GEOLOGICAL REPORT
ON THE
SWENSON LEASES

CAIN, PRO, ABEL, REX AND
HORSE-SHOE MINERAL CLAIMS

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BEMA
Industries Ltd.

GEOLOGICAL REPORT

ON THE

SWENSON LEASES

CAIN, PRO, ABEL, REX AND HORSE-SHOE MINERAL CLAIMS

N.T.S.: 105 M/14

63°56' Latitude, 135°24' Longitude

Located approximately 3 kilometres northeast of Elsa, Y.T.

Owned by:

CANADA TUNGSTEN MINING CORPORATION LIMITED
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Work by:

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December, 1980

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Industries Ltd.

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SUMMARY

The Cain, Pro, Rex and Horse-shoe quartz mineral leases are owned by Canada Tungsten Mining Corporation Limited. Bema Industries Ltd. was contracted by Canada Tungsten Mining Corporation Limited to carry out an exploration program on the claims during 1980. They are located on the north slope of Galena Hill about 3 kilometres northeast of the town of Elsa, Yukon Territory.

The exploration program conducted on the Swenson leases consisted of grid preparation and a geochemical soil survey. A total of 357 soil samples were taken and analysed for lead, zinc, silver and copper.

Five silver, lead, zinc soil geochemical anomalies were outlined by the geochemical survey. See Figure A.

No geological mapping has been done on these claims and the general geology of the area has been taken from mapping by R.W. Boyle (1954-1955). The majority of the claims are underlain by rocks of the Lower Schist formation which consists of graphitic phyllite, quartz-chlorite schist, and thin bedded quartzites. The Central Quartzite formation is inferred to underlie the southern boundary of the claim group. These units have been intruded by greenstone bodies. Rocks of the Central Quartzite formation and greenstone bodies are the host rocks for silver-lead vein mineralization within the area.

The Swenson claims are situated between two mineralized vein structures, the No Cash - Betty vein to the southwest and the Formo vein to the northeast. These vein structures are inferred to project onto the Swenson leases. The No Cash vein system is explored along a 1000 metre strike length within the Central Quartzite formation and has produced 160,000 ounces of silver. The Formo vein has produced 40 tons of high grade ore averaging 220 oz/ton silver from the intersection of the vein and a greenstone body. Rio Plata Mines Ltd. are currently re-evaluating the property by underground exploration.

There is good potential on the Swenson leases for locating a silver-lead vein system within any of the five areas of anomalous silver-lead-zinc soil geochemistry or along the projection of the adjacent No Cash - Betty or Formo vein faults.

GEOLOGICAL REPORT
ON THE
SWENSON LEASES
CAIN, PRO, ABEL, REX AND HORSE-SHOE MINERAL CLAIMS

1.0 INTRODUCTION

The Swenson leases consisting of the Cain, Pro, Abel, Rex and Horse-shoe quartz mineral leases are owned by Canada Tungsten Mining Corporation Limited. Bema Industries Ltd. was contracted to do exploration on these claims during the 1980 field season. Exploration work done (1980) involved grid preparation and geochemical soil sampling. In total, 357 'B' horizon soil samples were collected and analysed for lead, zinc, silver and copper.

The purpose of the geological exploration on the Swenson mineral claims is to locate a high grade silver-lead orebody similar to the No Cash, which has produced over 160,000 ounces of silver.

This report discusses the results of the geochemical soil survey and gives recommendations for further exploration of the claims.

1.1 LOCATION AND ACCESS

The claim group lies on the north slope of Galena Hill, latitude ~~135~~ 63°57', longitude 135°23'. Access is by good gravel road leading 3 kilometres northeast from Elsa townsite, to within 0.5 kilometres of the northern boundary of the claim group. An abandoned road crosses the center of the claim group, but is not driveable. See Figures 1 and 2.

CANADA TUNGSTEN MINING CORPORATION

KENO HILL Y·T·

1980 GEOLOGICAL EXPLORATION PROGRAMME

SWENSON LEASES

KEY MAP

DATE: *FEBRUARY 1981*	JOB NO.: 80-09-Q
REVISED BY:	FIG. NO.: 1

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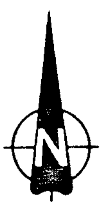

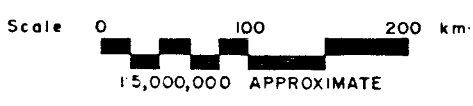

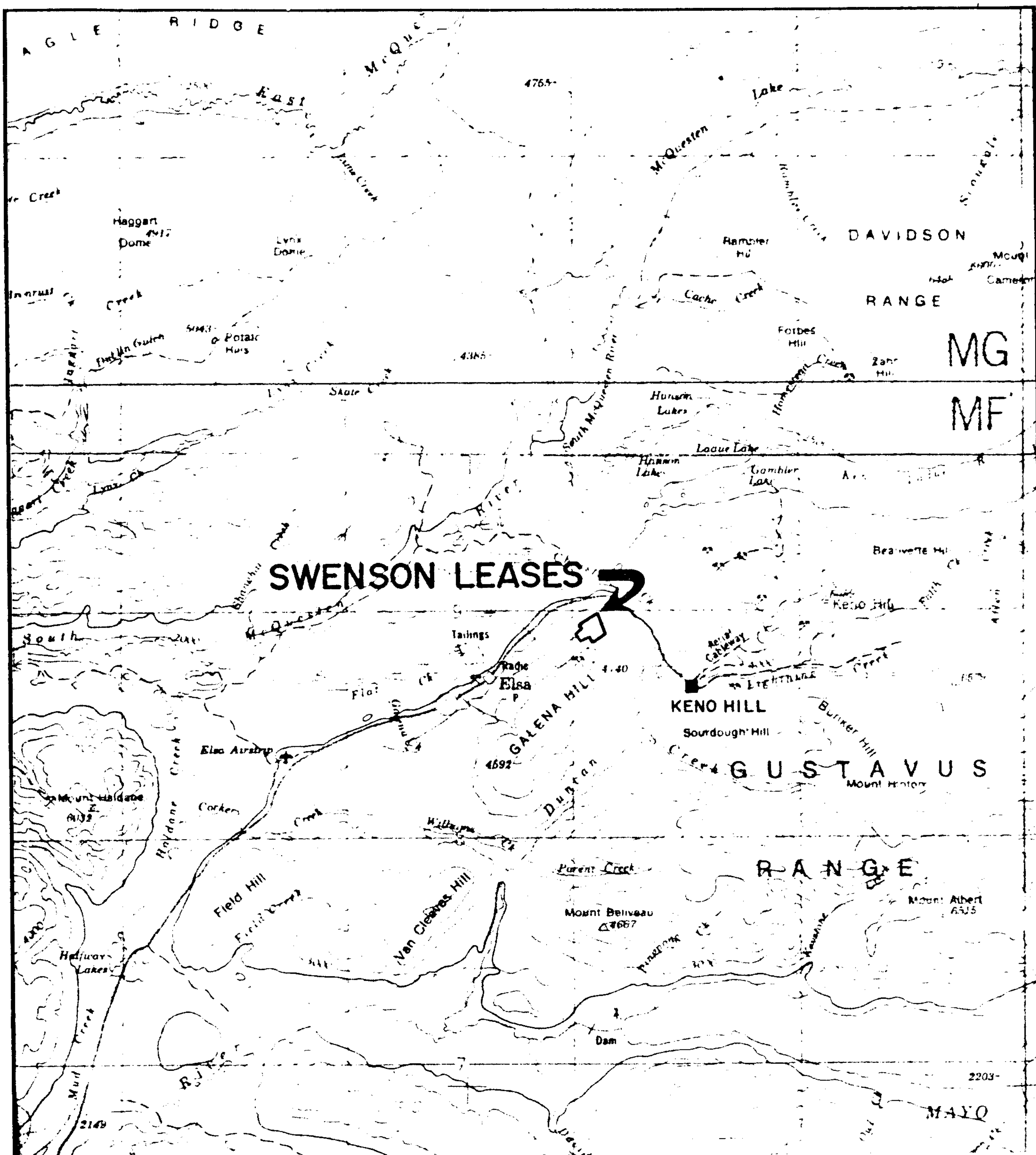

CANADA TUNGSTEN MINING CORPORATION

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1980 GEOLOGIAL EXPLORATION PROGRAMME

Scale 0 100 200 km·

1:5,000,000 APPROXIMATE

1:250 000

SWENSON LEASES
REGIONAL PLAN

DATE: *FEBRUARY 1981*	JOB NO.: 80-09-Q
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1.2 PHYSIOGRAPHY

Galena Hill trends northeasterly and lies between the South McQuesten River to the north and Duncan Creek to the south and west. The claims lie at approximately 1200 metres elevation. Vegetation is mostly alder buckbrush with occasional scrub pine trees. Rock outcrop is sparse throughout the claim area.

1.3 PROPERTY

The five Swenson quartz mining leases are wholly owned by Canada Tungsten Mining Corporation Limited and are held under a 21 year crown granted quartz mining lease. The claims were surveyed in 1961 and were recorded as survey group No. 1054 on February 23, 1962. The status of each claim is given below:

CLAIM NAME	LEASE NO.	LOT NO.	SURVEY GROUP NO.	EXPIRY DATE
Rex	1044	1057	1054	Feb. 23/83
Pro	1045	1058	1054	Feb. 23/83
Abel	1046	1059	1054	Feb. 23/83
Cain	1047	1060	1054	Feb. 23/83
Horse-shoe	1048	1061	1054	Feb. 23/83

1.4 HISTORY

The only record of exploration work on the Swenson leases is a small amount of trenching by Nora M. Swenson done during the period of 1961 to 1962. On the Rex claim, 4 hand trenches and two bulldozer trenches removed 652 cubic yards of material. On the Cain and Abel claim, bulldozer trenches removed 825 cubic yards of material. On the Horse-shoe claims, two bulldozer cuts were made totalling 1527 cubic yards of excavated material. There is no mention of vein mineralization encountered during the trenching.

Two known vein faults, the No Cash - Betty and the Formo, lie close to and possibly strike into the Swenson leases. The No Cash vein and its northeast extension, the Betty vein, are exposed in workings 1250 to 2400 metres to the west of the Swenson mineral leases. Mapping by R.W. Boyle (1953 to 1955) indicates the northwest extension of this vein fault may project onto the Swenson leases.

The No Cash vein was explored during the period of 1928 to 1955 and is owned by United Keno Mines Limited. During the period of 1930 to 1931 a 15 metre shaft was sunk and several drifts were driven on a mineralized vein structure from 1.0 to 1.5 metres wide. A total of about 400 tons of ore averaging 400 ounces of silver per ton and 50% lead were mined during this period. During the period of 1948 to 1952 extensive exploration was carried out by United Keno Mines Ltd. along the strike of the vein over a distance of 800 metres. The previous shaft was deepened to 30 metres and an adit, winze, subdrift and several raises were driven. This work developed ore along a strike length of 185 metres and a width of 1.0 metre with an average assay grade of 100 oz/ton silver. Total ore mined was 4,600 tons averaging 70 oz/ton silver and 7.2% lead.

