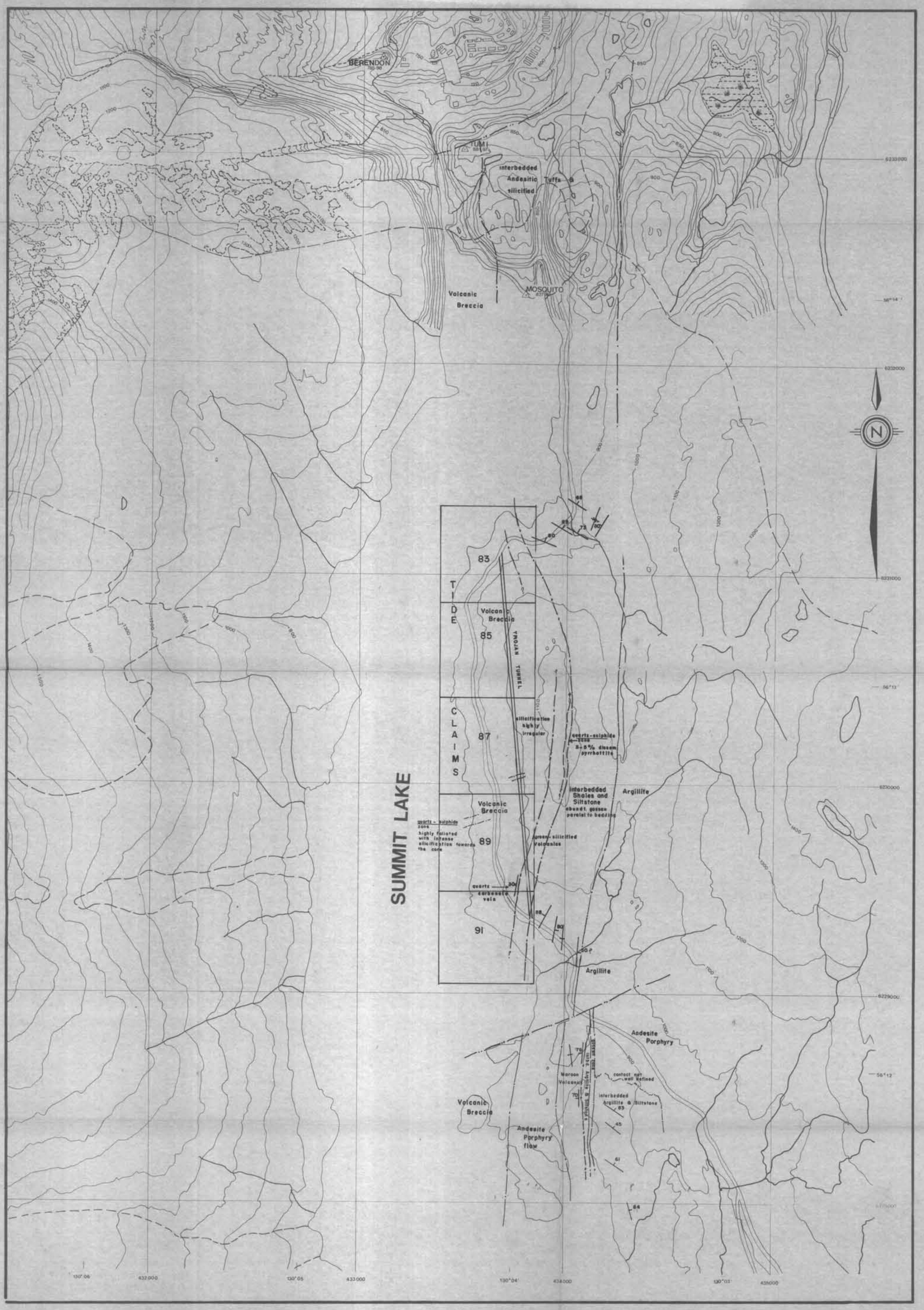
SCALE: 1: 50,000

DRAWN:

DATE: August 22/83

TITLE: CLAIM OWNERSHIP IN TIDE LAKE AREA

DWG NO: MAP # 2



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Ft 1000 0 1000 2000 3000

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,117

CANADA WIDE MINES

GEOLOGY

TIDE CLAIMS

Scale	NTS
1 : 10,000	104 B/6E
Date	Mining Division
03 JAN 1984	SKEENA
Drawn By	Map No
O. BARIA	3

