

ASSESSMENT REPORT

TITLE: 1980 Geochemical Soil Survey Program on Lily 1 and Lily 2 claims,
Port Alberni, British Columbia.

CLAIMS INVOLVED: LILY 1, LILY 2

TOTAL UNITS: 36

LOCATION: Alberni Mining District

49° 11.2' Latitude

124° 42.4' Longitude

92F/2E N.T.S. Map No.

OWNER AND OPERATOR OF CLAIMS: Western Mines Limited

REPORT BY: G. Benvenuto

WORK PERIOD: June 1 to June 23, 1980

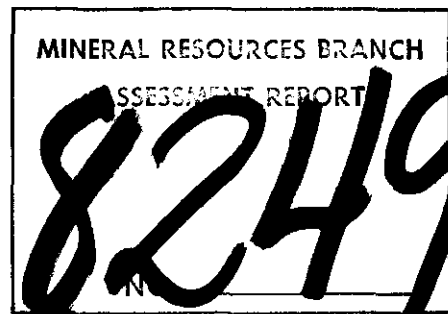


TABLE OF CONTENTS

	<u>PAGE</u>
SUMMARY.....	1
INTRODUCTION.....	2
LOCATION.....	2
ACCESS.....	2
PHYSIOGRAPHY.....	2
PROPERTY DEFINITION.....	3
PROPERTY HISTORY.....	3
SUMMARY OF WORK DONE.....	4
GEOCHEMICAL SOIL SURVEY.....	4
DETAILED TECHNICAL DATA AND INTERPRETATION.....	5
GEOCHEMICAL SOIL SURVEY.....	5
REFERENCES.....	9
APPENDIX A: DETAILED EXPENDITURES FOR GEOCHEMICAL SOIL SURVEY.....	10
APPENDIX B: STATEMENT OF QUALIFICATIONS.....	12

LIST OF TABLES AND FIGURES

FIGURE 1: INDEX AND CLAIMS MAP.....	13
FIGURE 2: MAP OF GEOCHEMICAL SOIL SURVEY ANALYSES FOR Cu, Pb, Zn.. IN POCKET.....	
FIGURE 3A: LOGARITHMIC-PROBABILITY FOR COPPER.....	14
FIGURE 3B: LOGARITHMIC-PROBABILITY FOR LEAD.....	15
FIGURE 3C: LOGARITHMIC-PROBABILITY FOR ZINC.....	16
TABLE 1: CLAIM INFORMATION.....	3

SUMMARY

The Lily 1 and Lily 2 claims of 20 and 16 units respectively, were staked by Western Mines Limited on July 11 and 12, 1979, 9 km southeast of Port Alberni, British Columbia; they form the southwest corner of the McLaughlin Ridge property (204 units) held by Western Mines. The claims are underlain by the Sicker Group volcanic rocks of Late Paleozoic age.

Between June 1 and June 23, 1980, 721 soil and 18 silt samples were collected along a 50m by 200m grid pattern on the Lily 1 and 2 claims, and analyzed for copper, lead, zinc.

The geochemical soil survey indicates the presence, in the soils, of a north-northwest-trending zone, in the west-half of Lily 1 and north-half of Lily 2, which contains 2 series of thin (50m) to broad (400m) en échelon north-west-trending "belts" with high (greater than 150ppm), and highly anomalous (greater than 200ppm), concentrations of copper.

Higher concentrations (greater than 140 ppm) of zinc occur in widely separated soil samples collected in north and northeast Lily 1; high, to highly anomalous (greater than 200 ppm) concentrations of zinc occur in samples collected over a relatively large area in west-central Lily 2. Thus, high, to highly anomalous, concentrations of zinc in soil samples occur northeast and southwest of the zone with high, to highly anomalous concentrations of copper. This suggests that copper, and zinc mineralization in bedrock, as implied by the soil sample analyses, are not directly associated with one another.

Widely separated to grouped soil samples containing highly anomalous concentrations of lead (greater than 50 ppm) are largely confined to the west half of Lily 1 and 2. Only 20% of these samples contain highly anomalous concentrations of copper or zinc.

I. INTRODUCTION

A. LOCATION (92F/2E N.T.S. Map No.)

The Lily 1 and Lily 2 claims are located in southeastern Vancouver Island, British Columbia, approximately 9 air-kilometres southeast of Port Alberni (Figure 1). The claims comprise 36 units situated on the northwest flank of McLaughlin Ridge between China Creek and Rogers Creek, and east of McFarland Creek. The claims extend between 49° 10.2' to 49° 12.5' latitude and 124° 41.5' to 124° to 43.2' longitude.

The area encompassed by the claims is underlain by Paleozoic metavolcanic tuffs, flows, and agglomerates of the Sicker Group, except in the extreme southwest corner which is underlain by Triassic basalts of the Karmutsen Formation and Cretaceous black argillites of the Nanaimo Group. (Muller, 1977).

B. ACCESS

The western parts of the Lily 1 and Lily 2 claims are accessible by good logging roads either southeastwards from Port Alberni via China Creek and McFarland Creek road or south from Highway #4 (Port Alberni-Parksville Highway) via the Cameron River Road and Rogers Creek-McFarland Creek road. The eastern parts of the claims are accessible from the Cameron River Road and Yellow Creek roads #400 and #450. There are no roads, however, that enter the claims except in the extreme southwest corner of Lily 2.

C. PHYSIOGRAPHY

The westerly flank of McLaughlin Ridge, on which the Lily 1 and Lily 2 claims lie, slopes westerly and drops some 850m to the southeast portion of the Alberni Valley. Several creeks flow westerly across the claims and drain into the China Creek drainage basin. The densely forested

slope is frequently broken by rounded bluffs and vertical rock ledges. The slope is populated with immature forest growth of Douglas Fir with low salal as the ground cover. Amongst the Douglas Fir are sporadic stands of Alder or mature Fir trees.

D. PROPERTY DEFINITION

Western Mines Limited of 1103-595 Burrard Street, Vancouver, B.C., is the current owner and operator of the Lily 1 and Lily 2 claims which contain 20 and 16 units, respectively. The recording information for the two claims is given in Table 1. The claims abut the Debbie 1, Lucy 3, and Linda 1 claims to the east and the Debbie 3 claim to the north, all held by Western Mines Ltd.