The Formo vein is located 1000 metres to the northeast of the Swenson leases. It strikes between 020 to 050° azimuth and dips 50° southeast. During the 1930's a 20 metre inclined shaft was sunk and two 10 metre drifts and several raises were driven on the vein. A 40 ton smelter shipment of hand sorted ore assayed 225 to 250 oz/ton silver and 60% lead.

Yukon Mines explored the vein during the period of 1950 to 1953 with two adits and connecting drifts on two levels. The results of the work were disappointing and no ore was shipped. The property is currently owned by Rio Plata Mines Ltd. During 1980, an extensive surface and underground program was carried out to locate more ore.

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1.6 PRESENT WORK

The exploration program during the 1980 field season consisted of laying out a grid and conducting a soil geochemical survey. A total of 357 soil samples were taken along flagged grid lines which were laid out by compass. The baseline for the Swenson grid bisects the Cain claim and utilizes the common claim boundary between the Rex, Pro, Abel and Horse-shoe claims. Cross lines were run at 50 metre intervals from the baseline with flagged stations at 50 metre spacings. Samples were analysed for lead, zinc, silver and copper using atomic absorption techniques.

TABLE 1

TABLE of FORMATIONS

ERA	PERIOD	MILLIONS of YEARS	BOYLE, R·W 1965	GREEN, L·H· 1971 TEMPELMAN–KLUIT 1970	BLUSSON, S·L· 1978	BEMA 1980
CENOZOIC	TERTIARY	65		Quartz-Feldspar Porphyry		
		* 87		Greenstone		Granodiorite
	CRETACEOUS	136	Quartz-Feldspar Porphyry Biotite Lamprophyre	Keno Hill Quartzite fm		Quartz-Feldspar Porphyry Biotite Lamprophyre
	JURASSIC	190	Greenstone	Lower Schist fm		Greenstone Keno Hill Quartzite fm Lower Schist fm
MESOZOIC	TRIASSIC	225				
	PERMIAN	280				
	CARBONIFEROUS	345			Central Quartzite	
	DEVONIAN	395			Lower Schist	
	SILURIAN	430				
	ORDOVICIAN	500				
PALEOZOIC	CAMBRIAN	570				
PRECAMBRIAN		4600	Upper Schist fm Central Quartzite fm Lower Schist fm	Upper Schist fm		?Upper Schist fm

NOTE * AGE of MINERALIZATION
SINCLAIR *et al*, 1980

2.0 GENERAL GEOLOGY

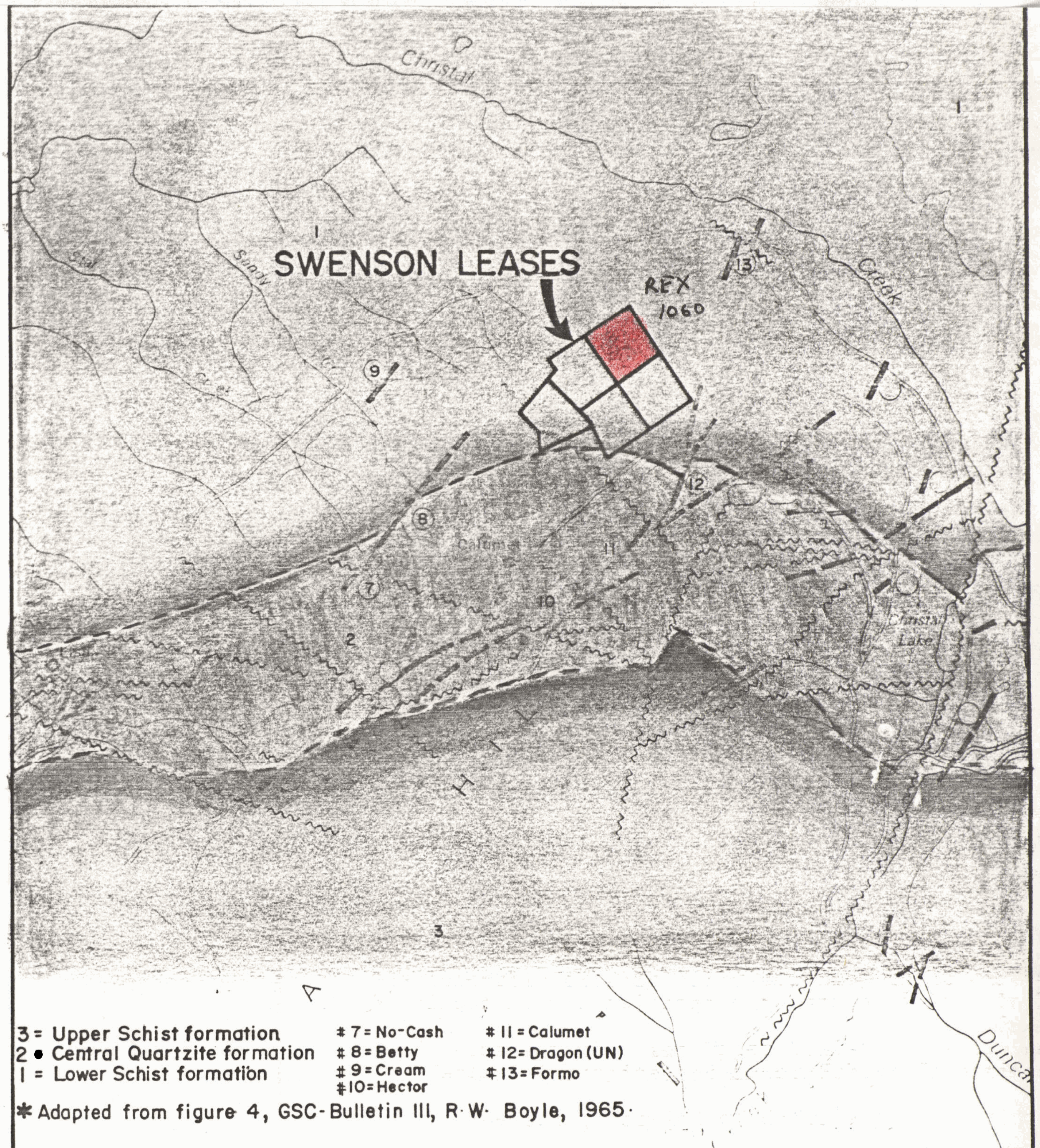
The Keno Hill - Galena Hill area containing the Swenson mineral leases is located at the northwestern end of the Selwyn Basin. The Selwyn Basin is a Pb-Zn-Ag bearing province which covers central Yukon, western N.W.T. and north central B.C. The basin is bounded to the east, in the MacKenzie Mountains by a marginal carbonate shelf facies. To the west, the basinal shale facies gives way to the carbonate shelf complex of the Pelly-Cassiar Fold Belt or terminates abruptly against the Tintina Trench. The Tintina Trench, which passes 100 kilometres south of Keno Hill, contains a strike-slip fault with 450 kilometres of right-lateral displacement (Tempelman-Kluit, 1970).

The rocks underlying the Keno Hill - Galena Hill area are predominantly metasediments of the Yukon Group. Until recently the Yukon Group was thought to be of Precambrian age. Boyle (1965) considered the section to be a simple homocline of metasediments of probable Precambrian age. Tempelman-Kluit (1970) and Green (1971) have interpreted Mesozoic ages for the Lower Schist (Jurassic) and Central Quartzite (Lower Cretaceous) formations and a Precambrian age for the allochthonous Upper Schist formation. Blusson (1978) suggested that the Lower Schist and Central Quartzite formations resemble the Upper Devonian to Mississippian Canol and Imperial formations.

The Lower Schist formation consists predominantly of graphitic schists with minor intercalated chlorite-sericite schist and thin bedded quartzite conformably overlain by the Central Quartzite formation.

The Central Quartzite formation consists of thick and thin bedded quartzite with intercalated graphitic phyllite, argillite and schist.

The Upper Schist formation overlies the Central Quartzite formation. The nature of the contact between Central Quartzite and Upper Schist is controversial. It is considered to be conformable by Boyle, 1965; or a thrust fault by Green, 1971. The Upper Schist formation consists primarily of quartz-mica schists, graphitic schists and thin bedded quartzites with minor limestone lenses.



* Adapted from figure 4, GSC-Bulletin III, R.W. Boyle, 1965.

SCALE
0 — 5,000 — 10,000 — 15,000 METRES
1: 4,8000

CANADA TUNGSTEN MINING CORPORATION

KENO HILL Y.T.

1980 GEOLOGICAL EXPLORATION PROGRAMME

SWENSON LEASES

GENERAL GEOLOGY

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This stratigraphic sequence has been intruded by several plutonic phases. The oldest of these are the greenstone sills. These sills, originally diorite to gabbro in composition, were deformed into lens-shaped "boudins". These boudins are discontinuous but tend to align, en echelon, in certain stratigraphic horizons.

The second plutonic phase in the area is the granitic rocks which have intruded along the hinge zone of the Mayo Lake anticline. These intrusions range between quartz monzonite to diorite in composition and give ages between 81 million years and 109 million years (Wanless, et.al., 1966, 67, 71, 73; Armstrong, 1978; cited by Tessari, 1979).

The youngest intrusions in the area are dykes and sills of biotite lamprophyre and quartz-feldspar porphyry. As these units have not been observed in a crosscutting relationship, their relative ages cannot be ascertained.

In the Keno Hill - Galena Hill area there have been at least two periods of structural deformation (Green, 1971). The oldest period of deformation produced isoclinal and recumbent folding with extensive bedding-plane movement. Rocks involved in this earliest deformation developed a strong foliation and retained a few original sedimentary structures. Many of the greenstones have been intensely foliated which indicates that they were intruded prior to this period of deformation. Also others, including some of the larger greenstone sills were probably intruded during this period of deformation (Green, 1971). The intensity of this early deformation is indicated by the boudinage of pre-existing greenstone sills. It has also been hypothesized by Green and others that it was during this period of deformation that the Upper Schist formation was thrust over the Central Quartzite and Lower Schist formations.

The second period of deformation superimposed open folds and a pervasive wrinkle lineation on the already deformed rocks. The broad northwest trending, southeast plunging Mayo Lake anticline formed during this later period of deformation. Later, but during this second period of deformation, two subsidiary anticlines, the McQuesten River and Lynx Creek anticlines, formed (Tessari, 1978). These sub-parallel structures trend northeast-southwest and plunge to the west. The Keno Hill - Galena Hill area is on the southern limb of the McQuesten River anticline.

