

# 4345

92H/91N, 10E

GEOCHEMICAL, GEOLOGICAL  
AND PHOTO-GEOLOGICAL REPORT

on the  
EJ MINERAL CLAIMS  
SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA

Latitude: 49°43'N  
Longitude: 120°31'W

NTS 92H 9&10

for

CALICO SILVER MINES LTD.

EJ 17 - 36	35337-35356
EJ 43 - 44	35363-35364
EJ 46	35366
EJ 48 - 74	35368-35394

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

by

NO. 4345 MAP .....

G. B. PHELPS P.Eng.  
ATLED EXPLORATION MANAGEMENT LTD.  
Vancouver, B. C.

May, 1973

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## INTRODUCTION

An exploration program including geological mapping, a geochemical soil survey, and aerial photo geological interpretation was conducted on the EJ mineral claims at the request of Mr. M. Rahal, President of Calico Silver Mines Ltd. under the supervision of Atled Exploration Management Ltd.

## CONCLUSION

The geological and geochemical survey located only one mineralized area and no significant geochemical anomalies were found. The mineralized area should be examined in more detail and checked for an extension to the east. The higher zinc and copper geochemical values on the northern end of the claim block also indicate that further work should be done to the east. No significant discoveries were made in the survey, but the photo-geological interpretation indicates that the geology is structurally more complex on the eastern side of the property and additional work in that area is recommended. Snow conditions prevented an examination of the eastern claims on the higher elevations during this survey.

### RECOMMENDATIONS

The eastern part of the claim block on the high plateau elevation should be geologically mapped and a geochemical survey should be made. At least two north-south lines should be soil sampled. Samples should be taken near some of the major structural intersections shown on the photo geological interpretation map.

Additional mapping and prospecting is warranted in the area of the mineralized zone on EJ Claim No. 24 to determine if the mineralization extends to the east.

### GEOGRAPHY

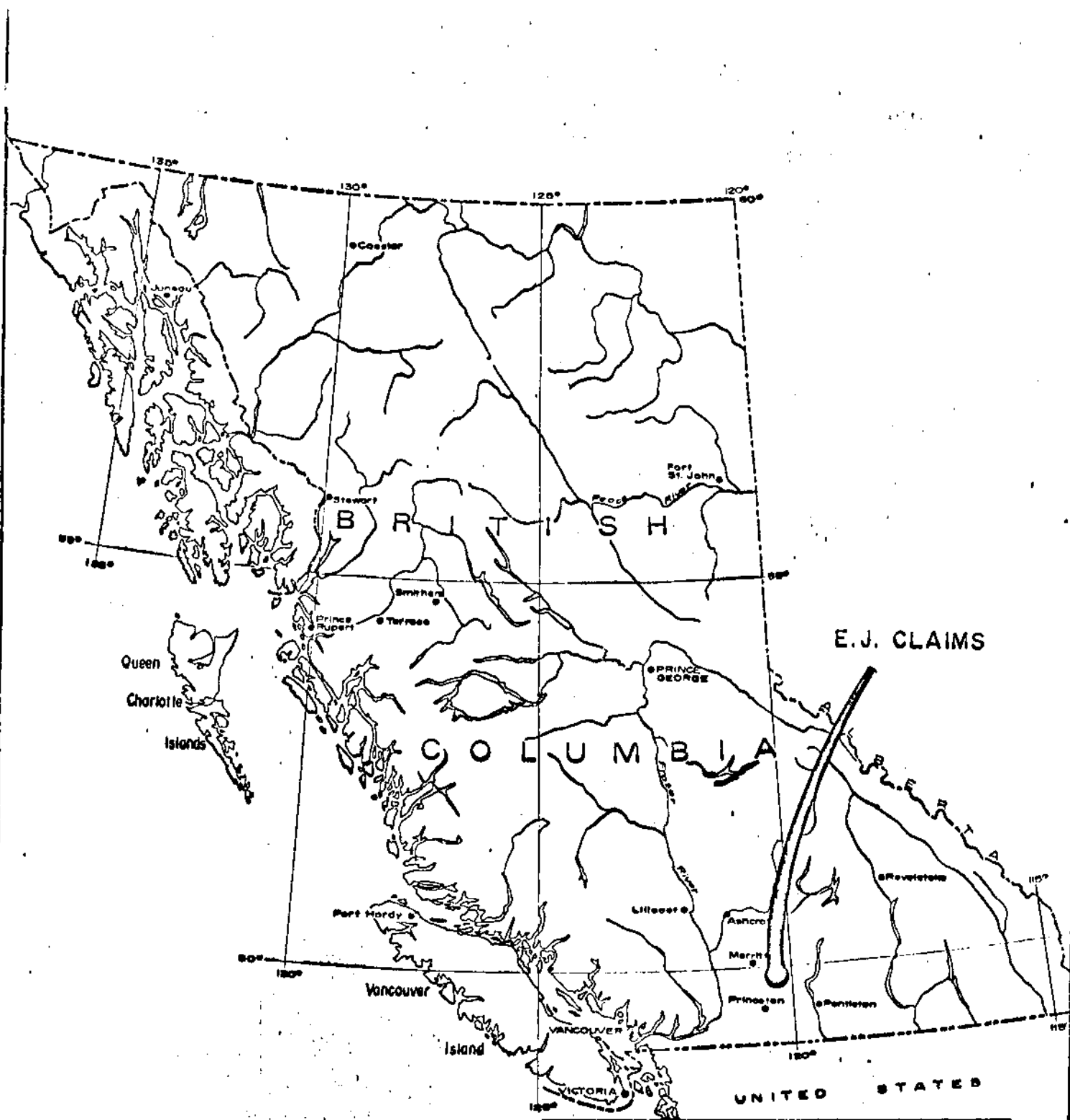
#### Location

The property is located 21 miles north of Princeton and 3 miles south of Missezula Lake in the Similkameen Mining Division, British Columbia.