TABLE 1: CLAIM INFORMATION

CLAIM	UNITS	RECORD NO.	RECORD DATE	EXPIRY DATE
Lily 1	20	505 (8)	Aug. 3, 1979	Aug. 3, 1980
Lily 2	16	506 (8)	Aug. 3, 1979	Aug. 3, 1980

E. PROPERTY HISTORY

The ground covered by the Lily 1 and 2 claims, according to available records, does not appear to have been the site of previous mining. However, 4 to 6 km to the southeast, small-scale placer mining and production from gold-quartz veins along several of the tributaries of China Creek are recorded for infrequent intervals between 1862 and 1936. In the China Creek area, most of the deposits are described as either quartz veins or lenses within silicified or carbonate-altered andesite of the Sicker Group which contain variable amounts of pyrite, chalcopyrite, galena, sphalerite, gold and silver (see Stevenson, 1944, for a complete description of these deposits).

Western Mines Ltd. first became involved in mineral exploration in the area in February, 1973, when G.H. Scott staked the Amy claim of 12 units on McLaughlin Ridge just northeast of Lily 1. In August, 1976, G. Crooker re-staked the Amy claim and enlarged Western's holdings to include the Sultan, Rupert and Dog claims which covered the area with approximately 90 units on the north, northeast and southwest flanks of McLaughlin Ridge.

Geochemical soil and geologic mapping surveys were conducted at a reconnaissance scale by Western Mines in 1973 and 1976 on the claims they staked (Assessment Reports #4875, 5594 and 6153). These early surveys outlined several areas of high concentrations of copper and zinc; re-evaluation of these results led Western Mines to re-stake an area of 204 units across the northwestern portion of McLaughlin Ridge (the McLaughlin Ridge Property: Debbie 1, 2, 3; Lucy 1, 2, 3; Linda 1, 2, Oets, Oets 1, Jenny, Loupy and Lily 1, 2; partially covered in Assessment Report filed May, 1980).

F. SUMMARY OF WORK DONE

Geochemical Survey

721 soil samples (and 18 silt samples) were collected on the Lily 1 and 2 claims with a mattock from the "B"-soil horizon, between June 1 and June 23, 1980. The soil samples were taken at 50m intervals along grid lines spaced 200m apart and with a bearing of 058°; this bearing is at right angles, approximately, to the regional northwesterly strike of schistosity and layering in the Sicker Group volcanic rocks. Sampling was conducted between claim lines as they exist on the ground.

The soil and silt samples were analyzed at Min-En Labs Limited, 705 West 15th Street, North Vancouver, B. C. There the samples were dried at 95°C and screened by an 80 mesh sieve. 1.0 gram of the sample was digested in a nitric and perchloric acid solution for 6 hours, then analyzed by Atomic Absorption Spectrophotometer using a CH_2H_2 - air flame, for copper, lead and zinc (results reported in parts per million - ppm, in Figure 2).

II. DETAILED TECHNICAL DATA AND INTERPRETION

Geochemical Survey

The purpose of the geochemical soil survey is to designate areas within the Lily 1 and 2 claims which might contain anomalously high concentrations of copper, lead and zinc in the bedrock and thereby provide a preliminary basis for possible detailed geochemical and geologic surveys in the future.

Results (Figure 2)

The results of the analyses of soil samples show that the concentrations of copper in the soil range from 6 ppm to 700 ppm, that of lead from 1 to 116 ppm and that of zinc from 9 to 380 ppm. A visual inspection of logarithmic probability plots for the concentrations of copper, lead and zinc in 2413 soil samples collected by Western Mines in 1979 and 1980 on claims in the McLaughlin Ridge property, including Lily 1 and 2 (see Figures 3, 4 and 5), suggests the following significant levels of concentration:

	COPPER		LEAD		ZINC	
	ppm	Cumulative %	ppm	Cumulative %	ppm	Cumulative %
BACKGROUND	0 -149	96.2	0-24	93.6	0-139	94.7
HIGHER CONCENTRATION	150-199	98.4	25-49	99.4	140-199	98.4
HIGHLY ANOMALOUS	≥200		≥ 50		≥ 200	

Figure 2 shows the concentration of copper, lead and zinc at each sample site on a 1:5000-scale map of the Lily 1 and 2 claims; also shown are contour lines that enclose those sample sites with concentrations of copper greater than 150 ppm and 200 ppm and with concentrations of zinc greater than 140 ppm and 200 ppm. Soil samples with concentrations of copper greater than 150 ppm, are grouped in areas that form a series of en échelon, thin to broad, northwest-trending "belts" ranging from a width of one sample to seven samples, in western Lily 1 and northern and central Lily 2. These en échelon "belts", when considered as a whole, outline a broad north-northwesterly trending zone of higher, to highly anomalous, concentrations of copper.

In the western part of Lily 1 there are four "belts" outlining concentrations of copper greater than 150 ppm; these "belts" are for the most part 50m or less wide (i.e. defined by a single soil sample on each grid line). The northernmost "belt" in the northwest corner of Lily 1 is defined by two samples containing highly anomalous concentrations of copper (202 and 355 ppm) and each of the two successive "belts" to the south contain one sample with anomalous concentrations of copper (305 and 325 ppm).

The most prominent and extensive areas containing anomalous concentrations of copper in the soils are located in the northern and central portions of Lily 2. These areas delineate two northwest-trending en échelon "belts". The northern "belt" has a northwest-southeast aerial extent of 1.4 km and is defined by 12 samples with higher concentrations of copper (greater than 150 ppm) and 17 samples with highly anomalous concentrations. The southerly "belt" has a northwest-southeast dimension of 0.9 km and contains 8 samples with higher concentrations and 8 with high anomalous concentrations of copper. Within both "belts", the highly anomalous concentrations of copper range from 209 to 660 ppm.

The fact that the soil samples containing higher concentrations to highly anomalous concentrations of copper form belt-shaped areas that trend northwesterly approximately parallel to the regional strike of layering in the Sicker Group, suggests that the source of the copper may be strata-bound. On the other hand, the fact that these "belts" are discontinuous and en échelon and on a larger scale form a north-northwest-trending belt, suggests that possible mineralization of the Sicker Group may be related to a late tectonic and/or plutonic event which resulted in a belt of mineralization that, overall, cross-cuts layering in the Sicker Group; but at a smaller scale, mineralization might follow narrow to broad lithologic horizons within the Sicker Group. Whatever the source and nature of the highly anomalous concentrations of copper in the soils, it is clear that these concentrations are not associated with higher or anomalous concentrations of zinc in the soil samples.

