

85-881-14113

9/10

ASSESSMENT REPORT

-----

1985 Geochemical Survey

on the

RB-4 Mineral Claim

Nicola Mining Division      N.T.S. 921/2E

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**14,113**

October 4, 1985  
Vancouver, B.C.

Sookochoff Consultants Inc.  
Laurence Sookochoff, P.Eng.



## TABLE OF CONTENTS

|                                  |     |
|----------------------------------|-----|
| INTRODUCTION -----               | 1.  |
| SUMMARY -----                    | 1.  |
| PROPERTY -----                   | 2.  |
| LOCATION AND ACCESS -----        | 3.  |
| PHYSIOGRAPHY -----               | 3.  |
| WATER AND POWER -----            | 3.  |
| HISTORY -----                    | 4.  |
| GEOLOGY AND MINERALIZATION ----- | 5.  |
| GEOCHEMICAL SURVEY -----         | 6.  |
| RESULTS -----                    | 8.  |
| DISCUSSION -----                 | 9.  |
| CONCLUSION -----                 | 9.  |
| RECOMMENDATIONS -----            | 10. |
| SELECTED REFERENCES -----        | 11. |
| CERTIFICATE -----                | 12. |

### ILLUSTRATIONS

### SCALE

|          |                 |             |
|----------|-----------------|-------------|
| FIGURE 1 | LOCATION        | 1:6,336,000 |
| FIGURE 2 | INDEX MAP       | 1: 50,000   |
| FIGURE 3 | COPPER GEOCHEM  | 1: 400      |
| FIGURE 4 | LEAD GEOCHEM    | "           |
| FIGURE 5 | ZINC GEOCHEM    | "           |
| FIGURE 6 | SILVER GEOCHEM  | "           |
| FIGURE 7 | ARSENIC GEOCHEM | "           |
| FIGURE 8 | COMPILATION MAP | "           |



Assessment Report  
1985 Geochemical Survey  
on the  
RB-4 Mineral Claim

-----

INTRODUCTION

During August of 1985 a localized geochemical survey was carried out on the RB-4 Mineral Claim. The purpose of the survey was to locate potential silver-copper anomalous areas which may lead to the location of economic mineral zones.

This report relates the work completed, the analysis of results and the conclusions derived from the results.

SUMMARY

The Nicola Property is located 13 km south of Merritt B.C. in the Nicola Mining Division and predominantly covers the Nicola Group of sedimentary and volcanic rocks.

The Nicola band of rocks has been explored for mineral deposits since the late 1800's from the discovery of gold and platinum placer deposits along the Tulameen and Similkameen Rivers. Many localized mineral occurrences have been found with three properties developed to production.

The Nicola property is situated to the north of the former active Aspen Grove Camp where widespread copper showing occur.



### LOCATION AND ACCESS

The legal claim post is located 13 km south of Merritt, 2.75 km northeast of Garcia Lake and 1.4 km south of Lund Lake at  $120^{\circ} 07' 45''$  W and  $50^{\circ} 04' 15''$  N. The No. 5 Highway is within two km west of the property.

### TRANSPORTATION AND SUPPLIES

Merritt is some 350 km from Vancouver and 95 km from Kamloops which is served daily by P.W.A. from Vancouver.

Most supplies for the exploration and development program would be available at Merritt.

### TOPOGRAPHY

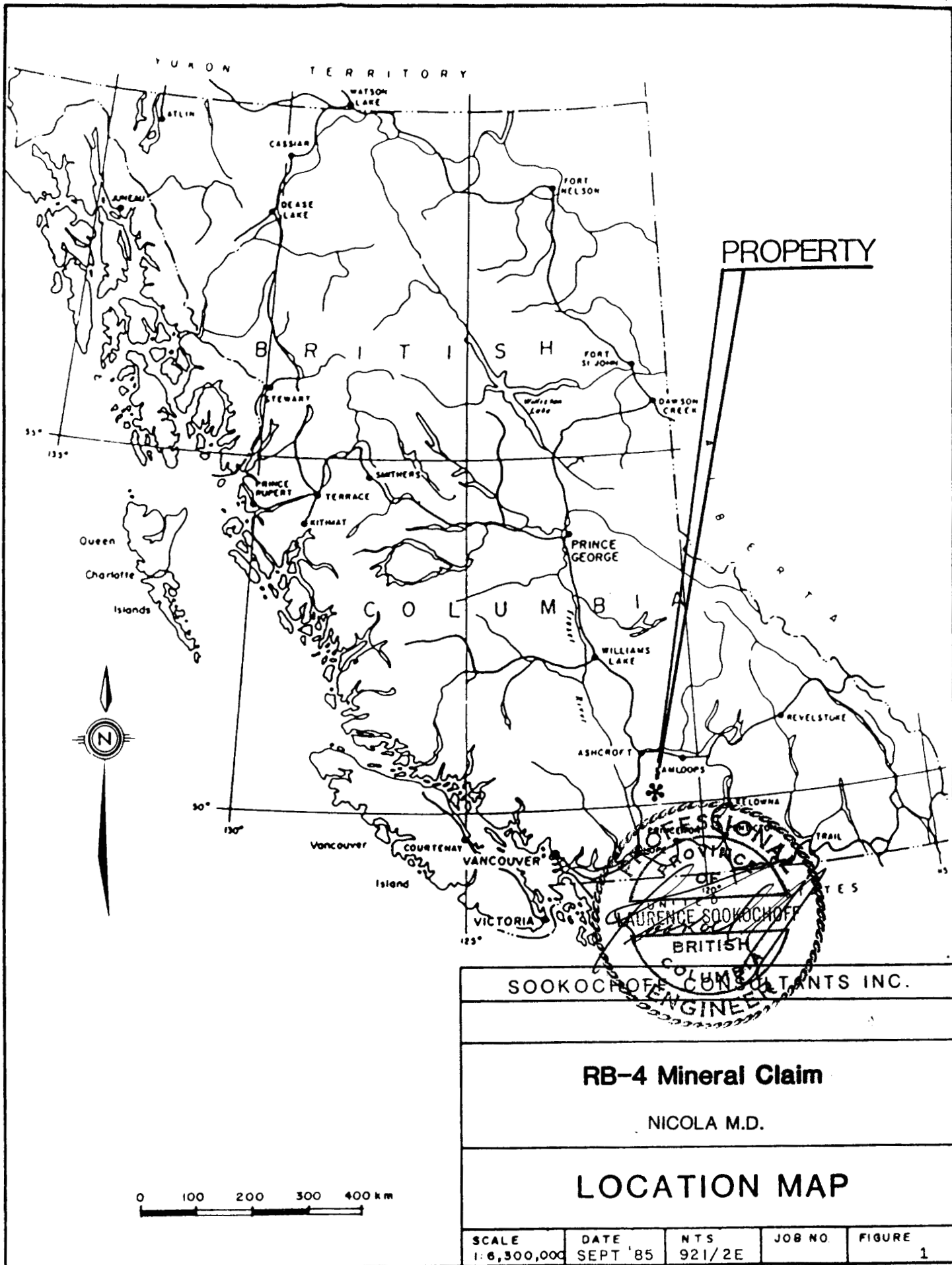
The property generally covers rounded slopes with low relief. Elevations on the property range up to 1,250 meters. The highest portions of the property are the south central and Nicola Mountain at the southern portion of the property where elevations reach 1390 meters a.m.s.l.

