

3259

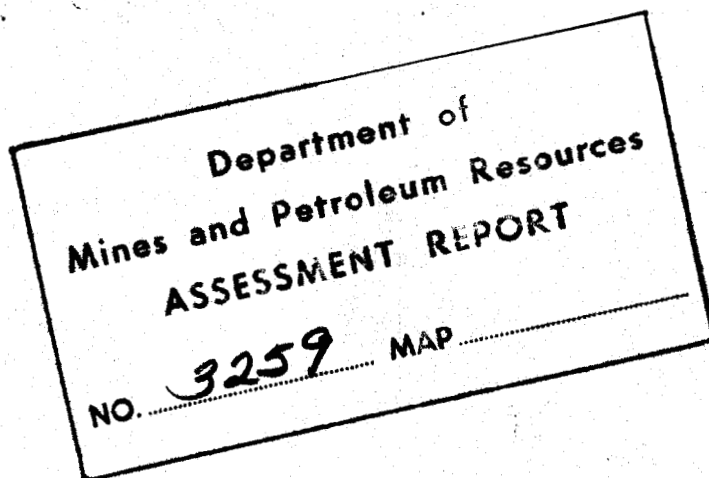
GEOLOGICAL AND GEOCHEMICAL REPORT

ON WORK DONE FROM JULY 14-17, 1971

ON THE SIB 1-8 CLAIMS,
SITUATE 60 ROAD MILES SSW OF HOUSTON, B.C.,

LAT. 53°48'N

LONG. 127°06'W



REPORT BY: M. R. WOLFARD for QUINTANA MINERALS CORPORATION

OWNER: K. WAYNE LIVINGSTONE

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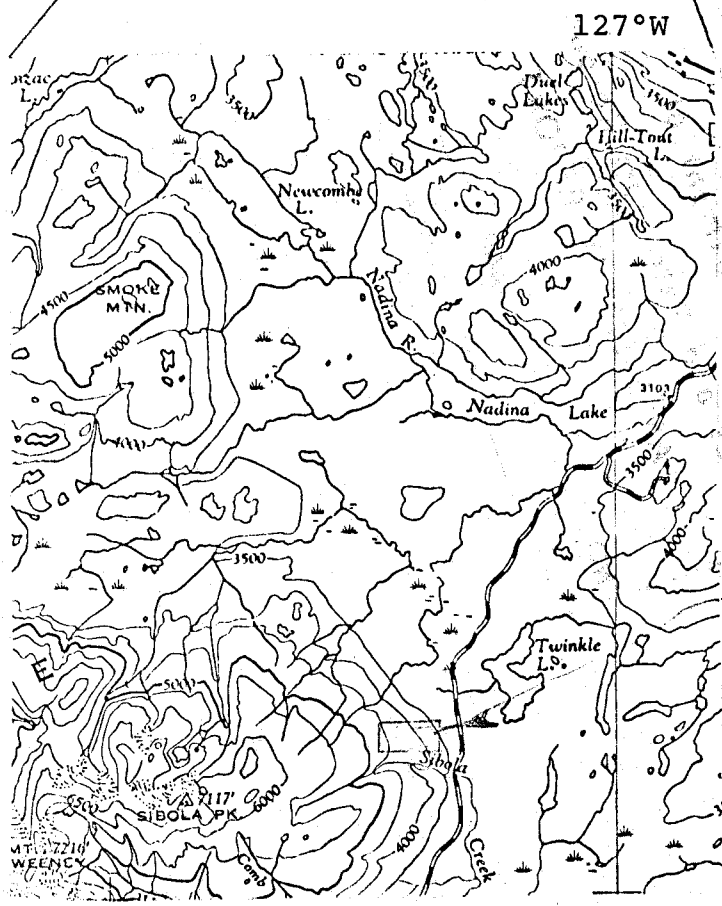
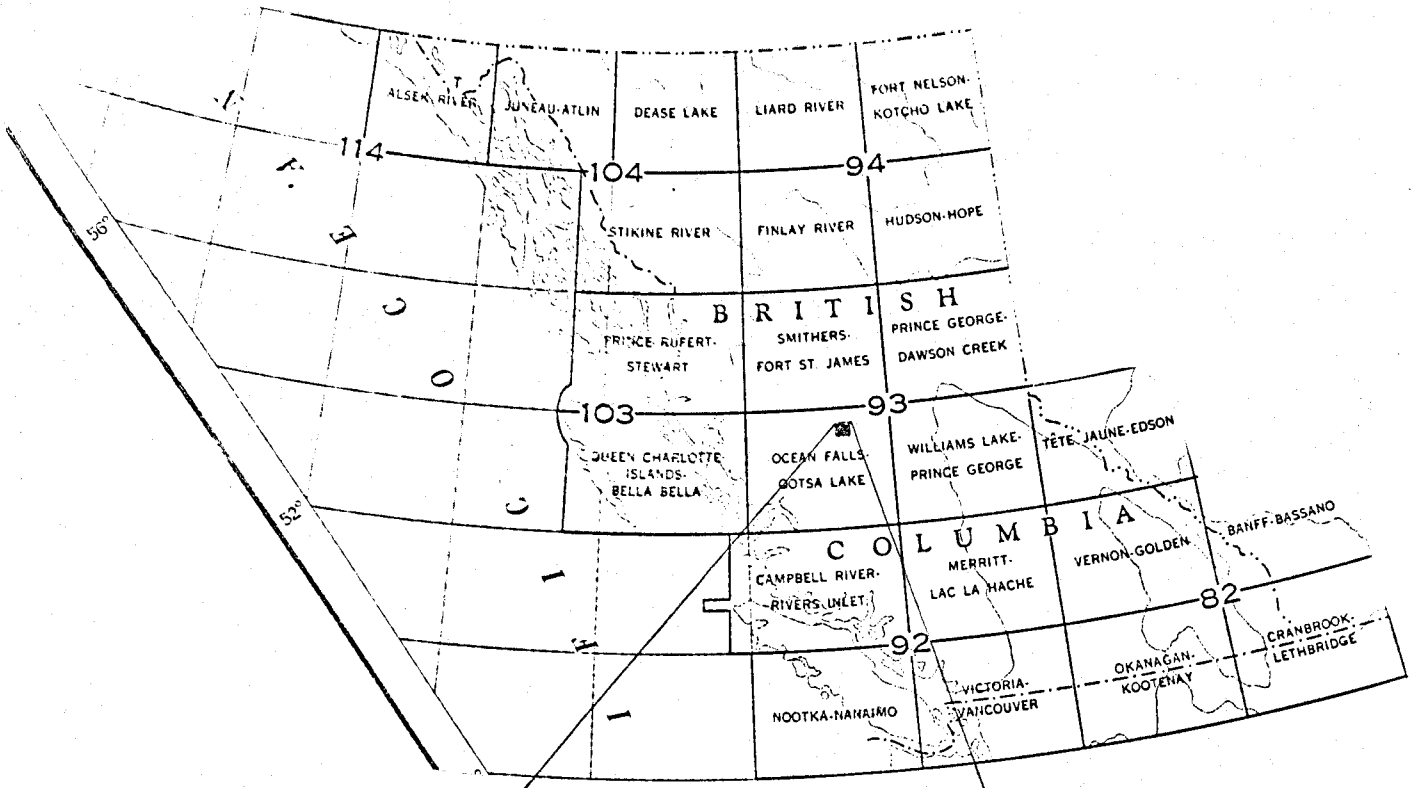
ILLUSTRATIONS

