

A

REPORT

on the

A U D R E Y   C L A I M S

Latitude 57° 06' North  
Longitude 126° 43' West

in the

Omineca Mining District

of

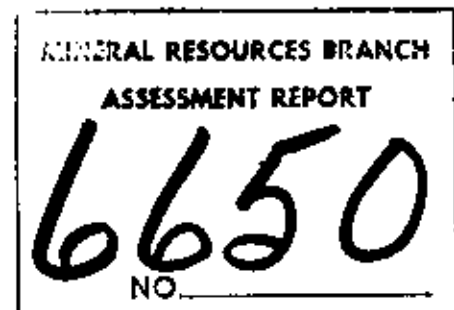
British Columbia

for

BISHOP MINES LTD.

by

Stephen C. Gower



April 5, 1978

Vancouver, B.C.

STATEMENT OF COSTS, ATTYCELLY PROPERTY

The costs incurred on assessment work on the Audrey  
No. Group of mineral claims were as follows:

PERSONNEL - Crew Costs

Doug Stelling, Party Chief		
10 days @ \$100.00/day	\$1,000.00	
Howard Moskaluk, Field Ass't		
10 days @ \$60.00/day	600.00	
Ken Gumason, Field Ass't		
10 days @ \$40.00/day	<u>400.00</u>	\$2,000.00

COSTS - as per disbursements

1. Helicopter	1,273.00	
2. Assaying (Cu, Pb, Zn, Ag, Au, Invoice #3715		
6 Assays @ \$23.00/ea	\$138.00	
6 Assays sample prep.		
Inv. #3709	12.00	
170 Soil Geochem (Cu, Pb, Zn, Ag) @ \$3.20/ea	544.00	
170 Soil Sample prep. @ .40¢ ea	68.00	
2 Rock Geochem (Cu, Pb, Zn, Ag) @ \$3.20/ea	6.40	
2 Rock Sample prep. @ \$1.50/ea	3.00	
170 Soil Geochem (Au, Hg)		
2 Rock Geochem 170 @ \$7.50/ea	<u>1,290.00</u>	2,061.00
3. Report - Engineering	450.00	
4. Camp, Food, Mob/Demob	<u>1,550.00</u>	<u>5,425.00</u>
		<u>\$7,425.00</u>

Period of work - September 30th to October 9th in field

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Property Location Map	1:50,000
Copper in Soil	1" = 200'
Lead in Soil	1" = 200'
Zinc in Soil	1" = 200'
Silver in Soil	1" = 200'
Gold in Soil	1" = 200'
Mercury in Soil	1" = 200'
Composite Anomalies	1" = 200'
VLF EM-16	1" = 200'
Magnetometer Survey	1" = 200'
Rock Geochemical Survey	1" = 400'

## INTRODUCTION

The mineral property discussed in this report is situated about 7 miles east of the north end of Thutade Lake. The exploration work consisted of soil geochemical survey, a geophysical survey and a brief rock geochemical prospecting program. All work is being applied on claims having a record date of February 4th.

The work was done under the supervision of Doug Stelling, Party Chief. This report was commissioned by Mr. Corby Stanley because of the author's first hand knowledge on the property during 1969-73, while employed by Kennco Explorations (Western) Limited. The report is based on maps and geochemical data provided by Mr. Stanley, and from the personal files of the author. The work was done from September 30th to October 9th, 1977.

## LOCATION AND ACCESS

The property is situated at latitude 57°06'N, Longitude 126°43'W between 5,000' to 6,000' asl. The survey area is situated 7 miles east of the north end of Thutade Lake on a mountain ridge.

Access to the property is by fixed wing aircraft from Smithers to Thutade Lake, a distance of 165 miles, and by trail or helicopter from there. Local travel on the property is hampered by steep topography. Thus helicopter setout on the property was useful in minimizing unproductive travel time from the valley to the survey area.

## PROPERTY AND TITLE

The Audrey claim group consist of two contiguous mineral claims, Audrey East and Audrey West, totalling sixteen units. Both claims were located by Mr. D. Stelling, January 19th, 1976. The claims were purchased by Bishop Mines Ltd. and the bill of sale registered in the Vancouver office of the Minister of Mines and Petroleum Resources.

## SOIL GEOCHEMICAL SURVEY

### Soil Survey Field Work

Control lines were established by topochain and compass survey, and sample sites were marked by surveyors flagging on pickets. The direction of the soil lines is east-west. Samples were taken at 30 meter spacings, on lines run 25 or 50 meters apart. The soil samples were taken from the top of the B horizon, at an average depth of 8" below surface.

The samples were collected by digging a small hole with a rock hammer. By this means it was possible to see the top of the B horizon. The soil sample was then taken by hand and placed in a soil bag.

### Packaging

The samples were placed in 9"x4" brown paper envelopes on which the sample location had been marked. These were closed with a triangular triple fold. (The bags are not anomalous in trace metals.) The samples were then shipped for analysis to Min-En Laboratories Ltd. at 705 West 15th Street in North Vancouver.

## SAMPLE PREPARATION & ANALYSIS

The soil samples, after drying at 95°C, are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer. 1.0 gram of the samples being analysed for Cu, Pb, Zn & Ag are digested for 6 hours with HNO<sub>3</sub> and HClO<sub>3</sub> mixture.

1.0 gram of the samples being analysed for mercury are digested with nitric and sulphuric acid. The samples are then further oxidized with 30% H<sub>2</sub>O<sub>2</sub> while heating and repeating the oxidizing steps. After cooling and diluting the solution to a suitable volume, 5% KMNO<sub>4</sub> is added by titration to refine the oxidization procedure until a pink color is obtained.

### SAMPLE PREPARATION & ANALYSIS (Continued)

5.0 grams or 10 grams of the samples being analysed for gold are pretreated with  $\text{HNO}_3$  and  $\text{HClO}_3$ . The samples are then digested with aqua regia solution and mixed with 25%  $\text{HCl}$  to form a suitable volume for analysis. Methyl Iso-Butyl Ketone is added to the solution for the extraction of gold.

