

4077

HELPS LODGE CORPORATION OF CANADA, LTD.

ASSESSMENT WORK REPORT

ON THE

GEOLOGY, GEOCHEMISTRY & GEOPHYSICS

OF

DON AGUR: SIWASH CLAIM GROUP

92H/16W

SIMILKAMEEN MINING DIVISION

BRITISH COLUMBIA

N.T.S. 92 H/16

49°50' N. Latitude, 120°20' W. Longitude

BY: A. B. Bischoff, B.Sc.  
and M.E. Tim Coates, P.Eng.

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4077 MAP

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- #1 Appendix I: Compilation Map showing Geochemical Values & Anomalous Concentrations of Copper, Lead and Zinc in soils. In pocket
- #2 Appendix II: Geology and Rock Geochemical Sample Locations. In pocket
- #3 Appendix III: Ground Magnetic Map. In pocket
- #4 Appendix IV: Claim Map. In pocket
- Appendix V: Summary of Costs.
- #5 Geochemical survey

" Claremont Group (possibly Argentite) (12)

References: Ann. Repts., Minister of Mines, B.C.: 1917, p. 206;  
1927, P. 248.

The Claremont group is on Siwash Creek about a mile north of Teepee Creek. Several adits, now caved, have been driven into the steep bank of the main creek and have exposed several mineralized shear zones in the southern margin of the Siwash Creek body of the Otter intrusions, which in this vicinity have been profoundly altered to a soft, kaolin-sericite-quartz-carbonate rock. The shear zones have a general easterly strike and steep dips. They are in part silicified and carry considerable pyrite. Sphalerite and galena are also present, but very little could be seen. The galena is apparently argentiferous for a selected sample of the mineral taken by the Resident Engineer assayed 0.10 ounce a ton in gold and 269.8 ounces a ton in silver. Apparently, however, such high-grade material is scarce, for in spite of the fact that between 400 and 500 feet of underground development has been done, no substantial shipments have been made. The writer found a number of fine seams of fluorite occupying joints in the altered granite. "

" Iron Duke and Fisher Maiden Claims (13)

These claims are on Siwash Creek about half a mile above the Mabel claim and may form part of the Mabel group.

The showings consist of mineralized shear zones in granodiorite, and are similar to those on the Mabel claim. Here, too, Otter intrusive dykes occur. The shear zones are silicified and mineralized with hematite, but more pyrite and chalcopyrite can be seen than on the Mabel claim, and in one place the shattered granodiorite shows small amounts of copper carbonate over an area of 30 square feet or more. "

All of the aforementioned occurrences lie on or near Siwash Creek and the El Paso Group lies immediately east of the Siwash Claim Group.

LOCATION & ACCESS:

The property lies 30 air-miles north-northwest of Princeton, B.C. near the headwaters of Siwash Creek.

Access is via the Princeton-Summerland road to Teepee Lakes base camp, a distance of 30 miles from Princeton. The property is 15 miles northwest of the base camp by 4-wheel drive standard road.

LIST OF CLAIMS:

Work was done on the following claims which have been included in the Siwash Group.

<u>Claim No.</u>	<u>Record No.</u>
Siwash No. 1	33820
No. 2	33821
No. 3	36011
No. 4	33823
No. 5-10	36012-17
No. 11-18	34352-59
No. 21-24	034789-92
No. 25-28	035980-83
No. 31-32	35106-07
Siwash Fractional #1	36010

(See Claim Map, APPENDIX IV)

TOPOGRAPHY & VEGETATION:

The area of the claims is sub-mountainous with local relief of 500 ft. to 1000 ft. Prominent conjugate fracture system is reflected by steep linear volcanic cliffs with coarse talus slopes.

The lower areas of the property are covered by a thin veneer of glacial till and recent stream deposits. The area is moderately wooded with a growth of spruce, jackpine, larch and arbor vitae.

Alder and willows grow in the low areas around Siwash Creek.

GEOLOGY:

The property is underlain by porphyritic andesite flow rocks of the Nicola Group which have been folded out and intruded by dykes of biotite-hornblende granodiorite and syenite porphyry.

The regional attitude in the vicinity of the claims is N.N.E. with steep dips. The rocks are well fractured in north-northeast and northwest directions.

Copper mineralization occurs in albite-epidote-chlorite alteration zones of limited size near the contacts of a large northwest trending granodiorite dyke with the Nicola rocks. Chalcopyrite and chalcocite occur occasionally with magnetite in narrow shear zones and fractures in the Nicola rocks (Showing No. 1) or as disseminations and fracture fillings in hybrid

granitoid rocks (Showing No. 2). Assays of several samples are shown in Appendix I.

The following is a table of formations for the area:

Table of Formations

CENOZOIC

Pleistocene & Recent

- glacial and stream deposits,  
till and gravel.
- unconformity---

Tertiary

- syenite porphyry dykes
- intrusive contact---

MESOZOIC

Cretaceous

- granodiorite and quartz-diorite

Triassic

- andesite, dacite, volcanic breccia  
and tuffaceous volcanic rocks.

GEOCHEMISTRY:

Approximately nine miles of line was prepared and 240 soil samples were collected at 200 ft. intervals on 400 ft. spaced cross-lines. These samples were dried, sieved to -80 mesh, and analysed for total copper, lead and zinc contents. Hot aqua regia digestion was used for the samples and analyses were made on a Perkin-Aylmer AA-3 Atomic Absorption unit.

Anomalous backgrounds were determined graphically and checked statistically with a Friden Programmable Printing Calculator. Threshold in each case is approximately mean value + 2 standard deviations. Results were contoured and compiled to show correspondence of anomalous zones (see Appendix II).

One large copper anomaly, 2400 ft. x 600 ft. was detected in the eastern part of the gridded area. Outcrop is abundant in this area, however, and no mineralization of note was seen in the area during prospecting of the claims.

Geochemical anomalies in the vicinity of Showings No. 1 and 2 were of low order and restricted size.

GEOPHYSICS:

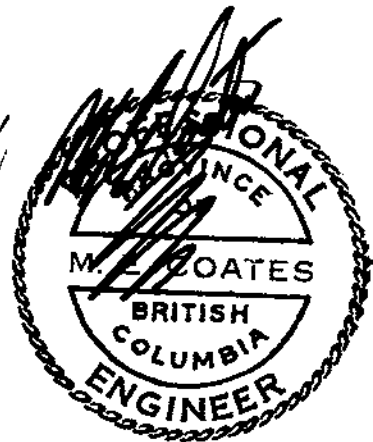
A geophysical survey of the gridded area was carried out by A. B. Bischoff, geophysicist, and assistants using a Scintrex Model MF-1 fluxgate magnetometer. Observations were made at 200 ft. intervals with intermediate stations in areas of high magnetic relief. Procedure involved a single instrument with loop closure on side-lines every hour. No unusual seasonal or daily disturbances were noted.

The following interpretations of the magnetometer results were made by Bischoff:

1. Areas of low magnetic response underlain by granitic rocks.
2. Isolated magnetic highs coincide with magnetite rich areas in volcanic rocks near contacts with granodiorite intrusive.

Respectfully submitted.

*Allen Tim Coates*  
A. B. Bischoff, B.Sc.  
M.E. Tim Coates, P.Eng.



