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GEOCHEMICAL REPORT ON THE COBALT,
DEASE AND JAY CLAIMS, ALICE ARM AREA


SKEENA MINING DIVISION, B. C.
NTS: 103P/11,12

FOR

OUTLAND RESOURCES CORP.
704 - 535 Thurlow Street,
Vancouver, B.C.

BY **GEOLOGICAL BRANCH
ASSESSMENT REPORT**

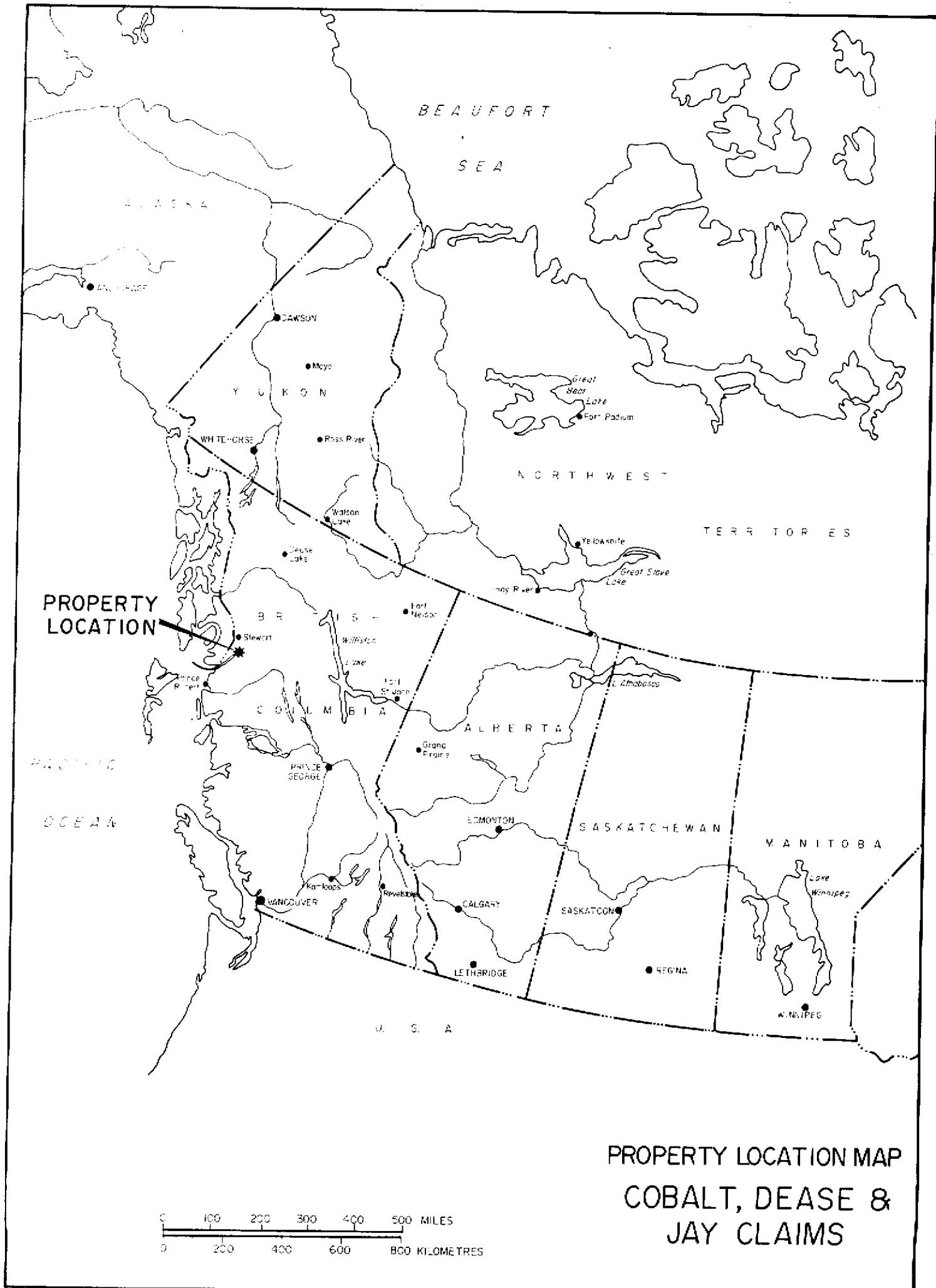
10,951


F. D. Forgeron, Ph. D.
Consultant Geologist-Geochemist

October, 1982.

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PROPERTY LOCATION MAP
 COBALT, DEASE &
 JAY CLAIMS

GEOCHEMICAL REPORT ON THE COBALT, DEASE AND JAY CLAIMS, ALICE ARM AREA,
SKEENA MINING DIVISION, B. C.

1.0 INTRODUCTION

1.1 Location and Access

The claims are located largely on the west side of the Kitsault River between 2 km and 17 km north of Alice Arm. The legal corner post of Cobalt #1 in UTM co-ordinates occurs at 616535N and 47183E.

Alice Arm is serviced by air and water from Prince Rupert, a distance of 145 km to the southwest. A highway from Terrace to nearby Kitsault was under construction during the time of the current surveys.

1.2 Property

The property reported hereon consists of the following claims:

<u>Claim Name</u>	<u>Tag Number</u>	<u>Record Number</u>	<u>Number of Units</u>
Cobalt 1	65673	3308	20
Cobalt 2	65674	3309	20
Cobalt 3	65675	3310	20
Dease 1	64693	3518	20
Dease 2	64695	3519	20
Dease 3	64696	3520	20
Dease 4	64697	3521	20
Jay 1	24916	3339	20
Jay 2	24917	3340	20

Claim Name

Cape Nome	939	3303	1
New World No. 3	5515	3304	1
B. J. No. 2	5516	3305	1
B. J. No. 3	5517	3306	1
B. J. No. 4	5518	3307	1

1.3 Survey Details

Soil sampling was carried out by a 3-man crew under the direction of the writer during the period June 12-July 7, 1982. The crew was based in Alice Arm and supplied from Kitsault. Local transportation utilized a 4 X 4 Bronco, motor bikes and outboard powered runabout.

2.0

GEOCHEMISTRY

- 2.1 Background: The Kitsault River Valley has a long history of mining and exploration. There are some 150 recorded occurrences, of which silver is the most valuable commodity, in conjunction with copper, lead, zinc, molybdenum and gold.

During the course of regional reconnaissance in 1981, a soil line was sampled from the Dolly Varden camp to Alice Arm along the River Road. Anomalous levels of cobalt, silver, copper, lead and zinc were found at a number of locations, some of which had no previously known metal showings. The west side of the Kitsault was subsequently staked between Miner Creek and Alice Arm.

- 2.2 Sampling: The sampling program consisted of running soil lines by chain and compass, in forested areas and by chaining along existing logging roads. The sample layouts are shown on Maps Nos. 1, 2 and 3. The A-series shows the silver distribution; the B-series copper. The most intense sampling was carried out in the Lyall Creek - Miner Creek area where sampling was done at a density of 100 metres X 50 metres. In the Klayduc - La Rose area the density was 200 metres X 50 metres and the Gwunya Creek - La Rose Creek area 300 metres X 50 metres. A total of 655 samples were taken.

The soils of the area display incipient to good podsol development with the A-horizon reaching depths of up to 75 cm. The B-horizon, reaching thickness of up to 1 metre, is developed on fluvo-glacial deposits and on bedrock.

The samples, where possible, were taken from the B-horizon, but mixtures of organics and talus fines were commonly present.

- 2.3 Sample Preparation and Analyses: The samples were collected in high wet strength kraft paper bags and air dried prior to shipment to the Vancouver laboratory of Bondar-Clegg & Co. Ltd.

The samples were dried at 50⁰C in the laboratory and sieved through 80 mesh stainless steel sieves. A 0.5 gram aliquot of the -80 mesh fraction was digested in concentrated Le Forte aqua-

regia for 2 hours at 80°C, diluted and tested for silver and copper by atomic absorption spectrophotometry against natural and artificial standards.

- 2.4 Survey Results: The survey results are plotted on maps 1A and B; 2A and B; and 3A and B. The maps are contiguous and cover the Kitsault Valley from the Dolly Varden area to Alice Arm. The A-series maps record the silver results, the B-series display copper results.

Histograms and cumulative frequency diagrams for each metal gave the distribution characteristics. The silver distribution indicates a background of less than 0.2 ppm; the actual background value is below analytical detection and is probably less than 0.1 ppm. Other lesser modes occur in the 1.5 - 1.6, 1.9 - 2.0 and 2.3 - 2.4 ppm classes. These modes reflect different bedrock backgrounds as well as true anomalous conditions. The black shale-argillite sequences which are irregularly distributed throughout the area are high in silver. The black shales are thought to be a favourable host rock for 'no-see-um' type silver mineralization.

The areas greater than 0.5 ppm silver are outlined on Maps Nos. 1A, 2A and 3A. 0.5 ppm is the 65 percentile and is thought to represent the gross distribution of anomalous silver. The data is not readily contoured so an approximate weighing was made of the data at the 0.5 level. The data were too sparse in many of the road traverses to draw the weighed outlines and are left for visual inspection.

The copper distribution is bimodal in the 10 - 20 and 30 - 40 ppm classes. The distinct separation of the classes suggests two background levels related to different rock types. The 75 ppm copper level represents the 80 percentile of the copper distribution and is outlined as described above for silver.

- 2.5 Interpretation: An inspection of the anomalous areas shows a concentration of silver in the La Rose - Klayduc Creek and Lyall - Miner Creek areas.

The Lyall Creek - Miner Creek area was resampled along lines 5 to 10 south with particular attention to elimination of organics and to collection of B-horizon

2.5 Cont. soils. The results showed that the highest values in silver and copper in the resamples were somewhat reduced but the anomalous pattern was maintained. It would appear that some enhancement occurred due to organics in the soils. The bedrock underlying the anomalies was a pyritic-chlorite-sericite altered wacke near the river and black shale/argillite further west.

In the La Rose - Klayduc area, logging has been extensive and dense new growth now covers the area. B-horizon soils in this area were prominent and organic enhancement minor. An inspection of the copper and silver values in individual anomalous samples shows a poor correlation. Since both copper and silver are concentrated in the organic phases, the poor correlation is evidence for bedrock anomalies in silver, rather than false anomalies related to organic accumulation.

On maps 1A and 1B an inspection of the geology coinciding with the anomalies in copper and silver indicates that near the river anomalous values occur in a belt of pyrite-sericite altered wackes and also in the carbonaceous shales/argillites. Further west, near the survey boundary, carbonaceous shales are anomalous in silver but less so in copper. On the east side of the river, both carbonaceous rocks and volcanics are sporadically anomalous in copper and silver.

These data suggest that this area has a silver enhancement which is not related to specific bedrock types but to a structural overprint, possibly from faults and fracture systems. The 1 ppm silver level, representing the 83 percentile on the distribution (map No. 1A) is fairly similar to that outlined by the 80 percentile in copper. However, there appears to be an additional anomaly on the west side of the area covered. The silver mineralization, therefore, may have a different source than the copper. The overall high silver values are too extensive to permit the definition of a specific exploration target. It is, therefore, suggested that the next phase of development in the area consists of the analysis of soils for lead-cobalt and zinc as potential indicators for metallogenic association (veins, or possibly strata-bound "no-see-um" type silver mineralization).

