

Report on the
Soil Geochemical Field Survey
for Silver, Lead and Zinc
on
Part of the "ROX" claim
owned and operated by
Marbaco Resources Ltd. of Vancouver, B.C.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

10,066
NO.

by

D.G. Schellenberg, B.Sc., Geological Engineering

Liard Mining Division
N.T.S. Map 1040/16W
Latitude 59°55'N, Longitude 130°30'W

Submitted - May 1981

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INTRODUCTION

General Geographic and Physiographic Position

The Marbaco claim group is approximately 112 kilometers west south-west of Watson Lake, Yukon Territory, and its southern extent borders on the north-east tip of Tootsie Lake in northern British Columbia.

The claims lie between 1200 and 2000 meters in elevation on the north facing slope of a mountain valley tributary to the main valley of Tootsie River.

Approximately three-quarters of the claim is below the tree line. Balsam of up to 30 cm diameter grows in the wet areas at higher elevations, with pine and spruce abundant at lower elevations.

Access to Claim

Access can be gained either by road from the Alaska Highway or by air from Watson Lake.

A 40-kilometer road, starting at kilometer 1122 of the Alaska Highway, leads directly to the claim. The bridge at kilometer 27 crossing the Tootsie River is out, making access possible only when the water level is low - mid-August onwards.

Float planes can land on Tootsie Lake as soon as the ice melts, in early June. The distance from Watson Lake is approximately 110 kilometers. A 5-kilometer pack trail runs between the lake and the claim.

Helicopters can also be chartered from Watson Lake.

Property Definition(1) History

- 1948 Ag-bearing Pb-Zn mineralization discovered on surface by Hudson's Bay Mining and Smelting Co. prospectors.
- 1949 Hudson's Bay Mining and Smelting Co. drilled 8 holes (DDHs #1-8; 895m); 4 holes intersected mineralization; claims (GEM: 38 claims) allowed to lapse.
- 1962 W. Kennedy "grubstaked" the ground as AMY.
- 1963-4 Kennedy et al., staked additional ground; surface and underground work on 4450' level.
- 1964 Rancheria Mining Co. Ltd. acquired the ground as AMY and CRISCO claims (159 claims); surface grid for geological mapping, geochemical and magnetic surveys was established; 117 m underground work completed on 4450' level, 24 m on mineralized zone; drifting stopped when an active solution cave was encountered at the west end.
- 1965 24 diamond drill holes (DDHs #9-32; 3200 m) indicated down-dip extension of mineralized zone in east drift; geochemical and geophysical surveys over grid area; provisional regional map of area by J.H. Shepherd; 79 AMY claims located and surveyed by M. Macklin (survey results not registered).
- 1966 Work completed to date: 254 m underground, 91,440 m line cutting and survey work, 878 m³ trenching.
- 1967 Chapman, Wood and Griswold Ltd. (Vancouver, B.C.) conducted metallurgical studies to determine the nature of the ore material.
- 1968 Irwin Engineering (Edmonton, Alberta) drilled 11 holes on geochemical anomalies (inconclusive) and attempted a S.P. survey (unsuccessful).
- 1969 Irwin Engineering concluded 73,000 T of 20-30 oz/T Ag, 4.45% Pb and 7.51% Zn mineralization property and possible reserves of 130,000 T; underground work recommended because drilling unreliable; claims allowed to lapse.
- 1970-1 Ground re-staked as FLO and LEO (6 claims) by J.F. Irwin for Fosco Mining Ltd. (formerly AMY 3,5,6,7,8,9).
- 1973 Three additional fractional claims staked; 4200-level adit successfully completed below old workings; re-sampling by Fosco Mining Ltd. of anomalous geochem zones of Rancheria's 1965 survey confirmed the anomalous nature of the zones.

- 1974 Chapman, Wood and Griswold Ltd. reported estimations of measured and indicated reserves at about 80,000 T of 10 oz/Ag, 2-3% Pb, 5.5-6% Zn, with about 60,000 additional tons of inferred mineralization of unknown grade.
- 1976 CUB claims staked by D. Schellenberg, covering one of the Ag-anomalous zones from the 1965 geochem survey.
- 1977 Geochemical spot-check survey over the strongest portions of the CUB anomaly by D. Schellenberg.
- 1978 Work by D. Schellenberg included detailed geochemical survey on CUB anomaly, discovery of tungsten mineralization and subsequent staking of BLUE and BEAR claims. Fosco claims acquired by Marbaco Resources Ltd.
- 1979 Acquisition of CUB, ROX, BEAR and BLUE claims and staking of JP, MAL, COL, BP, JM, RW and TM by Du Pont of Canada Exploration Limited; JP claims abandoned and re-staked as DS1 & DS2 by Du Pont of Canada Exploration Limited; geochem sampling, trenching and mapping of skarn zones by Du Pont of Canada Exploration Limited; option dropped claims returned to D. Schellenberg.
- 1980 Claims held by D. Schellenberg optioned to Marbaco Resources; extension of 1978 geochemical survey to the south and trenching by Marbaco Resources Limited.

(2) List of Claims

<u>Claims Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Date of Record</u>
BEAR	668	2	1978 09 15
BEAR 2	669	1	1978 09 15
BLUE	573	1	1978 07 06
BLUE 2	670	1	1978 09 15
CUB	440	9	1976 07 07
DS 1	932	9	1979 08 21
DS 2	933	9	1979 08 21
MAL	763	15	1979 05 07
COL	767	6	1979 05 07
BP	761	10	1979 05 07
JM	764	4	1979 05 07
RW	766	10	1979 05 07
TM	762	16	1979 05 07
ROX	572	1	1979 07 06
FLO 1	42399		
FLO 2	42400		
FLO 3	42401		
FLO 4	42402		
LEO 1	50865		
LEO 2	50866		

(3) Current Owner and Operator

The property is currently owned and operated by Marbaco Resources Ltd.