Granitic rocks intruded these rocks after the second period of deformation was ended.

Vein faults and cross faults can both be shown to post-date the younger deformation because they contain fragments of lineated phyllites (Green, 1971). It is clearly evident that cross faults post-date vein faults as many vein faults are offset by cross faults. Several periods of movement in the vein faults are indicated by brecciation of ore minerals. The relative ages of the vein and cross faults to the period of mineralization is controversial. This is an extremely significant relationship as 95% of the district's silver production is from deposits associated with cross faults. Boyle (1965) considers that the cross faults are post-mineralization and the presence of cross faults in nearly every mine is incidental. Franzen (1979) on the other hand, states that the cross faults are pre-mineralization and acted as barriers to ore solutions thereby having a damming effect on mineralizing solutions and creating ore pods.

Ore contained in vein faults generally consists of galena and sphalerite in a quartz-siderite-pyrite gangue. The silver-bearing ore consists of galena, freibergite, pyrargyrite and native silver. Lead is recovered from the galena and zinc and cadmium are recovered from the sphalerite.

2.1 PROPERTY GEOLOGY

No geological mapping was done on the claims during the 1980 exploration program. The geology on the claims is inferred from mapping by R.W. Boyle (1953-1955). The majority of the Swenson mineral leases are thought to be underlain by graphitic phyllite and quartz-chlorite-sericite schist of the Lower Schist formation, and Greenstone Unit 4. The Central Quartzite formation is inferred to underlie the southern portion of the leases. See Figures A and 3.

2.2 LITHOLOGICAL UNITS

Unit #1 - Lower Schist

The Lower Schist formation is believed to underlie the bulk of the mineral leases. It is composed mainly of graphitic phyllite, quartz-chlorite-sericite schist, thin bedded quartzite and minor argillite. The Lower Schist formation has a minimum thickness of several thousand feet with graphitic phyllite comprising the bulk of this unit. Graphitic phyllite is fissile, contains white siliceous interbeds, has intercalated quartz lenses and knots, and is locally sericitic and limonitic.

The quartz-chlorite-sericite schist is more competent than the graphitic phyllite and is coarser grained. It is locally very siliceous and sericitic with sericite altering to a limonitic clay. Manganese oxide is common along foliation planes near vein faults.

Unit #2 - Central Quartzite

According to Boyle (1965) the Central Quartzite formation underlies the extreme southern portion of the leases. It is composed of thick bedded quartzites separated from one another by thin bedded quartzites, phyllites and graphitic schists. In the vicinity of the Hector-Calumet Mine, located 1250 metres to the south, the beds are massive (2 to 7 metres thick) and grey in colour. The Central Quartzite is the most competent unit found in the area and as such is the most important ore-bearing host rock in the Galena Hill - Keno Hill area.

Unit #4 - Greenstone

The greenstones are usually found within the schistose formations and occur as conformable sills and boudins. They are fine to coarse grained and schistose and consist of diorite, gabbro and their altered equivalents.

The greenstone is dark green-grey to brownish-green in colour and has a varied texture because of alteration and replacement of mafic minerals (amphibole and biotite) and feldspar by secondary amphiboles, saussuritization, chloritization and silicification. The greenstone has a diabasic texture with some evidence of original grain size and layering in large bodies and intense foliation in smaller bodies.

2.3 STRUCTURAL GEOLOGY

Faulting:

Three ages of faulting are known. In order of oldest to youngest they are: 1) bedding plane and low angle faults; 2) vein faults and 3) late cross faults, low angle faults and bedding faults.

The early bedding plane and low angle faults show small displacements resulting from thrusting during folding. They usually follow bedding planes, sometimes crosscut the strata, but seldom contain ore minerals.

The vein faults create breccia, sheeted zones and void spaces when cutting through competent rock such as greenstone or quartzite. These zones range from 5 to 50 feet wide and are responsible for carrying ore. Two types of vein faults are recognized; transverse faults which strike between 000 and 045° azimuth; and the more common longitudinal faults which strike between 035 and 080° azimuth.

2.4 ECONOMIC GEOLOGY

Favourable locations for ore exist where vein faults cut through competent greenstone or quartzite and especially where these faults are truncated by a cross fault or during transition to another rock type. Within the Swenson claims the competent rock units are greenstone bodies and thin to thick bedded quartzites.

Basically, two stages of mineralization are evident. Quartz, pyrite and arsenopyrite and minor gold were first deposited along vein faults. Later brecciation allowed for deposition of siderite, galena, sphalerite, pyrite, freibergite, chalcopyrite, meneghinite, boulangerite, dolomite, quartz and minor barite. Later reworking, leaching, oxidation and remobilization of the ore minerals played an important role as secondary concentrating processes. Vein mineralization most likely originated from a circulating hydrothermal system driven by thermal energy from nearby granitic intrusions as potassium-argon dating of mineralization (87 My) coincides with potassium-argon ages for a number of Cretaceous intrusions (81 My to 109 My) in the area (A.J. Sinclair, et.al., 1980). Oxidation reaches depths of down to 150 metres and wall rock alteration is minimal.

Two known vein faults, the No Cash - Betty and the Formo, lie close to and possibly strike into the Swenson leases. The No Cash - Betty vein fault system lies 1200 to 2400 metres to the southwest of the leases. It strikes 060° azimuth and dips moderately to the southeast. The vein structure has been traced over a strike length of 850 metres within the Central Quartzite formation, and it is inferred to project onto the northwest part of the Swenson leases. Vein mineralization consists of galena, sphalerite, freibergite and their oxidation products, anglesite, cerussite and silver-bearing iron oxides and sulphates. The vein gangue is limonite, manganese oxides, altered siderite, crushed and crystalline quartz, pyrite and arsenopyrite. Total ore mined was 4,600 tons of ore averaging 70 ounces of silver per ton and 7.2% lead. The Formo vein lies 1000 metres to the northeast of the Swenson leases and strikes between 020° to 050° azimuth and dips 50° southeast. The vein structure occurs within thin bedded quartzites and graphitic schists of the Lower Schist formation and several narrow greenstone boudins. It is up to 4 metres wide and has been traced along a strike length of 10 to 20 metres in underground workings. Ore lodes, within the vein fault, are 10 to 25 centimetres wide and contain galena, brecciated sphalerite, siderite, calcite and quartz. Assays of the mineralization average 237 oz/ton silver and 60% lead.

2.5 METAMORPHISM

The sediments and greenstones fall into the lower greenschist or sericite facies of regional metamorphism.

The quartzite is commonly gneissoid to schistose, and may be very fine-grained, resembling recrystallized cherts. Impurities and alteration products include sericite, carbonate and carbonaceous material.

Greenstones are highly altered and only remnants of original textures remain. Amphiboles are altered in varied degrees to biotite, to chlorite and ultimately to sericite. Feldspars are usually saussuritized and most quartz is secondary.

The argillites exhibit a banded texture and are always present at contacts of greenstone in schist.

Phyllite, and schist contain micro-boudins and knots of remobilized quartz. Secondary pyrite is abundant. Quartz, pyrite, sericite and leucoxene are the main secondary minerals.

3.0 GEOCHEMISTRY

A total of 375 'B' horizon soil samples were collected from a grid covering all five claims. The line spacing was 50 metres and the sample interval was 50 metres. Samples were analysed by Bondar-Clegg & Company Ltd. by a process of atomic absorption for silver, lead, zinc and copper. See Figures 4.1 to 4.4.

Samples were plotted using standard statistical methods and then normalized using a technique suggested by C.F. Gleeson.

The following contour intervals were established:

1) mean + a
2) mean + 2a
3) mean + 3a
4) 2x(mean + 3a)

where: Trend = mean + a
Threshold = mean + 2a
Possibly Anomalous = mean + 2a mean + 3a
Probably Anomalous = mean + 3a

Table 2 lists the contour values for each element. See Appendix I, Figures 5.1 to 5.8, for detailed graphical analyses.

TABLE 2

SOIL GEOCHEMISTRY STATISTICAL VALUES

ELEMENT	MEAN ppm	MEAN + a ppm	MEAN + 2a ppm	MEAN + 3a ppm
lead	15	21	26	32
zinc	71	97	124	150
silver	0.24	0.4	0.56	0.72
copper	10	23	36	50

The geochemical anomalies outlined by the 1980 soil geochemical survey are listed in Table 3. See Figures 4.1, 4.2, 4.3 and 4.4.

TABLE 3

DESCRIPTION OF SOIL ANOMALIES

ANOMALY NO.	LOCATION	DIMENSIONS	COMMENTS
1	Pro claim 4900E, 4750N to 4850N	400m x 100m	A large coincident lead and silver anomaly possibly trending northeast.
2	Cain claim 4400E, 4950N to 5000N	200m x 100m	A small anomaly coincident in lead and silver with a weak zinc correlation.
3	Abel claim 4700E, 5300N 4750E, 5350N 4800E, 5350N	400m x 100m	Lead and zinc correlate well, but silver is weak.
4	Horse-shoe claim 5250E, 4550N	150m x 50m	Strongly coincident in lead, zinc and silver.
5	Pro claim 4850E, 4600N	100m x 50m	A small anomaly coincident in lead, zinc and silver.

4.0 CONCLUSIONS

1) Mapping by R.W. Boyle (1953 to 1955) indicates the Swenson leases are predominantly underlain by rocks of the Lower Schist formation with Central Quartzite possibly within the southern boundary of the claim group. Lower Schist includes graphitic phyllite, quartz-chlorite schist, thick or thinly bedded quartzite and scattered greenstone bodies.

2) If high grade silver-lead orebodies exist within the Swenson claims they will be found within or adjacent to greenstone and/or thick bedded quartzites.

3) The No Cash - Betty, Cream, Hector - Calumet and Formo vein fault systems are in close proximity to the Swenson leases and of these, the No Cash - Betty and Formo vein faults possibly strike into the leases.

4) Soil geochemistry has highlighted five areas of interest (see Figure A). Priority Anomalies No. 1 and 2 are located on the Pro and Cain claims respectively.

5.0 RECOMMENDATIONS

It is recommended that geological mapping at 1:2,500 scale and prospecting be done over the Swenson leases and adjacent area using the 1980 geochemical grid. Caterpillar trenching, geological mapping and sampling is recommended in order to test the five soil geochemical anomalies and to test for projections of vein faults on the property. See Figure A.

