

ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 92.03.08

ASSESSMENT REPORT 21079

MINING DIVISION: Liard

PROPERTY: Glacier  
LOCATION: LAT 57 06 00 LONG 131 20 00  
UTM 09 6330722 358646  
NTS 104G03W  
CLAIM(S): Glacier, Glacier 1-2  
OPERATOR(S): Lazeo, T.  
AUTHOR(S): Ven Huizen, G.L.  
REPORT YEAR: 1990, 23 Pages  
COMMODITIES  
SEARCHED FOR: Copper, Silver  
KEYWORDS: Triassic, Andesites  
WORK  
DONE: Prospecting  
PROS 1000.0 ha  
RELATED  
REPORTS: 20587

LOG NO: <i>Mant 14/91</i> RD.
ACTION:
FILE NO:

REPORT ON THE GLACIER, GLACIER 1 AND GLACIER 2 CLAIMS

RECORD NO. 7013-7015

LIARD MINING DIVISION

NTS 104 G/3W

131° 20' W and 57° 06' N

OWNER AND OPERATOR: TERESA ANN LAZEO

#126-1859 Woodway Place

Burnaby, B.C. V5B 4T6

<p><b>SUB-RECORDER RECEIVED</b></p> <p><b>MAR 8 - 1991</b></p> <p>M.R.# ..... \$ .....</p> <p>VANCOUVER, B.C.</p>
---

AUTHOR: Greg L. Ven Huizen, P.Eng.

3889 Hudson Street

Vancouver, B.C. V6H 3A9

16 November 1990

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,079

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## SUMMARY

The author was requested to write this report on trenching and prospecting performed by Mr. J. Ruza, prospector during 17 to 27 September 1990 on the Glacier and Glacier 1-2 claims owned and operated by Teresa Ann Lazeo. The report is based entirely on information supplied by Mr. Ruza and on reference materials as listed.

The Glacier and Glacier 1-2 claims are located 6 km SE of the Galore Creek deposits where 113,000,000 tonnes of reserves grading 1.06% Cu, .397 g Au and 7.94 g Ag has been geologically measured and is directly south of the Copper Canyon deposit.

The claim area is underlain primarily by a series of volcanic and sedimentary rock of Upper Triassic age which in the Galore Creek area are intruded by syenite, orthoclase porphyry, monzonite and/or pyroxenite. The trenches were blasted in gossanous zones in the volcanics and sedimentary rocks containing pyrriferous and cupriferous minerals.

The trenching consisted of 9 dynamited trenches totalling 26 meters in length with a total of approximately 7.5 m<sup>3</sup> of rock moved. Twelve rock samples were taken from the trenches and were analyzed by Min-En Laboratories in North Vancouver. The analytical results show values up to 28000 ppm Cu and 19.9 ppm Ag from sample Glacier1 #4 which was a piece of heavily mineralized float with chalcopyrite and malachite.