SELECTED REFERENCES

Rice, H.M.A.

1960: Geology and Mineral Deposits of the Princeton  
Map-Area, British Columbia; G.S.C. Memoir  
No. 243.

#### FOREWORD:

This report comprises the results of work done by Phelps Dodge Corporation of Canada, Ltd. on the Siwash Group during the period June 10 to August 15, 1972.

#### CONCLUSIONS:

Copper occurrences seen on the property, although interesting, are small. Geochemistry does not suggest extensions of the known mineralization.

Magnetometer results are not definitive and provide no help for directing further efforts.

#### RECOMMENDATIONS:

Prospecting of the eastern area of the grid east of the largest copper anomaly should be undertaken. If this work does not provide encouragement I recommend that work on the property be terminated.

#### HISTORY:

The area has been prospected sporadically for the past 100 years. Several mineral occurrences were discovered in the general area and were described by Rice (1960), and are reproduced below.

\* " El Paso Group (10)

The El Paso group is on the northeast side of Siwash Creek some 3 miles north of the Renfrew group. Unlike the properties on Siwash Creek already described, all of which occur in intrusive bodies, the deposits of the El Paso group are in volcanic rocks of the Nicola group near the northwest contact of the Osprey Lake granitic body. The workings seen were two adits, both caved, and some open-cuts. These have exposed one or more veins of banded quartz, carrying arsenopyrite, pyrite, sphalerite, and galena. The walls of the veins consist of crushed and carbonatized volcanic rocks and the quartz veins themselves have been brecciated and healed with veinlets of carbonate. One open-cut exposes a small dyke of the Otter intrusions that has been much brecciated and later healed with barite. No sulphides could be seen in association with the barite. Manganese is the only element revealed by the spectograph whose presence could not be inferred from the mineralogy."

\*It is the writer's opinion that the mineralization on the El Paso Group is situated at the lower contact of a feldspar porphyry dyke of northeast trend and moderate easterly dip.



"

Blue Stone Claim (11)

Reference: Ann. Rept., Minister of Mines, B.C., 1927, p. 248.

The Blue Stone claim, owned by F. Barber and W. Cunningham of Princeton, lies on Siwash Creek about three-quarters mile north-west of the Renfrew group. The showing consists of a quartz vein, much like those of the Renfrew, in an easterly striking shear zone cutting the Siwash Creek granite body. The vein is 1 inch to 4 inches wide where seen, and is mineralized with tetrahedrite, pyrite, and some galena and sphalerite. Exploratory work consists of an open-cut and an adit, now caved, driven 50 feet below it. "

"

Renfrew Group (11)

References: Ann. Repts., Minister of Mines, B.C.: 1925, p. 210; 1927, p. 247; 1928, p. 264; 1929, p.277.

The Renfrew group, formerly known as the Snowstorm, consists of the E.J.A., B.H., H.J.B., and other claims, and is owned by Frank Barber et al. of Princeton. It is on Siwash Creek about 1½ miles above Tepee Creek. More development work has been done on these showings than on any others in the vicinity, and in 1926, 27 tons were shipped by pack-horse 9 or 10 miles to Jellico Siding. From this 3 ounces of gold, 3,379 ounces of silver, and 1,578 pounds of lead were recovered.

The deposits consist of fairly strong mineralized shear zones from a few inches to 5 feet wide striking northeasterly across granitic rocks of the Siwash Creek body of the Otter intrusions. This body has been profoundly altered in the vicinity of the claims to a soft, watery green or buff rock, the only recognizable original constituents being rounded crystals of quartz the size of peas. The sheared and altered rock has been silicified and well banded, and crystalline vein quartz, with both comb structures and vugs, has developed along the shear zones. Both the veins and silicified areas are generally well mineralized with sulphides, the following being observed: pyrite, sphalerite, galena, chalcopyrite, and arsenopyrite. Tetrahedrite and argentite are reported, but were not seen by the writer. In addition to the normal constituents of the minerals mentioned above, the spectrograph revealed traces of cadmium, manganese, antimony, and tin. Several of these veins have been explored by four or five adits, most of which are now caved. The following samples were taken by the Resident Engineer. "

APPENDIX V

SUMMARY OF COSTS

Geological Mapping	M.E. Tim Coates, P.Eng.	10 days @ \$100.00/day	\$1,000.00
Rock Geochemistry	Tom Edwards	6 days @ \$40.00/day	\$ 240.00
	Al Gregson		
	Assays	60 samples @ \$6/sample	\$ 360.00
Line Preparation	9 miles @ \$100/mile		\$ 900.00
Soil Geochemistry	Stan Lui	10 Mondays @ \$40/Monday	\$ 400.00
	Tom Edwards		
	Al Gregson		
	Assays	240 samples @ \$3/sample	\$ 720.00
Magnetometer Survey	Alan Bischoff, B.Sc. Geophysicist.	8 miles @ \$100/mile	\$ 800.00
Access Road Construction			\$1,338.80
			<u>TOTAL COST \$5,758.80</u>



Corporation of Canada, Limited 1112 West Pender Street, Vancouver 1, British Columbia • (604) 684-6588

December 6th, 1972.

Mr. E. J. Bowles,  
Chief Gold Commissioner,  
Dept. of Mines & Petroleum Resources,  
Victoria, B.C.

Dear Mr. Bowles,

re: SIWASH Mineral Claims  
Geological-Geophysical-Geochemical  
-Line-Cutting Report.  
File No. 166 Similkameen

13875

Geochemical soil samples were collected from the "B" horizon. Rock-chip geochemical samples were collected at the designated sites by collecting 12 chips of approx. 2 cm. diameter at random from a 12 ft. diameter circular area on outcrop. Results of the rock-chip analysis are shown on the face of the geological map accompanying the report.

I trust that this will answer your query of December 4th and apologize for my error of omission.

Yours sincerely,

M. E. Tim Coates, P.Eng.

MEC/sbp

REFERRED TO	DATE	INITIAL
D. M.		
C.G.C.		
C.C.		
D.C.G.C.		
D.C.C.		
ACCI.		
C.M.B.		
C.I.		
C.A.		
R. T.		
C.P.E.		
FILE		

DEC 11 '72 PM



DEPT. OF MINES AND PETROLEUM RESOURCES

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904-55 Yonge Street, Toronto 215, Ontario • (416) 366-4674

