

ASSESSMENT REPORT

EL 1-70 CLAIMS

Mayo Mining District  
NTS 106D - 7

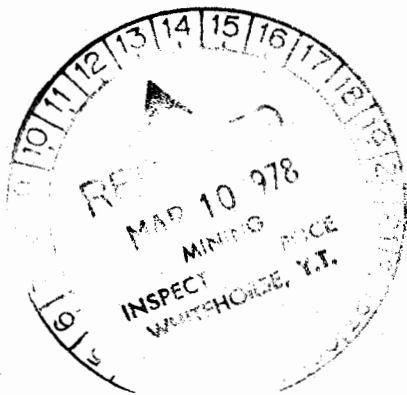
by

J.H. Montgomery, Ph.D., P. Eng.  
G. Cavey B.Sc.

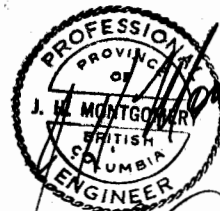
for



Prism Resources Limited,  
214-850 W. Hastings St.,  
Vancouver, B.C.

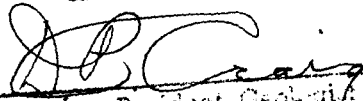


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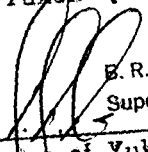
*J. H. Montgomery*  
*G. Cavey*

This report has been examined by the  
Geological Evaluation Unit and is recom-  
mended to the Commissioner to be consider-  
ed as representation work in the amount of  
\$16,400.00




Resident Geologist or  
Registered Mining Engineer

Considered as representation work under  
Section 53 (4) Yukon Quartz Mining Act.



E. R. BAXTER  
Supervising Mining Recorder



Commissioner of Yukon Territory

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1

PROPERTY WORK

EL CLAIMS

1.0 INTRODUCTION

The EL group of mineral claims, which consists of 70 full-sized EL claims and 17 full-sized and fractional DEE claims, is located on and north of the Beaver River about 16 kilometers (10 miles) west of Kathleen Lakes. The EL 1-40 claims were staked to cover a lead/zinc geochemical anomaly detected during a reconnaissance stream sediment sampling program in 1976. Additional claims (EL 41-70, DEE 65-68, 85-90, 105-110 and 125-128) were staked in early 1977. (Figure 1-1).

This was done in order to eliminate open ground between the EL and DEE claim group.

All of the work done during the 1977 field season was on the EL 1-40 claims. The work consisted of geological mapping, soil sampling (including test pits and profile sampling) and electromagnetic test lines.

1. For the purpose of assessment work the EL is grouped with the above named DEE claims and this is considered one claim block. Any reference to the EL claims refers to EL 1-70 and DEE 65-68, 85-90, 105-110 and 125-128. DEE 85, 86, 105, 106, 125 and 126 are split in half. One half will be used to file assessment work for EL claims and the other half for assessment of the DEE claim block in another report.

2.0 LOCATION AND ACCESS

The EL and DEE claims are located on the Beaver River about 95 kilometers (60 miles) northeast of Mayo, Yukon Territory. The claims lie between elevations of 725 meters (2300 feet) and 900 meters (2800 feet) above sea level. N.T.S. Map reference 106 D/7; Latitude 64° 06' N and Longitude 134° 40' W. See Figure 1-1

Access to the property is by helicopter from Mayo or Kathleen Lakes. A winter road from Keno also traverses the property.

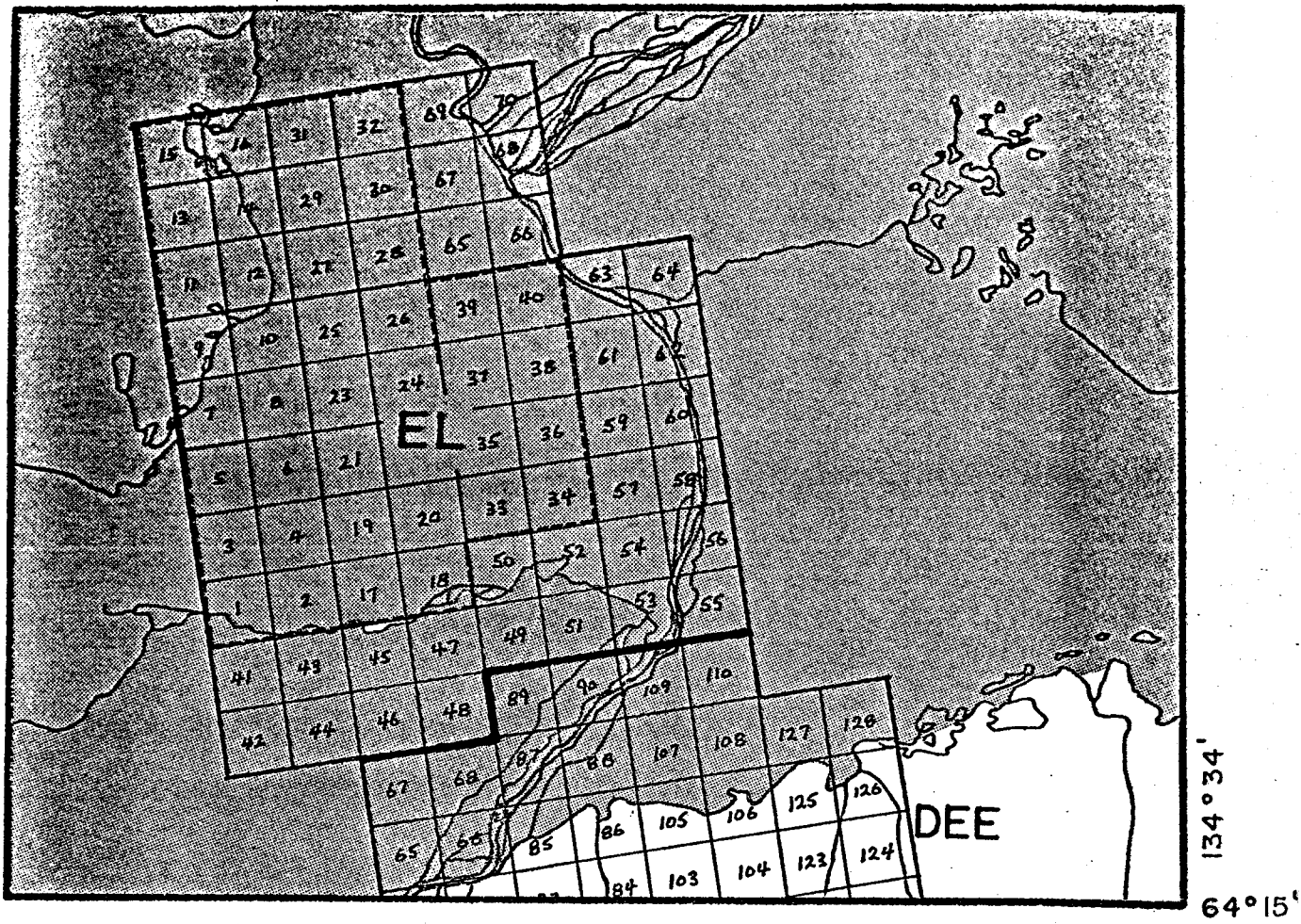
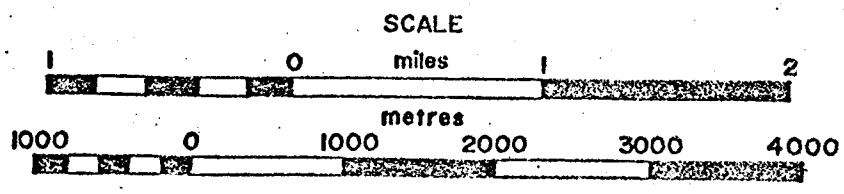


FIGURE 1-1

**PRISM RESOURCES LIMITED**  
**JOINT VENTURES 1976,1977**  
**EL & DEE**  
**CLAIM LOCATION**

MAYO MINING DISTRICT      NTS 106 D/1,2,7,8



3.0 CLAIM INFORMATION

The EL 1-70 claims and DEE 65 - 68, 85 - 90, 105 - 110 and 125 - 128 claims are within Mayo Mining District. All claims are held in the name of Prism Resources Limited on behalf of Prism Joint Venture (1976). The following tables list pertinent claim information:

TABLE I  
CLAIM INFORMATION - EL (DEE) GROUP

<u>CLAIM</u>	<u>RECORD NO.</u>	<u>EXPIRY DATE</u>
EL 1 - 40	YA14059 - YA14098	Nov. 17 1977
EL 41 - 70	YA15576 - YA15605	July 19, 1978
DEE 65 - 68	YA15622 - YA15625	July 19, 1978
DEE 85 - 90	YA15642 - YA15647	July 19, 1978
DEE 105-110	YA15662 - YA15667	July 19, 1978
DEE 125-128	YA15682 - YA15685	July 19, 1978