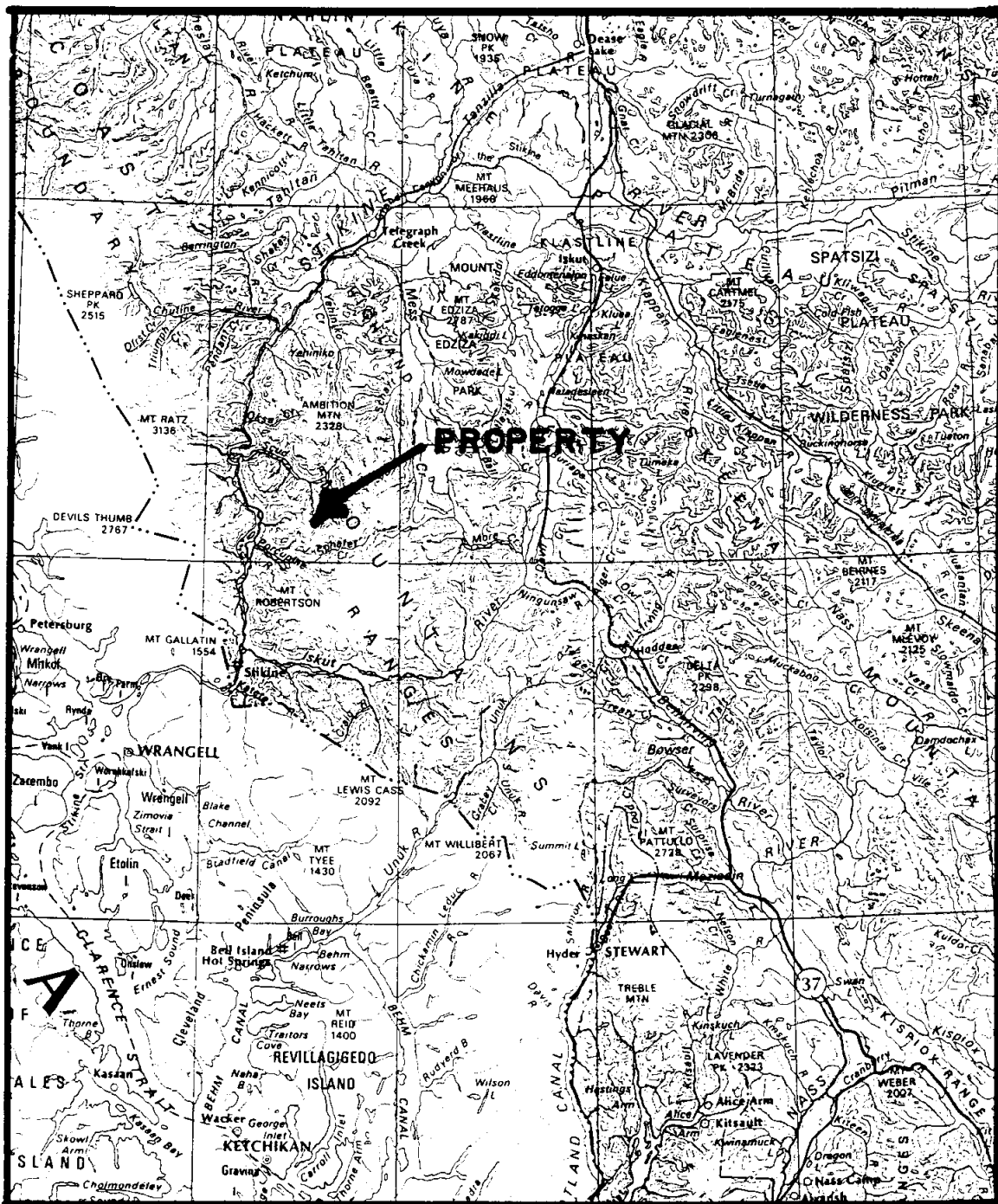


FIGURE 1 GENERAL LOCATION OF PROPERTY



*[Handwritten signature]*

#### A) Geographic and Physiographic Position

The property is located at 131° 20' W and 57° 06' N on NTS map 104 G/3 100 km south of the town of Telegraph Creek, British Columbia. The closest road is Highway 37 which runs N-S about 80 km east of the property. A fixed wing airstrip is located on the Scud River about 30 km NW of the property.

The property lies in rugged topography at elevations of 1050 to 2000 meters above sea level. About 70% of the property is covered by glacial ice. Sphaler Creek is about 7 km south of the property at an elevation of 300 meters above sea level. Sphaler Creek flows west into the the Porcupine River and then to the Stikine River located about 25 km west of the property.

Access to the property is by helicopter.

#### B) Property Definition

The property consists of three claims:

<u>Claim name</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>	<u>Mng Division</u>
Glacier	18 (3s x 6w)	7013	10 March 91	Liard
Glacier 1	16 (4s x 4e)	7014	10 March 91	Liard
Glacier 2	20 (4s x 5w)	7015	15 March 91	Liard

The record holder is Maria Teresa Lazeo of Burnaby B.C.

#### C) History of the Area

Interest in the area dates back to 1873 when placer mining commenced on the Stikine River gravel bars. Prospecting for

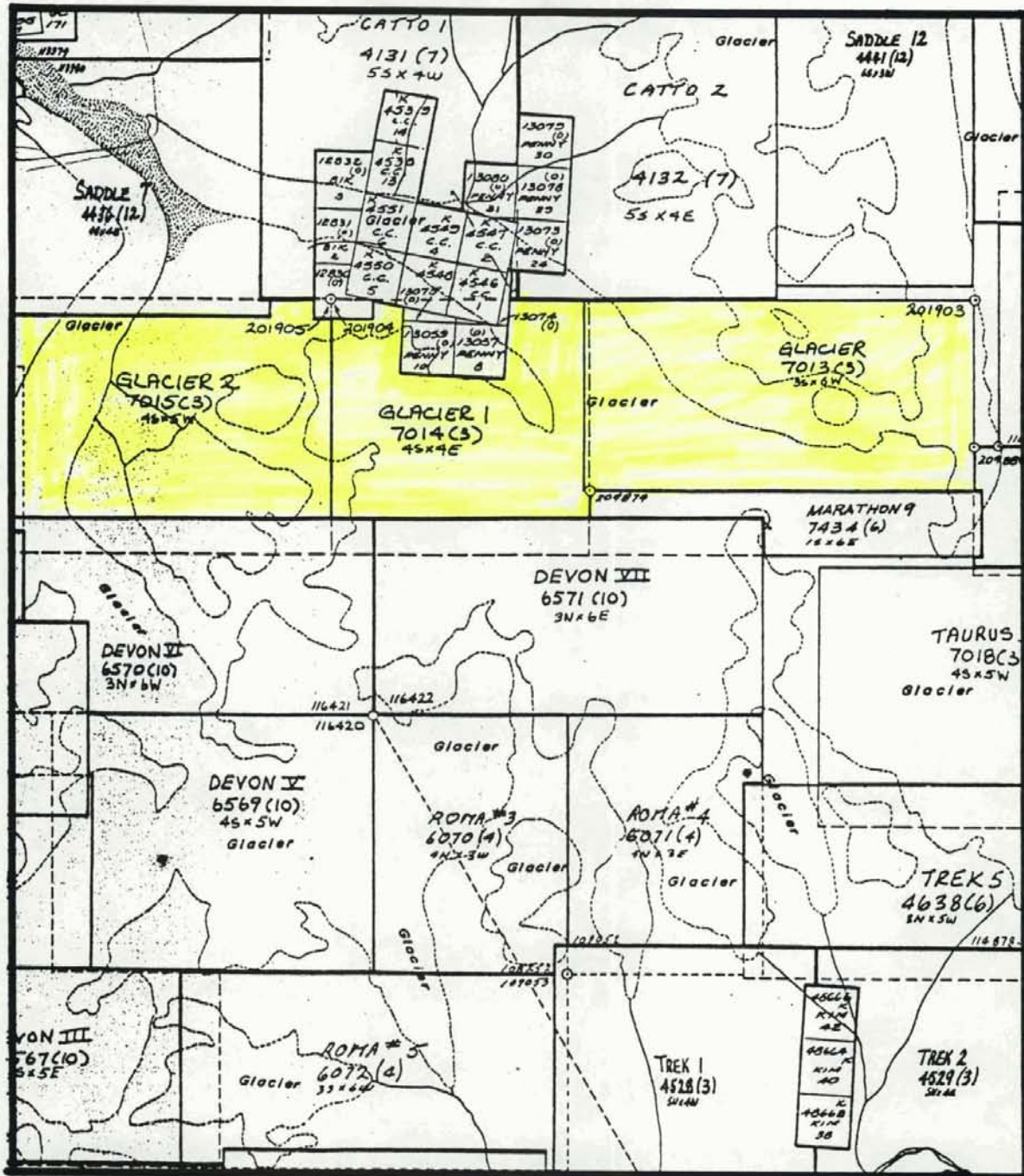


FIGURE 2 CLAIM MAP- GLACIER, GLACIER 1 AND GLACIER 2

SCALE 1:50,000- FROM BCDEMPR MAP M104 G/3W



placer gold continued through the Cassiar gold rushes of 1873 to 1875 and the Klondike rush of 1896 to 1900 when the Stikine River was the route of thousands of prospectors to the interior. Exploration was confined mainly to the river valley and resulted in the discovery of numerous small showings along the Stikine.