(4) Economic Assessment of the Property

Underground development and diamond drilling on the "LEO 1" claim have confirmed an ore body of the following reserves:

Measured and indicated - 79,849 tons
10.7 oz/ton Ag, 2.84% Pb, 6.03% Zn

Inferred - 59,326 tons
no grade assigned

Ore shoot #2 approximately 550 m west of the main showing was discovered by surface outcrop and diamond drilling in 1965. No reserves have been calculated.

Geochemical sampling and test pits indicate a vein approximately 300 m east of the main showing.

Summary of Work Done

(1) Geochemical Sample Collection

A total of 265 soil samples were taken at a depth of 45-50 cms. using an auger and assayed for Pb, Zn and Ag. The area sampled adjoins the 1978 geochemical survey area to the north.

The samples were taken on 20 lines spaced 30 m apart; 11 samples were taken on lines 4+50E to 9+90E and 18 samples on lines 10+20E to 10+80E at a spacing of 20 m.

Sample locations were flagged and numbered according to the existing grid numbering system.

(2) Procedures for Geochemical Analysis

Total Heavy Metals cold extraction (by author) was the method used, as follows:

- (1) .2 grams of sample (-20 mesh) were added to a clean test tube;
- (2) 5 mls of buffer were added;
- (3) 2.5 mls of .001% W/V dithizone-toluene solution was added;
- (4) The test tube was red, dithizone-toluene solution was added in 2.5 ml increments until a blue-green end point was reached.

Buffer and weighed dithizone was obtained from Min-En Labs of Vancouver. Dithizone-toluene solution was mixed by the author.

Pb-Zn-Ag analysis of all samples by Chemex Labs Ltd. of Vancouver by acid digestion and Atomic Absorption.

GEOLOGYRegional

The property is located on the eastern flank of the Cassiar Batholith where Mid-Cretaceous granitoid rocks lie in irregular contact with clastic sediments of probable Lower Cambrian age.

The regional strike of the granite contact is generally north-south, whereas in the immediate area of the mineralized zone the strike is west-north-west. This change is due to pre-Cretaceous cross folding and/or faulting.

Local

The host rocks are mainly phyllites, argillites, quartzite and limestone locally altered to hornfels, schist, micaceous quartzite and crystalline limestone. Pyrrhotite bearing greenstone sills from 1 to 7 m wide are also common.

The mineralized zones occur as limestone replacements in strike fault shear zones along the limestone and schist or quartzite contact.

The sediments strike approximately 124° (parallel to intrusive contact) and dip from 60° - 80° south.

PURPOSE

The purpose of this survey was to define the southern upper limit of the anomaly designated "area A" in the 1978 detailed geochemical survey.

INTERPRETATION

Survey results indicate two areas of interest, "area A" of the 1978 survey and "area H" of the 1980 survey. "Area H" corresponds to the north-east portion of T.H.M. anomaly 3 outlined in 1965 by Rancheria Mining Ltd. (see test pit location map).

Area A

The southern upper limits of this anomaly suggest source vein at approximately 4+60M north and striking 124° (approx. strike of bedding).

This anomaly could also be due to a high concentration of glacially transported float. (3 test pits excavated in 1978 all encountered high grade Pb-Zn-Ag float.)

Area H

The "area H" anomaly is probably due to a limestone replacement vein approximately 200 m to the south-west (see test pit location map).

Two pits 20 m apart were excavated in this area by pick and shovel and blasting (due to permafrost). The lower pit encountered a high concentration of angular crystalline limestone boulders with 20-50% replacement by sphalerite at a depth of 1.5 m. One boulder had a black slickenside face probably indicating a limestone-phyllite contact. The float contained no siderite or galena and only a trace of silver (.08 oz/ton). All float was very similar in appearance indicating a common and close source.

The upper pit was excavated to bedrock (3 m) and encountered no mineralization. Bedrock was limestone gauge of a fault zone. A T.H.M. field check of material from the bottom of the pit showed no trace of mineralization.

