

BRENDA MINES LTD.  
EXPLORATION GROUP

TRENCHING, ROAD BUILDING  
and  
ROCK GEOCHEMISTRY  
on

SIWASH SILVER MINERAL PROPERTY

Latitude  $49^{\circ} 47'$  Longitude  $120^{\circ} 20'$   
Similkameen Mining Division  
N.T.S. 92H/16

Del W. Ferguson

February, 1980

TABLE of CONTENTS

	<u>Page No.</u>
I INTRODUCTION	
a) History of Property .....	1
b) Topography and Vegetation .....	1
II PROPERTY DESCRIPTION	
a) Location and Access .....	2
b) Claim Inventory .....	4
III REGIONAL SETTING .....	6
IV WORK PROGRAM DESCRIPTION	
a) Grid Establishment .....	8
b) Trenching and Road Building .....	8
c) Rock Geochemistry .....	9
1) Treatment of Results .....	10
2) Discussion of Results .....	10
V CONCLUSIONS .....	11
STATEMENT of QUALIFICATIONS .....	12
APPENDICIES	
I Preparation and Analysis of Rock Samples .	14
II Cost Statement and Account Breakdown	15
LIST of FIGURES	
Figure 1 - Location Map .....	3
Figure 2 - Claim Map .....	5
Figure 3 - Cu Rock Geochem Map (in pocket)	
Figure 4 - Ag Rock Geochem Map (in pocket)	
Figure 5 - Pb Rock Geochem Map (in pocket)	
Figure 6 - Zn Rock Geochem Map (in pocket)	

## I INTRODUCTION

### a) History of Property

The Siwash Creek area has been prospected since the early 1900's. Several adits have been driven into rock faces along creek banks and numerous hand trenches, following mineralized leads, have been excavated throughout the valley. Evidence of old placer workings is also apparent along the banks of Siwash Creek.

During the 1960's, mineral exploration was carried out in the area by several companies including Quality Exploration Corporation Ltd., Cyprus Exploration Corporation Ltd. and Diana Explorations Ltd. More recent work on the property was executed by E. Mullin of Princeton, B.C. and D.E. Agur of Summerland, B.C. The holdings of these persons were optioned to Brenda Mines Ltd. in April 1979 for further exploratory work.

### b) Topography and Vegetation

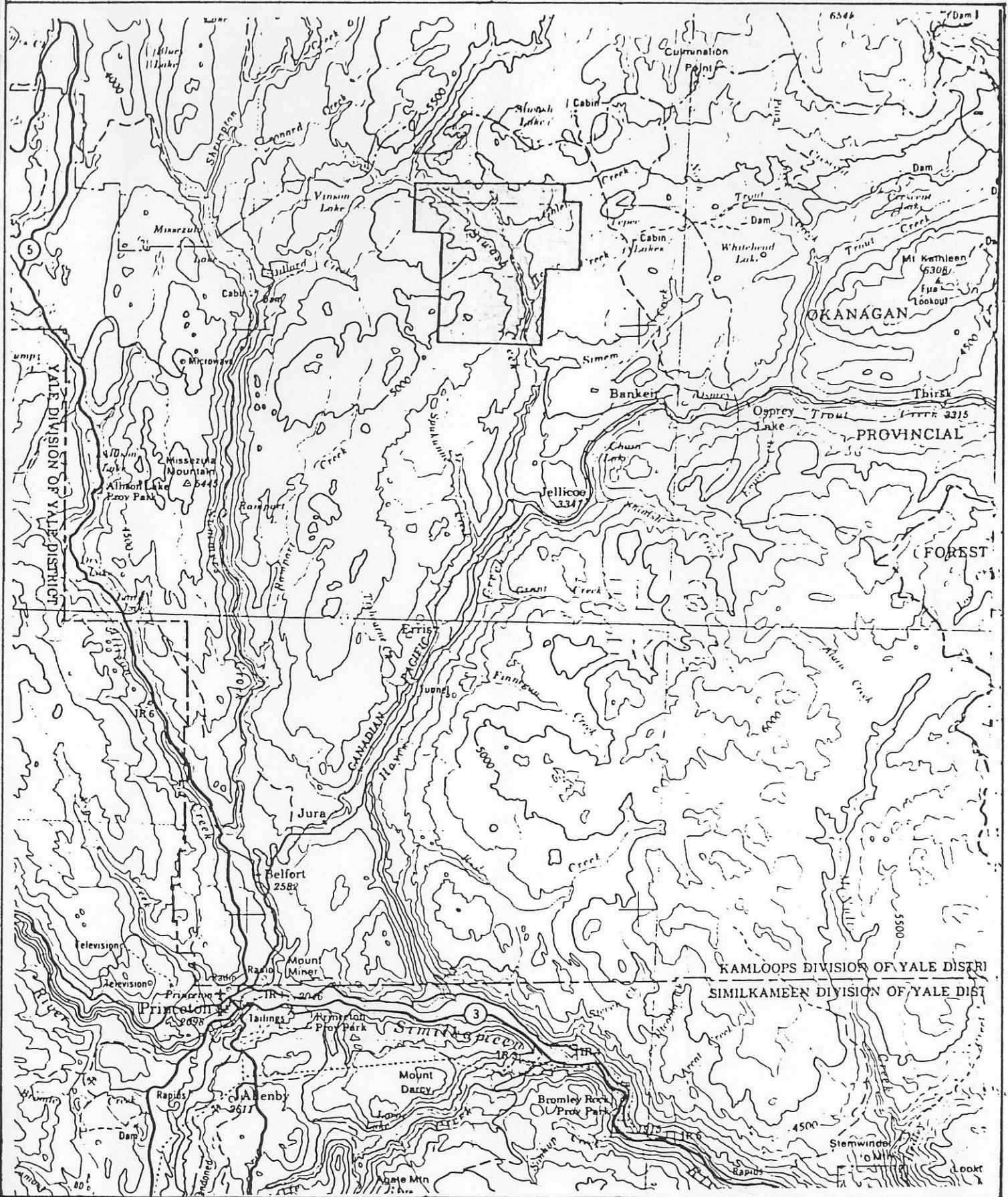
The property occupies the deep, narrow, terraced Siwash Creek valley and its surrounding plateau lands. Major tributaries include Tepee, Galena and Gavin Creeks flowing into the main valley from the east and Saskat Creek entering from the west. All of these creeks occupy the base of very steep, narrow valleys. Vegetation consists generally of well spaced stands of jackpine, fir and spruce with a lush, grassy undergrowth. Some of the more immature forests consist of tight growths of scrawny jackpine. Taigalders flourish in swampy areas within the plateau and along steep valley sides.