Co-ordinates of the property are  $49^{\circ}43'$  north latitude and  $120^{\circ}31'$  west longitude.

#### Access

The property can be reached from the Princeton-Merrit highway by turning east off the highway on the Summers Creek road a gravel road and proceeding north for eighteen miles to the property. The Summers Creek road to Missezula Lake passes directly through the property. The road is in good condition and open most of the year.



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. **4345** MAP #1

LOCATION MAP

### Topography

The Summers Creek valley is from 1,500 to 2,000 feet wide in the area of the claim group. The valley sides rise steeply from the creek bottom to the plateau level to the east and west. The elevation varies from 3,100 to 3,300 feet in the valley to 4,500 to 5,000 feet on the plateau. The plateau still has topographic features related to glaciation.

The strong valley lineament and steep valley walls are due to the Summers Creek fault which has controlled the erosion and topography in the valley area.

### Vegetation

There are old hay fields, willows and brush in the valley bottom. The valley sides and plateau are forested with spruce, pine, balsam and minor amounts of cedar.

### Water

Summers Creek, other small streams and several ponds on the property provide ample water for all drilling purposes.

CLAIMS

The EJ mineral claims were staked in early 1972 and optioned by Calico Silver Mines Ltd. They are located in the Similkameen Mining Division, B. C.

<u>Claims</u>	<u>Record Number</u>	<u>Expiry Date</u>
EJ 17 - 36	35337-35356	April 28, 1973
EJ 43 - 44	35363-35364	April 28, 1973
EJ 46	35366	April 28, 1973
EJ 48 - 74	35368-35394	April 28, 1973

There are a total of 50 mineral claims on the property.

GEOLOGY

General Geology

The Summers Creek valley - Missezula Lake area is underlain by Triassic Nicola Group volcanics. The Nicola Group is composed of flow breccias, fragmentals, tuffs and related sediments.

The Pennask batholith and Pike Mountain batholith of Jurassic Age intrude the Nicola Group Volcanics about 4 miles to the east and west of Summers Creek respectively.

The Summers Creek and Allison Creek valleys are both major fault valleys trending north-south.

The region has produced numerous copper occurrences and two major deposits, the Ingerbelle - Copper Mountain deposit and the Adonis Summers Creek property. Both these deposits are associated with the faulting and alteration of the Nicola Group volcanics near the contacts of intrusive dikes and stocks of Jurassic Age.

#### Property Geology

The entire claim block is underlain by Nicola Group volcanics consisting of fragmentals, flow breccias and bedded tuffs and other minor units.

A limestone unit outcrops on the extreme northern part of the claim block on the west side of Summers Creek road.

Two diorite dikes or small intrusives outcrop on the claim boundary and in the center of the southern claim boundary.

No mineralization was observed in the diorite. The volcanic-intrusive contact was not located and it is not known if there is any contact mineralization.

Minor copper mineralization is present in the volcanics as chalcocite and secondary malachite in an outcrop on EJ claim No. 24. The chalcocite occurs as blebs and in up to 1/4 inch veinlets. This occurrence is on the east valley wall about 1,000 feet east of three old trenches. The trenches have sloughed and could not be examined for mineralization.

The Summers Creek fault is the main structural and topographic feature. The eastern claims are more structurally complex with several strong faults



and at least three lineament sets. No mineralization was found associated with the Summers Creek fault zone.

#### PHOTO GEOLOGICAL INTERPRETATION

Two sets of British Columbia aerial photographs were studied in stereo using both a mirror and magnifying stereoscopes. The photographs are flight BC5191 and BC5189, both sets are dated May, 1966.

Three strong lineament sets are located in the claim area. The topography is mainly the result of glaciation and structural control. No photographic evidence was found of any significant lithologic changes in the claim group.

The strongest lineament in the claim area is the north-south Summers Creek fault. This fault is not offset by any of the other structures although there is a strong northeast split just north of the claim group. The other north-south lineaments are quite strong but are not as pronounced as the Summers Creek fault.

The northeast series of lineaments is the second strongest lineament set and is quite prominent often appearing to be a split from the north-south structures. These northeast lineaments sometimes appear to be offset by the north-south series, but it may be a secondary fracture pattern and not an actual displacement.

The third lineament set is a northwest series and they appear to be offset by both the north-south and northeast lineaments. They are not as prominent and are less persistent in strike length than either of the other sets.

Although geological mapping located two diorite dikes or small stocks they do not show on the aerial photograph possibly due to extensive glacial cover.

### GEOCHEMICAL SURVEY

#### Survey Completed

A preliminary soil sample survey was run on three north-south lines across the claim group. A total of 168 soil samples were taken and were analysed for copper, molybdenum, zinc and silver.

Samples were taken from the "B" soil horizon with a grub-hoe. The samples were placed in a kraft paper bag and semi-dried before being shipped to Chemex Laboratories for analysis.

The method of analysis was as follows:

1. Sample sifted or ground to - 80 mesh.
2. Mesh weight used 0.50 gm.
3. Final volume 10 ml.
4. Method - Instrumental - Atomic Absorption
5. Extraction - Hot  $\text{HClO}_4$  -  $\text{HNO}_3$  digestion
6. Detection - Techtron - AA<sub>5</sub>

### Survey Results

No major anomalous areas were found although the background values for both copper and zinc are high. There are several isolated highly anomalous samples but no wide anomalous zones for any of the four metals analysed.