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VANCOUVER OFFICE

GEOCHEMICAL SURVEY

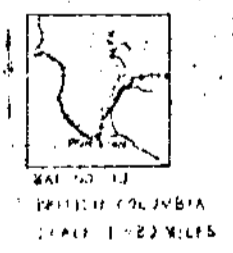
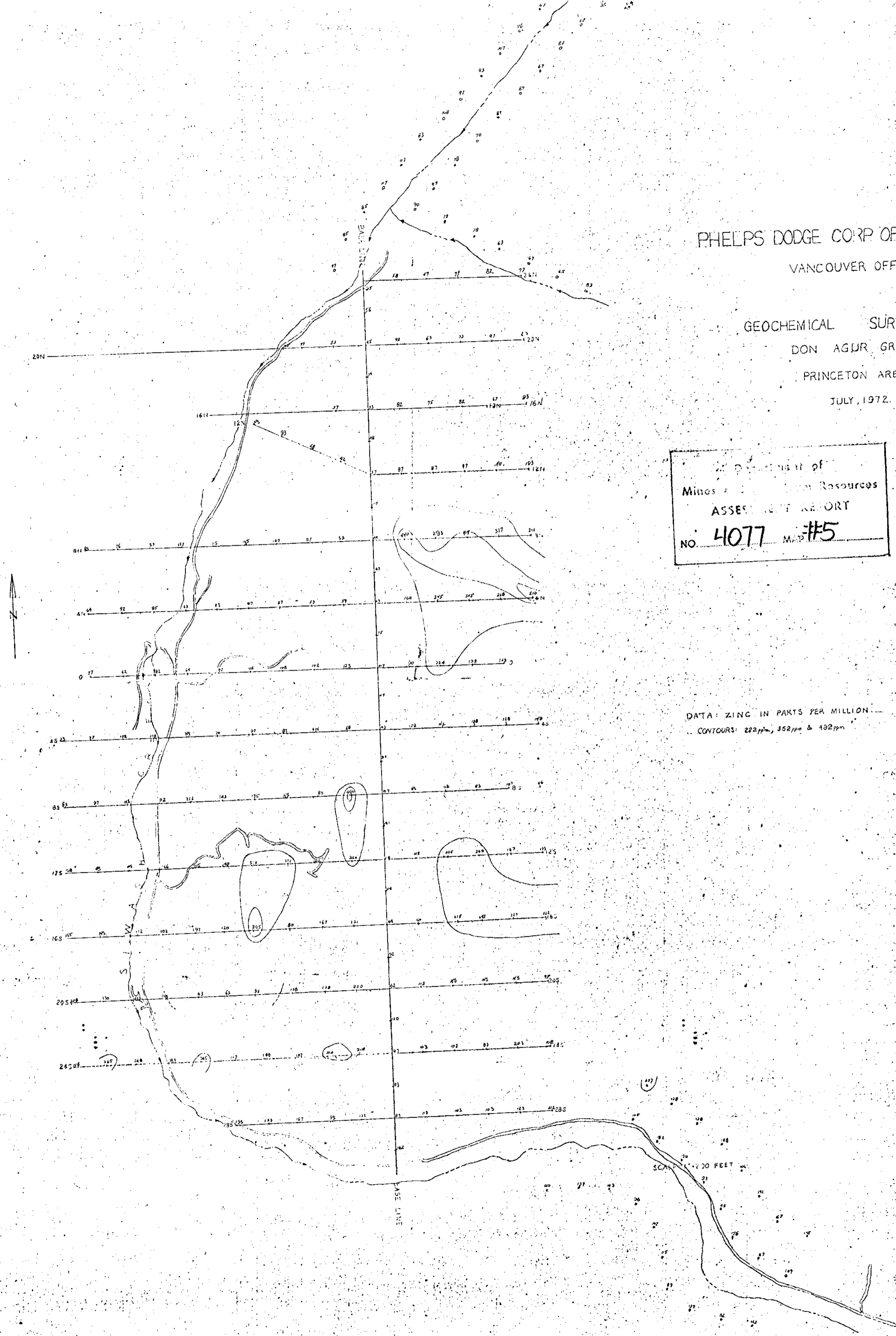
DON AGUR GROUP

PRINCETON AREA

JULY, 1972.

Department of  
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DATA: ZINC IN PARTS PER MILLION  
 CONTOURS: 222 ppm, 352 ppm & 482 ppm