The solutions are analysed by Atomic Absorption instruments and the results are measured by comparing the samples with known standards.

### GEOPHYSICAL INSTRUMENTS

The geophysical instruments used were an M-700, McPhar Fluxgate Magnetometer and a Geonics EM-16.

Readings were taken along the geochemical survey grid, using the camp as a base station. Between October 1 and October 4, 1977, magnetic diurnal drift was only 100 gammas so the readings did not require a drift correction. Readings were taken with the instrument always facing north and recorded directly in gammas.

Electromagnetic readings of the in-phase and out-of-phase component were taken with a Geonics EM-16 along the geochemical survey grid used Seattle (NLK 18.6 KHZ) as a transmitting station so that a field was generated at right angles to the survey grid. However, the operator should have ideally used Cutler, Maine so that the strike of the geology would point to the transmitter and the E.M. survey lines would run at right angles to the geochemical survey lines. Since the source is shallow, the survey should be re-done. Readings were recorded directly as per cent dip angle for the in-phase and out-of-phase component and then Fraser Filter technique was applied to show any anomalous features.

### Interpretation

Galena, sphalerite and chalcopyrite in quartz veins has been discovered on the east and west slopes of the ridge. The purpose of the soil survey was to search under shallow drift cover for anomalous concentrations of metals which might be the surface expression of drift covered mineralization. A magnetic and E.M. survey were undertaken to attempt to trace the quartz vein with geophysics. Depth of overburden in the survey area is estimated to be 2 to 10 feet and the B horizon is well developed. Previous sampling had shown that anomalous concentrations of metals were present in soil adjacent to known showings. Mercury in soil was analysed in the expectation that mercury vapor emanating from a vein, or its localizing structure would produce a halo which would indicate trenching targets in areas of deeper overburden.

On the basis of anomalous concentrations of Ag, Au, Cu, Pb, Zn, Hg in the survey area, it appears that a vein system underlies the drift cover in the vicinity of 17+00E-18+00E on line 9+25S, 17+00E-18+30E on line 9+00S, 17+00E-18+60E on line 8+75S, 19+00E-19+50E on line 8+25S, 19+40E-20+50E on line 8+75S, 19+60E-20+50E on line 9+00S.

The magnetic survey was undertaken in the expectation that the vein would have a magnetic low response possibly paralleled by a magnetic high in the andesitic wall rock. Interpretation of the magnetic response is complicated by the direction of the survey lines almost parallel to the vein system, and the wide spacing between the lines north of 8+75S. However, it appears that the trace of the vein east to west cuts 9+00S at 17+30E-17+60E, 8+75S at 17+90E-18+10E, 8+025S at 19+00E and 8+75S at 20+40E. Other magnetic lows are probably due to acid intrusive rocks or zones of silicification.

The E.M. survey provided data that was not consistent with information provided by prospecting and the other survey methods. The ability of E.M. to define the trend of a quartz vein system mineralized discontinuously -with pods and lenses of galena, sphalerite, chalcopyrite and pyrite is doubtful; however, the survey was undertaken to test the usefulness of the method.

ROCK GEOCHEMICAL SURVEY

A rock survey was undertaken to attempt to explore geochemically, mineral zoning in the vein system. Six samples were selected of mineralized material taken from outcrop and float, and analysed for Cu, Pb, Zn, Ag, Au. These samples represented portions of the vein over a distance of 4,200' horizontally and 800' vertically.

91926 - Samples taken from a quartz vein in a small dry creek near line 9S.

91927 - 8+80S, 19+08E. Samples taken of quartz float and from veins several inches wide.

91928 - 9+05S, 17+90E. Samples taken of quartz mineralized with galena, sphalerite and chalcopyrite.

91929 - Samples taken from stockwork of small quartz veins mineralized with galena, chalcopyrite and sphalerite.

91930 - Samples taken from mineralized quartz float in lower part of east draining creek.

8+75S, 14+00E - Samples taken from quartz float in west valley. Specimens well mineralized with galena, sphalerite, and chalcopyrite.

Two samples of andesitic volcanics were taken from 20+00E and 20+10E on line 7+50S to test the mineral content of the gossion material. The results of these samples are shown on the rock geochemical survey map.

<u>RATIOS</u>	<u>Au/Ag</u>	<u>Ag/Pb</u>	<u>Pb/Zn</u>	<u>Ag/Zn</u>	<u>Ag/Cu</u>
91926	.003/1	2.87/1	1.2/1	3.43/1	5.2/1
91927	.02/1	0.74/1	7.8/1	5.79/1	19.8/1
91928	.004/1	0.44/1	1.4/1	.61/1	3.9/1
91929	.004/1	0.75/1	.22/1	.16/1	2.5/1
91930	.002/1	4.30/1	.10/1	.44/1	4.4/1
8+75S 14+00E	.002/1	0.41/1	1.9/1	.80/1	14.7/1

ROCK GEOCHEMICAL SURVEY (Continued)

Based on the limited and widely spaced sampling no conclusions can be made about the mineral zoning. However, sample 91927 has the highest ratio of Au/Ag. Samples 91926 and 91930 have the most favourable ratios of Ag/Pb. It is quite evident that precious metal zoning does exist within the vein system and the original Kennco evaluation of 1/4 oz of Ag per 1% Pb is not consistent.

CONCLUSIONS

1. The vein system persists on an east-west trend between the two showings straddling the ridge.
2. Soil geochemistry provides useful prospecting information for localizing the vein location under shallow drift cover. The extreme highs probably indicate the exact vein position.
3. A magnetic survey across the vein system would probably define the location of the vein under drift cover. However, the survey undertaken is of limited usefulness because the control lines parallel the trend of the vein. Extreme lows at the locations mentioned under 'interpretation' probably pinpoint vein location.
4. The E.M. Survey appears to be defining lithology rather than zones of sulphides. It appears doubtful that the type of mineralization sought would provide a good E.M. conductor.