2.5 Cont.

On map No. 2 prominent silver anomalies occur at the north side of the junction between Klayduc Creek and the Kitsault River. (Map No. 2A). The copper distribution in these areas is much smaller in area and also does not appear to coincide as closely with the silver as would be expected if a copper-silver association was present. The high silver values in general appear to be isolated and do not permit a ready correlation between the soil sample lines. This lack of ready correlation between soil lines suggests that the silver mineralization is probably related to fracture systems or veins, or both.

The area is known to contain a swarm of mafic dikes, and these dikes may be a guide to the mineralization. Outcrop is sparse in the area, but where observed, consists of both the carbonaceous shales and sandstones of wacke composition. Additional analysis of the soils, as recommended for map No. 1, is also recommended for map No. 2. On maps 3A and 3B the anomalous silver and copper are quantitatively of lower concentration than on maps 1 and 2, but relatively, the copper increases with respect to silver.

3.0

CONCLUSIONS

1. Anomalous silver and copper occur in soils on the west side of the Kitsault River in carbonaceous metasediments and pyrite-sericite altered wackes.
2. The general distribution of anomalous silver suggests that the source of the soil anomalies is in fractures and faults as veins or fracture fillings.
3. The bedrock, consisting of epiclastic sediments of volcanic provenance, is extensively cut by mafic dike swarms which provide an effective plumbing system for mineralizing solutions. The host rocks, particularly the carbonaceous rocks, provide an excellent host rock for massive sulphides or "no-see-um" deposits of base or precious metals.
4. The history of exploration in the area indicates a preponderance of silver-lead-zinc-copper vein deposits. The combination of extensive soil anomalies in silver with favourable structure and host rock makes the area a prime target for exploration for veins, massive sulphides, contact metamorphic and/or metasomatic deposits of base metals and precious metals.

4.0

RECOMMENDATIONS

1. The soils should be analyzed for lead, zinc, cobalt and arsenic to give a more thorough insight into the genesis and metal associations in the area.

2. The Miner Creek to La Rose Creek area should be covered by magnetometer and E-M surveys to further define structure and dike swarms.

3. The coincidence of geochemical and geophysical indicators is recommended as a drill target if bedrock is sparse. If bedrock is abundant, detailed prospecting and bedrock geochemistry should be carried out as a preliminary step with drilling on a success contingent basis.

5.0

SURVEY COSTS

June 12 - July 7, 1982.

1.	Wages -		
	F. Forgeron, Geologist-Geochemist		
		6 days @ \$300/day	\$1,800.00
	D. Duncan	19 days @ \$86.42/day	1,641.98
	K. Foellmer	19 days @ \$76.56/day	1,454.65
	G. Christison	19 days @ \$68.75/day	1,306.25
2.	Camp rental		750.00
3.	Food - 3 men, 19 days	@ \$21.65/day	1,234.05
	1 man, 6 days	@ \$21.65/day	129.90
4.	Truck, gas & rental equipment		3,078.98
5.	Analytical -		
	655 samples assayed for Ag, Cu	@ \$3.80 ea	2,489.00
	Freight to the lab		672.58
6.	Consulting, topo-mapping, preparing reports and drafting		9,558.67
7.	Helicopter \$1,318.18 X 50% allowed -		659.09
	Air fare to the project & return		
		\$2,278.85 X 50%	1,139.42
8.	Mobilization and demobilization		
	Freight		5,633.40
	Loading and unloading equipment		
	3 men, 3 days		
	D. Duncan	3 days @ \$86.42/day	259.26
	K. Foellmer	3 days @ \$76.56/day	229.68
	G. Christison	3 days @ \$68.75/day	206.25
	Food: 3 men, 3 days	@ \$21.65/day	194.85
9.	Other; Radio telephone, repairs, field supply, geological supply		<u>3,000.00</u>
		TOTAL:	\$35,438.01

6.0

STATEMENT OF QUALIFICATIONS

1. I, Fabian David Forgeron, residing at 1404 - 2024 Fullerton Avenue, North Vancouver, B. C. have been a resident of British Columbia for 14 years.

2. I am in possession of degrees from the following institutions:

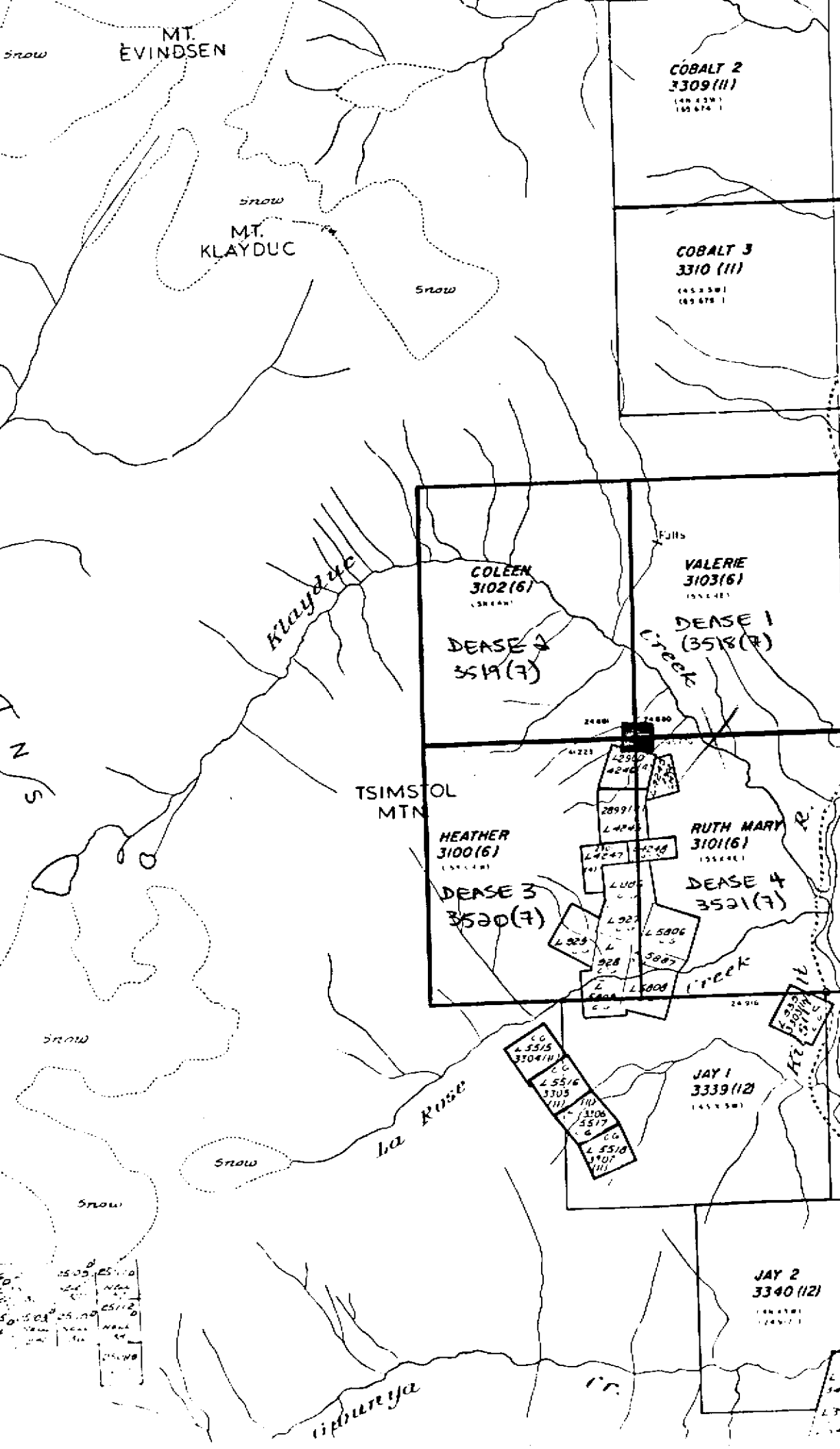
St. Francis Xavier University	B.Sc. Geology, 1957
Carleton University	M.Sc. Geology, 1962
Manchester University	Ph. D. Geochemistry, 1966