In the northern half of Lily 1, east of those soil samples with highly anomalous concentrations of copper, 8 widely separated soil samples were collected which show higher concentrations of zinc (greater than 140 ppm). In the west-central part of Lily 2, west and southwest of the samples with high to highly anomalous concentrations of copper, 26 soil samples show high, to highly anomalous, concentrations of zinc. These samples were collected over a relatively large area that has a north-south dimension of 1.3 km and an east-west extent of 0.4 to 0.7 km. Within this area, 6 samples show highly anomalous concentrations of zinc (greater than 200 ppm); they occur in 3 widely separated areas. 4 of these samples form a group in the southern part of the area.

Soil samples with higher concentrations of lead (greater than 25 ppm; a total of 32 samples), are largely restricted to the west half of Lily 1 and 2. There, they occur either at widely separated sites or within areas containing a group of up to 8 samples. The sample sites are scattered in a pattern that appears rather random. Two of the soil samples with anomalous concentrations of lead also contain anomalous concentrations of zinc; 4 samples with anomalous concentrations of lead contain anomalous concentrations of copper. It appears, therefore, that lead has no particular affinity to zinc and/or copper in soil samples.

REFERENCES

Muller, J.E., 1977, Geology of Vancouver Island, Open File Map No. 463, Map Production Division, Department of Lands, Forests and Water Resources, Victoria, B.C., 3 sheets.

Stevenson, J.S., 1944, Geology and Ore Deposits of the China Creek Area, Vancouver Island, British Columbia, Report of Minister of Mines, 1944, p. A142 - G161.

APPENDIX A

DETAILED EXPENDITURES FOR GEOCHEMICAL SOIL SURVEY

WORK PERIOD JUNE 1 TO JUNE 23, 1980

I. WAGES AND TYPE OF WORK

GARY BENVENUTO: senior geologist, 2 days supervision and
orientation; 2 days @ \$89.00/day:

\$178.00 TOTAL WAGES

THOMAS MAURER: geological assistant, 1 day orientation, 24½ days
soil sampling; 25½ days @ \$52.00/day:

\$1,326.00 TOTAL WAGES

MIKE WEI: geological assistant, 1 day orientation, 10 days soil
sampling; 11 days @ \$49.00/day:

\$539.00 TOTAL WAGES

RICHARD MITCHELL: geological assistant, 1 day orientation, 10
days soil sampling; 11 days @ \$47.00/day:

\$517.00 TOTAL WAGES

PHILIP BÉGIN: geological assistant; 1 day orientation, 15½ days
soil sampling; 16½ days @ \$49.00 day:

\$808.50 TOTAL WAGES

TOTAL WAGES: \$ 3,368.50

II. ACCOMMODATION AND MEALS

Accommodation: \$13.40/man-day plus food: \$15.00/man-day;

\$28.40/man-day x 66 man-days: \$1,874.40 TOTAL COST

III. TRANSPORTATION

\$24.50/day truck rental, gasoline and minor repairs for one truck
for transportation to and from and within claims x 23 days:
\$563.50 TOTAL COST

IV. GEOCHEMICAL SOIL SAMPLE SURVEY ANALYSES

739 soil samples analyzed for Cu, Pb and Zn @ \$3.85/sample (includes \$0.60/
sample for sample preparation) - SUBTOTAL COST: \$ 2,845.15
Freight charges to Vancouver - SUBTOTAL COST: 18.50

TOTAL COST OF ANALYSES: \$ 2,863.65

V. FIELD EQUIPMENT

Sample bags, thread, field books, flagging, miscellaneous: \$ 100.00

VI. REPORT PREPARATION

a. Drafting of geochemical soil survey map (Figure 2): 3 man-days
@ \$52.00/day (wages): \$156.00 SUBTOTAL COST
b. Preparation of assessment report; 4 days @ \$89.00/day:
\$ 356.00 SUBTOTAL COST

REPORT PREPARATION: \$ 512.00 TOTAL COST

VII. TOTAL COST OF GEOCHEMICAL SOIL SURVEY AND ASSESSMENT REPORT: \$ 9,282.00

(COST PER SOIL SAMPLE: \$ 9,282.00 / 739 samples: \$ 12.56

VIII. APPORTIONMENT OF ASSESSMENT WORK COSTS AND PAC WITHDRAWALS

CLAIM GROUP	UNITS	ASSESSMENT WORK REQUIRED	VALUE OF ASSESSMENT WORK DONE	PAC WITHDRAWAL	YEARS APPLIED
Lily	36	\$ 3600/year	\$ 9,282.00	\$ 1,518.00	3

WESTERN MINES LIMITED

EXPLORATION

VANCOUVER ISLAND REGION

STATEMENT OF QUALIFICATIONS

I, Gary Louis Benvenuto, of the town of Campbell River, British Columbia, hereby certify that:

1. I am a geologist, residing at 4125 Discovery Drive, #7, in Campbell River, B.C. with a business address of Western Mines Ltd, P.O. Box 8000, Campbell River, B.C.
2. I graduated with a B.Sc. degree in geology from California State University at Los Angeles in 1972 and with a Ph.D. degree in geology from Queen's University, Kingston, Ontario in 1978.
3. I am an associate member of the Geological Association of Canada.
4. I have practiced exploration geology with Cominco Ltd. from May to October, 1979 and with Western Mines Ltd. from January, 1980 to present.