#1 INDEX MAP

following sheet

#2 GEOLOGICAL AND GEOCHEMICAL MAP

In folder



Sib 1-8

Index Map

Sib 1-8 claims

53° 45' N

1:250,000

SUMMARY AND CONCLUSIONS

A soil geochemical Mo anomaly, about 1200' in diameter, exists on the Sib claims. A few erratically distributed anomalous Cu values occur within the Mo anomaly. Remote from the anomaly, bedrock consists of fresh Hazelton group rocks, while near the anomaly, a few scattered Hazelton outcrops are weakly clay altered and pyritized. As this property could be bulldozer trenched for about \$1400 direct cost, and as the trenches would be generally in other than merchantable timber, it is recommended that an attempt be made to determine the cause of the Mo anomaly when a bulldozer is available locally.

Sib 1-8 claimsLOCATION

The Sib 1-8 claims lie three miles west of the south end of Twinkle Lake, about 60 road miles south-southwest of Houston, B.C., latitude 53° 48'N, longitude 127° 06'W.

ACCESS

Via 2 wheel drive road from Houston, B.C., on the Morice River and Tahtsa Lake Forest Development Roads. The property boundary is about $\frac{1}{4}$ mile west of the road.

HISTORY

The property was staked in October 1970, by Jim Christie and Wayne Livingstone, following a reconnaissance geochemical survey. No evidence of past work was seen, except for 2 old claim posts on the east side of the block.

CLIMATE AND VEGETATION

The claim area has a climate intermediate between the coastal and interior plateau types. Rainfall is probably on the order of 30-40 inches a year, and frosts can occur during most, if not all, months of the year. Regionally, well drained south slopes support an open poplar forest; other slopes are usually covered to 6500' with a fairly dense spruce-balsam forest. The well drained portions of the valley floors have an open lodge pole pine forest, grading to spruce-balsam in poorly drained sections. Locally, in the central part of the claim area, an old burn supports luxuriant slide alder-willow growth.

TOPOGRAPHY AND SOIL

The eastern $\frac{2}{3}$ of the claim group lies on a uniform 10-15° east slope. The western $\frac{1}{3}$ lies on a uniform 2-3° east slope. The steeper eastern section is underlain by 0 to perhaps 20' or 30' of mixed till (minor), and poorly sorted glaciofluvial material (major). A soil, consisting of 1"-6" of humus, 2"-10" of black A-1 material, and a well defined B horizon, the top 3"-16" below surface, has been developed on the glacial material. Drainage is fair on the slope, while a number of springs appear at the transition to flatter ground. On the flatter ground, overburden is mainly coarse medium to well sorted glaciofluvial material. Soil over this section consists of 3"-10" of humus, a generally thin A-1 horizon, and a poorly developed B horizon 10"-12" below the surface.