RECOMMENDATIONS

1. The vein system should be exposed by test pitting and hand trenching.
2. Detailed rock sampling should be undertaken to define metal zoning and mineral content of the vein.

*Stephen C. Downer*

LIST OF CLAIMS AND DISTRIBUTION OF WORK

AUDREY #1 GROUP

<u>Claim</u>	<u>Record No.</u>	<u>Record Date</u>	<u>Work</u>	<u>Yrs. Applied</u>
Audrey East	207	Feb 4/77	10 Units - \$3,000	3
Audrey West	208	Feb 4/77	6 Units - <u>\$1,800</u>	3
			\$4,800	

STATEMENT OF QUALIFICATIONS

I. Stephen C. Gower, do hereby certify that:

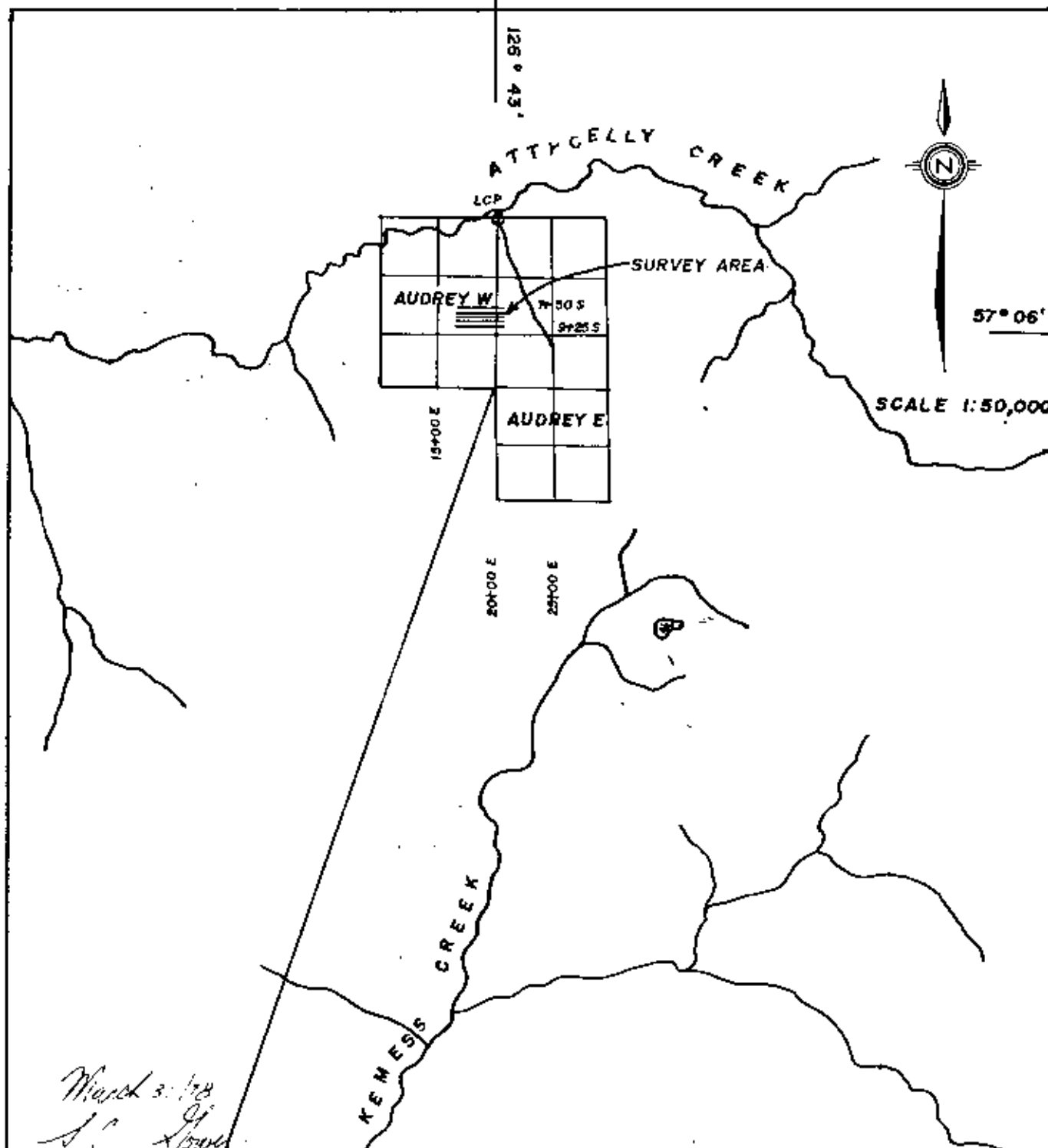
1. I am a graduate of the University of British Columbia with a Bachelor of Science degree in geology, 1970.
2. Since graduation, I have been employed until December 31st, 1977, in mining exploration in British Columbia, and the Yukon Territories by Kennco Explorations (Western) Ltd.
3. I am a consulting geologist.
4. I have done exploration work on the Audrey Claims when they were held by Kennco Explorations (Western) Ltd. at specific periods during 1969-1973.
5. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the subject property, or securities of Bishop Mines Ltd. (N.P.L.)
6. I consent to the use of this report in a Statement of Material Fact or a Prospectus of Bishop Mines Ltd. (N.P.L.)

