REPORT ON THE 1991 GEOLOGICAL AND GEOCHEMICAL FIELDWORK ON THE CU PROPERTY

CAMBRIAN CHIEF II, Cu 1 AND Cu 2
MINERAL CLAIMS

Vancouver Mining Division, B.C.

Location:
1. 35km north of Sechelt, B.C.
2. NTS 92G/12W
3. Latitude 49° 40' N
   Longitude 123° 57' W

FOR: Brian Sauer
629 Ewen Ave
New Westminster, B.C.
V3M 5C2

BY: John Zbeetnoff
Apt F. 1273 East 27 Street
North Vancouver, B.C.
V7J 1S8

9 March 1992

SUMMARY

The Cu Property consists of three unsurveyed contiguous modified grid mineral claims totalling 21 units. The claims are located in southwestern British Columbia 36.5 km north of Sechelt. Access to and within the Property is via four wheel drive vehicles.

The Cu Property is located within the intrusive package of the Coast Plutonic Belt. These intrusives host Cretaceous or older pendants of the Jervis Group. The pendant is comprised of a volcano-sedimentary package that hosts significant mineralization.

The pendant of Jervis Group rocks is highly altered. The pendant has been explored and mined since the early 1930's. Copper mineralization on adjacent ground contains metal concentrations in excess of 7% Cu over 5 feet. This copper mineralization is hosted by a dolomitic-limestone. The same carbonate unit hosts zinc mineralization on the Cu Property. This carbonate unit has a minimum 310m strike length and varies from 10 to 30m in width. Samples collected on the Cu Property during the 1991 exploration program have analyzed up to 17.41% and .332% copper. Both the copper and zinc mineralization occurs within skarn assemblages. It is believed that these occurrences are along the same trend.

A multi-element soil geochemical anomaly occurs on the Property. This anomaly is up to 100 meters wide and extends for more than 450 meters. The anomaly continues northward beyond the current established grid.

Further work on the Property is recommended. An exploration program of geological mapping, soil sampling, trenching, channel sampling and geophysics is recommended. The grid should also be refurbished and extended.

The skarn-alteration associated with both the copper and zinc occurrences occurs within a dolomitic limestone. The carbonate offers a non-acid generating environment for exploration and development. These metal-bearing non-acid generating environments will become attractive exploration targets as environmental awareness expands.

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INTRODUCTION

This report was prepared at the request of Mr. Brian Sauer. It describes the work carried out on the Cambrian Chief II, Cu 1 and Cu 2 claim group during the 1991 exploration program.

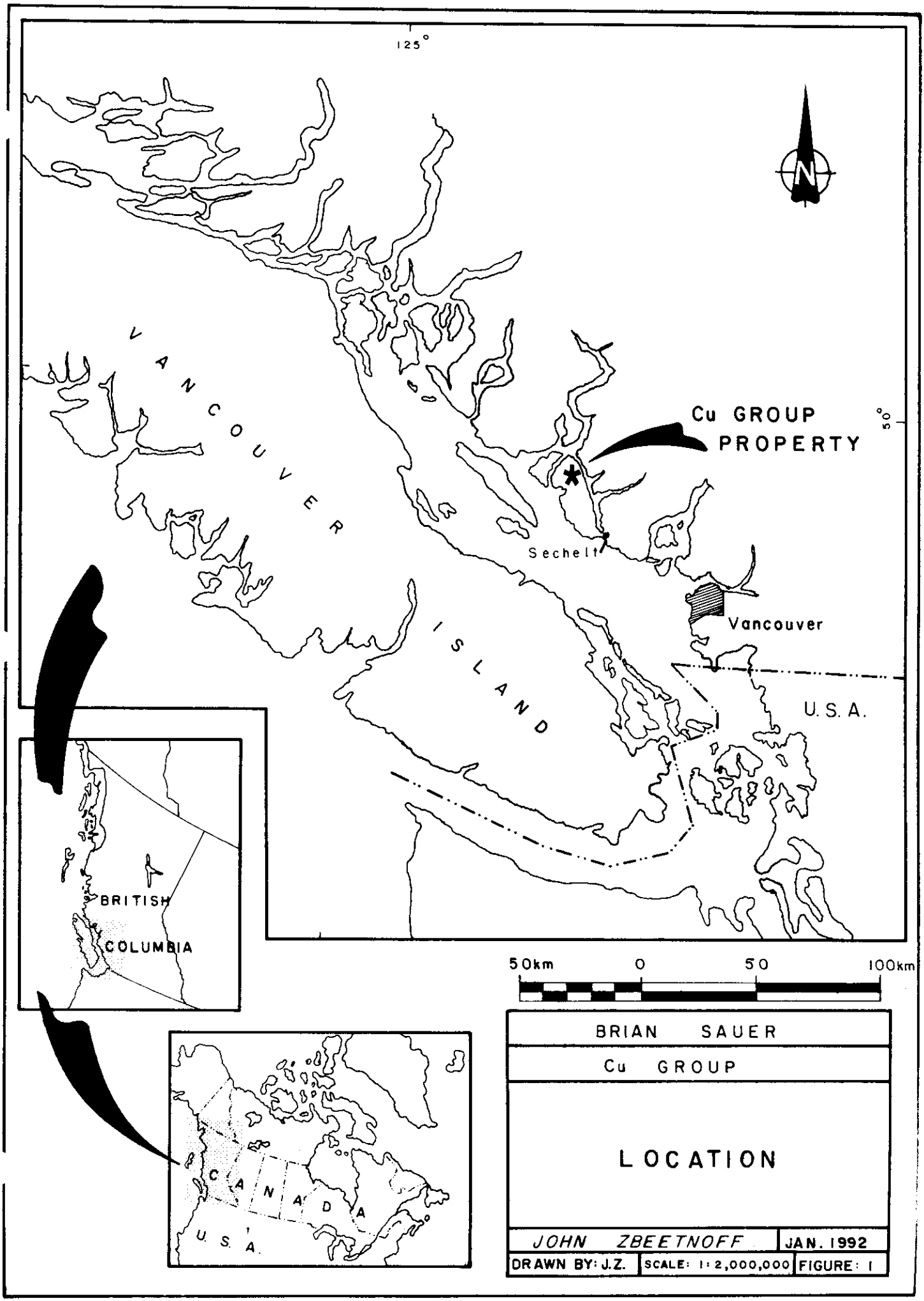
The work was carried out by John Zbeetnoff from December 7 to December 10, 1991. Exploration consisted of geological mapping and sampling.

LOCATION AND ACCESS

The Cu Property is located in southwestern British Columbia, 36.5 km north of Sechelt (Figure 1). The Property is accessible by logging roads from the west and south. The claims are located two kilometres west of the tide water at Sechelt Inlet and approximately 15 km from the tide water at Pender Harbour.

Access to the property is via four wheel drive vehicles along logging roads which are generally in good condition. A 7.5 km logging road enters the Property from the west. This access will be found to be steep and prone to washouts. Active logging may maintain the road in passable condition. An alternate four wheel drive route allows access from the south of the Property. This route consists of a series of logging roads extending 22 km from highway 101. The southern route is less steep than the western access, but does traverse higher elevations. Snow pack may limit travel for short periods during winter months. A detailed description of southern access is outlined in Appendix A.

Access within the Property is greatly aided by several well established trails and roads. These trails and roads were emplaced over the last 75 years during previous mineral exploration, mining, and logging carried out, on and adjacent to, the Property.


125°
50°
N
VANCOUVER ISLAND
Cu GROUP PROPERTY
Sechelt
Vancouver
U.S.A.
BRITISH COLUMBIA
50km 0 50 100km
CANADA
U.S.A.
BRIAN SAUER
Cu GROUP
LOCATION
JOHN ZBEETNOFF
JAN. 1992
DRAWN BY: J.Z.
SCALE: 1:2,000,000
FIGURE: 1

CLIMATE, TOPOGRAPHY AND VEGETATION

The climate in the area is variable with warm to hot summers and cool humid winters. The area receives the majority of the precipitation during the winter months. Rain dominates from mid November to late December. Snowfall is common from late December to early February. Snow pack may be encountered along the southern access road from late December to March or April. The western access road may encounter intermittent snow cover.

The Property is situated on the west facing slope of the northwest trending Caren Range. The relief is moderate, with moderately steep slopes along the western claim boundary and flat lying terrain in the central and the eastern area. The Property is located at approximately 3200 feet (975m) in elevation.

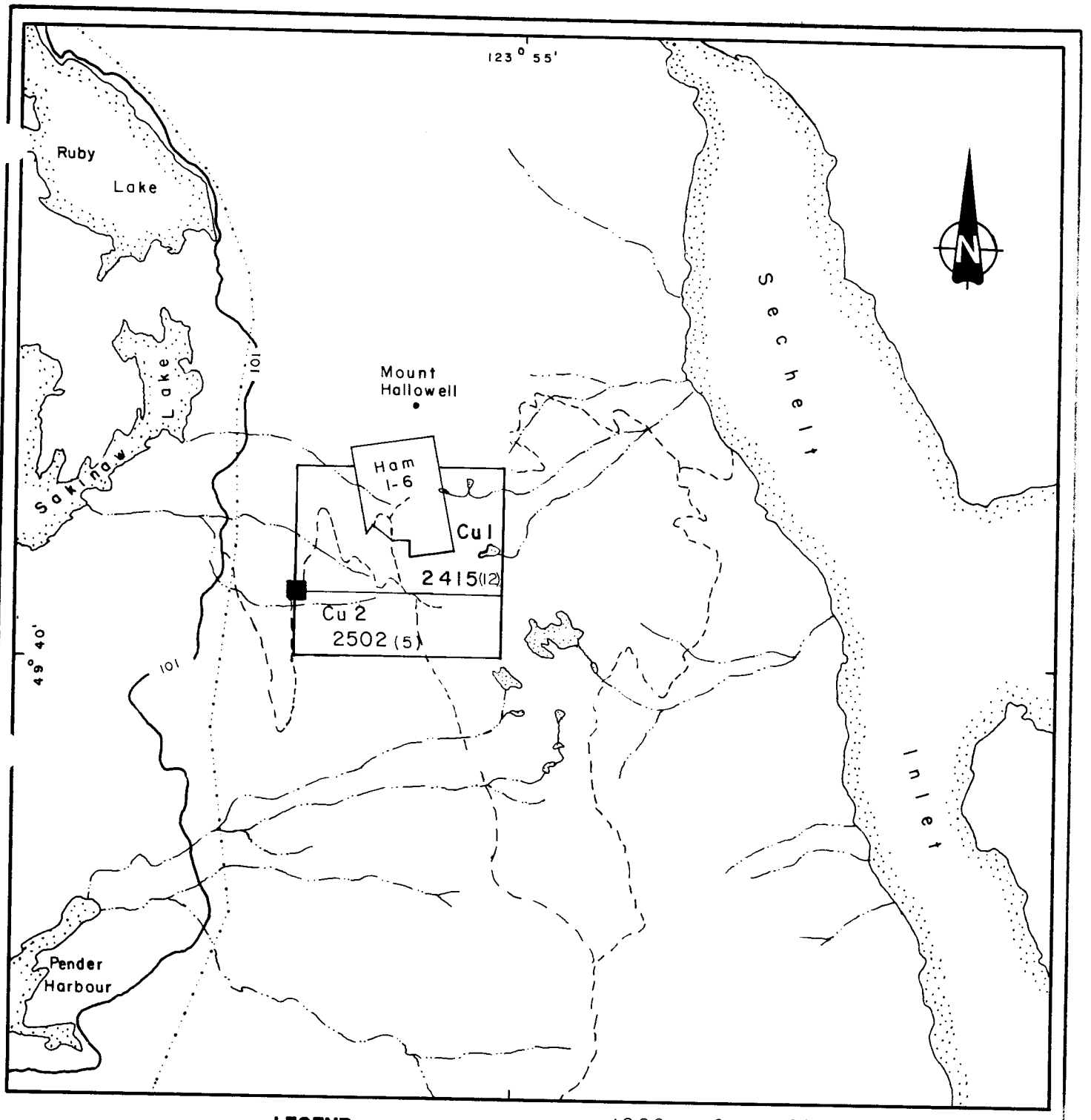
The Property is below tree line. The vegetation on the claims consists of coniferous trees and is rarely densely overgrown. Several generations of logging has resulted in variable stages of regrowth. The most recent logging on the Property occurred in 1989. Timber was removed from the central to south-central area of the claim group. At the time of the 1991 field work it had not yet been slash burned. Creeks are generally fast flowing and offer limited access for prospecting and mapping, but would provide adequate water for drilling throughout most of the year.