SOUTH PORTAL 0+00

Volcanic Breccia - gn., qtz., partly silic. f-m.g., mod. foliated w/ angular to subangular fragments

qtz-carb vn

grydsul change to gnsh dk gry

mod. silicified

grad contact

— 50 m

gn slightly foliated 1% disw py

grad. contact

argillic dark bands

— 100 m

3-4" gouge, portions are qtz filled

dk gn- c.g., where silic. & chloritization intense angular blocks absent

— 150 m

6"-1' gouge, abundant gossan w/ qtz/argillite lenses on hw side of fault

dk grn to blk. w/ abundant angular fragments mod. foliated in places

— 200 m

numerous low angle fractures

intense silicification

— 250 m

thick gouge sng. frag. in qtz-carb. matrix

— 300 m

— 350 m

— 400 m

— 450 m

lt gn. to dk gry., med. to c.g. numerous chl. pseudomorph, angular charty clast, mafic fragments num. qtz-carb. str.

qtz filled

— 500 m

silicified, chl. on fringes, minor sulph. foliated, w/ angular fragments

0.004/2.5'

0.003/2'

0.005/2.5'

qtz 4-5' thick vein

0.044/2'

— 550 m

highly foliated wallrock on vicinity of qtz vns., dk gry to blk. slightly chl.

num. parallel vns. diss. sulph. on wallrocks

num. low angled fractures

— 600 m

Massive Volcanics - med. to c.g. lt. to dk gn., mod occurrence of

— 650 m

qtz 4-5" thick

0.168/8'
qtz-chl., irregular formed qtz .026
c.g. x lt. gn., 2-3% diss. sulph .001"
.007

0.002/4'
0.001/4'
0.001/4'
0.002/4'
0.001/4'
0.001/4'
0.002/4'
0.001/4'
0.001/2'

— 700 m

4-5" thick in wispy parallel veins

low-angled discontinous patches of qtz veins

numerous short fractures

— 750 m

low-angled dip fract

1-2" gouge

— 800 m

lt. gn., s-m.gr. w/ dk. gn. clasts foliated in places

low angled parallel fractures siliceous wall rocks

— 850 m

Volc. Breccia - variable intensity of silicification

— 900 m

silt., fg., w/ num. fine str. of carb. highly fractured, num. small angular chl. frag & rounded saldatized frag.

Volc. Breccia - vor. silc., lt. to dk gn. w/ chl. angular to rounded clast, some hematitic portions

— 950 m

highly foliated, fg., blk. to very dk gry traces of sulph.

silic. on wall rocks of qtz vns.

— 1000 m

flat dipping fracture

— 1,050 m

num. thin qtz veins

1" qtz

6-1' thick qtz.

flat fractures

— 1,100 m

w/ qtz lenses

— 1150 m

numerous thin qtz-carb veins

— 1200 m

— 1,250 m

contact w/ lt gn. Volc. Bx. & blk. Argillic rx., foliated, fgr. w/ rounded saldatized clasts, carbonatized

— 1,300 m

— 1,350 m

highly fractured, foliated approx. 2' gouge

gradual contact to lt gn., m.-c.gr. slightly silic. at contact

— 1,400 m

— 1,450 m

low angled fractures

fractured, highly foliated

1-2" gouge

— 1,500 m

— 1,550 m

fine laminations of blk. Argillite disturbed, discontinous, w/ black angular fragments in gn matrix foliated where highly chloritized, numerous qtz lenses, fr. of sulphides

— 1,600 m

shallower on walls

1-2' gouge, highly fragmented, chl/foliated wall rxs

— 1,650 m

— 1,700 m

NORTH PORTAL

Ft.
100 80 60 40 20 0 20

M
40 30 20 10 0 10

LEGEND

— GEOLOGIC CONTACT

71 — DIP & STRIKE FOR FAULTS & VEINS

— VEINS

— CHANNEL SAMPLE INTERVAL

— FAULT

ABBREVIATIONS

QTZ.	-	Quartz
Bx.	-	Breccia
VOLC.	-	Vulcanic
CHL.	-	Chloritic
CO3	-	Carbonate
FRACT.	-	Fracture
SILC.	-	Silicified
NUM.	-	Numerous
DISS.	-	Disseminated
DK.	-	Dark
MOD.	-	Moderate
MD.	-	Medium
LT.	-	Light
GR.	-	Green
GRY.	-	Grey
BLK.	-	Black
F. GR.	-	Fine Grained
C. GR.	-	Coarse Grained
W/	-	With