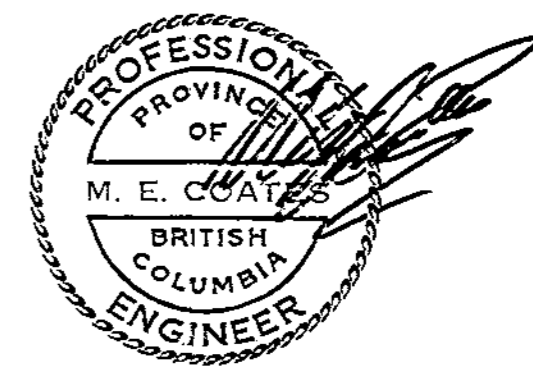
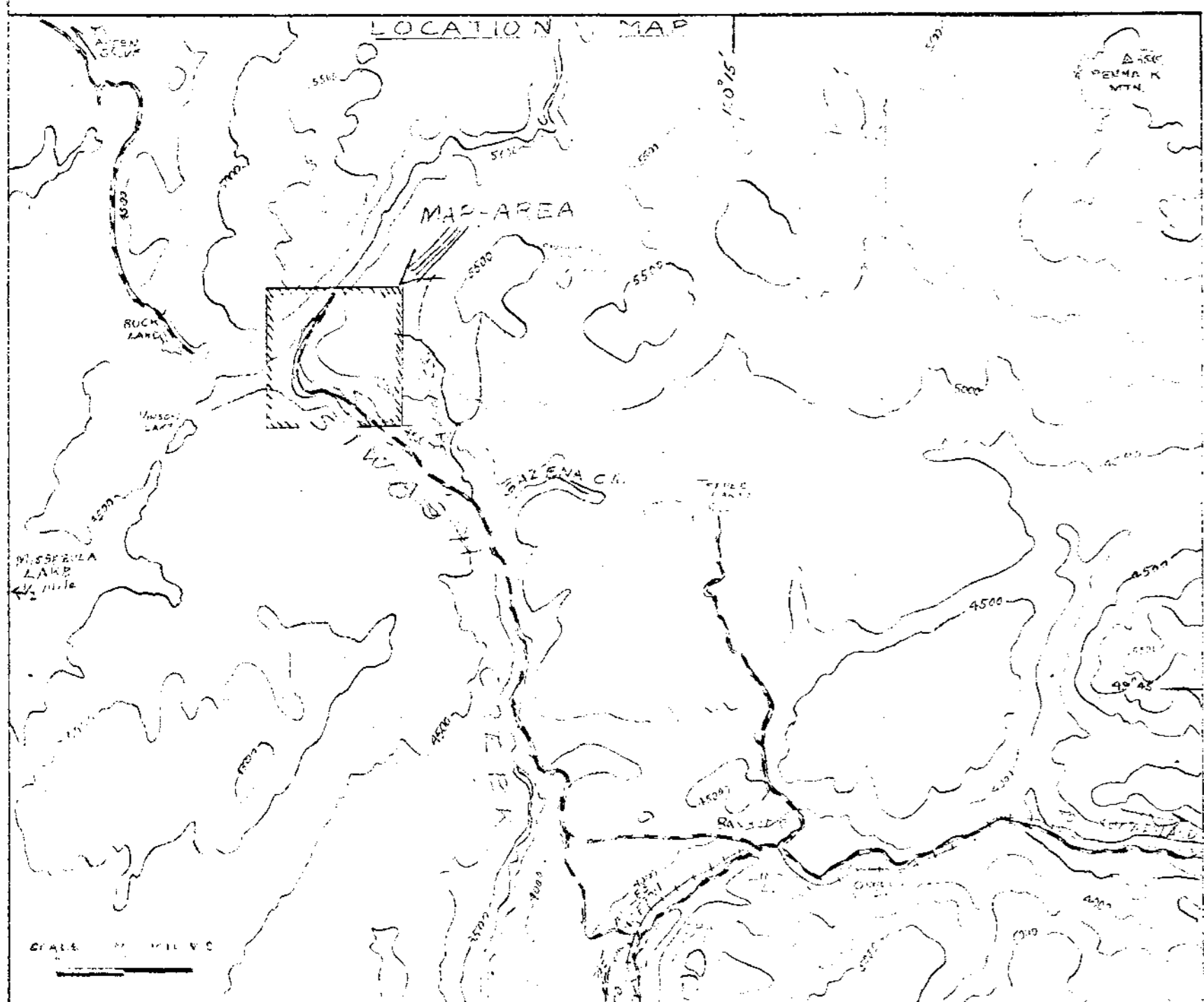
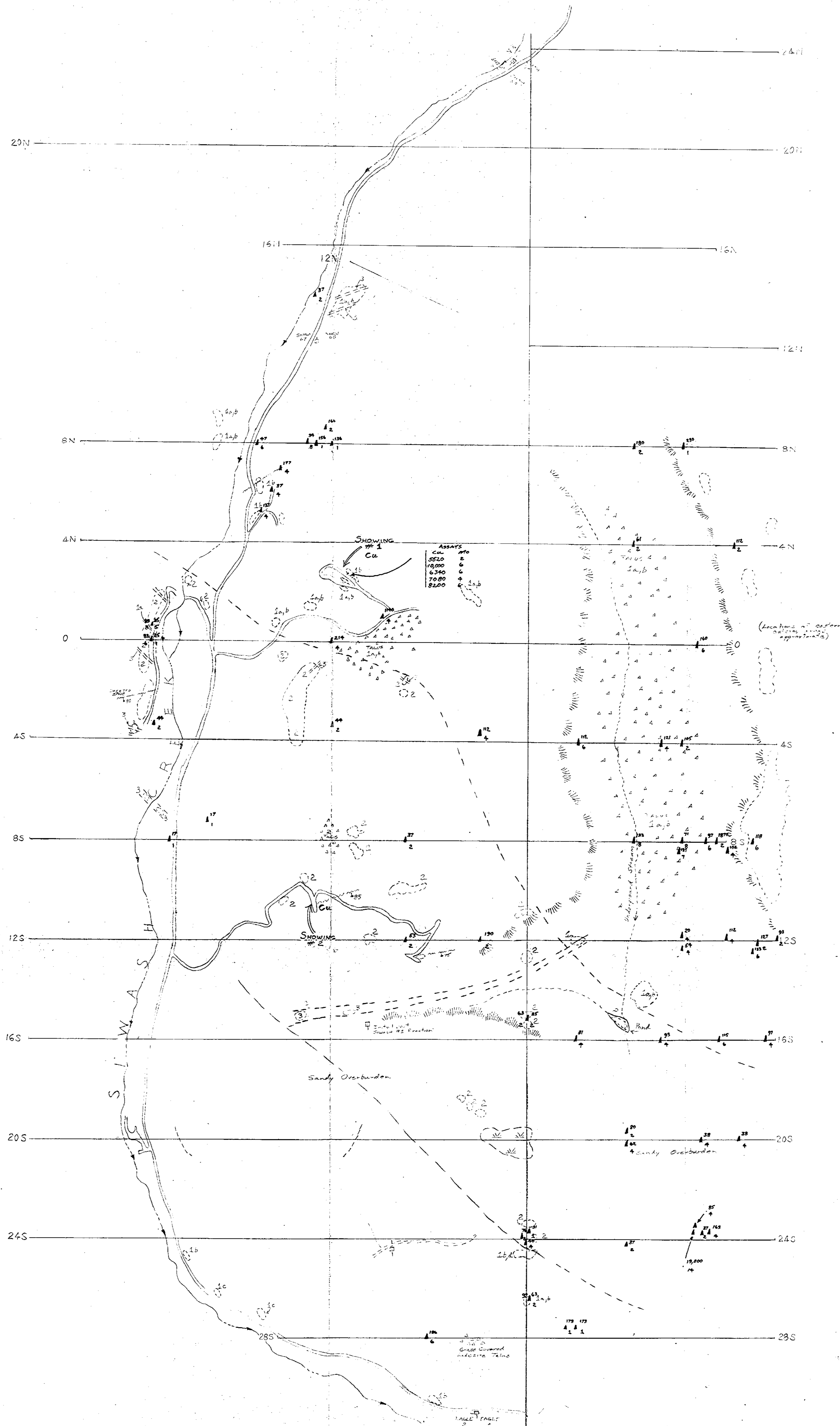
**LEGEND**

**PERIODS**

- 1 Pleistocene & Recent: Glacial and stream deposits: till & gravel unconformably
- 3 Tertiary: granite porphyry dikes intrusive contact
- 2 Cretaceous: granodiorite and quartz-diorite
- 1a Triassic (Nicola Group)
  - 1a Andesite and diorite, porphyritic
  - 1b Porphyritic andesite dikes with phenocrysts of hornblende and quartz
  - 1c Volcanic breccia: angular fragments of andesite and limestone in surficially groundmass
  - 1d Turbidity volcanic ash: fine-grained grey, thinly bedded

**LIST OF SYMBOLS**

- roads and trenches
- streams showing direction of flow
- geological contact observed
- fault inferred
- geological contact inferred
- geological contact assumed
- cliff
- main-post
- glacier-covered areas
- trail
- area of bedrock outcrop
- rock geochemical sample-site
- mineral occurrence