TABLE II  
STAKING INFORMATION - EL (DEE) GROUP

CLAIM	STAKER	DATE STAKED
EL 1 - 8	R. Forshaw	Oct. 29, 1976
EL 9 - 16	A. MacDonald	Oct. 29, 1976
EL 17 - 24	G. Cavey	Oct. 29, 1976
EL 25 - 32	G. Howell	Oct. 29, 1976
EL 33 - 40	L. Eccles	Oct. 29, 1976
EL 41 - 48	R. Frith	July 1, 1977
EL 49 - 56	T. Kutschera	July 1, 1977
EL 57 - 64	D. Young	July 1, 1977
EL 65 - 70	E. Graham	July 1, 1977
DEE 65 - 68	Ray Conant	July 2, 1977
DEE 85 - 88	D. McDiarmid	July 2, 1977
DEE 89 - 90	G. Graham	July 2, 1977
DEE 105 - 110	B. Basaraba	July 2, 1977
DEE 125 - 128	D. Semple	July 2, 1977

4.0 GEOLOGY

4.1 General Geology

The regional geology of the area has been mapped by L.H. Green (G.S.C. Memoir 364) and later revised by S. Blusson. In Figure 4-1 a portion of Blusson's revised map is reproduced.

In the general area surrounding the EL claims, an east-west trending belt of Ordovician-Devonian carbonates is underlain by Road River Formation also of Ordovician-Devonian age and Canol Formation of Devonian-Pennsylvanian age. A little further south, the Dawson Thrust Fault brings the Hadrynian Grit Unit into contact with the above-mentioned rocks.

4.2 Local Geology

An outcrop map of the geology on the EL claims is shown in Figure 4-2 . Less than 5 percent outcrop is present. Most of the claim-area is underlain by a grey and buff to orange-weathering dolomite and limestone. The carbonate is fine to medium grained and emits a repugnant odor when broken. This type of dolomite, which is referred to as fetid dolomite, is also found in the Ordovician carbonates of Howard's Pass.

Fossil evidence is scant, but some crinoids, possibly of Silurian-Devonian age, were found in two samples.

A few test pits on the property indicated the presence of black shale beneath the carbonates. See Figure 4-2 for location of pits.

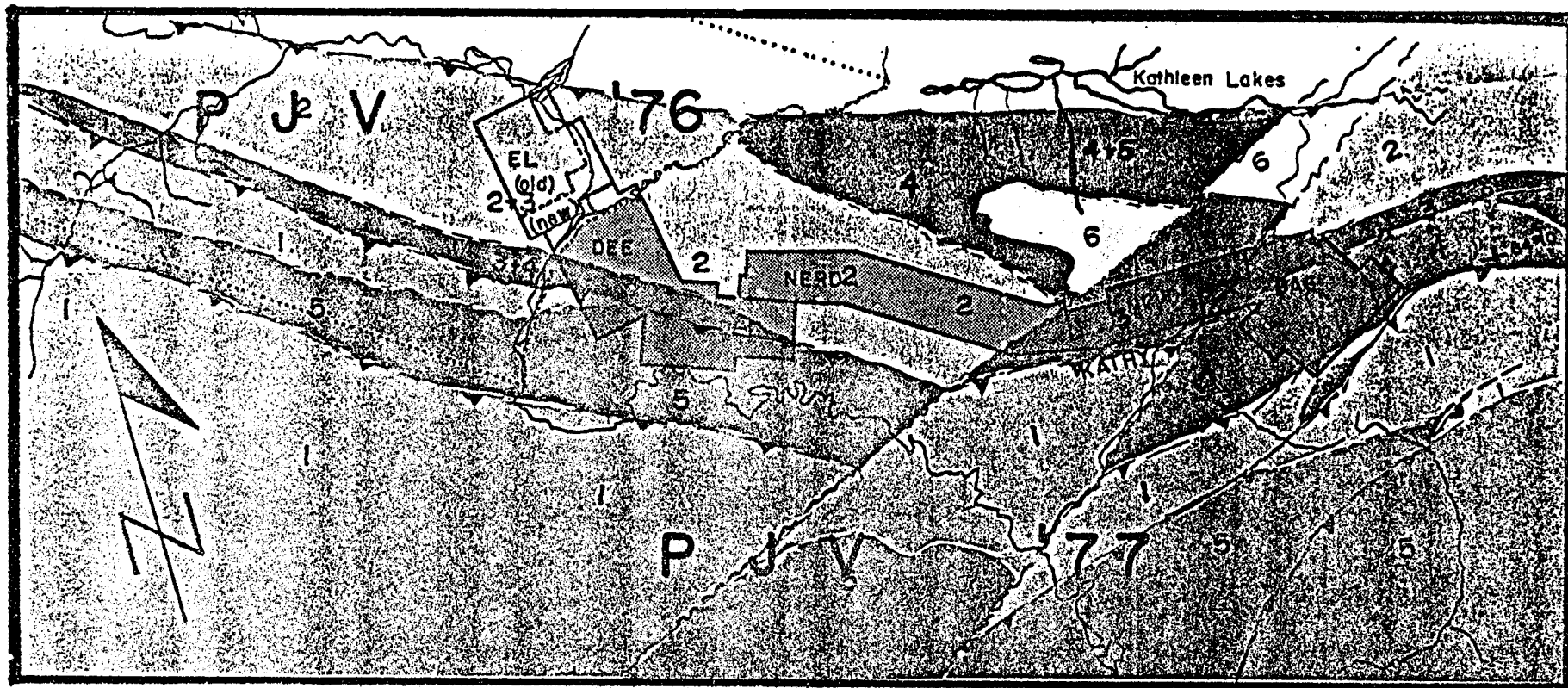


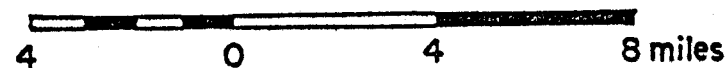
Figure 4-1.

Regional Geology (after Blusson 1977)

LEGEND

- 6 Triassic shales & limestones
- 5 Lower Schist Unit & Keno Hill Quartzite (uD-Penn)
- 4 Canol Formation (D-Penn)
- 3 Road River Formation (O-D)
- 2 Light grey dolomite (O-D)
- 1 Grit Unit (HI)

SCALE 1:250,000



The large gossan on the EL property is the result of precipitation of iron oxides containing zinc, lead and silver from solutions which have moved along the permeable horizon (either an unconformity or thrust fault) which forms the contact between the two rock types. This contact is shown as a fault on Figure 4-2 .

#### 4.3. Mineralization

The only mineralization observed on the property is the gossan . . . . . A large flat area consists of dolomite rubble cemented by iron oxides carrying high values in zinc and more rarely, lead.

Several test pits dug in this area penetrated the iron oxide zone. Similar gossans without lead and zinc values have been noted within the general area. It appears that the gossan may be a surface exposure of an underground water course which follows a flat fault (thrust ?) or an unconformity.

## 5.0 GEOCHEMISTRY

### 5.1 Introduction

A total of 289 soil samples were taken at intervals of 100 meters on lines spaced 250 meters apart. See Figures 5-2A, B, C. A separate detailed grid was established over the gossan area. Samples were taken here at intervals of 50 meters. About 75 percent of the samples were taken from the B horizon. The remainder were either organic swamp soil (20%) or permafrost (A horizon). All samples were analyzed for lead, zinc and silver.

### 5-2 Results

The enclosed geochemical plans (Figures 5-2A, B, C) show the results of the geochemical soil survey. A zinc anomaly with values ranging from 2100 to 122000 ppm zinc occurs at 100 S/35 W. It is approximately 250 meters long by 100 meters wide. Only one sample within this anomaly contains anomalous lead (800 ppm) and silver (3.8 ppm). The anomalous area is roughly coincident with the gossan.

A number of test pits were dug to determine geochemical profiles. The results are shown in Table III:

TABLE III  
TEST PITS ON EL CLAIMS

SAMPLE MARKING		CU (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)
EL J 3	24"	4	46	207	7.3
EL J 4	36"	24	81	900	2.2
EL J 5	18"	34	32	325	0.8
EL TP-1	12"	55	65	4700	2.2
	24"	390	690	9500	5.8
	36"	223	750	10700	4.8
	48"	50	67	4700	2.2
	60"	56	59	4300	1.8
	EL TP-2	2"	14	35	480
	12"	31	75	790	1.3
	18"	10	65	1640	1.5
	42"	50	91	3140	2.6
	42 - 60"	230	151	7300	2.1
	60"	325	112	6800	2.8
EL TP-3	1	36	44	183	1.0
	2	35	50	129	1.4
	3	90	215	1330	4.6
	4	56	104	900	3.8
EL TP-4	1	36	150	153	2.2
	2	38	138	185	2.0
	3	36	94	158	1.1
	4	44	160	179	2.5
EL TP-5	1	34	56	158	1.4
	2	34	107	174	1.6
	3	30	266	285	2.1
	4	29	80	135	1.4

The locations of the test pits are shown on Figure 4-2.