### WATER AND POWER

Sufficient water for the exploration program should be available from lakes and/or water courses on or adjacent to the property.

A power line passes through the northwestern corner of the property.





|                                                                                   |                  |               |        |             |
|-----------------------------------------------------------------------------------|------------------|---------------|--------|-------------|
| SOOKCHOFF CONSULTANTS INC.                                                        |                  |               |        |             |
| <p align="center"><b>RB-4 Mineral Claim</b></p> <p align="center">NICOLA M.D.</p> |                  |               |        |             |
| <p align="center"><b>LOCATION MAP</b></p>                                         |                  |               |        |             |
| SCALE<br>1:6,300,000                                                              | DATE<br>SEPT '85 | NTS<br>921/2E | JOB NO | FIGURE<br>1 |

## HISTORY

The Nicola volcanic belt from the U.S. border south of Princeton to Kamloops Lake in the north has been the object of continued mineral exploration since the late 1800's. The original discovery which resulted in the intensive exploration, was of gold and platinum placer deposits along the Tulameen and Similkameen Rivers. Subsequent exploration of the Nicola belt led to the discovery of numerous copper and associated mineral occurrences which were explored by trenches, pits shafts and adits. As a result of continued exploration, the Copper Mountain deposits near Princeton, the Craigmont deposit near Merritt and the Afton deposit near Kamloops were developed to production.

One of the more active exploration areas was the Aspen Grove Camp where widespread copper showings occur. The RB-4 claim to the north of the Aspen camp and south of Merritt is within an area of known copper occurrences.

In the Courtenay Lake area to the south, copper mineralization occurs within shear zones in the Nicola meta volcanics.

To the north in the Hamilton Creek area, similar copper occurrences are found accompanied with magnetite.

To the southwest, the writer carried out a geological survey on a property covering a shaft exposing a mineralized shear zone.

On the RB-4 mineral claim VLF-EM surveys and some diamond drilling were completed in the early 1980's. Information on the results of the work is not available to the writer.

### GEOLOGY AND MINERALIZATION

The property is located centrally within a north-south trending band of the Nicola Group of Upper Triassic sedimentary and volcanic rocks. A capping of Cenozoic Coldwater conglomerate sandstone and shale occurs within the southern central portion of the property.

The Nicola rocks form an arcuate band stretching from Princeton in the south, through Merritt and beyond Kamloops Lake in the north. Peripheral rocks are predominantly Jurassic intrusives in addition to Cenozoic sedimentary and volcanic rocks. Stocks and plugs of intrusives also outcrop within the Nicola rocks. An intrusive is indicated five km to the northeast and three km to the south.

The Nicola Group includes units of limestone which can be favorable host rocks of mineralization in a favorable geological environment as at the Craigmont deposit near Merritt.

The RB-4 claim is underlain predominantly by the Nicola Group of rocks which are comprised mainly of volcanic flows, pyroclastic rocks, arkose and conglomerate. Discontinuous units of massive to bedded limestone, dark coloured andesitic to basaltic flows, flow breccias and grey to green andesitic breccia may occur intercalated with the volcanics.



A strong northeasterly trending fault is also indicated to pass within two km west of the claim and adjacent to the east end of Garcia Lake.

Mineralization in the immediate area and within one km southwest of Garcia Lake occurs as chalcopyrite, sphalerite and minor bornite in a shear zone. Assays of grab samples taken by the writer in a former geological survey returned up to 2.20% Cu and 2.30 oz Ag/ton.

There is no reported mineralization on the RB-4 claim.