II PROPERTY DESCRIPTION

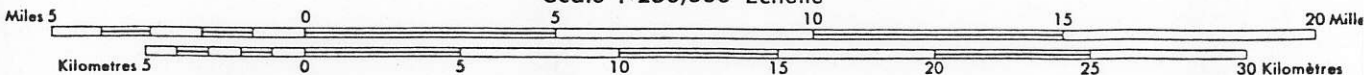
a) Location and Access

The Siwash Silver Property is located 38 air kilometres northeast of Princeton, B.C. The claims are situated along Siwash Creek, west of Tepee Lakes and east of Missezula Lake. There are presently two access roads to the property. One is via an 8 kilometre forestry access road which branches off of the Summerland-Princeton road, north of Osprey Lake. The other branches off of the Trout Creek logging road, 60 kilometres west of Peachland, B.C.

Fig. 1 - Location Map



Scale 1:250,000 Échelle

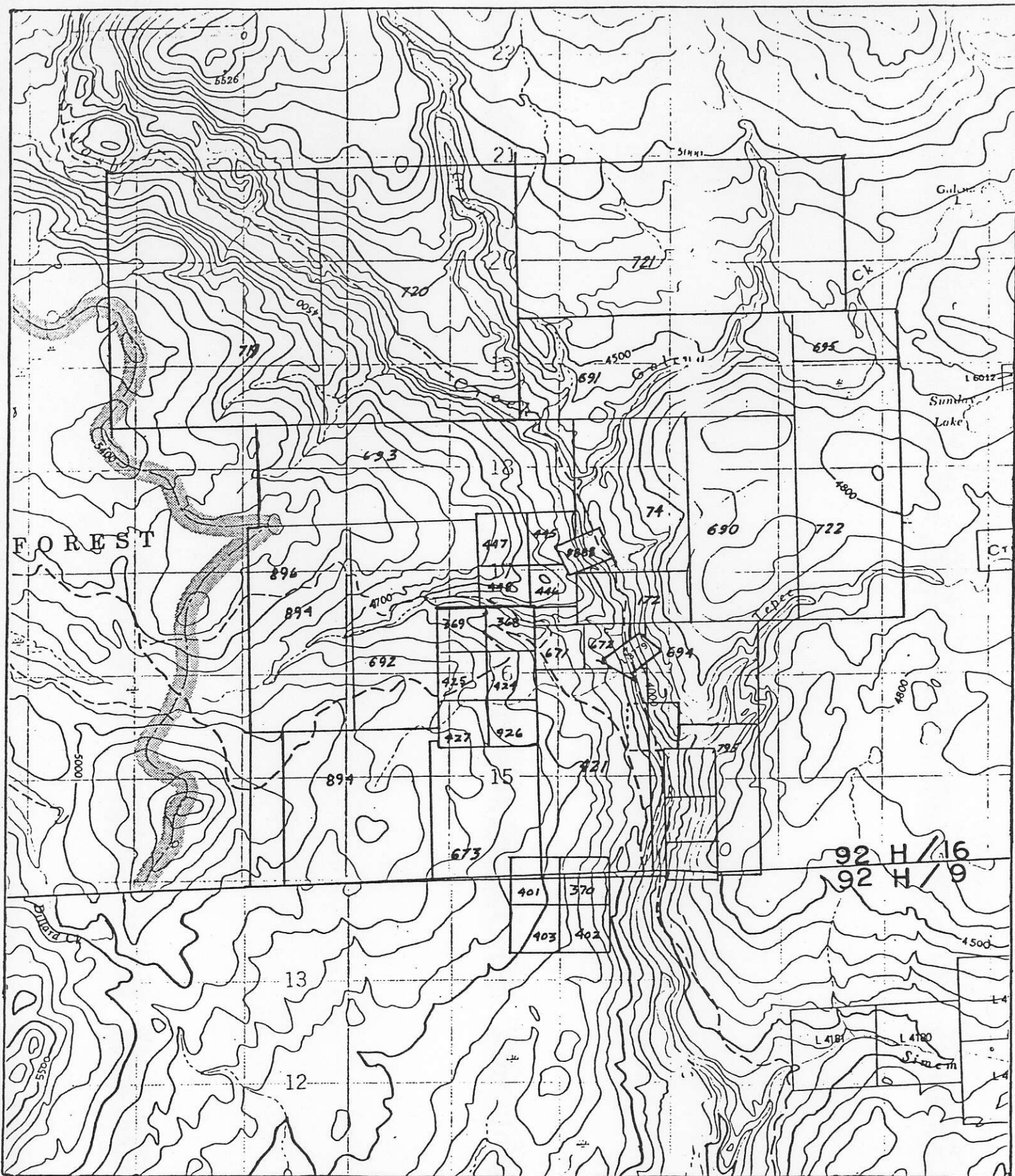


b) Claim Inventory

<u>Claim Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Record Date</u>	<u>Assessment Date</u>
ED	74	6	June 29/76	June 29/82
ED #2	172	2	Nov. 23/76	Nov. 23/82
Saskat 1	368	1	June 29/78	June 29/84
Saskat 2	369	1	June 29/78	June 29/84
June 1	370	1	June 29/78	June 29/85
Skye 1	401	1	Aug. 15/78	Aug. 15/82
Skye 2	402	1	Aug. 15/78	Aug. 15/82
Skye 3	403	1	Aug. 15/78	Aug. 15/82
June 2	421	8	Sept. 1/78	Sept. 1/85
Pat 1	424	1	Sept. 14/78	Sept. 14/83
Pat 2	425	1	Sept. 14/78	Sept. 14/83
Pat 3	426	1	Sept. 14/78	Sept. 14/83
Pat 4	427	1	Sept. 14/78	Sept. 14/83
V.M. 1	445	1	Oct. 5/78	Oct. 5/82
V.M. 2	446	1	Oct. 5/78	Oct. 5/82
V.M. 3	447	1	Oct. 5/78	Oct. 5/82
V.M. 4	448	1	Oct. 5/78	Oct. 5/82
Jean 1	671	1	July 26/79	July 26/82
Jean 2	672	1	July 26/79	July 26/82
Hawk	673	6	July 26/79	July 26/82
Nanci P-1	690	8	Aug. 13/79	Aug. 13/80
Nanci P-2	691	10	Aug. 13/79	Aug. 13/80
Skylab	692	12	Aug. 13/79	Aug. 13/80
B & B	693	12	Aug. 13/79	Aug. 13/80
Herdel	694	4	Aug. 13/79	Aug. 13/80
Teepee	695	2	Aug. 13/79	Aug. 13/80
ARP	719	20	Sept. 13/79	Sept. 13/80
Fergito-Allendo 1	720	20	Sept. 13/79	Sept. 13/80
Fergito-Allendo 2	721	18	Sept. 13/79	Sept. 13/80
Timbo-Tavish	722	10	Sept. 13/79	Sept. 13/80
Charlie	795	6	Oct. 25/79	Oct. 25/80
Bisbee	894	9	Dec. 12/79	Dec. 12/80
<del>Glimax</del>	<del>895</del>	<del>18</del>	<del>Dec. 12/79</del>	<del>Dec. 12/80</del>
Bingham	896	8	Dec. 12/79	Dec. 12/80
Peterson	8888			Feb. 6/87
Fissure Maiden	171 (Crown Grant)			Nov. 8/82

All claims are located in the Similkameen Mining Division.

Figure 2 - Claim Map



Scale 1:50,000



### III REGIONAL SETTING

The Siwash Silver mineral property is underlain predominantly by granites, granodiorites and diorites related to the Otter Intrusions of Upper Cretaceous-Early Tertiary age. Volcanic rocks, younger than the Otter Intrusions, also outcrop throughout the property. The Siwash Creek body intrudes slightly gneissic granodiorite of the Pennask Batholith, related to the Coast Intrusions.

Several porphyritic lithologies have been noted within the area of concern. One such intrusive, a coarse grained quartz feldspar porphyry, trends east-west, extending from the Headwaters Lakes area to the Siwash Creek body. It is thought that this unit may be a border phase of the Kathleen Mountain intrusive body located to the east of Siwash Creek.

Surface mineralization occurring throughout the mineral property is hosted in:

1. Thin veinlets and brecciated areas within zones of intense chloritization and silicification.
2. Fractures crosscutting zones of intense alteration.
3. Quartz veins.