GEOCHEMISTRY

Description of Method - A tape and compass grid using the location line for a baseline was established, and soil samples were taken over most of the claim area. Samples were taken from holes dug to the B horizon with a short handled mattock having a 2 $\frac{1}{2}$ " x 7" blade. B horizon soil was removed by hand and placed in 3 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " Kraft envelopes. One hundred and thirty two soil samples were shipped for analysis to Loring Laboratories Ltd., 629 Beaverdam Road, Calgary 67, N.E. The analyst was Loring McIsaac. In addition, 13 samples of fine silt from small streams, springs, and seepages were taken by hand and two chip samples of rock over 10' square areas were taken, placed in bags similar to those used for soil and shipped to the same laboratory.

At the laboratory, soil and silt samples were dried at 95° overnight, sieved through 80 mesh nylon screen, oxidized in

Coor cups at 550° and cooled. A weighed fraction was then transferred to a test tube containing 3 ml nitric acid, 1 ml hydrochloric acid, and 2 ml perchloric acid. This mixture was digested in a boiling water bath for 4 1/2 hours and cooled. Three ml of 0.26% aluminum chloride solution was added, the volume was made up to 10 ml with de-ionized water, and the tube was corked, shaken, and allowed to settle. The analysis was then made on a Techtron AA4 atomic absorption spectrophotometer calibrated against prepared standards.

The rock samples were treated similarly, except that they were pulverized in a mortar prior to sieving. All samples were analysed for Cu, Mo, and Ag. Results are quoted in parts per million by weight.

Interpretation - Results were tabulated on arithmetic probability paper. The following populations were established for soil samples.

<u>Element</u>	<u>Background population</u>	<u>Mixed population</u>	<u>Anomalous population</u>
Cu	1-22	23-86	above 87
Mo	1-8	9-33	above 33
Ag	1-6	-	-

There was an insufficient number of silt or rock samples to treat meaningfully on a statistical basis.

There are, in all, 4 anomalous Cu samples, 3 anomalous Mo samples, and no anomalous Ag samples. In addition, there are 24 Mo samples which fall in the mixed population group. The values of most of the mixed population Mo group are in a range which usually indicates the presence of some MoS₂ in regions of B.C. with climate and topography similar to that on the Sib group. Nearly all of the mixed population Mo samples are grouped geographically near the anomalous Mo samples. An anomaly, about 1200' in diameter, centered at about 25N 21E is clearly defined by the anomalous and most of the mixed population Mo samples.

The positions of the anomalous Cu samples are within or on the edge of the Mo anomaly. Neither a pattern peripheral to the Mo anomaly nor a pattern related to a separate mineralized center is apparent. On the basis of soil geochemistry, the Sib claims do not contain a copper prospect.

There are no statistically anomalous Ag values, although many samples carry Silver in quantities which would be considered weakly anomalous in other areas of B.C. No pattern of higher Ag values relative to the Mo anomaly is discernible.

Values for all metals assayed drop significantly on lines 40E and 45E. This drop can probably be attributed to a thickening of overburden accompanying a decrease in slope steepness in this area.

GEOLOGY

The accompanying map shows the positions of 8 outcrops noted during the soil geochemical survey. As all but one of these outcrops is smaller than 20' x 20', and as vegetation

is generally dense, it is likely that a few other outcrops do exist west of line 40E.

All bedrock seen is believed to belong to the Jurassic Hazelton group. Rock types noted include andesitic volcanics, rhyolite, volcanic clastics, and pyroclastics. The most westerly outcrops consist of fresh volcanics and volcanic clastics, while outcrops east of line 10E consist of altered pyroclastics or fresh rhyolite. The tuffs are weakly but pervasively clay altered, and commonly carry 1-3% disseminated pyrite as $1/4$ - $1/2$ mm cubes. One tuff outcrop, at about 28N 15E is manganese stained but carries no pyrite. A pyritic altered tuff crops out within the Mo anomaly, beside a soil sample which has a low mixed population Mo value. No MoS_2 was visible in the outcrop.

At 20N 15E there is an outcrop of pervasively silicified rock with very minor pyrite, apparently disseminated. Neither the rock nor a nearby soil sample carries anomalous amounts of Cu, Mo, or Ag. At 25N 19E a small outcrop of grey, fresh, fine grain rhyolite with a few ghosts of feldspar phenocrysts was seen. This outcrop is near the edge of the Mo anomaly.

Excepting a general trend from fresh rock to weak clay alteration near the Mo anomaly, no geological pattern relative to the soil anomaly could be seen. The presence of pyrite and of clay alteration determined by an argillic smell on fresh surfaces and a generally soft rock, does lend some encouragement to the picture. Size of the target, both from a geological and from a geochemical

standpoint, is probably on the order of 1000' to
1500' in diameter.

A handwritten signature in cursive script, reading "M. R. Wolfhard". The signature is written in dark ink and is positioned above the printed name.

M. R. Wolfhard

MRW/cme
September 27, 1971



LORING LABORATORIES LTD.

629 BEAVERDAM RD. N.E. CALGARY 67, ALTA.

TO QUINTANA MINERALS CORPORATION
1215 Royal Trust Tower,
Two Rental Centre,
VANCOUVER 1, B.C. .