PROPERTY

The Cu Property consists of three unsurveyed contiguous modified grid mineral claims (Figure 2) totalling 21 units. The claims are shown on B.C. Mineral Titles Reference Map 92G/12W of the Vancouver Mining Division. Claim data are as follows:

Claim Name	Number of Units	Record Number	Expiry Date
Cu 1	15	2415	Dec. 12, 1993*
Cu 2	5	2502	May 24, 1994*
Cambrian Chief II	1	2414	Dec. 11, 1993*

* Subject to approval of 1991 assessment work.



LEGEND

- Lake/Tide water
- Highway
- Four wheel drive trail
- Creek
- Claim boundary
- Legal Corner Post

1000m 0 1000 2000 3000m

BRIAN SAUER			
Cu GROUP			
CLAIM DISTRIBUTION			
JOHN ZBEETNOFF			JAN. 1992
NTS 92G/12W	DrnBy: J.Z.	1:67,000	FIGURE:2

The claims are wholly owned by Mr. Brian Sauer of New Westminster B.C. These three claims are collectively known as the Cu Group. The Cu Group consisted of 41 units until late 1991. At that time the Property was reduced to 21 units. The Cambrian Chief II retains its original one unit, but the Cu 1 claim is reduced by 5 units, and the Cu 2 is reduced by 15 units. All claims comprising the Cu Group remain contiguous.

HISTORY

The first record of mineral exploration in the area is the 1934 field work carried out by Pred Klein and Associates. Klein and Associates prospected, trenched and diamond drilled the property known as the Cambrian Chieftain. The Cambrian Chieftain Property was located within, and to the immediate north of the Cu Group. Three diamond-drill holes were drilled on the Cambrian Chieftain in November 1934. The accumulated length of coring in the three holes is reported to be 140 feet.

Sheep Creek Gold Mines Ltd. optioned the property in 1937 and advanced two exploration adits into the Cambrian Chieftain Property. The adits are referred to as the Upper and Lower Sheep Creek Adits. Both adits were advanced a total of 45 feet in length.

Alaska-Pacific Mining Co. Ltd. of Seattle optioned the Cambrian Chieftain in 1940. Alaska-Pacific advanced a 210 foot adit under their option. This adit is located approximately 150 meters southwest of the Upper Sheep Creek Adit. Under this option four diamond drill holes were cored for a total of 1204 feet.

Caron Mining Ltd. optioned the Property in 1949. Caron Mining continued development of the Sheep Creek adits and were the first company reported to mine the Cambrian Chieftain Property. The 1949 and 1950 mining was limited to underground workings. The ore was shipped to the smelter in Tacoma Washington. Table 1 outlines the volumes and grades of ore shipped.

Date	Volume (tons)	Bulk metal recovered Cu	Ag	Au
1949	266	74,284 lb	2,032 oz	15 oz
1950	244	55,303 lb	1,334 oz	9 oz

Table 1. Ore shipped to Tacoma Wa. from Cambrian Chieftain.

The recovered grades of the 1949 shipment are 13.96% Cu, 7.64 oz/t Ag, 0.06 oz/t Au. The 1950 mining produced ore with recovered metal content of 11.33 % Cu, 5.47 oz/t Ag, 0.04 oz/t Au.

The Cambrian Chieftain Property was next optioned by Silurian Chieftain Mining Co. Ltd. in 1953. Under this option zinc showings were trenched. The zinc showings are south of the copper mineralization and underground workings explored and developed by previous companies.

Colonial Mines of Vancouver optioned the claims in 1961 and continued mining the copper showings developed by Caron Mining Ltd. Colonial removed a total of 389 tons of ore from the Property through open pit methods. A total of 214 tons were shipped to the concentrator at Britannia Mines near Squamish B.C and the remaining 175 tons was shipped to Tacoma Wa. The combined grade of these two shipments are 7% Cu, 4 oz/t Ag, and 0.02 oz/t Au.

A soil geochemical survey was conducted on the Cambrian Chieftain Property by Cone Mountain Mines Ltd. in 1972.

MHB Resources contracted Weymark Engineering to carry out a soil geochemical survey and a mag/VLF geophysical survey. This program was carried out in 1980. A total of 400 soil samples were collected and analyzed for copper and zinc.

Sierra Nevada Gold Ltd. performed a magnetic survey on the Silver Lee claim in 1981. The Silver Lee was a four unit claim and part of the original Cambrian Chieftain claim group. This claim as well as the Cambrian Chieftain claim group have since lapsed.

The Ham 1-6 claims were staked in 1979. The Ham claims are recorded as covering both the Upper and Lower Sheep Creek Adits and the open pits worked by Sheep Creek Gold Mines. Quantas Developments Ltd. carried out a soil geochemical survey and a geophysical survey on the Ham Property in 1983, Brownlee, 1983. A

total of 369 soil and 12 rock samples were collected during that program. All samples were analyzed for Cu, Pb, and Ag. The rock samples were also analyzed for Au.

Brain Sauer staked the Cambrian Chief II in December of 1988. The Cu 1 claim was added in December 1989 and the Cu 2 claim added in May 1990. These claims partially encompass, and extend to the south of, the Ham claims. The Cu Group includes part of the Cambrian Chieftain Property and contains the 210 foot adit excavated by Alaska-Pacific Mining in 1940. The Upper Sheep Creek Adit is located less than one hundred meters to the north of the Cu Property. The Property also hosts dozens of old trenches that have been excavated during the early phases of exploration in the area.

REGIONAL GEOLOGY

The Cu Property is located within the Coast Plutonic Belt. The Belt is composed of Cretaceous or earlier granodioritic intrusive with less common occurrences of quartz dioritic and quartz monzonitic compositions (Bacon 1957, Bostock 1963). These intrusive are known to host Cretaceous or older pendants of the Jervis Group. The pendants generally trend northwest and are highly variable in size, but dimensions rarely exceed 16 km by 3 km (Bacon, 1957).

Rocks of the Jervis Group consist of basalt, andesite and related pyroclastics. An appreciable amount of sedimentary rocks including limestone, chert, argillite and conglomerate (Bacon, 1957) are also included in the Group.

PROPERTY GEOLOGY

The Cu Property contains a pendant of Jervis Group rocks. This pendant has been previously mapped by several explorationists and government geologists. The pendant dimensions are reported to be several kilometres in length and has an estimated maximum width of 100 meters (Bacon 1957, Bostock 1963).

Geological mapping on the Cu Property during the 1991 field season has identified at least three distinct rock types within the

Jervis Group pendant. The first rock type is a strongly hornfelsed sediment; the second is a variably silicified dolomitic limestone. The third rock type is an andesitic to basaltic volcanic. A fourth rock type may also exist within the pendant. This fourth rock type is highly silicious, massive, fine grained, textureless, and buff to white in colour. The 1991 geological mapping includes this unit as part of the intrusive package. The interpretation in its origin is hybrid in nature, being a product of alteration proximal to the intrusive. The protolith of this fourth unit may be altered intrusive or altered pendent. Alternate interpretations such as a highly altered cherty interval could also be argued.

The hornfelsed sediment is typically brownish purple, variably silicified and hosts a variable amount of sulphides including pyrite, pyrrhotite, chalcopyrite and sphalerite. Magnetite is locally abundant.

The second rock type noted in the Jervis Group pendant is a variably altered dolomitic limestone. The rock is typically light to medium grey and varies from soft to hard depending on the degree of silicification. Bedding is rarely preserved, but where found exhibits a northerly trend with a steep easterly to vertical dip. Local variations in trend are noted.

The third rock type is a medium to dark green, fine grained, generally massive andesitic to basaltic lithology. Traces to one percent of disseminated iron sulphide are typical within this unit.

Various authors have speculated as to the vertical depth of the pendant hosting the Cambrian Chieftain and the Cu Property. The 1937 *Report Of The Minister Of Mines* suggested a potential depth of 3200 feet. The *Report Of The Minister Of Mines* for 1950 estimated the terminus depth of the pendant to be 1000 feet.

Variations in intrusive compositions have been noted during the 1991 geological mapping program. Variations include alteration, grain size, and phenocryst chemistry, size and abundance. The intrusive phases on the Property are typically leucocratic, with melanocratic bodies less common. No attempt to differentiated these intrusive phases has been made during the 1991 mapping program.

PREVIOUS EXPLORATION

Previous geological work in the area spans several decades and includes both exploration and mining. A detailed record of previous exploration and mining is found in the History section of this report. The earliest work in the area located both copper and zinc mineralization. These occurrences are reported to occur within skarn-type assemblages. The copper mineralization is located approximately 100m to the north of the Cu Group. The zinc mineralization is located in the south-central part of the Property. The copper and zinc occurrences are approximately 500 metres apart and appear to be on trend.

The copper mineralization has been extensively sampled since the early 1930's and has been mined by two different companies. Channel samples of the copper mineralization collected in the late 1950's are reported by Bacon 1957. Analytical results from these channel samples indicate significant grades over variable widths and are summarized in Table 2.

Sample Width (ft)	Au oz/t	Ag oz/t	%Cu	%Zn
5.0	0.02	4.7	13.6	0.7
3.0	Trc.	5.3	12.2	Trc.
5.0	Trc.	3.1	9.4	0.5
5.0	0.01	5.9	17.1	Trc
1.1	0.01	10.3	26.4	0.5
2.0	0.01	14.2	34.1	0.4
2.3	0.02	13.0	30.6	Trc.

Table 2. Select results from channel samples collected in the late 1950's, summarized from Bacon, 1957.

The zinc mineralization is located in the south-central area of the Cu Group. This mineralization has been trenched under Cambrian Chieftain options. Extensive soil geochemical surveys over this area has been conducted by Brownlee in 1983 and by Hunt in 1989. The 1989 survey has been tied-in to 1983 survey by re-establishing the 1983 grid and infill lines sampled. The results of the combined data pool have been plotted, contoured and reported by Hunt, 1990. These results report a coincident zinc, copper, lead, and silver anomaly up to 100 m wide and greater than 450 m in length. The anomaly is open to the north.

A total of 40 rock samples were collected during the 1989 exploration program. Of these samples, two analyzed over 11% Zn and another six analyzed from 1% to 2.6% Zn, Hunt 1990. Copper analysis indicates the highest copper concentration sampled in 1989 is 1.07% Cu. Nine other samples report copper values from 0.1% to 0.78% Cu. Elevated silver results are reported by three samples that ranged from 11.6 to 42.0 ppm Ag. No rock has analyzed in excess of 128 ppm Pb. No channel samples are reported to have been collected.

1991 EXPLORATION

Geologic mapping carried out during the 1991 field season has been limited to bedrock exposures along road cuts, foot trails and along select grid lines within the multi-element soil anomaly (Figure 3). The objective of the mapping program was to determine the lithologic signature within the soil anomaly. Only a small emphasis was placed on geochemical sampling. A total of two rock grab samples were collected during the 1991 program.

Geologic mapping has identified four distinct rock types within the Jervis Group pendant on the Cu Property. These units are described in the Property Geology section of this report. The rock types within the pendant are generally highly altered. Alteration includes variable silicification, skarn development and hornfels are common. Sulphide mineralization is locally intense. A thick band of variably altered dolomitic limestone traverses the central part of the grid. This carbonate unit is 10 to 30 meters thick and trends northerly. The southern strike limit of the limestone has been traced to 575S. The northern limit of the carbonate body extends beyond the gridded area. Previous mapping by Bacon 1957, reports the strike length of the carbonate to be a minimum of 1020 ft (310m). Hornfelsed sediments occurs sporadically below the carbonate and intermixed with volcanics above the carbonate. The western limit of the pendant has been determined, but the eastern limit exists beyond the gridded area and has not been located. At the grid location 580S/290W the carbonate unit is in contact with intrusive rocks and is strongly skarn altered and intensely mineralized with sphalerite and appreciable chalcopyrite.