3. I have practiced my profession continuously for the past 25 years in Canada and abroad.

4. The work on the above Jay, Dease and Cobalt claims was carried out under my direction.

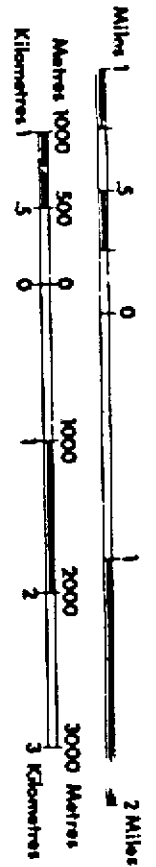


F. D. Forgeron, Ph. D.
October 15, 1982.



TO EAST SEE MAP 7 103 F

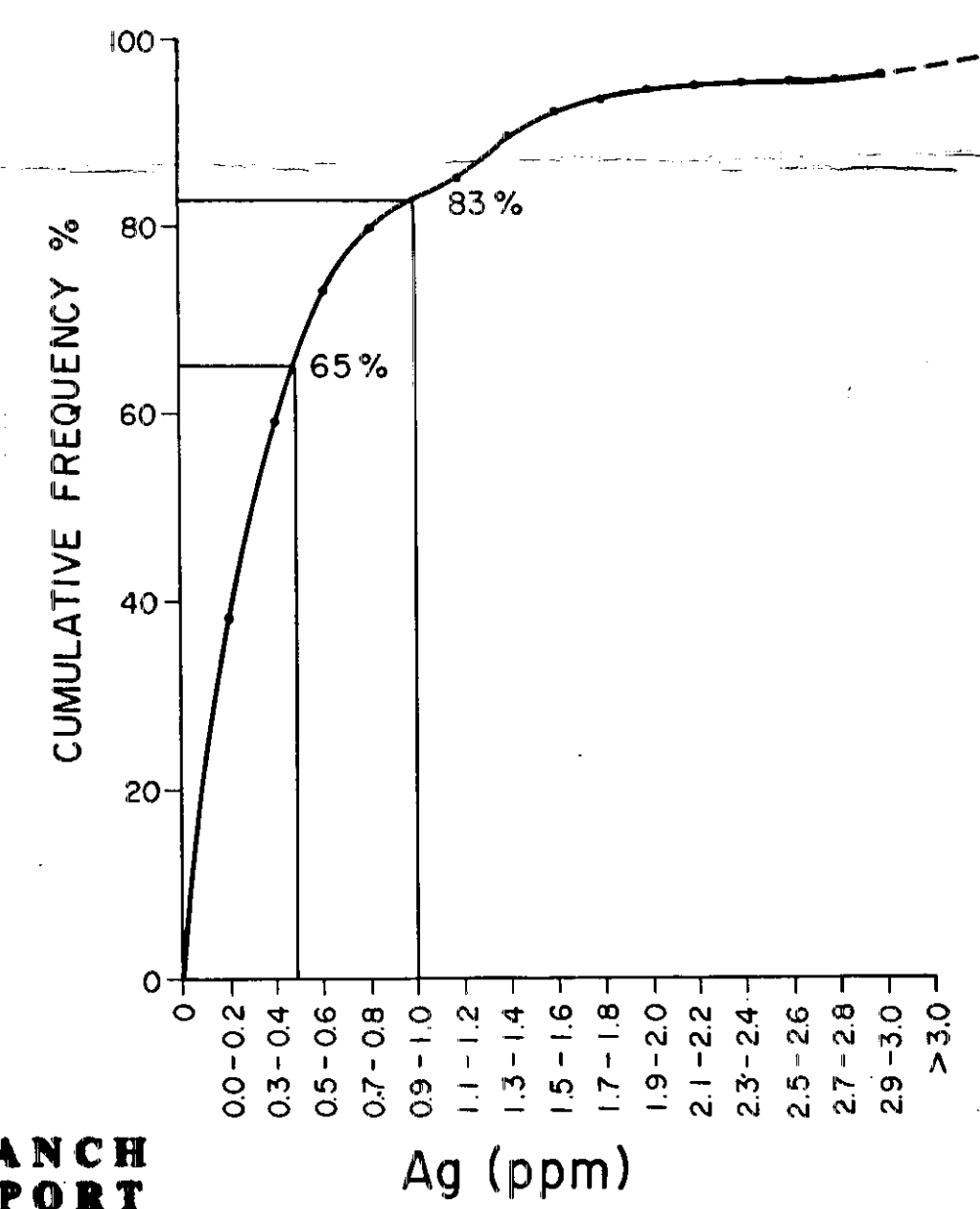
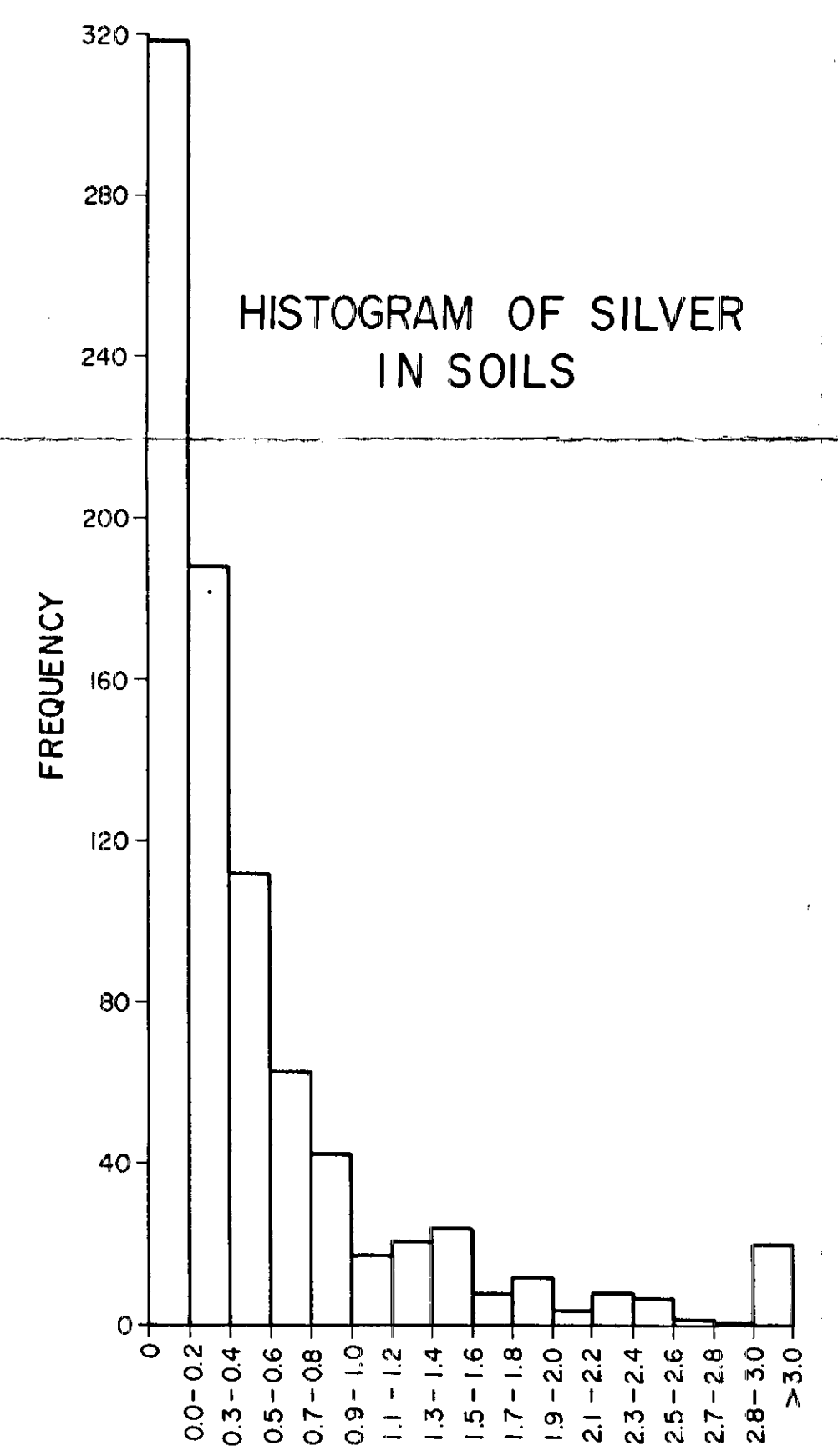
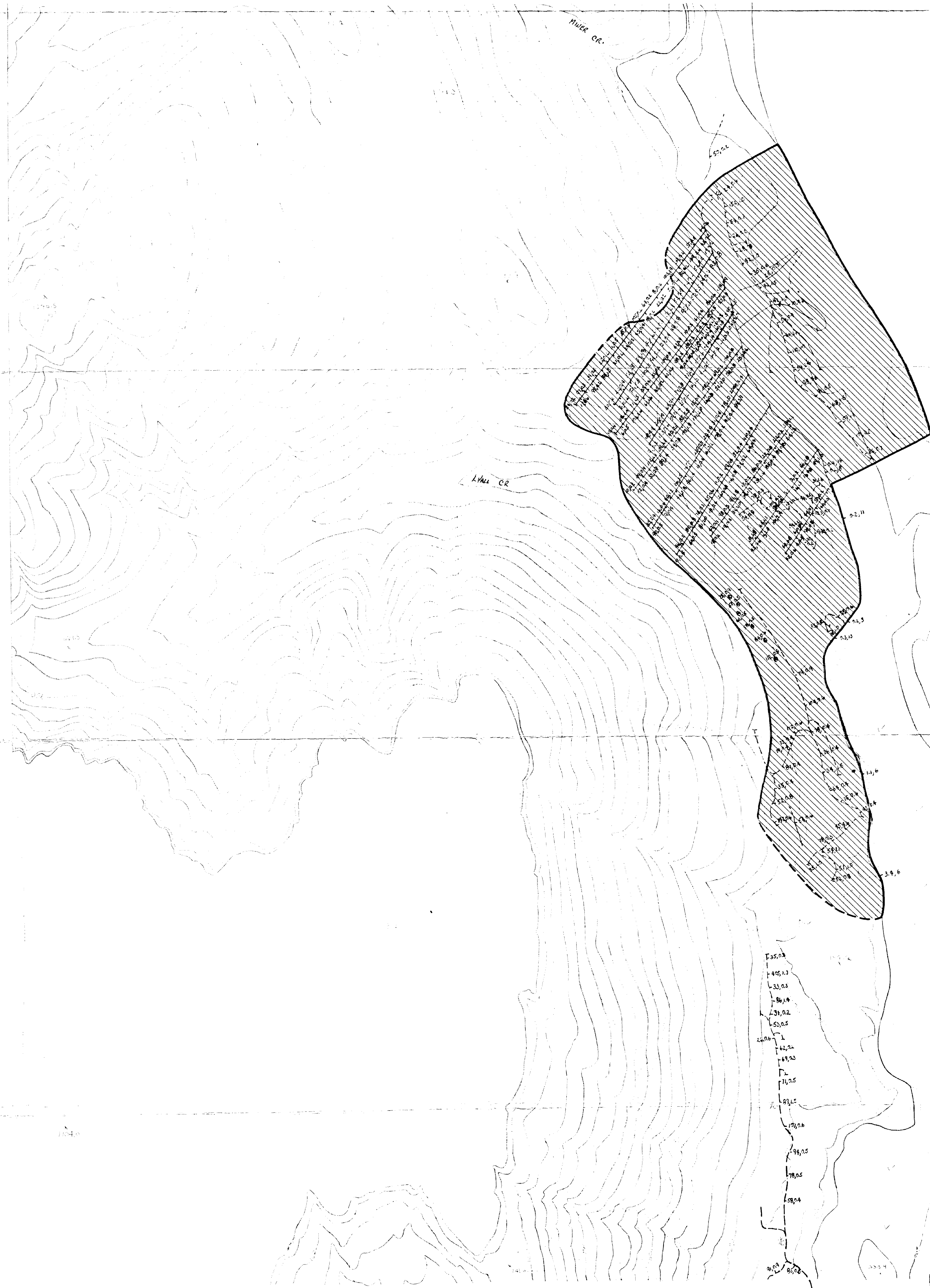
LEGEND
 OPEN-GRANTED MINERAL CLAIM
 DOTTED CG MINERAL CLAIM
 DASHED MINERAL CLAIM
 RED LEGAL CORNER POST
 LEGAL SURVEY
 LEGAL CORNER POST & TAG NUMBER



Province of British Columbia
 Ministry of Energy, Mines and Petroleum Resources



UNLESS VERIFIED ON SURVEY, THE MAP POSITION OF A LEGAL CORNER POST IS BASED ON THE LOCATOR'S SKETCH. FOR FURTHER INFORMATION, APPLY TO THE OFFICE OF THE MINING DIVISION CONCERNED.
 DATE OF MICROFILM: 82-04-25