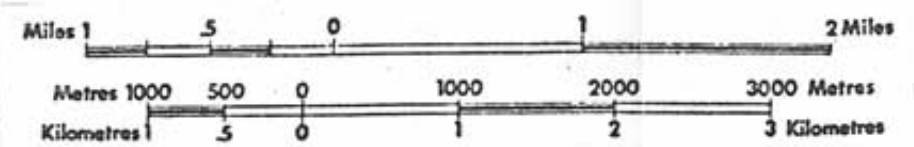
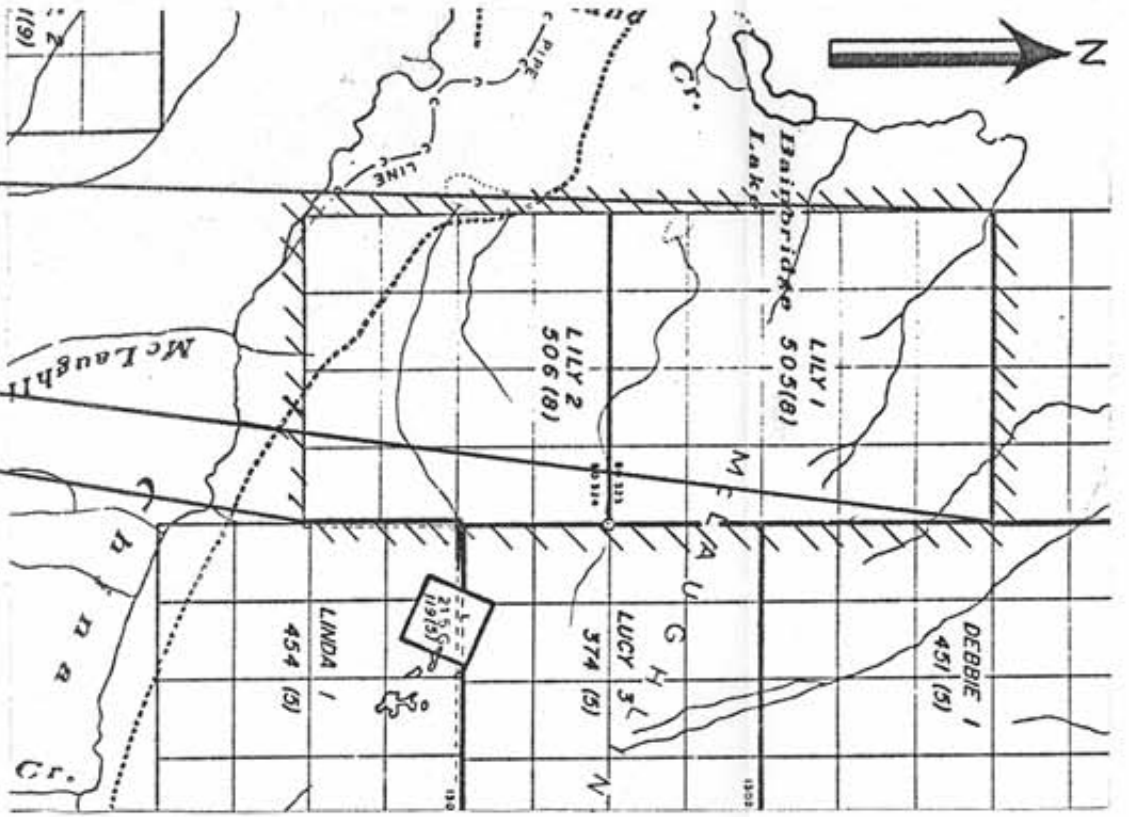
Dated: August 25, 1980

Signed:



Gary Benvenuto
Project Geologist
Western Mines Ltd.

92F/2E



Scale 1:125 000
(1 Centimetre = 1.25 Kilometres)