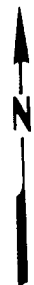
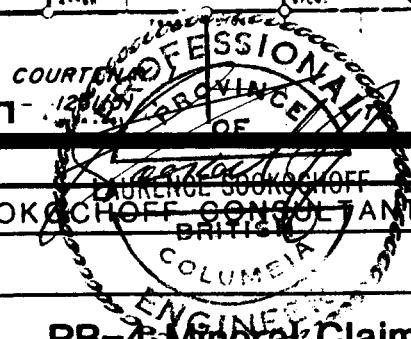
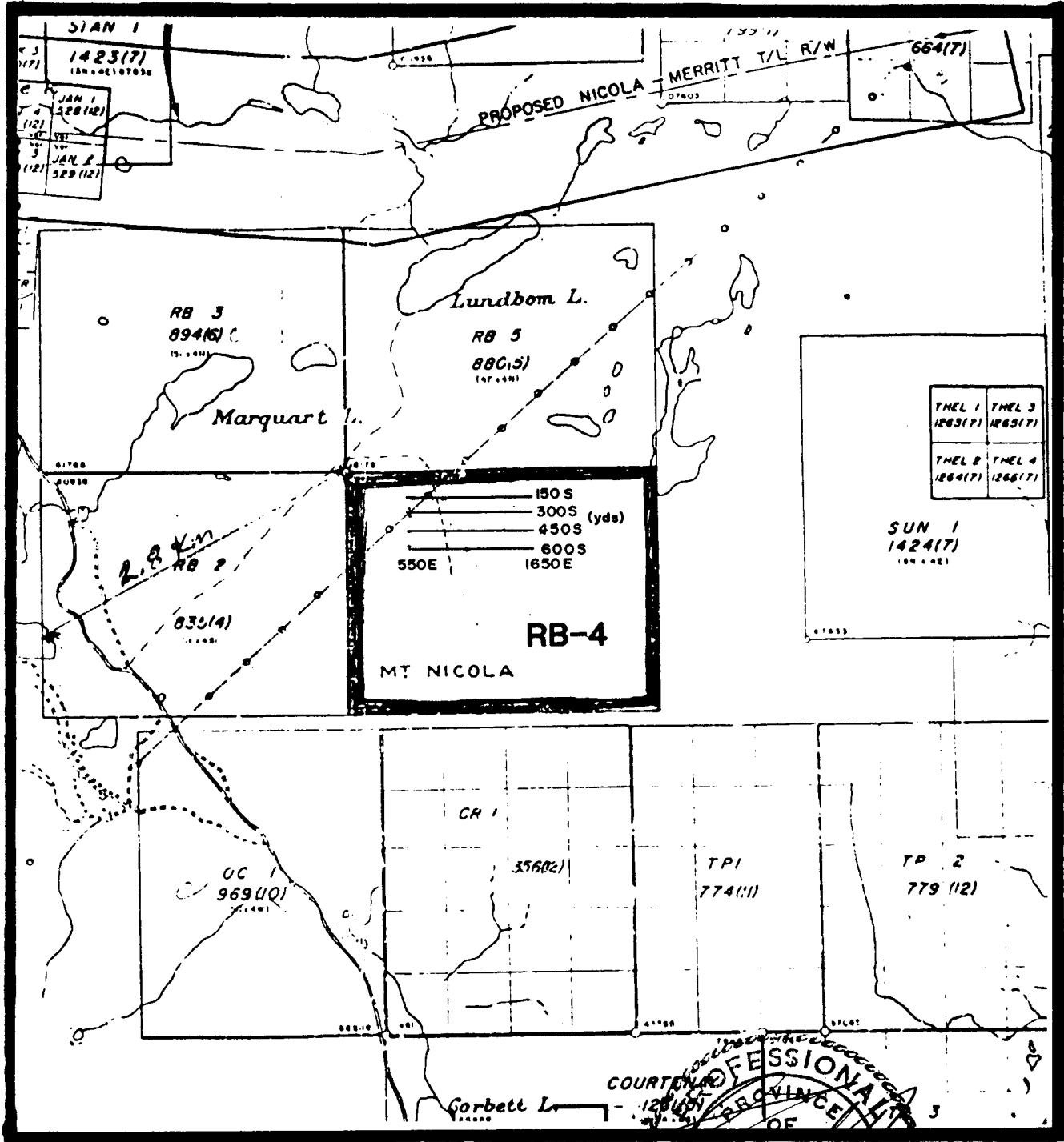
#### GEOCHEMICAL SURVEY (Recce)

##### Survey Procedure

In the recce survey an east west grid was established at 150 yard intervals covering a localized northwest portion of the RB-R claim (Fig 2). Samples were picked up at 50 yard intervals along the grid lines. Samples were selected from the top of the B horizon of the brown to grayish brown sandy-loam forest soil at a depth of commonly 15 centimeters. The soil was placed in a brown wet-strength paper bag with the grid co-ordinates marked thereon. A total of 92 samples were picked up for 2.6 line meters of survey.







|                                                |                   |                 |                       |
|------------------------------------------------|-------------------|-----------------|-----------------------|
| SOOKKHOFF CONSULTANTS INC.<br>BRITISH COLUMBIA |                   |                 |                       |
| <b>RB-4 Mineral Claim</b><br>NICOLA M.D.       |                   |                 |                       |
| <h1>INDEX MAP</h1>                             |                   |                 |                       |
| SCALE:<br>1:50,000                             | DATE:<br>SEPT '85 | N.T.S<br>921/2E | DRAWN BY:<br>GEO-COMP |
|                                                |                   |                 | FIGURE:<br>2          |

Testing Procedure

All samples were tested by Acme Laboratories of Vancouver, B.C. The testing procedure is first to thoroughly dry the sample. Then .500 grams of material is digested with 3 ml. of 3:1:3 HCL to HNO<sub>3</sub> to H<sub>2</sub>O at 90 deg. for one hour. The sample is diluted to 10 mls. with water. The samples were then analyzed by atomic absorption for five metals - copper, zinc, lead, silver and arsenic.

A logarithmic statistical program written by Geo-Comp Systems and run on an IBM PC computer was utilized to group the reported geochemical values into equal logarithmic intervals and to obtain a cumulative frequency graph.

From the graph the 50% level was taken as the mean background threshold level. The sub-anomalous threshold level was taken as the mean plus one standard deviation. The result being that the sub-anomalous values consist of the top 15.8% of the population. The anomalous threshold level was taken as the mean plus two standard deviations. The result being that the anomalous values consist of the top 2.3% of the population.

The statistical parameters for each metal resulted as follows:

|         | Mean Background | Sub-Anomalous | Anomalous |
|---------|-----------------|---------------|-----------|
| Copper  | 30.6            | 48.3          | 65.8      |
| Silver  | .13             | .18           | .23       |
| Lead    | 8.4             | 12.6          | 16.4      |
| Zinc    | 90.0            | 136.0         | 182.0     |
| Arsenic | 4.3             | 6.7           | 9.1       |



## RESULTS

From the results of the geochemical survey five areas of interest were delineated (Fig 8).