The intense mineralization at 580S/290W contains a skarn-type assemblage of actinolite-chlorite-garnet-sulphide-carbonate. Magnetite is also present, with local concentrations exceeding 30%. Two samples of the skarn mineralization has been collected in 1991. These samples were collected from an old trench. The samples were analyzed by 31 element ICP and assayed for zinc, copper and silver. These samples contain 17.41% Zn, 0.332% Cu, 6.9 gm/t Ag; and 4.00% Zn, 0.046% Cu, 3.5gm/t Ag respectively. The analysis has been preformed by **Min-En Labs** of North Vancouver, B.C. Complete analytical data are reported in Appendix B.

The sulphide occurrence sampled in 1991 is not well understood. Bedrock exposure in this trench is partially buried by overburden from collapsed trench walls. Even though the overburden is generally less than one meter thick, it has still collapsed and obscures the bedrock exposure. This is typical of all the trenches on the Property. Most trenches are covered with thin a veneer of overburden and are occasionally overgrown with grasses and small shrubs. The trench sampled in 1991 contains strong skarn alteration hosting occurrences of intense sulphide mineralization. The skarn is 3 to 4 meters in width and at least 10 to 20 meters in length. The sulphide mineralization consists of sphalerite, pyrite, pyrrhotite and chalcopyrite. The sulphide constitute an unknown percentage of the skarn mineralogy. The poor bedrock exposure in the trenches prevents an accurate width and grade estimate of zinc and copper mineralization. Magnetite is noted in close association with skarn development. The skarn alteration and mineralization occurs at a hanging wall contact of limestone structurally overlain by intrusive. This limestone block is known to have a minimum strike length of 1020 ft (310m) (Bacon, 1957).

The two samples collected from the skarn mineralization at 580S/290W during the 1991 exploration program are described as follows:

> JZ 9101: Rock is medium grained, dark brownish-red in colour, dark green clots and partings are common and support a high sulphide content. The rock contains 3-5% magnetite, 25-30% sphalerite, 3-5% clotty wisps of pyrite, and 2-3% clotty chalcopyrite. These minerals are supported by a fine grained actinolite-chlorite-garnet-carbonate matrix. Hand lens inspection suggests a fresh skarn assemblage with no retrograde alteration noted.

JZ 9102: Rock is medium grained, dark reddish-brown in colour, and contains 7-10% magnetite, 2-12% sphalerite, 3-5% clotty wisps of pyrite, and 1-2% clotty chalcopyrite. These minerals are supported by a fine grained garnet-actinolite-chlorite-carbonate matrix. Garnet crystals are 0.5 to 1 mm in diameter and commonly constitute massive clusters. The garnet also gives the rock the diagnostic dark reddish colour. Hand lens inspection indicates a fresh skarn assemblage with no retrograde alteration noted.

The soil geochemical data collected in 1989 and reported by Hunt 1990, were statistically analyzed by **Min-En Labs.** The **Min-En** correlation coefficients are as summarized in Table 3. Original correlation coefficient data reported in 1989 are located in Appendix C.

Zn	1.00						
Pb	**0.47**	1.00					
Mg	**0.43**	**0.92**	1.00				
Fe	**0.43**	0.19	0.18	1.00			
Cu	**0.44**	**0.30**	0.29	**0.70**	1.00		
As	0.06	0.05	-0.04	**0.33**	0.14	1.00	
Ag	**0.38**	**0.45**	**0.44**	**0.31**	**0.54**	0.20	1.00
	Zn	**Pb**	**Mg**	**Fe**	**Cu**	**As**	**Ag**

Table 3. Correlation coefficients calculated by Min-En Labs in 1989. Values displayed in bold-underline type exceed their critical value for .01 significance.

The results from the 1989 soil geochemical survey has been re-evaluated in this report. The previously defined coincident zinc, copper, lead, and silver anomaly is found to also be coincident with Mg, Fe, Ca, Mn. Results of the 1989 soil sampling program have been cut to the 95th percentile, imported into ***Surfer v4.13*** software, then gridded with an inverse distance squared formula and contoured. The elements contoured include Zn, Ag, Pb, Cu, Mg, Mn and Fe. Contour maps of these elements support Hunt's 1990 conclusions which indicated the soil anomaly is multi-element and extends beyond the current grid. Computer generated contour plots these elements are located in Appendix D.

CONCLUSIONS AND RECOMMENDATIONS

The Cu Property hosts an altered and mineralized pendant of Jervis Group rocks. The Pendant is a volcano-sedimentary package that hosts both copper and zinc mineralization. These copper and zinc showings occur independently, with the copper showings approximately 100 meters north of the Cu Property. The zinc mineralization occurs within the Cu Property, approximately 500m south of the copper showings. Previous exploration and mining located copper grades in excess of 17%. Cu over 5 feet. Only minor work has been recorded on the zinc showings.

Intense skarn alteration and strong zinc mineralization has been located on the Cu Property during the 1991 exploration program. Grab samples collected contain up to 17.41% zinc, 0.332% copper and 6.9 gm/t silver. The bedrock exposure of the skarn alteration is up to 3 to 4 meters wide and has a minimum strike length of 20 meters. The metal content within this skarn has yet to be determined. The zinc-bearing skarn occurs at a limestone-intrusive contact. This carbonate unit has a minimum strike length 310 meters. Various authors have speculated on the vertical thickness of the pendant. The estimates of thickness range from 1000 to 3200 feet. Given either scenario, sufficient thickness and strike length exits to host a considerable volume of mineralization.

The zinc-bearing skarn is located at the southwest end of a multi-element soil geochemical anomaly. The anomaly is up to 100 meters wide and has a minimum strike length of 450 meters. The anomaly extends north beyond the current established grid.

The soil geochemical anomaly is well defined by the current sample density. No additional infill sampling is recommended, but the grid and soil sampling should be continued to the north and east. Geological mapping should be extended in all directions. Further mapping is also required within the current gridded area. Grid emplacement, soil sampling and prospecting should be extended to cover the pendant-intrusive contact.

The current grid is in fair condition, but is locally densely overgrown. The grid should be refurbished and cut where the brush is excessively thick. This will greatly add to the accuracy of future mapping.

Select trenches should be refurbished and mapped at a detailed scale. Additional trenching is also required to follow up soil anomalies reported by Hunt 1990.

A detailed magnetic survey is recommended. The mineralization noted during the 1991 program is locally associated with magnetite. Also, the differing bulk chemistry of the altered units display a contrasting magnetic signature. The magnetic survey will assist in locating undiscovered mineralization and will aid geological mapping.

Reconnaissance prospecting and mapping of areas most recently logged is recommended. Considerable bedrock exposure has been made during logging of the south and south-central area of the claim group. Logging roads and a 1:20,000 scale forestry map should be used for control.

The zinc and copper showing trend should be thoroughly prospected, sampled and mapped to determine if metal zonation exits. Metal zonation, either vertical or lateral, would suggest a mineralizing event active long enough to spacial distribute metals. Metallizing events sustained for extended periods, offer potential for substantial mineral deposits to develop.

The carbonate unit which hosts the mineralization on the Cu Group and adjacent ground provide an non-acid generating environment for exploration and development. As environmental awareness expands, and legislation evolves, non-acid generating properties such as the Cu Group will become the most attractive exploration and development targets.

STATEMENT OF COSTS

Field work (3 days @ $225/day)		$675.00
Transportation		$75.00
Truck rental (4 days @ $100/day)		$400.00
400 km ($0.30/km)		$120.00
Food & Accommodation		$45.00
Report preparation		$500.00
Drafting supplies		$115.00
Analytical		$66.34
	Subtotal:	$1,996.34
	GST (#R1266253651)	$139.74
	TOTAL	**$2,136.08**

STATEMENT OF QUALIFICATIONS

I, John Zbeetnoff, hereby certify that:

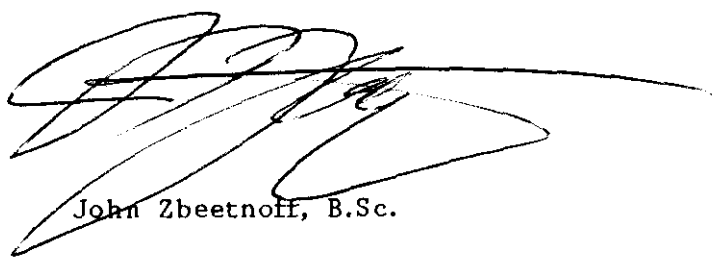
I am a self employed geologist residing at Apt. F 1273 East 27 Street North Vancouver, B.C. and I carried out geological mapping and geological sampling on the Cu Property from December 7 to 10, 1991. I also wrote this report.

I obtained a Bachelor of Science degree in Geology from the University of Saskatchewan in 1985, and have practised my profession since then.

I have no interest in the Cu Group of claims nor any other claims held whole or in part by Mr. Brain Sauer.

I consent to the use of this report in a company report or statement, provided that no portion is used out of context in such manner as to convey a meaning different from that set out in the whole.

Dated at North Vancouver B.C., this 9TH day of March, 1992.



John Zbeetnoff, B.Sc.

REFERENCES

Ashton, A.S., 1991. Sierra Nevada Gold Ltd., British Columbia Assessment Report #8914.

Bacon, W.R., 1957. Geology of Lower Jervis Inlet, British Columbia Department of Mines, Bulletin 39, pp.36.

Bostock, H.H., 1963. Geological Survey of Canada, Map 42-1963.

British Columbia Department of Mines Annual Reports:
1937 - F28
1949 - A217
1950 - A170
1953 - 162
1961 - 89

Brownlee, D.J., 1983. Quantas Developments Ltd., British Columbia Assessment Report #11,472.

Chang, Wm. and Weymark, W.J., 1980. Weymark Engineering Ltd., British Columbia Assessment Report #8790.

Hunt J., 1990. British Columbia Assessment Report #11,472.

APPENDIX A
PROPERTY ACCESS
SOUTHERN ROUTE

Southern access route from downtown Sechelt B.C. to Cu Property total distance is 36.5 km and takes about 1.5 hours.

0.0 km	Downtown Sechelt B.C., proceed north on highway 101.
14.3 km	Turn off to east, begin gravel road trail.
15.7 km	Saw mill on north side of road, continue on same road.
16.1 km	Turn onto logging road on north side of road.
28.1 km	Logging trail crosses under dual hydro line, continue on same road.
28.7 km	Turn on to left trail.
29.2 km	After driving up a short hill, turn left.
30.3 km	Turn on to right trail.
36.5 km	Once travelling 36.5 km from Sechelt, you are now on the grid, a right turn will take you to the old workings of the Cambrian Chieftain Property, a left will take you down hill closer to the 1991 sample site.

APPENDIX B
1991 ANALYTICAL DATA

MIN
• EN
LABORATORIES
(DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

2V-0015-RA1

Company: JOHN ZBEETNOFT
Project: CU 1 + CU 2
Attn: J.ZBEETNOFT/BRIAN SAUER

Date: JAN-16-92
Copy 1. J.ZBEETNOFT, NORTH VANCOUVER, B.C.

We hereby certify the following Assay of 2 ROCK samples submitted JAN-09-92 by J.ZBEETNOFT.

Sample Number	AG g/tonne	AG oz/ton	CU %	ZN %
J29101	6.9	.20	.332	17.41
J29102	3.5	.10	.046	4.00

Certified by _____

MIN-EN LABORATORIES

COMP: JOHN ZBEETNOFT
PROJ: CU 1 + 2
ATTN: J.ZBEETNOFT/BRIAN SAUER

MIN-EN LABS - ICP REPORT

705 WEST 15TH ST., NO VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 2V-0015-RJ1
DATE: 92/01/16
* ROCK * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL PPM	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	FE PPM	K PPM	LI PPM	MG PPM	MN PPM	MO PPM	NA PPM	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI PPM	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM
J29101	5.1	1970	21	35	4	.6	1	5290	1695.1	39	3116	203150	450	3	54690	1661	6	300	1	150	15	15	10	1	129	11.9	174000	1	2	164	25
J29102	3.0	610	1	26	13	.1	1	1480	337.6	26	443	329720	30	1	44990	2311	1	140	1	10	1	1	1	1	45	24.0	23933	1	1	12	23

APPENDIX C
1989 SOIL SAMPLES STATISTICAL RESULTS

MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

775 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

CORRELATION COEFFICIENTS

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 4 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

THE TABLE BELOW REPRESENTS THE PEARSON CORRELATION MATRIX SHOWING THE INTER-ELEMENT CORRELATION COEFFICIENTS. THOSE VALUES THAT EXCEED THEIR CRITICAL VALUE FOR .01 LEVEL OF SIGNIFICANCE ARE SHOWN IN DARKER PRINT AND UNDERLINED.