In order of abundance the following mineralization occurs within the various host environments described; pyrite, specular hematite with minor amounts of sphalerite, galena,



chalcopyrite, tetrahedrite, bornite and gold. Mineralization is not homogeneous throughout the area, but varies from one location to the next with respect to the kind of mineralization incurred and the concentrations thereof.

IV WORK PROGRAM DESCRIPTION

a) Grid Establishment

The 1979 grid has been established on a bearing of N 30° W in order to run geological, geochemical and geophysical surveys perpendicular to observed geological structures. A 24 kilometre picket base line trending N 30° W was cut across the central portion of the property, west of Siwash Creek. A second picket base line trending N 60° E was cut from the north end of the primary base line, easterly across Siwash Creek for a distance of 24 kilometres. Location lines spaced at 100 and 200 metre intervals were run across these base lines. All lines were marked at 50 metre stations for relevant surveys.

b) Trenching and Road Building

Seven new trenches were excavated in September and October 1979, and a few new roads were also established on the property. Several existing trenches were improved to remove weathered surfaces, allowing for more detailed prospecting. Some roads were also improved to allow for better access throughout the property. This work was contracted out to D. Kampe of Penticton, B.C.

The following work was accomplished during the 1979 field season:

<u>New Trenches</u>	<u>Length</u>	<u>Width</u>
Muffer # 1	100 m	4 m
Muffer # 2	100 m	4 m
Muffer # 4	150 m	4 m
Josh	200 m	4 m
Boonies	200 m	4 m
FAPA	200 m	4 m
South Silver	275 m	4 m

Total 1,225 m

<u>New Roads</u>	<u>Length</u>	<u>Width</u>
Newfie Drive	800 m	8 m
North Saskat Drive	900 m	4 m
Boonies Access Road	600 m	4 m
West Siwash Ave.	1,300 m	4 m
South Silver Trench Access	400 m	4 m

Total 4,000 m

<u>Improved Roads and Rehabilitated Trenches</u>	<u>Length</u>	<u>Width</u>
Newfie Drive	2,700 m	8 m
North Saskat Drive	800 m	4 m
South Saskat Drive	600 m	4 m
South Fisher Maiden Trench	75 m	75 m
Amanda Drive & Trenches	3,000 m	4 m
Muffer # 2 Trench	100 m	4 m
Western Trenches	600 m	4 m
Boonies Access Road	700 m	4 m
Camp Show Roads & Trench	500 m	4 m
Charlotte Trenches	200 m	4 m
Spud Trench # 3	100 m	4 m

Total 9,375 m

c) Rock Geochemistry

A total of 580 rock chip samples were collected along trenches and road cuts within the property from August to November. Most trenches were channel sampled with the

remainder being grab sampled at intervals. Samples were sent to Brenda Mines Assay Lab for preparation and analysis (Appendix 1).

1) Treatment of Results

Assay results were plotted as symbols on a base map, scale 1:7,500 (Fig. 3-6). Only Cu, Pb and Zn values greater than 0.02% are shown. Silver values greater than an arbitrary cut off value of 0.05 ounces have been plotted.

2) Discussion of Results

Rock geochemical results were generally, rather discouraging.

The camp Show (1400 S - 1000 E) revealed the most impressive results. Channel sampling of a 126 metre trench along highly chloritized granite averaged: 0.095% Cu, 78.67 gms/m. tonne (2.29 oz.) Ag, 0.379% Pb and 0.303% Zn.