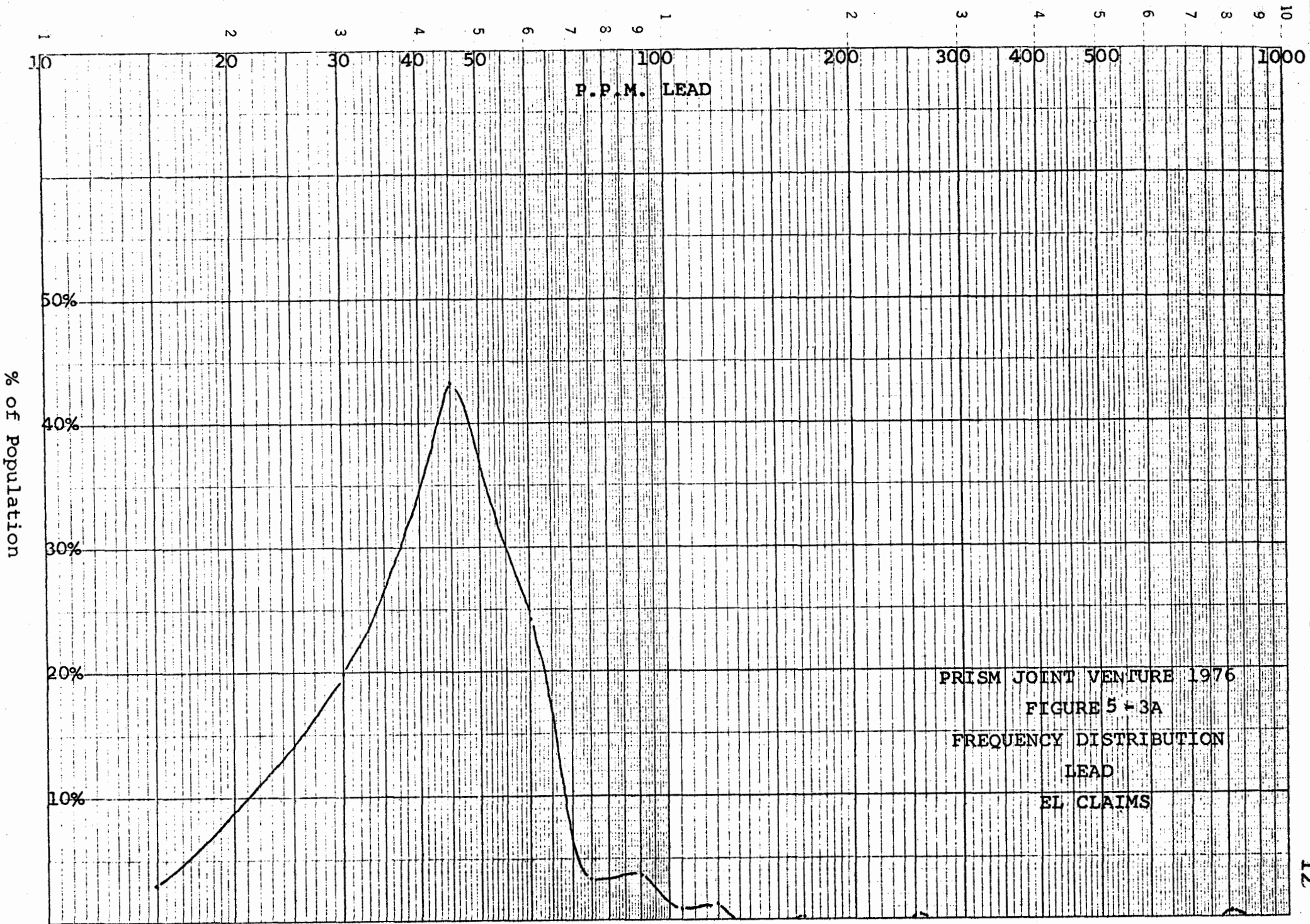
The pits which were dug on the gossan (EL TP 1-3) all show an initial increase in value with depth and then a drop off in values.

### Interpretation

Standard statistical values were determined for the EL soil samples for lead, zinc and silver. Frequency distribution curves (Figures 5-3A, B, C) and cumulative percent curves (Figures 5-4A, B, C) were prepared for each element. From the latter curves, the geochemical populations were calculated. All are apparently lognormal distributions. The following table lists the various values determined:

TABLE IV  
STATISTICAL ELEMENTS - EL CLAIMS

<u>ELEMENT</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>
No. Samples	291	291	291
Means	61	169	1
Std. Deviation	15	440	.33
Bar Interval	15	110	.33
Population A	77 - 160 +	?	1.5 - 5.5
Population B	11 - 130	110 - 350	0.3 - 2.8