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K.E. Northcote

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Geological Supervisor

KEN/pcd

APPENDIX I

GEOSTATISTICAL GRAPHS

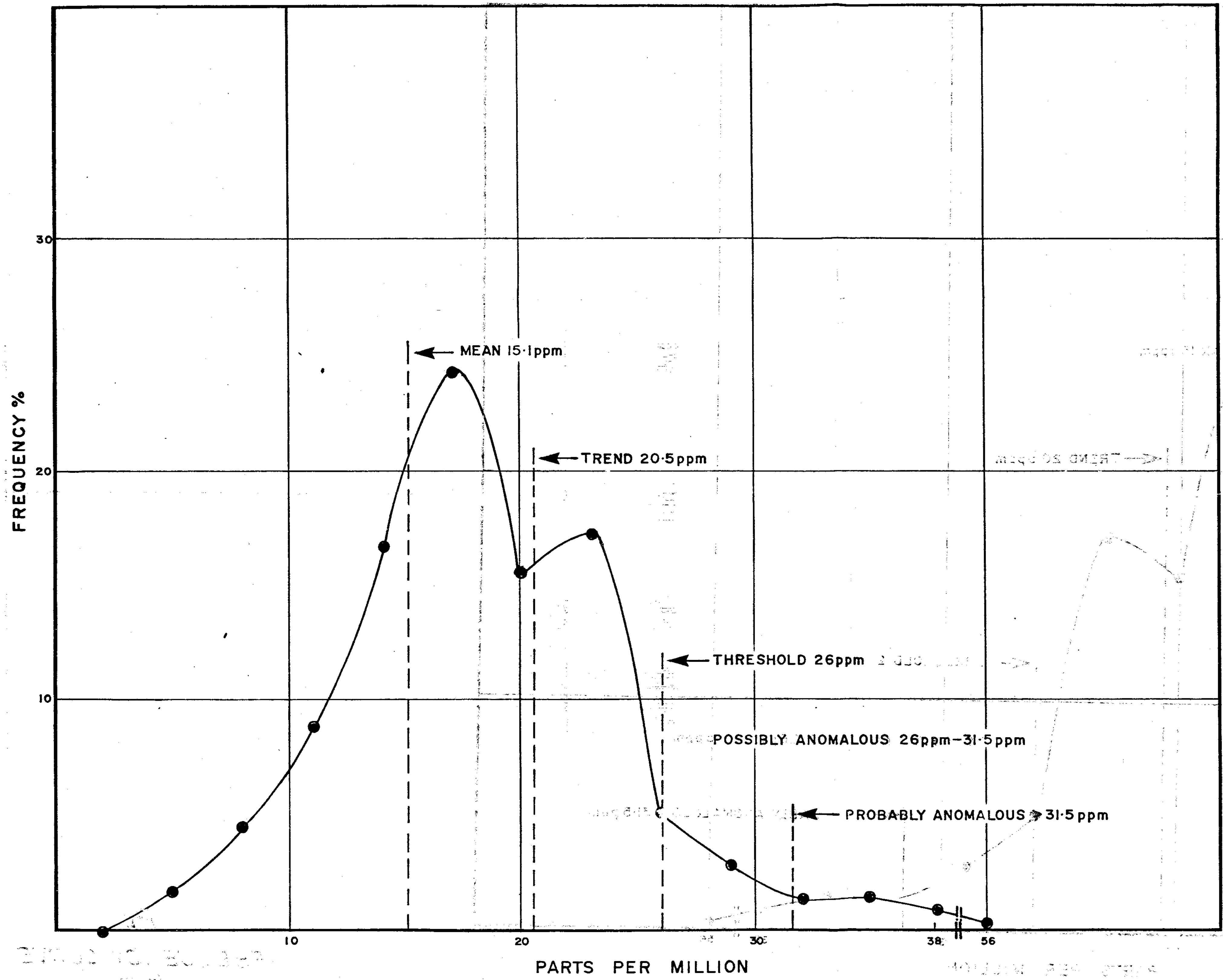
SWENSON LEASES Pb VALUES FOR SOIL SAMPLES

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 3	2	-	-	-
4 - 6	5	6	1.69	1.69
7 - 9	8	16	4.49	6.18
10 - 12	11	31	8.71	14.89
13 - 15	14	59	16.57	31.46
16 - 18	17	86	24.16	55.62
19 - 21	20	55	15.45	71.07
22 - 24	23	61	17.13	88.20
25 - 27	26	18	5.06	93.26
28 - 30	29	10	2.81	96.07
31 - 33	32	5	1.40	97.47
34 - 36	35	5	1.40	98.87
37 - 39	38	3	0.84	99.71
40 - 42	41	-	-	-
43 - 45	44	-	-	-
46 - 48	47	-	-	-
49 - 51	50	-	-	-
52 - 54	53	-	-	-
55 - 57	56	1	0.28	99.99
58 - 60	59	-	-	-
		356		

SWENSON LEASES Pb VALUES FOR SOIL SAMPLES

-considering values at least >30 ppm to be anomalous

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 3	2	-	-	-
4 - 6	5	6	1.75	1.75
7 - 9	8	16	4.68	6.42
10 - 12	11	31	9.06	15.48
13 - 15	1.4	59	17.25	32.74
16 - 18	17	86	25.15	57.89
19 - 21	20	55	16.08	73.97
22 - 24	23	61	17.84	91.81
25 - 27	26	18	5.26	97.07
28 - 30	29	10	2.92	99.99
		342		



09146

Pb

FREQUENCY CURVE from 'B' HORIZON SOIL SAMPLES

SWENSON LEASES

Fig·5·1

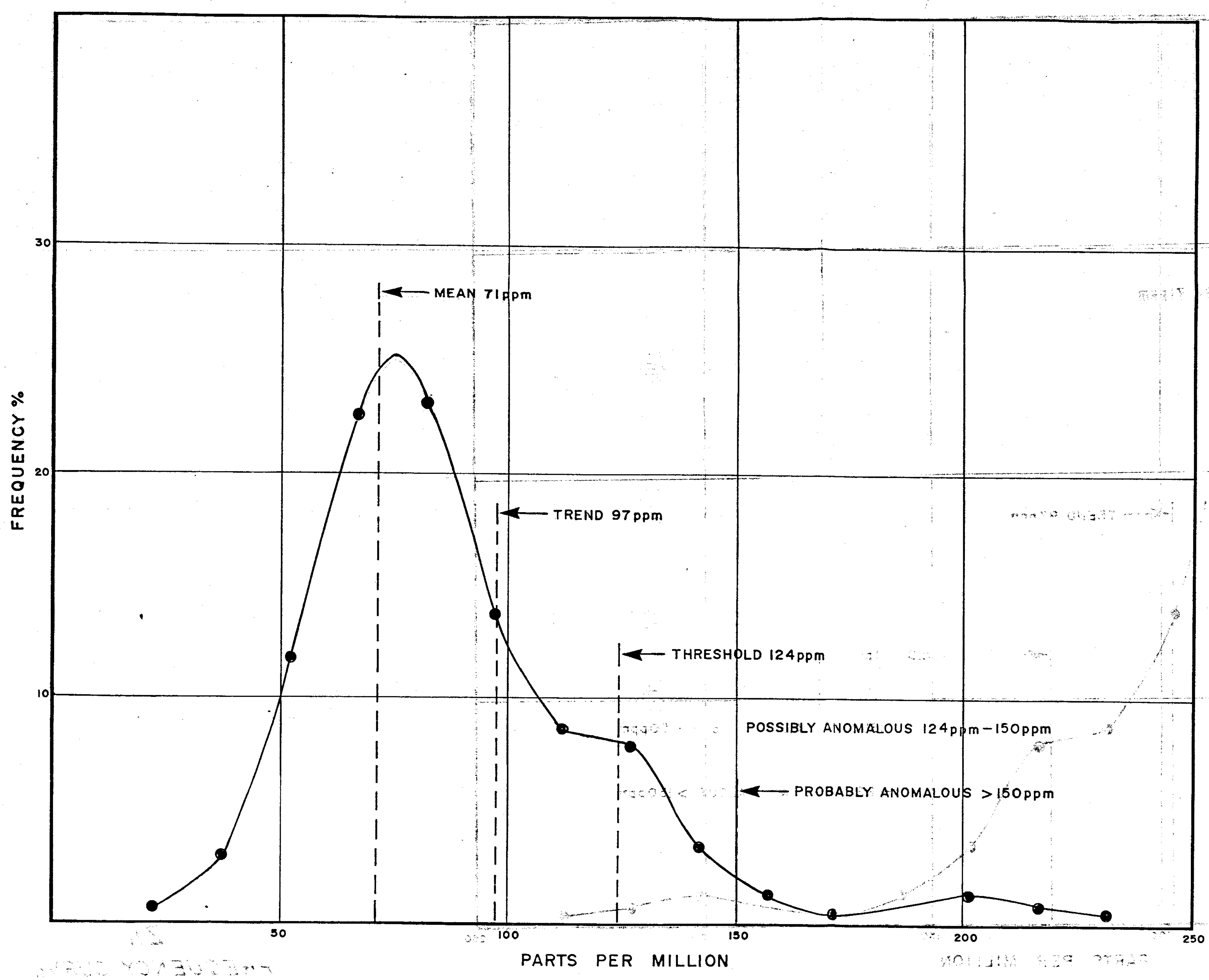
SWENSON LEASES Pb VALUES FOR SOIL SAMPLES

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 3	2	-	-	-
4 - 6	5	6	1.69	1.69
7 - 9	8	16	4.49	6.18
10 - 12	11	31	8.71	14.89
13 - 15	14	59	16.57	31.46
16 - 18	17	86	24.16	55.62
19 - 21	20	55	15.45	71.07
22 - 24	23	61	17.13	88.20
25 - 27	26	18	5.06	93.26
28 - 30	29	10	2.81	96.07
31 - 33	32	5	1.40	97.47
34 - 36	35	5	1.40	98.87
37 - 39	38	3	0.84	99.71
40 - 42	41	-	-	-
43 - 45	44	-	-	-
46 - 48	47	-	-	-
49 - 51	50	-	-	-
52 - 54	53	-	-	-
55 - 57	56	1	0.28	99.99
58 - 60	59	-	-	-
		356		

SWENSON LEASES Pb VALUES FOR SOIL SAMPLES

-considering values at least >30 ppm to be anomalous

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 3	2	-	-	-
4 - 6	5	6	1.75	1.75
7 - 9	8	16	4.68	6.42
10 - 12	11	31	9.06	15.48
13 - 15	1.4	59	17.25	32.74
16 - 18	17	86	25.15	57.89
19 - 21	20	55	16.08	73.97
22 - 24	23	61	17.84	91.81
25 - 27	26	18	5.26	97.07
28 - 30	29	10	2.92	99.99
		342		