*Stephen C. Gower*

*March 31, 1978*

QUALIFICATIONS OF D. STELLING, PARTY CHIEF

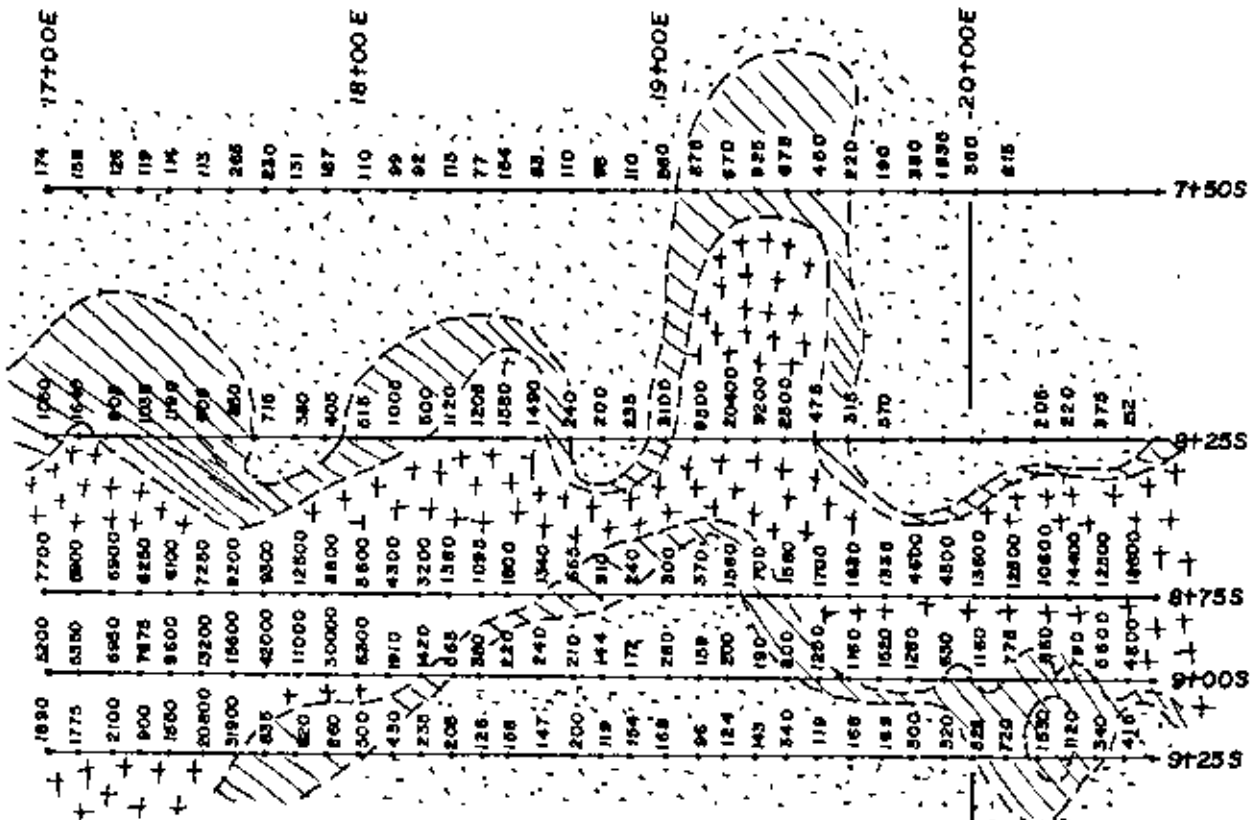
D. Stelling has completed 3 1/2 years of university at the University of Arizona majoring in Geological Engineering. He is presently manager of Stellac Explorations Ltd., and has worked as a prospector and exploration consultant in the Omineca of B. C. since 1969.





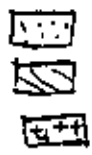
*March 3, 1988  
S. C. Lewis*



<b>British Columbia</b>	
<b>BISHOP MINES LTD.</b>	
<b>THUTADE LAKE</b>	
MINING DIVISION: OMINECA	
<b>CLAIM MAP &amp; PROPERTY LOCATION MAP</b>	
MAP REFERENCE: 94 E	
COORDINATES: 57° 06' 126° 43'	