#### Copper

The copper background values were set at 0 to 99 ppm Cu., threshold values at 100 to 149 ppm Cu., anomalous values at 150 to 300 ppm Cu and highly anomalous values at +300 ppm Cu.

There were only three highly anomalous samples, but there are 25 anomalous samples in copper.

The anomalous samples do not appear to indicate any major anomalous zone or structural trend.

The highest copper anomalous sample corresponds to the area of the copper mineralization found in place but the copper value is not as high as might be expected.

#### Molybdenum

The molybdenum values are very low. The samples ranged from "not detected" to only 4 ppm Mo. Only two samples were 4 ppm. The claim area has a very low background for molybdenum.

#### Zinc

The zinc background values were set at 0 to 99 ppm Zn, threshold values at 100 to 125 ppm Zn, anomalous values at 126 to 300 ppm Zn and highly anomalous values at +300 ppm Zn. There is a structural or lithologic change which

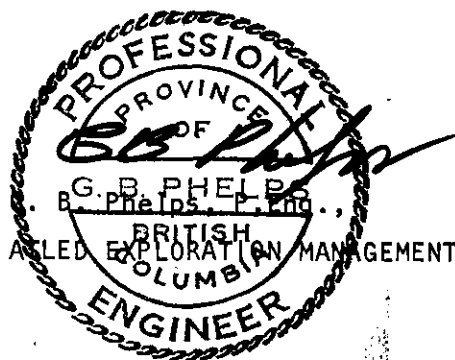
is shown by the zinc assays in the northern part of the claim group. Although the zinc values are anomalous they are not considered to indicate a significant anomaly. However, additional lines should be run to the east to see if the anomalous values continue or increase. The copper values were higher in this area as well but were not sufficiently high to indicate mineralization.

Silver

The silver background values were set at 0 to 2.0 ppm Ag, anomalous values at + 2.0 to 2.5 ppm and highly anomalous values at + 3.0 ppm Ag. Although one sample had 4.0 ppm silver near the area of the copper mineralization, no significant silver anomalous zones were found in the survey.

Additional lines should be run to the east to check the higher elevations in the claim block and to determine if the higher copper and zinc values on the northern end of the claim block extend eastward.

Respectfully submitted,

A circular professional seal for G. B. Phelps, a Professional Engineer in the Province of British Columbia. The seal features a signature across the center and the text "PROFESSIONAL ENGINEER" around the perimeter. Below the seal, the text "G. B. PHELPS" and "BRITISH EXPLORATION MANAGEMENT LTD." is printed.  
G. B. PHELPS  
BRITISH EXPLORATION MANAGEMENT LTD.

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA:  
To Wit:

In the Matter of INCURRED IN COMPLETION OF THE  
EXPLORATION SURVEY REPORTED IN GEOLOGICAL AND GEOCHEMICAL  
SURVEY AND PHOTO-INTERPRETATION OF THE EJ CLAIM GROUP  
BY G. GUTRATH P.ENG. AND G. PHELPS P.ENG. OF APRIL, 1973

I, J.R. LERNER

of VANCOUVER, B.C.

in the Province of British Columbia, do solemnly declare that the following are the minimum expenditures incurred in carrying out the exploration program:

PERSONNEL

Nov. 1-8, 1972: J.R.Lerner)	-16 man days @ \$80/day	\$ 1,280.00
P.Henry )		
G. Gutrath, P.Eng. 2 days @ \$150/day		
Apr. 14-21, 1973: J.R.Lerner)	-14 man days @ \$80/day	1,120.00
P.Henry )		
G. Phelps, P.Eng., 7 days @ \$150/day		

FOOD AND ACCOMMODATION

1972 - 18 days @ \$12/day	\$ 216	
1973 - 16 days @ \$15/day	<u>240</u>	456.00

TRANSPORTATION

1972 - Ford 4 x 4	\$ 200	
1973 - Ford 4 x 4	<u>240</u>	440.00

ASSAYING

168 soil samples (copper, molybdenum, zinc, silver)		
1 rock assay (gold, silver, copper)		462.35