091464

Zn
FREQUENCY CURVE
from
'B' HORIZON SOIL SAMPLES

SWENSON LEASES

Fig·5·2

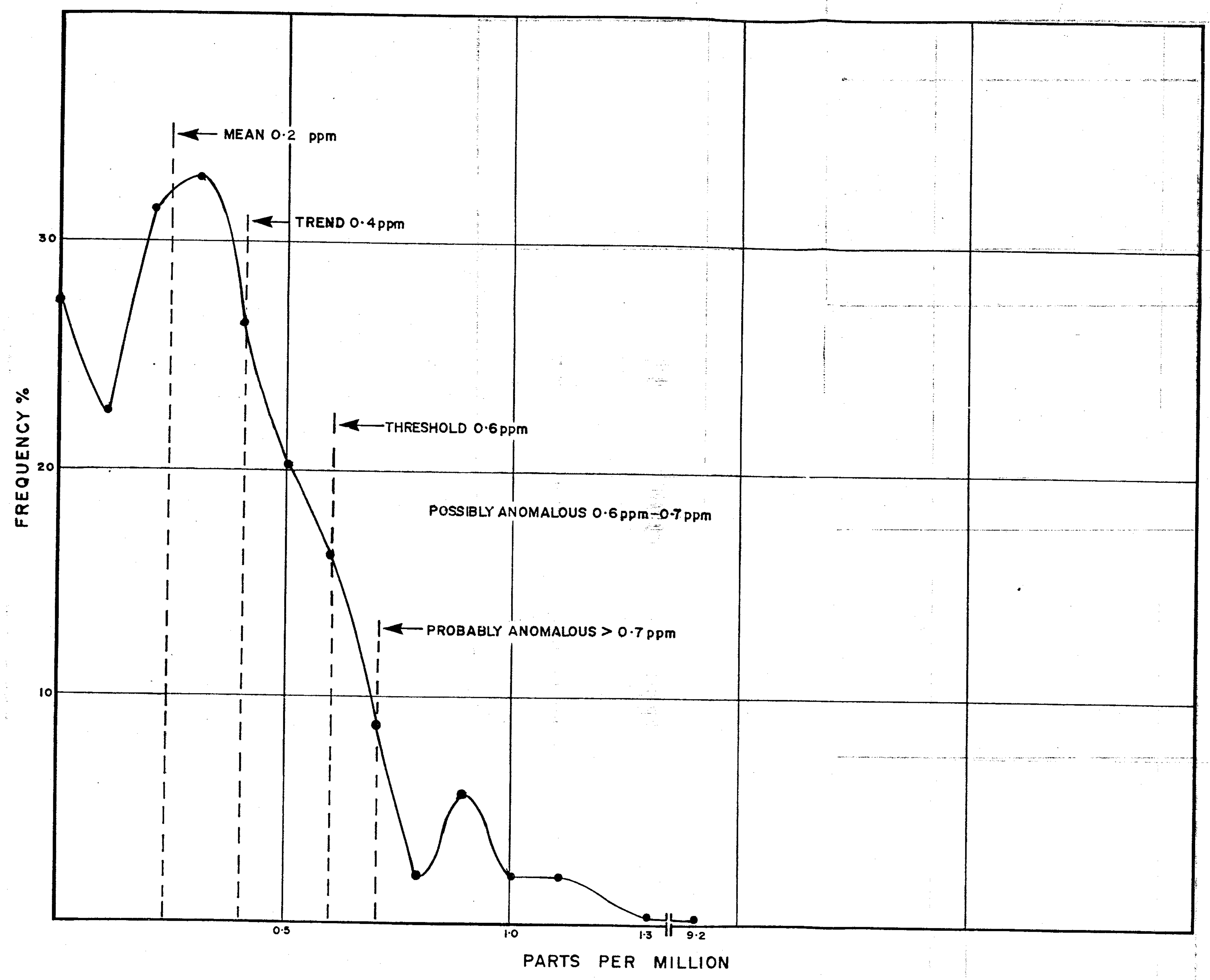
SWENSON LEASES Zn VALUES FOR SOIL SAMPLES

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 15	7.5	-	-	-
16 - 30	22	3	0.84	0.84
31 - 45	37	11	3.09	3.93
46 - 60	52	42	11.80	15.73
61 - 75	67	80	22.47	38.20
76 - 90	82	82	23.03	61.23
91 - 105	97	49	13.76	74.99
106 - 120	112	31	8.71	83.70
121 - 135	127	28	7.87	91.57
136 - 150	142	13	3.56	95.13
151 - 165	157	5	1.40	96.53
166 - 180	172	2	0.56	97.09
181 - 195	187	-	-	-
196 - 210	202	5	1.40	98.49
211 - 225	217	3	0.84	99.33
226 - 240	232	2	0.56	99.89
		356		

SWENSON LEASES Zn VALUES FOR SOIL SAMPLES

-considering values at least >165 ppm to be anomalous

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 15	7.5	-	-	-
16 - 30	22	3	0.87	0.87
31 - 45	37	11	3.20	4.07
46 - 60	52	42	12.21	16.28
61 - 75	67	80	23.25	39.23
76 - 90	82	82	23.84	63.37
91 - 105	97	49	14.24	77.61
106 - 120	112	31	9.01	86.67
121 - 135	127	28	8.14	94.81
136 - 150	142	13	3.78	98.59
151 - 165	157	5	1.45	100.04
		344		



091464

Ag
FREQUENCY CURVE
from
'B' HORIZON SOIL SAMPLES

SWENSON LEASES
Fig·5·3

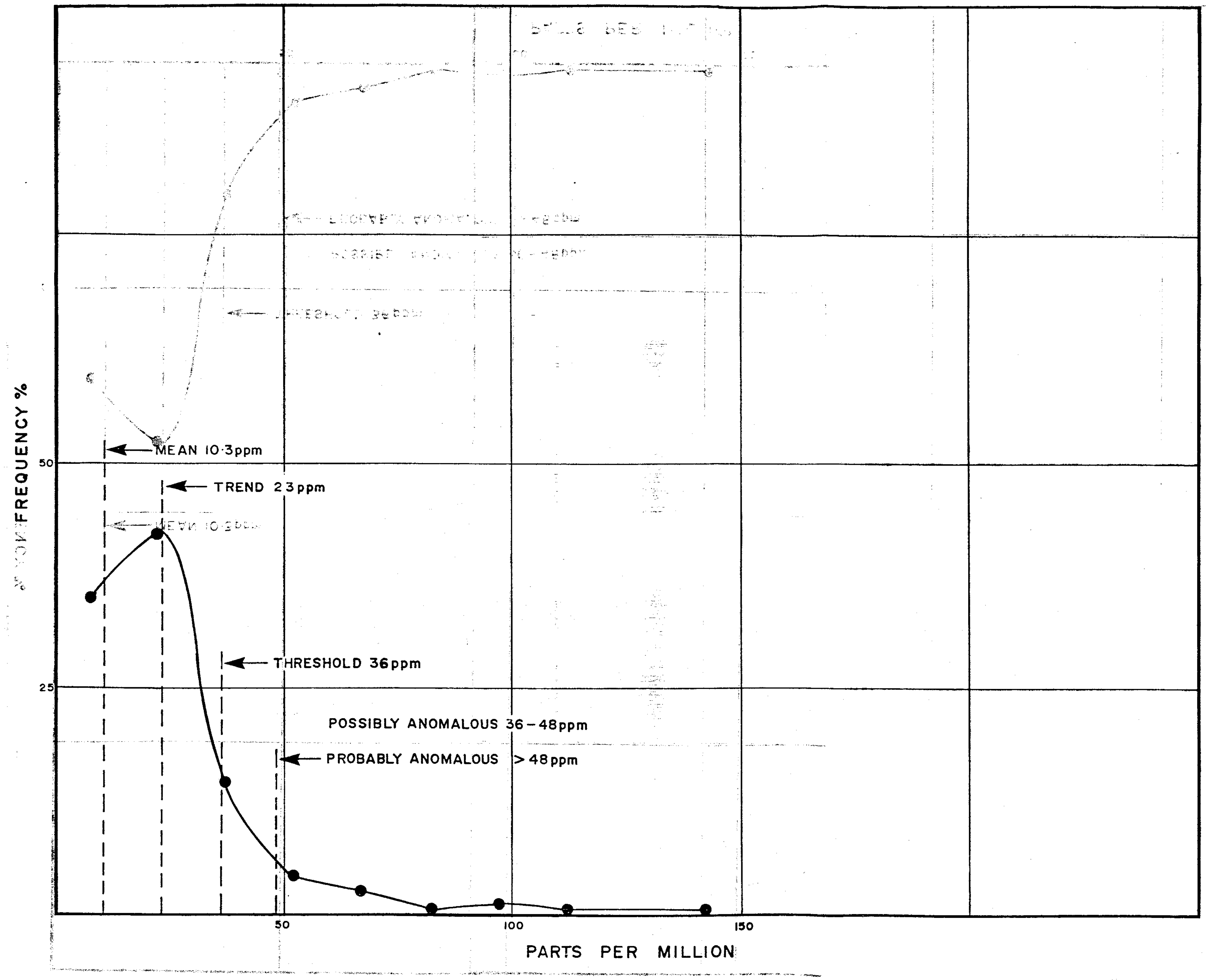
SWENSON LEASES Ag VALUES FOR SOIL SAMPLES

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
<0.1		49	13.76	13.76
0.1		40	11.24	25.00
0.2		56	15.73	40.73
0.3		59	16.57	57.30
0.4		47	13.20	70.50
0.5		36	10.11	80.61
0.6		29	8.15	88.76
0.7		16	4.19	93.25
0.8		4	1.12	94.37
0.9		10	2.81	97.18
1.0		4	1.12	98.30
1.1		4	1.12	99.42
1.2		-	-	-
1.3		1	0.28	99.70
9.2		1	0.28	99.98
		356		

SWENSON LEASES Ag VALUES FOR SOIL SAMPLES

-considering values at least >0.8 ppm to be anomalous

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
<0.1		49	14.58	14.58
0.1		40	11.90	26.48
0.2		56	16.67	43.15
0.3		59	17.56	60.71
0.4		47	13.99	74.70
0.5		36	10.71	85.41
0.6		29	8.63	94.04
0.7		16	4.76	98.80
0.8		4	1.19	99.99
		336		