 SURVEY GRID LINE & STATION  
 ANOMALY CONTOUR LINE



0 - 399 BACKGROUND  
 400 - 1800 WEAKLY ANOMALOUS  
 1800 STRONGLY ANOMALOUS

AUDREY W

AUDREY E

BISHOP MINES LTD.  
 THUTADE LAKE  
 AUDREY CLAIMS  
 OMEGA M.D., B.C.  
**ZINC IN SOIL**

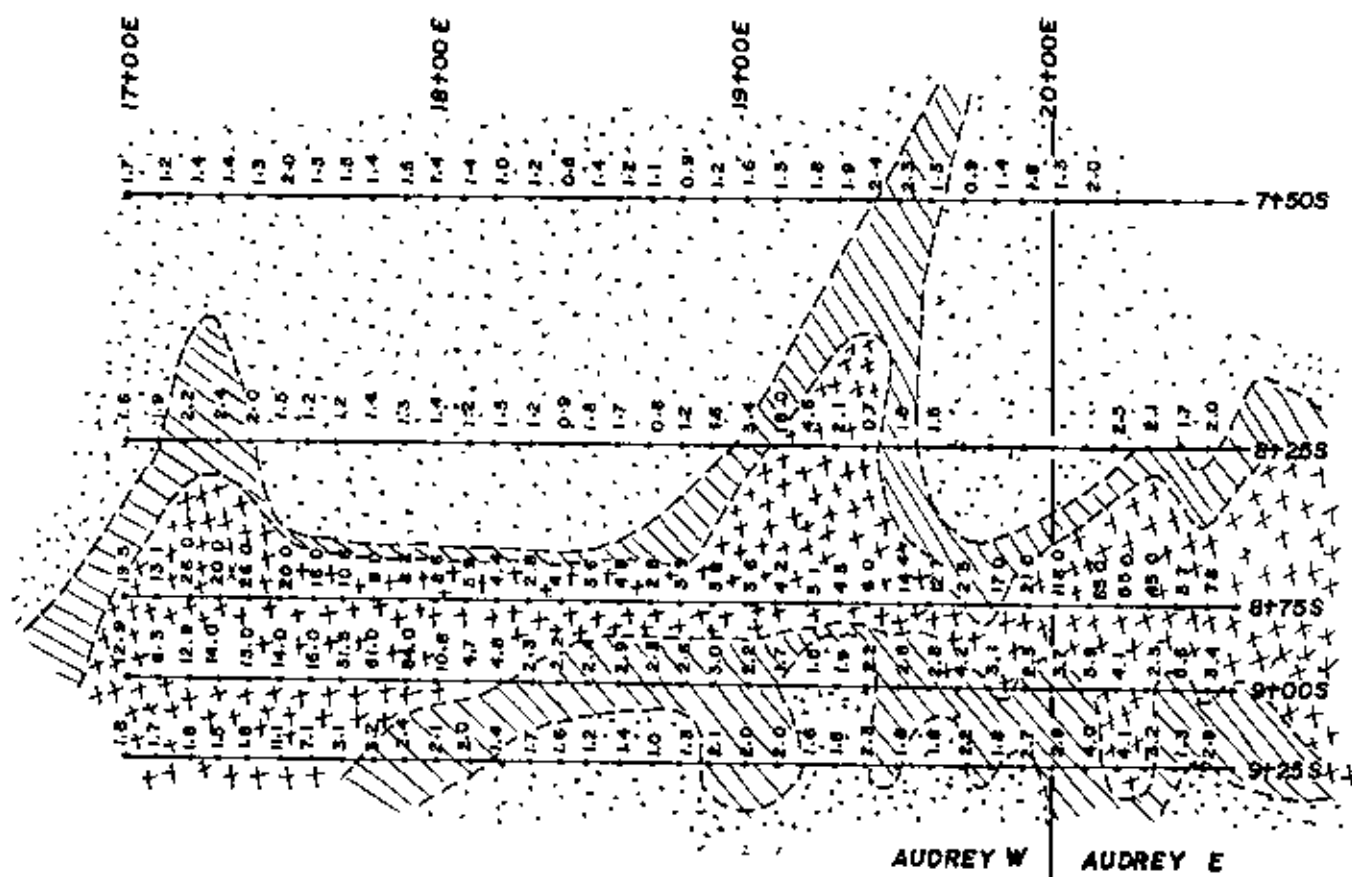
VALUES IN PPM  
 SCALE IN METERS







MAP REF. 94E/2E

COORDINATES 57° 08', 126° 43'

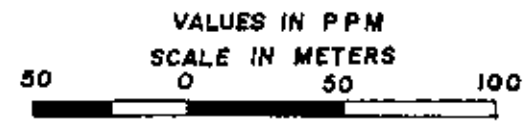
*March 31/78*  
*[Signature]*



——— SURVEY GRID LINE & STATIONS  
 - - - ANOMALY CONTOUR LINE

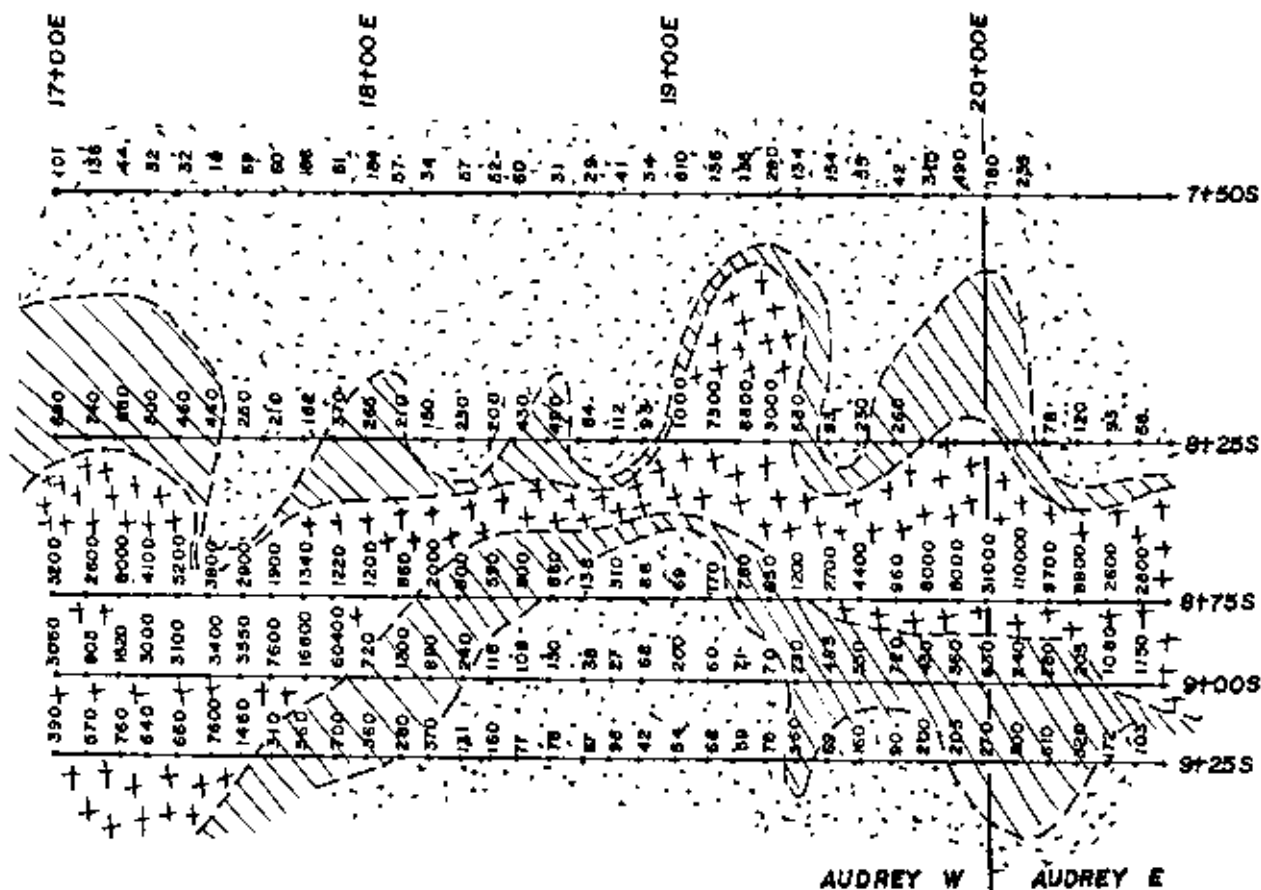
-  0 - 1.9 BACKGROUND
-  2.0 - 3.4 WEAKLY ANOMALOUS
-  3.5 - 8.0 MODERATELY ANOMALOUS
-  8.1 - 25.9 STRONGLY ANOMALOUS
- > 26.0 EXTREMELY ANOMALOUS