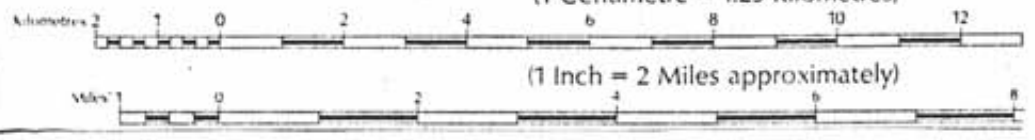
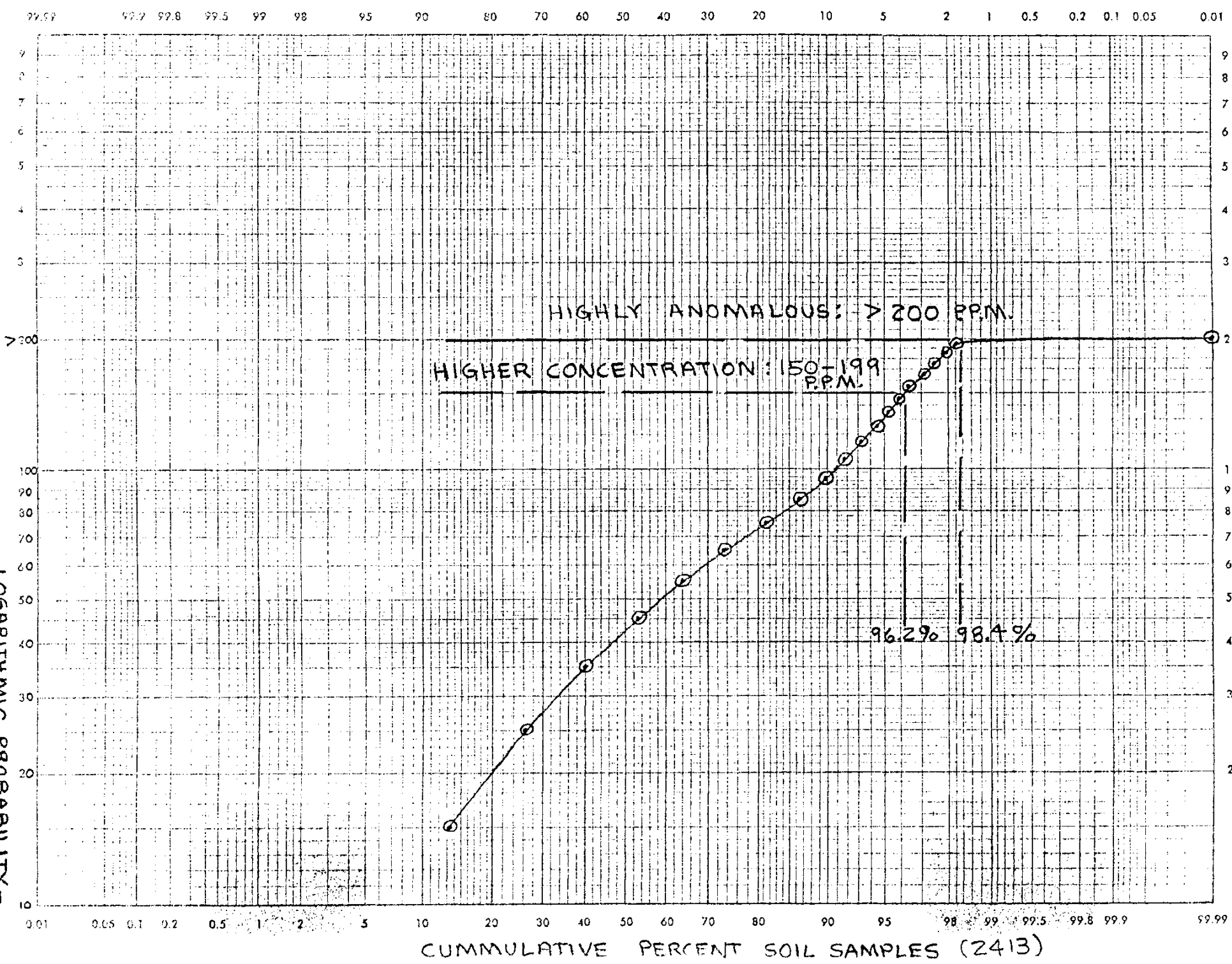
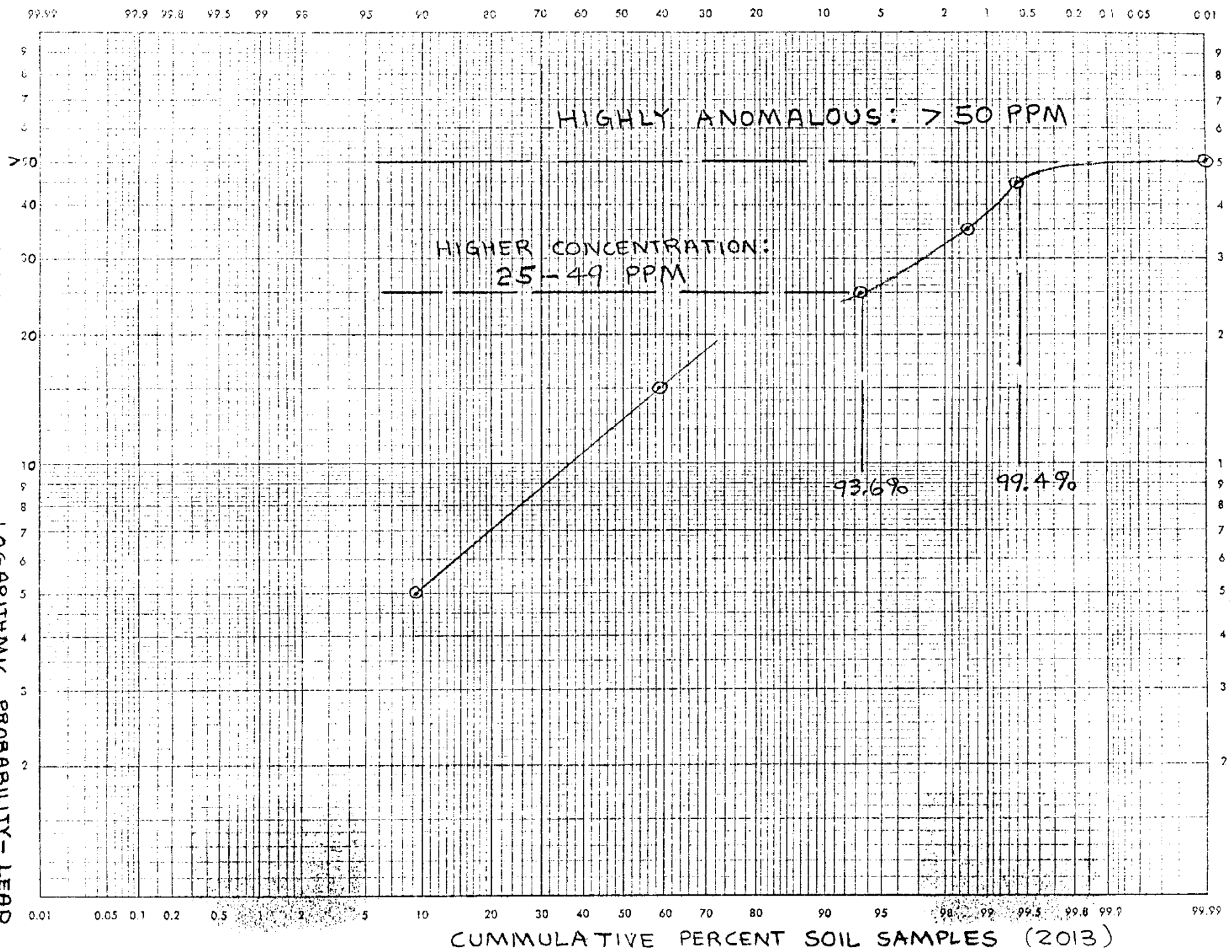