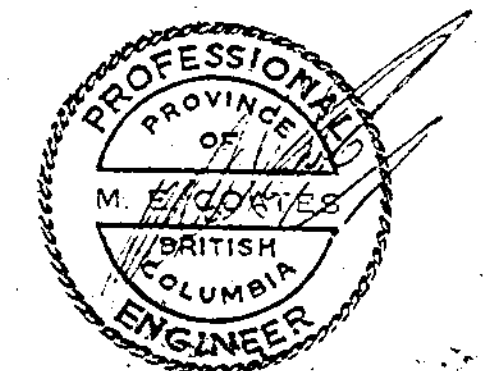
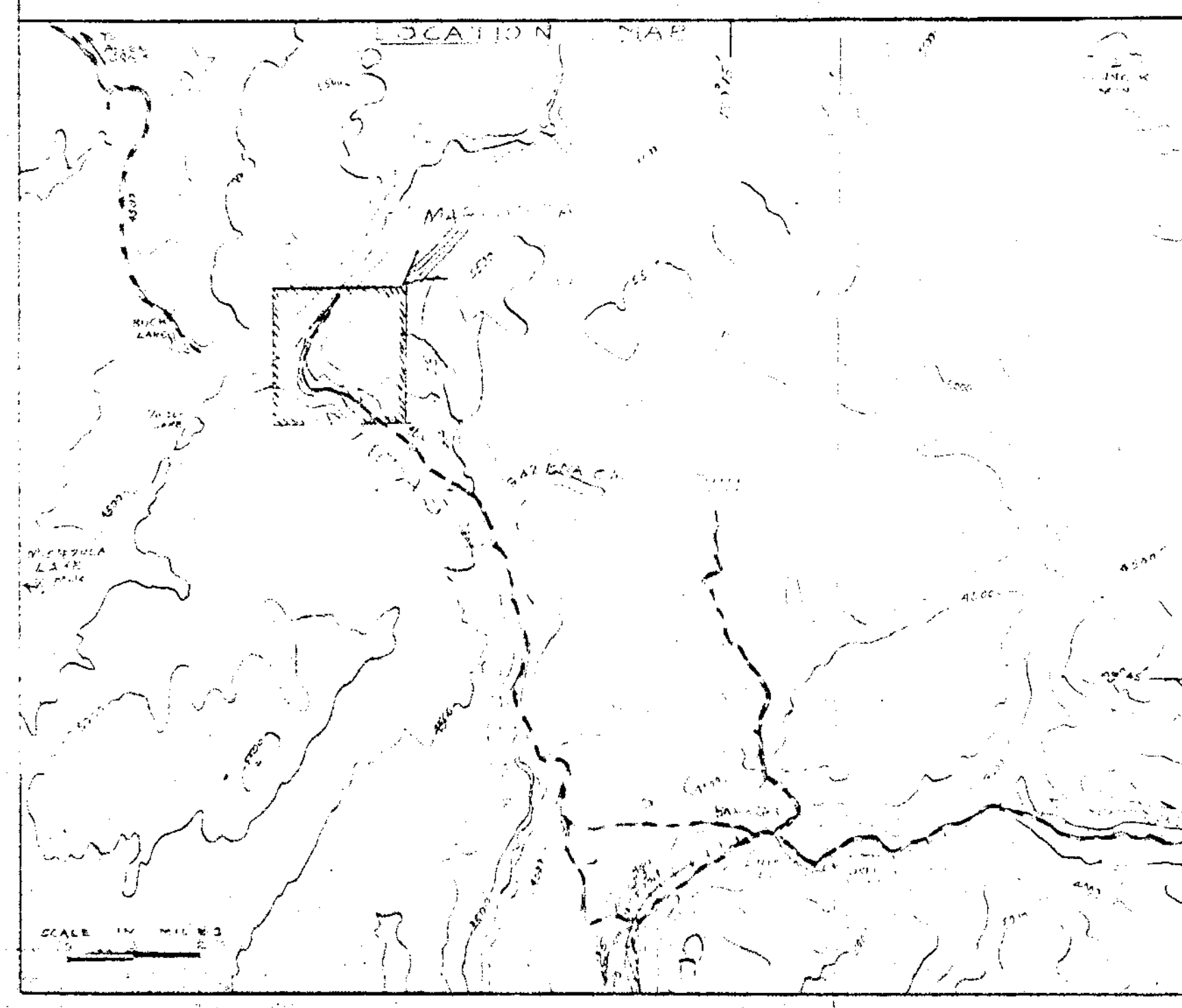
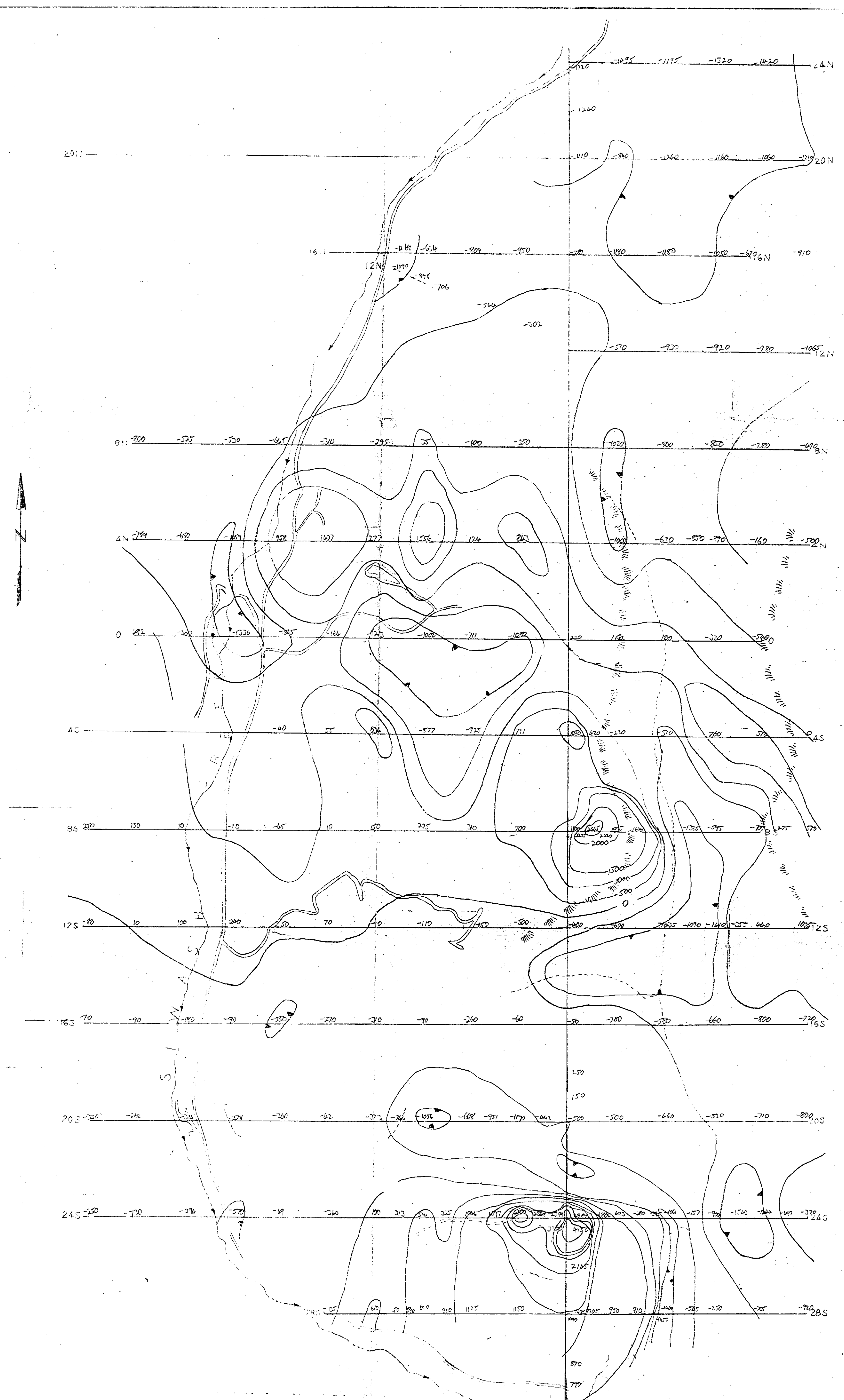
Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4077 MAP #2

**PHELPS DODGE CORPORATION OF CANADA, LIMITED**  
VANCOUVER OFFICE

**GEOLOGY AND  
ROCK GEOCHEMISTRY SAMPLE LOCATIONS**  
DON AGUR: SNOW & SAWASK CLAIMS

SCALE: 1" = 200 FT. DATE: August 28/77. APPROVED BY: M.E.C. DRAWN BY: M.D.C.