	AG	AS	CU	FE	MG	PB	ZN
AG	1.00	0.20	**0.54**	**0.31**	**0.44**	**0.45**	**0.38**
AS		1.00	0.14	**0.33**	-0.04	0.05	0.06
CU			1.00	**0.70**	**0.29**	**0.30**	**0.44**
FE				1.00	0.18	0.19	**0.43**
MG					1.00	**0.92**	**0.43**
PB						1.00	**0.47**
ZN							1.00

MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

775 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON AG

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 1 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

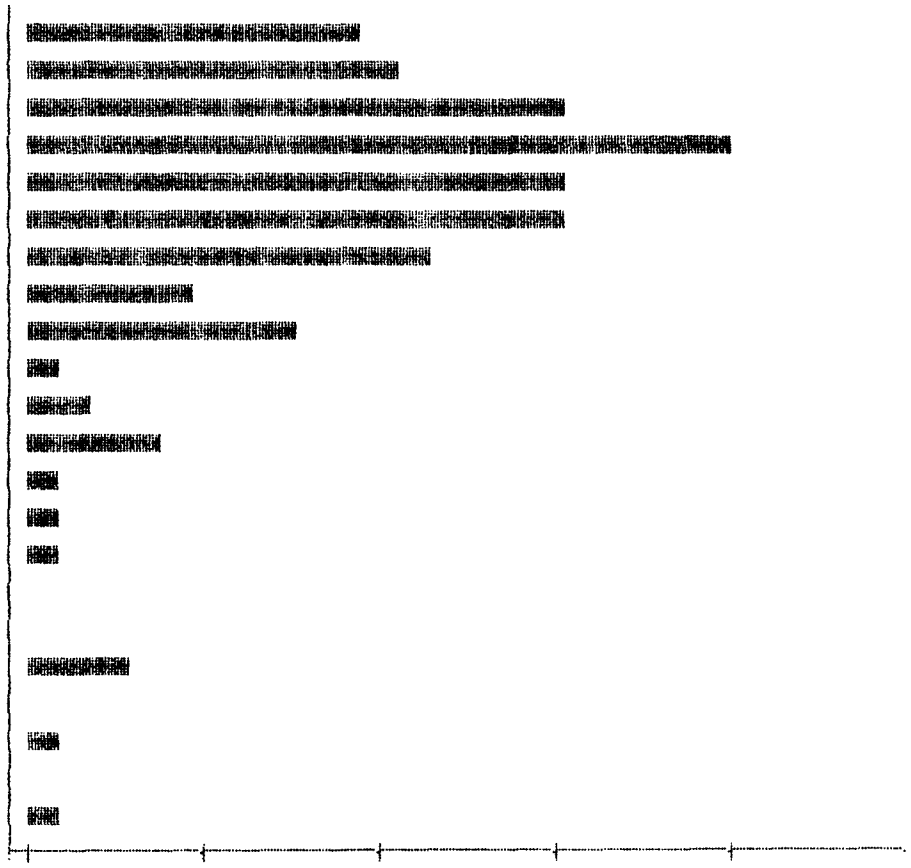
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	2.7 PPM
MINIMUM VALUE:	0.4 PPM
MEAN:	1.0 PPM
STD. DEVIATION:	0.4 PPM
COEFF. OF VARIATION:	0.4

5 HIGHEST AG VALUES:

L525S 225W	2.7 PPM
L700S 300W	2.5 PPM
L575S 275W	2.4 PPM
L275S 350W	2.2 PPM
L475S 225W	2.2 PPM

HISTOGRAM FOR AG CLASS INTERVAL = 0.10

	MID CLASS PPM	CLASS %
<	0.60	7.69
	0.65	8.46
	0.75	12.31
	0.85	16.15
	0.95	12.31
	1.05	12.31
	1.15	9.23
	1.25	3.85
	1.35	6.15
	1.45	0.77
	1.55	1.54
	1.65	3.08
	1.75	0.77
	1.85	0.77
	1.95	0.77
	2.05	0.00
	2.15	0.00
	2.25	2.31
	2.35	0.00
	2.45	0.77
	2.55	0.00
>	2.50	0.77



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

775 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON AS

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 1 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

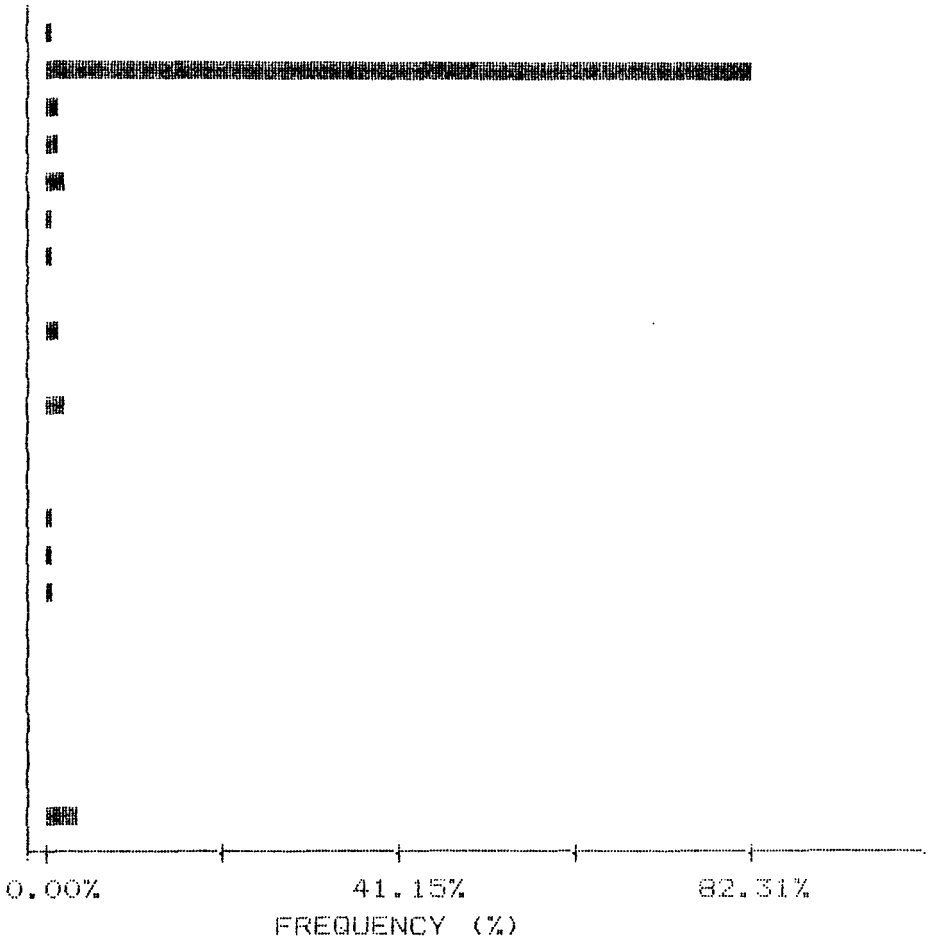
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	63.0 PPM
MINIMUM VALUE:	1.0 PPM
MEAN:	4.0 PPM
STD. DEVIATION:	9.5 PPM
COEFF. OF VARIATION:	2.3

5 HIGHEST AS VALUES:

L525S 200W	63.0 PPM
L575S 325W	58.0 PPM
L575S 275W	36.0 PPM
L375S 150W	34.0 PPM
L375S 375W	29.0 PPM

HISTOGRAM FOR AS CLASS INTERVAL = 1.35

	MID CLASS PPM	CLASS %
<	1.00	0.77
	1.67	82.31
	3.02	1.54
	4.37	1.54
	5.72	2.31
	7.07	0.77
	8.42	0.77
	9.77	0.00
	11.12	1.54
	12.47	0.00
	13.82	2.31
	15.17	0.00
	16.52	0.00
	17.87	0.77
	19.22	0.77
	20.57	0.77
	21.92	0.00
	23.27	0.00
	24.62	0.00
	25.97	0.00
	27.32	0.00
>	28.00	3.85



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

775 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON CU

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 1 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

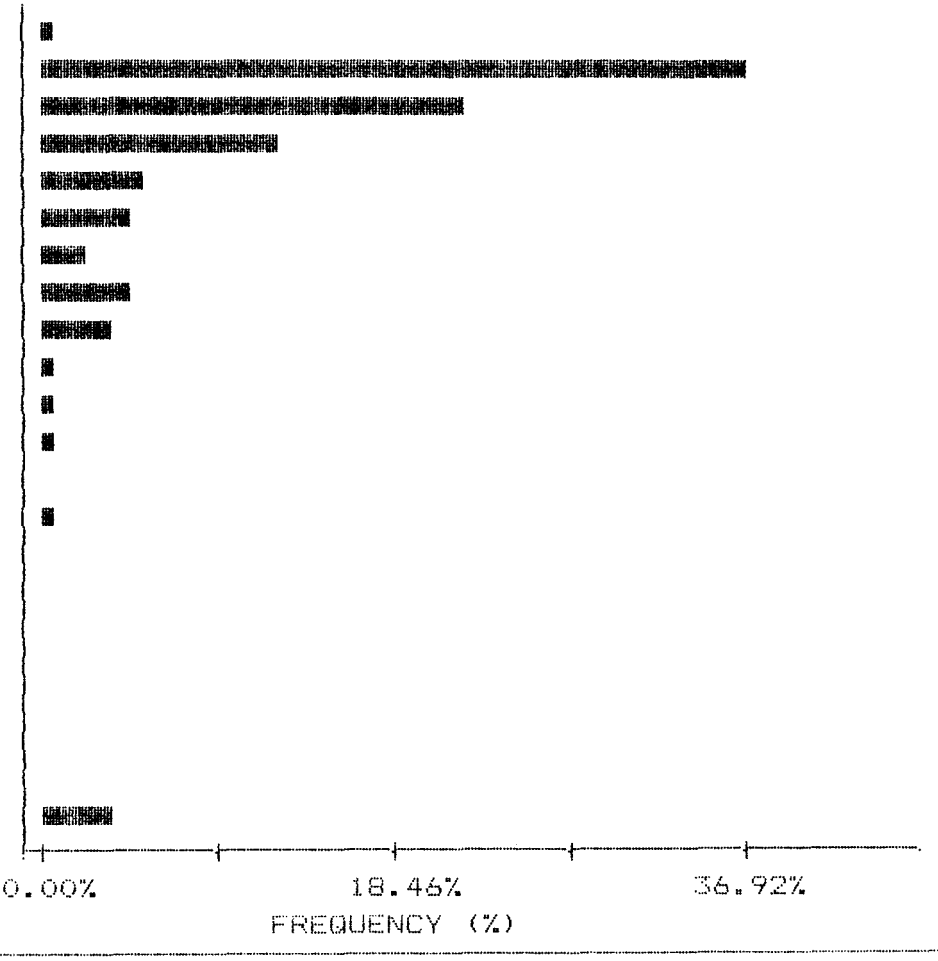
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	2962.0 PPM
MINIMUM VALUE:	21.0 PPM
MEAN:	136.5 PPM
STD. DEVIATION:	328.9 PPM
COEFF. OF VARIATION:	2.4

5 HIGHEST CU VALUES:

L525S 225W	2962.0 PPM
L575S 275W	1780.0 PPM
L525S 250W	1299.0 PPM
L625S 300W	1020.0 PPM
L475S 225W	518.0 PPM

HISTOGRAM FOR CU CLASS INTERVAL = 24.15

MID CLASS PPM	CLASS %
< 21.00	0.77
33.07	36.92
57.22	22.31
81.37	12.31
105.52	5.38
129.67	4.62
153.82	2.31
177.97	4.62
202.12	3.85
226.27	0.77
250.42	0.77
274.57	0.77
298.72	0.00
322.87	0.77
347.02	0.00
371.17	0.00
395.32	0.00
419.47	0.00
443.62	0.00
467.77	0.00
491.92	0.00
> 504.00	3.85



