

ASSESSMENT REPORT  
GEOLOGICAL AND GEOCHEMICAL SURVEY

BARB CLAIMS 1, 3, 4  
ATLIN MINING DIVISION  
KING SALMON LAKE AREA, B. C.

N.T.S. 104K/10

132°53'W

58°45'N

OWNER: RON DALE

OPERATOR: CHEVRON STANDARD LIMITED

Authors: Mike Thicke  
Ken Shannon

October, 1982

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11,107

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FIGURES <sup>3</sup> <del>A</del> - 9	in pocket

## INTRODUCTION

### LOCATION AND ACCESS

The Barb claims are situated at 132°53'W and 58°45'N, approximately 2 km north of King Salmon Lake (Figure 1). Access to the property is by float-plane from Atlin, B. C.; about 100 km to the north. Transportation for this program was provided by helicopter from a base camp at Trapper Lake, 30 km to the southeast.

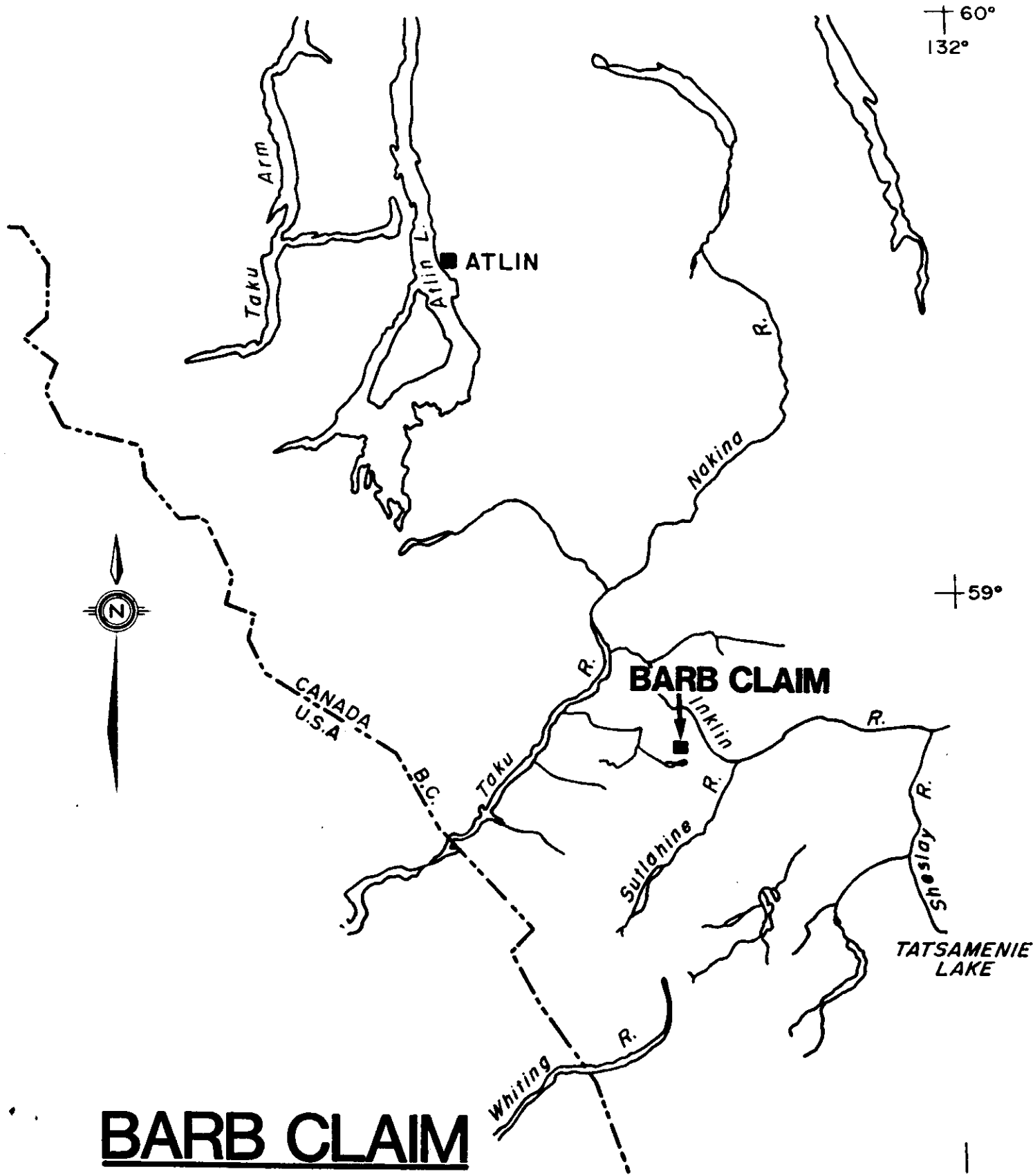
### HISTORY

The original showing was called the "BWM" and was first discovered in the early 1930's by prospector George Bacon who staked the property in 1947 for Cominco. After limited work by Cominco the property was optioned to Hudson Bay Mining and Smelting in 1949. Further trenching and 943 feet of EX-size drilling were done during 1950 (described in B. C. Minister of Mines, Annual Report, 1950, A75-76). After termination of the Hudson Bay option in 1950 the ground was restaked several times. A small airborne and ground magnetometer survey was done by Newmont Mining Co. Ltd., in 1964.