BISHOP MINES LTD.  
 THUTADE LAKE  
 AUDREY CLAIMS  
 OMINACA M.D., B.C.  
**SILVER IN SOIL**

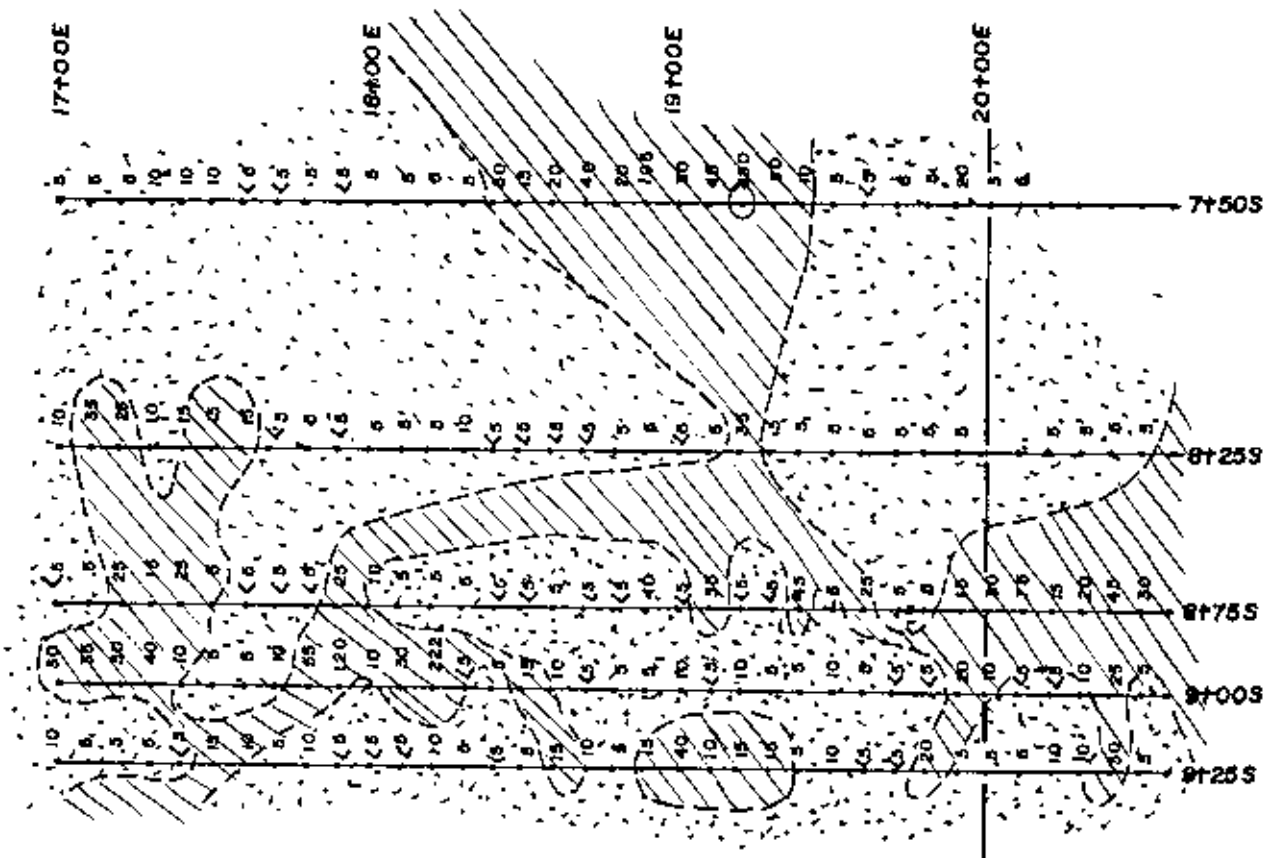


MAP REF. 94E/2E  
 COORDINATES 57° 06', 126° 43'

*March 31/78*







- AUDREY W      AUDREY E
- SURVEY GRID LINE & STATION
  - - - ANOMALY CONTOUR LINE
  - 0 - 10 BACKGROUND
  - 11 - 400 WEAKLY ANOMALOUS
  - > 400 STRONGLY ANOMALOUS

BISHOP MINES LTD.  
 THUTADE LAKE  
 AUDREY CLAIMS  
 OMINICA M.D., B.C.