FIELD EQUIPMENT RENTAL AND SUPPLIES

Rental: 8 days @ \$5/day	\$ 40.00	
Supplies	<u>42.50</u>	82.50

TOPOGRAPHIC BASE MAP PREPARATION - Scale 1" = 500' 245.00

REPORT COMPILATION 600.00

MAP PREPARATION 350.00

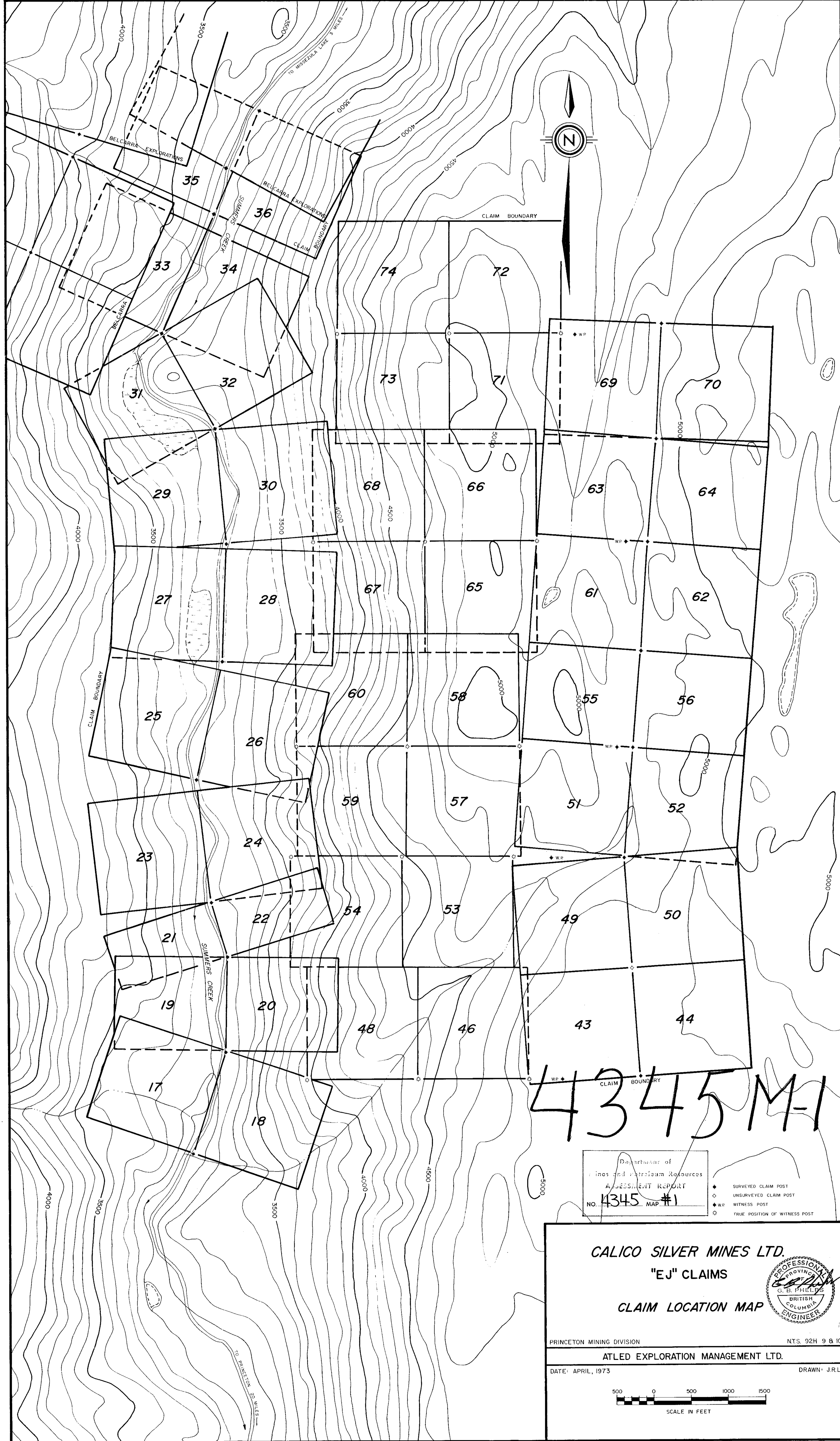
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of  
\$ 6,385.85

the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City  
of Vancouver, in the  
Province of British Columbia, this 27  
day of April 1973, A.D.

J.R. Lerner.

Julie Lerner  
A Commissioner for taking Affidavits for British Columbia or  
A Notary Public in and for the Province of British Columbia.  
Submitting Recorder



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 4345 MAP #1

- ◆ SURVEYED CLAIM POST
- ◇ UNSURVEYED CLAIM POST
- ◆ WP WITNESS POST
- ◇ TRUE POSITION OF WITNESS POST

**CALICO SILVER MINES LTD.**  
**"EJ" CLAIMS**  
**CLAIM LOCATION MAP**

PROFESSIONAL ENGINEER  
 G. B. PHELPS  
 BRITISH COLUMBIA

PRINCETON MINING DIVISION  
 ATLED EXPLORATION MANAGEMENT LTD.  
 DATE: APRIL, 1973  
 DRAWN: J.R.L.

NTS. 92H 9 & 10

500 0 500 1000 1500  
 SCALE IN FEET





Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4345 MAP #2

- ◆ SURVEYED CLAIM POST
- ◇ UNSURVEYED CLAIM POST
- ◆ WP WITNESS POST
- ⊗ TRUE POSITION OF WITNESS POST

- LEGEND**
- DIORITE: fine jointed dikes
  - NICOL VOLCANICS: coarse fragments, flow breccia, edded tufts
  - METAMORPHIC
  - BEDROCK ATTITUDE
  - SHEAR ATTITUDE
  - FAULT LINE ATTITUDE
  - OUTLINE - OUTCROP
  - ROCK SAMPLE LOCATION
  - TALUS

**CALICO SILVER MINES LTD.**  
**"EJ" CLAIMS**  
**GEOLOGY**

PRINCETON MINING DIVISION NTS. 92H 9 8 10

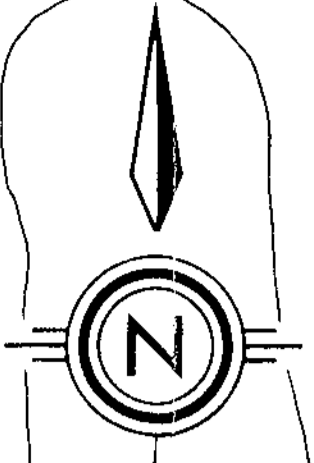
**ATLED EXPLORATION MANAGEMENT LTD.**

DATE: APRIL, 1973 DRAWN: J.R.L.