INVOICE N^o 4316

DATE July 26th 1971

146 Geo-Chem SAMPLES

146	Copper-Silver Geo-Chem	@ 1.25	182.50
^{VAC} 136	Moly Geo-Chem	@ 1.25	182.50
146	Sample preparation	@ 0.25	36.50
		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
		CHEQUE No. @ <u>594</u>	
		AUG 27 1971	TOTAL \$ 401.50 ✓ <u>258</u>

PAID

THIS IS YOUR INVOICE

PLEASE PAY THE AMOUNT SHOWN

TERMS — 30 DAYS

General Ex
4/6/71

Statement of Costs

M.R. Wolfhard, geologist
 July 14, 15, 16, 17 - field work on Sib claims
 September 20 - report preparation
 5 days @ \$75.00 \$375.00

D. Small, prospector-technician
 July 14, 15, 16, 17 - field work on Sib claims
 4 days @ \$30.00 \$120.00

Truck rental
 July 14, 15, 16, 17
 4 days @ \$15.00 \$ 60.00

Board, 4 men for 4 days
 @ \$7.50/man per day \$120.00

Analyses - invoice attached \$401.50

 \$1076.50

Declared before me at the *City*
 of *Vancouver*, in the
 Province of British Columbia, this *8*
 day of *October*, 19*71*, A.D.

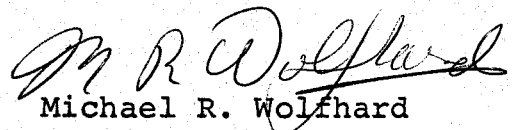
M.R. Wolfhard

S. Jeanotte
 A Commissioner for taking Affidavits within British Columbia or
 A Notary Public in and for the Province of British Columbia

Statement of Qualifications

I, Michael Richard Wolfhard, do hereby affirm:

- That I am a graduate of the University of British Columbia in 1969, with the degree of B.Sc. (Hons. Geol.)
- That I have been employed in mineral exploration since 1961.
- That I worked for Cominco Ltd. as an exploration technician and geologist from 1961 to 1967, for Spartan Exploration as geologist and party chief from 1968 to 1970, for Quintana Minerals as senior geologist from 1970 to date.
- That I have been in direct charge of programs involving geochemical sampling and interpretation in B.C, Yukon, U.S.A. and South America since 1967.


Michael R. Wolfhard

APPENDIX 1

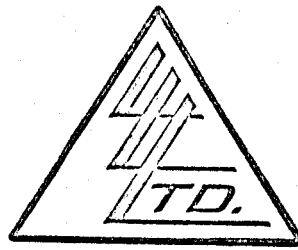
Geochemical results and cumulative percentage graphs

To: QUINTANA MINERALS CORPORATION

1215 Royal Trust Tower,

Two Bentall Centre,

VANCOUVER 1, B.C.



File No. 4316

Date July 26th 1971

Samples Geo-Chem

Certificate of
ASSAY of
LORING LABORATORIES LTD.

SIB 1 - 8 CLAIMS

SAMPLE No.	Cu ppm	Mo ppm	Ag ppm
0E - 15N	12	7	5
0E - 17N	10	5	4
0E - 19N	9	5	2
0E - 21N	15	6	3
0E - 23N	14	5	2
0E - 25N	9	5	2
0E - 25N + 100 Silt	21	5	3
0E - 27N	36	6	4
0E - 29N	13	5	3
0E - 31N	17	6	3
5E - 9N	28	4	2
5E - 11N	15	4	2
5E - 13N	12	4	1
5E - 13N + 150'	20	5	2
5E - 15N	14	5	3
5E - 17N	9	5	4
5E - 17N + 40 Silt	10	5	2
5E - 19N	12	5	3
5E - 21N	8	4	3
5E - 23N	12	5	3
5E - 25N	13	4	4
5E - 31N	22	6	1
9N - 10E	26	5	1
11N - 10E	26	5	1
13N - 10E	47	5	6
10E - 15N	14	9	2
10E - 17N	12	5	3
10E - 19N	11	5	4

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.

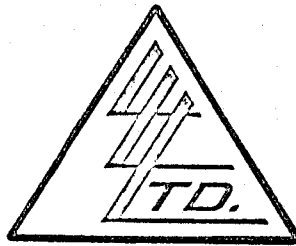
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made in advance.

132 silt

C. L. McJannet

Licensed Assayer of British Columbia

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 VANCOUVER 1, B.C.



File No. 4316
 Date July 26th 1971
 Samples Geo-Chem.

**Certificate of
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 LORING LABORATORIES LTD.**

SAMPLE No.	Cu ppm	Mo ppm	Ag ppm
10E - 21N	8	5	2
10E - 23N	12	5	2
10E - 25N	10	5	2
10E - 27N	10	5	2
10E - 27N + 35 Silt	14	13	2
10E - 29N	13	5	2
10E - 31N	16	5	2
10E - 33N	17	6	4
10E - 35N	17	6	4
15E - 7N	14	7	3
15E - 9N	13	6	2
15E - 11N	20	5	2
15E - 13N	17	5	2
15E - 15N	15	5	4
15E - 17N	10	6	3
15E - 19N	10	5	2
15E - 21N	18	10	4
15E - 23N	13	6	2
15E - 25N	23	22	3
15E - 27N	13	8	2
15E - 29N	13	14	3
15E - 31N	14	25	1
15E - 33N	20	7	3
15E - 35N	18	7	3
20E - 7N	49	10	5
20E - 9N	29	5	2
20E - 11N	20	6	3
20E - 13N Rock	20	7	2

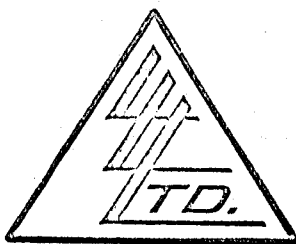
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[Signature]

Licensed Assayer of British Columbia

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 Vancouver 1, B.C.