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Cu

FREQUENCY CURVE
from
'B' HORIZON SOIL SAMPLES

SWENSON LEASES

Fig·5·4

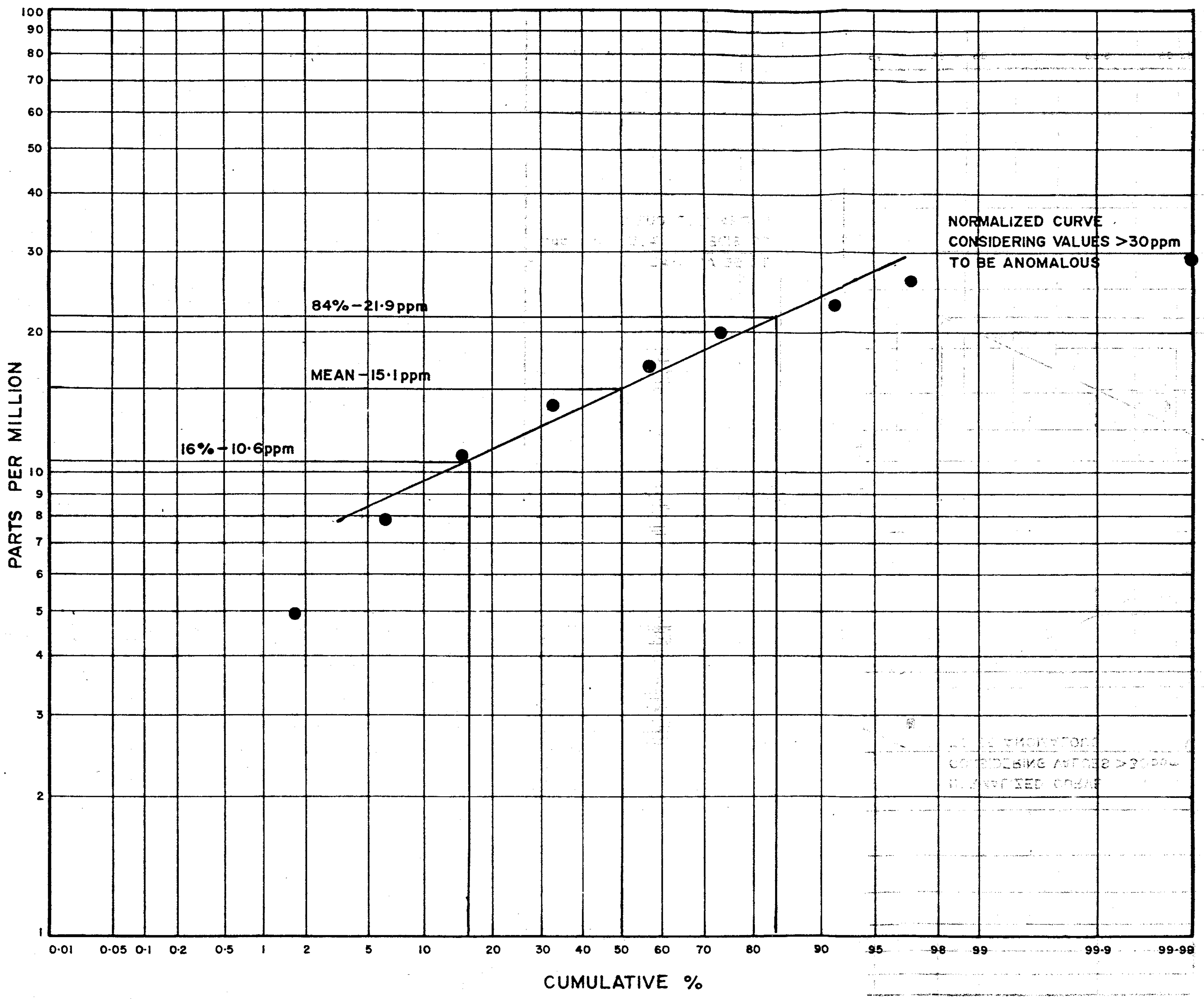
SWENSON LEASES Cu VALUES FOR SOIL SAMPLES

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 15	7	124	34.83	34.83
16 - 30	22	148	41.57	76.40
31 - 45	37	52	14.61	91.01
46 - 60	52	15	4.21	95.22
61 - 75	67	9	2.53	97.75
76 - 90	82	2	0.56	98.31
91 - 105	97	4	1.12	99.43
106 - 120	112	1	0.28	99.71
121 - 135	127	-	-	-
136 - 150	142	1	0.28	99.99
		356		

SWENSEN LEASES Cu VALUES FOR SOIL SAMPLES

-considering values at least 60 ppm to be anomalous

SAMPLE INTERVAL	MIDPOINT	FREQUENCY	% FREQUENCY	CUMMULATIVE %
0 - 15	7	124	36.58	36.58
16 - 30	22	148	43.66	80.24
31 - 45	37	52	15.34	95.58
46 - 60	52	15	4.42	100.00
		339		