ADIT AND UNDERGROUND WORKINGS

1465 T.H.M. ANOMALIES

AND 3

INFERRED LOCATION AND TREND OF MINERALIZATION

LOWER AND UPPER TEST PITS

EXPOSED 2-4" Pb-Zn-Ag VEIN

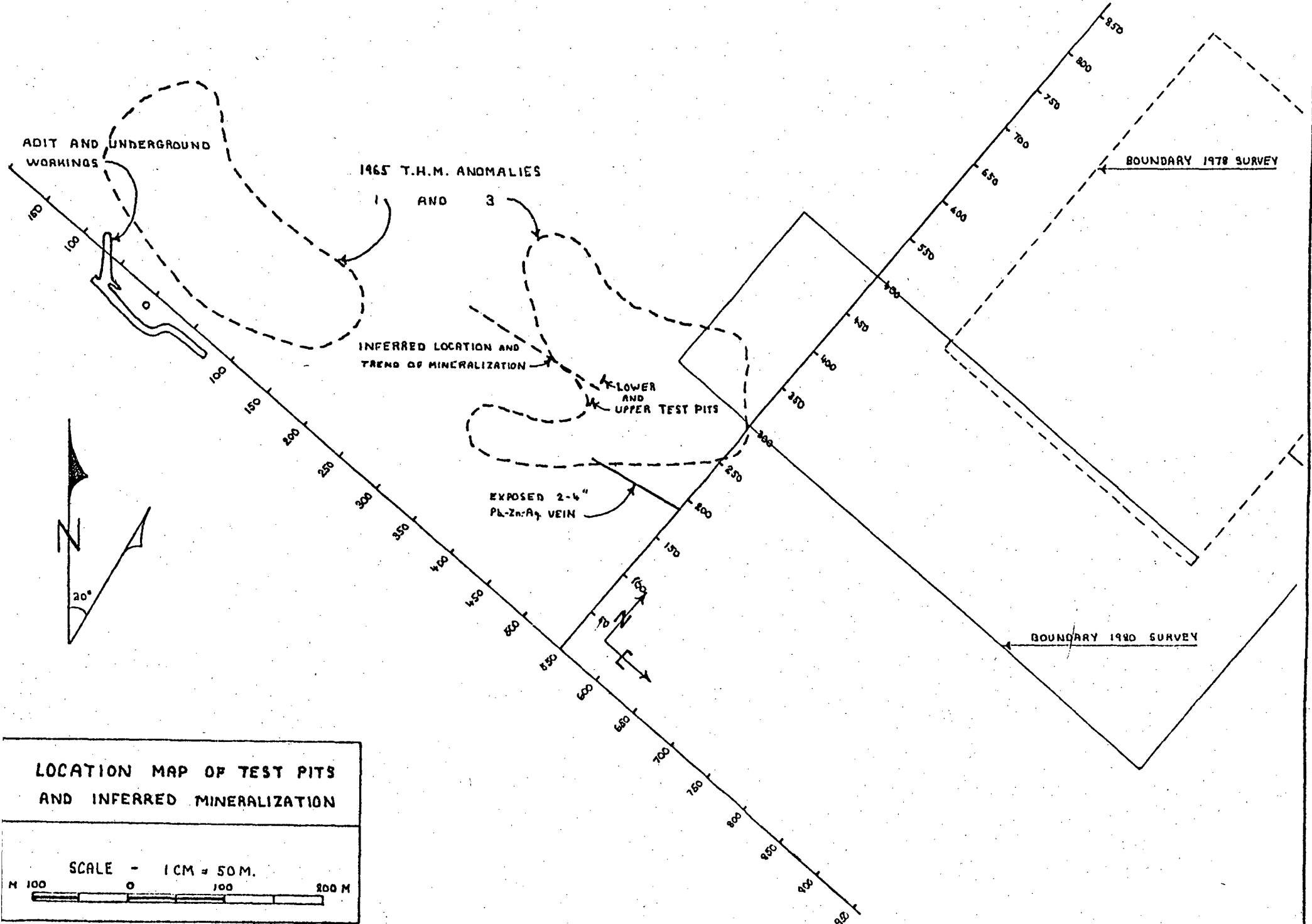
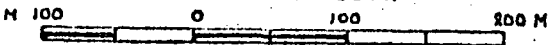
BOUNDARY 1978 SURVEY

BOUNDARY 1980 SURVEY



LOCATION MAP OF TEST PITS AND INFERRED MINERALIZATION

SCALE - 1 CM = 50 M.



A bulldozer trench 30 m east of the pits exposed no mineralization but testing with acid outlined a 3 m wide zone of limey sediments on strike with the upper pit.

The preceding information suggests that the eastern end of a limestone replacement vein outcrops between the upper and lower pits.

CONCLUSION

The probable location of the vein causing the "area H" anomaly has been defined to within 10 meters. Backhoe trenching across the projected strike of the vein should uncover the outcrop.

The source of the "area A" anomaly is still in question. Backhoe trenching across the most likely source area (4+60M north) should help to determine if the anomaly is displaced or due to a vein outcrop.

STATEMENT OF QUALIFICATIONS

I, DOUGLAS G. SCHELLENBERG, do hereby certify:

- 1) That I am a geologist residing at (RR #1, Greenbay Road, Westbank, B.C.;
- 2) That I received my B.Sc. degree in Geological Engineering from the Colorado School of Mines in 1973;
- 3) That I have practiced my profession for 8 years;
- 4) That between July 10 and 24, 1980 I directed a field program on the ROX claim on behalf of Marbaco Resources Ltd.
- 5) That on July 1, 1980 I optioned the Rox, Bear, Bear 2, Blue, Blue 2, TM, JM, RW, BP, Col, Mal, Cub, DS 1 and DS 2 claims to Marbaco Resources Limited.

ITEMIZED COST STATEMENTWages (Geochemical Survey)

<u>Name</u>	<u>Per Diem Rate</u>	<u>Specific Dates</u>	<u>No. Days</u>	<u>Total</u>
D. Schellenberg	\$100	July 10-24	14	\$1,400
B. Irwin	\$100	July 10-24	14	\$1,400
				\$2,800

Food and Accommodation

<u>Name</u>	<u>Specific Dates</u>	<u>No. Days</u>	<u>Total</u>
D. Schellenberg	July 8-26	18	\$400
B. Irwin	July 8-26	18	\$400
			\$800