FIGURE 1 - INDEX AND CLAIMS MAP

P.P.M. COPPER
LOGARITHMIC PROBABILITY -
COPPER: FIGURE 3A



P.P.M. LEAD
LOGARITHMIC PROBABILITY-LEAD
FIGURE 3B

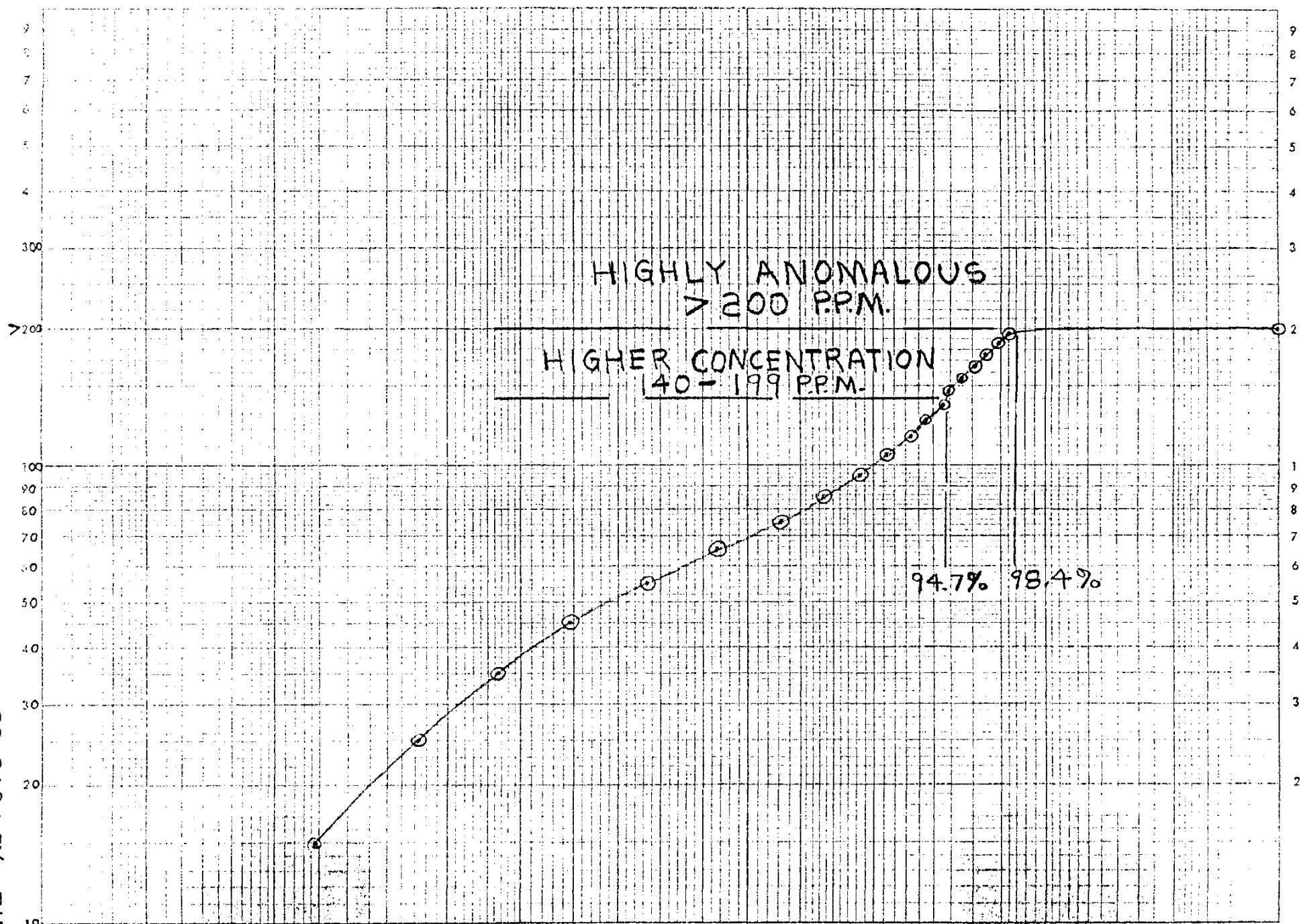


P.P.M. ZINC

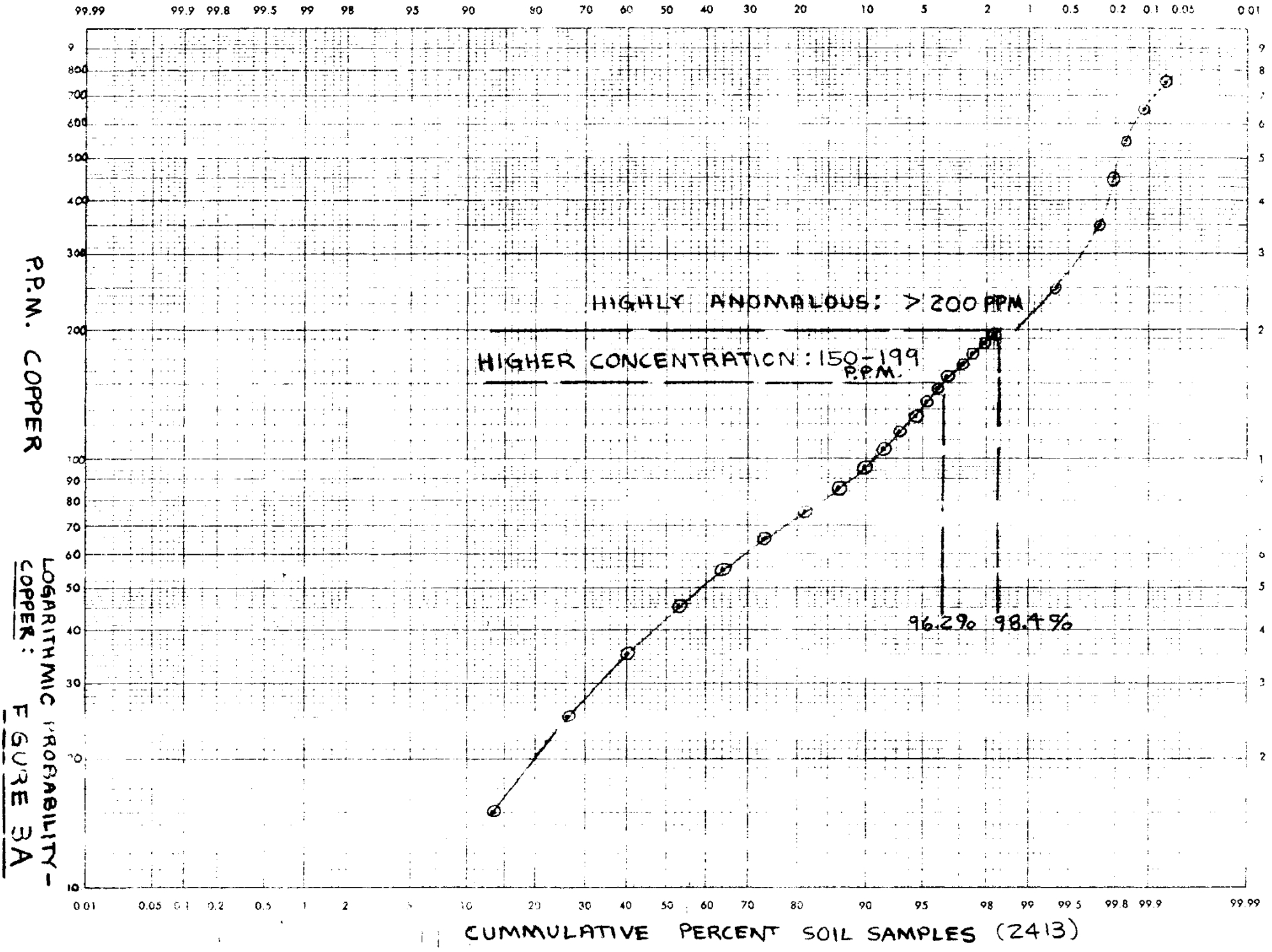
LOGARITHMIC PROBABILITY - ZINC

FIGURE 3C

99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01



CUMMULATIVE PERCENT SOIL SAMPLES (2413)