**GOLD IN SOIL**  
 VALUES IN PPB  
 SCALE IN METERS

50      0      50      100

MAP REF. 94E/2E  
 COORDINATES 57° 06', 126° 43'

*March 31 '28*  
*L. J. ...*





ZINC

17+00E

18+00E

19+00E

20+00E

7+00S

8+25S

8+75S

9+00S

9+25S

BISHOP SOIL LINES

AUDREY W

AUDREY E

- SURVEY GRID LINE & STATION
- - - ANOMALY CONTOUR LINE
- · - · - ZINC
- - - SILVER
- === GOLD

SILVER

GOLD

13+00SW

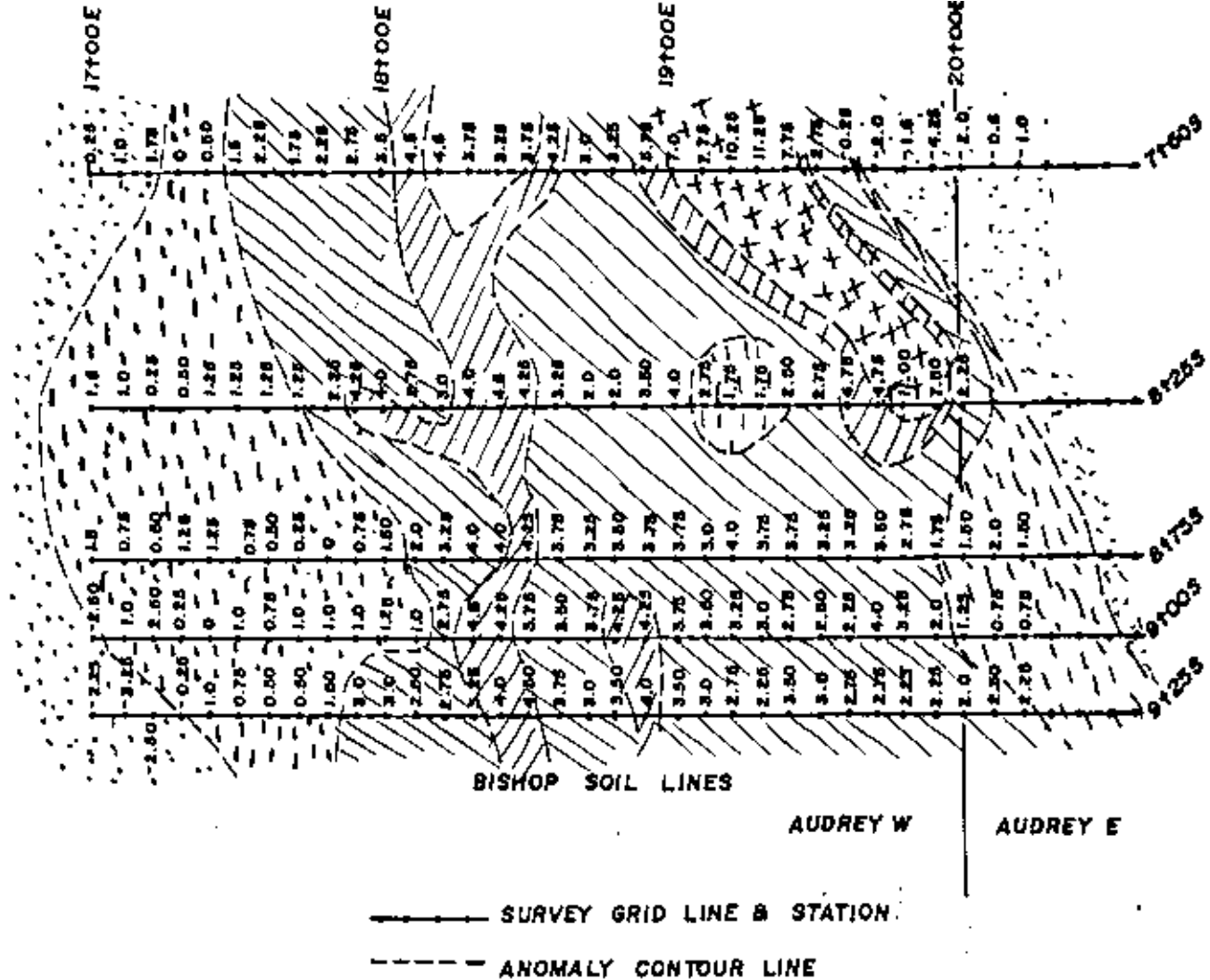
BISHOP MINES LTD.  
THUTADE LAKE  
AUDREY CLAIMS  
OMINECA M.D., B.C.  
**COMPOSITE ANOMALIES**

Zn - Au - Ag  
SCALE IN METERS



MAP REF. 94E/2E  
COORDINATES 67° 06', 126° 43'

*March 31/78  
L.C. Jones*



BISHOP MINES LTD.  
THUTADE LAKE  
AUDREY CLAIMS  
OMINECA M.D., B.C.

VLF EM-16 SURVEY  
VALUES IN % TILT ANGLE, FRASER FILTERED  
SCALE IN METERS



MAP REF. 94-E/2E

COORDINATES 57° 06', 126° 43'

March 31, 1978  
L.C. [Signature]