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON FE

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 3 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

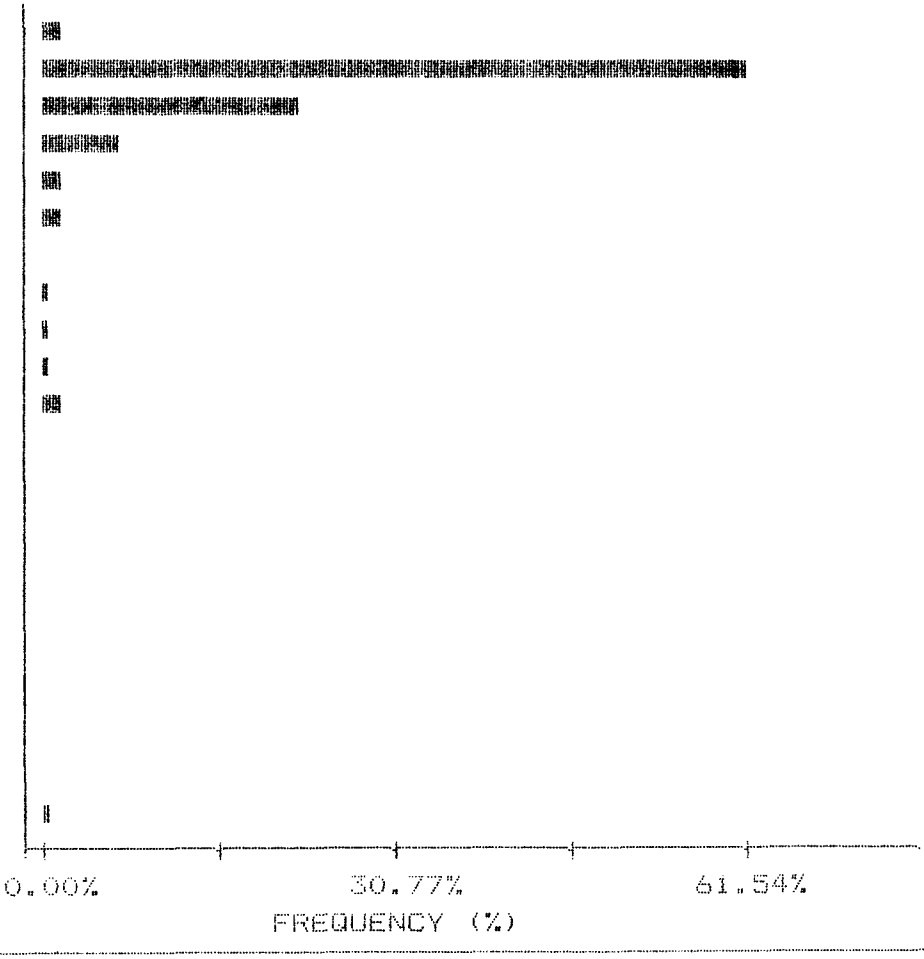
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	332290.0 PPM
MINIMUM VALUE:	24520.0 PPM
MEAN:	47895.2 PPM
STD. DEVIATION:	38992.8 PPM
COEFF. OF VARIATION:	0.8

5 HIGHEST FE VALUES:

L625S 300W	332290.0 PPM
L575S 275W	285770.0 PPM
L575S 325W	156130.0 PPM
L525S 225W	150730.0 PPM
L525S 250W	131220.0 PPM

HISTOGRAM FOR FE CLASS INTERVAL = 12945.50

MID CLASS PPM	CLASS %
< 26860.00	1.54
33332.75	61.54
46278.25	22.31
59223.75	6.92
72169.25	1.54
85114.75	1.54
98060.25	0.00
111005.75	0.77
123951.25	0.77
136896.75	0.77
149842.25	1.54
162787.75	0.00
175733.25	0.00
188678.75	0.00
201624.25	0.00
214569.75	0.00
227515.25	0.00
240460.75	0.00
253406.25	0.00
266351.75	0.00
279297.25	0.00
>285770.00	0.77



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON MG

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 3 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

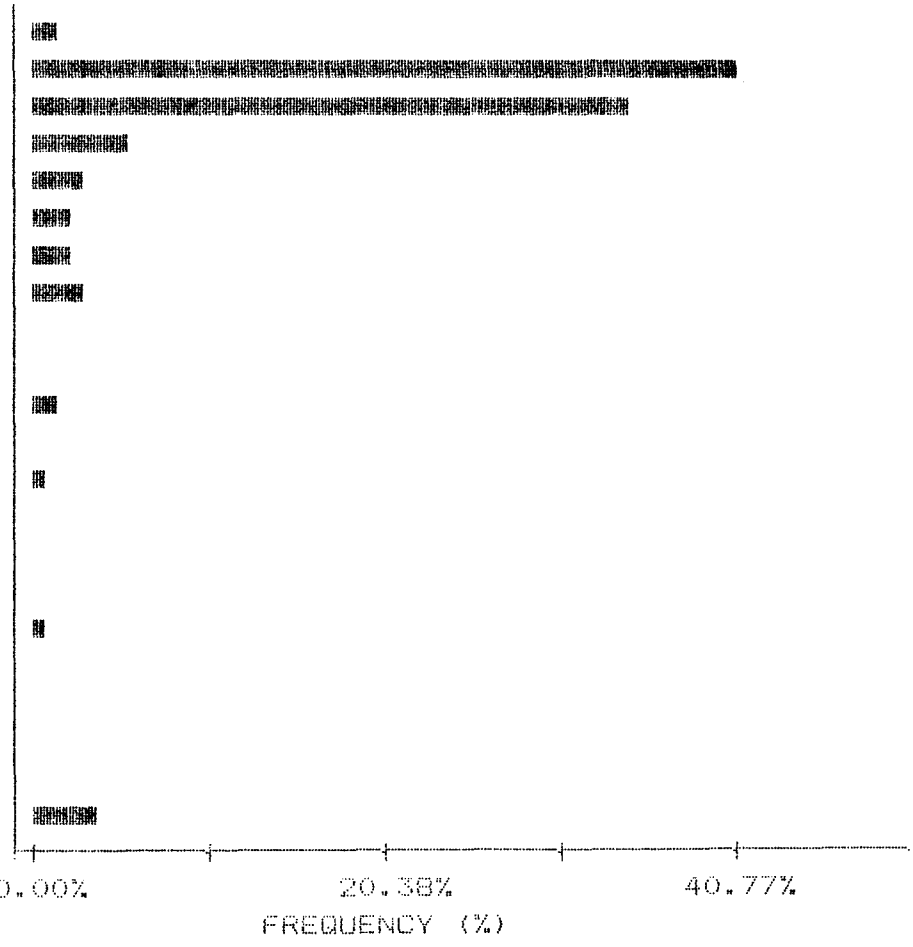
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	101070.0 PPM
MINIMUM VALUE:	980.0 PPM
MEAN:	12938.4 PPM
STD. DEVIATION:	19578.5 PPM
COEFF. OF VARIATION:	1.5

5 HIGHEST MG VALUES:

L325S 200W	101070.0 PPM
L475S 225W	93050.0 PPM
L275S 200W	91960.0 PPM
L275S 175W	91430.0 PPM
L275S 150W	90230.0 PPM

HISTOGRAM FOR MG CLASS INTERVAL = 4042.50

MID CLASS PPM	CLASS %
< 1690.00	1.54
3711.25	40.77
7753.75	34.62
11796.25	5.38
338.75	3.08
19881.25	2.31
23923.75	2.31
27966.25	3.08
32008.75	0.00
36051.25	0.00
40093.75	1.54
44136.25	0.00
48178.75	0.77
52221.25	0.00
56263.75	0.00
60306.25	0.00
64348.75	0.77
68391.25	0.00
72433.75	0.00
76476.25	0.00
80518.75	0.00
> 82540.00	3.85



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON MN

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 3 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

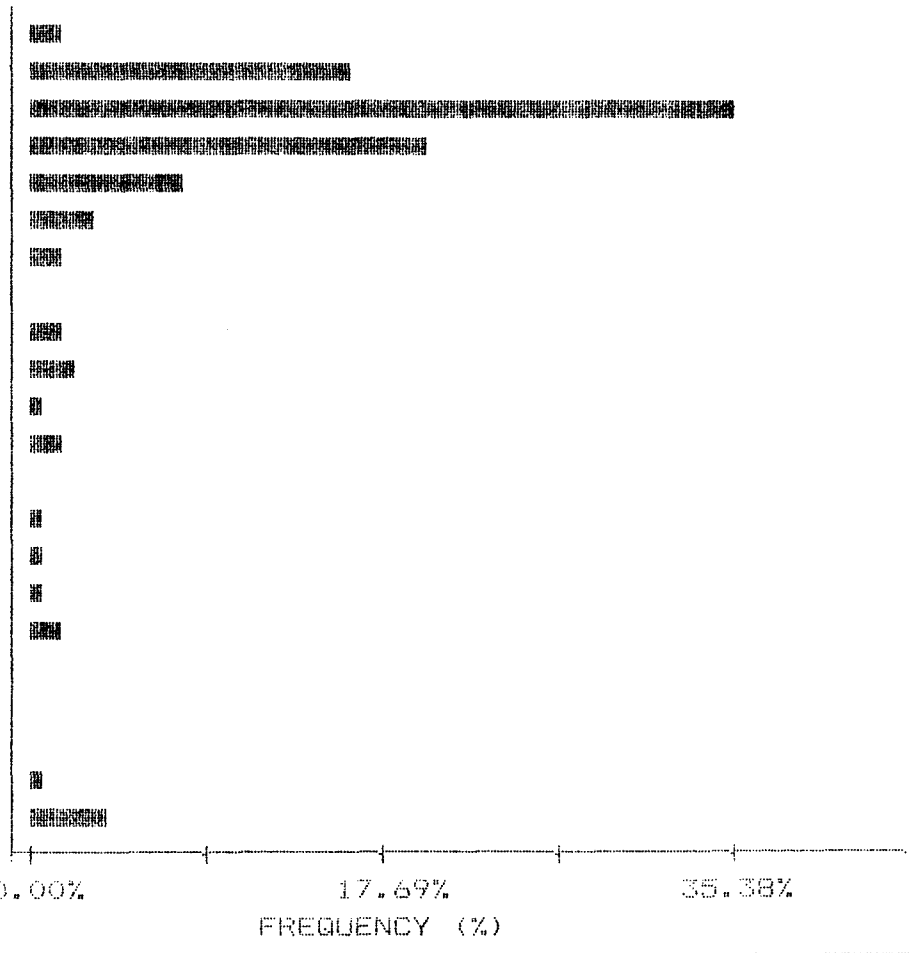
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	6521.0 PPM
MINIMUM VALUE:	103.0 PPM
MEAN:	570.0 PPM
STD. DEVIATION:	912.8 PPM
COEFF. OF VARIATION:	1.6

5 HIGHEST MN VALUES:

L625S 300W	6521.0 PPM
L475S 225W	5972.0 PPM
L575S 275W	4322.0 PPM
L275S 175W	3013.0 PPM
L525S 200W	2647.0 PPM

HISTOGRAM FOR MN CLASS INTERVAL = 93.15

	MID CLASS PPM	CLASS %
<	119.00	1.54
	165.57	16.15
	258.72	35.38
	351.87	20.00
	445.02	7.69
	538.17	3.08
	631.32	1.54
	724.47	0.00
	817.62	1.54
	910.77	2.31
	1003.92	0.77
	1097.07	1.54
	1190.22	0.00
	1283.37	0.77
	1376.52	0.77
	1469.67	0.77
	1562.82	1.54
	1655.97	0.00
	1749.12	0.00
	1842.27	0.00
	1935.42	0.77
>	1982.00	3.85



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON PB

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 3 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