In the summer of 1981, geological mapping and geochemical sampling was done by Chevron Standard Limited of Vancouver, B. C.

### PRESENT PROPERTY

In 1979, Ron Dale staked the new 20-unit Barb 1 claims in the same area as the previous 8-unit Barb 1-8 claims (Figure 2). Of the eight units in Barb 1-8 all have lapsed except Barb 3 and 4. The property is presently owned by Ron Dale and is under option to Chevron Standard Limited.



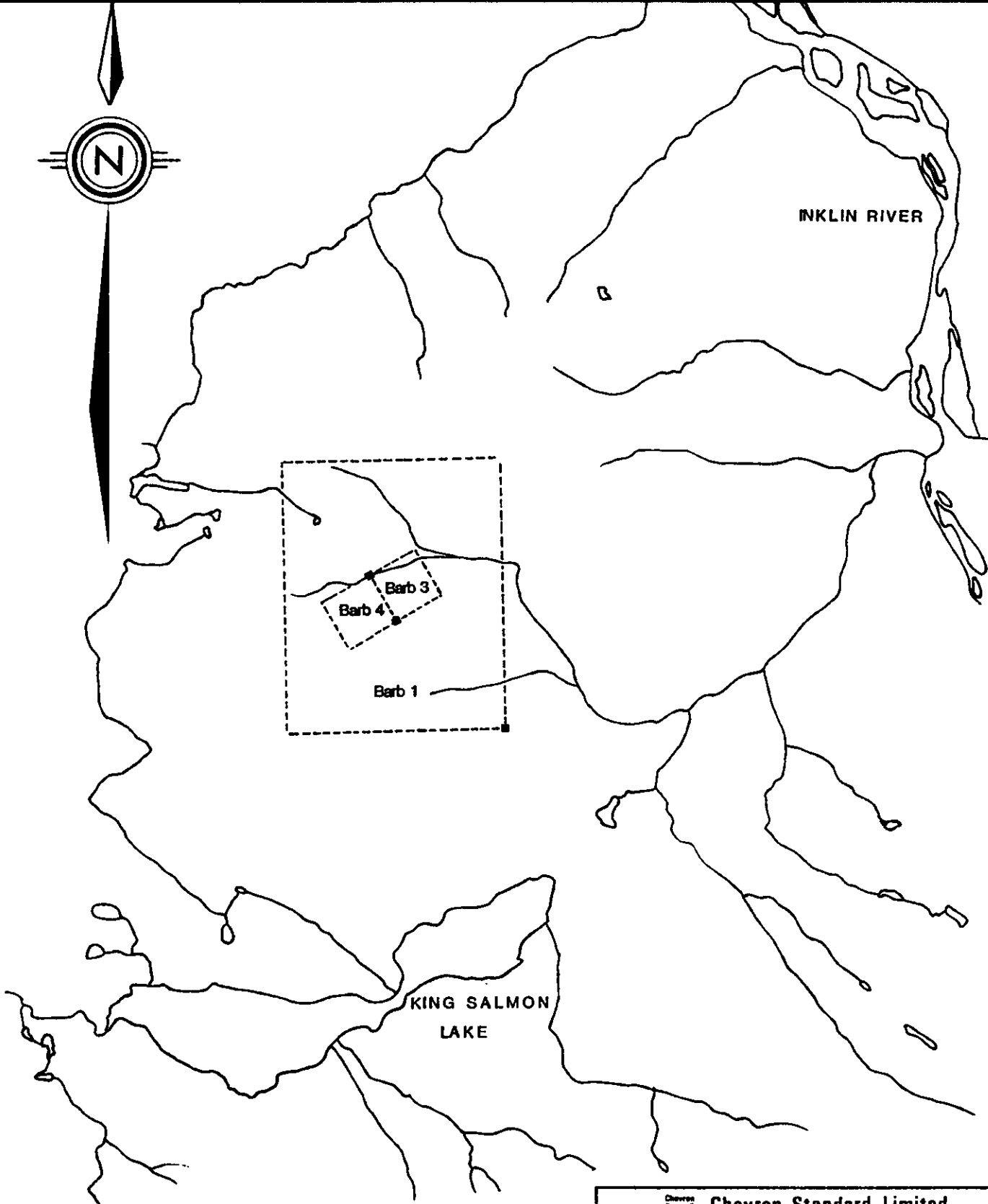
# BARB CLAIM

**LOCATION MAP**

M 514



**FIGURE I**



INKLIN RIVER

KING SALMON LAKE

Barb 3  
Barb 4  
Barb 1



1 : 50000

 **Chevron Standard Limited  
Minerals Staff**

**FIG.2 APPROXIMATE LOCATION OF  
BARB 1,3,4 CLAIMS**

FIGURE No		PROJECT No	
DATE	REVISIONS	SCALE	FILE No
NTS No			
COMPILED BY			

<u>Claims</u>	<u>Record No.</u>	<u>Record Date</u>	<u>No. of Units</u>
BARB 1	737	July, 1979	20
BARB 3	15430	August, 1970	1
BARB 4	15431	August, 1970	1