P.P.M. LEAD

PRISM JOINT VENTURE 1976  
FIGURE 5 - 3A  
FREQUENCY DISTRIBUTION  
LEAD  
EL CLAIMS

% of Population

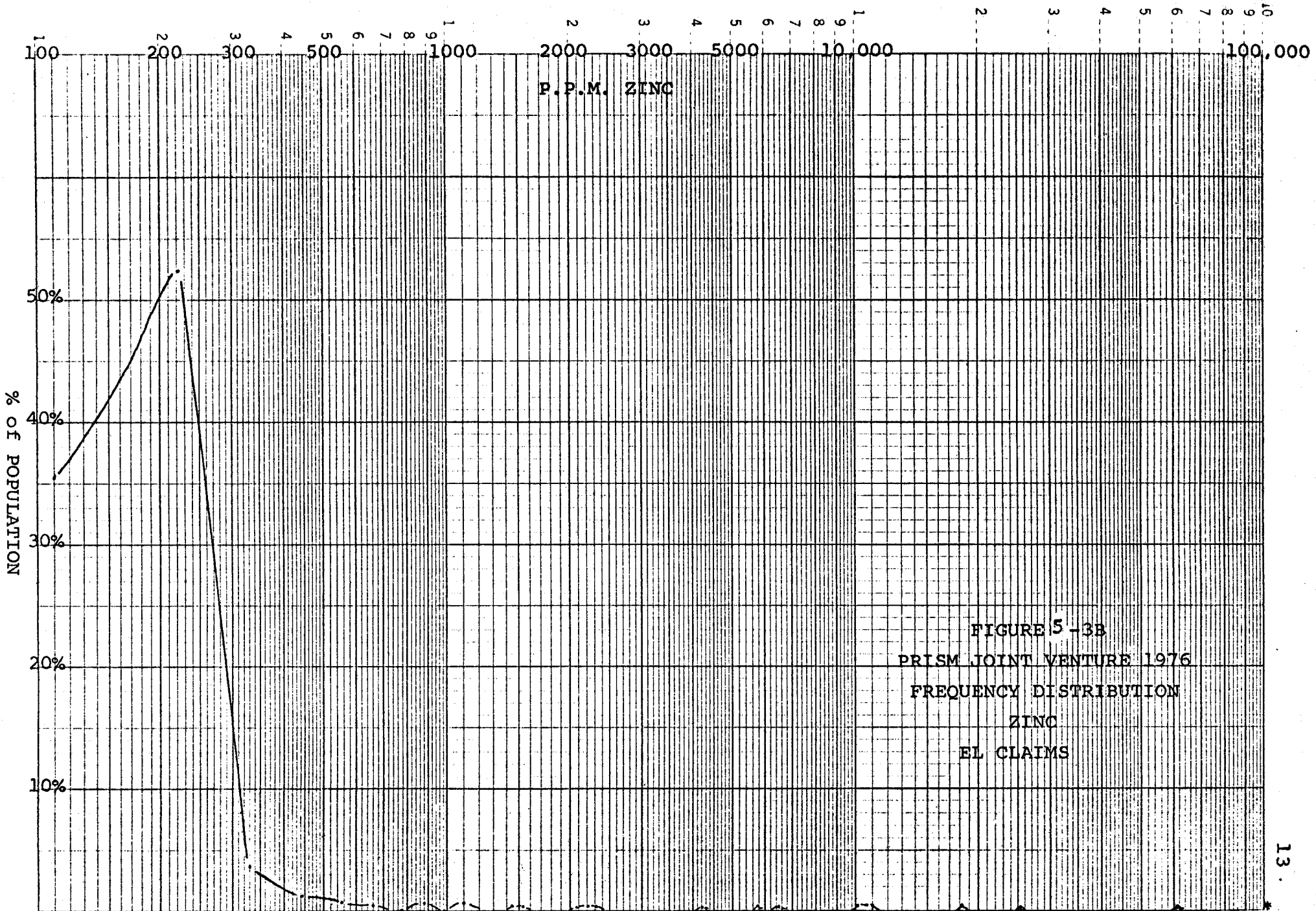
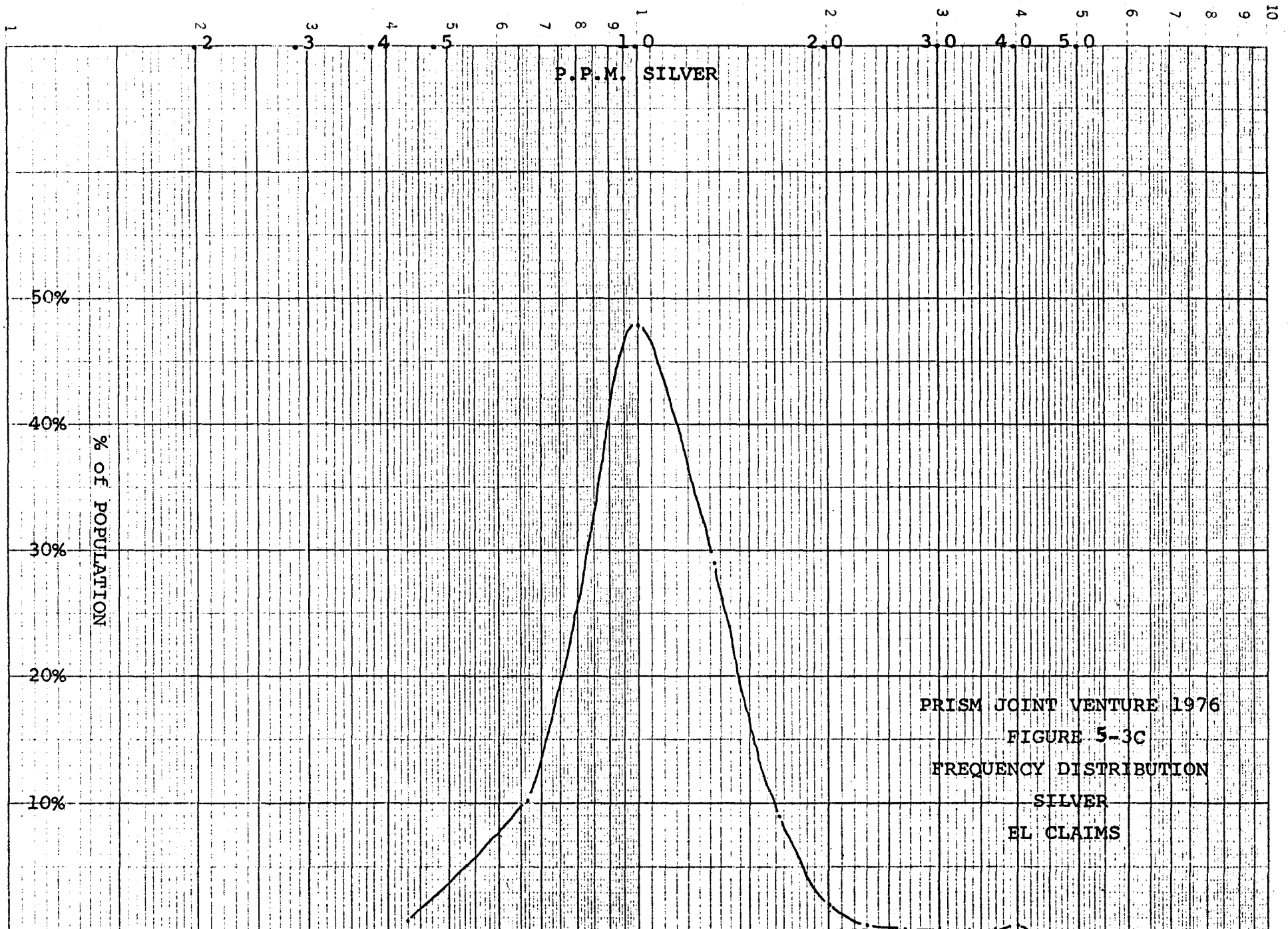
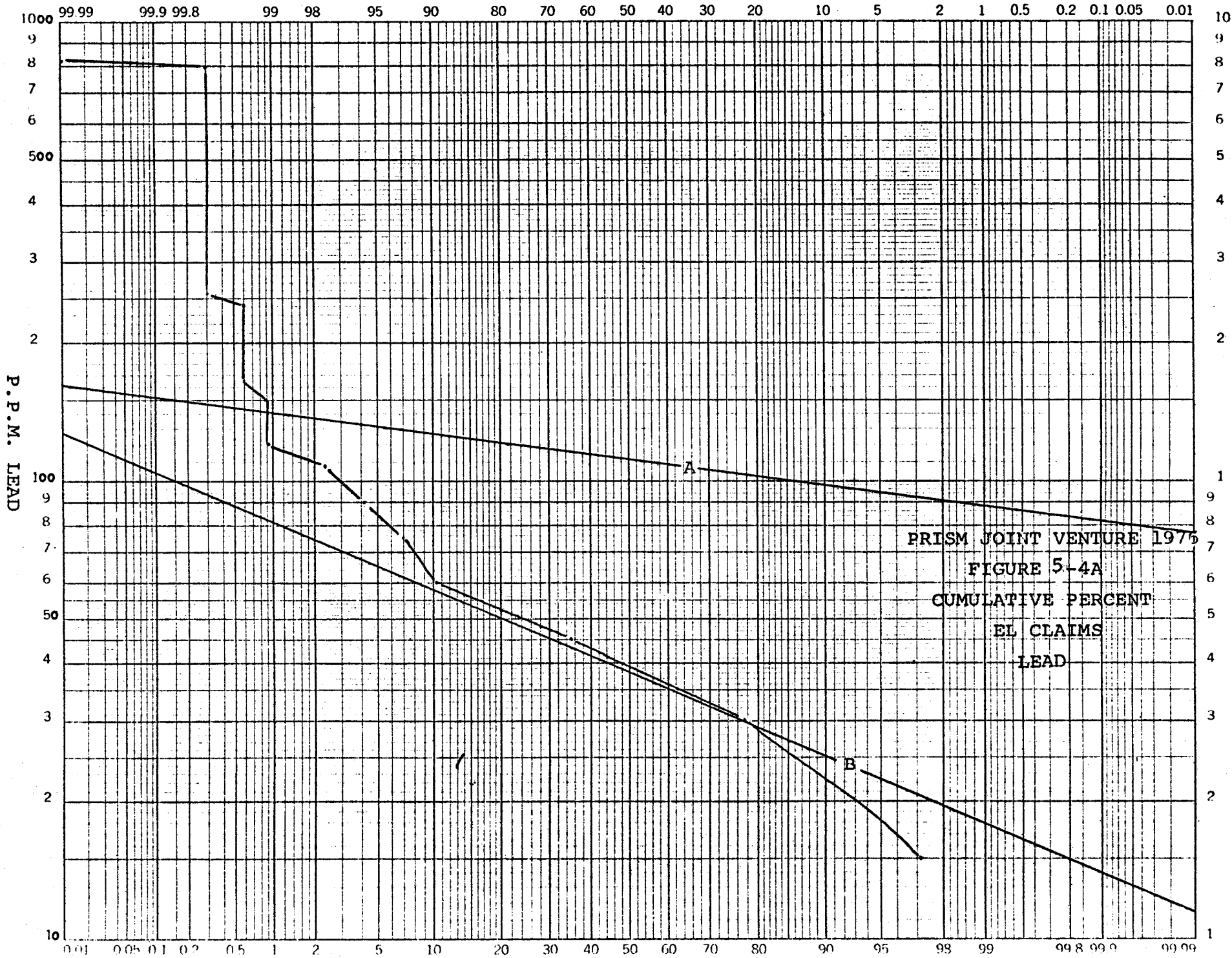