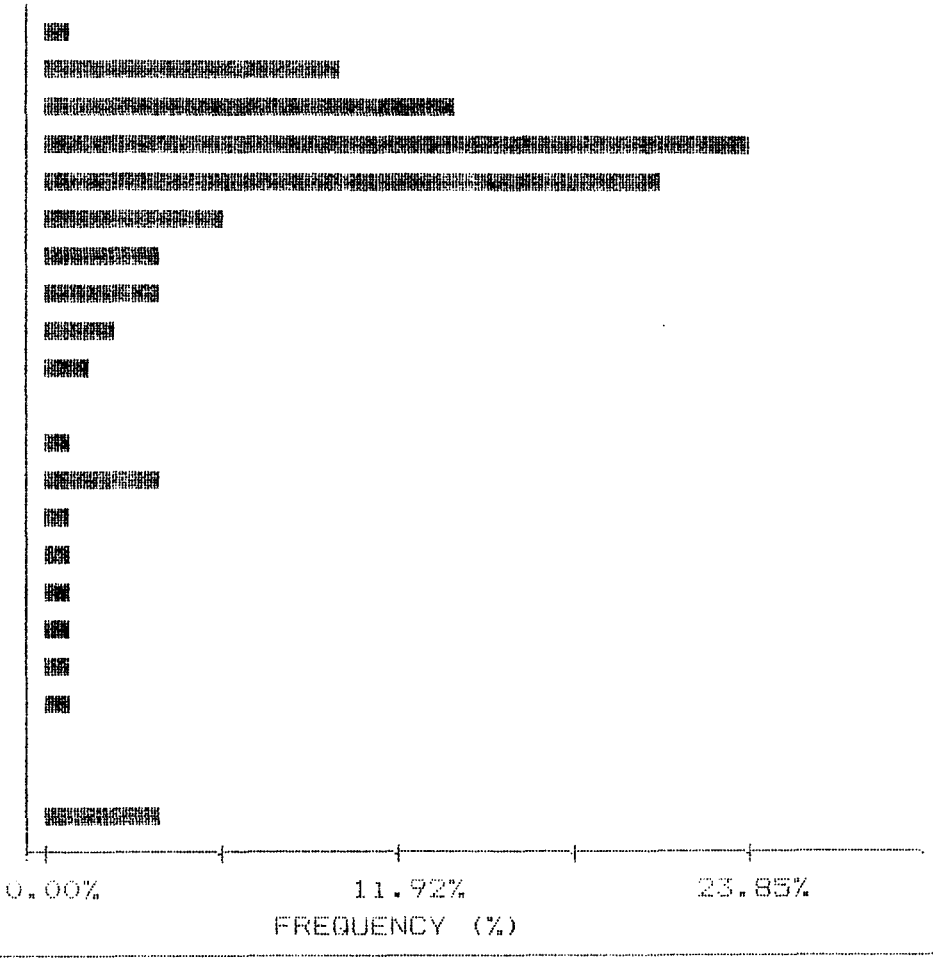
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	125.0 PPM
MINIMUM VALUE:	1.0 PPM
MEAN:	26.3 PPM
STD. DEVIATION:	27.2 PPM
COEFF. OF VARIATION:	1.0

5 HIGHEST PB VALUES:

L275S 200W	125.0 PPM
L275S 175W	124.0 PPM
L475S 225W	120.0 PPM
L325S 200W	119.0 PPM
L275S 150W	118.0 PPM

HISTOGRAM FOR PB CLASS INTERVAL = 5.25

	MID CLASS PPM	CLASS %
<	1.00	0.77
	3.63	10.00
	8.87	13.85
	14.12	23.85
	19.38	20.77
	24.62	6.15
	29.87	3.85
	35.12	3.85
	40.37	2.31
	45.63	1.54
	50.87	0.00
	56.12	0.77
	61.37	3.85
	66.62	0.77
	71.88	0.77
	77.12	0.77
	82.37	0.77
	87.62	0.77
	92.87	0.77
	98.12	0.00
	103.37	0.00
>	106.00	3.85



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: USA 760167 PHONE:(604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON ZN

COMPANY:BRIAN SAUER
ATTN:BRIAN SAUER
PROJECT:CU
FILE#:9V1560SJ

DATE:DEC 3 1989
SAMPLE TYPE:SOIL
ANALYSIS TYPE:GEOCHEM

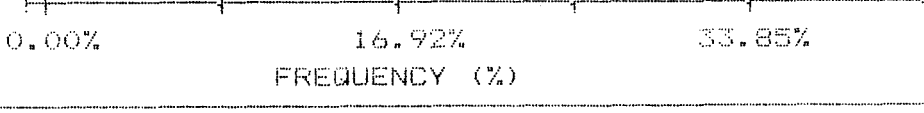
NUMBER OF SAMPLES:	130
MAXIMUM VALUE:	5575.0 PPM
MINIMUM VALUE:	51.0 PPM
MEAN:	333.9 PPM
STD. DEVIATION:	678.8 PPM
COEFF. OF VARIATION:	2.0

5 HIGHEST ZN VALUES:

L525S 250W	5575.0 PPM
L475S 225W	4547.0 PPM
L375S 175W	2156.0 PPM
L575S 325W	1744.0 PPM
L625S 300W	1356.0 PPM

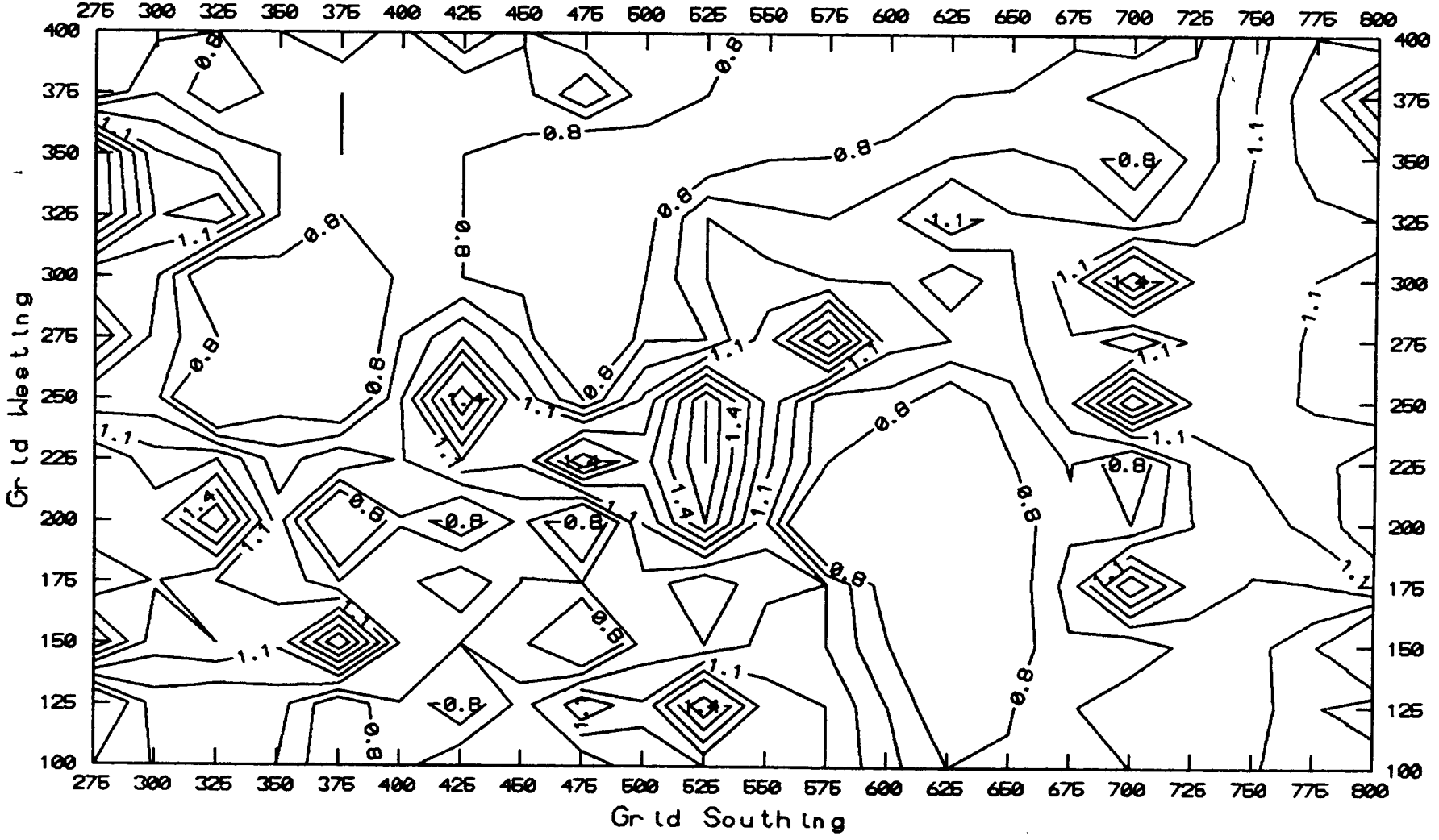
HISTOGRAM FOR ZN CLASS INTERVAL = 61.00

MID CLASS PPM	CLASS %
< 60.00	1.54
90.50	33.85
151.50	31.54
212.50	7.69
273.50	3.08
334.50	3.08
395.50	5.38
456.50	2.31
517.50	1.54
578.50	0.00
639.50	0.00
700.50	1.54
761.50	2.31
822.50	0.00
883.50	0.00
944.50	0.77
1005.50	0.00
1066.50	0.77
1127.50	0.00
1188.50	0.00
1249.50	0.77
> 1280.00	3.85



APPENDIX D
SURFER CONTOUR PLOTS

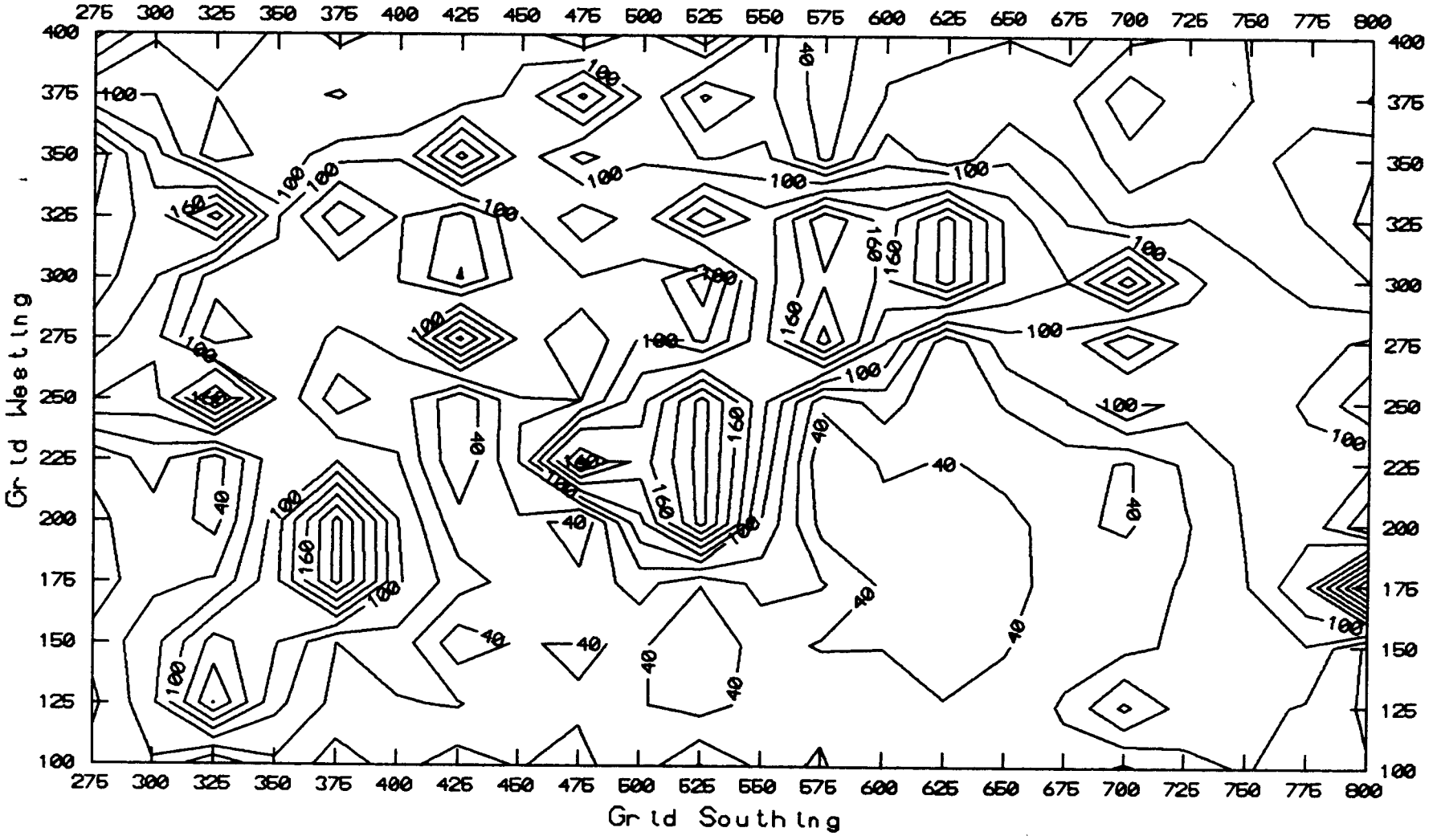
SOIL GEOCHEMISTRY - Ag (ppm)