After 1955 prospecting of the more remote areas by Hudson Bay Mining and Smelting Company was initiated using helicopters supporting large exploration crews. Since then many of the areas have been investigated through geophysical, geochemical and conventional prospecting methods. A large number of prospects have been trenched and diamond drilled.

The Galore Creek deposit (#2 on Figure 3) has 113,000,000 tonnes of geologically measured reserves grading 1.06% Cu, .397 g Au and 7.94 g Ag and is located about 5 km northwest of the Glacier property.

The Copper Canyon showings (#12 on Figure 3) has geologically similarities to the Galore Creek deposit and is located about 1 km north of the Glacier property.

The Goat showing (#15 on Figure 3) is described as disseminated copper minerals occurring in altered and brecciated Upper Triassic volcanic rocks and is located about 5 km southeast of the Glacier property.

The Bik showings (#10 on Figure 3) adjoins the Galore Creek property on the north and east. The geology is similar to Galore Creek but evidence of copper mineralization is limited. The Bik showings are about 7 km northwest of the property.



## GENERAL GEOLOGY AND MINERALIZATION

The area is underlain by granitic and metamorphic rocks of the Coast Crystalline complex which forms the core of the northwesterly trending Coast Geanticline and the northeasterly trending Stikine Arch. The latter exerted a profound influence on Mesozoic sedimentation and structure around its margins. The arch is bounded on the east and northeast by an extension of the Whitehorse Trough in which great thicknesses of volcanic and clastic sedimentary rocks were deposited during the late Triassic and early Jurassic time. The claims are mapped as being underlain by volcanic and sedimentary rocks of Upper Triassic age.

The Galore Creek body is shown as being influenced by intrusive bodies of equidimensional plutons characterized by a high content of potash feldspar and sodic plagioclase, and an absence of quartz. The bodies are often porphyritic and very coarse grained and are intrusive into Upper Triassic volcanic and sedimentary rocks. In addition to the large masses of syenite porphyry the complex includes a prominent equigranular granitized unit, a multitude of porphyry dikes and highly altered equivalents of the Mesozoic assemblage. The Galore Creek deposits are found mainly within and around the margins of the complex in brecciated zones and are made up of tabular bodies of vein, breccia and disseminated mineralization which are classified as replacement bodies (skarns), hydrothermal and porphyry.

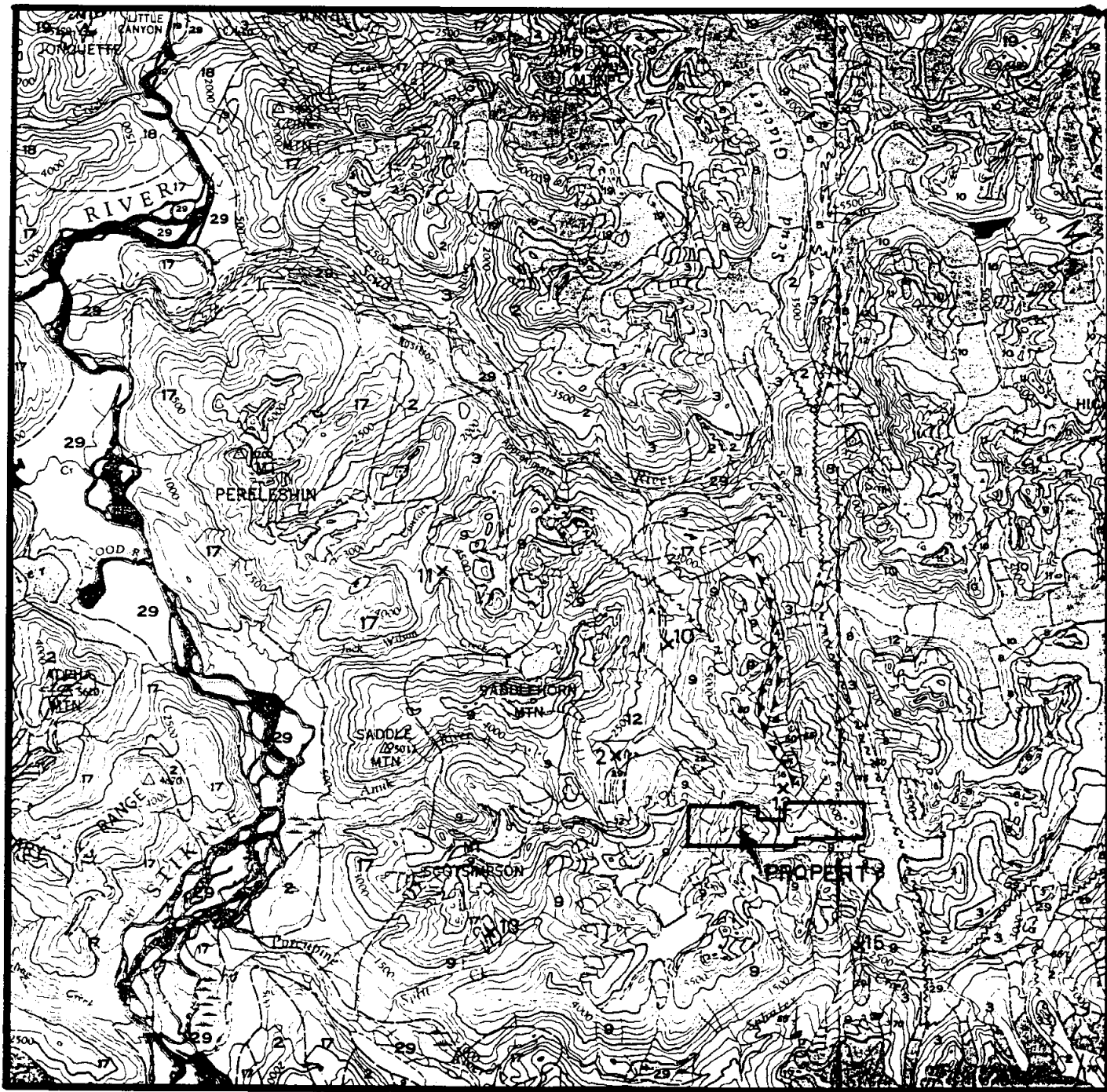
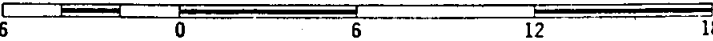