1. Area "A" in the northeast, a correlative silver and arsenic anomalous area occurs with peripheral lead correlative arsenic-zinc anomalies to the west and east respectively. The silver is up to .3 ppm with the arsenic up to 13 ppm. The lead is a one station anomaly at 17 ppm with the zinc near double anomalous at 337 ppm. The anomalous zone is centered within an extensive silver sub-anomaly.

2. Area "B" at 1450E 550S is of a single station correlative copper-silver anomaly. The silver is .3 ppm and the copper near double anomalous at 102 ppm.

3. Area "C" centered at 450S 1000E is of a central one station lead anomaly (17 ppm) bordered by single station zinc anomalies of 251 ppm and 276 ppm.

4. Area "D" at 300S 750E is of a single station correlative silver-arsenic anomaly within a general northerly trending sub anomalous zinc zone. The arsenic is anomalous at 16 ppm with an adjacent sub anomalous value of 8 ppm. The silver is anomalous at 4 ppm.

5. Area "E" at 150S 1100E is of a single location copper-silver anomaly with copper near double anomalous at 117 ppm and silver at .3 ppm.



## DISCUSSION

In the geological environment of the RB-4 mineral claim the search for economic mineral deposits would be for skarn, vein volcanics or shear zone associated mineral deposits. The predominant mineralization would be copper with possible silver and/or lead zinc.

Gold mineralization associated with the green volcanics of the Nicola series may also occur in this environment. Although there are not any examples of this type in the immediate area, copper mineralization (native copper) associated with green volcanic units occur to the south of the property. In a varying chemical environment and perhaps distal from the volcanic source, gold mineralization within similar units could occur.

Limestone beds known to occur in the Nicola series are potential for copper-silver-gold skarn deposits.

## CONCLUSIONS

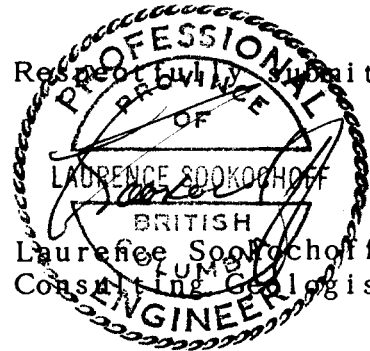
Thus the copper anomalous zones delineated on the RB-4 claim are indicators for potential economic mineral zones associated with the Nicola rocks or in association with intrusives.

Perhaps the more interesting anomalous areas would be anomaly "B" which in extending northward as a sub anomalous copper zone across two additional grid lines and proximal to anomaly "A" and centered by a lead anomaly, could indicate mineralization associated with volcanic units.



RECOMMENDATIONS

It is recommended that a detailed geophysical and geochemical surveys be carried out over the designated anomalous areas. In addition a VLF-EM and mag survey should be carried out over the balance of the property. Subsequent geochemical surveys would be completed over geophysical anomalous areas.

Respectfully submitted,  
  
Laurence Sookchohoff, P.Eng.  
Consulting Geologist.

October 4, 1985  
Vancouver, B.C.



SELECTED REFERENCES

COCKFIELD, W.E. - Geology and Mineral Deposits of Nicola Map Area, British Columbia, Geological Survey of Canada Memoir 249, 1961.

RICE, H.M.A. - Geology and Mineral Deposits of the Princeton Map-Area, British Columbia, Geological Survey of Canada Memoir 243, 1960

Geological Fieldwork 1978, Ministry of Energy, Mines and Petroleum Resources, Paper 1979-1, p.p. 41-46

SOOKOCHOFF, L. - Geological Report on the Nicola Property for Brigade Resources Ltd., April 28, 1980.

Geological Report on the Nicola Property for Celeste Resources Inc., August 13, 1983.



CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. with offices at 311-409 Granville Street, Vancouver, B.C., V6C 1T2.

I further certify that:

1. I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology
2. I have been practising my profession for the past nineteen years.
3. I am registered with the Association of Professional Engineers of British Columbia.
4. The information for this report was obtained from sources as cited under Selected References, from the supervision of the exploration program reported on herein and from a property examination carried out on August 30, 1985.
5. I have no direct, indirect or contingent interest in the property described herein. I expect to receive any.



Laurence Sookochoff, P.Eng.  
Consulting Geologist.

October 4, 1985  
Vancouver, B.C.