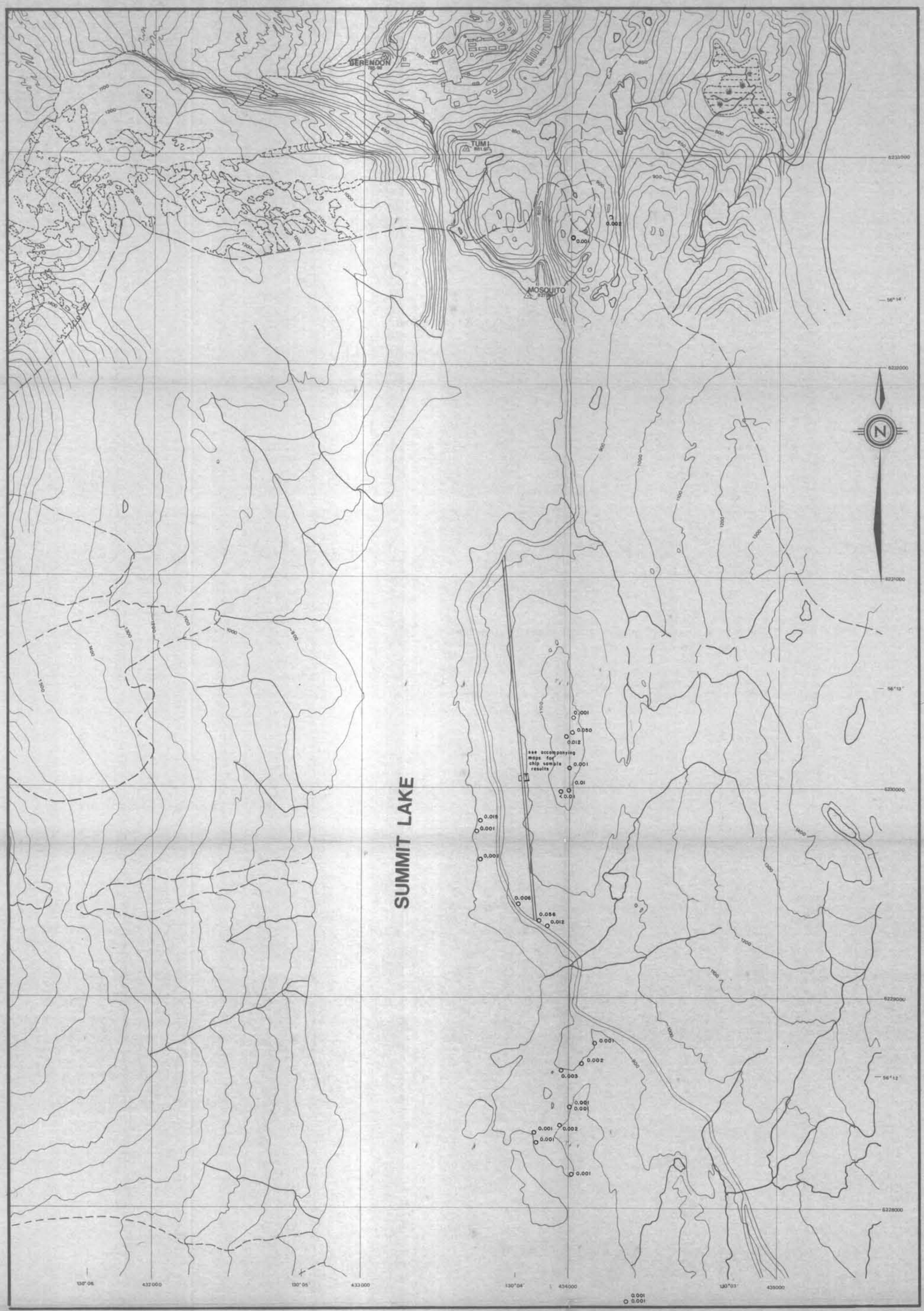
GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,117

CANADA WIDE MINES

GEOLOGY
TROJAN HORSE
TUNNEL

Scale 1:480 or 1in.-40 ft.	NTS 104 B/8E
Date 22 Sept 1983	Mining Division SKEENA
Drawn By O. BARIA	Map No 4



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GEOLOGICAL BRANCH
ASSESSMENT REPORT