500 0 500 1000 1500  
SCALE IN FEET







BELCARRA EXPLORATIONS

BELCARRA EXPLORATIONS

BELCARRA

SUMMERS CREEK

CLAIM BOUNDARY

CLAIM BOUNDARY

WP

WP

WP

WP

CLAIM BOUNDARY

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4345 MAP #3

- ◆ SURVEYED CLAIM POST
- ◇ UNSURVEYED CLAIM POST
- ◆ WP WITNESS POST
- ⊙ TRUE POSITION OF WITNESS POST

**CALICO SILVER MINES LTD.**  
**"EJ" CLAIMS**



PHOTO GEOLOGICAL INTERPRETATION

PRINCETON MINING DIVISION

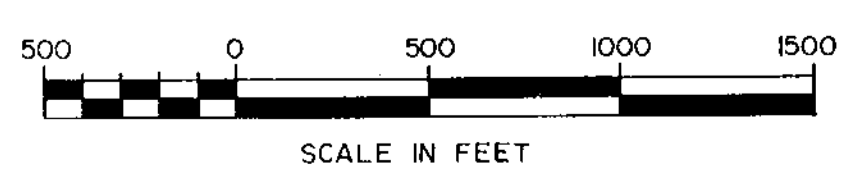
N.T.S. 92H 9 & 10

ATLED EXPLORATION MANAGEMENT LTD.

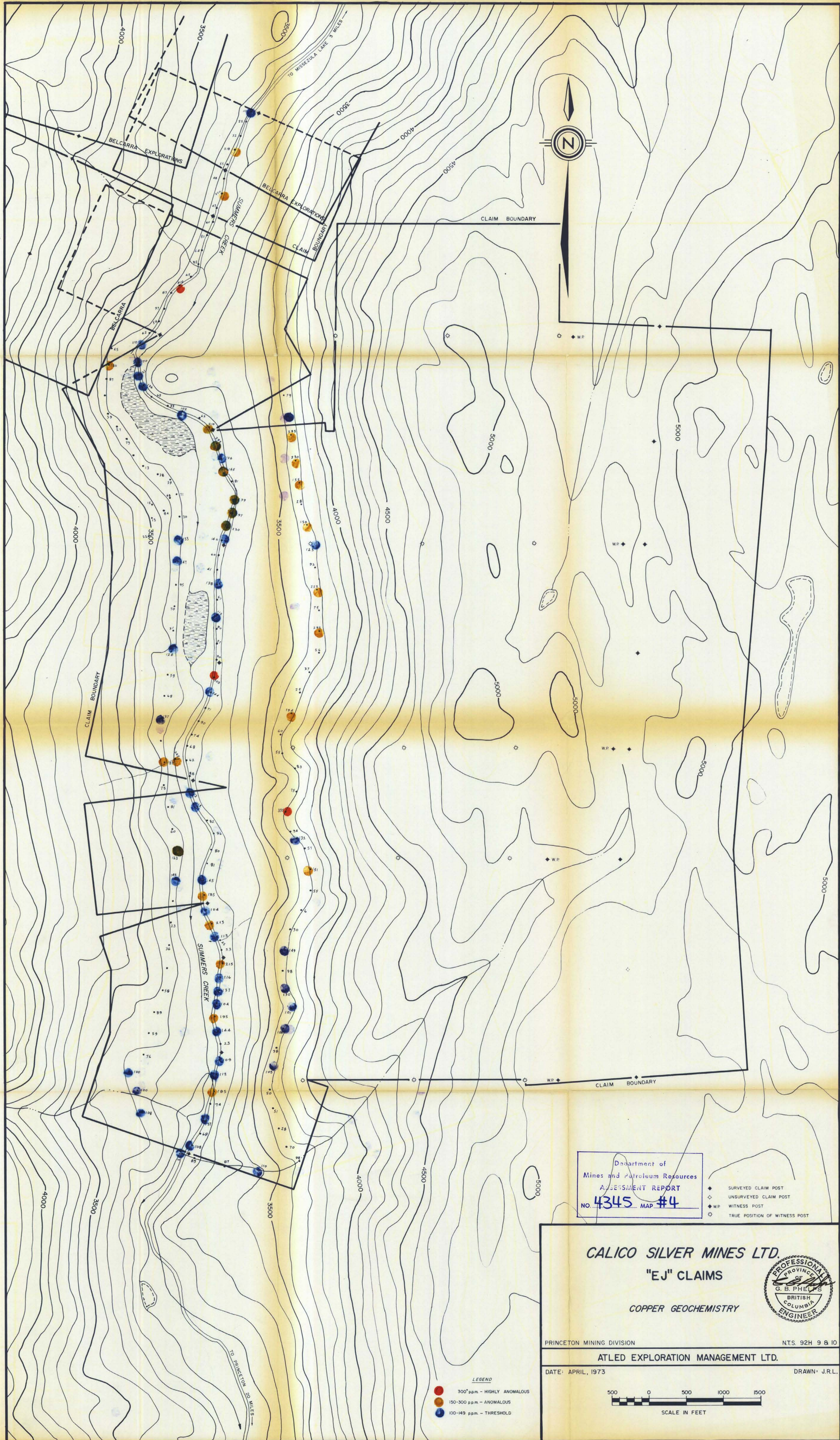
DATE: APRIL, 1973

DRAWN: J.R.L.