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ASSESSMENT REPORT

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MAP 1A

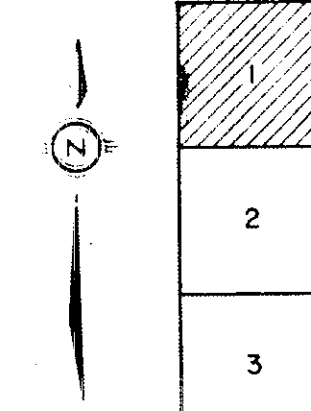
SILVER DISTRIBUTION IN SOILS

KITSAULT RIVER AREA

20, 0.6 Cu (ppm), Ag (ppm)
WITH LINE LOCATIONS

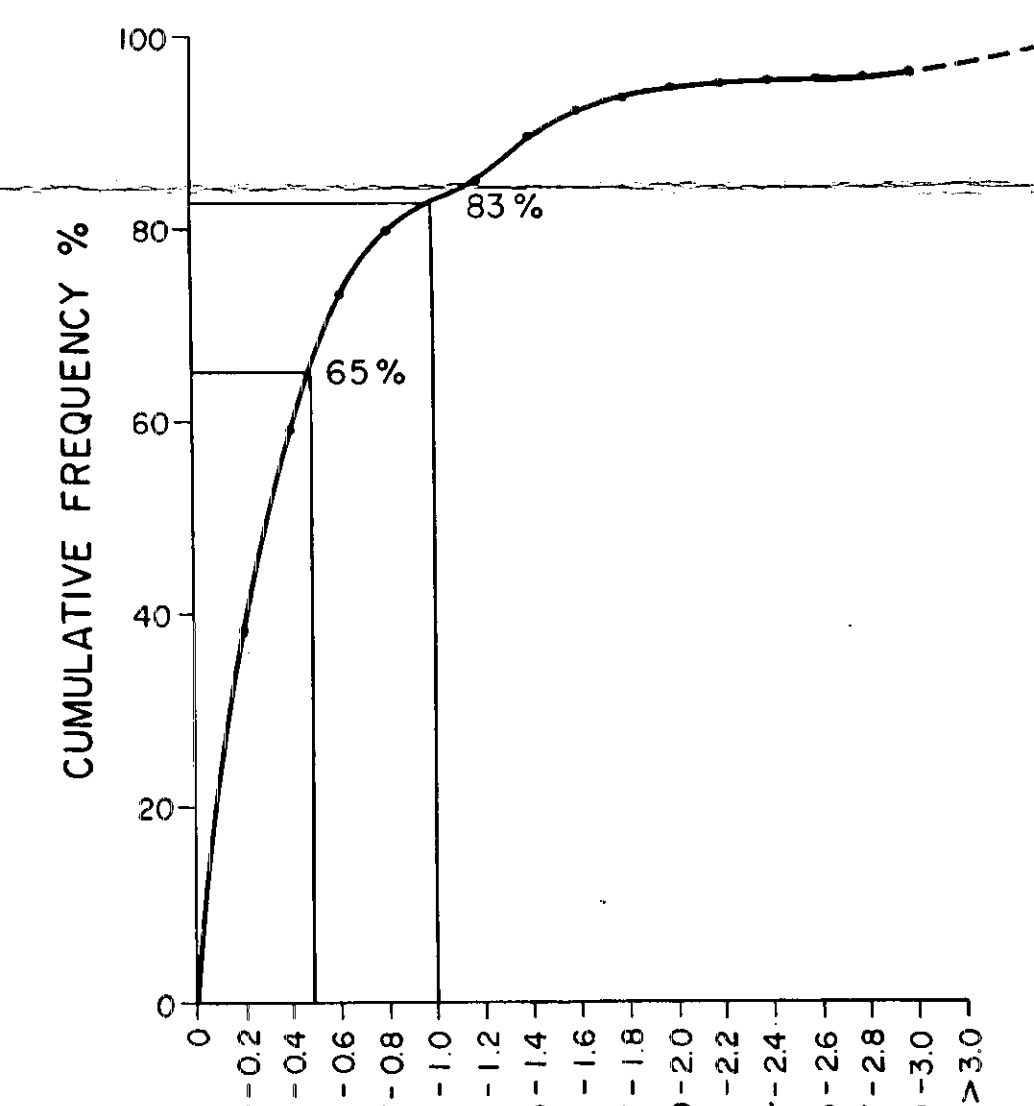
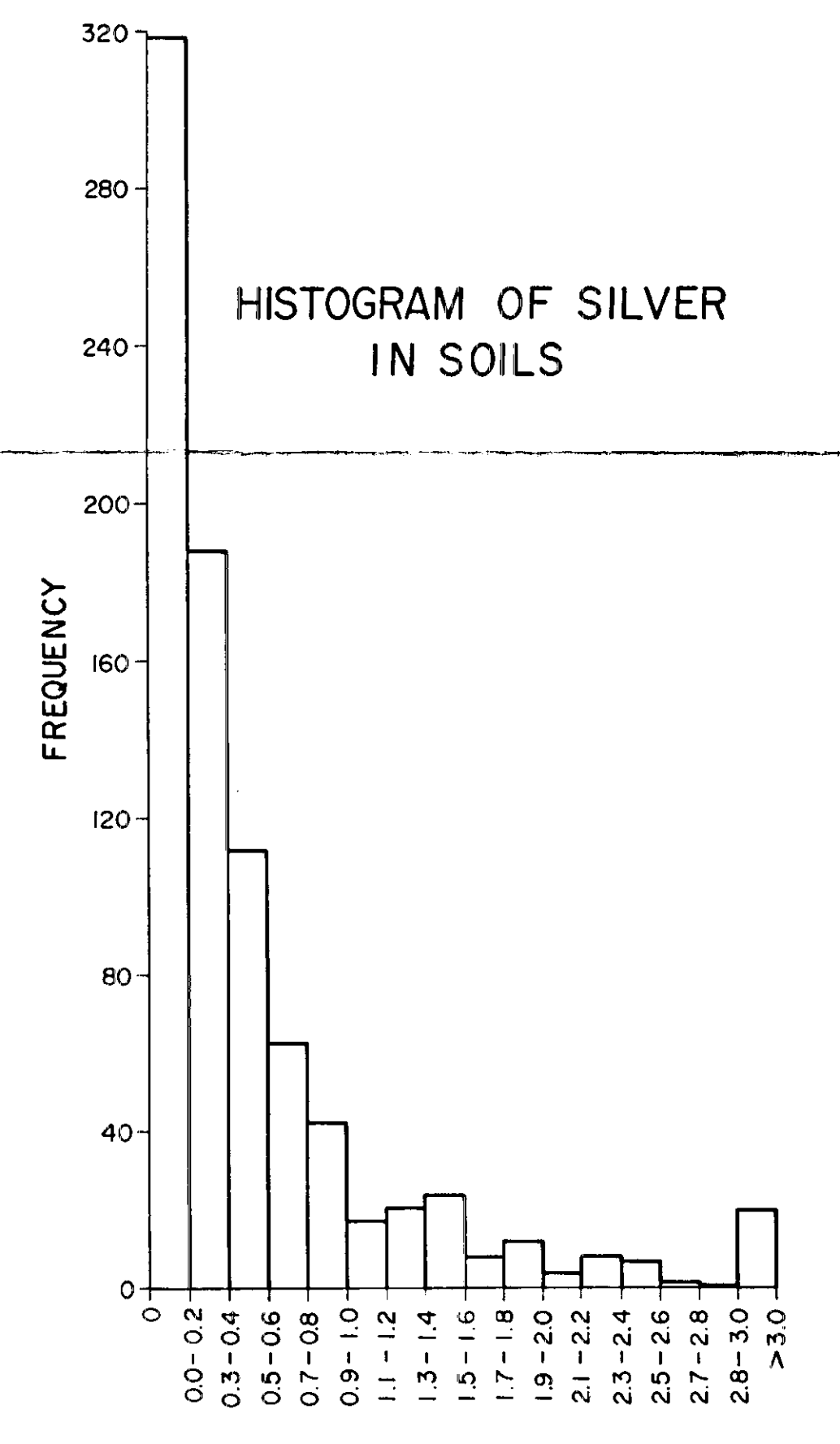
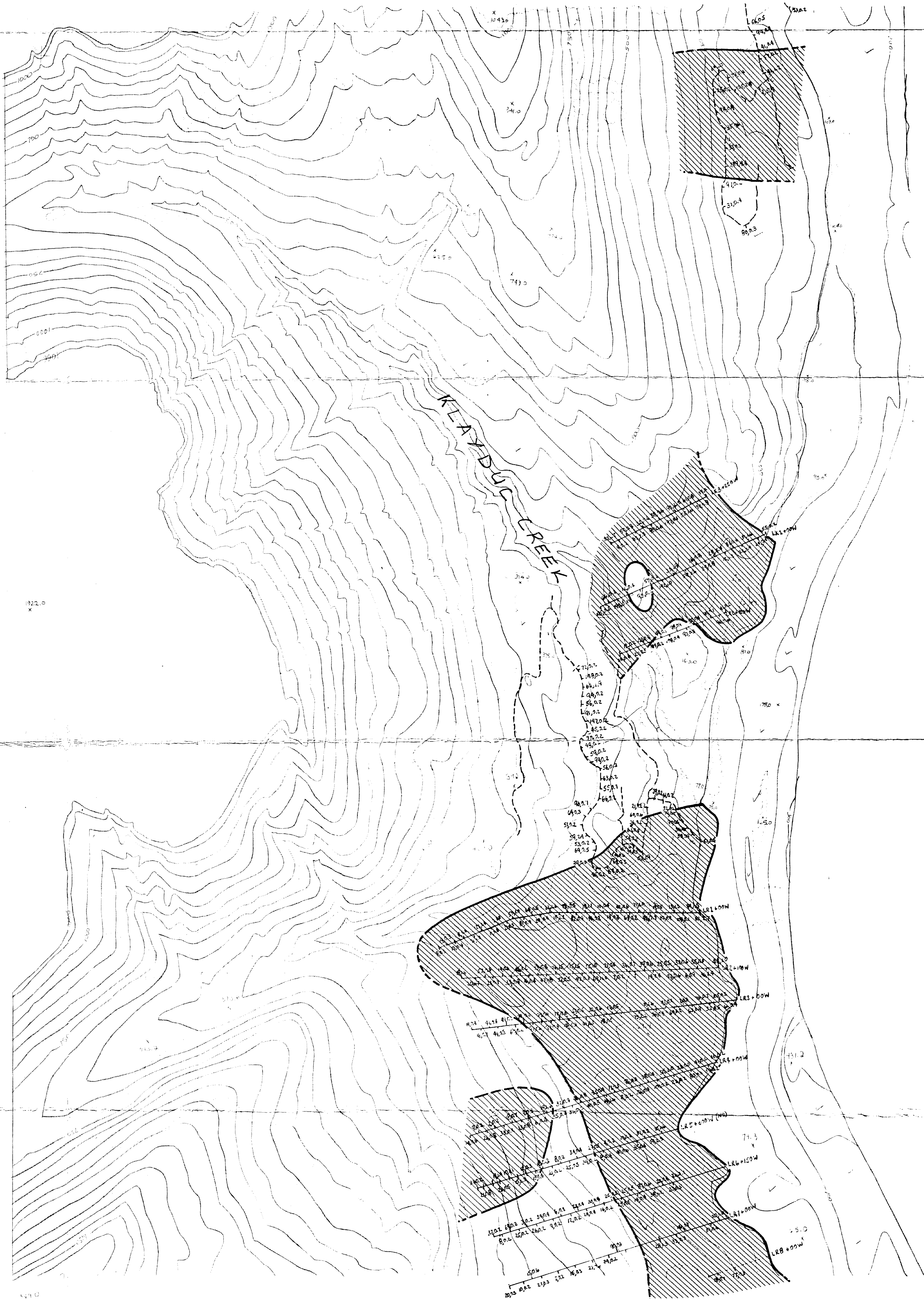
100, 0.4 Cu (ppm), Ag (ppm)
WITH LOCATIONS ON ROAD

AREA OF WEIGHED AVERAGE
GREATER THAN 0.5 ppm Ag IN SOILS



Scale and projection derived based on British Columbia Geographical Information System (BCGIS) data. All units in meters unless otherwise specified. Compiled from aerial photography at an approximate scale of 1:75000 @ 1:20000. Photo: 1979-80.