FIGURE 3- REGIONAL GEOLOGY

SCALE 1:250,000  18 Kilometres

FROM GSC MAP 11-1971 "GEOLOGY TELEGRAPH CREEK"



A handwritten signature or set of initials in black ink, located in the bottom right corner of the page.

# LEGEND FOR FIGURE 3

## LEGEND

**QUATERNARY**  
PLEISTOCENE AND RECENT

29 Fluvial gravel; sand, silt; glacial outwash, till, alpine moraine and colluvium

28 Hot-spring deposit, tufa, aragonite

27 Olivine basalt, related pyroclastic rocks and loose tephra; younger than some of 29

**TERTIARY AND QUATERNARY**  
UPPER TERTIARY AND PLEISTOCENE

26 Rhyolite and dacite flows, lava domes, pyroclastic rocks and related subvolcanic intrusions; minor basalt

25 Basalt, olivine basalt, dacite, related pyroclastic rocks and subvolcanic intrusions; minor rhyolite; in part younger than some 26

**CRETACEOUS AND TERTIARY**  
UPPER CRETACEOUS AND LOWER TERTIARY

**SLOKO GROUP**

24 Light green, purple and white rhyolite, trachyte and dacite flows, pyroclastic rocks and derived sediments

22/23 22. Biotite leucogranite, subvolcanic stocks, dykes and sills  
23. Porphyritic biotite andesite, lava domes, flows and (?) sills

**SUSTUT GROUP**

21 Chert-pebble conglomerate, granite-boulder conglomerate, quartzose sandstone, arkose, siltstone, carbonaceous shale and minor coal

20 Felsite, quartz-feldspar porphyry, pyritiferous felsite, orbicular rhyolite; in part equivalent to 22

19 Medium-to coarse-grained, pink biotite-hornblende quartz monzonite

**JURASSIC AND/OR CRETACEOUS**  
POST-UPPER TRIASSIC PRE-TERTIARY

18 Hornblende diorite

17 Granodiorite, quartz diorite; minor diorite, leucogranite and migmatite

**JURASSIC**  
MIDDLE (?) AND UPPER JURASSIC

**BOWSER GROUP**

16 Chert-pebble conglomerate, grit, greywacke, subgreywacke, siltstone and shale; may include some 13

**MIDDLE JURASSIC**

15 Basalt, pillow lava, tuff-breccia, derived volcanoclastic rocks and related subvolcanic intrusions

**LOWER AND MIDDLE JURASSIC**

14 Shale, minor siltstone, siliceous and calcareous siltstone, greywacke and ironstone

**LOWER JURASSIC**

13 Conglomerate, polymictic conglomerate; granite-boulder conglomerate, grit, greywacke, siltstone; basaltic and andesitic volcanic rocks, peperites, pillow-breccia and derived volcanoclastic rocks

**TRIASSIC AND JURASSIC**  
POST-UPPER TRIASSIC PRE-LOWER JURASSIC

12 Syenite, orthoclase porphyry, monzonite, pyroxenite

**HICKMAN BATHOLITH**

10/11 10. Hornblende granodiorite, minor hornblende-quartz diorite 11. Hornblende, quartz diorite, hornblende-pyroxene diorite, amphibolite and pyroxene-bearing amphibolite

**TRIASSIC**  
UPPER TRIASSIC

9 Undifferentiated volcanic and sedimentary rocks (units 5 to 8 inclusive)

8 Augite-andesite flows, pyroclastic rocks, derived volcanoclastic rocks and related subvolcanic intrusions; minor greywacke, siltstone and polymictic conglomerate

7 Siltstone, thin-bedded siliceous siltstone, ribbon chert, calcareous and dolomitic siltstone, greywacke, volcanic conglomerate, and minor limestone

6 Limestone, folded argillaceous limestone, calcareous shale and reefold limestone; may be in part younger than some 7 and 8

5 Greywacke, siltstone, shale; minor conglomerate, tuff and volcanic sandstone

**MIDDLE TRIASSIC**

4 Shale, concretionary black shale; minor calcareous shale and siltstone

**PERMIAN**  
MIDDLE AND UPPER PERMIAN

3 Limestone, thick-bedded mainly bioclastic limestone; minor siltstone, chert and tuff

**PERMIAN AND OLDER**

2 Phyllite, argillaceous quartzite, quartz-schist, chlorite schist, greenstone, minor chert, schistose tuff and limestone

**MISSISSIPPIAN**

1 Limestone, crinoidal limestone, ferruginous limestone; maroon tuff, chert and phyllite

B Amphibolite, amphibolite gneiss; age unknown probably pre-Upper Jurassic

A Ultramafic rocks; peridotite, dunite, serpentinite; age unknown, probably pre-Lower Jurassic

Geological boundary (defined and approximate, assumed) .....

Bedding (horizontal, inclined, vertical, overturned) ..... + / \ \

Anticline .....

Syncline .....

Fault (defined and approximate, assumed) .....

Thrust fault, teeth on hanging-wall side (defined and approximate, assumed), .....

Fossil locality .....

Mineral property .....

Glacier .....