Transportation

4 X 4 Truck rental	15 days @ \$45.00/day	\$675.00
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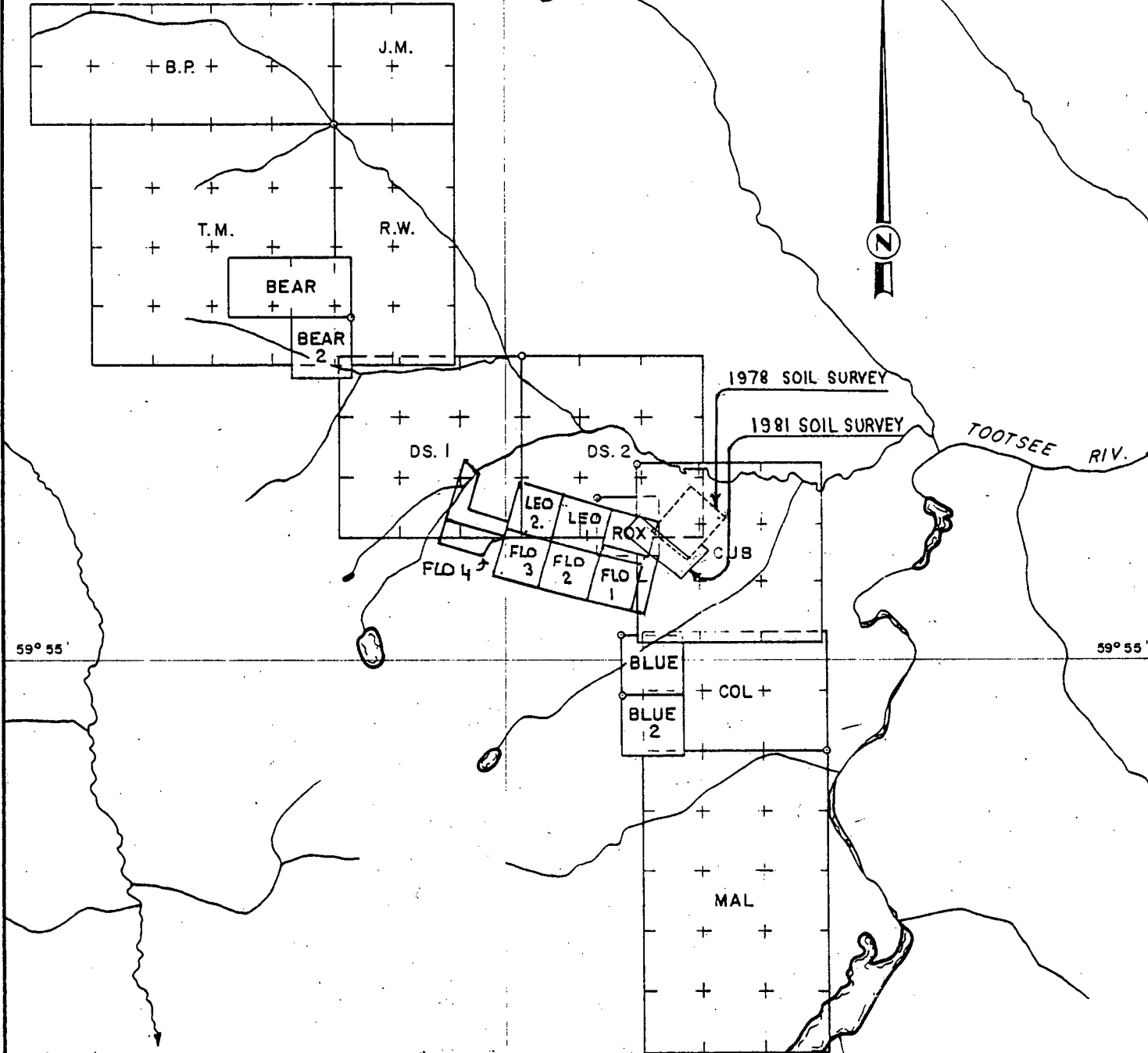
Assay Costs

265 samples assayed for Ag, Pb, and Zn		
@ \$3.55/sample		\$940.75
T.H.M. Kit and chemicals		\$ 50.00

SUMMARY

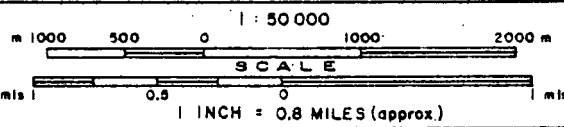
Wages (Geochemical Survey)	\$2,800.00
Food and Accommodation	800.00
Transportation	675.00
Assay Costs	990.75
Report Preparation	<u>500.00</u>
	\$5,765.75

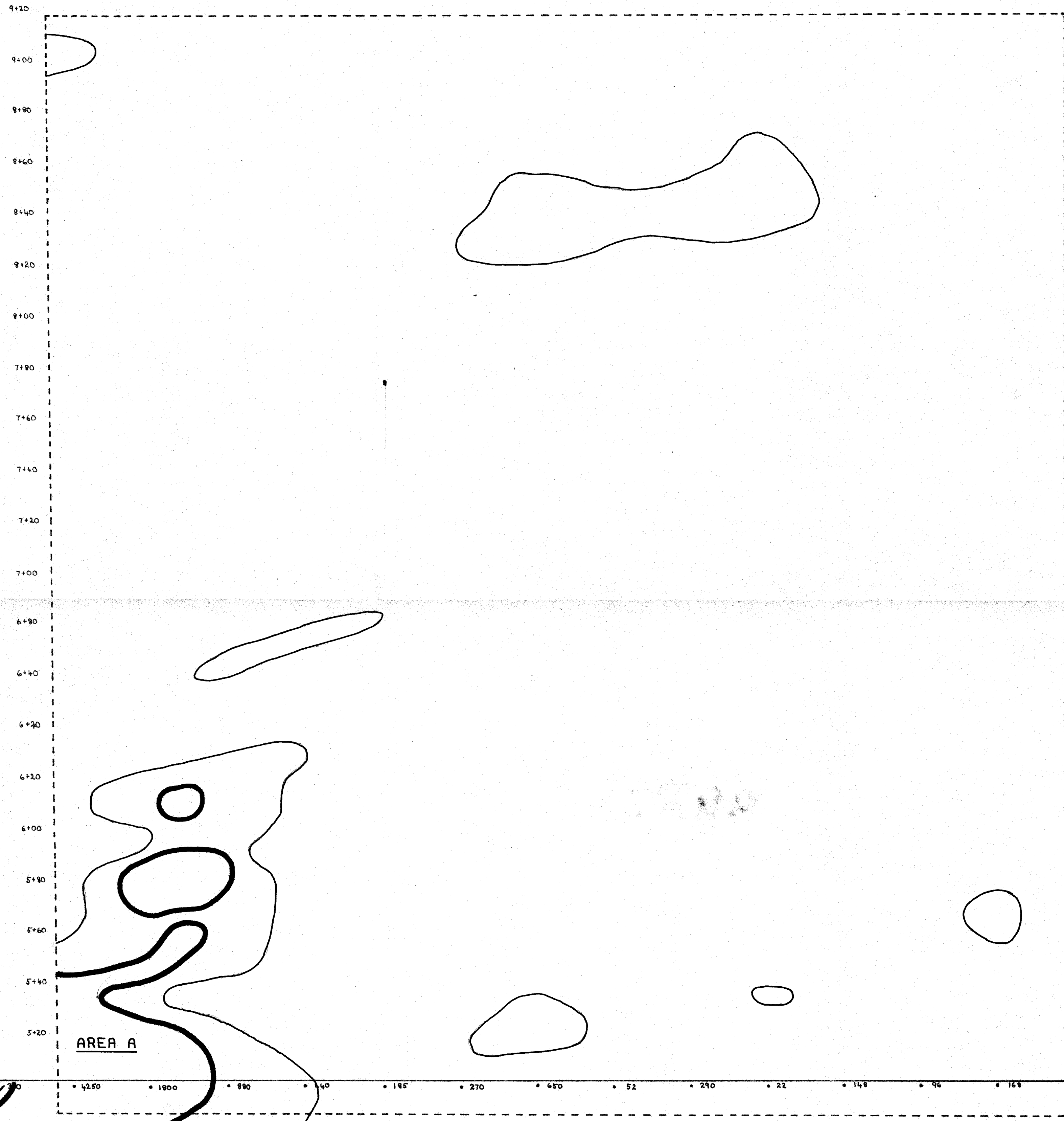
130° 30'