OUTLAND RESOURCES CORP.	
KITSAULT RIVER B.C.	
PRELIMINARY RECONNAISSANCE TYPE MAPPING	
Scale: 1:10000	Client: Outland Resources Corp.
Map No.: 0694100	Date: Mar. 1980
McEhannay Surveying & Engineering Ltd.	Job No.: 0694100
1146 Alberni Street, Vancouver, B.C., Canada	Sheet No.: 1 of 3



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

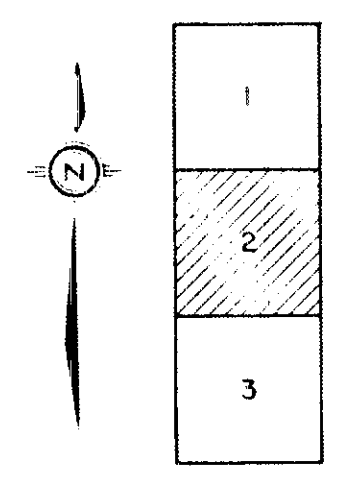
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MAP 2A

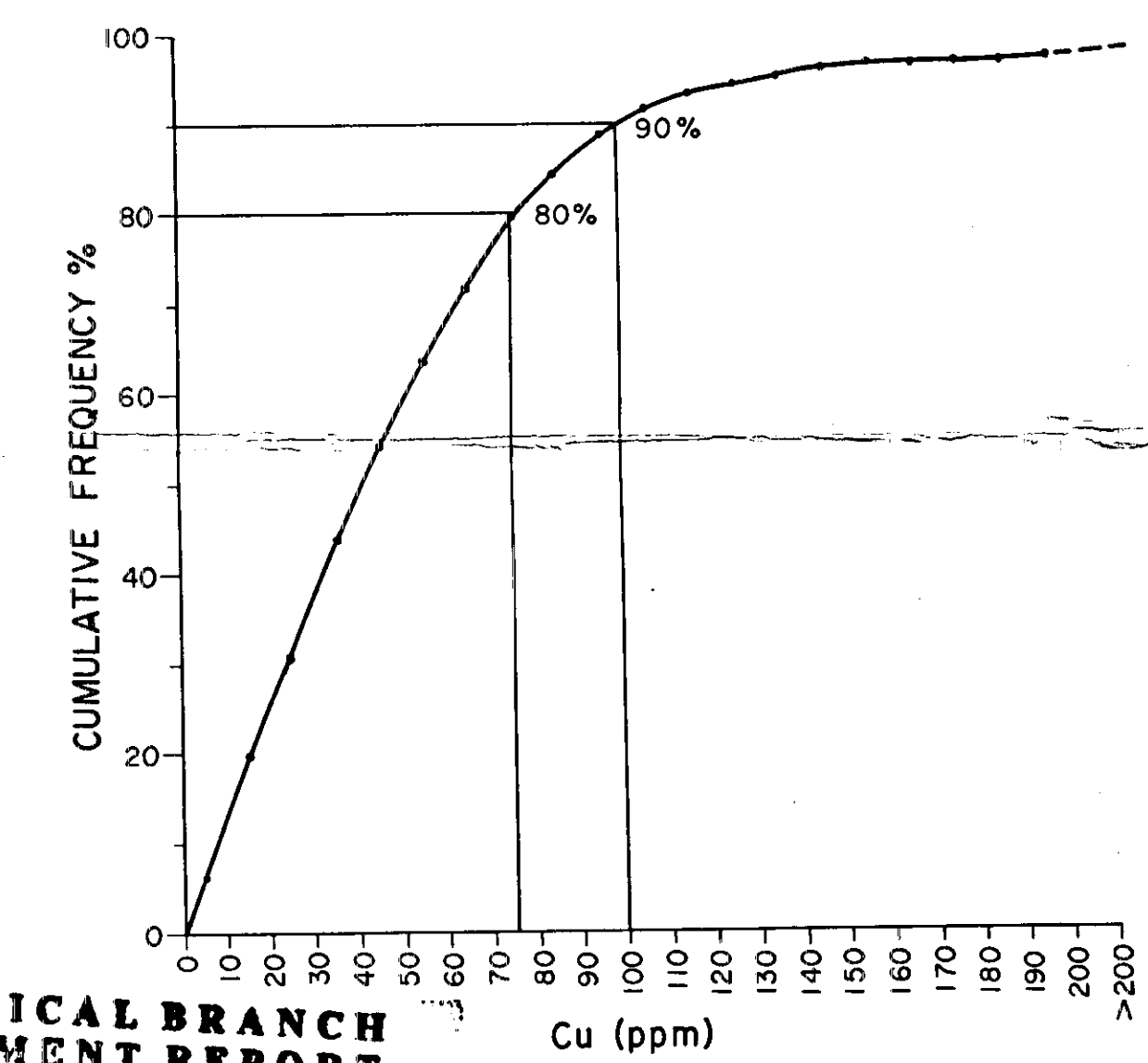
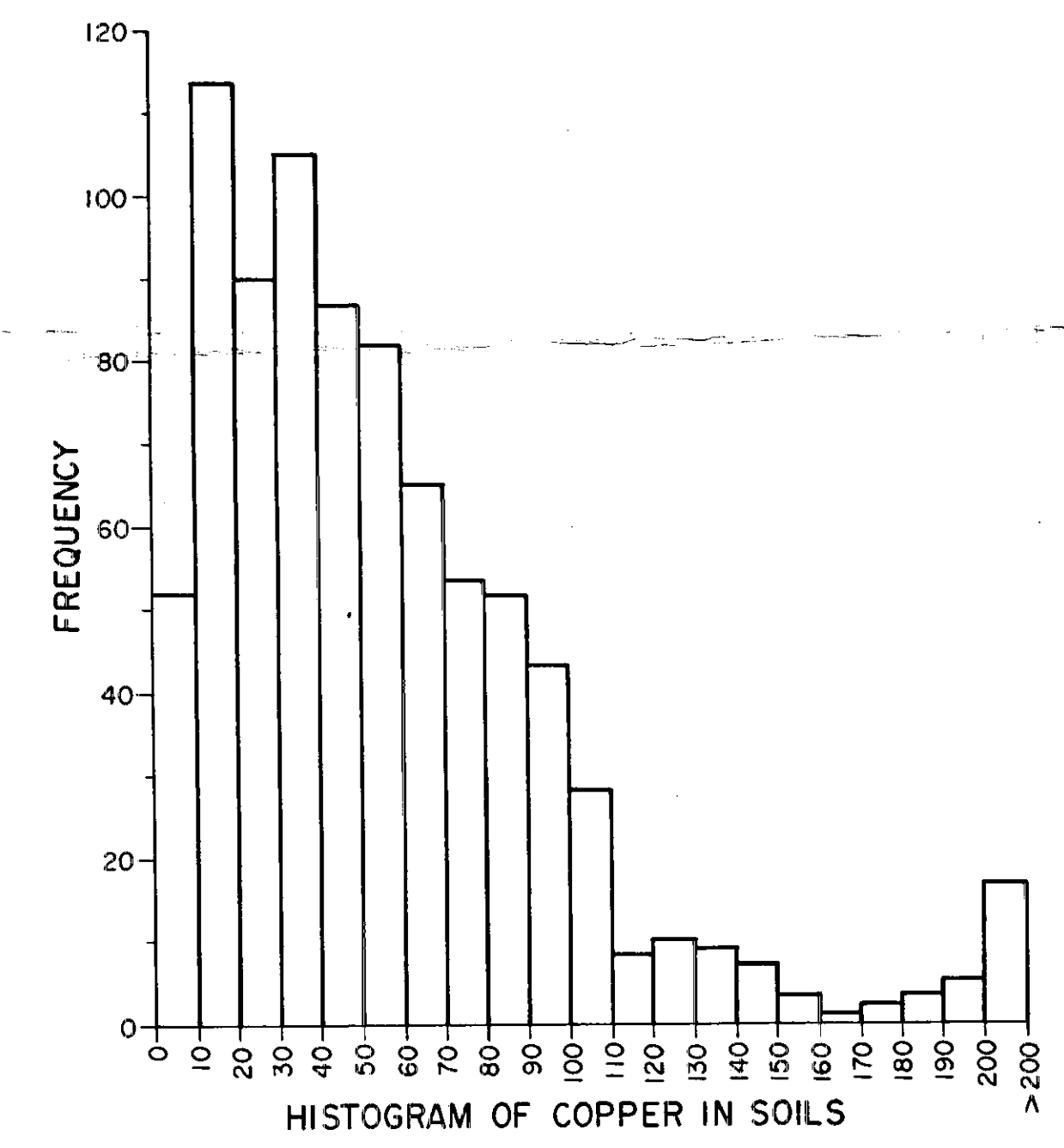
SILVER DISTRIBUTION IN SOILS

KITSULT RIVER AREA

- 20, 0.6 Cu (ppm), Ag (ppm)
WITH LINE LOCATIONS
- 100, 0.4 Cu (ppm), Ag (ppm)
WITH LOCATIONS ON ROAD
- AREA OF WEIGHED AVERAGE
GREATER THAN 0.5 ppm Ag IN SOILS



OUTLAND RESOURCES CORP	
KITSULT RIVER B.C.	
PRELIMINARY RECONNAISSANCE TYPE MAPPING	
	Scale: 1:10000
McElhanney Surveying & Engineering Ltd.	Control: 50 Metres (100M East of 1983)
1765, 11th Street, Vancouver, B.C., Canada	Date: Mar. 1982
	Job No.: 06941-0
	Sheet No.: 2 of 3



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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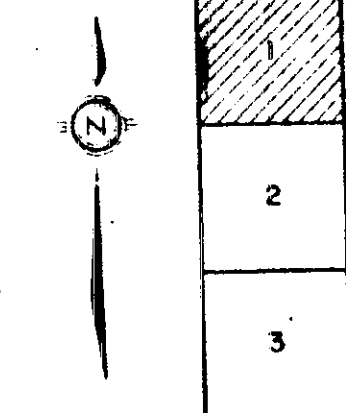
MAP 1B
COPPER DISTRIBUTION IN SOILS