**INDEX TO MINERAL PROPERTIES**

1. Liard Copper	5. Bam	9. MH	13. Ann, Su
2. Galore Creek	6. Gordon	10. BIK	14. SF
3. QC, QCA	7. Limpoke	11. JW	15. Goat
4. Naba	8. Poka	12. Copper Canyon	16. Mary

#### E) Purpose of the Work Program

The purpose of the trenching and prospecting program was to investigate several gossanous zones which were found by Mr. Ruza.

#### F) Results and Interpretation

The trench and sample locations are presented on figures 3, 4, 5 and 6. The results of analyses are found in Appendix 1 of this report.

The trenches were located in gossanous trends found within volcanic and sedimentary rocks. The selected samples from the trenches are described as follows:

<u>Sample</u>	<u>Description</u>	<u>Au(ppb)</u>	<u>Ag(ppm)</u>	<u>Cu(ppm)</u>
Glacier #1	Selected sample from volcanic rock	3	1.8	850
Glacier #2	Selected sample from gossanous volcanic rock	2	13.4	15800
Glacier #3	Selected sample from volcanic rock	2	1.7	685
Glacier1 #1	Selected sample from gossanous volcanic rock	5	2.2	2600
Glacier1 #2	Selected sample from gossanous volcanic rock	22	4.5	8600
Glacier1 #3	Selected sample from limestone and shale	1	1.0	83

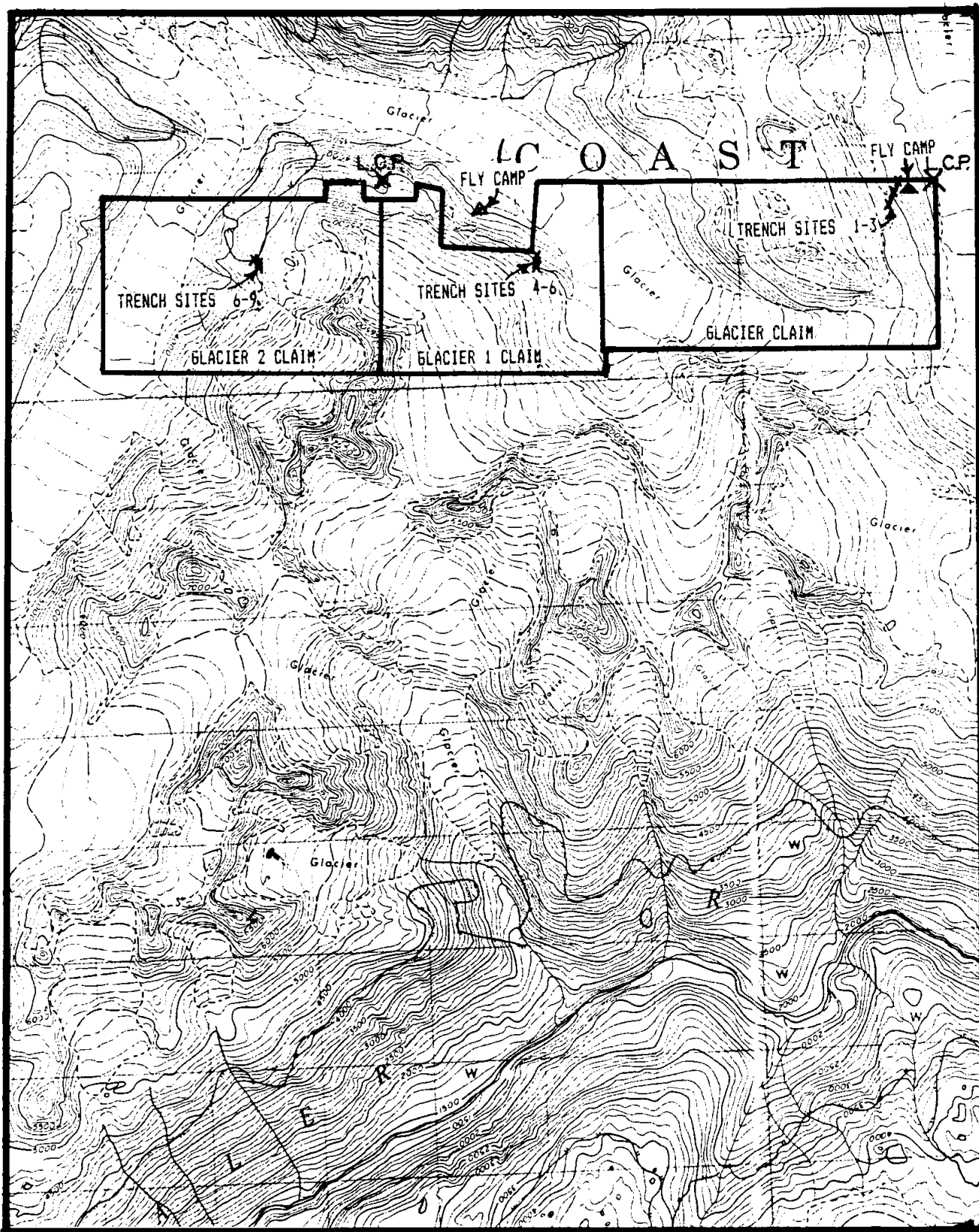


FIGURE 4- TOPOGRAPHY AND TRENCH LOCATIONS

Metres 1000 0 1000 2000 3000 4000 Metres

SCALE 1:50,000 (FROM NTS 104G/3 "SPHALER CREEK")