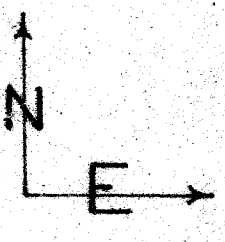
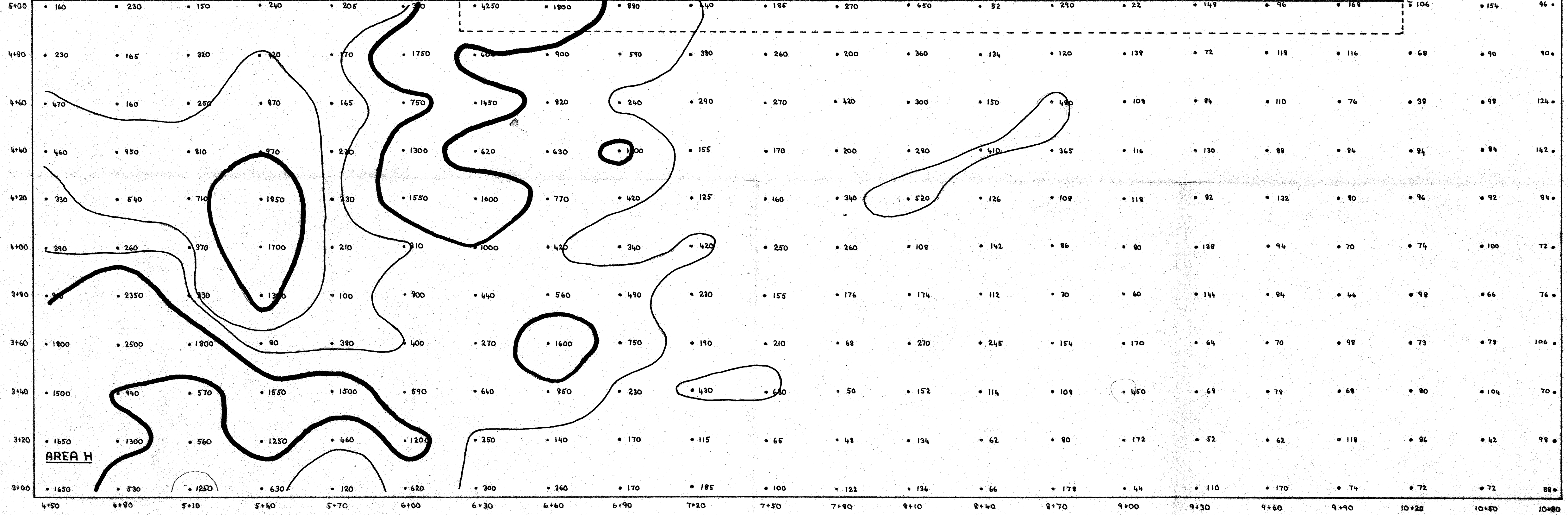
CLAIM LOCATION MAP

TOOTSEE LAKE AREA, BRITISH COLUMBIA



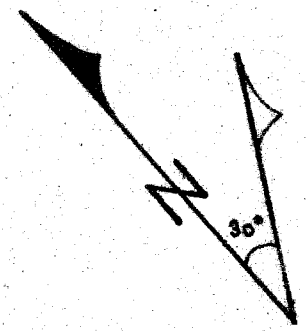


• 80	• 154	• 200
• 50	• 148	• 144
• 48	• 144	• 128
• 176	• 134	• 122
• 88	• 74	• 96
• 112	• 140	• 108
• 92	• 84	• 74
• 106	• 154	• 96



LEGEND

BROKEN LINE - BOUNDARY 1979 GEOCHEM. SURVEY
 SOLID LINE - BOUNDARY 1990 GEOCHEM. SURVEY
 THICK LINE = 1000 P.P.M.
 THIN LINE = 400 P.P.M.



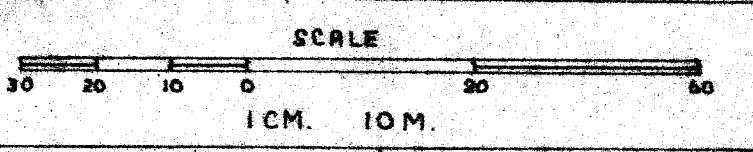
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MARBACO RES. LTD.