KITSAULT RIVER AREA

20, 0.6 Cu (ppm), Ag (ppm)
WITH LINE LOCATIONS

100, 0.4 Cu (ppm), Ag (ppm)
WITH LOCATIONS ON ROAD

AREA OF WEIGHED AVERAGE
GREATER THAN 75 ppm Cu IN SOILS

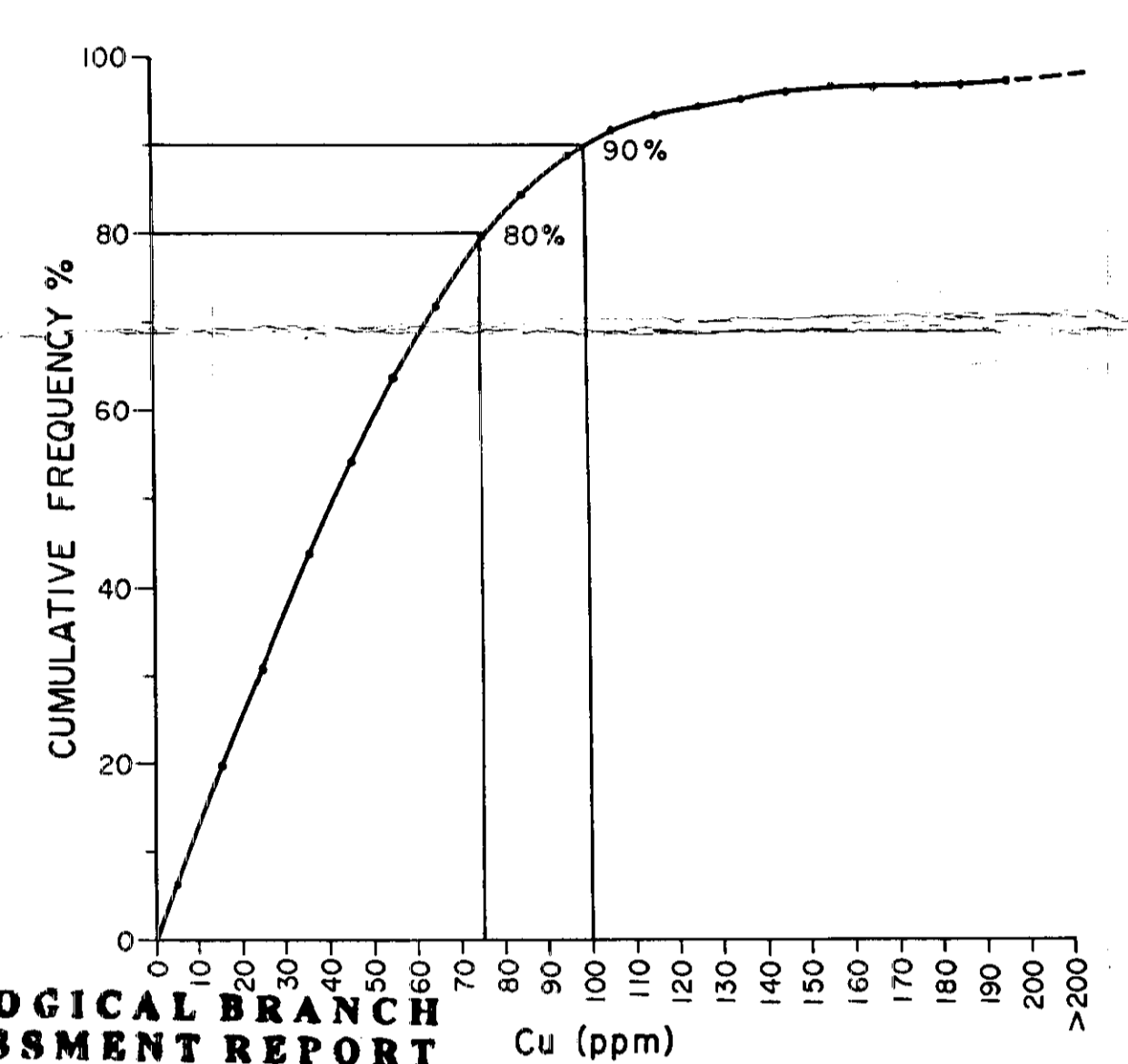
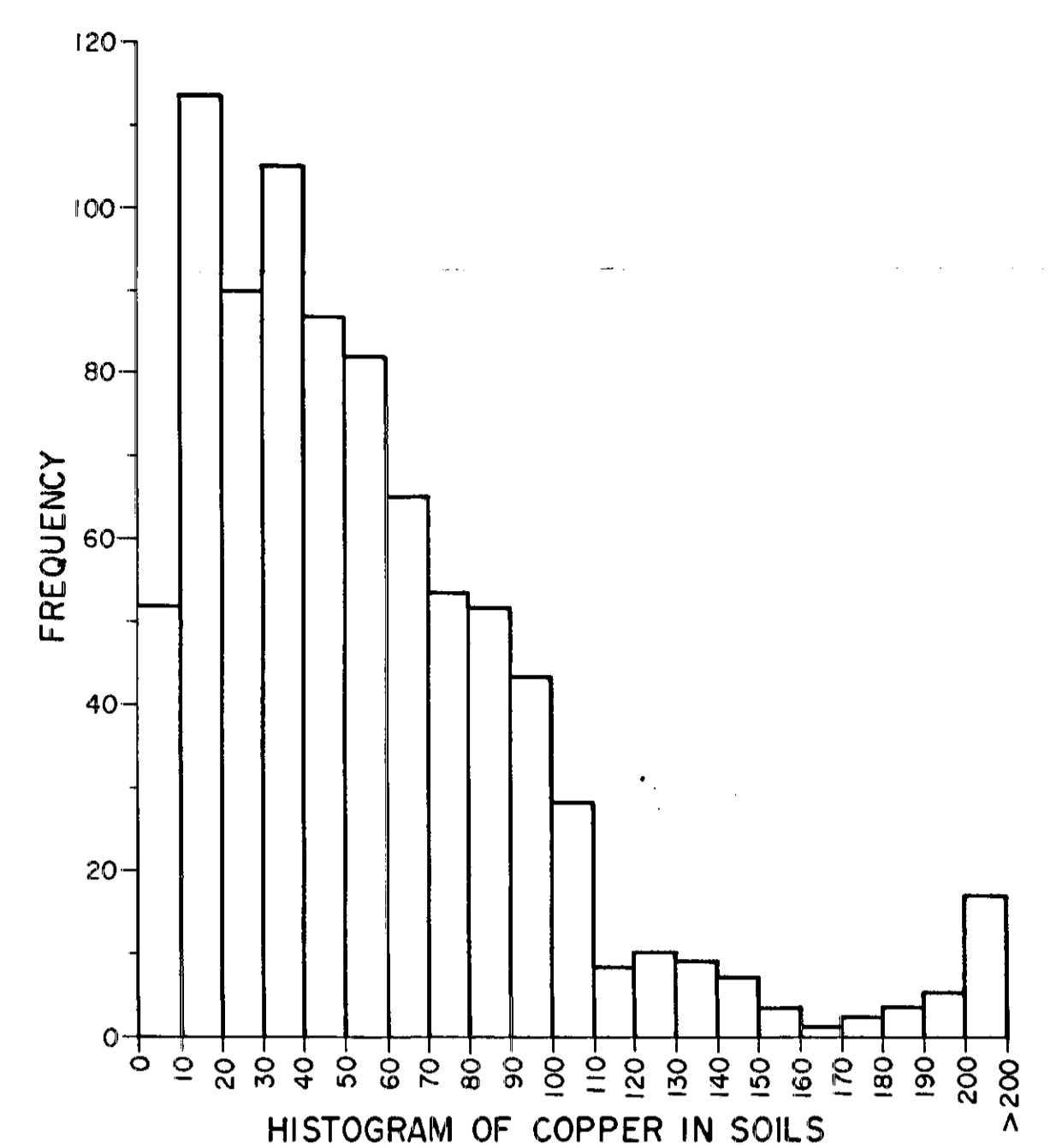
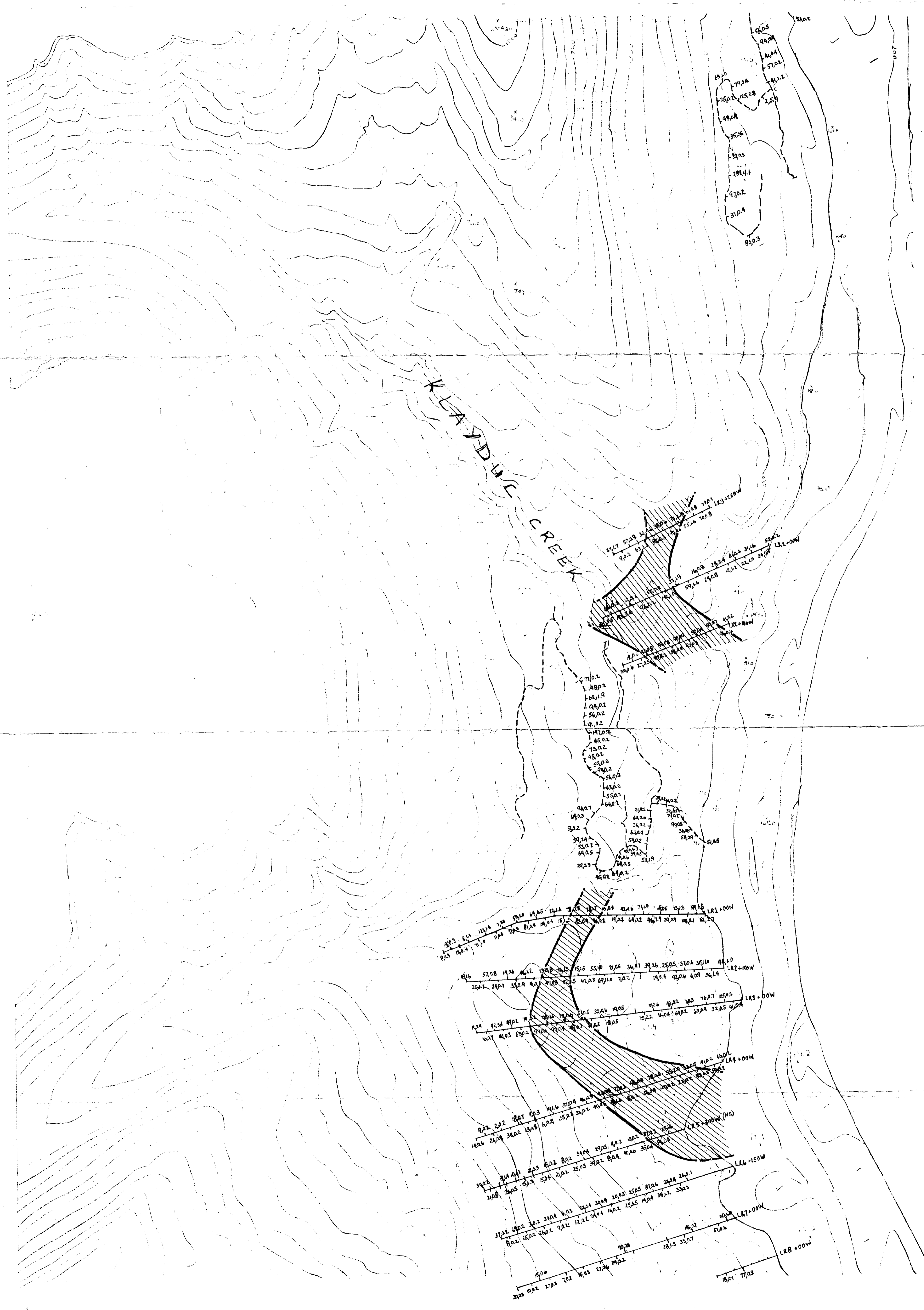


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OUTLAND RESOURCES CORP.