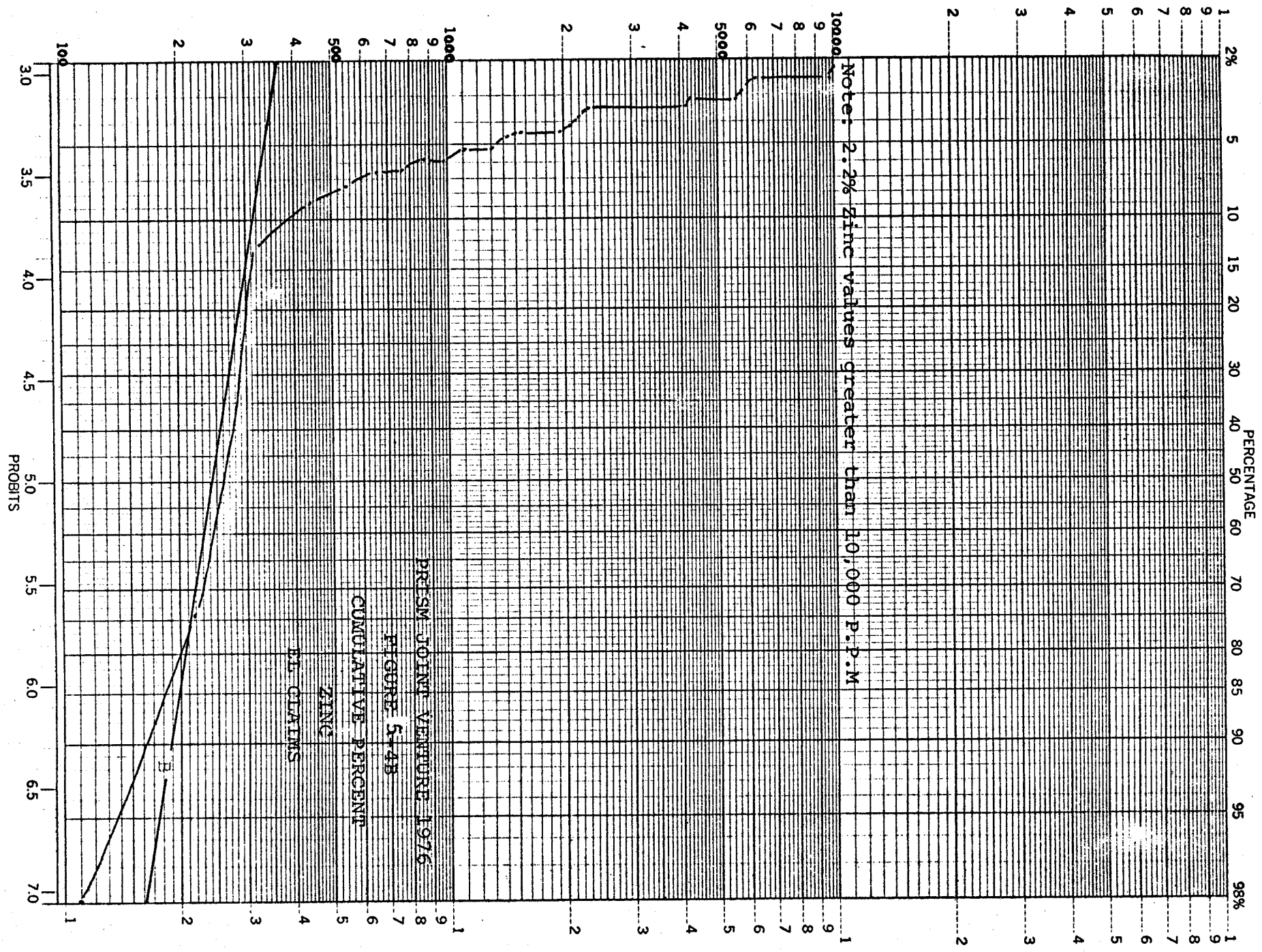
FIGURE 5-3B  
PRISM JOINT VENTURE 1976  
FREQUENCY DISTRIBUTION  
ZINC  
EL CLAIMS

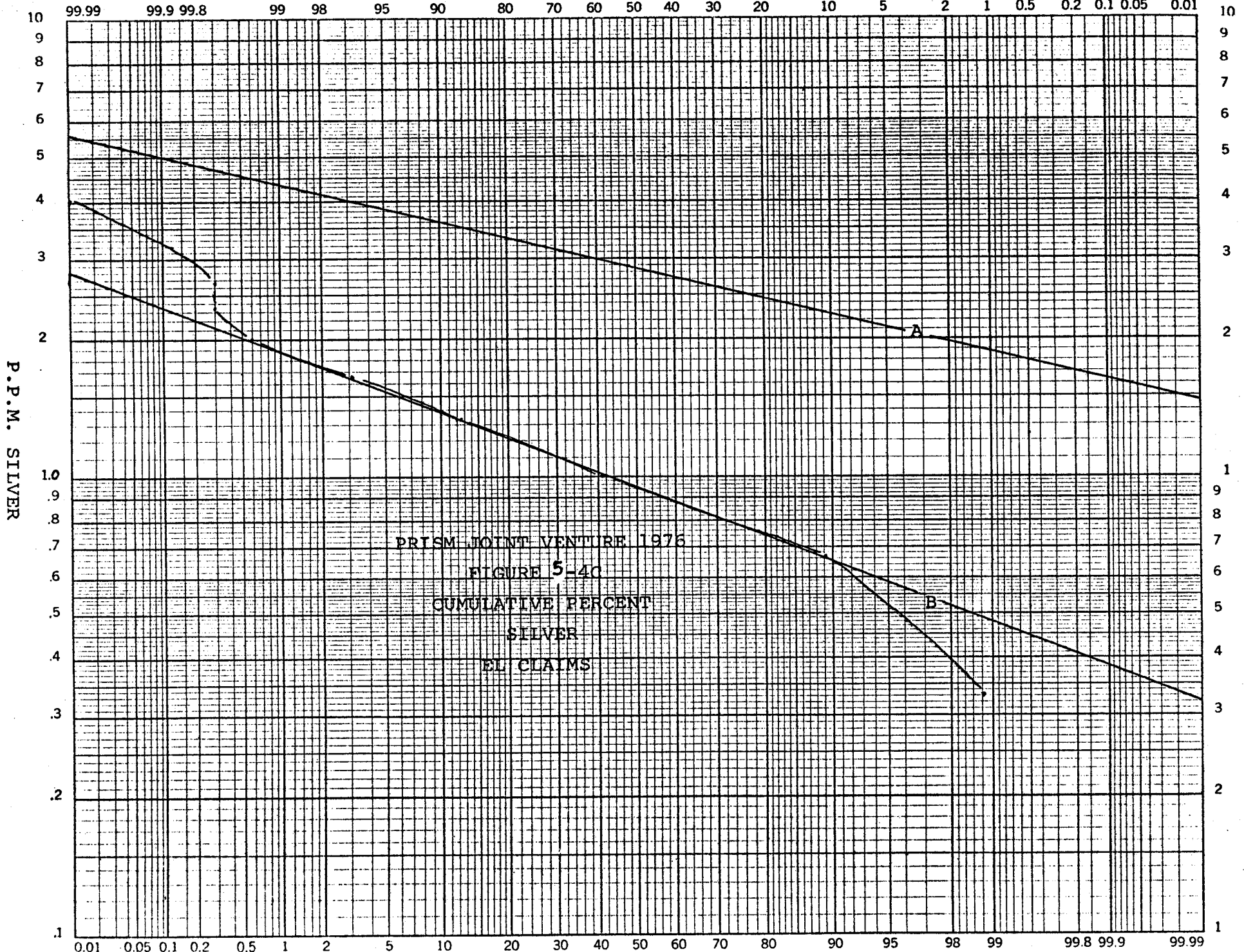




PRISM JOINT VENTURE 1976  
FIGURE 5-4A  
CUMULATIVE PERCENT  
EL CLAIMS  
LEAD

P.P.M. ZINC





For lead, as shown in Figure 5-4A, two populations were determined, a background population B ranging from 11 to 130 ppm and an anomalous population A ranging from 72 to 160 ppm. Because of numerous gaps in the upper values, the anomalous population could not be precisely determined. Either the upper limit in population (A) is much higher than the partitioned curve (A in Figure 5-4A) or the high values belong to a third population with a much higher range of values. Contour values of 60 ppm lead, the value at which mixing of the populations is apparent, and 160 ppm lead, the apparent upper limit of population A, were selected.

For zinc (See Figure 5-4B), only a background population B could be estimated. This ranges approximately from 100 to 360 ppm. Because of the numerous gaps in upper range values, no determination could be made of the anomalous population A. However, mixing of the populations begins around 300 ppm zinc. Contour values for use in geochemical plan (Figure 5-2B) were selected as 300 ppm and 1000 ppm zinc.

For silver, (See Figure 5-4C), two populations were determined, a background population B ranging in value from 0.3 to 2.8 ppm and an anomalous population A ranging in value from 1.5 to 5.5 ppm. A contour value of 2.0 ppm silver was selected.

The zinc anomaly on the EL is more or less coincident with a prominent iron oxide gossan. This gossan appears to be related to a water course along a permeable zone which may be an unconformity or fault. The anomaly is definitely transported and the source area is probably buried beneath the dolomite and limestone units.

## 6.0 ELECTROMAGNETIC SURVEYS

### 6.1 Introduction

Several test lines were run across the EL claims with a CEM electromagnetic unit. Readings were taken on low, medium and high frequencies and an out-of-phase measurement was made on medium frequency only. The results are plotted as graphs on Figure 6-1. Locations of the test lines are shown on Figure 4-2.