Geochemical values did reveal an anomalous trend in all four commodities, striking northerly along Siwash Creek. This anomaly extends from the very south end of the grid, through the Camp Show, north to the Fissure Maiden Showings (1600 S - 1200 E). It corresponds to a zone of moderately to strongly chloritized granite.

Another anomalous area is Three Adit Gap (00 S - 1200 E to 1400 E). High values correspond to samples obtained from mineralized quartz veins and silicified zones in the vicinity.

Anomalously high Ag, Pb and Zn values in the Western Trench area (200 E - 100 N) are carried in a 5 to 15 cm mineralized quartz vein. Low anomalous values from this area are obtained from mineralized siliceous zones, thin veinlets and andesite dykes.

Areas exhibiting low anomalous metal values include:

1. Pebble dyke along Gavin Creek (Zn, Pb, Ag, Cu)
2. Sections of quartz-eye porphyry along Newfie Drive (Zn, Pb, Ag, Cu).
3. Localized areas in quartz-feldspar porphyry along Amanda Road (Zn, Pb, Ag).
4. Quartz-eye porphyry and granite at 600 S - 450 E (Zn, Pb, Ag).
5. Quartz-eye porphyry of the Northwest Trenches (Zn, Ag).
6. Thin quartz veins in granite in the vicinity of 800 S - 100 E (Cu, Ag).

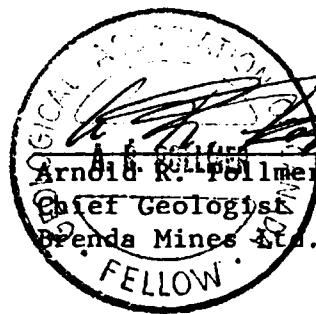
V CONCLUSIONS

The first impression obtained from observation of the data is that the area in the immediate vicinity of Siwash Creek is highly anomalous in comparison to surrounding areas. This however, is a misleading observation, as many areas within the grid could not be sampled due to thick overburden. Also, most outcrops along the creek were "high graded" with only scattered grab sampling obtained throughout host rocks. Therefore, due to a lack of uniform sampling across the property, this survey should serve only as a guide in grading present surface mineralization.

STATEMENT of QUALIFICATIONS

I, Arnold R. Pollmer of Peachland, Province of British Columbia,  
do certify that:

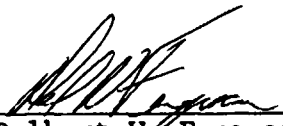
- 1) I have been employed as a geologist by Noranda Mines Limited.  
from December 1973 to June 1977; I am presently employed as  
the chief geologist by Brenda Mines Ltd.
- 2) I am a graduate of the University of Wisconsin with a  
Bachelor of Science Degree in Geology (1972).
- 3) I am a member of the Canadian Institute of Mining and  
Metallurgy.
- 4) I am a fellow of the Geological Association of Canada.



STATEMENT OF QUALIFICATIONS

I, Delbert W. Ferguson of Peachland, Province of British Columbia, do certify that:

- 1) I am presently employed as an exploration geologist by Brenda Mines Ltd.
- 2) I am a graduate of the University of Western Ontario with an Honours Bachelor of Science Degree in Geology (1979).

  
Delbert W. Ferguson  
Exploration Geologist  
Brenda Mines Ltd.

**APPENDICIES**



PREPARATION for ROCK SAMPLES and DRILL CORES

Each core is given a sample number 1, 2, 3 etc.

Preparation:

- a) Jaw crush into sample tray.
- b) Mix 2x and split sample in half using large riffle. Transfer each half to a drying tray and label A & B.
- c) Dry sample for at least 1 hour.
- d) Cool and riffle mix 3x, then split down to pot grinding size.
- e) Pot grind sample A for 2½ minutes and transfer to a number sample packet.
- f) Clean all apparatus thoroughly after each sample.
- g) Retain sample B as a coarse reject sample (pot grind every 10th B sample and run as normal).

Note: Rock samples are prepared in a similar manner depending upon size.

ANALYSIS by A.A. for Cu, Pb, Zn, Ag, and Mo.