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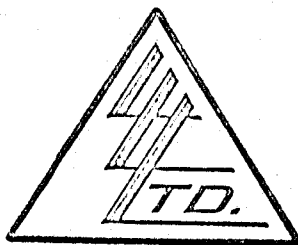
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20E - 13NR	115	5	2
15N - 20E	14	5	2
20E - 17N	26	7	2
20E - 19N	25	72	3
20E - 21N	12	52	3
20E - 23N	13	17	4
20E - 25N	97	20	4
20E - 27N	16	24	2
20E - 29N	28	12	3
20E - 31N	11	10	4
20E - 33N	18	49	1
20E - 35N	101	9	2
20E - 35N + 150' Silt	14	14	1
20E - 37N	20	5	2
20E - 37N + 40' Silt	20	11	2
20E - 39N	14	5	4
25E - 15N	15	6	1
25E - 17N	23	5	2
25E - 18NR	49	6	1
25E - 19N	101	23	2
25E - 21N Silt	29	10	2
25E - 23N	45	22	1
25E - 25N	34	14	1
25E - 27N	30	19	1
25E - 27N Silt	20	17	2
25E - 29N	16	26	1
25E - 31N	14	5	1
25E - 33N	36	6	2

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Edmond J. Mac
 Licensed Assayer of British Columbia

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File No. 4316
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 Samples Geo-Chem.

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SAMPLE No.	Cu ppm	Mo ppm	Ag ppm
25E - 35N	25	6	3
25E - 37N	29	6	2
25E - 39N	7	5	1
30E - 15N	22	5	3
30E - 17N	18	4	1
30E - 19N	17	5	1
30E - 21N	39	7	3
30E - 23N	23	7	3
30E - 25N	27	11	2
30E - 27N	26	6	1
30E - 29N	13	6	2
30E - 31N	16	5	2
30E - 33N	20	6	1
30E - 35N	30	6	1
30E - 37N	18	5	2
30E - 39N	18	5	2
30E - 41N	5	5	2
30E - 43N	13	5	1
30E - 43N Silt	15	6	2
35E - 17N	23	5	1
35E - 19N	16	5	3
35E - 21N	20	5	2
35E - 23N	56	5	3
35E - 25N	10	5	1
35E - 25N + 40' Silt	20	9	2
35E - 25N + 120' Silt	26	5	2
35E - 27N	18	5	2

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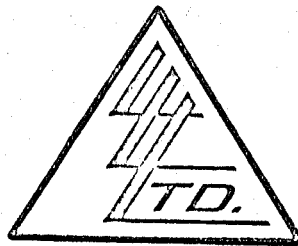
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24

Edmond Isaac

Licensed Assayer of British Columbia

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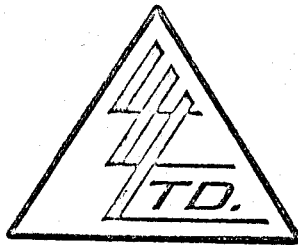
SAMPLE No.	Cu ppm	Mo ppm	Ag ppm
35E - 27N			
60' Silt	34	5	4
35E - 29N	20	6	2
35E - 31N	12	5	1
35E - 33N	14	8	2
35E - 35N	10	5	4
35E - 37N	15	5	2
35E - 39N	16	5	2
35E - 41N	12	7	3
35E - 41N Silt	27	6	2
35E - 43N	10	6	2
40E - 17N	5	3	1
40E - 19N	13	4	1
40E - 21N	10	5	2
40E - 23N	21	5	1
40E - 25N	10	5	2
40E - 27N	10	5	2
40E - 29N	13	5	2
40E - 31N	8	7	2
40E - 33N	10	5	1
40E - 35N	8	4	1
40E - 37N	9	5	1
40E - 39N	5	4	1
40E - 39N +			
100 Silt	10	4	2
45E - 20N	10	5	1
45E - 22N	10	5	2
45E - 24N	15	5	2
45E - 26N	8	5	2
45E - 28N	5	5	1