### 6.2 Electromagnetic Unit

A Crone Model CEM electromagnetic unit was used for the test lines. It consists of two coils, both of which are capable of transmitting and receiving. The unit was equipped with three frequencies, 390, 1830 and 5010 Hz. Battery requirements are three six-volt lantern batteries (Eveready #731) and one nine-volt battery (Eveready #216).

### 6.3 Methods

The "Horizontal Shootback" EM method was used in order to eliminate topographic effects on the results. A coil separation of 50 meters was used and readings were taken at intervals of 25 or 50 meters. Readings were taken by both operators on all three frequencies and, by the chief operator only, a reading of out-of-phase (field strength) was made on medium frequency.

#### 6.4 Results

A large percentage of the total lines run showed large negative dip angles similar to those which would be expected for strong horizontal conductors.

Because very little outcrop is present on the area tested, no correlation with geology could be made.

#### 6.5 Interpretation

The large negative dip angles could be interpreted as strong horizontal conductors, either carbonaceous black shales or a flat-lying conductive structure such as an unconformity or fault. The fact that such a large proportion of the lines tested were anomalous in this way is compatible with an interpretation as an unconformity or thrust fault. Considerably more electromagnetic surveying should be done in order to define the nature of the structure and help in locating the source of mineralization.



A circular professional seal for the Province of Ontario, featuring the text "PROFESSIONAL ENGINEER" around the perimeter and "H. MONTGOMERY" in the center. The seal is partially obscured by a handwritten signature in cursive script, which appears to read "H. Montgomery".



VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 604-609-6772

986-5211

V7P 2S3

January 20, 1978

TO: Prism Resources Ltd.,  
# 214 - 850 West Hastings Street,  
Vancouver, B. C. V6C 1E1

FROM: Vangeochem Lab Ltd.,  
1521 Pemberton Avenue,  
North Vancouver, B. C. V7P 2S3

SUBJECT: Analytical procedure used to determine Uranium in geochemical samples.

1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received in the laboratory in wet-strength 4 x 6 Kraft paper bags.
- (b) The wet samples were dried in a ventilated oven.
- (c) The dried soil and silt samples were sifted by using a shaking machine using an 80-mesh stainless steel sieve. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a new bag for analysis later.
- (d) The dried rock samples were crushed and pulverized to 80-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for later analyses.

2. Method of Digestion


- (a) 0.500 grams of -80 mesh sample was used.
- (b) Samples were digested in a hot water bath with 4N HNO<sub>3</sub> acid.
- (c) The digested samples were diluted to a fixed volume and shaken well.

.....2

### 3. Method of Analyses

- (a) 0.20 ml aliquot were dried in a pure platinum dish.
- (b) The dishes were heated in a Meker burner until dull red or the organic content burned off.
- (c) A fixed amount of carbonate-fluoride flux pellet was inserted in the dishes.
- (d) The samples were fused in a muffle furnace at 650° C.
- (e) The fused buttons were then allowed to cool in a desiccator.
- (f) The fused buttons then separated from the platinum dishes and were ready for determination.
- (g) Uranium concentration in parts per million was determined by using a Jarrett Ash Fluorometer model # 26-000. The fluorometer was precalibrated by a set of known uranium standards and a new set of standards was made every day with the determinations.

4. The analyses were supervised or determined by Mr. Conway Chun and his laboratory staff.

  
\_\_\_\_\_  
Eddie Tang  
VANGEOCHEM LAB LTD.



VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 986-5211  
604-XXXXXXX

V7P 2S3

January 20, 1978

TO: Prism Resources Ltd.,  
# 214 - 850 West Hastings Street,  
Vancouver, B. C. V6C 1E1

FROM: Vangeochem Lab Ltd.,  
1521 Pemberton Avenue,  
North Vancouver, B. C. V7P 2S3

SUBJECT: Analytical procedure used to determine hot acid soluble Mo, Cu,  
Pb, Zn, Ag, and Cd in geochemical silt and soil samples.

1. Sample Preparation

- (a) Geochemical soil or silt samples were received in the laboratory in wet-strength  $3\frac{1}{2} \times 6\frac{1}{2}$  Kraft paper bags.
- (b) The wet samples were dried in a ventilated oven.
- (c) The dried soil and silt samples were sifted by using a shaking machine with 80-mesh stainless steel sieves. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a new bag for analysis later.

2. Methods of Digestion

- (a) 0.50 gram of the minus 80-mesh samples was used. Samples were weighed out by using a top-loading balance.
- (b) Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of the concentrated acids respectively).
- (c) The digested samples were diluted with demineralized water to a fixed volume and shaken.

.....2

### 3. Method of Analysis

Mo, Cu, Pb, Zn, Ag, and Cd analyses were determined by using a Techtron Atomic Absorption Spectrophotometer Model AA4 or Model AA5 with their respective hollow cathode lamps. The digested samples were aspirated directly into an air and acetylene flame. The results, in parts per million, were calculated by comparing a set of standards to calibrate the atomic absorption unit.

4. The analyses were supervised or determined by Mr. Conway Chun and the laboratory staff.



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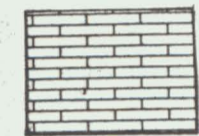



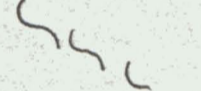

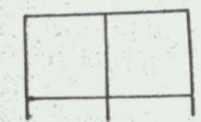



Eddie Tang

VANGEOCHEM LAB LTD.

ET:mb



**LEGEND**

-  Limestone
-  Dolomite
-  Gossan
-  Outcrop boundary
-  Fault
-  Test pits
-  Claim boundary
-  C.E.M. anomaly
-  Geochemical grid
-  Winter road