Statement of Material Facts

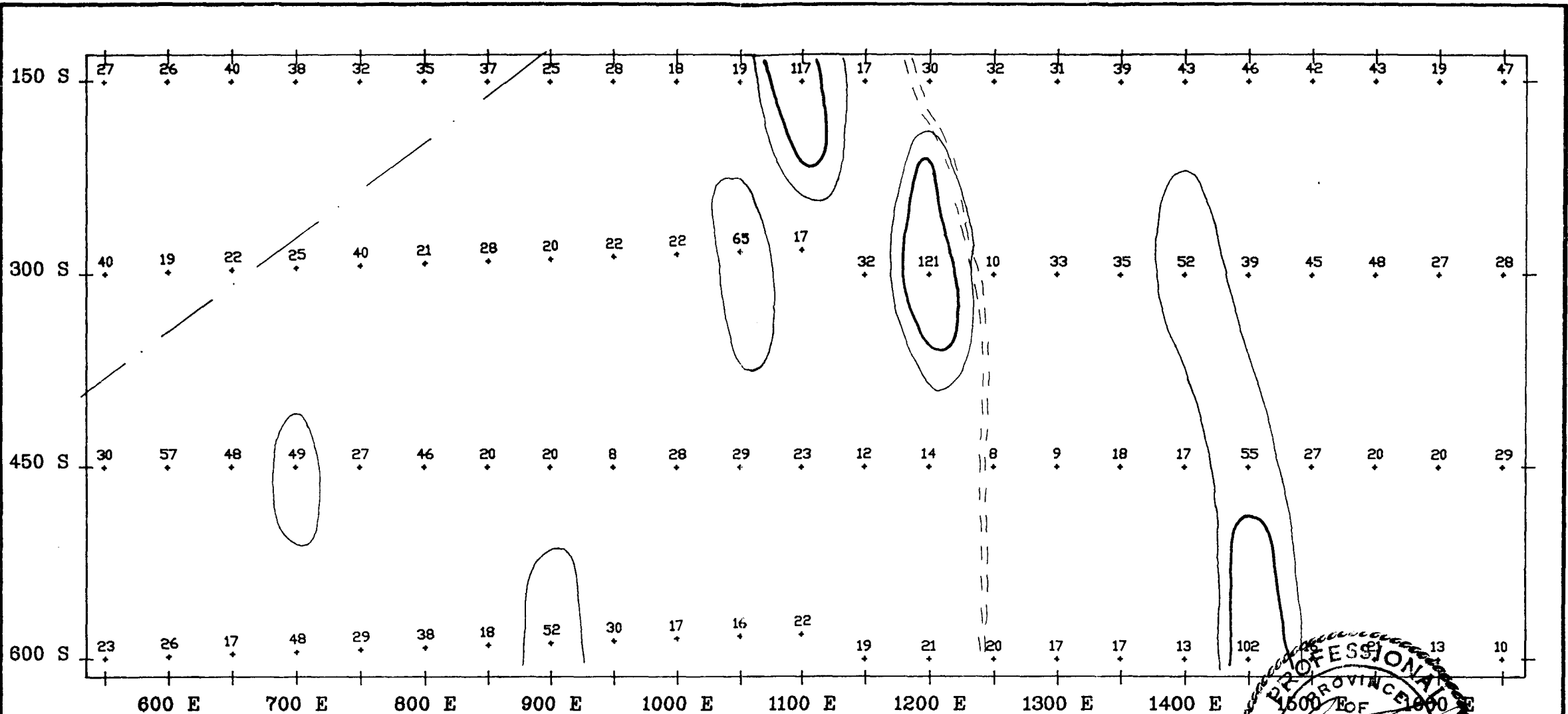
-----

The geochemical survey was carried out on the RB-4 mineral claims from August 28 - 30, 1985 to the value of the following:

|                                      |               |
|--------------------------------------|---------------|
| R. Husband: Aug. 28 - 30, 1985       |               |
| 30 hrs @ \$15:                       | \$ 450.00     |
| L. Sookochoff, P.Eng.: Aug. 30, 1985 |               |
| 1 day @ \$400                        | 400.00        |
| Room & board                         |               |
| 4 man days @ \$40:                   | 160.00        |
| Vehicle rental and gas               |               |
| 4 days @ \$30:                       | 175.00        |
| Assays: 92 @ \$6.50:                 | 598.00        |
| Drafting:                            | 275.00        |
| Report:                              | <u>750.00</u> |
|                                      | \$2,808.00    |
|                                      | =====         |





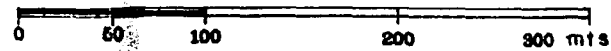


**LEGEND**

- Background Threshold Value - 30.8 ppm
- Sub Anomalous Threshold Value - 48.3 ppm
- Anomalous Threshold Value - 65.8 ppm
- Power Line - - - - -
- Road = = = = =