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E. L. MacIsaac
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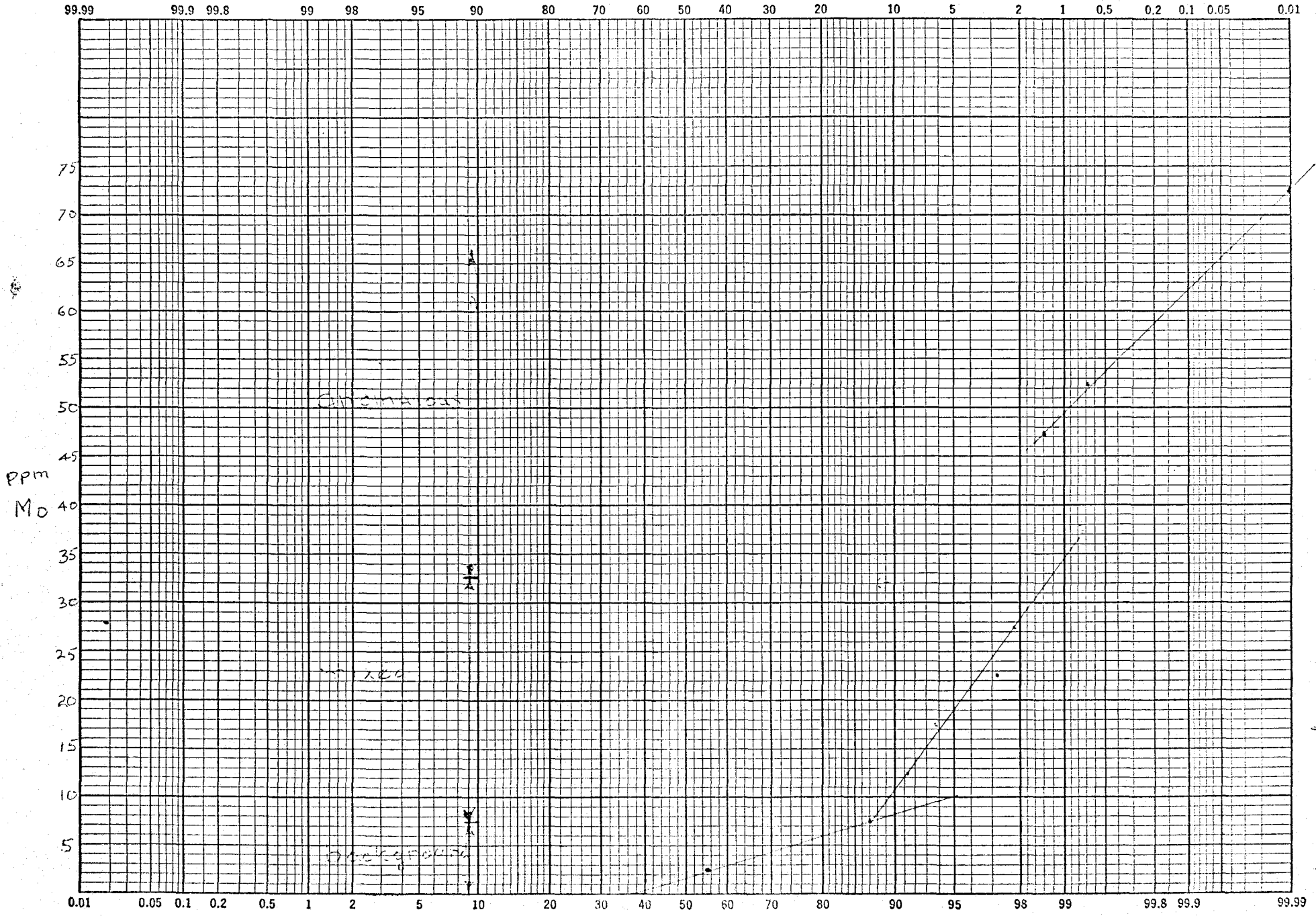
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SAMPLE No.	Cu ppm	Mo ppm	Ag ppm
45E - 30N	12	5	1
45E - 32N	11	5	2
45E - 34N	14	4	1
45E - 36N	10	6	1
45E - 38N	9	8	2
45E - 40N	10	7	2
45E - 42N	12	6	2

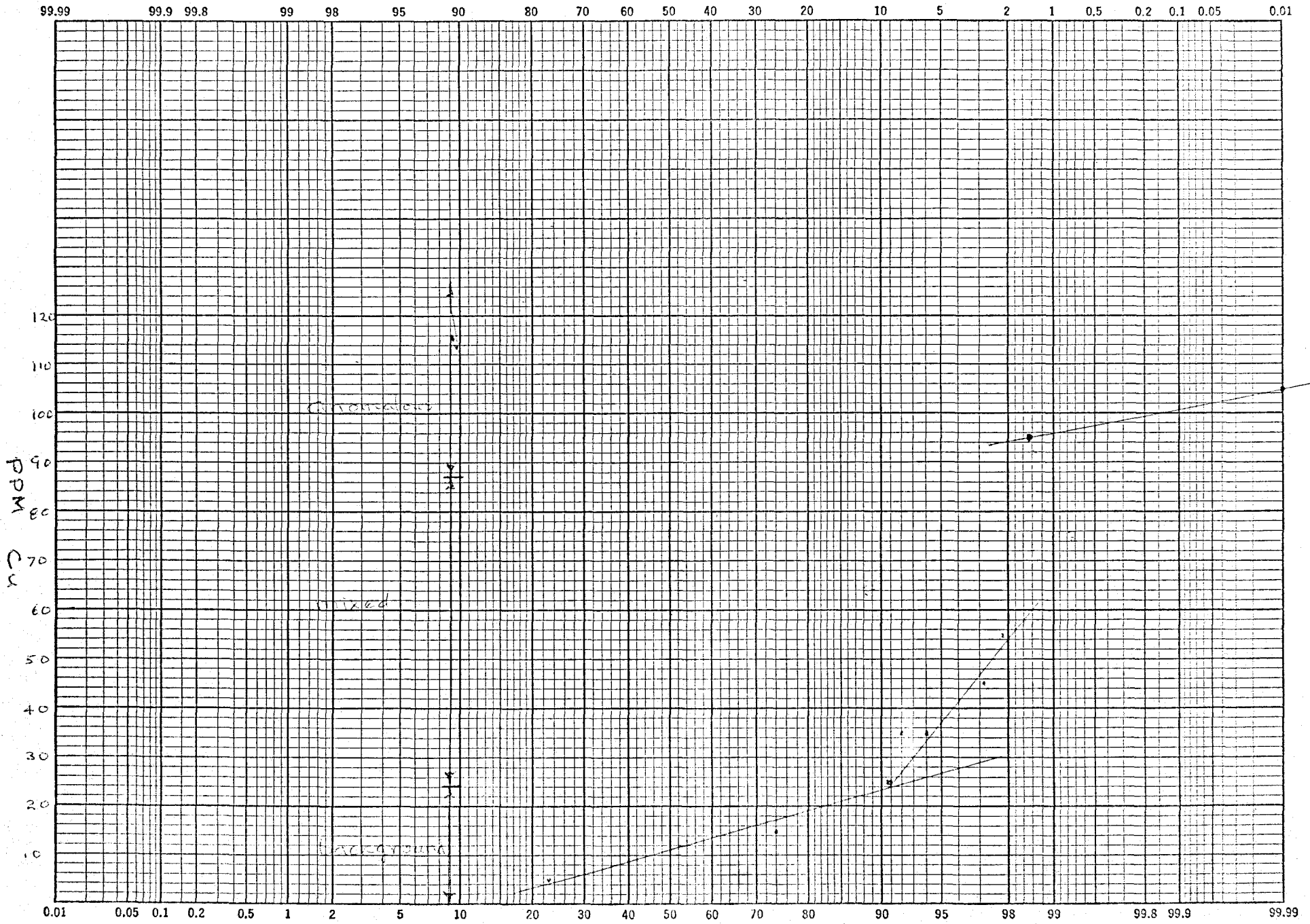
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E. L. M. Isaac
 Licensed Assayer of British Columbia