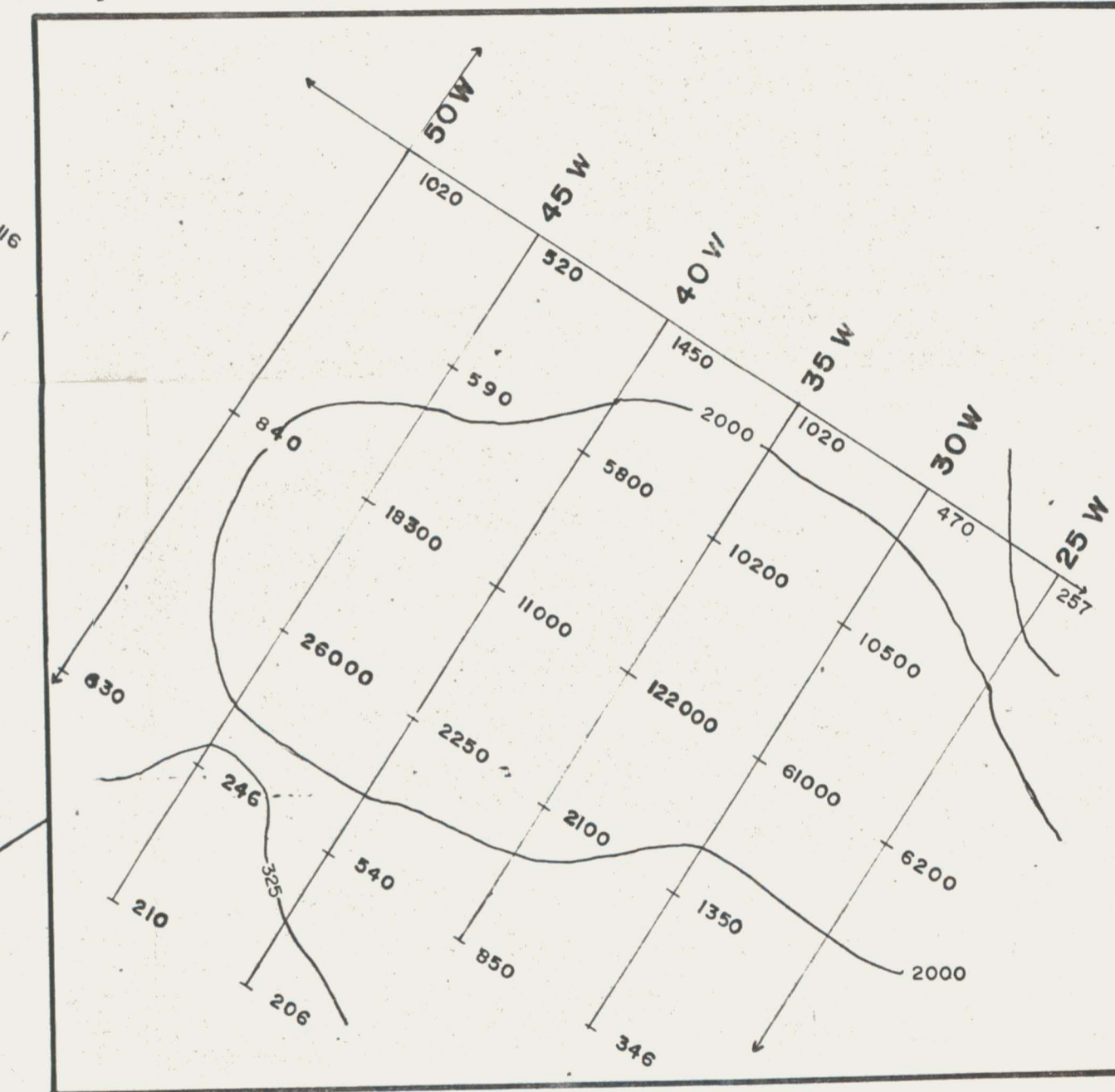
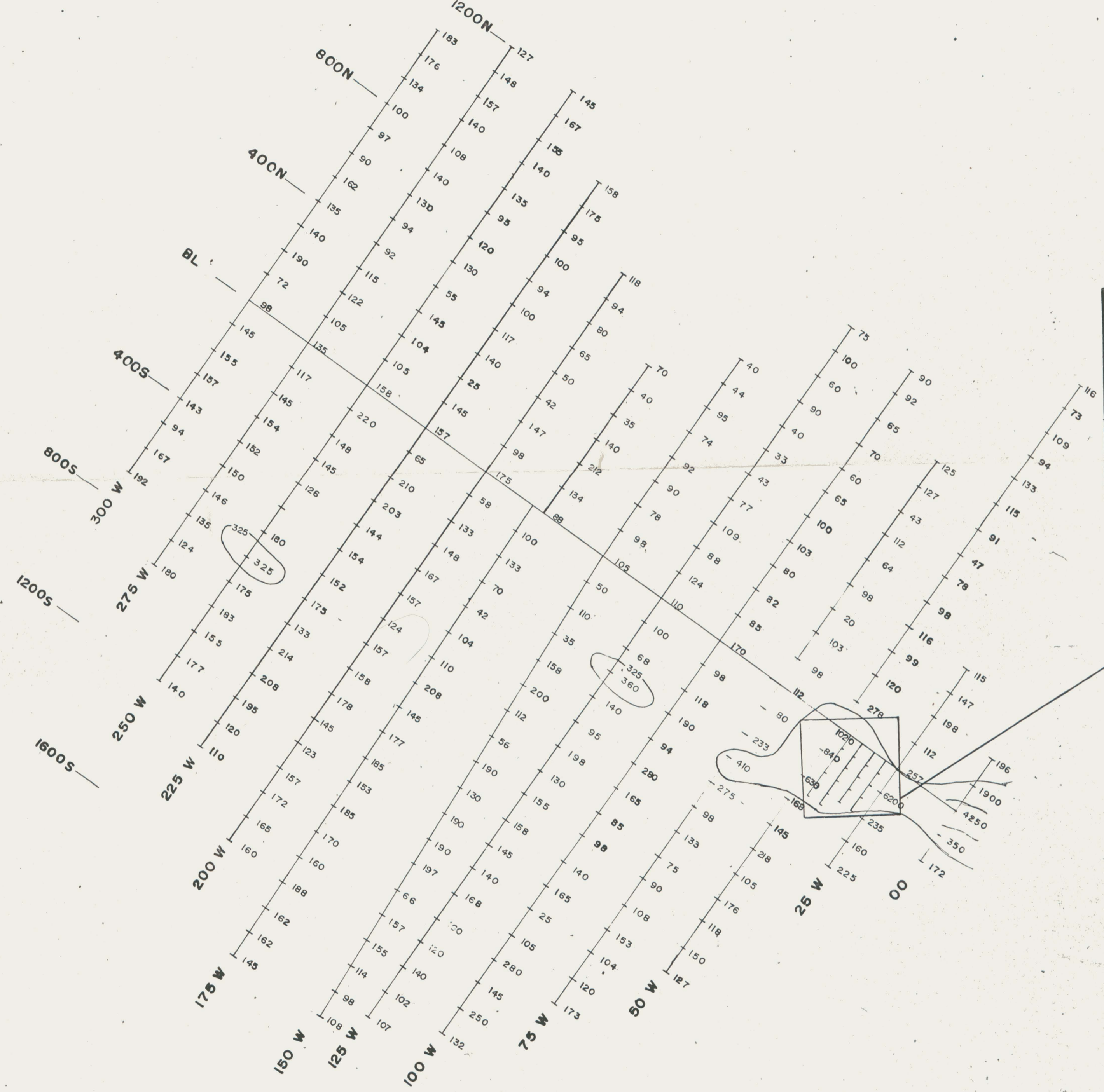
PRISM RESOURCES LIMITED  
 PRISM JOINT VENTURE 1976  
 EL CLAIMS (1-40)  
 MAYO MINING DISTRICT NTS 106 D/7  
**GEOLOGY MAP**