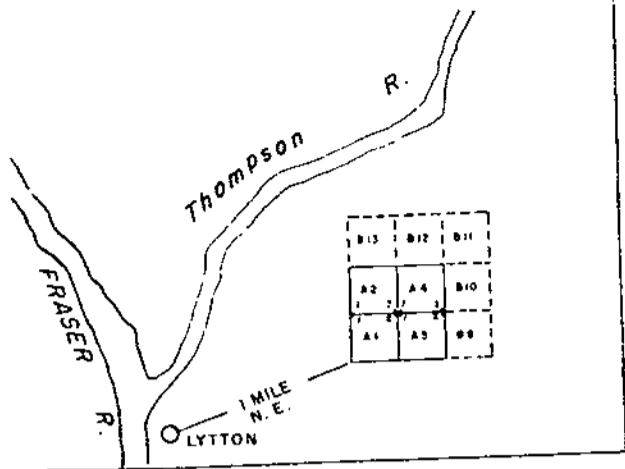




Department of  
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NO. 4077 #13

**PHELPS DODGE CORPORATION OF CANADA, LIMITED**  
 Vancouver Office  
 Magnetometer Survey  
 (S.M.P. 1115-P-1115)  
 Contour 1:2000  
 DONOR: J.W.O.W. & SONS  
 N.T.S.  
 1952

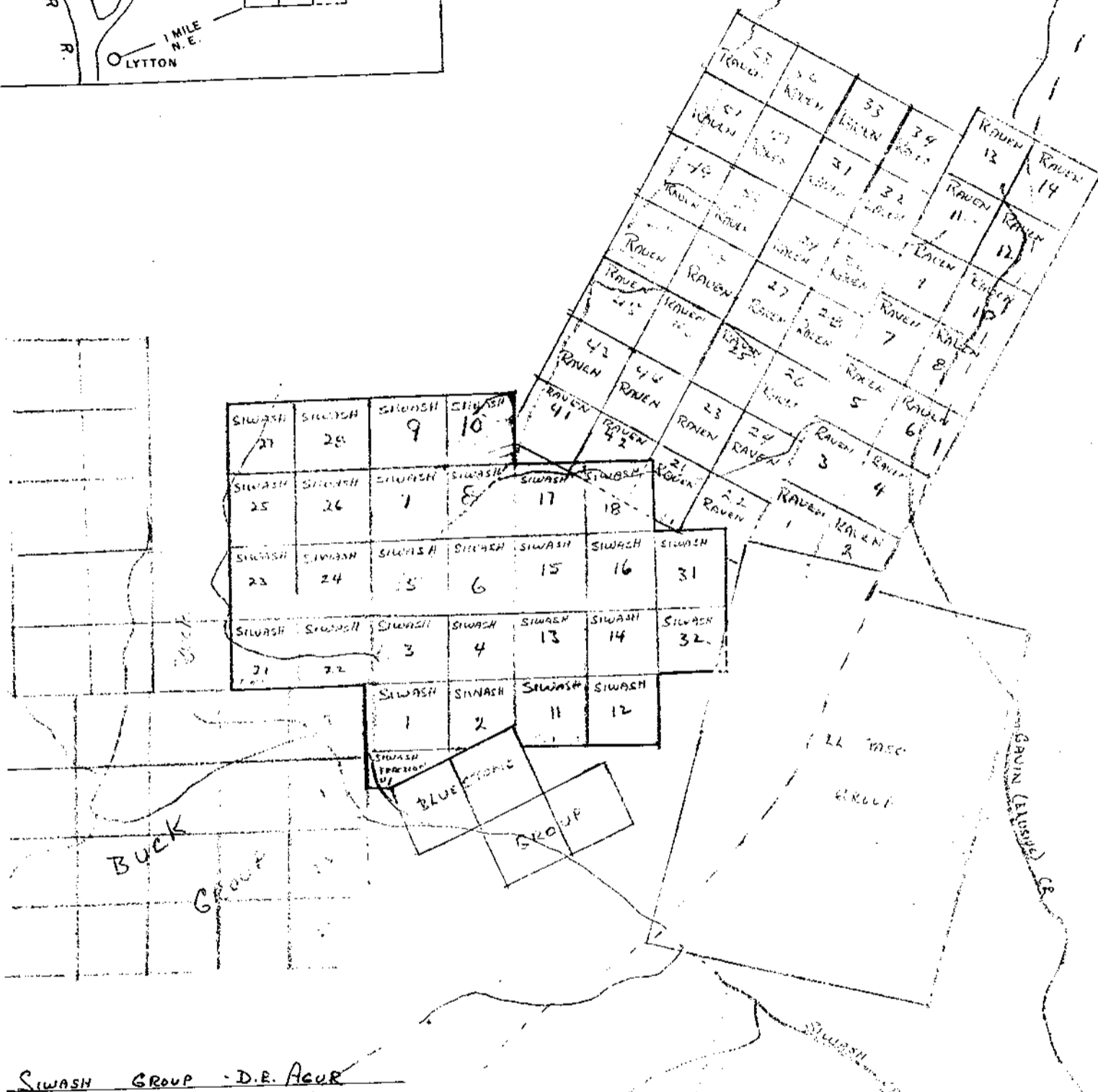
EXAMPLE of type of sketch required



Claims must be tied by direction and distance to at least one, preferably more than one, topographical feature, or to a land lot, section, township, or other recognizable point on printed maps of the district. Relationship of previously located claims should also be shown.

N.B. — The sketch for a group of claims may be placed on one affidavit.


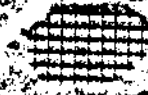

INDICATE NORTH (True or Magnetic)