SCALE 1:400

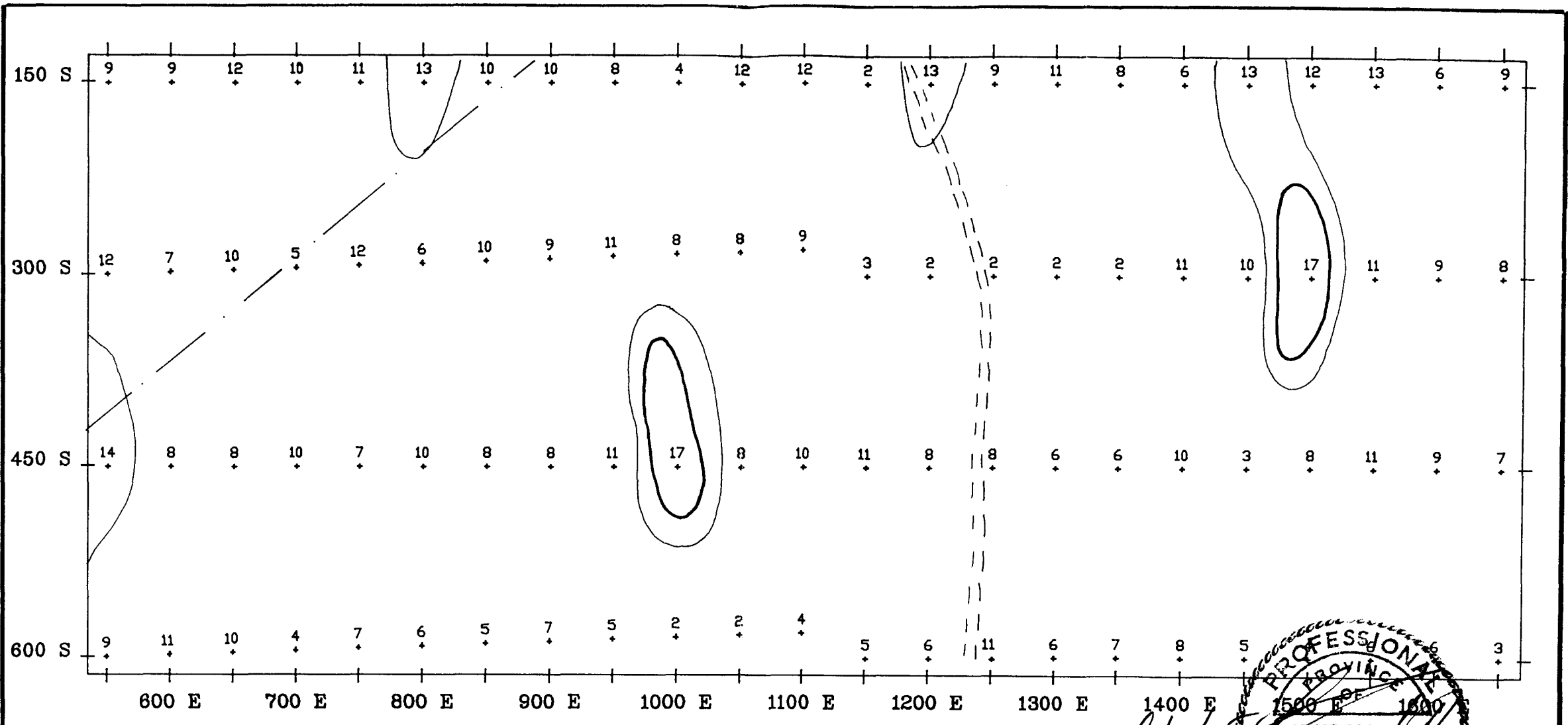


TO ACCOMPANY REPORT BY LAURENCE SOOKOCHOFF, P.ENG., DATED SEPT. 1985

9/30/85

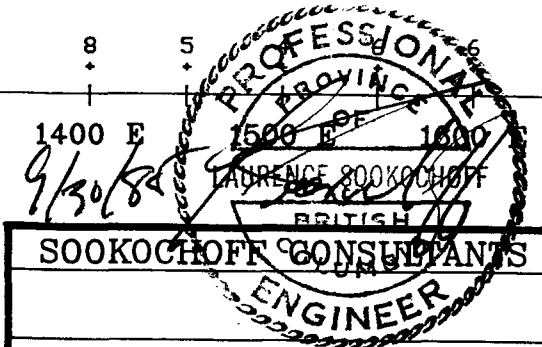
PROFESSIONAL ENGINEER  
 PROVINCE OF COLUMBIA  
 LAURENCE SOOKOCHOFF

|                                    |                    |                    |                      |
|------------------------------------|--------------------|--------------------|----------------------|
| <b>SOOKOCHOFF CONSULTANTS INC.</b> |                    |                    |                      |
| RB-4 MINERAL CLAIM                 |                    |                    |                      |
| NICOLA MINING DIVISION             |                    |                    |                      |
| <b>COPPER GEOCHEMISTRY</b>         |                    |                    |                      |
| SCALE<br>1:400                     | DATE<br>SEPT. 1985 | P.E. NO.<br>021/ZE | DRAWN BY<br>GEO-COMP |
|                                    |                    |                    | FIGURE: 3            |



**LEGEND**

- Background Threshold Value - 8.4 ppm
- Sub Anomalous Threshold Value - 12.6 ppm
- Anomalous Threshold Value - 16.4 ppm
- Power Line - - - - -
- Road = = = = =



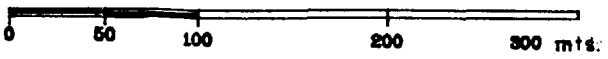
**SOOKOCHOFF CONSULTANTS INC.**

**ENGINEER**

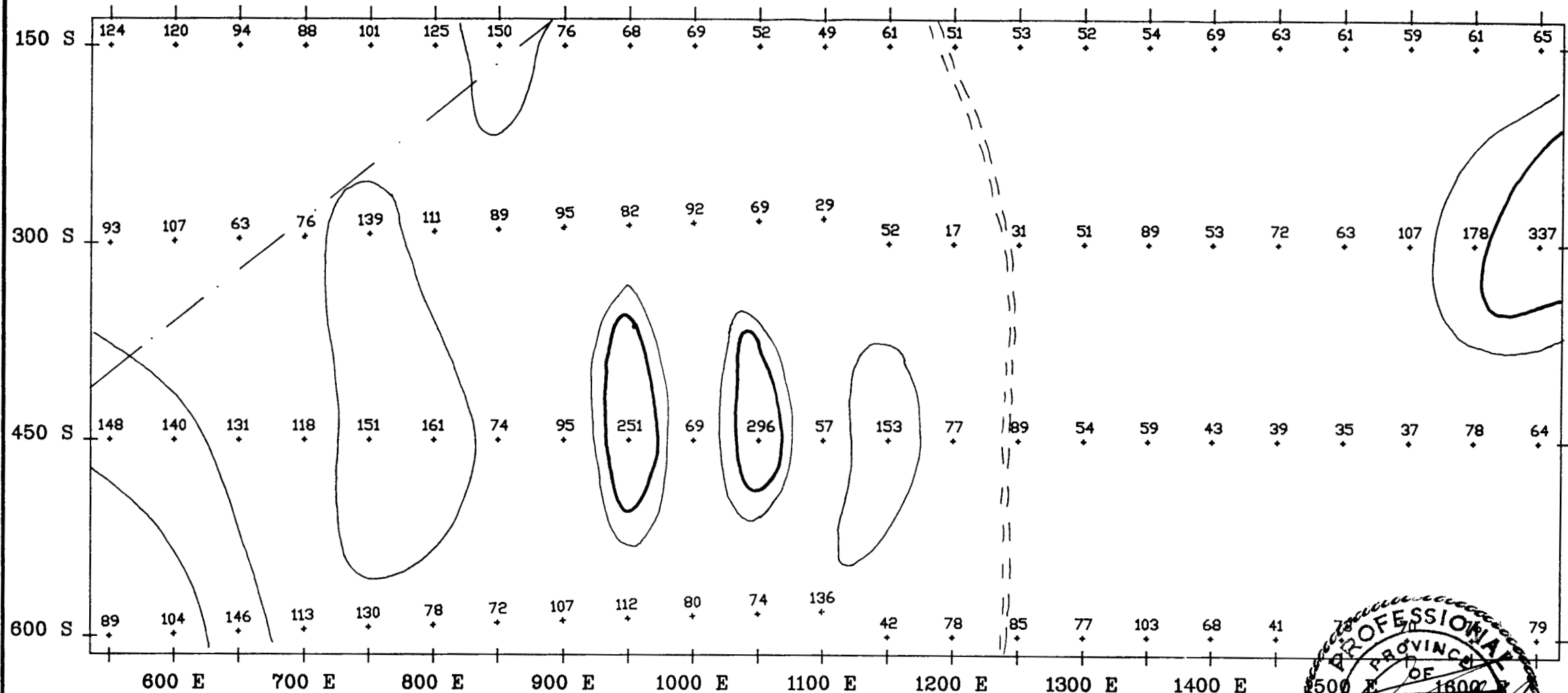
RB-4 MINERAL CLAIM  
NICOLA MINING DIVISION