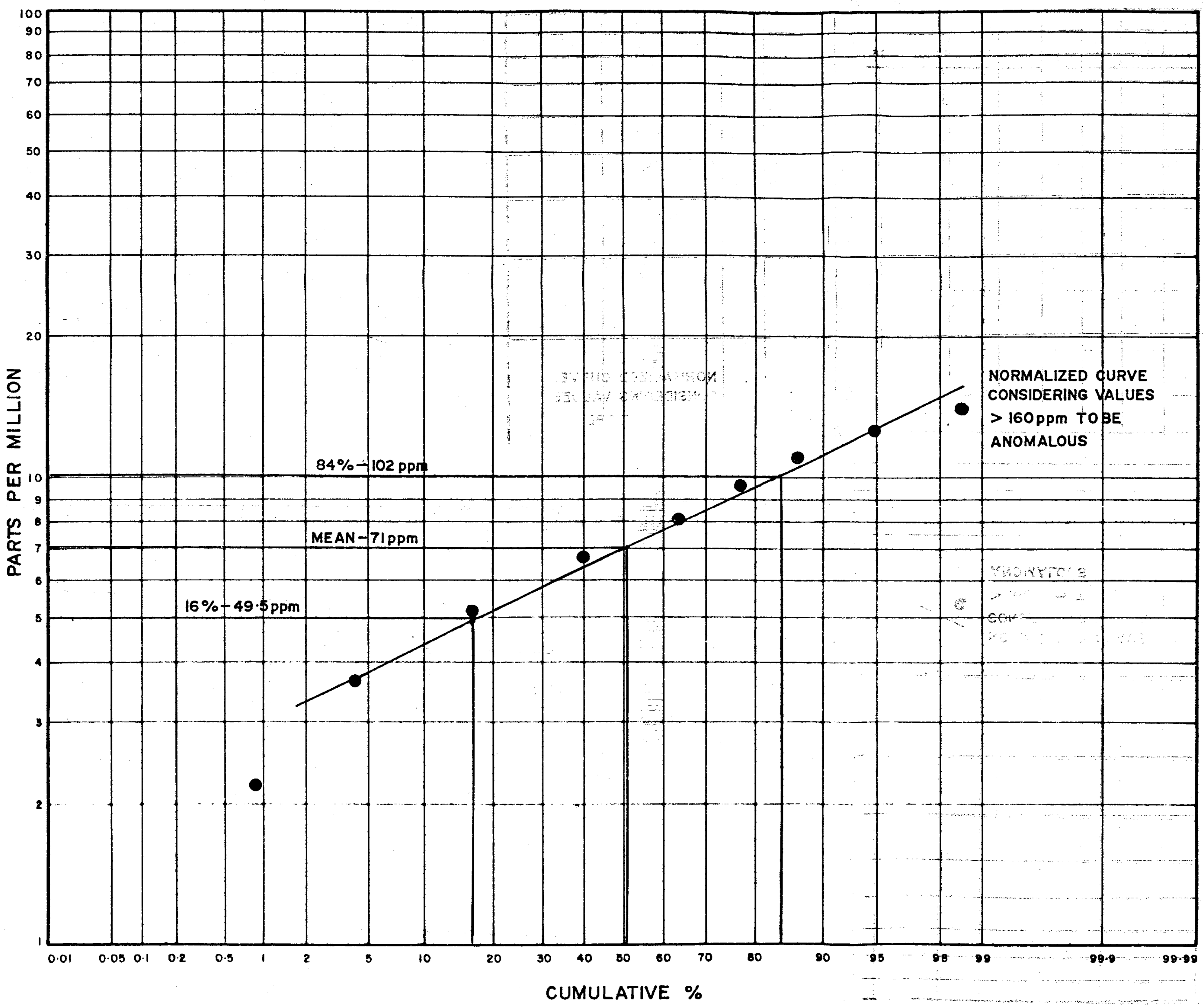
Pb

CUMULATIVE FREQUENCY CURVE from 'B' HORIZON SOIL SAMPLES

SWENSON LEASES

Fig·5·5

091464

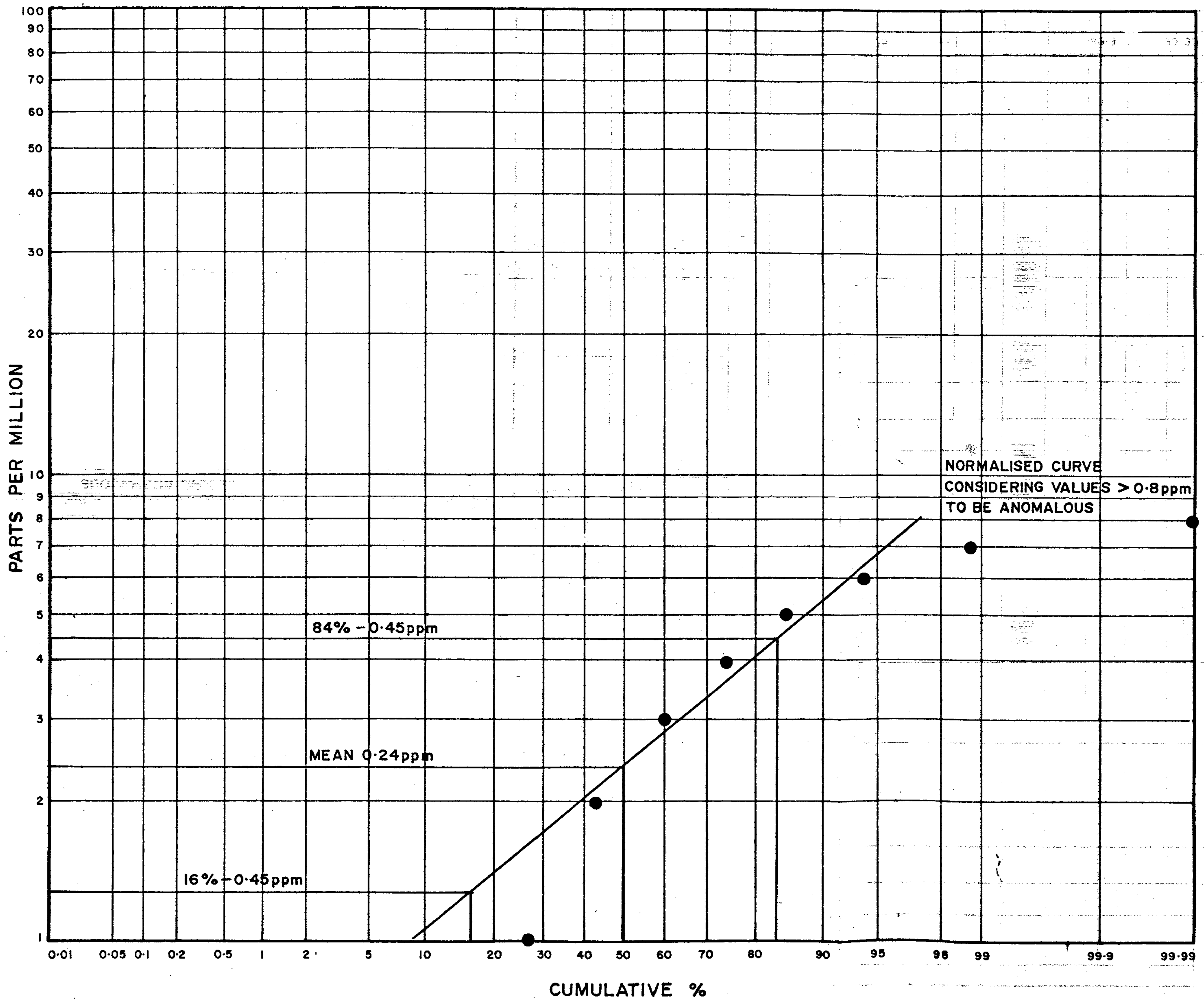


Zn

CUMULATIVE FREQUENCY CURVE
from
'B' HORIZON SOIL SAMPLES

SWENSON LEASES
Fig·5·6

091464

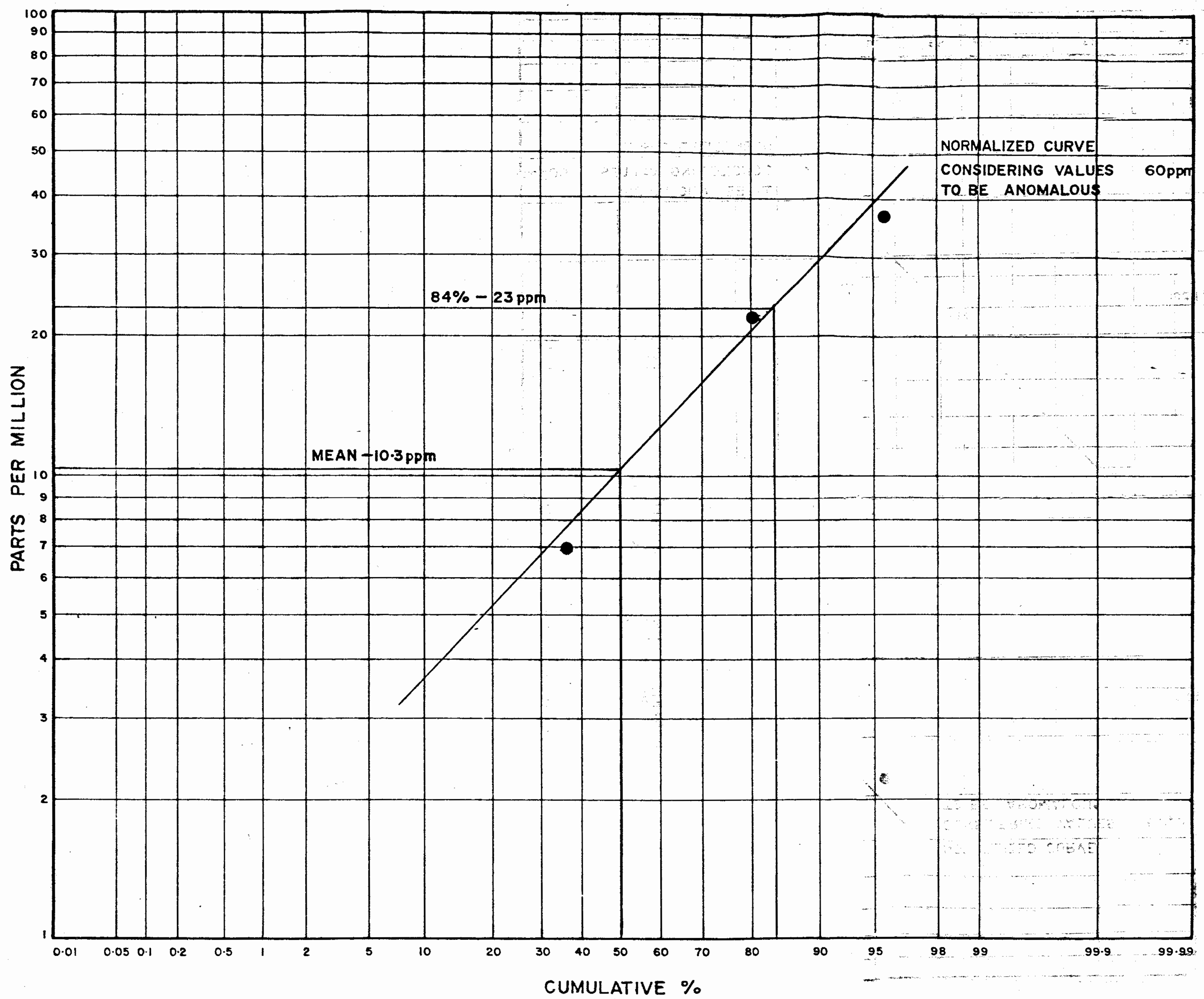


Ag

CUMULATIVE FREQUENCY CURVE
from
'B' HORIZON SOIL SAMPLES

SWENSON LEASES

Fig·5·7 091464



Cu

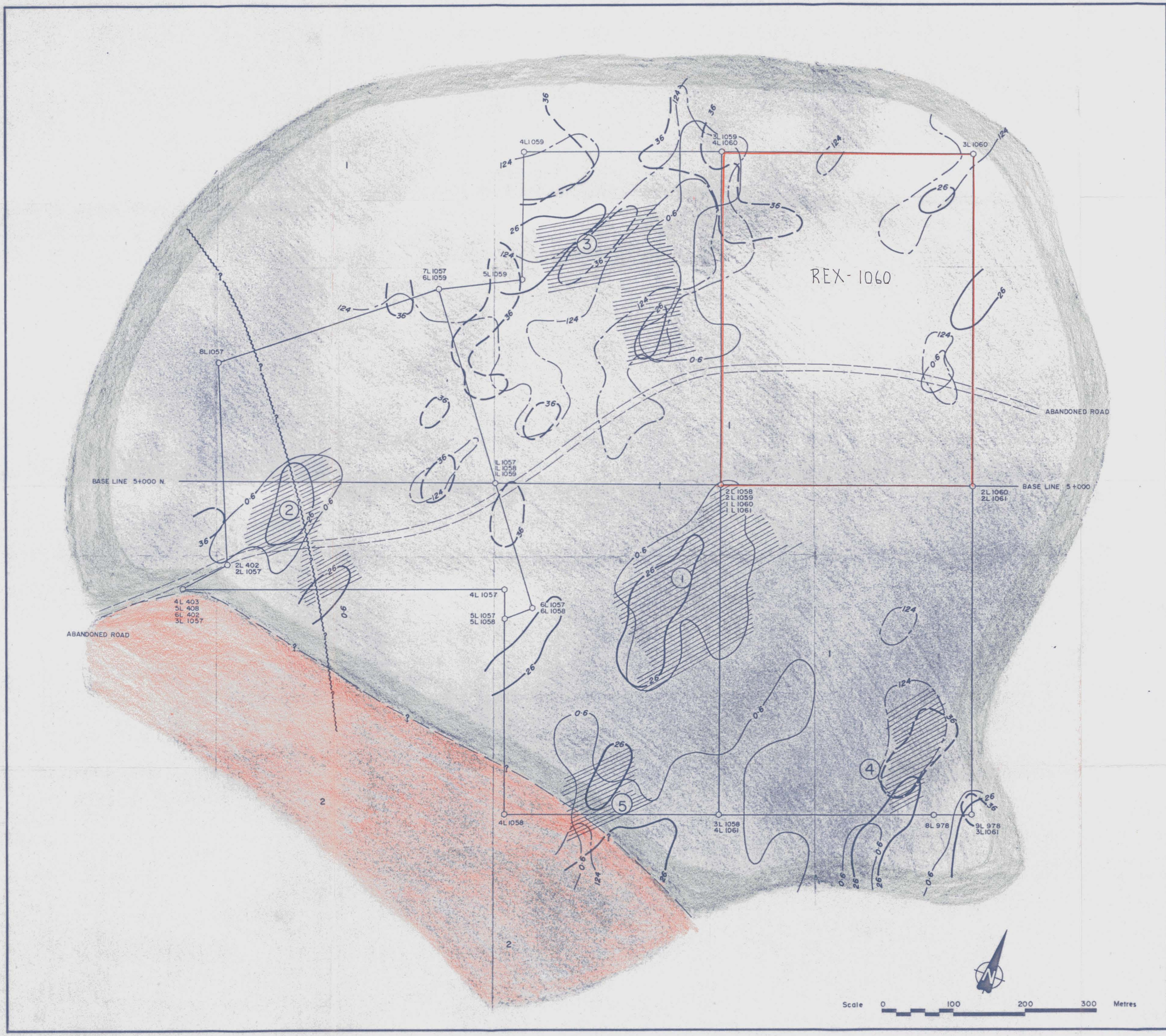
CUMULATIVE FREQUENCY CURVE
from
'B' HORIZON SOIL SAMPLES

SWENSON LEASES
Fig·5·8

091464

SWENSON LEASES

FIGURES



SYMBOLS

ANOMALOUS AREAS ① - ⑤

AREAS OF PROPOSED FUTURE TRENCHING

CONTOUR INTERVAL - PPM

LITHOLOGY

DRIFT 8

LAMPROPHYRE 7

QUARTZ-FELDSPAR PORPHYRY 6

GRANITIC ROCKS 5

GREENSTONE 4

UPPER SCHIST FORMATION 3

CENTRAL QUARTZITE FORMATION 2

LOWER SCHIST FORMATION 1

CANADA TUNGSTEN MINING CORPORATION

KENO HILL Y·T·

1980 GEOLOGICAL EXPLORATION PROGRAMME

SWENSON LEASES

SUMMARY of EXPLORATION

DATE FEBRUARY 1981	JOB NO 80-09-P	FIG NO A
DRAWN BY I.P.ROMO/sjo		
REVISED BY	SCALE 1:2500	

091464

BEMA INDUSTRIES LTD.