KITSAULT

McEwen Minerals



GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,951 MAP 2 B

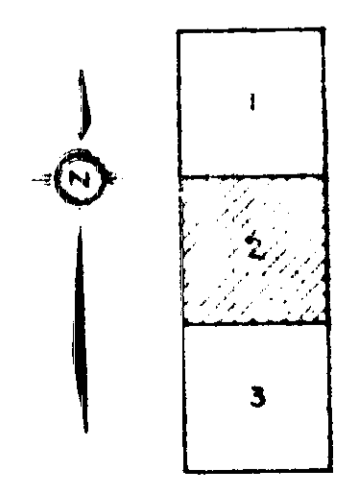
COPPER DISTRIBUTION IN SOILS

KITSULT RIVER AREA

20, 0.6 Cu (ppm), Ag (ppm)
WITH LINE LOCATIONS

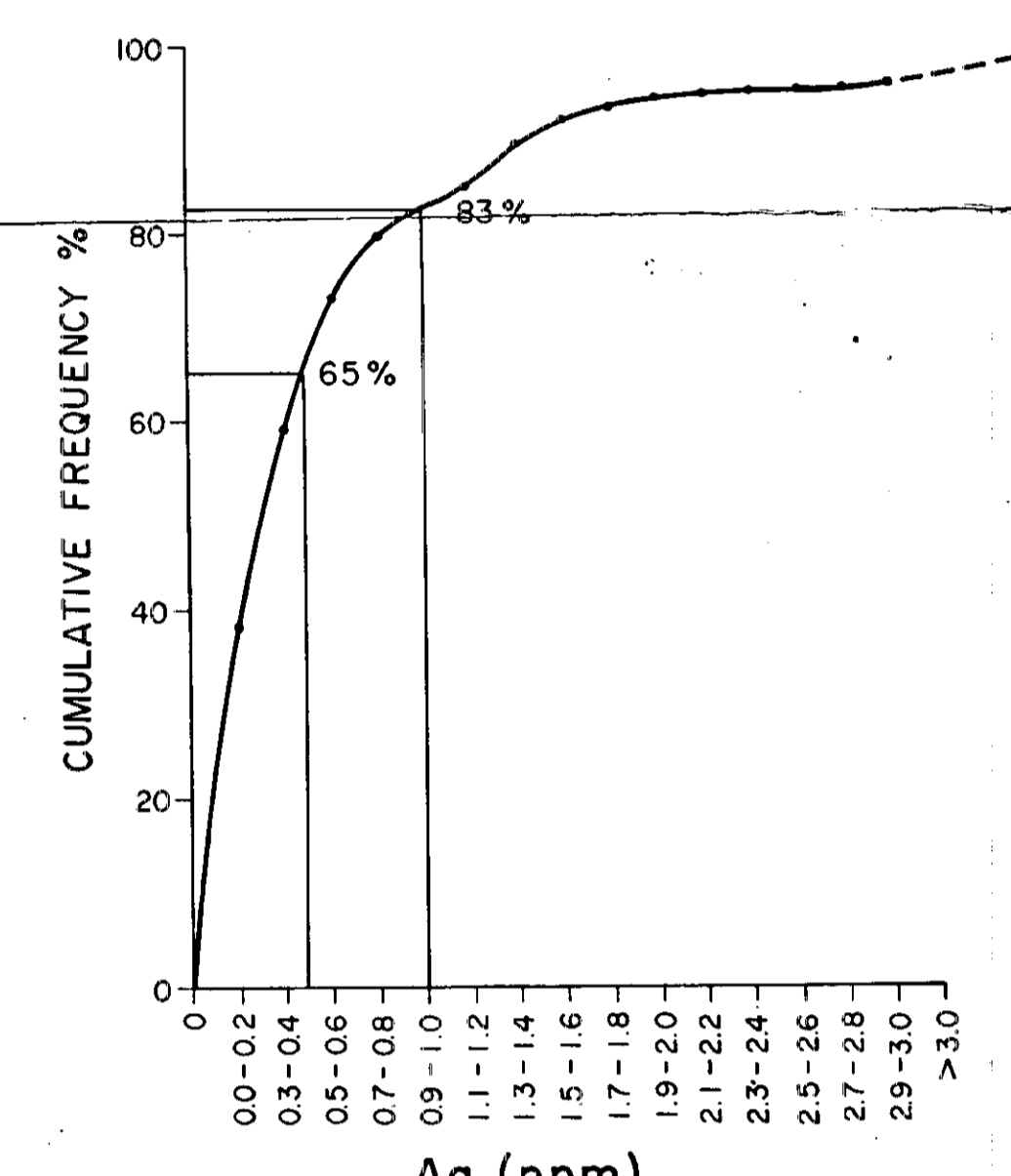
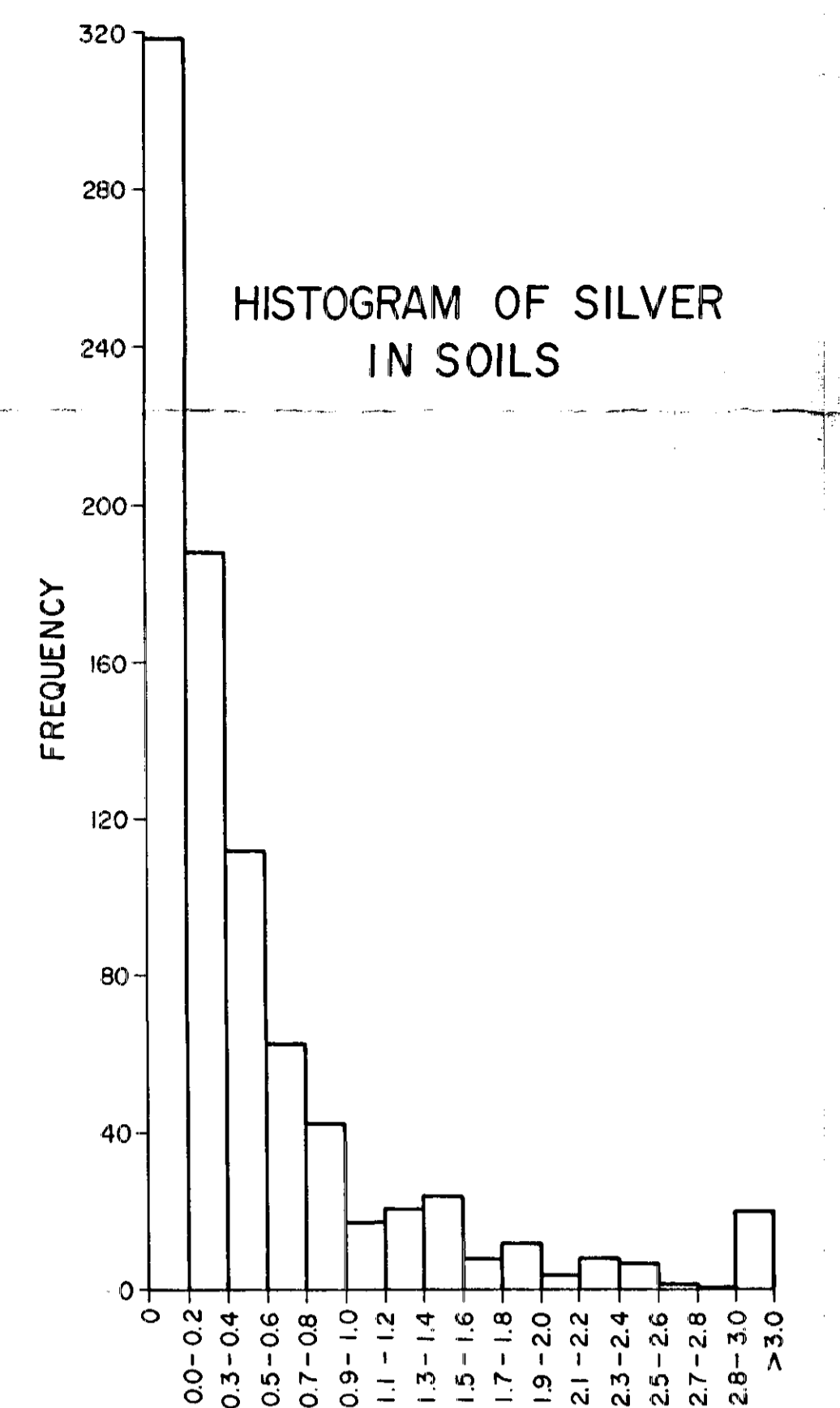
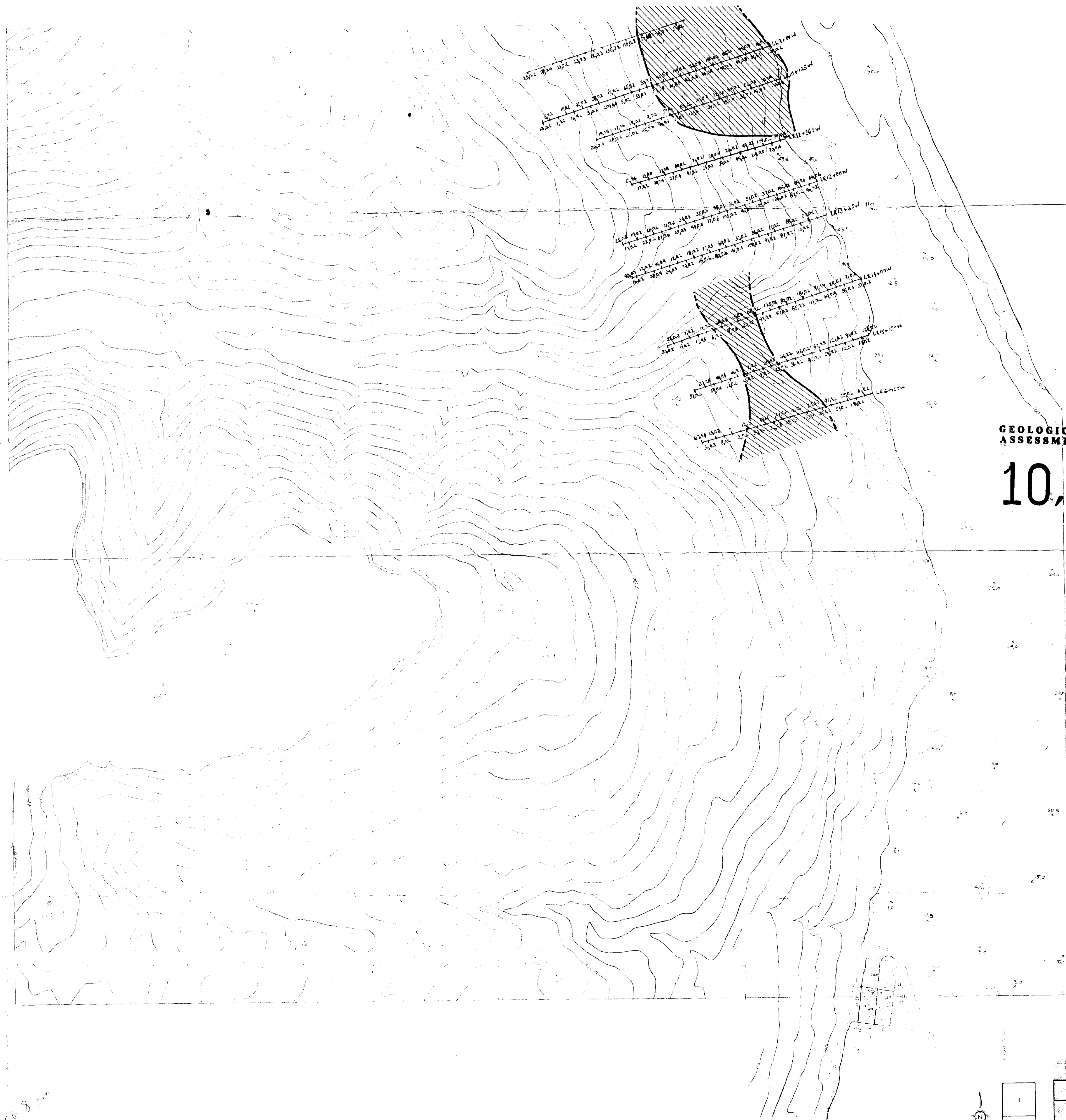
100, 0.4 Cu (ppm), Ag (ppm)
WITH LOCATIONS ON ROAD

AREA OF WEIGED AVERAGE
GREATER THAN 75 ppm Cu IN SOILS



OUTLAND RESOURCES CORP.