- LEGEND
- FAULT, DEFINED
  - FAULT, PROBABLE
  - LINAMENT







Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4345 MAP #4

- ◆ SURVEYED CLAIM POST
- ◇ UNSURVEYED CLAIM POST
- ◆ WP WITNESS POST
- ◇ TRUE POSITION OF WITNESS POST

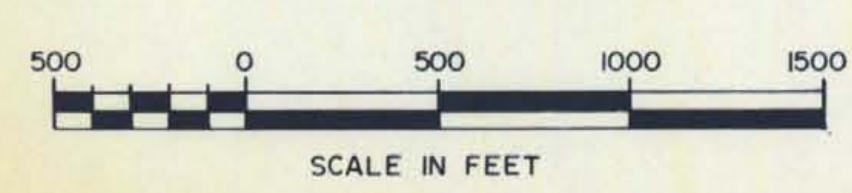
**CALICO SILVER MINES LTD.**  
**"EJ" CLAIMS**

COPPER GEOCHEMISTRY

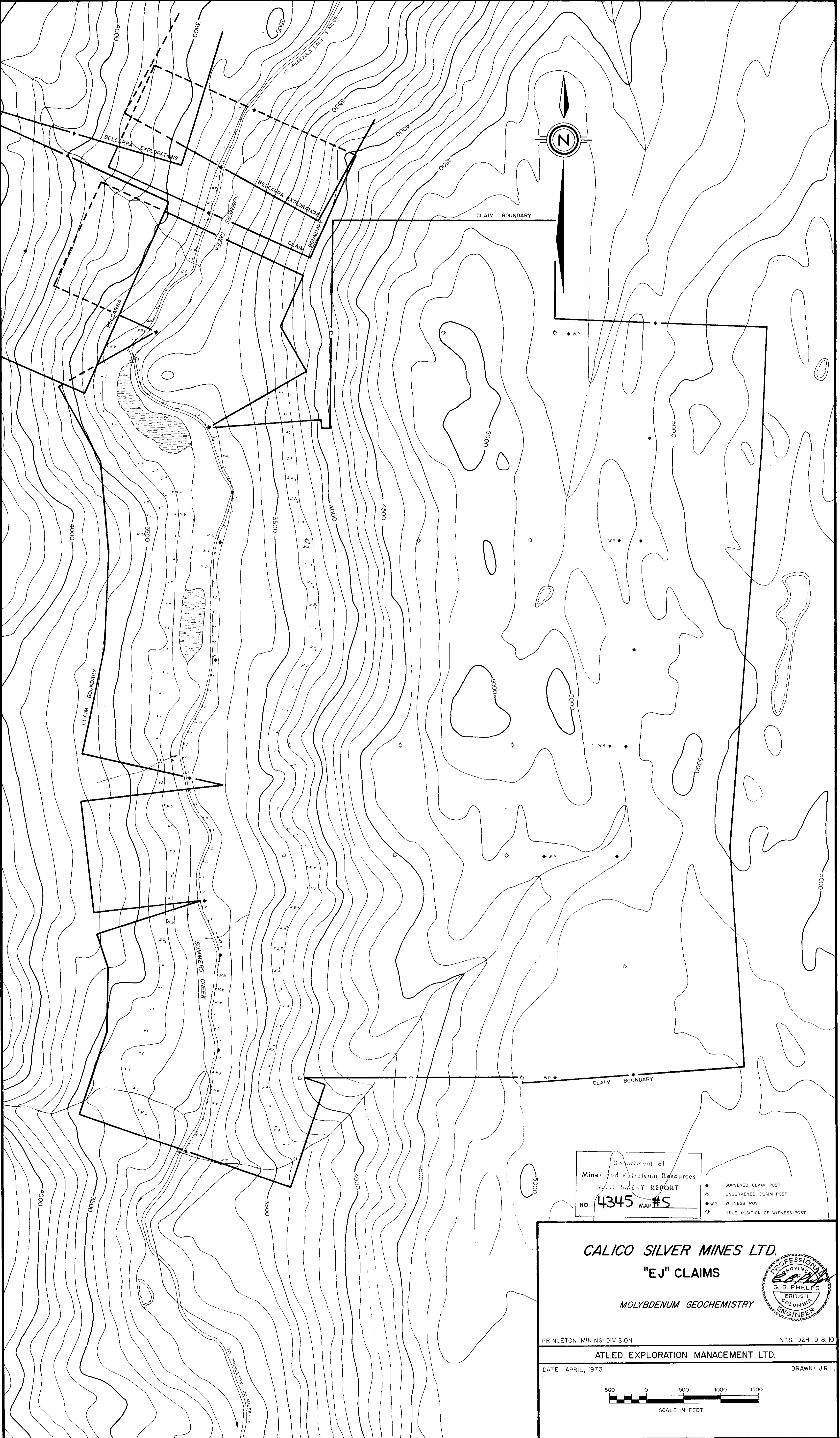


PRINCETON MINING DIVISION NTS. 92H 9 & 10  
ATLED EXPLORATION MANAGEMENT LTD.  
DATE: APRIL, 1973 DRAWN: J.R.L.

- LEGEND
- 300+ ppm - HIGHLY ANOMALOUS
  - 150-300 ppm - ANOMALOUS
  - 100-149 ppm - THRESHOLD







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NO. 4345 MAP #5

- ◆ SURVEYED CLAIM POST
- ◇ UNSURVEYED CLAIM POST
- ◆ WP WITNESS POST
- ⊗ TRUE POSITION OF WITNESS POST

**CALICO SILVER MINES LTD.**  
**"EJ" CLAIMS**

MOLYBDENUM GEOCHEMISTRY



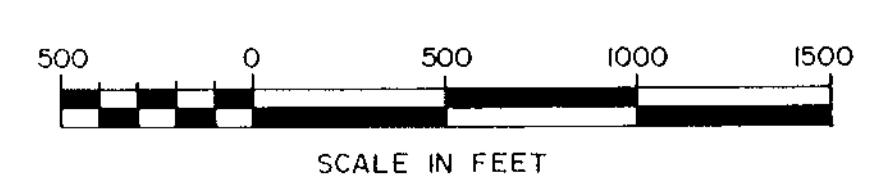
PRINCETON MINING DIVISION

NTS. 92H 9 & 10

ATLED EXPLORATION MANAGEMENT LTD.