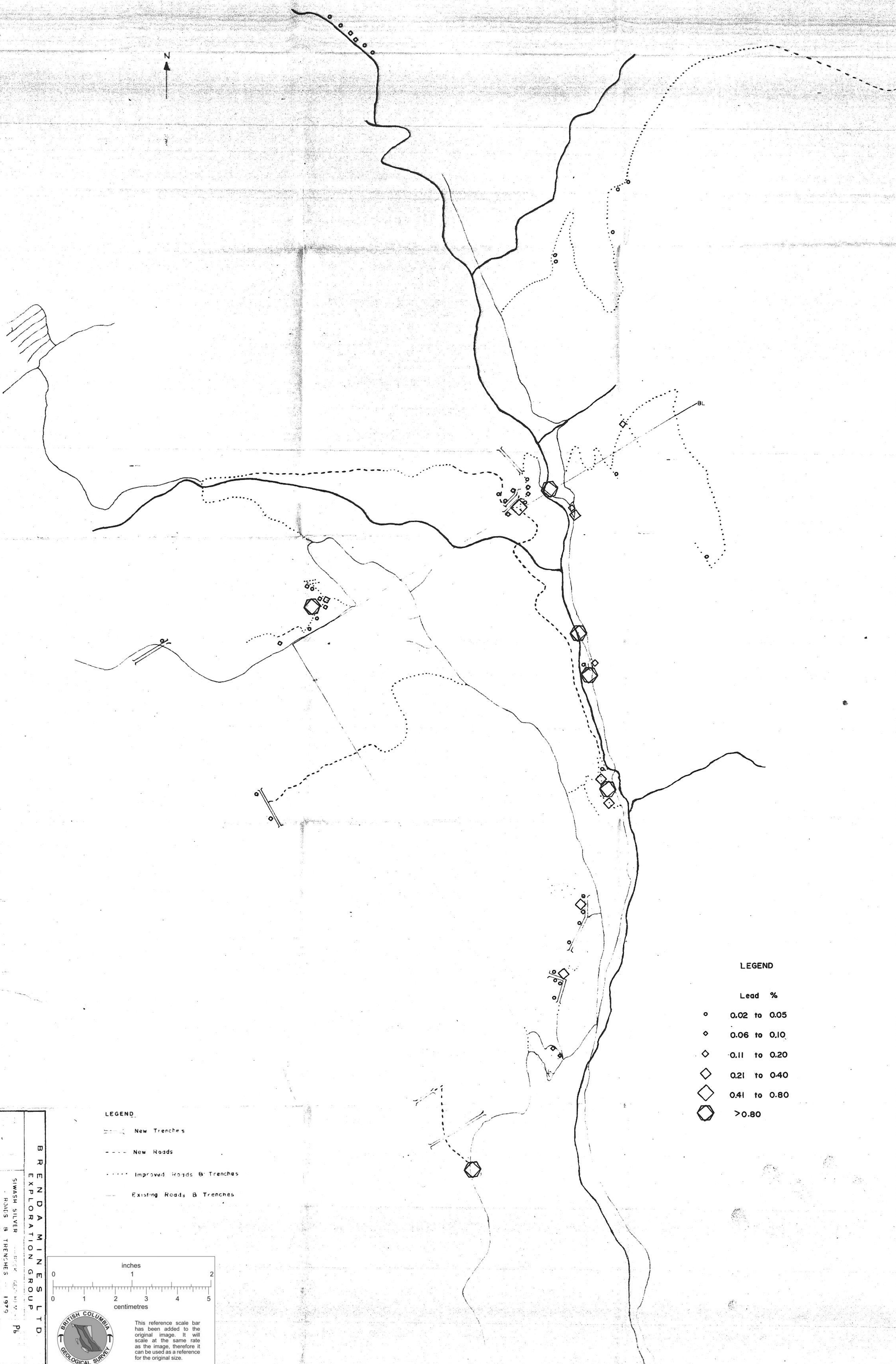
1. Weigh 2.00 GM on the top pan balance into a 150 ML beaker (check that beaker No. is the same as written on work sheet).
2. Add 15 MLS Nitric Acid, cover with watchglass and heat on low heat until brown Nitrous fumes are gone.
3. Remove beakers from hot plate, cool for 5 minutes.
4. Add 10 ML Hydrochloric Acid. Place on hot plate. When all brown Nitrous fumes gone, remove watchglasses and take just to dryness on a low plate.
5. Remove from plate, cool, add 20 MLS distilled water, 5 MLS Conc. Hydrochloric Acid and boil salts into solution.
6. Cool in water bath, when cold transfer to 100 MLS Volumetric flask, add 1 MLS Superfloc solution and dilute to 100 MLS with distilled water.
7. Mix thoroughly and then transfer to original beaker.
8. When all samples ready, transfer to A.A. room for reading.
9. If Mo is required, 10.00 MLS of this solution is transferred to a test tube and 1.00 MLS of ALC<sub>3</sub> solution added.

APPENDIX II

Cost Statement and Account Breakdown

Labour - 1 Geologist - \$80/day )	
1 Field Assistant - \$70/day) - \$150/day x 30 days	4,500.00
Assaying - 580 rock samples x \$6.82/sample	3,955.60
Cat Rental and Operating Expenses - \$881.28/day x 25 days	22,031.95
Vehicle Rental - one 4 x 4 truck x \$15/day x 30 days	450.00
Vehicle Maintenance and Repair	755.82
Fuel Costs - \$10/day x 30 days	300.00
Food Expenses - \$10/man/day x 2 men x 30 days	600.00
Field Supplies - 580 plastic sample bags x \$0.22/bag	127.60
Miscellaneous Field Supplies and Expenses	255.58
Accommodation	605.35
Report Preparation - 6 days x \$80/day	<u>480.00</u>
Total Expenditures	\$34,061.90

1,925 m of Cat work was applied over SS 1 Mineral Group = 13% of work = 4,428.05  
9,275 m of Cat work was applied over SS 2 Mineral Group = 64% of work = 21,799.61  
1,500 m of Cat work was applied over SS 3 Mineral Group = 10% of work = 3,406.19  
1,900 m of Cat work was applied over SS 4 Mineral Group = 13% of work = 4,428.05

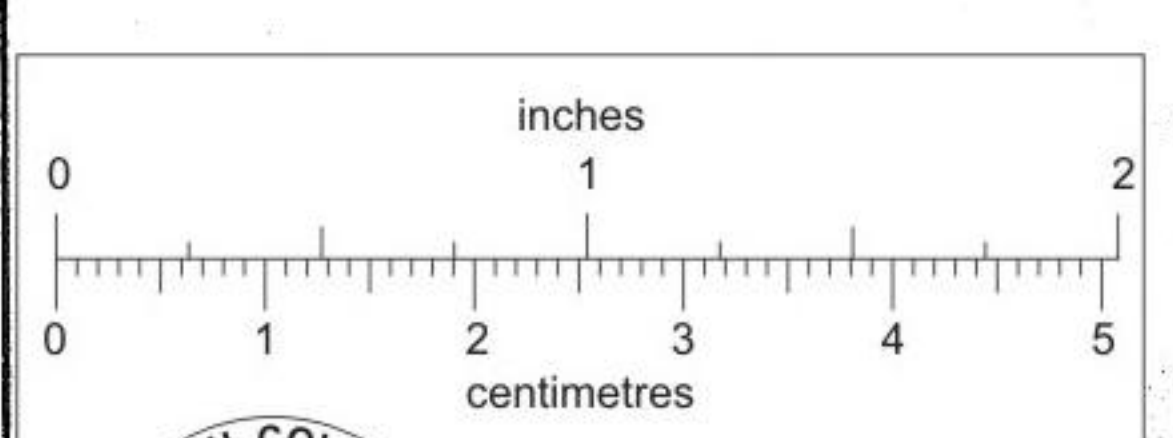


LEGEND

- Lead %
- 0.02 to 0.05
  - ◇ 0.06 to 0.10
  - ◇ 0.11 to 0.20
  - ◇ 0.21 to 0.40
  - ◇ 0.41 to 0.80
  - ◇ >0.80