SCALE  
 metres 200 0 400 600

DRAWN BY: G. CAVEY DATE: NOV 1977

Fig. 4-2

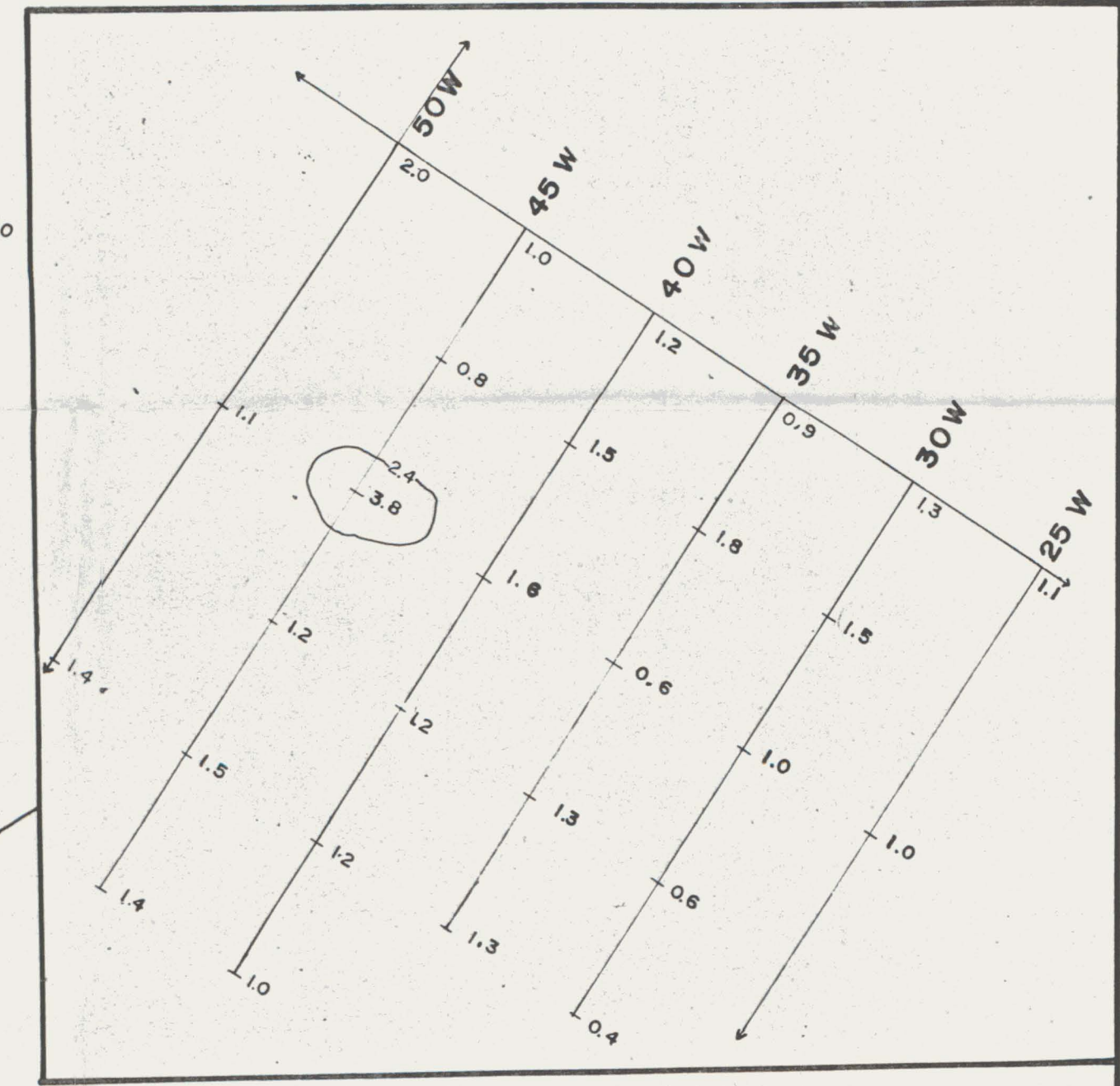
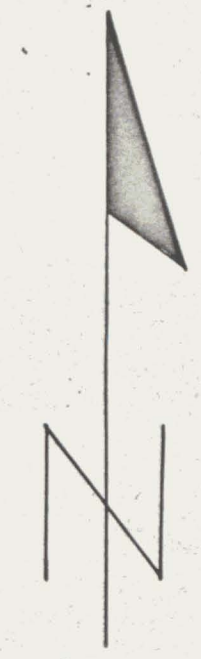
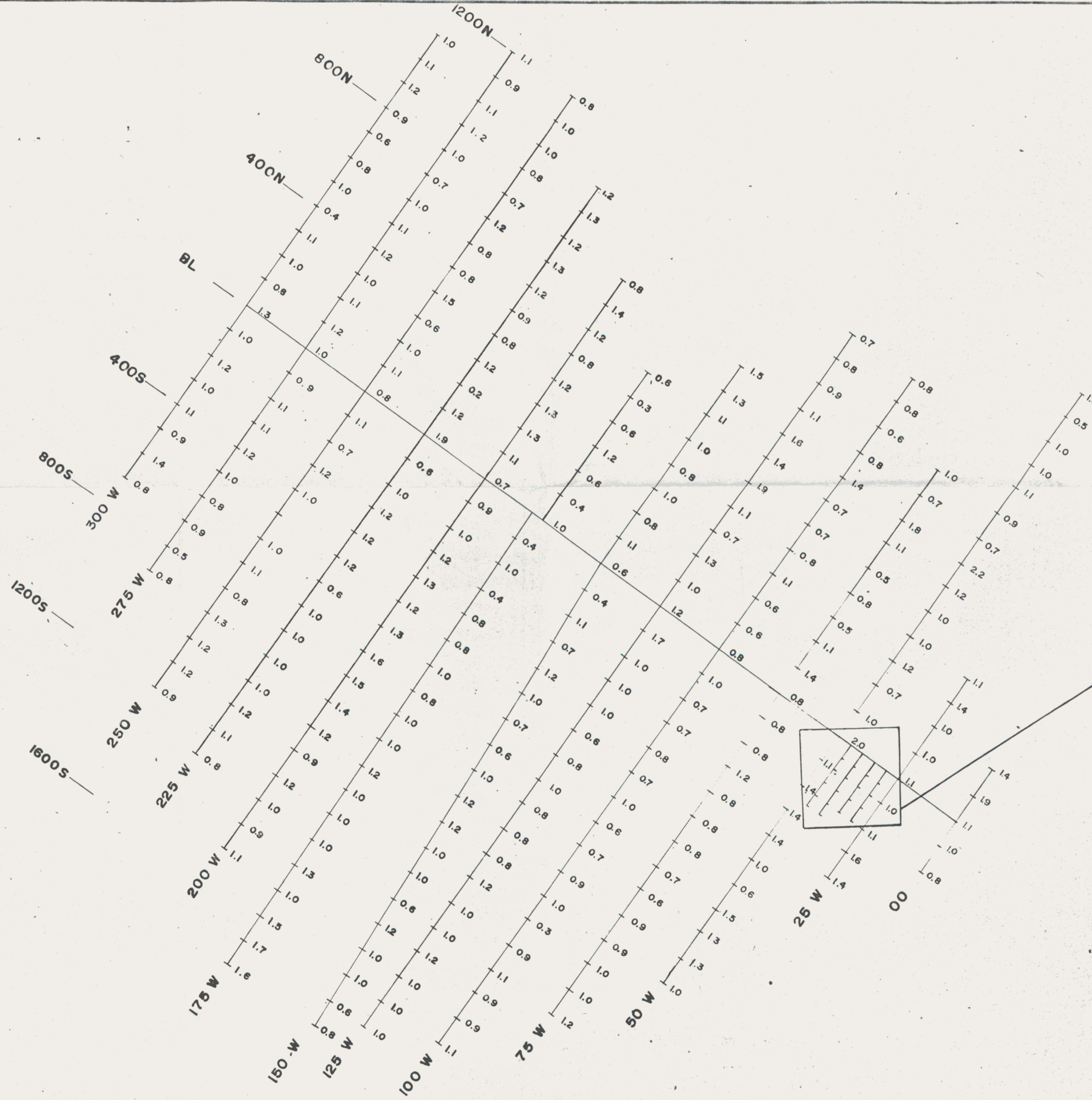




PRISM RESOURCES LIMITED  
PRISM JOINT VENTURE 1976  
EL CLAIMS (1-40)  
MAYO MINING DISTRICT NTS 106 D/7  
GEOCHEMICAL PLAN  
Zinc (ppm)

SCALE  
metres 200 0 400 600

Fig. 5-2B DRAWN BY: G.CAVEY DATE: NOV 1977



PRISM RESOURCES LIMITED  
 PRISM JOINT VENTURE 1976  
 EL CLAIMS (1- 40)  
 MAYO MINING DISTRICT NTS 106 D/7  
 GEOCHEMICAL PLAN  
 Silver (ppm)

SCALE  
 metres 0 200 400 600

Fig.5-2C

DRAWN BY: G.CAVEY DATE: NOV 1977

CEM PROFILES - EL CLAIMS

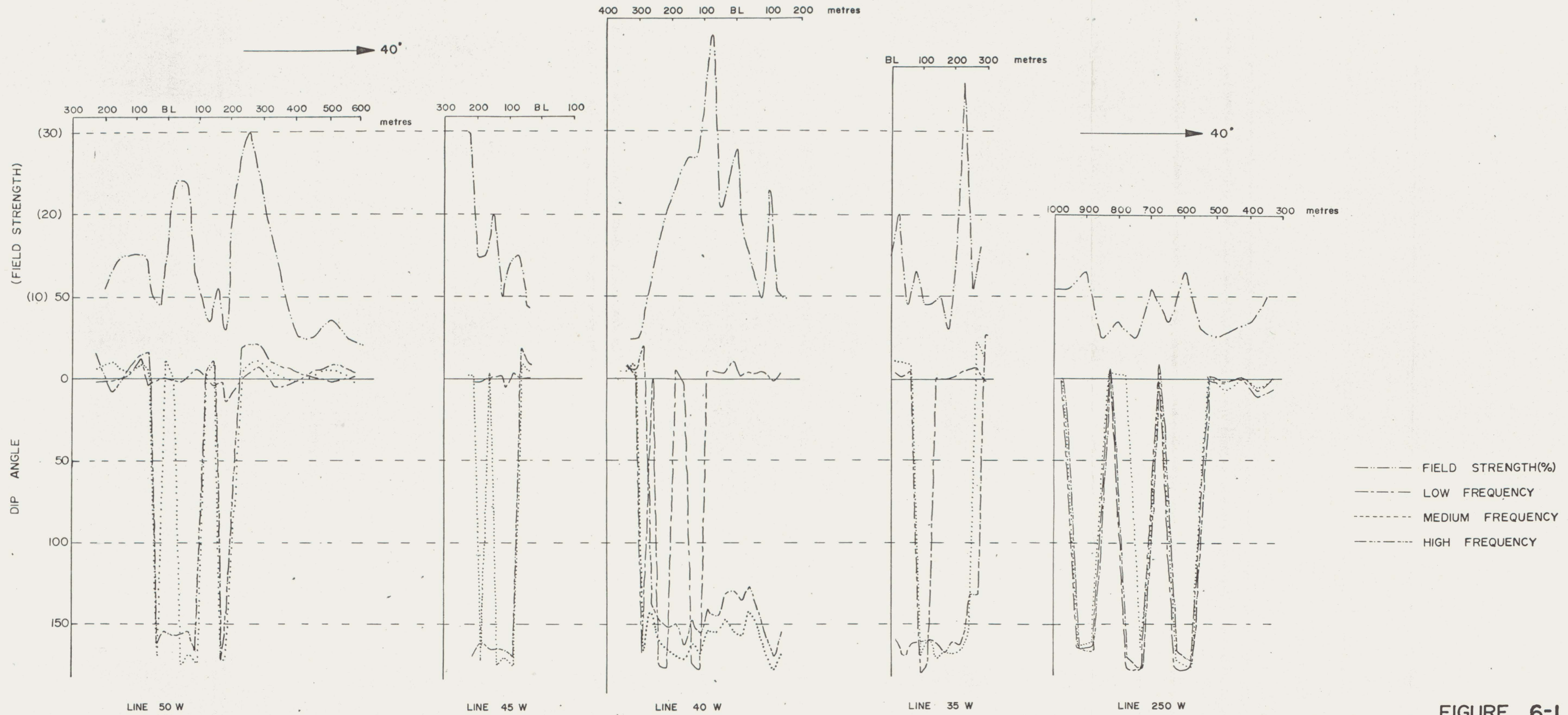


FIGURE 6-1