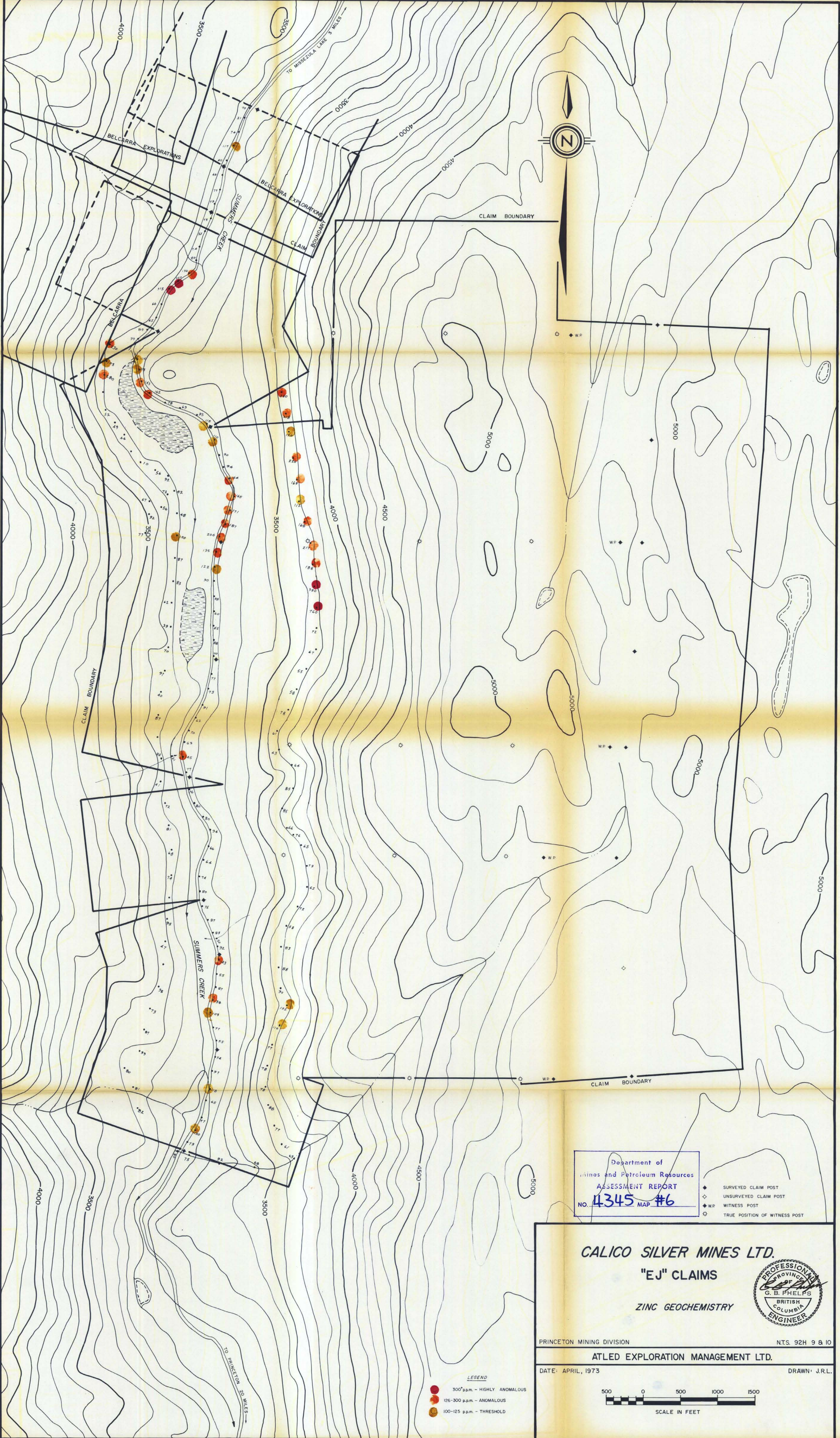
DATE: APRIL, 1973

DRAWN: J.R.L.



SCALE IN FEET





Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. **4345** MAP #**6**

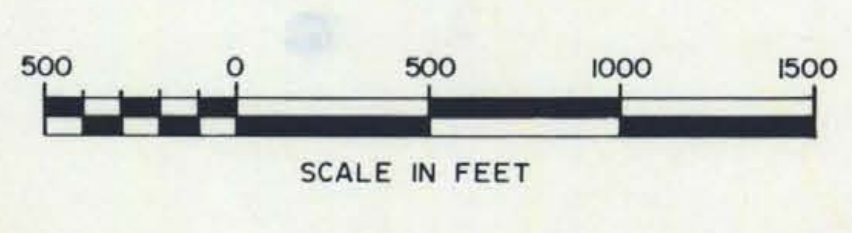
- ◆ SURVEYED CLAIM POST
- ◇ UNSURVEYED CLAIM POST
- ◆ WP WITNESS POST
- ◇ TRUE POSITION OF WITNESS POST