LEGEND

- New Trenches
- New Roads
- Improved Roads & Trenches
- Existing Roads & Trenches



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Feb 1980

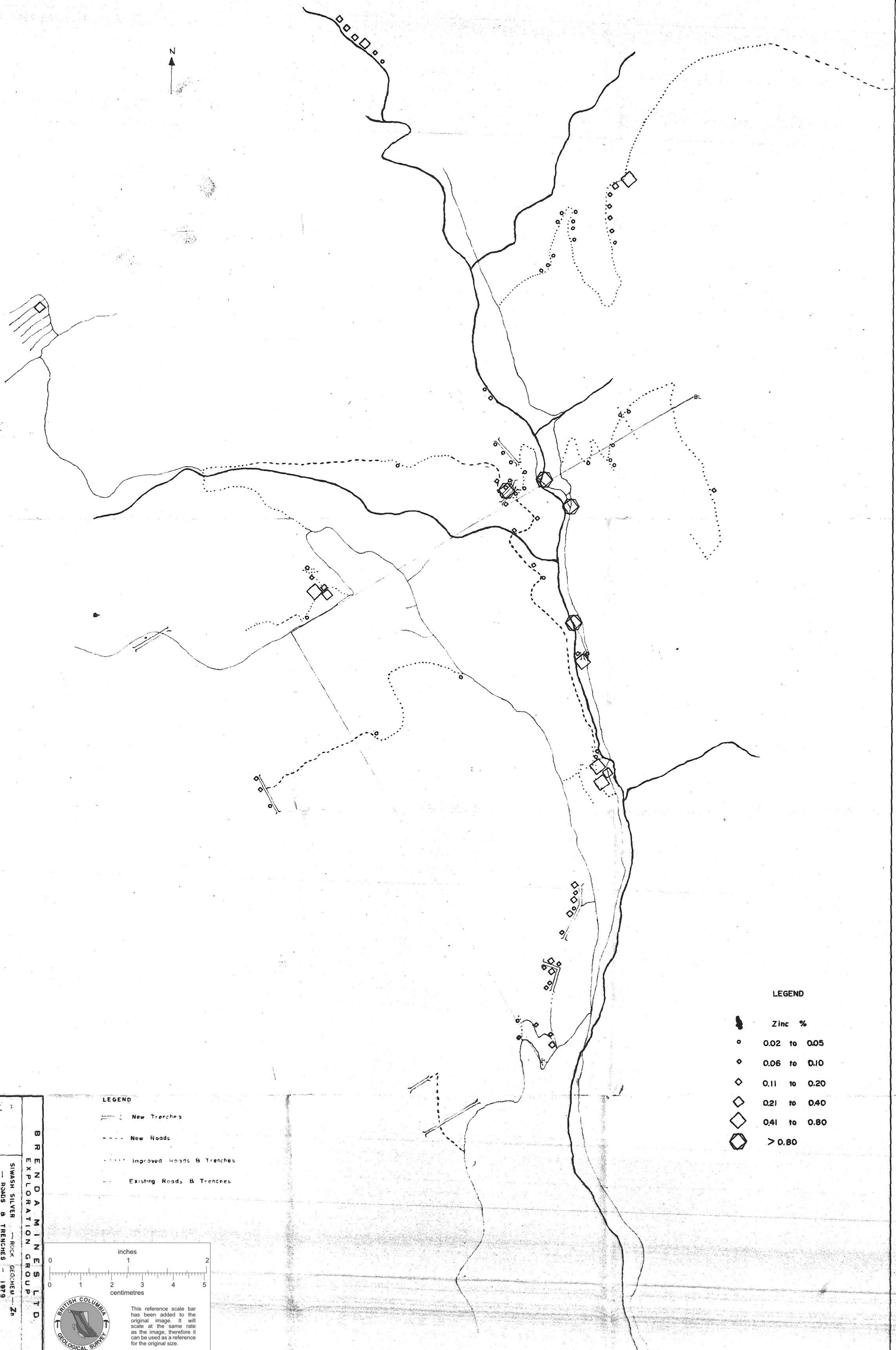
**BRENDA MINES LTD**  
EXPLORATION GROUP

SIMASH SILVER  
ROADS & TRENCHES 1979

1:7500

*W. M. Brown*

Z

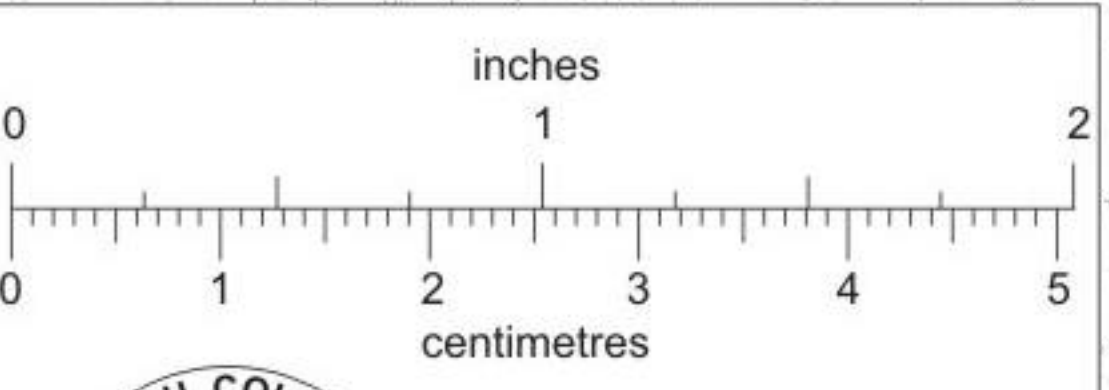


LEGEND

- Zinc %
- 0.02 to 0.05
- ◇ 0.06 to 0.10
- ◇ 0.11 to 0.20
- ◇ 0.21 to 0.40
- ◇ 0.41 to 0.80
- ◇ > 0.80