**LEAD GEOCHEMISTRY**

TO ACCOMPANY REPORT BY LAURENCE SOOKOCHOFF, P.ENG., DATED SEPT. 1985



|                |                    |                  |                      |          |
|----------------|--------------------|------------------|----------------------|----------|
| SCALE<br>1:400 | DATE<br>SEPT. 1985 | N.T.S.<br>SCL/ZE | DRAWN BY<br>GEO-COMP | FIGURE 4 |
|----------------|--------------------|------------------|----------------------|----------|



**LEGEND**

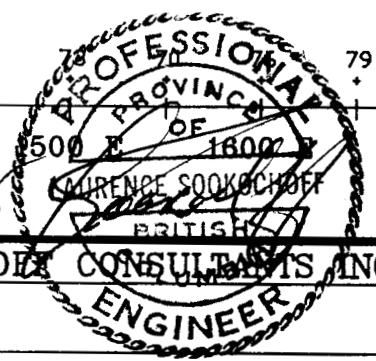
- Background Threshold Value - 90 ppm
- Sub Anomalous Threshold Value - 136 ppm
- Anomalous Threshold Value - 182 ppm
- Power Line - - - - -
- Road = = = = =



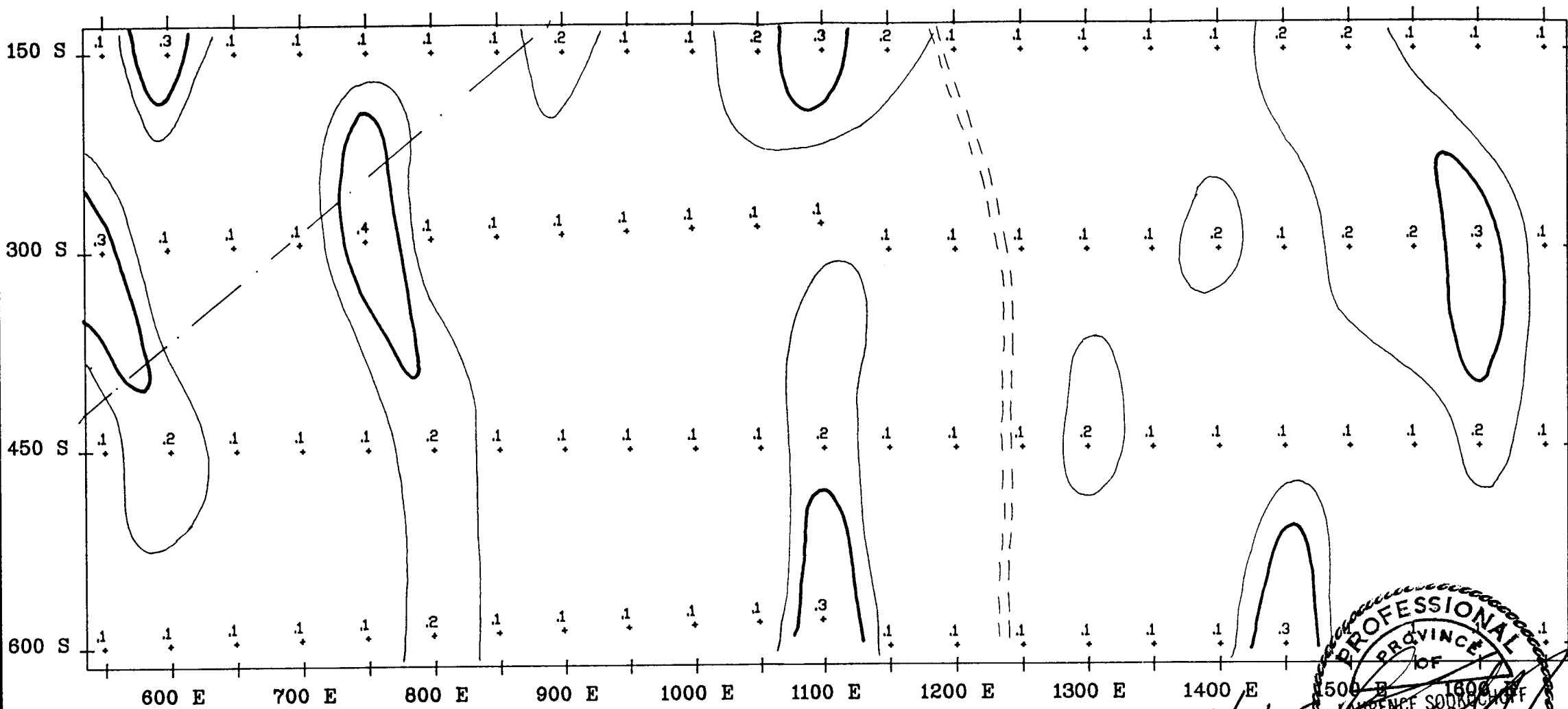
SCALE 1:400



TO ACCOMPANY REPORT BY LAURENCE SOOKOCHOFF, P.ENG., DATED SEPT. 1985



|                                              |                    |                  |                      |          |
|----------------------------------------------|--------------------|------------------|----------------------|----------|
| SOOKOCHOFF CONSULTANTS INC.                  |                    |                  |                      |          |
| RB-4 MINERAL CLAIM<br>NICOLA MINING DIVISION |                    |                  |                      |          |
| <b>ZINC GEOCHEMISTRY</b>                     |                    |                  |                      |          |
| SCALE<br>1:400                               | DATE<br>SEPT. 1985 | R.T.S.<br>SCL/ZE | DRAWN BY<br>GEO-COMP | FIGURE 5 |