**CALICO SILVER MINES LTD.**  
**"EJ" CLAIMS**  
**ZINC GEOCHEMISTRY**

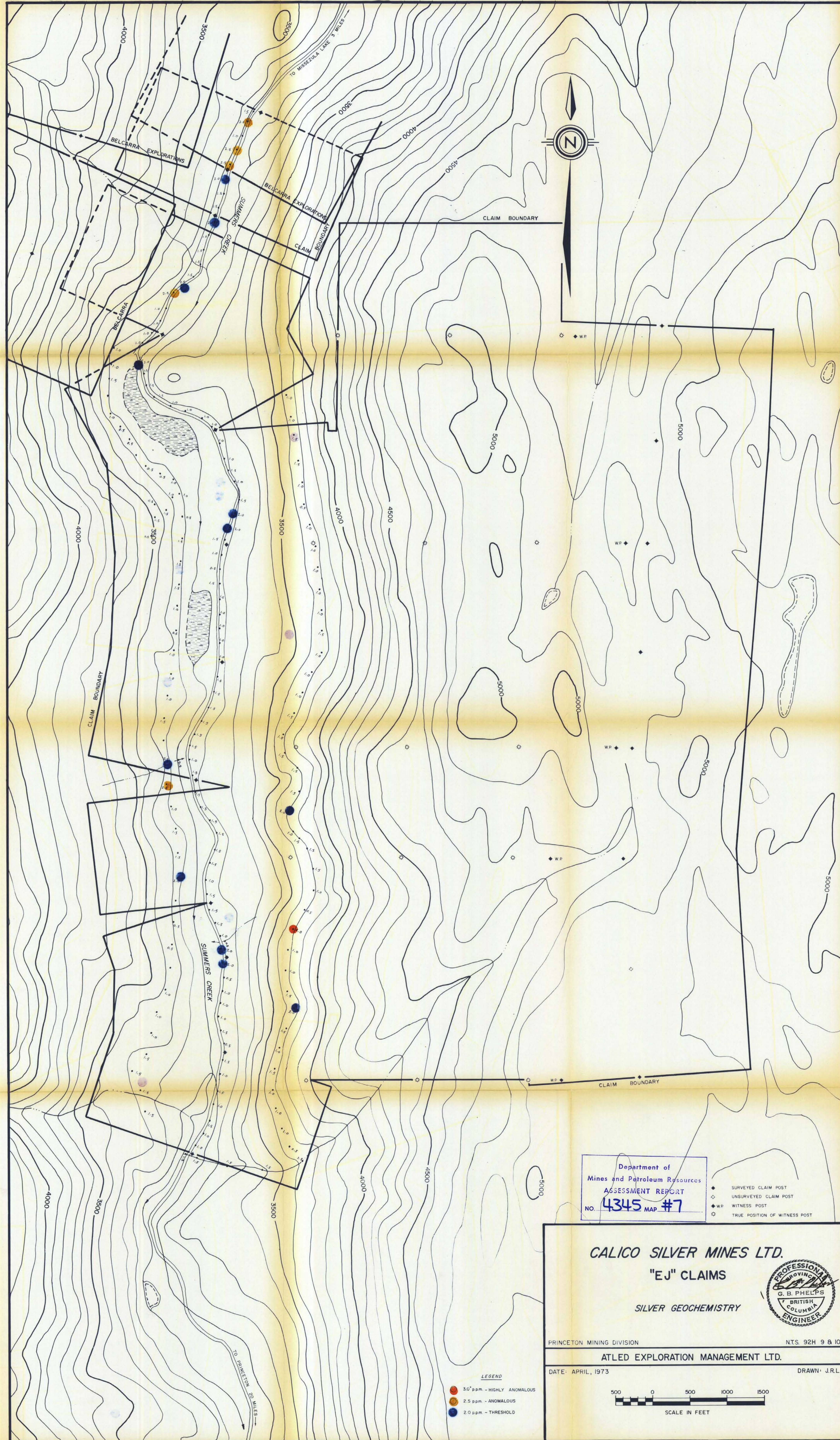


PRINCETON MINING DIVISION NTS. 92H 9 & 10  
**ATLED EXPLORATION MANAGEMENT LTD.**  
 DATE: APRIL, 1973 DRAWN: J.L.L.

- LEGEND**
- 300+ ppm - HIGHLY ANOMALOUS
  - 126-300 ppm - ANOMALOUS
  - 100-125 ppm - THRESHOLD







BELCARRA EXPLORATIONS

BELCARRA

CLAIM BOUNDARY

SUMMERS CREEK

BELCARRA EXPLORATIONS

SUMMERS CREEK

SUMMERS CREEK

TO BRANFORD 2.5 MILES

TO MISSEZULA LAKE 2 MILES



CLAIM BOUNDARY

CLAIM BOUNDARY

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4345 MAP #7

- ◆ SURVEYED CLAIM POST
- ◇ UNSURVEYED CLAIM POST
- ◆ WP WITNESS POST
- ◇ TRUE POSITION OF WITNESS POST

**CALICO SILVER MINES LTD.**  
**"EJ" CLAIMS**

SILVER GEOCHEMISTRY



PRINCETON MINING DIVISION

NTS. 92H 9 8 10

ATLED EXPLORATION MANAGEMENT LTD.

DATE: APRIL, 1973

DRAWN: J.R.L.

- LEGEND
- 3.0 ppm - HIGHLY ANOMALOUS
  - 2.5 ppm - ANOMALOUS
  - 2.0 ppm - THRESHOLD