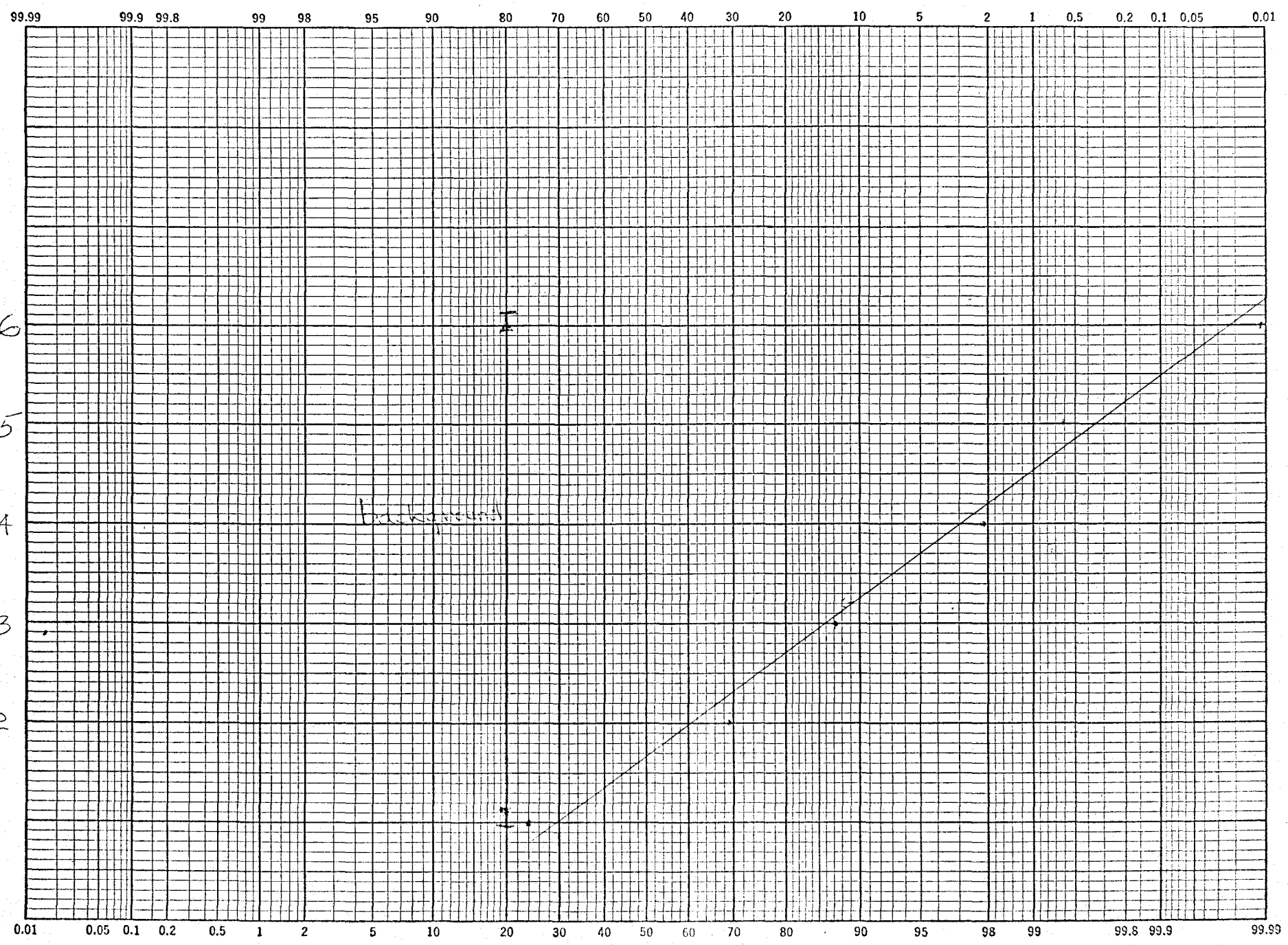
5.16 cumulative % plot of Mo in ppm



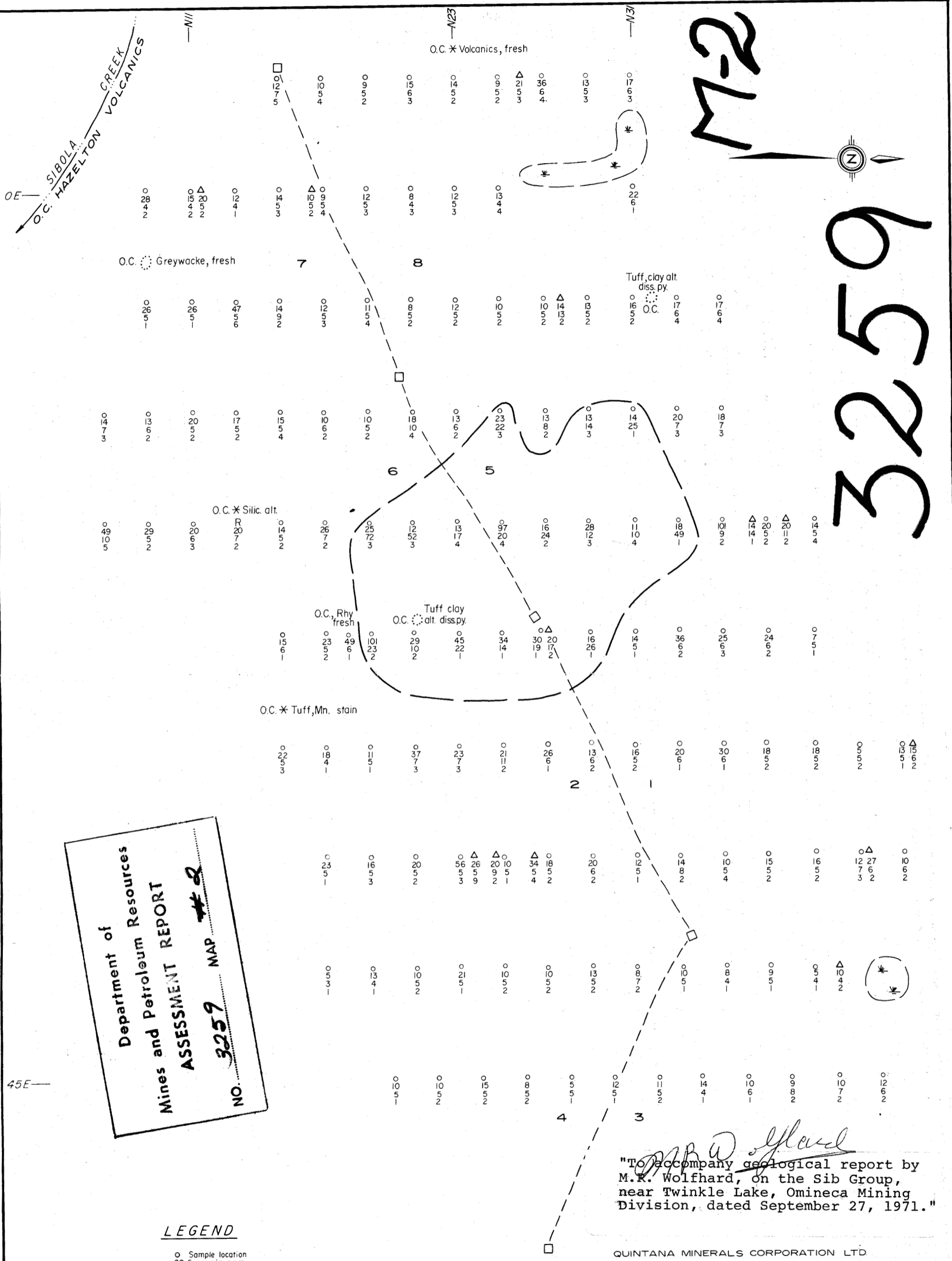
Sib
 Cumulative % of Cu in ppm

1000000

1000000



516 Cumulative % plot Ag in ppm



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 3259 MAP #2

LEGEND

- Sample location
- 22 Copper in p.p.m.
- 5 Molybdenum in p.p.m.
- 7 Silver in p.p.m.
- △ Silt sample
- Soil sample
- R Rock sample
- Claim Post

Note: Tape and compass control by MRW, D.S.

MRW Wolfhard
 "To accompany geological report by
 M.R. Wolfhard, on the Sib Group,
 near Twinkle Lake, Omineca Mining
 Division, dated September 27, 1971."

QUINTANA MINERALS CORPORATION LTD.

SIB GROUP
GEOLOGICAL & GEOCHEMICAL MAP
 SKEENA M.D. B.C.