0100 SE

17100E

18100E

19100E

20100E

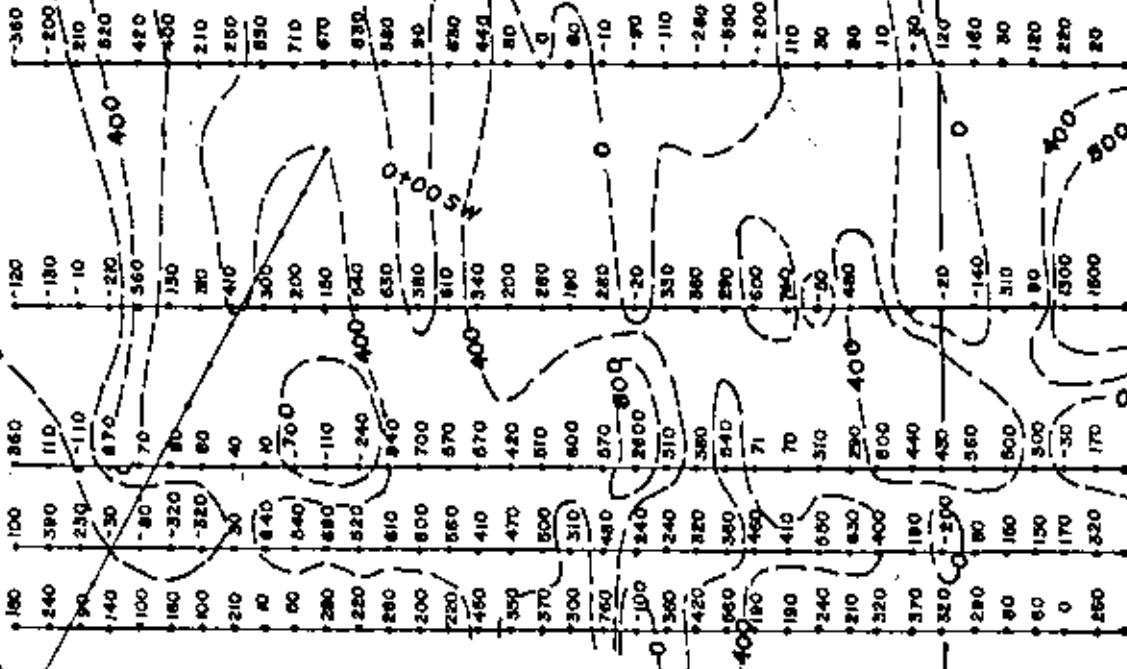
7100S

8125S

8175S

9100S



9125S



BISHOP SOIL LINES & MAG. LINES

AUDREY W

AUDREY E

 SURVEY GRID LINE & STATION  
 ANOMALY CONTOUR LINE

BISHOP MINES LTD.  
 THUTADE LAKE  
 AUDREY CLAIMS  
 OMINICA M.O., B.C.

**MAGNETOMETER SURVEY**  
 VALUES IN GAMMAS  
 SCALE IN METERS



MAP REF. 94E/2E  
 COORDINATES 67° 06', 126° 43'

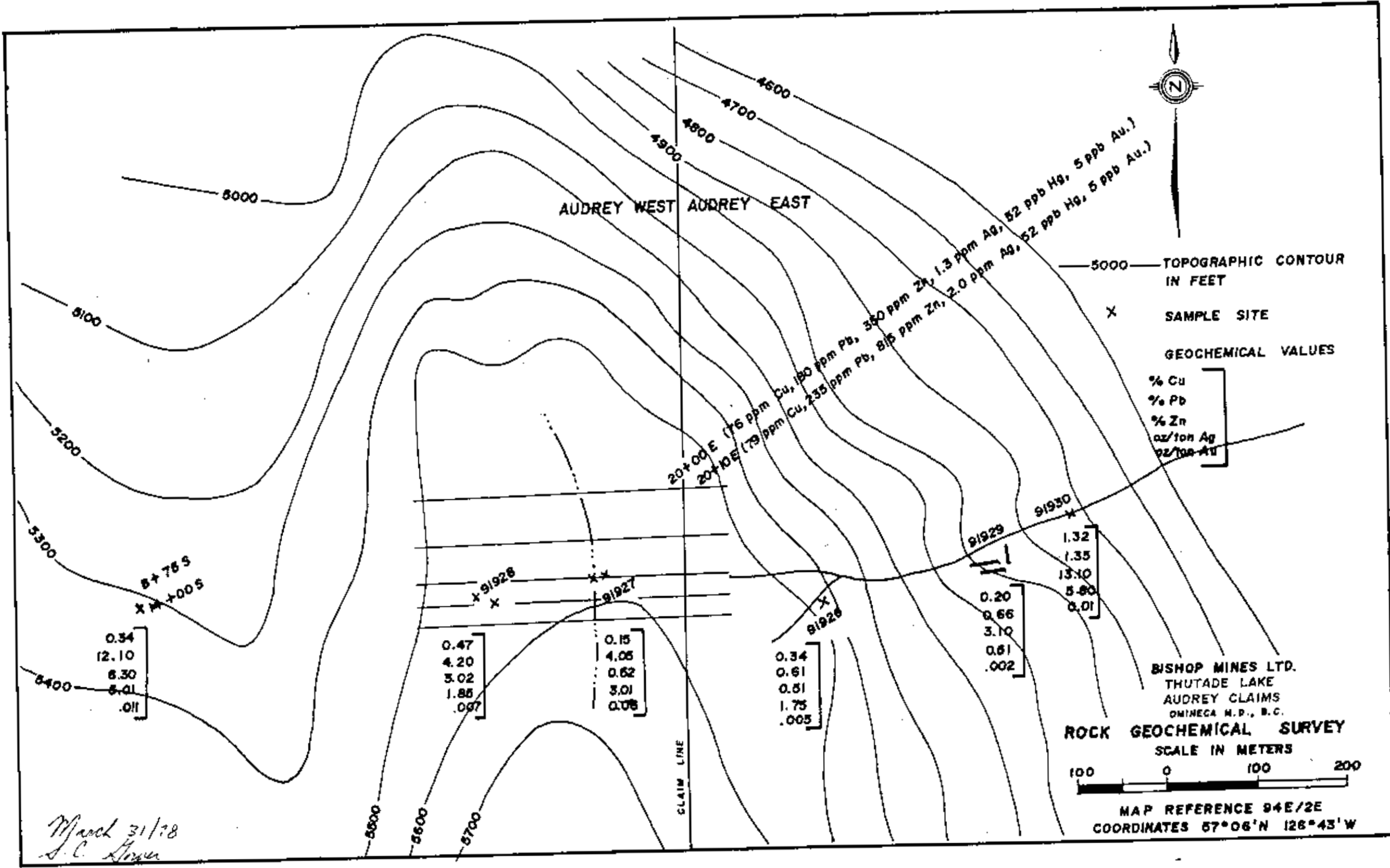
KENNCO SOIL LINE  
 13100SW

KENNCO SOIL LINE

3100SE



March 31/78  
 L.C. [Signature]



March 31/78  
L.C. Loxton