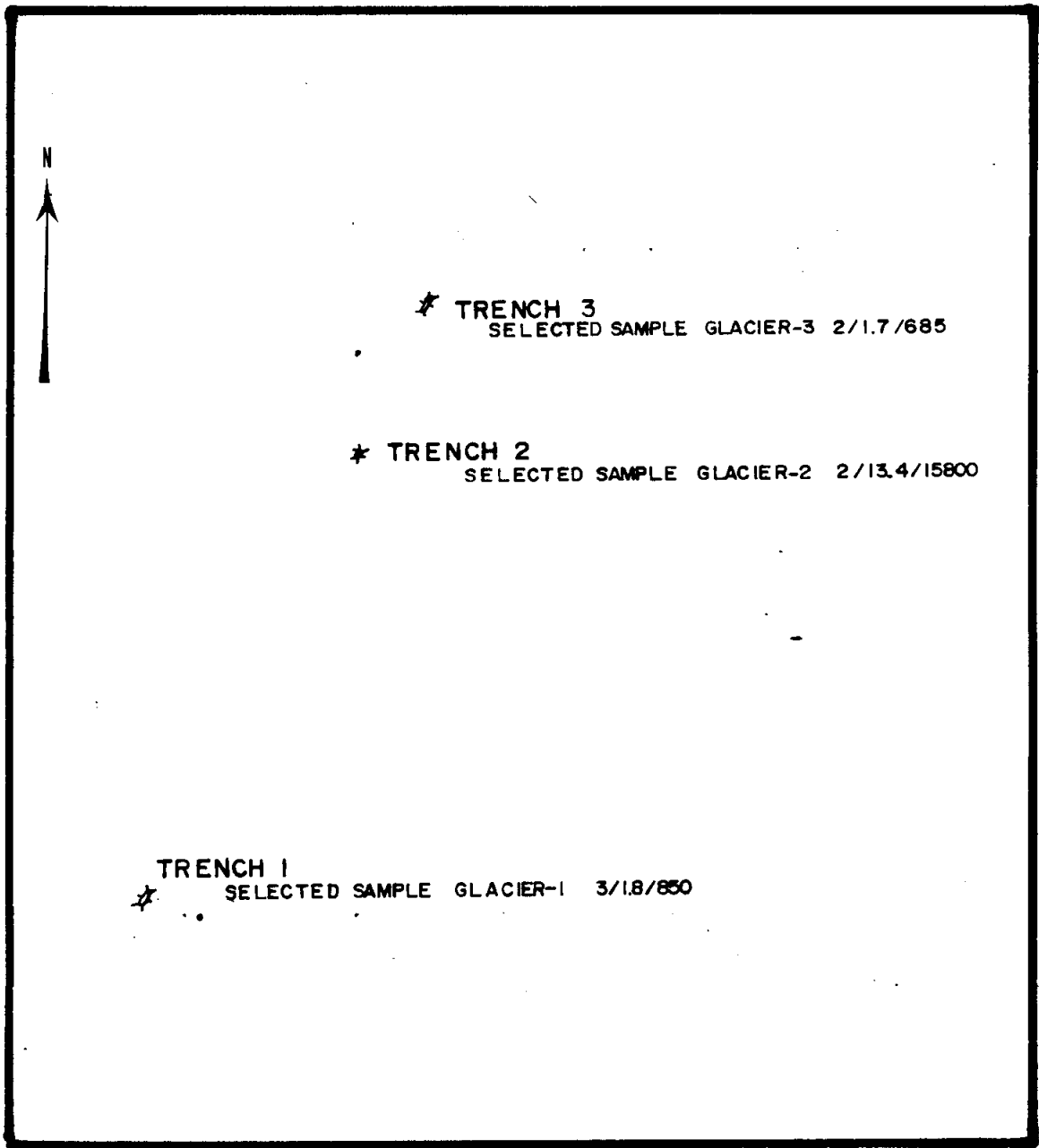


FIGURE 5- TRENCHES AND SAMPLE RESULTS- GLACIER CLAIM

SCALE 1:2000 0 100 200M

TRENCH	SAMPLE	Au (ppb)	Ag (ppm)	Cu (ppm)
*	GLACIER-1	23	3.4	8450

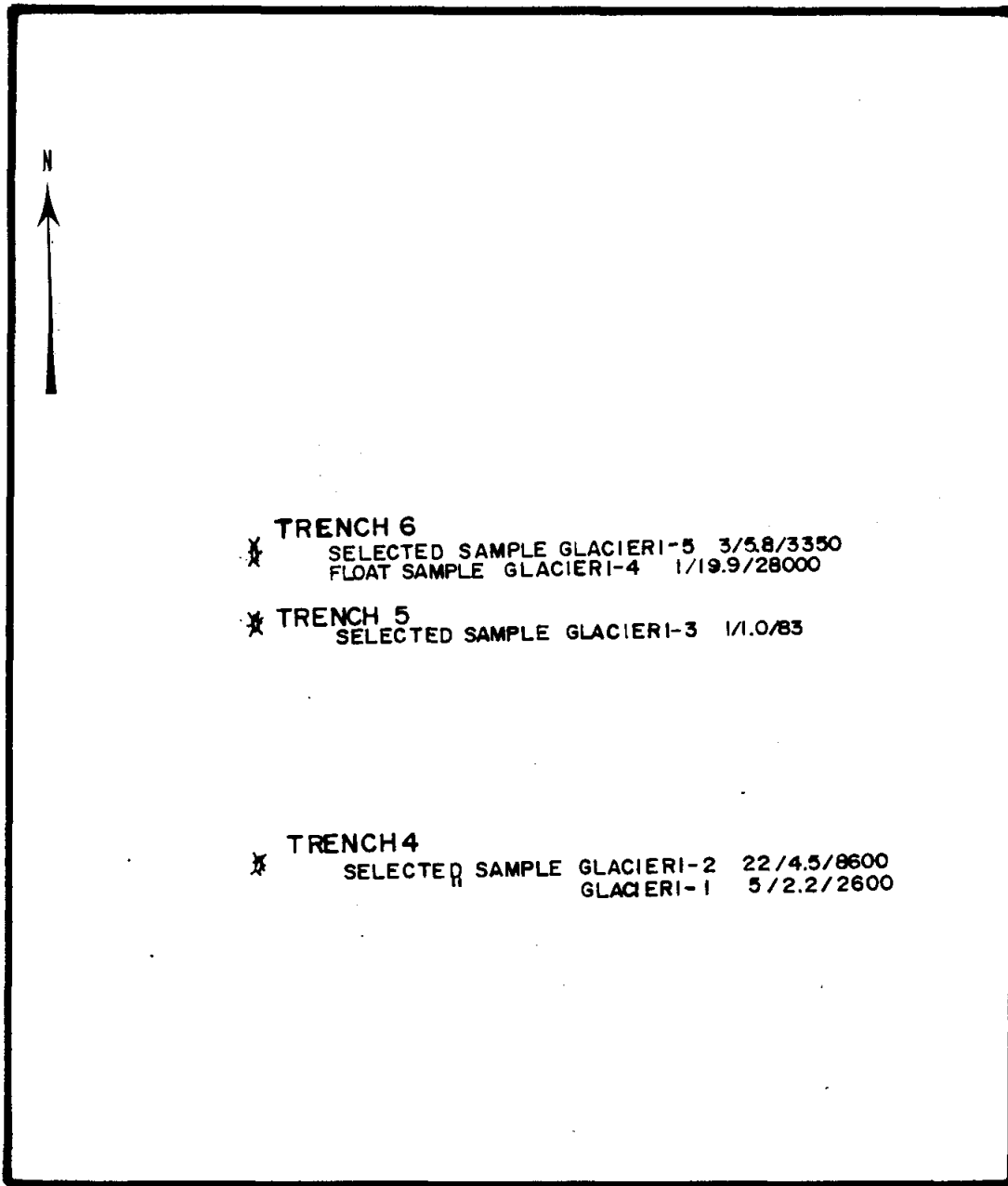


FIGURE 6- TRENCHES AND SAMPLE RESULTS- GLACIER 1 CLAIM

SCALE 1:2000 0 100 200M

TRENCH	SAMPLE	Au(ppb)	Ag(ppm)	Cu(ppm)
*	GLACIERI-1	10	3.4	2600

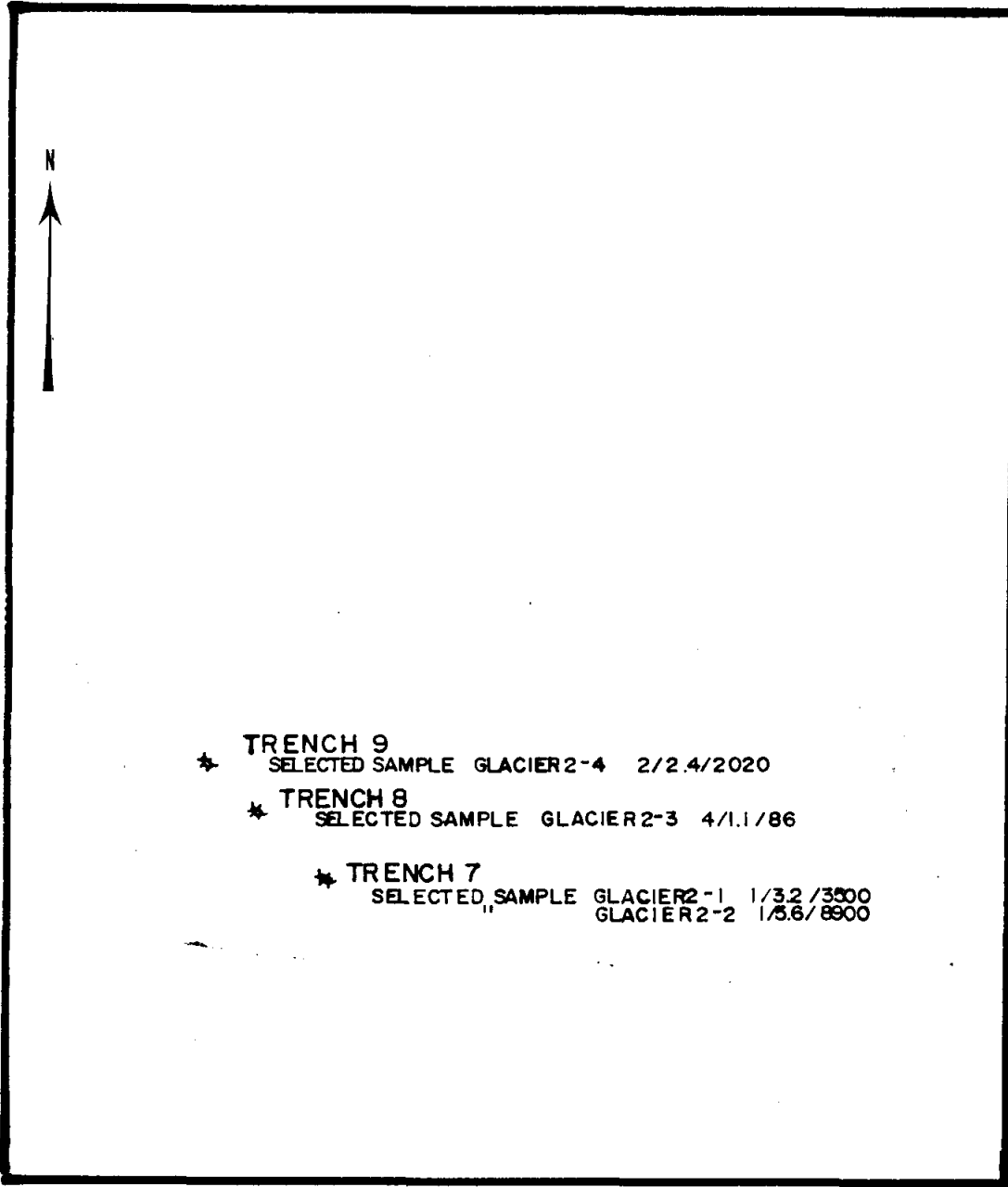


FIGURE 7- TRENCHES AND SAMPLE RESULTS- GLACIER 2 CLAIM

SCALE 1:2000 0 100 200 M

TRENCH	SAMPLE	Au(ppb)	Ag(ppm)	Cu(ppm)
	GLACIER2-3	5 /	1.2 /	340



Glacier1 #4	Piece of float heavily mineralized with pyrite, chalcopyrite and malachite	1	19.9	28000
Glacier1 #5	Selected sample from gossanous volcanic rock	3	5.8	3350
Glacier2 #1	Selected sample from gossanous volcanic rock	1	3.2	3500
Glacier2 #2	Selected sample from gossanous volcanic rock	1	5.6	8900
Glacier2 #3	Selected sample from gossanous volcanic rock	4	1.1	86
Glacier2 #4	Selected sample from gossanous volcanic rock	2	2.4	2020