SCALE 1 cm. = 25 metere

Cu Property
0.1 ppm contour intervals
Values cut to 95th percentile
1989 Geochemical Data
J.A. Zbeetnoff March 1992

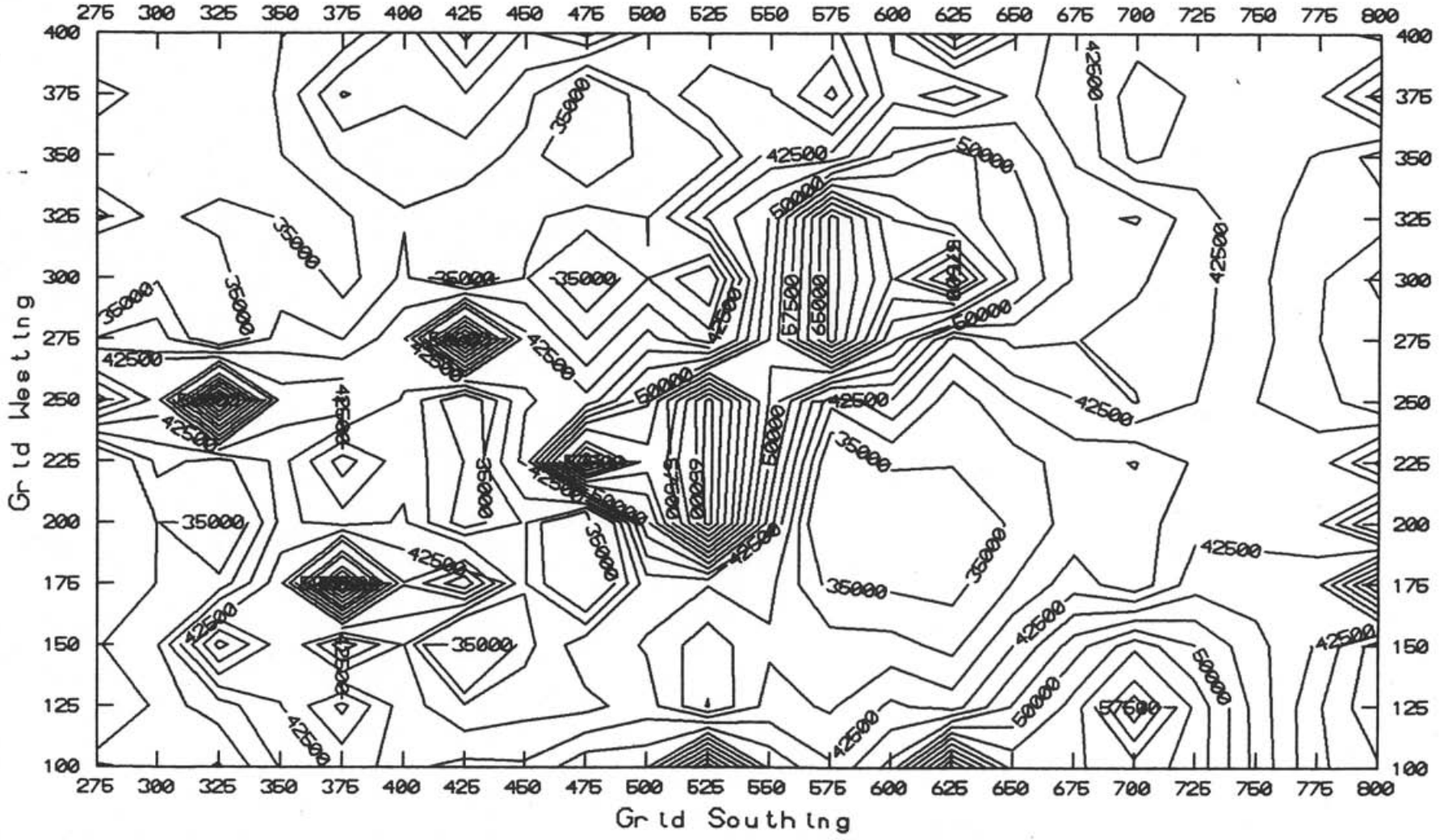
SOIL GEOCHEMISTRY - Cu (ppm)



SCALE 1 cm. = 25 metere

Cu Property
20 ppm contour intervals
Values cut to 95th percentile
1989 Geochemical Data
J.A. Zbeetnoff March 1992

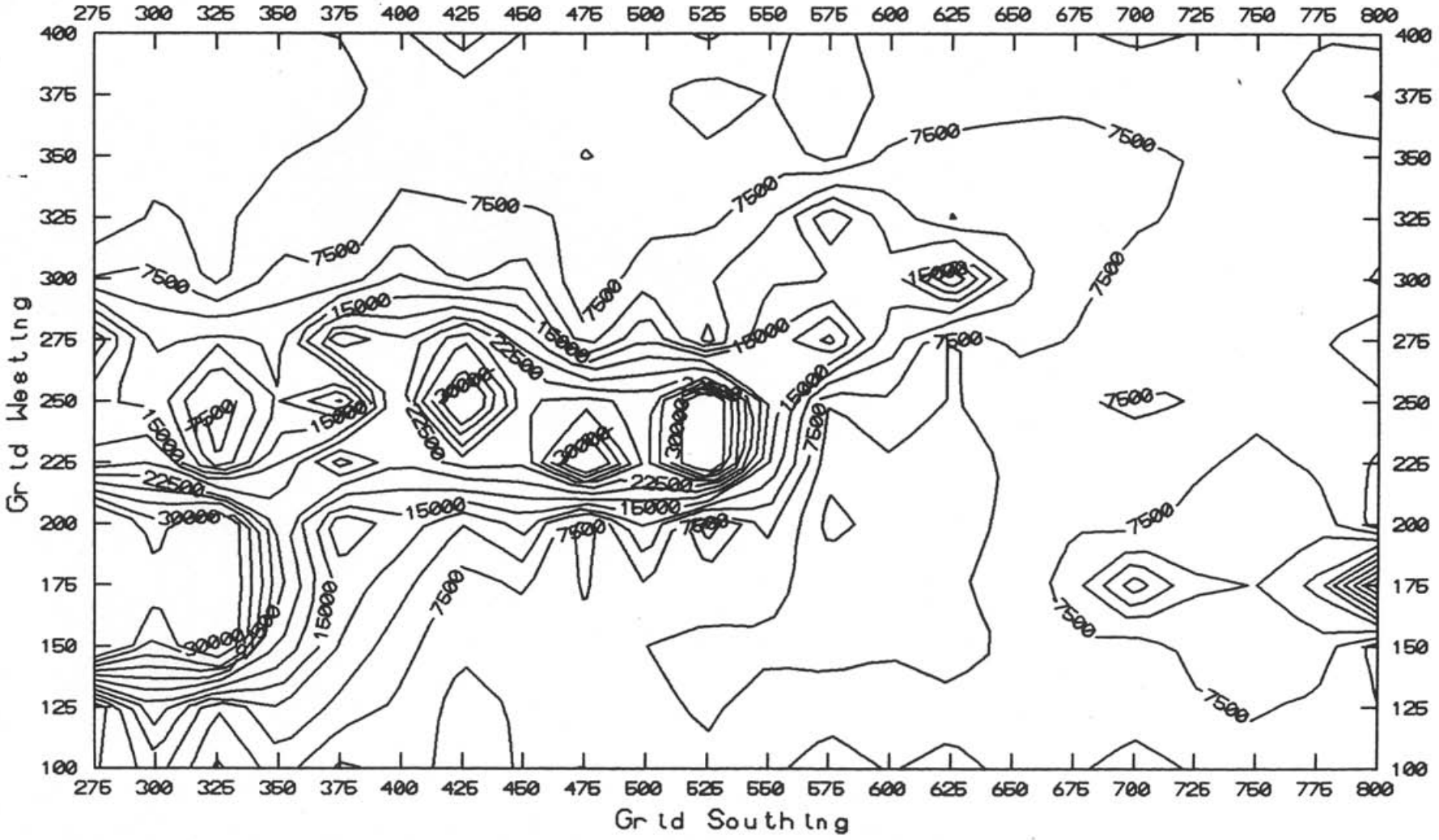
SOIL GEOCHEMISTRY - Fe (ppm)



SCALE 1 cm. = 25 metere

Cu Property
2500 ppm contour intervals
Values cut to 95th percentile
1989 Geochemical Data
J.A. Zbeetnoff March 1992

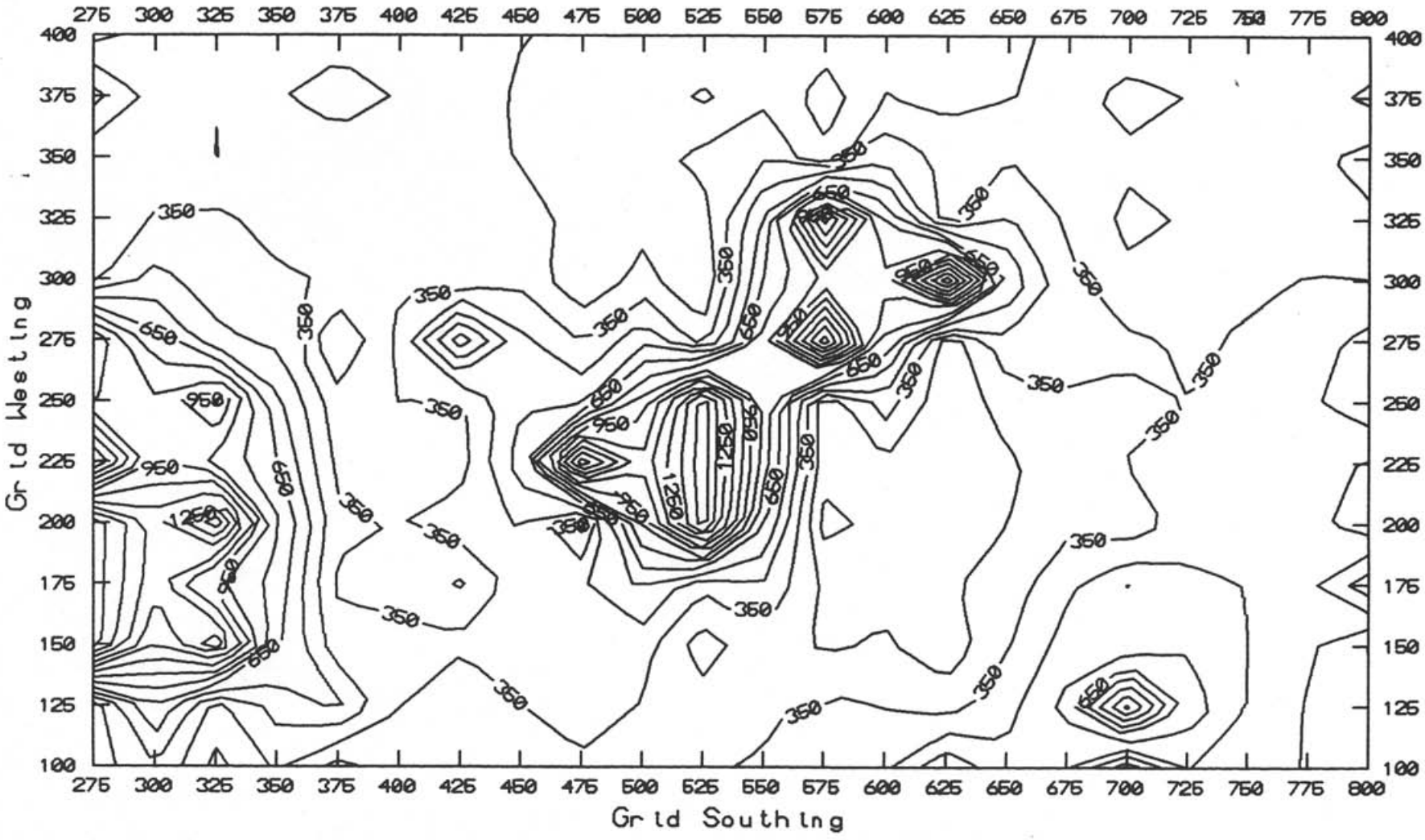
SOIL GEOCHEMISTRY - Mg (ppm)