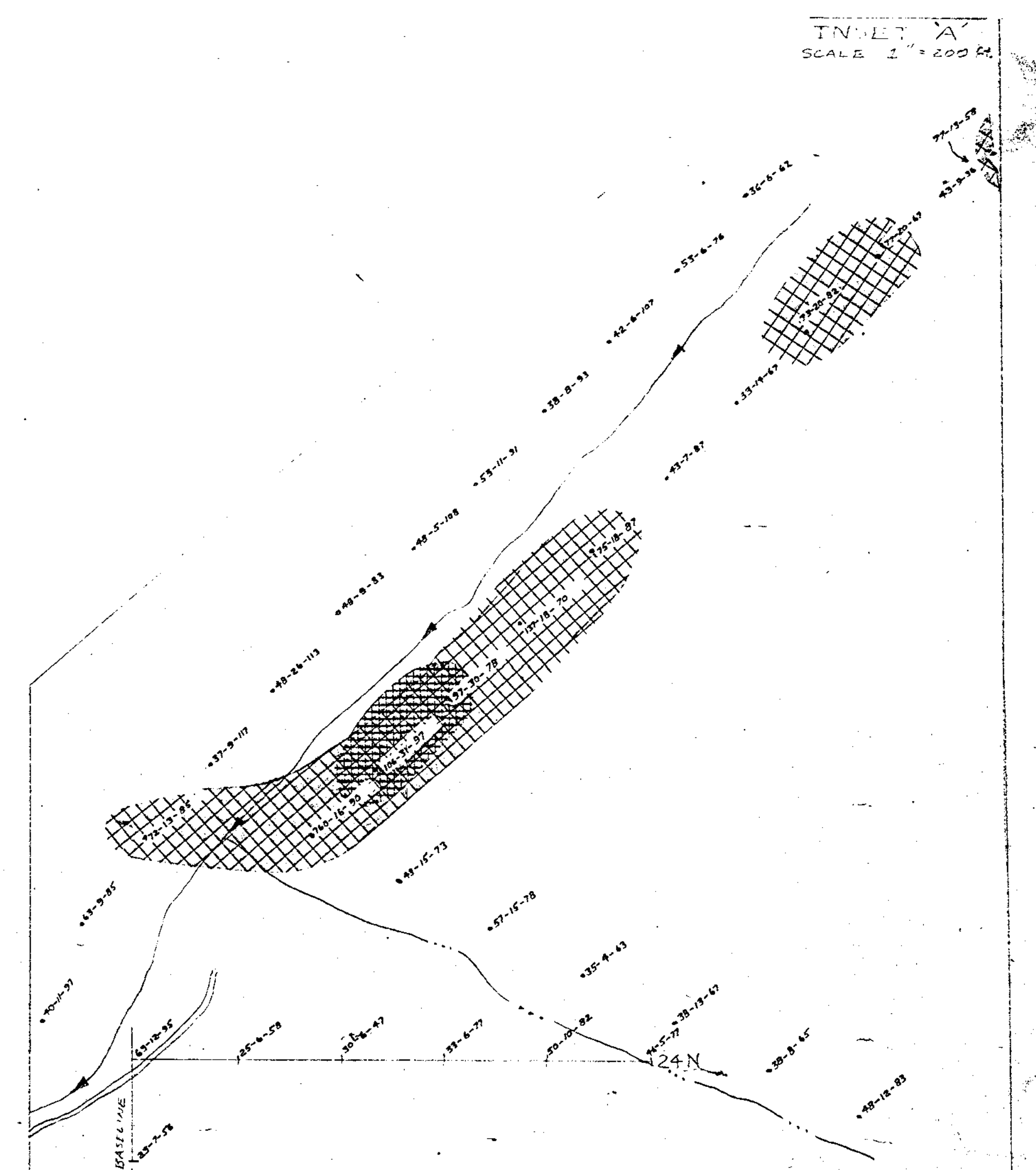
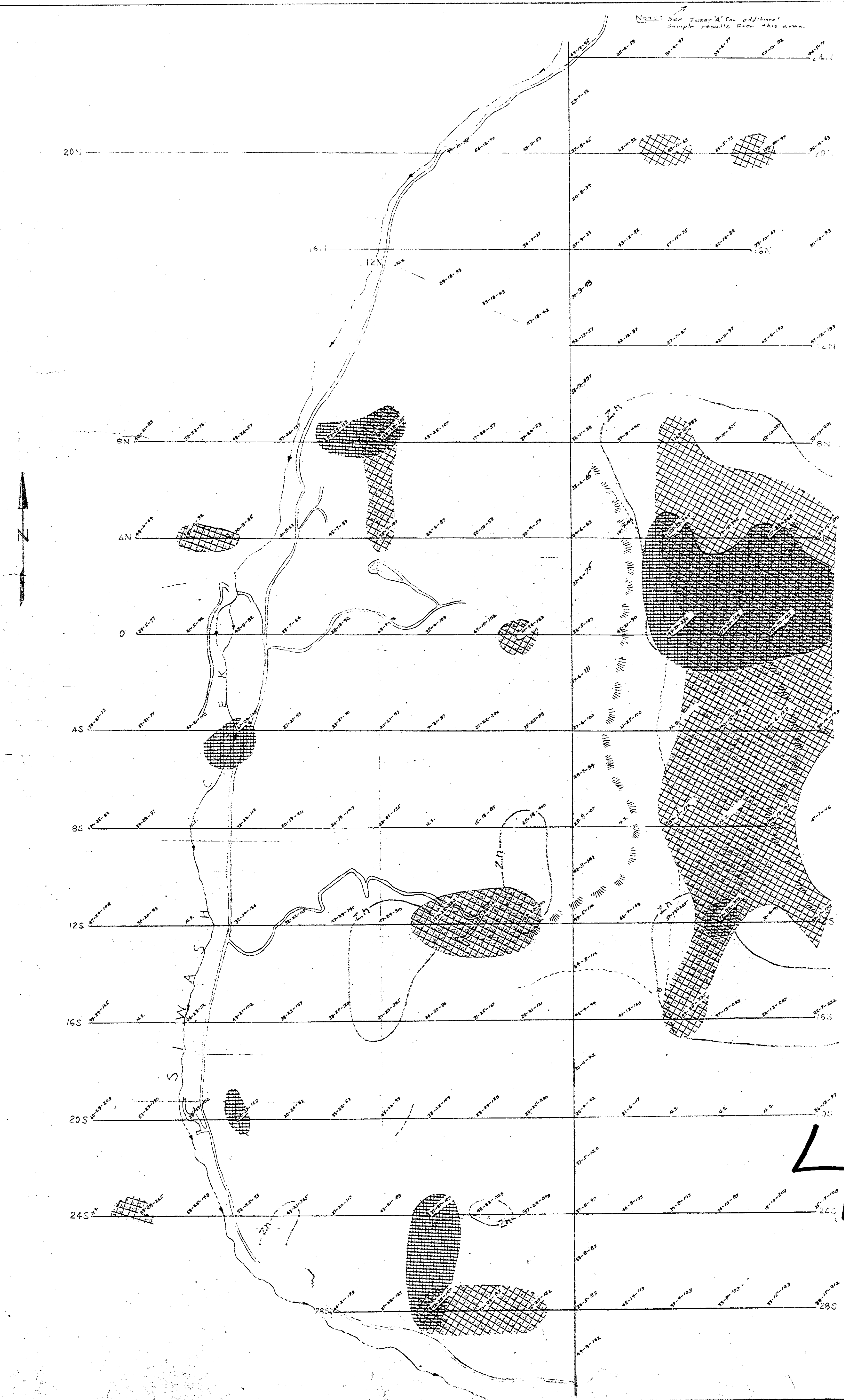
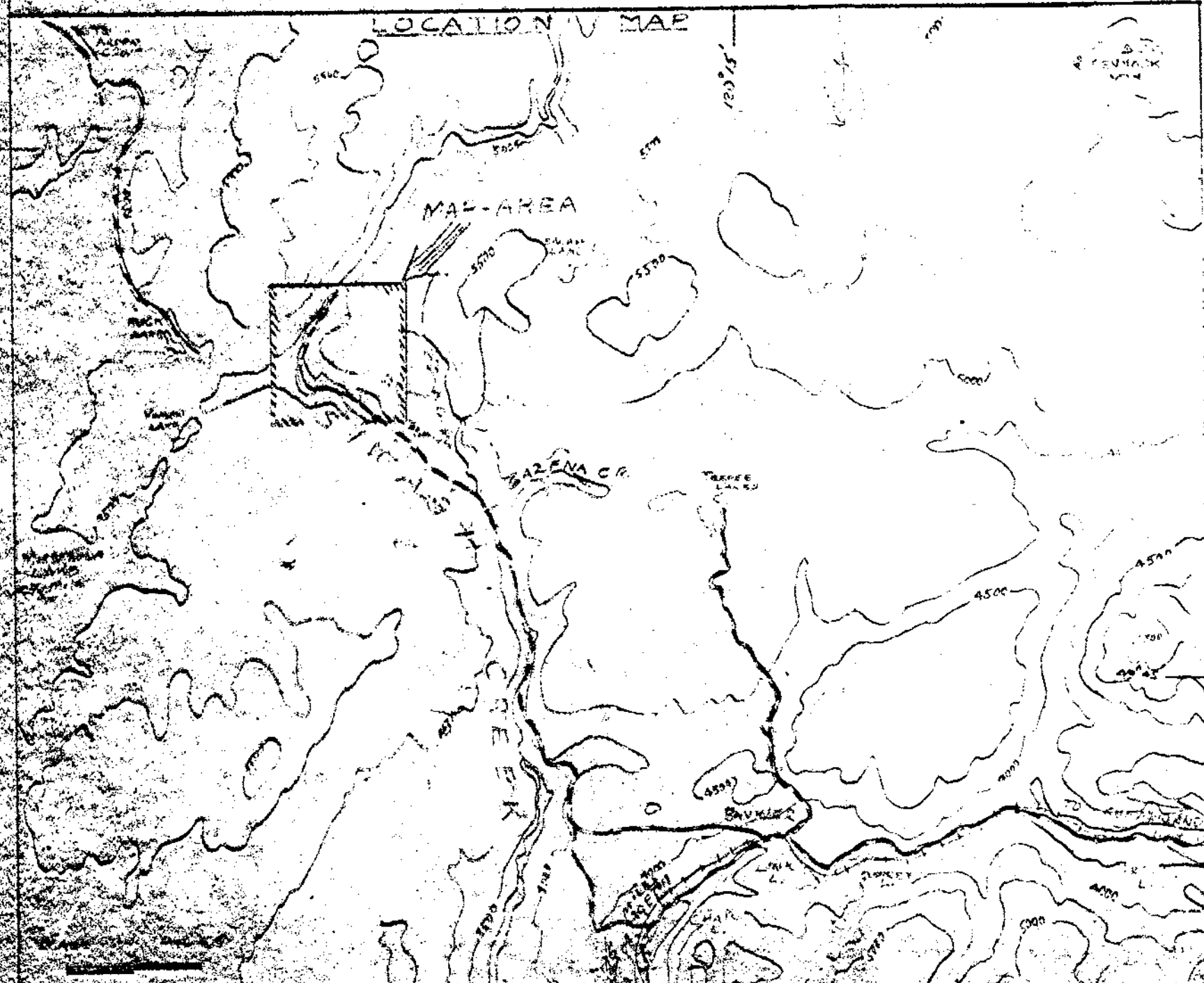
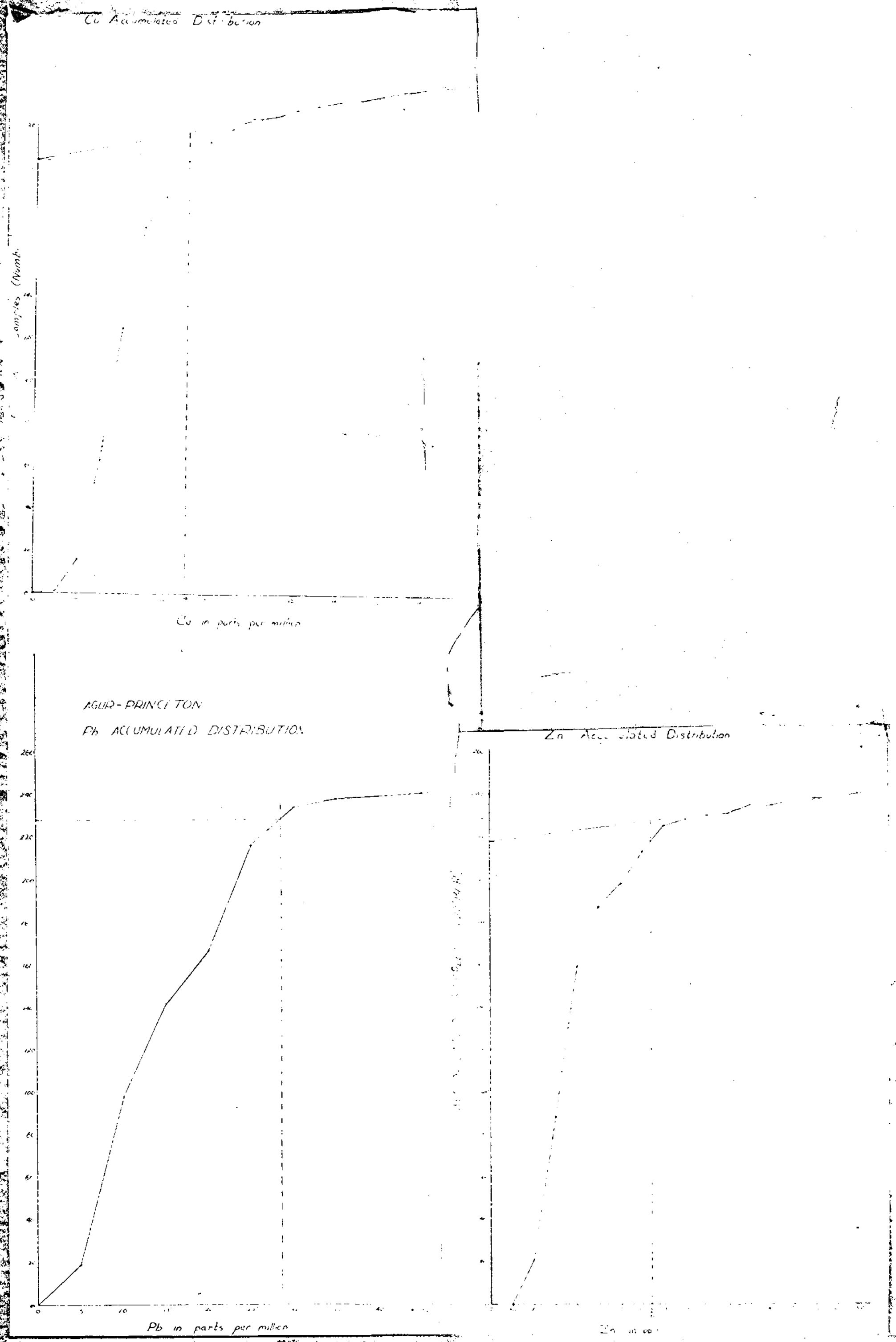


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**LEGEND**

-  Copper  $\geq$  70 ppm
-  Lead  $\geq$  27 ppm
-  Zinc  $\geq$  222 ppm
- Cu-Pb-Zn values in ppm



4077  
M-1



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PHELPS DODGE CORPORATION OF CANADA, LIMITED  
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A COMPILATION MAP  
SHOWING  
GEOCHEMICAL VALUES & ANOMALOUS  
CONCENTRATIONS OF Cu, Pb, Zn IN  
SILVER CREEK & MOUNTAIN  
CAMP

NOTE: See Inset B for additional sample results from this area.