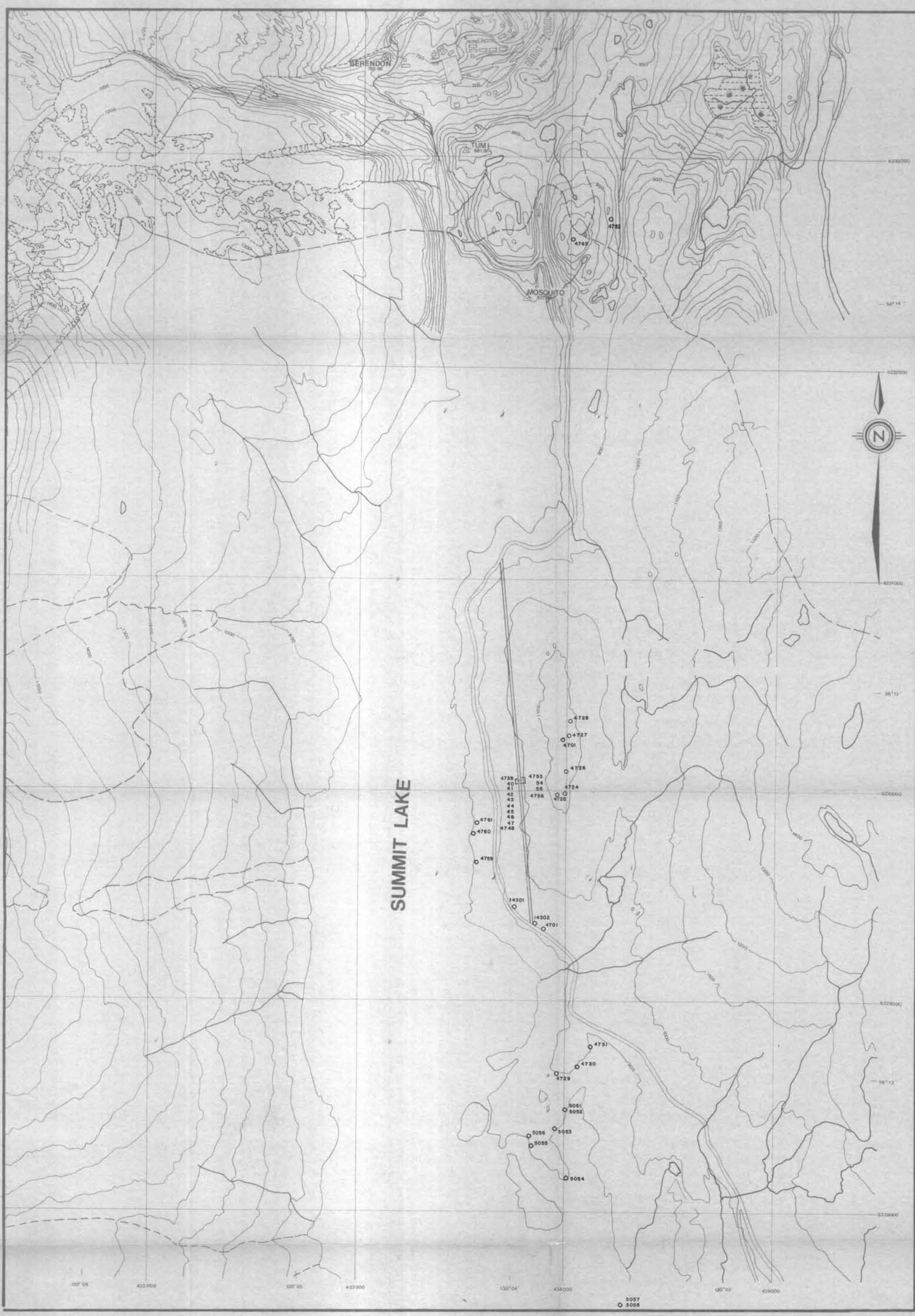
12,117

CANADA WIDE MINES

GOLD ASSAYS MAP

(CHIP SAMPLES ONLY)

Scale 1 : 10,000	NTS 104 B /6E
Date 03 JAN 1984	Mining Division SKEENA
Drawn By O. BARIA	Map No 5



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Ft
1000 0 1000 2000 3000

O 4731 – SAMPLING POINT and SAMPLE NUMBER

CANADA WIDE MINES

SAMPLE LOCATION MAP

Scale: 1: 10,000	NTS: 104 B/6E
Date: 03 JAN 1984	Mining Division: SKEENA
Drawn By: O. BARIA	Map No: 6