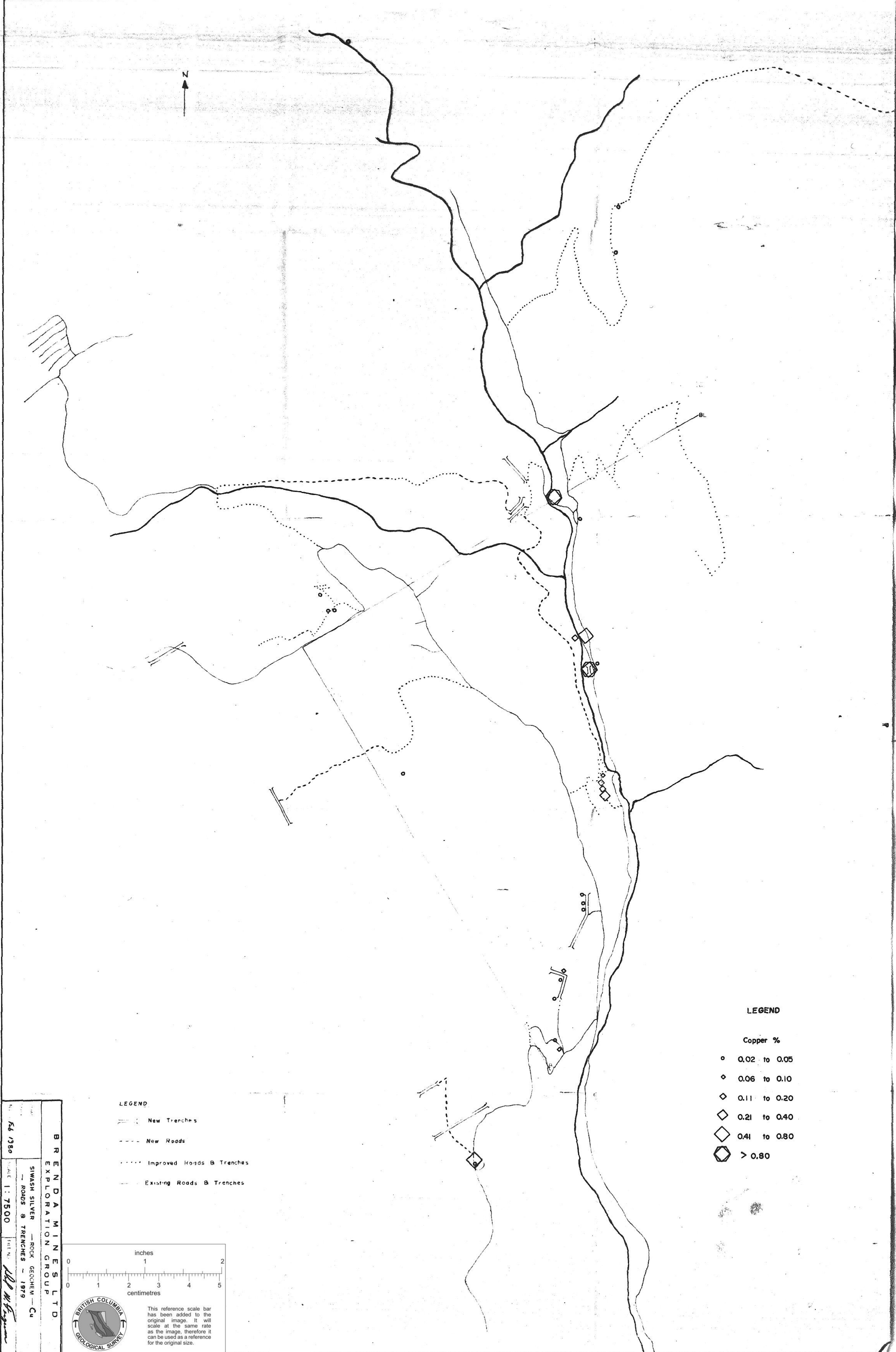
LEGEND

- New Trenches
- New Roads
- Improved Roads & Trenches
- Existing Roads & Trenches



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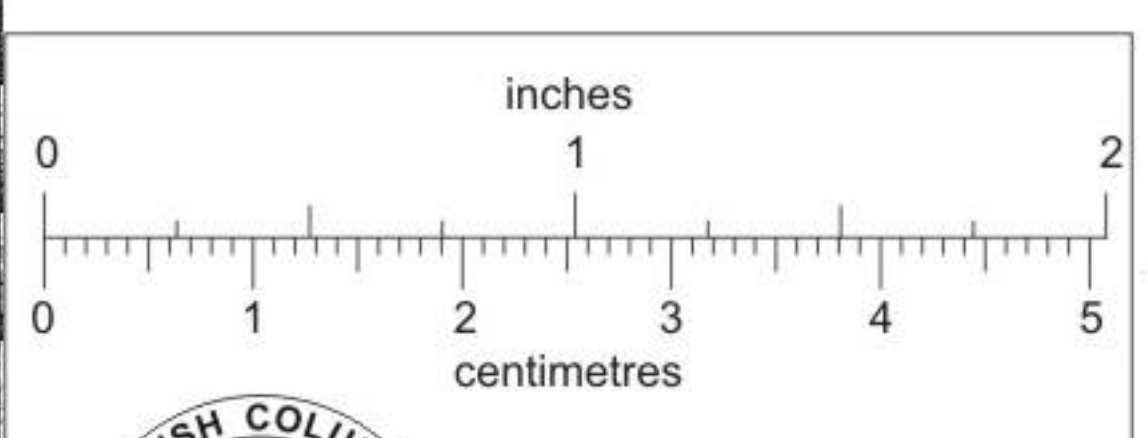
BRANDAMINES LTD.  
EXPLORATION GROUP  
SIWASH SILVER - ROCK GEOCHEM - Zn  
ROADS & TRENCHES - 1979  
Feb. 1980  
1:7500  
M.D. W. Ferguson