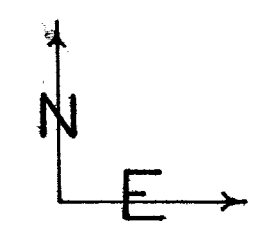
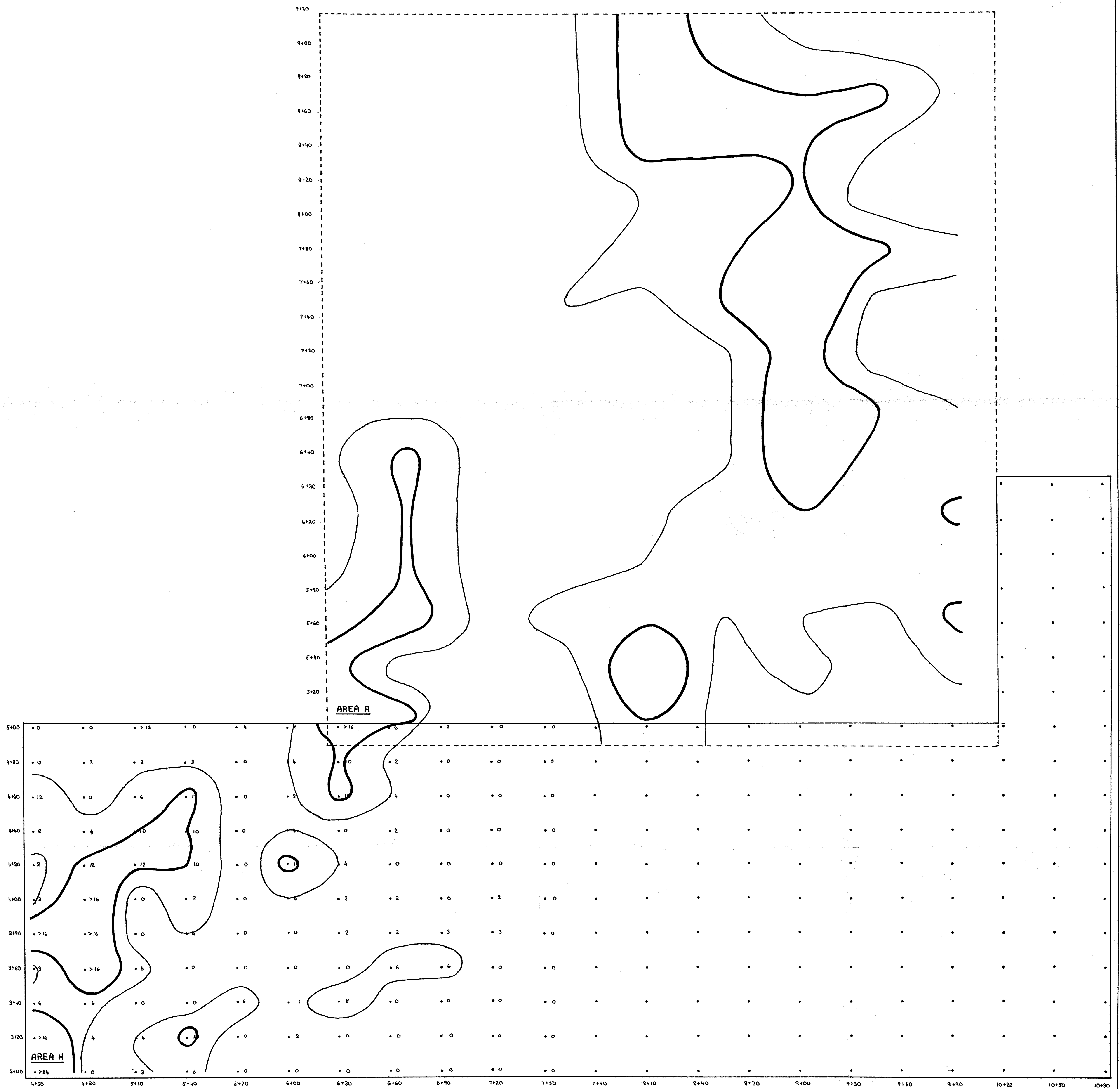
SOIL GEOCHEMISTRY

ZINC IN P.P.M.