P.P.M. LEAD

LOGARITHMIC PROBABILITY - LEAD

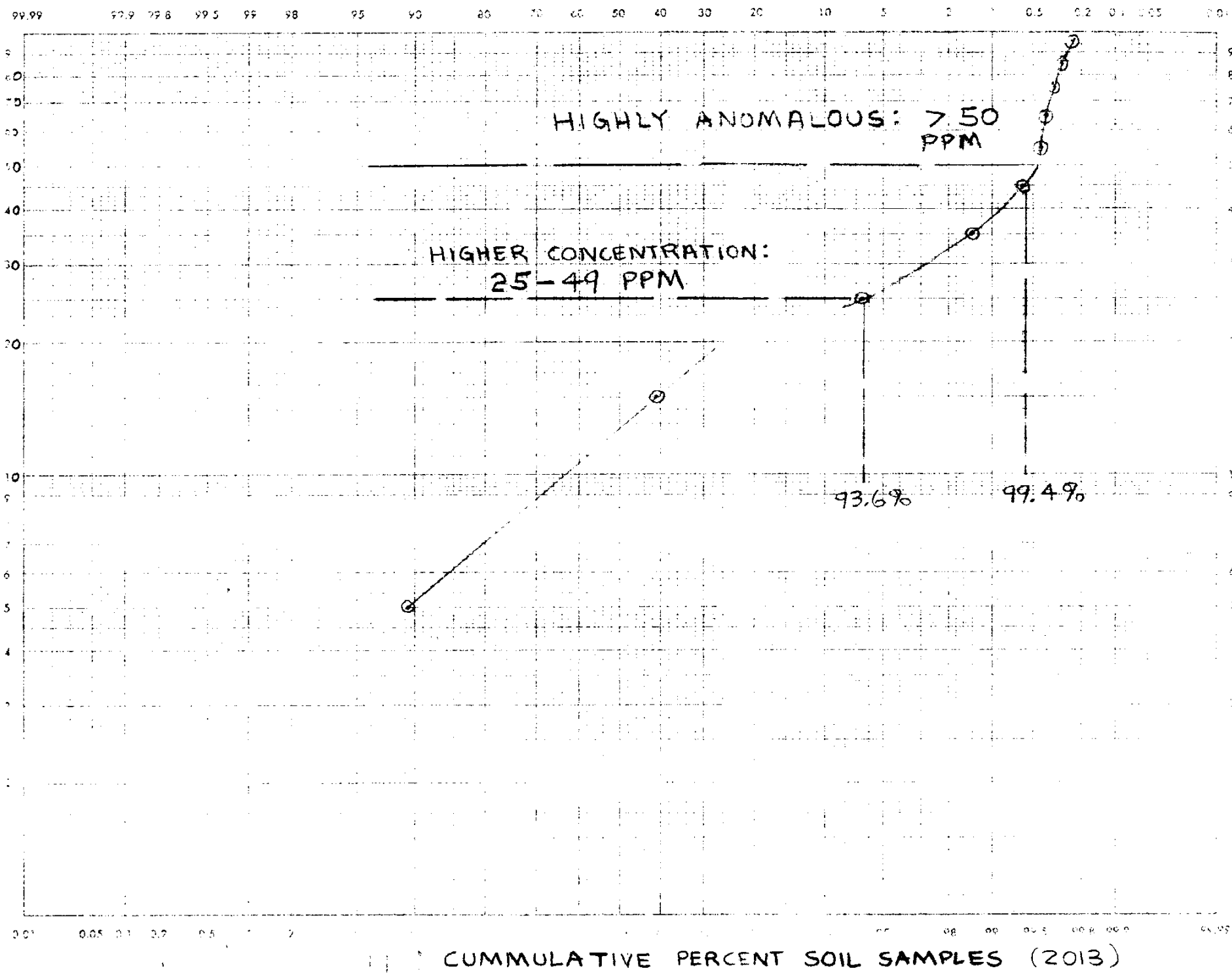
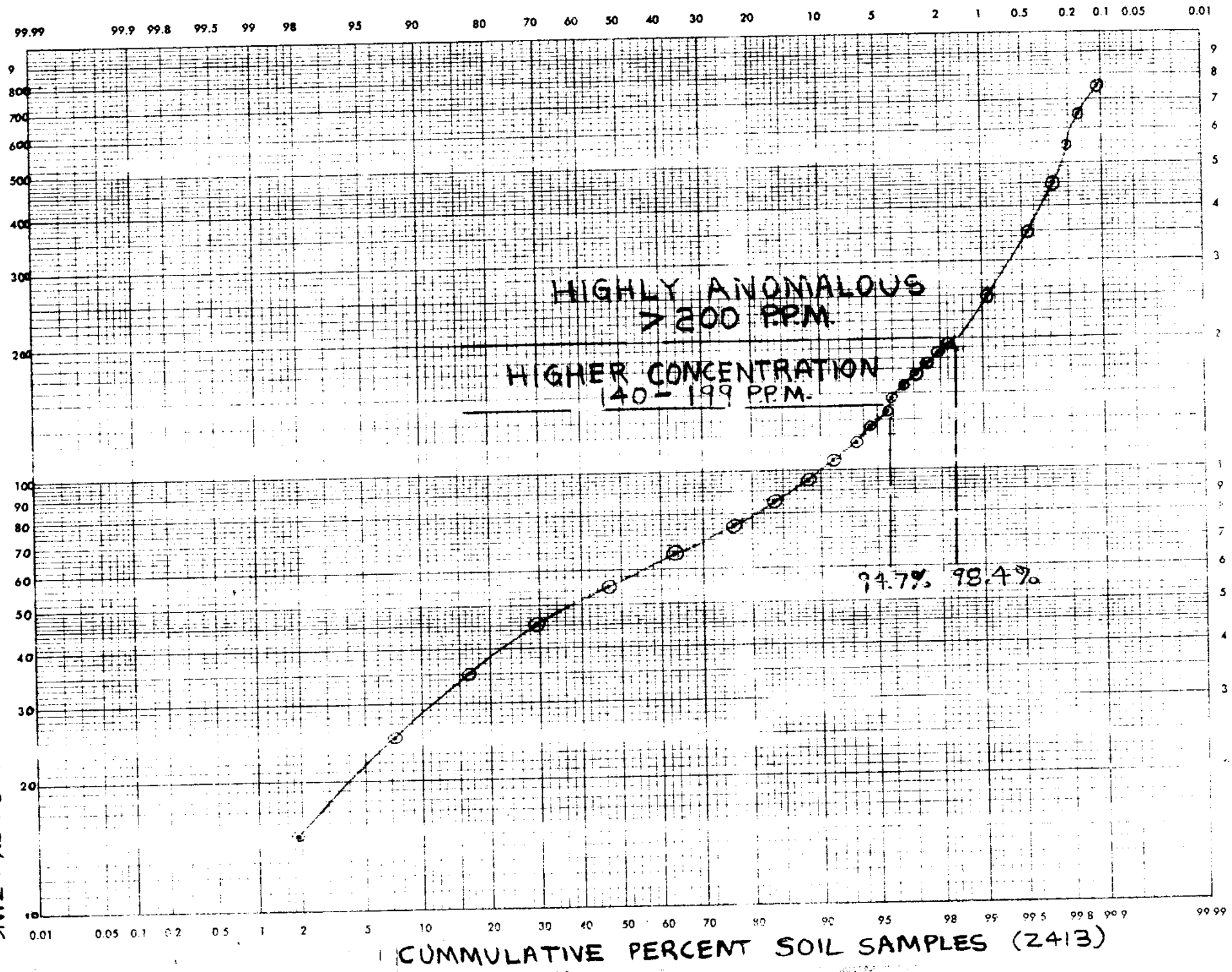