LEGEND

CONTOUR INTERVAL - ppm	-	21 MEAN + 1σ
	-	26 MEAN + 2σ
	-	32 MEAN + 3σ
	-	64 2(MEAN+3σ)

STANDARD DEVIATION	-	σ
MEAN	-	15
TREND	-	21
THRESHOLD	-	26
POSSIBLY ANOMOLOUS	-	27 - 32
PROBABLY ANOMOLOUS	-	64

CANADA TUNGSTEN MINING CORPORATION

KENO HILL Y·T·

1980 GEOLOGICAL EXPLORATION PROGRAMME

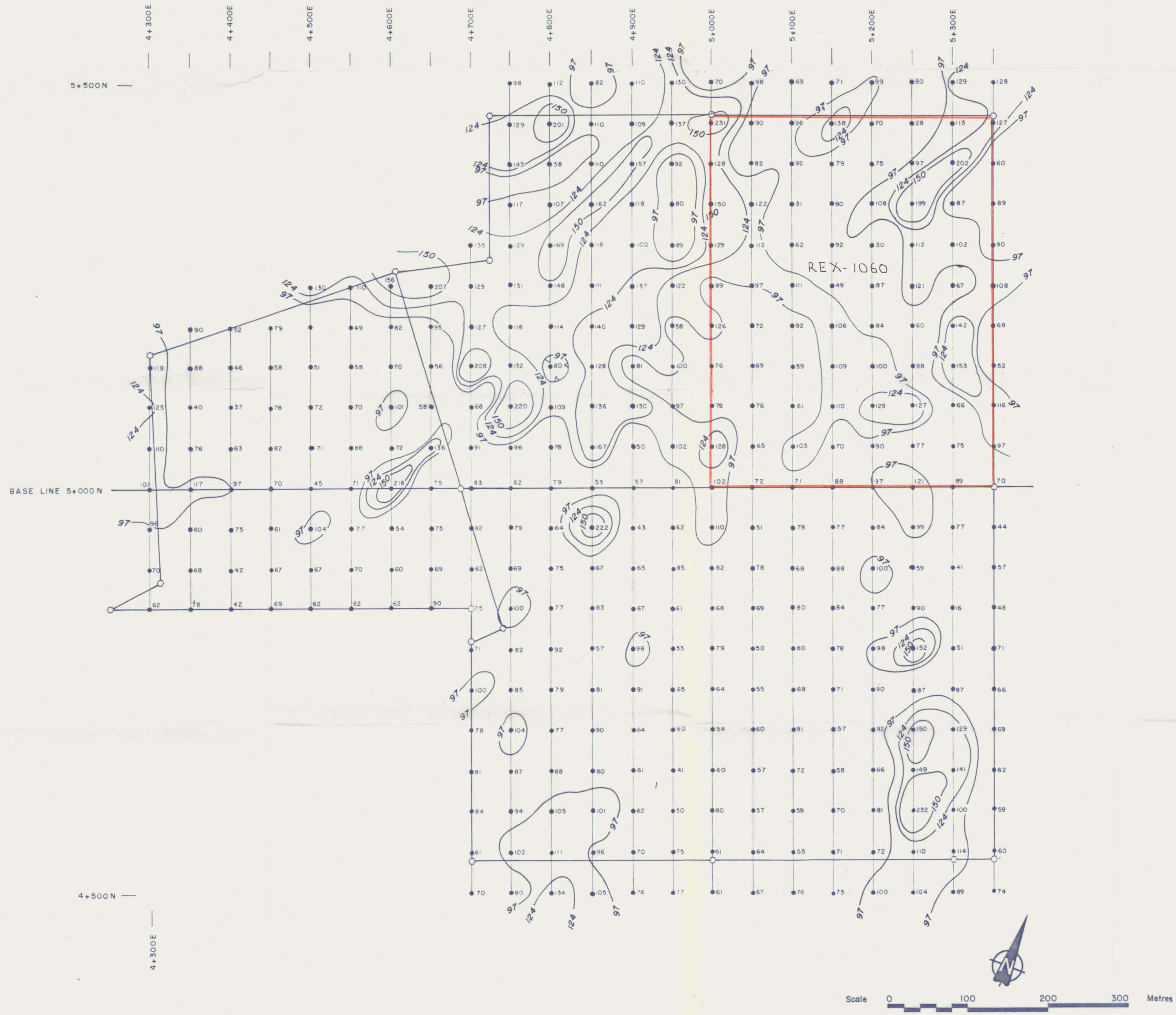
SWENSON LEASES

SOIL GEOCHEMISTRY Pb

091464

DATE FEBRUARY 1981	JOB NO 80-09-P	FIG NO 4·1
DRAWN BY C.L.		
REVISED BY	SCALE 1 : 2,500	METRES

BEMA INDUSTRIES LTD.



LEGEND

CONTOUR INTERVAL - ppm	–	97 MEAN + 1σ
	–	124 MEAN + 2σ
	–	150 MEAN + 3σ
	–	300 2(MEAN+ 3σ)

STANDARD DEVIATION	–	σ
MEAN	–	71
TREND	–	97
THRESHOLD	–	124
POSSIBLY ANOMOLOUS	–	125 - 150
PROBABLY ANOMOLOUS	–	>300

CANADA TUNGSTEN MINING CORPORATION

KENO HILL Y·T·

1980 GEOLOGICAL EXPLORATION PROGRAMME

SWENSON LEASES

SOIL GEOCHEMISTRY Zn

091464

DATE FEBRUARY 1981	JOB NO 80-09-P	FIG. NO 4·2
DRAWN BY C.L.		
REVISED BY	SCALE 1 : 2,500	METRES

BEMA INDUSTRIES LTD.

LEGEND

CONTOUR INTERVAL - ppm	–	0·4 MEAN + 1σ
	–	0·6 MEAN + 2σ
	–	0·7 MEAN + 3σ
	–	1·42(MEAN+3σ)
STANDARD DEVIATION	–	σ
MEAN	–	0·24
TREND	–	0·4
THRESHOLD	–	0·6
POSSIBLY ANOMOLOUS	–	0·7 - 1·4
PROBABLY ANOMOLOUS	–	>1·4

CANADA TUNGSTEN MINING CORPORATION

KENO HILL Y·T·

1980 GEOLOGICAL EXPLORATION PROGRAMME

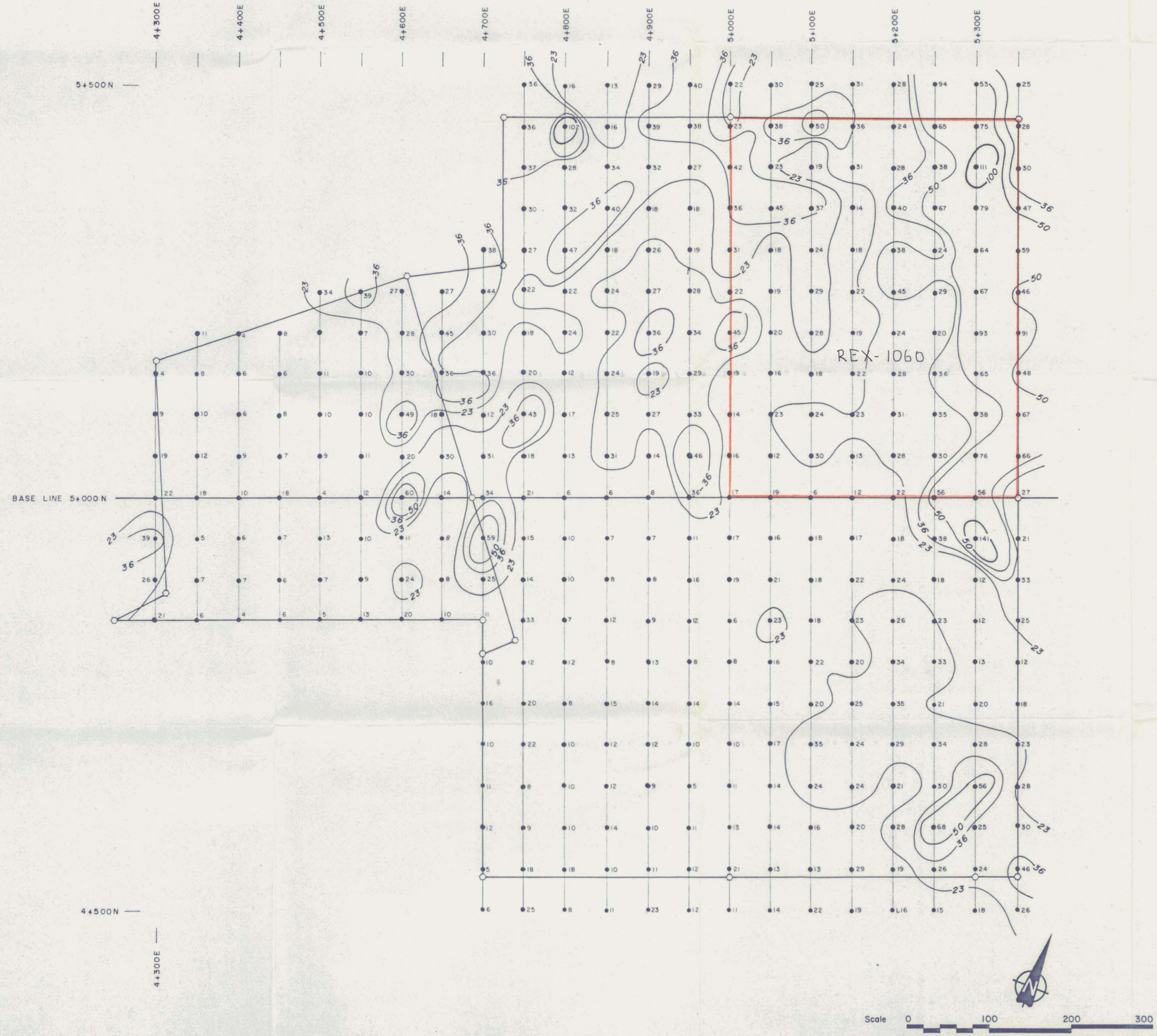
SWENSON LEASES

SOIL GEOCHEMISTRY
Ag

091464

DATE *FEBRUARY 1981*	JOB NO 80-09-P	FIG NO 4·3
DRAWN BY *C.L.*		
REVISED BY	SCALE *1 : 2,500*	METRES

BEMA INDUSTRIES LTD.



LEGEND

CONTOUR INTERVAL - ppm	—	23 MEAN + 1σ
	—	36 MEAN + 2σ
	—	50 MEAN + 3σ
	—	100 2(MEAN + 3σ)

STANDARD DEVIATION	—	σ
MEAN	—	10
TREND	—	23
THRESHOLD	—	36
POSSIBLY ANOMOLOUS	—	37-50
PROBABLY ANOMOLOUS	—	>50

CANADA TUNGSTEN MINING CORPORATION

KENO HILL Y·T·

1980 GEOLOGICAL EXPLORATION PROGRAMME

SWENSON LEASES

SOIL GEOCHEMISTRY Cu

091464

DATE *FEBRUARY 1981*	JOB NO 80-09-P	FIG NO 4·4
DRAWN BY *C.L.*		
REVISED BY	SCALE *1 : 2,500*	METRES

BEMA INDUSTRIES LTD.