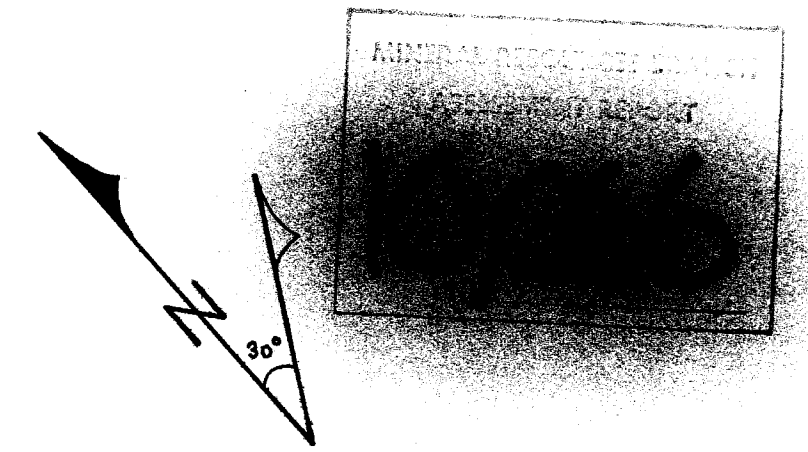
FOOTSEE LAKE AREA, BRITISH COLUMBIA



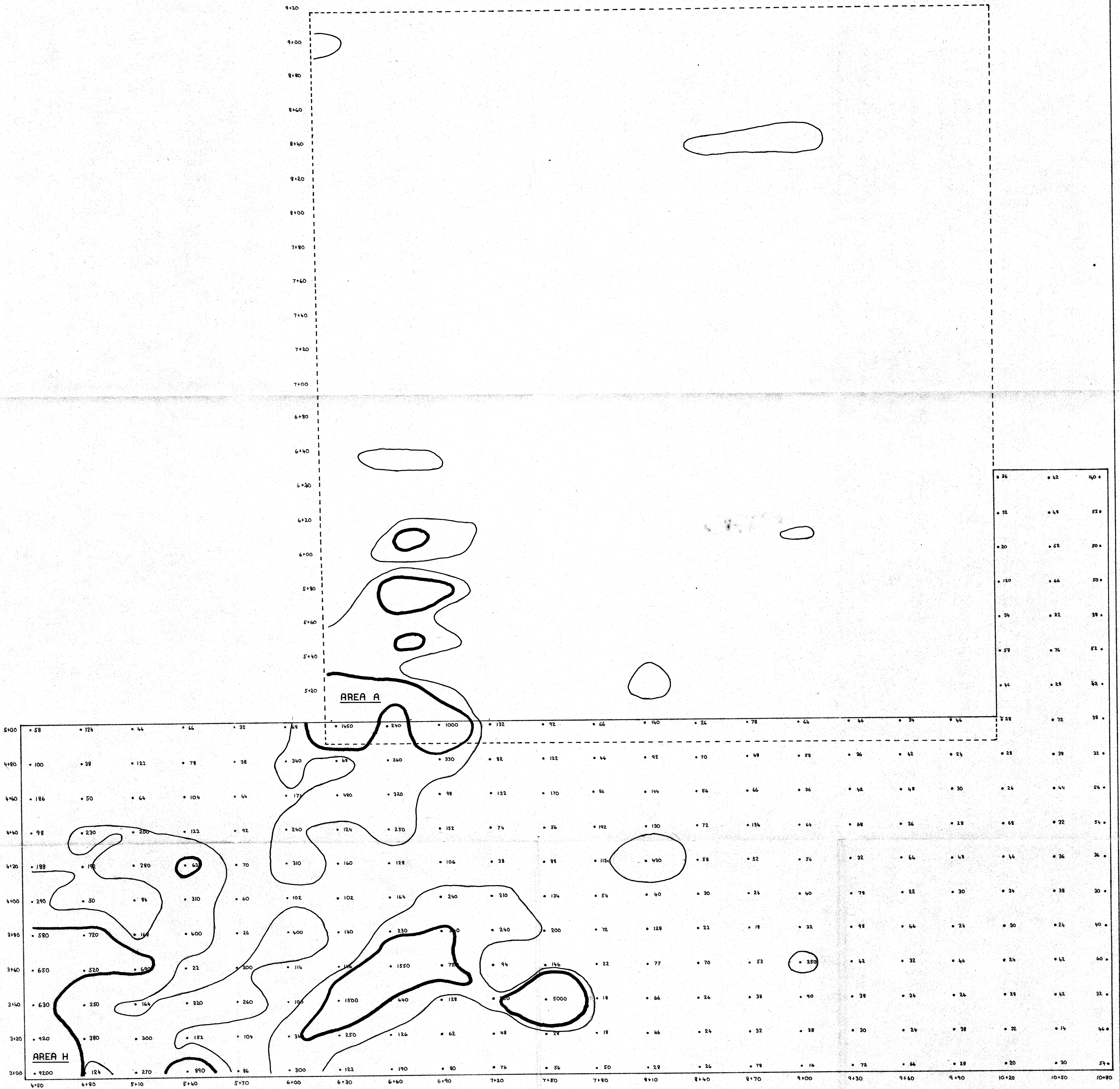
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 DRAWN BY : D.G.S.



LEGEND
 BROKEN LINE - BOUNDARY 1979 GEOCHEM. SURVEY
 SOLID LINE - BOUNDARY 1980 GEOCHEM. SURVEY
 THICK LINE = 10 P.P.M.
 THIN LINE = 4 P.P.M.



MARBACO RES. LTD.	
SOIL GEOCHEMISTRY	
T.H.M. IN P.P.M.	
TOOTSEE LAKE AREA, BRITISH COLUMBIA	
SCALE 	
DATE : 80 11 25	N.T.S. NO.: 104 0 16
DRAWN BY : D.G.S.	



• 26	• 42	140 •
• 32	• 48	52 •
• 20	• 52	20 •
• 120	• 64	20 •
• 34	• 22	38 •
• 58	• 76	52 •
• 44	• 28	32 •
• 28	• 72	38 •
• 38	• 32	32 •
• 56	• 44	56 •
• 36	• 26	• 44
• 68	• 32	54 •
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• 56	• 36	• 36
• 78	• 22	• 30
• 24	• 40	• 78
• 30	• 24	• 30
• 46	• 24	• 30
• 18	• 32	• 48
• 46	• 24	• 30
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• 42	• 32	• 46
• 32	• 46	• 24
• 42	• 24	• 24
• 38	• 24	• 24
• 30	• 24	• 38
• 24	• 38	• 14
• 30	• 30	• 54 •

LEGEND

- BROKEN LINE - BOUNDARY 1978 GEOCHEM. SURVEY
- SOLID LINE - BOUNDARY 1980 GEOCHEM. SURVEY
- THICK LINE = 500 P.P.M.
- THIN LINE = 200 P.P.M.

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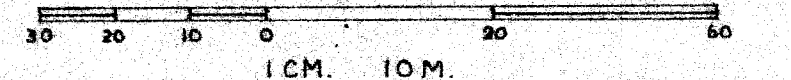
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SOIL GEOCHEMISTRY

LEAD IN P.P.M.