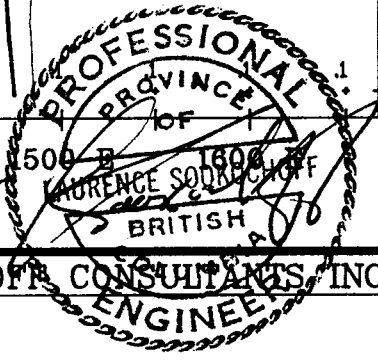
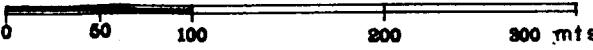


**LEGEND**

- Background Threshold Value - .13 ppm
- Sub Anomalous Threshold Value - .18 ppm
- Anomalous Threshold Value - .23 ppm
- Power Line - - - - -
- Road = = = = =



SCALE 1:400



SOOKOCHOFF CONSULTANTS, INC.

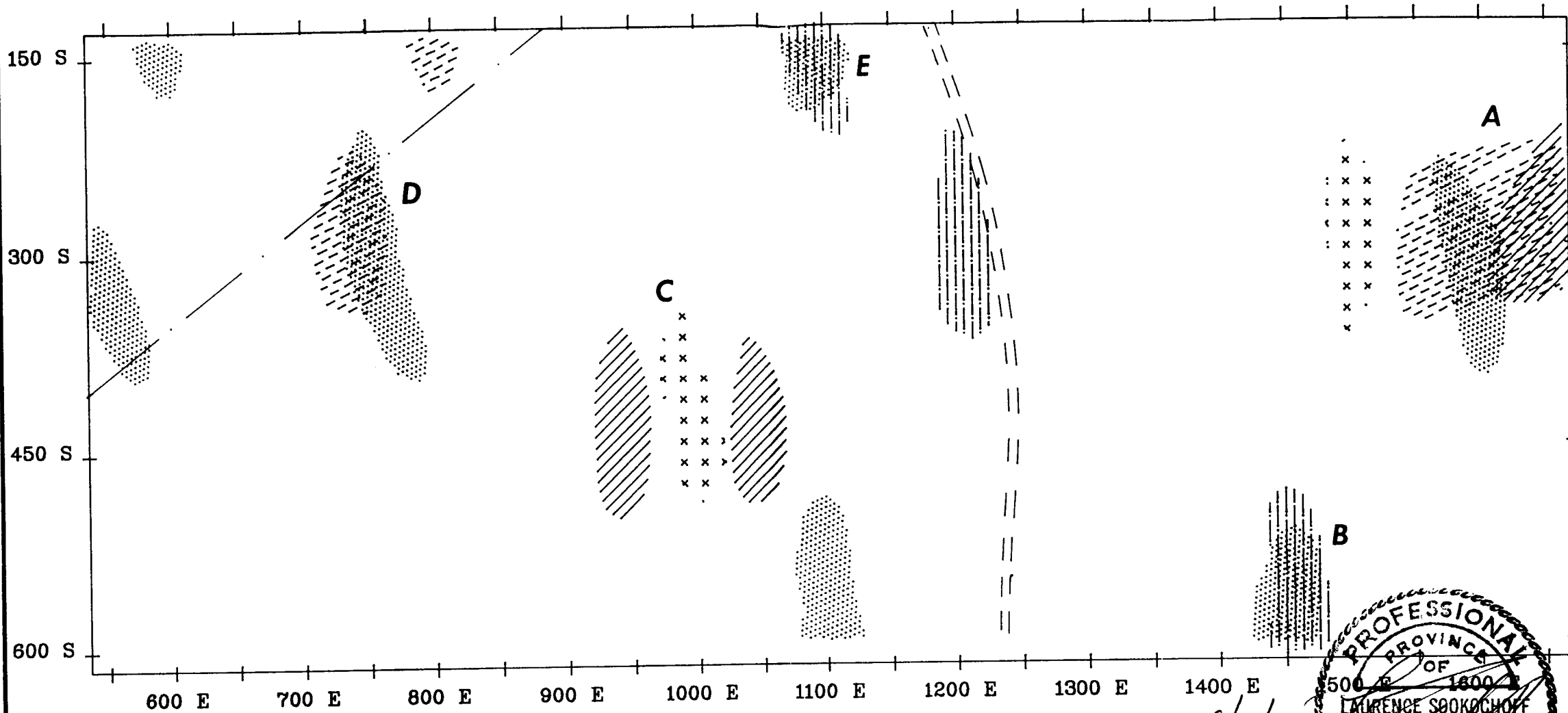
RB-4 MINERAL CLAIM  
NICOLA MINING DIVISION

**SILVER GEOCHEMISTRY**


|                |                    |                  |                      |          |
|----------------|--------------------|------------------|----------------------|----------|
| SCALE<br>1:400 | DATE<br>SEPT. 1985 | N.T.S.<br>081/85 | DRAWN BY<br>GEO-COMP | FIGURE 6 |
|----------------|--------------------|------------------|----------------------|----------|


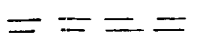
TO ACCOMPANY REPORT BY LAURENCE SOOKOCHOFF, P.ENG., DATED SEPT. 1985





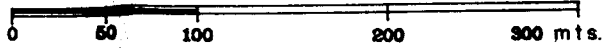
**LEGEND**

-  Copper Anomaly
-  Silver Anomaly
-  Zinc
-  Lead
-  Arsenic

Power Line   
 Road 



SCALE 1:400



9/30/85



SOOKOCHOFF CONSULTANTS, INC.

RB-4 MINERAL CLAIM  
 NICOLA MINING DIVISION

**COMPILATION MAP**

|              |                  |               |                    |           |
|--------------|------------------|---------------|--------------------|-----------|
| SCALE: 1:400 | DATE: SEPT. 1985 | R.T.B. 921/2E | DRAWN BY: GEO-COMP | FIGURE: 8 |
|--------------|------------------|---------------|--------------------|-----------|