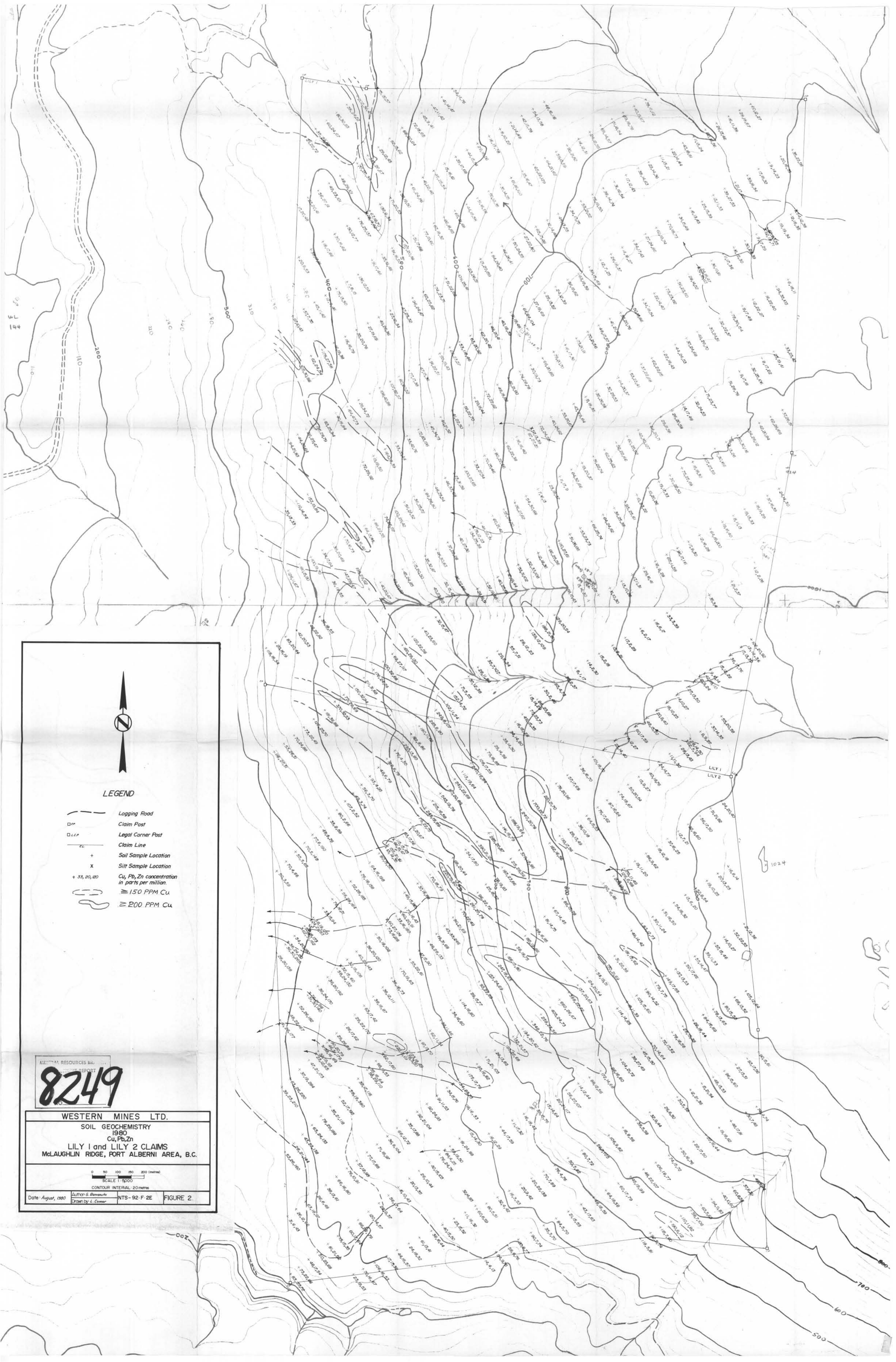
FIGURE 5M

P.P.M. ZINC

LOGARITHMIC PROBABILITY - ZINC

FIGURE 3C





LEGEND

- Logging Road
- Claim Post
- Legal Corner Post
- Claim Line
- Soil Sample Location
- Silt Sample Location
- Cu, Pb, Zn concentration in parts per million.
- ≥ 150 PPM Cu
- ≥ 200 PPM Cu

MINERAL RESOURCES DIV.
 REPORT

8249

WESTERN MINES LTD.
 SOIL GEOCHEMISTRY
 1980
 Cu, Pb, Zn
 LILY 1 and LILY 2 CLAIMS
 McLAUGHLIN RIDGE, FORT ALBERNI AREA, B.C.

0 50 100 150 200 metres
 SCALE 1:5000
 CONTOUR INTERVAL 20 metres

Date August, 1980 Author G. Benvenuto NTS-92.F.2E FIGURE 2.
 Drawn by L. Connor