**LEGEND**

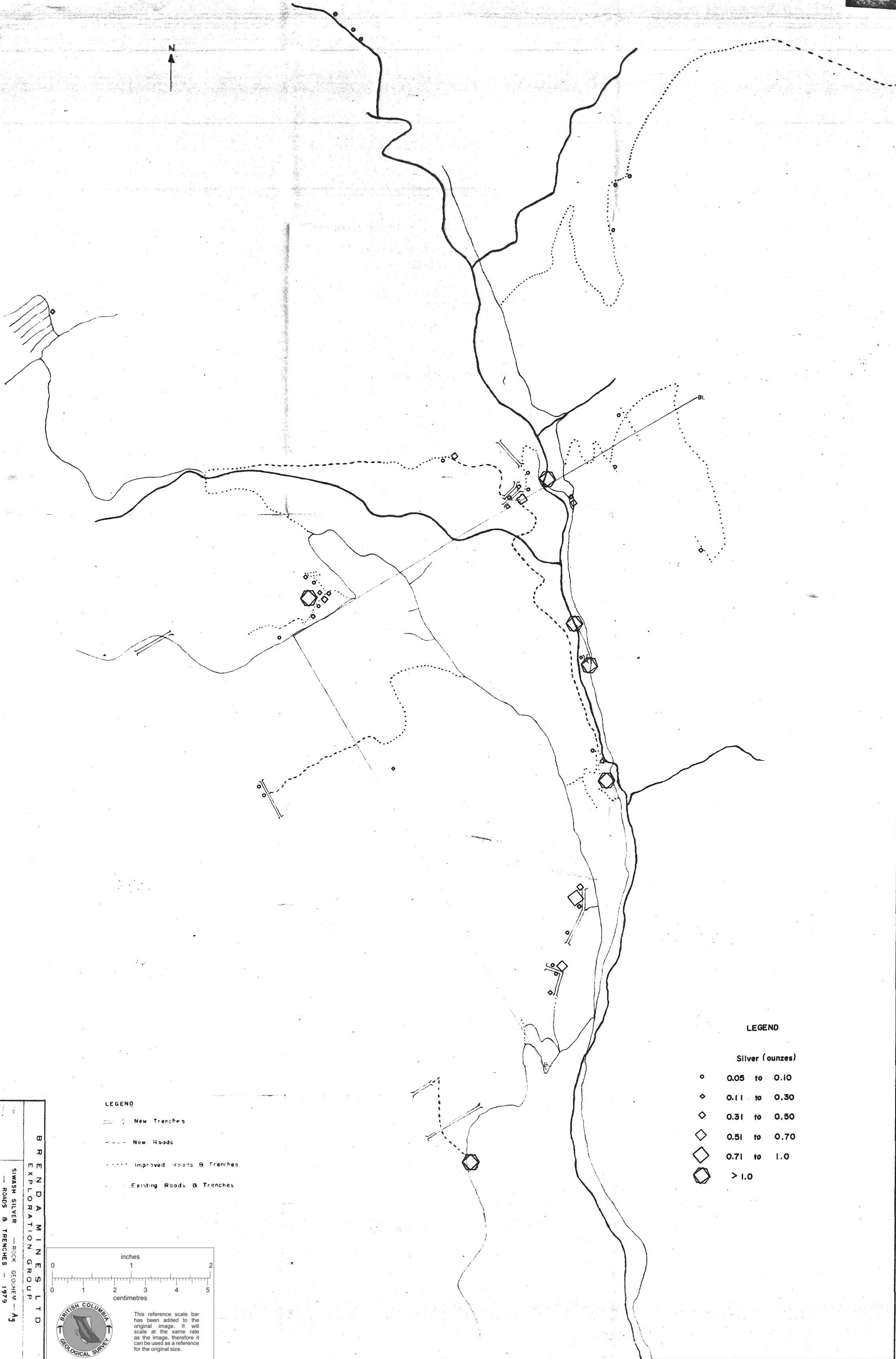
- Copper %**
- 0.02 to 0.05
  - ◇ 0.06 to 0.10
  - ◇ 0.11 to 0.20
  - ◇ 0.21 to 0.40
  - ◇ 0.41 to 0.80
  - ◇ > 0.80

- LEGEND**
- New Trenches
  - - - New Roads
  - ..... Improved Roads & Trenches
  - Existing Roads & Trenches



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File No. 546 1380  
 BREXIDA MINES LTD  
 SIMASH SILVER — ROCK GEOCHEM — Cu  
 ROADS & TRENCHES — 1979  
 Scale 1 : 7500  
 M. W. Ferguson



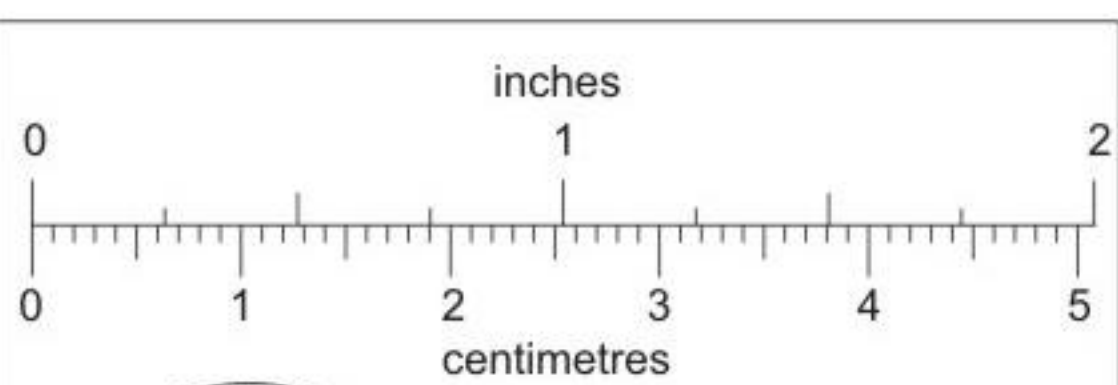
LEGEND

Silver (ounces)

- 0.05 to 0.10
- ◇ 0.11 to 0.30
- ◇ 0.31 to 0.50
- ◇ 0.51 to 0.70
- ◇ 0.71 to 1.0
- ◇ > 1.0

LEGEND

- New Trenches
- - - New Roads
- ..... Improved Roads & Trenches
- Existing Roads & Trenches



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BRENDAMINES LTD.  
 EXPLORATION GROUP  
 SIMASH SILVER — ROCK GEOCHEM — Ag  
 — ROADS & TRENCHES — 1979  
 File No. 114 W. 10/10/79  
 Date: Feb 1980  
 Scale: 1 : 7500