SCALE 1 cm. = 25 metere

Cu Property
2500 ppm contour intervals
Values cut to 95th percentile
1989 Geochemical Data
J.A. Zbeetnoff March 1992

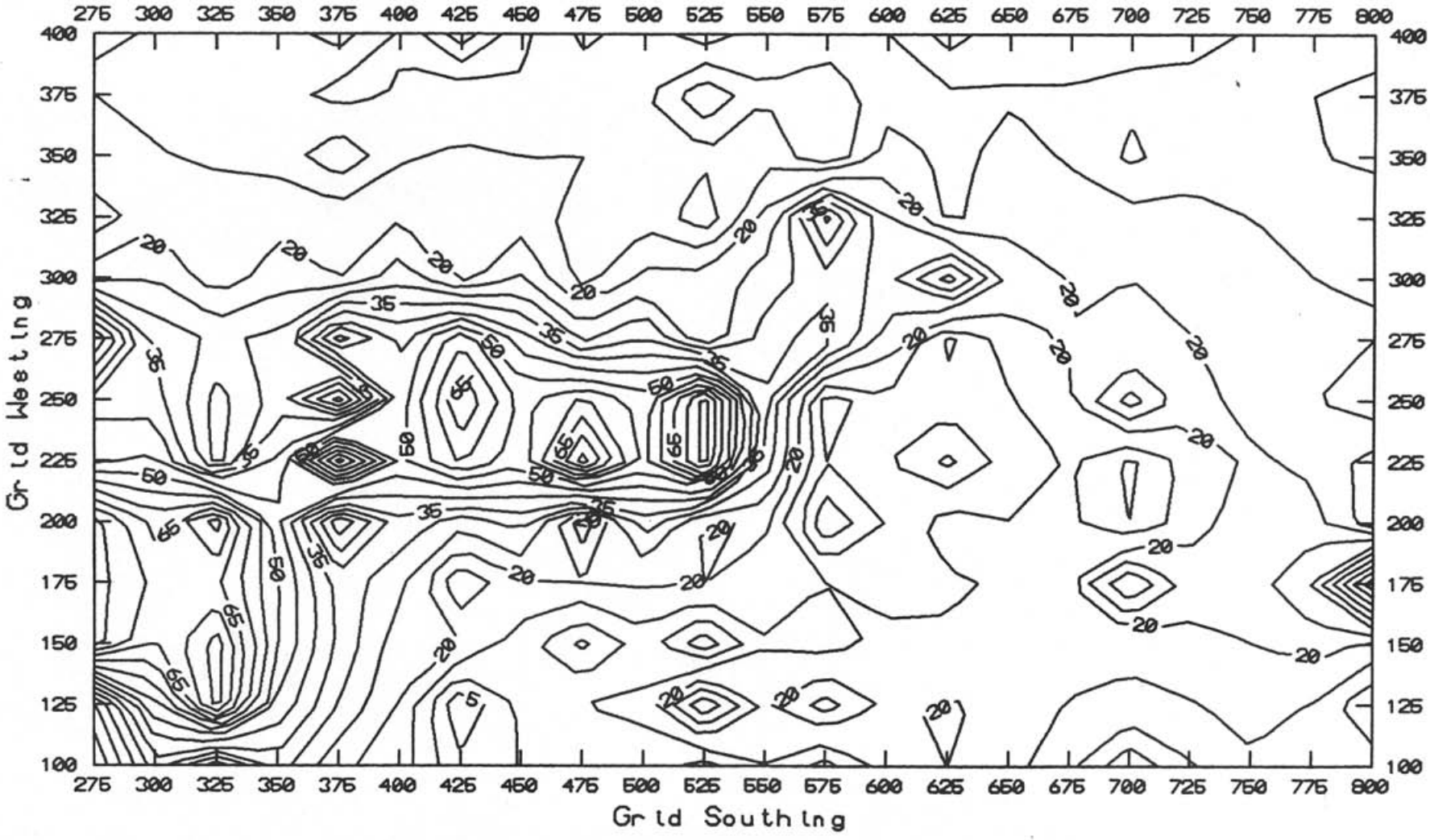
SOIL GEOCHEMISTRY - Mn (ppm)



SCALE 1 cm. = 25 metere

Cu Property
100 ppm contour intervals
Values cut to 95th percentile
1989 Geochemical Data
J.A. Zbeetnoff March 1992

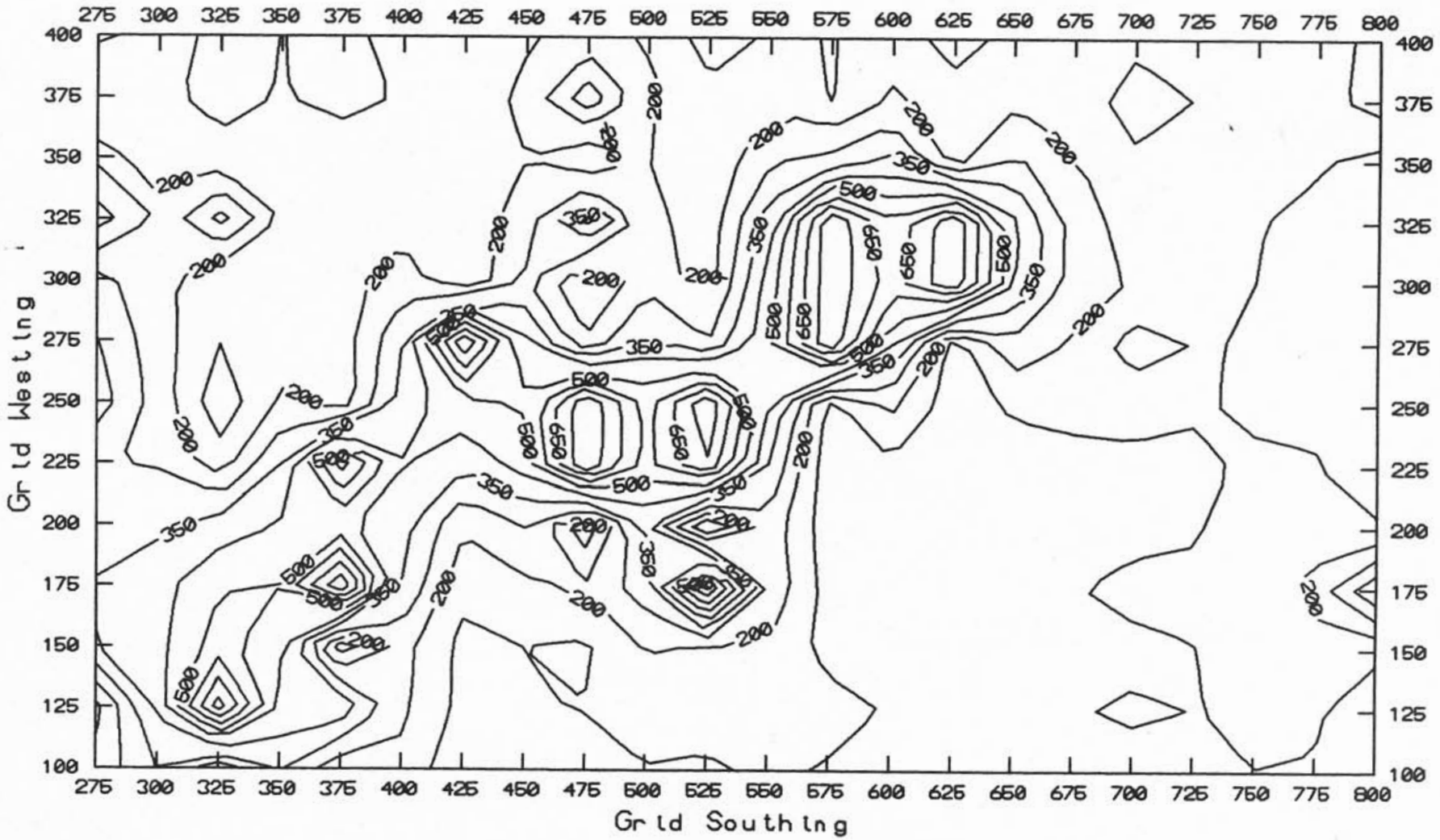
SOIL GEOCHEMISTRY - Pb (ppm)



SCALE 1 cm. = 25 metere

Cu Property
5 ppm contour intervals
Values cut to 95th percentile
1989 Geochemical Data
J.A. Zbeetnoff March 1992

SOIL GEOCHEMISTRY - Zn (ppm)



SCALE 1 cm. = 25 metere

Cu Property
75 ppm contour intervals
Values cut to 95th percentile
1989 Geochemical Data
J.A. Zbeetnoff March 1992

Four wheel drive trail
to Sheep Creek Adits
and open pits, 700m.

Four wheel drive trail
to highway 101, 22km.

Baseline continues to 000 S

Alaska-Pacific Mining Adit
(approximate location and trend)

Foot trail (Overgrown)

JZ9101: 17.41%, 0.332%, 8.9
JZ9102: 4.00%, 0.046%, 3.5

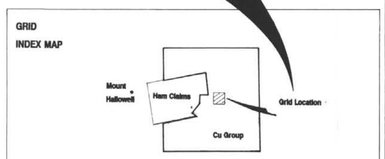
O/B

Four wheel drive trail
to highway 101, ~ 7.5km.

100 W
150 W
200 W
250 W
300 W
350 W
400 W

250 S
300 S
350 S
400 S
450 S
500 S
550 S
700 S
800 S

GRID
INDEX MAP



LEGEND

CRETACEOUS OR EARLIER

T — **Coast Plutonic Complex:** Quartz diorite to granodiorite with lesser amounts of hornblende diorite intrusive. Age is uncertain but post Jurrassic is generally accepted. Rocks are known to host pendants of Jarvis Group. Also includes dykes and sills of similar composition.

CRETACEOUS OR LATER

K — **Jarvis Group:** Sedimentary and volcanic rocks are Cretaceous or older and form roof pendants within intrustive complexes. Pendants consist of volcanics, chert, argillite, and limestone. Rocks are variably altered and deformed by Coast Plutonic Suite.

ls Limestone to dolomite; medium gray, variably silicified and mineralized. Bedding and other structural fabric is rarely displayed.

a Argillite; generally strongly hornfelsed, purple-brown in color, variably silicified and mineralized. Bedding and structural fabric is commonly preserved.

v Volcanics; generaly from andesitic to basaltic in composition, medium dark grayish black to dark green in color, fine grained and often textureless. Hornfels alteration is noted locally.

Limit of outcrop exposure

Geologic contacts
defined
approximate
assumed

Bedding attitude, dip

Jointing attitude, dip

Shear attitude, dip

Trench location

100 W Grid Location co-ordinate

Adit

X JZ9101: 17.41%, 0.332%, 8.9 Rock sample location
sample number
analysis; Zn%, Cu%, Ag(ppm)

Four wheel drive road

O/B Drift cover

Creek, direction of flow

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,195

20 m 0 20 40 60 80 m

BRIAN SAUER
Cu GROUP

GEOLOGY

JOHN ZBEETNOFF		JAN. 1992
DRAWN BY: J.Z.	SCALE: 1:1000	FIGURE: 3