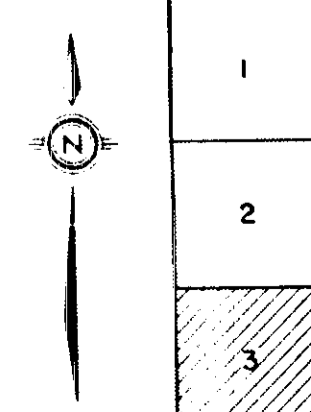
KITSULT



GEOLOGICAL BRANCH
ASSESSMENT REPORT
10,951 MAP 3A
SILVER DISTRIBUTION IN SOILS
 KITSALT RIVER AREA

- 20, 0.6 Cu (ppm), Ag (ppm) WITH LINE LOCATIONS
- 100, 0.4 Cu (ppm), Ag (ppm) WITH LOCATIONS ON ROAD
- AREA OF WEIGHED AVERAGE GREATER THAN 0.5 ppm Ag IN SOILS

3500' = 1066.8 m

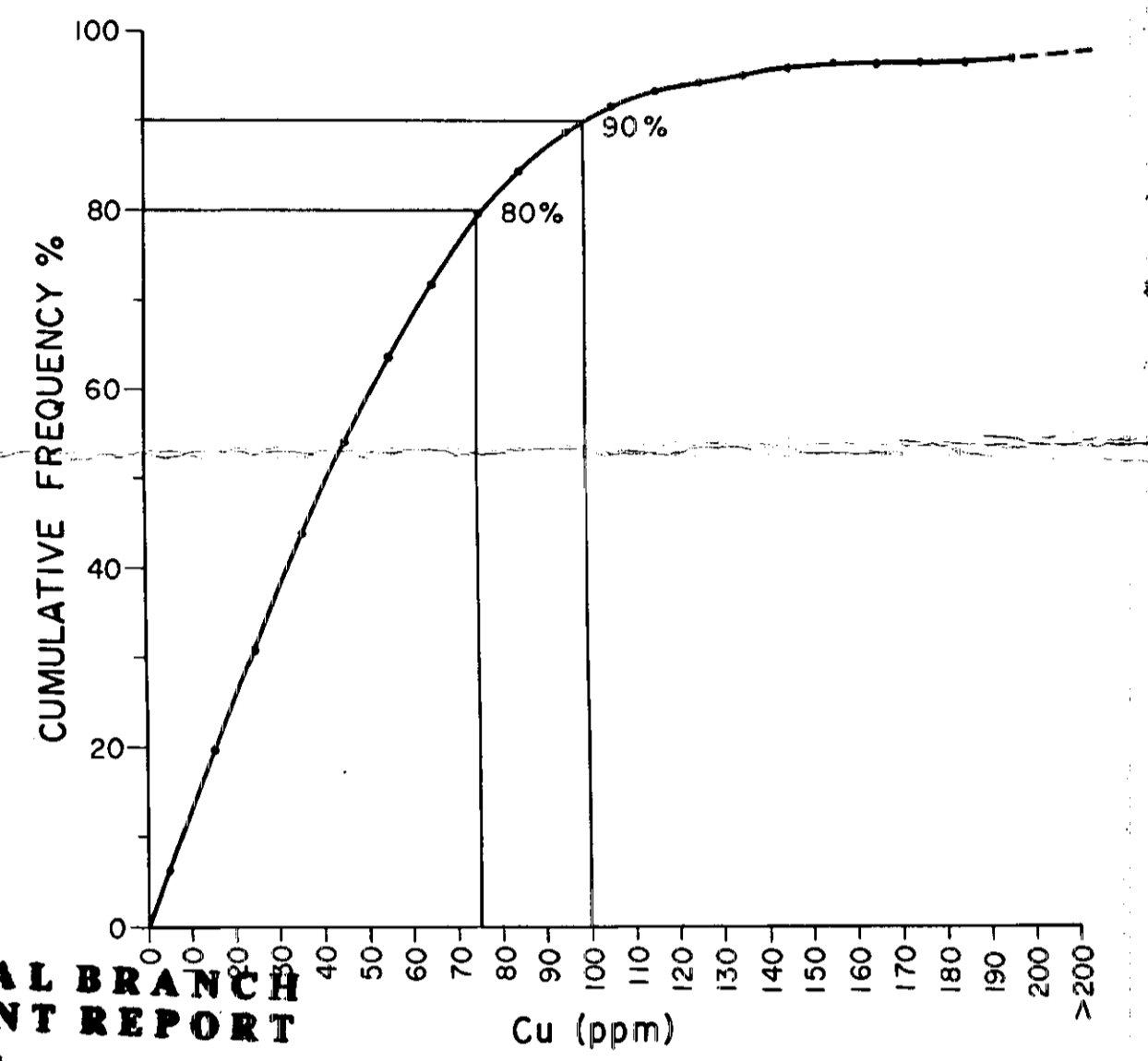
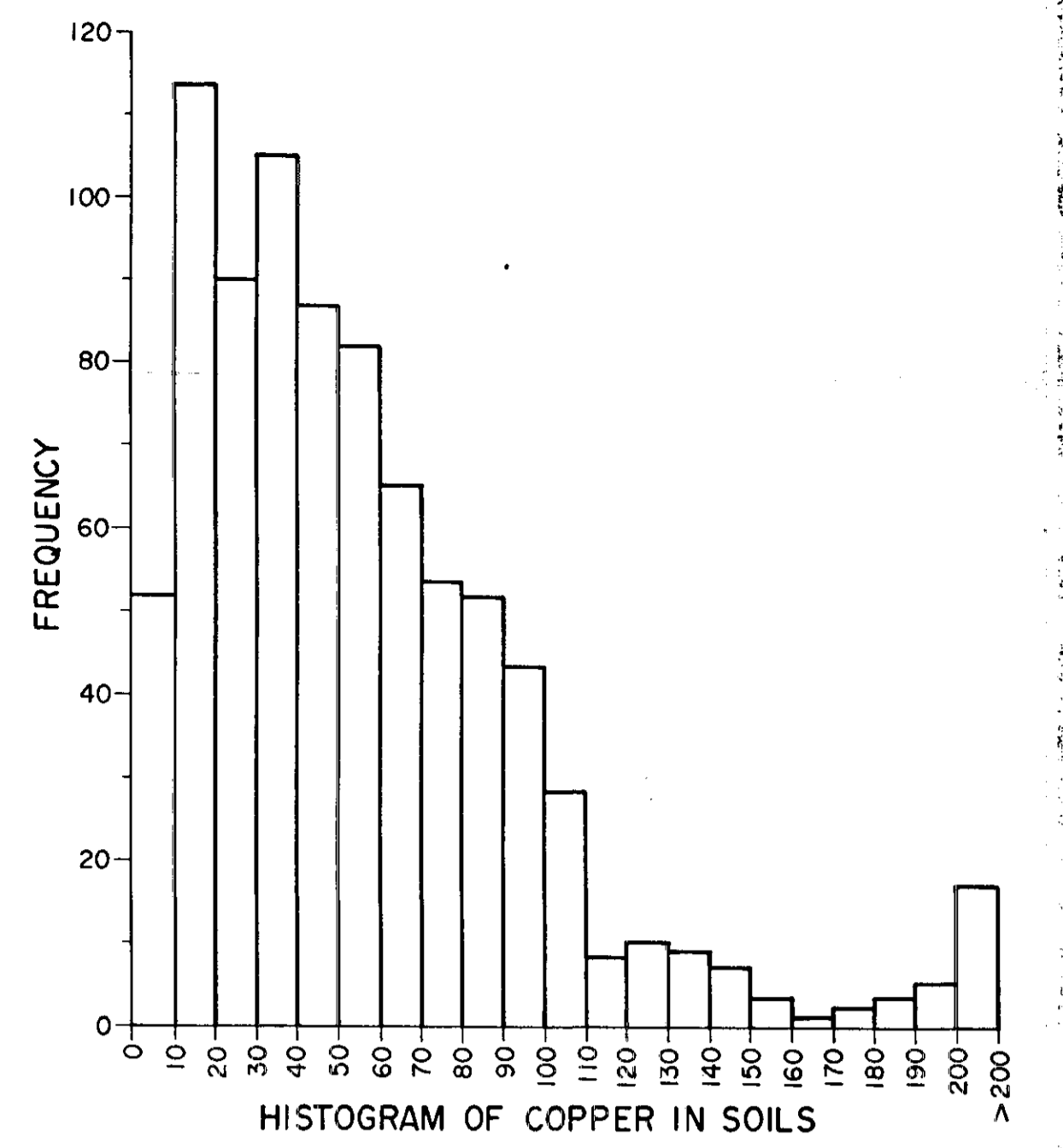


Scale and elevation based on the 1974 ground truthing of the 1974 aerial photograph. Contours are based on the 1974 ground truthing of the 1974 aerial photograph. Compiled from aerial photography, on an approximate scale of 1:75000 by 1:20000.

OUTLAND RESOURCES CORP.
KITSALT RIVER B.C.
 PRELIMINARY RECONNAISSANCE TYPE MAPPING

McElhenny
 McElhenny Surveying & Engineering Ltd.
 1104 Alton St., Vancouver, B.C. V6E 2G6

Scale: 1:10000
 Contour Interval: 1000 ft
 Date: May 1983
 Job No.: 08941-0
 Project: Kitsalt River



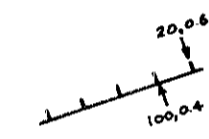
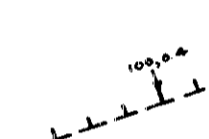
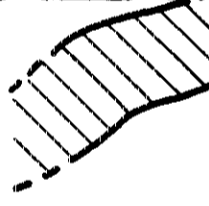
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ASSESSMENT REPORT

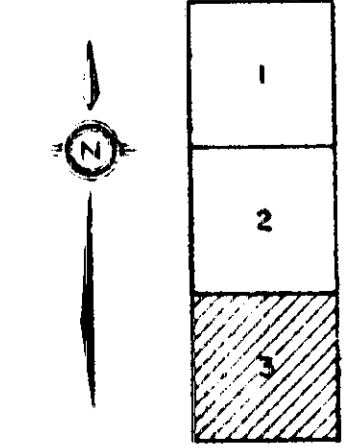
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MAP 3B

COPPER DISTRIBUTION IN SOILS

KITSULT RIVER AREA

-  20, 0.6 Cu (ppm), Ag (ppm)
WITH LINE LOCATIONS
-  100, 0.4 Cu (ppm), Ag (ppm)
WITH LOCATIONS ON ROAD
-  AREA OF WEIGHED AVERAGE
GREATER THAN 75 ppm Cu IN SOILS



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