The results indicate copper mineralization which due to the property's proximity to the Galore Creek deposits and other showings in the area should receive further investigation. Mapping of the area should be undertaken, particularly to find syenite intrusives which may form breccia zones along contacts with the volcanic and sedimentary rocks which in the Galore Creek area form hosts for major copper deposits.

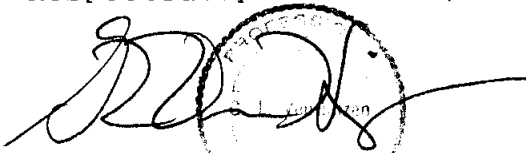
#### CONCLUSIONS AND RECOMMENDATIONS

Copper mineralization has been found by Mr. Ruza with values as high as 28000 ppm being reported. GSC map 11-1971 shows that the claim area is underlain by volcanic and sedimentary rocks similar to those found in the Galore Creek area and other showings around the property. Due to the

proximity of the Galore Creek and Canyon Creek deposits the trenching should be followed up with geological mapping and sampling, geophysical surveys and further trenching to investigate for breccia zones along syenite intrusive contacts similar to those found at Galore Creek.

A Phase I program consisting of geological mapping and sampling, VLF-EM and magnetometer surveys and trenching is recommended.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'G. L. Ven Huizen', is written over a circular professional seal. The seal contains the text 'PROFESSIONAL ENGINEER' and 'ALBERTA' around the perimeter, with a central emblem.

Greg L. Ven Huizen, P.Eng.

COST ESTIMATE

Phase I

Geological mapping and sampling.....	\$ 15000
VLF-EM and Magnetometer surveys.....	15000
Transportation and helicopter.....	10000
Food and camp supplies.....	6000
Reports.....	3500
Assays.....	5500
Trenching and blasting.....	10000
Airborne geophysical surveys.....	15000
Government fees.....	<u>5000</u>
TOTAL.....	\$ 85000
Contingencies.....	<u>15000</u>
TOTAL PHASE I.....	\$100000

COST STATEMENT

J. Ruza & helper 11 days@ \$400(17 Sept-27 Sept 90).	\$ 4400
Helicopter.....	2140
Truck rental.....	860
Groceries and accommodations.....	620
Report.....	<u>500</u>
TOTAL.....	\$ 8520

Certificate of Qualifications

I Greg L. Ven Huizen of 3889 Hudson Street, Vancouver, British Columbia V6H 3A9, certifies as follows:

- 1) I am a graduate of the University of Minnesota with a Bachelor of Geo-Engineering Degree (Exploration Option) with Distinction, 1979.
- 2) I am a Registered member of the Association of Professional Engineers of the Province of British Columbia, No. 14,584.
- 3) I have been practicing my profession since graduation in U.S.A., Mexico and Canada.
- 4) This report is based on information provided to me by Mr. J. Ruza and on the references cited.
- 5) I have no interest in the property covered by this report (Glacier, Glacier 1 and Glacier 2 claims).

Respectfully submitted,



Greg L. Ven Huizen, P.Eng.

16 November 1990

BIBLIOGRAPHY

Minfile, pages 700, 703, 706, 709, 710, 718 and 721

Geological Survey of Canada Paper 71-44 (with Map 11-1971). J.G. Souther, 1972

BCDEMPR Map M104 G/3W, 25 October 1990

NTS Map 104 G/3, 1974

Notes from and conversations with J. Ruza, November 1990

APPENDIX

Geochemical Analysis Certificate

OV-1592-RG1

Company: **RUZA RESOURCES**  
Project: **GLACIER/DEVON**  
Attn: **JAROSLAV RUZA**

Date: **OCT-16-90**  
Copy 1. **RUZA RESOURCES, VANCOUVER, B.C.**

*We hereby certify the following Geochemical Analysis of 26 ROCK samples submitted OCT-10-90 by J. RUZA.*

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	ZN PPM
GLACIER #1	3	1.8	950	21
GLACIER #2	2	13.4	15800	154
GLACIER #3	2	1.7	685	27
GLACIER1 #1	5	2.2	2600	53
GLACIER1 #2	22	4.5	8600	138
GLACIER1 #3	1	1.0	83	40
GLACIER1 #4	1	19.9	28000	106
GLACIER1 #5	3	5.8	3350	79
GLACIER2 #1	1	3.2	3500	42
GLACIER2 #2	1	5.6	8900	114
GLACIER2 #3	4	1.1	86	51
GLACIER2 #4	2	2.4	2020	58
DEVONS #1	1	1.7	275	70
DEVONS #2	3	1.3	122	79
DEVONS #3	1	6.6	6400	144
DEVONS #4	2	1.9	68	116
DEVON6 #1	4	5.8	3750	118
DEVON6 #2	2	1.2	164	99
DEVON6 #3	3	20.0	25000	78
DEVON6 #4	2	.5	167	57
DEVON6 #5	1	1.6	250	102
DEVON7 #1	1	.3	59	56
DEVON7 #2	1	6.2	9500	80
DEVON7 #3	2	.6	52	29
DEVON7 #4	1	1.9	570	93
DEVON7 #5	2	.2	37	52

*Flot heavy MINERALIZATION  
2110 LCG/114/124 and 10 CA/10*

Certified by \_\_\_\_\_