TOOTSEE LAKE AREA, BRITISH COLUMBIA

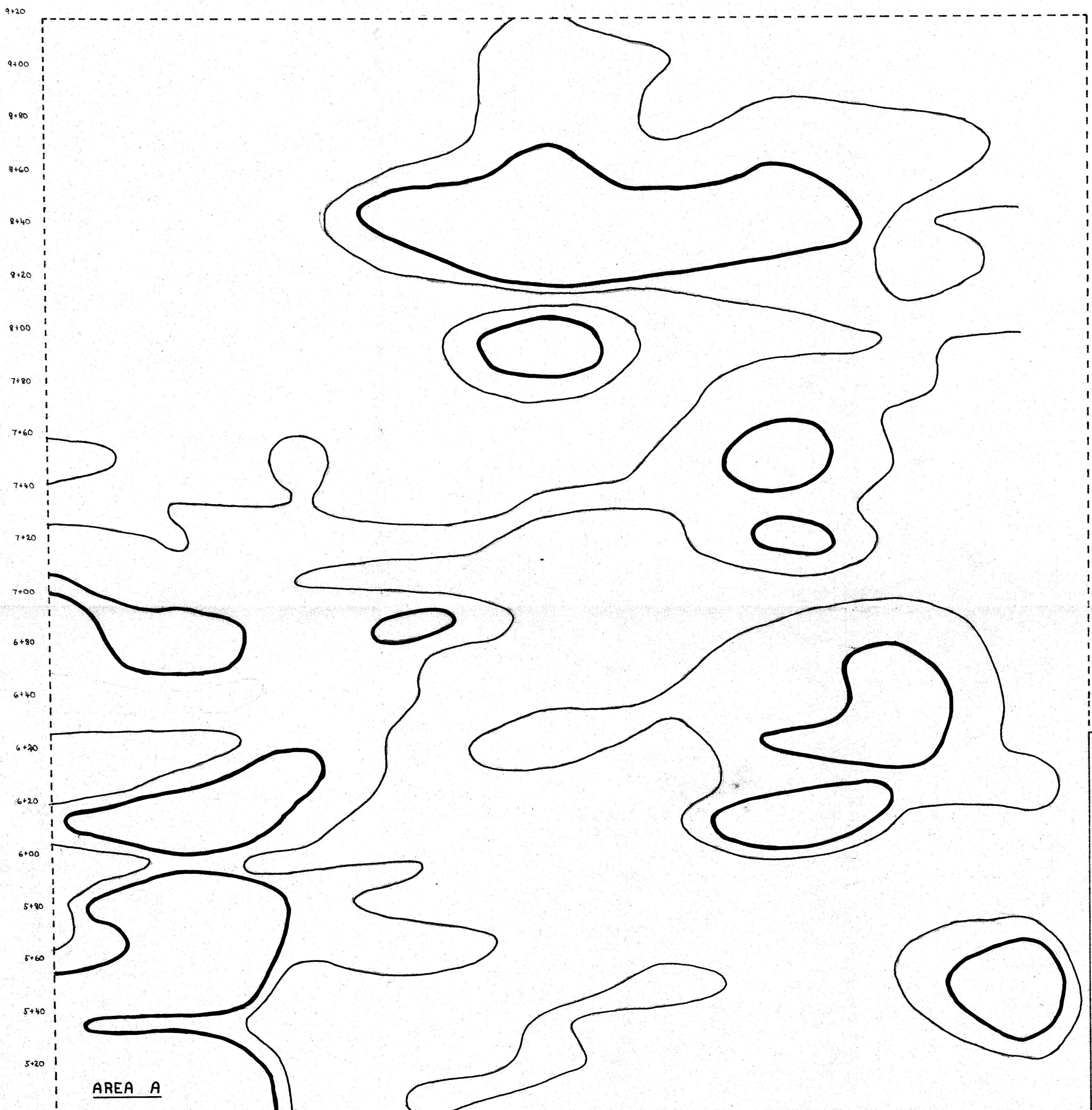
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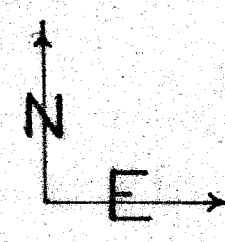
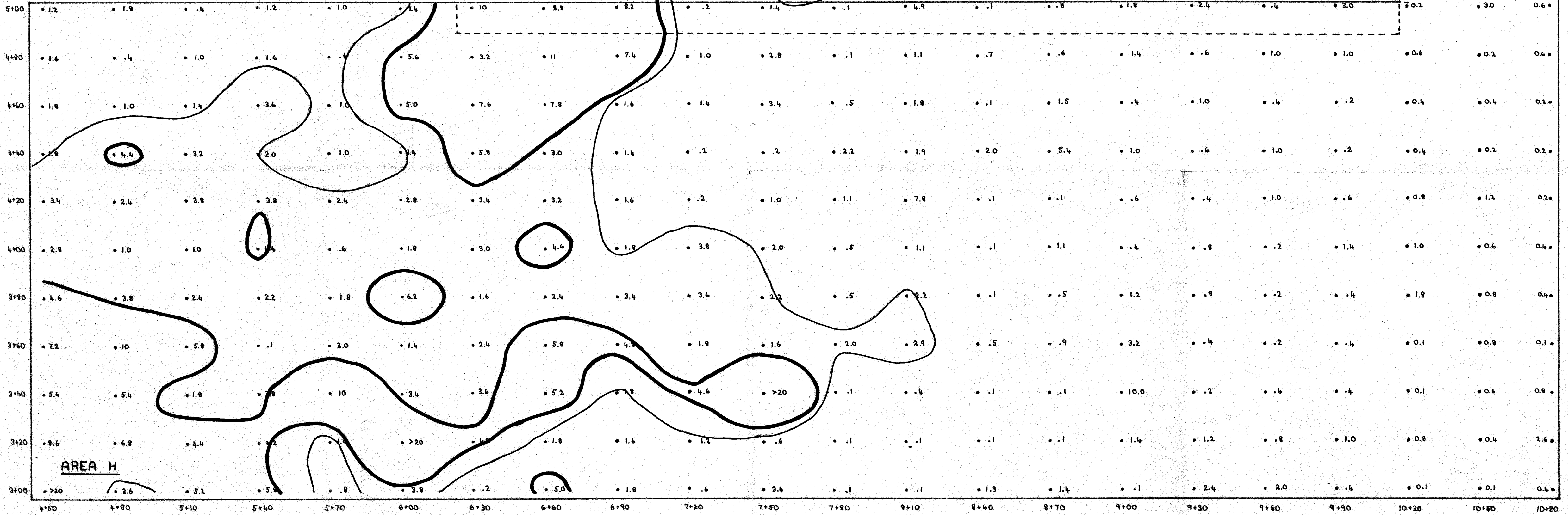
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0.2	0.8	0.6
2.8	1.8	0.8
0.4	0.8	0.4
1.8	1.0	1.2
1.4	0.4	0.8
0.2	3.0	0.6



LEGEND
 BROKEN LINE - BOUNDARY 1978 GEOCHEM. SURVEY
 SOLID LINE - BOUNDARY 1990 GEOCHEM. SURVEY
 THICK LINE = 4 P.P.M.
 THIN LINE = 2 P.P.M.

MINERAL RESOURCES BRANCH
 ANNUAL REPORT
1966

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SOIL GEOCHEMISTRY
 SILVER IN P.P.M.
 TOOTSEE LAKE AREA, BRITISH COLUMBIA

SCALE
 0 10 20 30
 1 CM. 10 M.

DATE : 80 11 25 N.T.S. NO.: 104 0 16
 DRAWN BY : D.G.S.