### REGIONAL GEOLOGY

The Barb claims are situated on the east margin of the Coast Plutonic Complex as mapped by Souther, 1971. Most of the claims are underlain by the Upper Triassic King Salmon Formation which is a mixed assemblage of sediments, andesitic volcanic and volcanoclastic rocks and limestone. On the northeast part of the claims is the Upper Triassic Sinwa limestone which is found along a major northeast dipping thrust fault called the King Salmon thrust fault. These rocks are intruded by intermediate composition Jurassic plutons and numerous Cretaceous to Tertiary felsic dykes.

Structure in the area is dominated by the NW-trending, NE-dipping King Salmon thrust fault and associated smaller faults. Perpendicular to these faults is another set which trends northeasterly. Structural control of alteration and mineralization appears to have been important on the Barb claims.

### GEOLOGICAL SURVEY OF CLAIMS

Mapping was confined near the baseline that bisects the property from southeast to northwest. The baseline follows the approximate path of the King Salmon thrust fault. Figure 3 illustrates the geology of the claim.

(1) King Salmon Formation (Unit 1)

Upper Triassic King Salmon Formation rocks are not abundant in the area mapped. The rocks are likely siltstones that have been altered to argillite and skarn. Epidote, pyrite and trace amounts of galena are present. Weathered surfaces are hematitic, while fresh surfaces are often grey-blue. Fracturing is intensive and minor folds with the fold axes trending north-northwest can be observed. The southwest area of the claim consists of dark green andesite and tuffaceous rocks, as well as siltstone and argillite.

(2) Sinwa Formation (Unit 2)

The largest occurrence of Upper Triassic Sinwa Formation limestone is in the northwest corner of the claim. The limestone is fine to coarse grained with a sucrosic texture and is often brecciated. It occurs as both massive and thinly bedded units with colours ranging from white, buff, pinkish to grey-blue. Minor calcite and Fe-carbonate veins and disseminated pyrite up to 2% can be found within the limestone. Degree of rock fracturing varies from none to intense.

(3) Jurassic Diorite (Unit 3)

A grey, medium to coarse grained quartz diorite forms small stocks throughout the claim. The intrusion is generally fresh with some skarn alteration developed near contacts with limestone. Souther, 1971, states that these intrusions cut Middle Jurassic sediments therefore they must be post-Middle Jurassic.

(4) Skarn Replacement (Unit 4)

The best development of skarn-type rocks is found at intrusion-limestone contacts. Small skarn zones are also found in some King Salmon Formation rocks. Relict bedding, as well as plutonic textures can be observed within some of the skarn zones. Mostly in podiform outcrops, the skarn may contain massive or stringer magnetite, actinolite-tremolite, epidote and minor pyrite and trace chalcopyrite. Some zones are totally altered to goethite-hematite. Minor vugs lined with calcite, and quartz-calcite veins are also present in the skarns. Skarn development likely coincided with intrusion of the diorites in Late Jurassic time.

MINERALIZATION

Mineralization is confined mostly to magnetite bearing skarns at contact zones of limestone and the intrusion. Large pods of magnetite, up to 3 m by 3 m, may occur within skarn zones. Magnetite stringers can also be observed within silicified limestone near the King Salmon thrust fault. Pyrite mineralization is found in all rock types. Trace galena and chalcopyrite are also present in skarn type rocks. Small occurrences of quartz breccia, containing silicified limestone fragments were found at limestone-intrusion contacts. This breccia contains up to 0.5% disseminated pyrite.

GEOCHEMICAL SURVEY OF CLAIMS

Geochemical sampling includes a grid soil survey on a northwest trending baseline that approximately bisects the property diagonally from southeast to northwest. The baseline follows the strike of the King Salmon thrust



fault. Soil sample lines were run perpendicular to the baseline with a line spacing of 200 m. Samples were collected at 50 m intervals on the lines. Total number of rock samples collected on the property was 11, total soil samples, 235. Soils were collected from B-horizon soil where possible, otherwise C-horizon was used. They were then placed in kraft wet strength soil bags and air dried. Rocks were placed in plastic sample bags. Both soil and rock samples were then shipped to Chemex Labs, North Vancouver, B.C. Soils were further dried, then sieved, with the -80 mesh portion retained for analysis. The entire rock sample was crushed and then pulverized in a ring grinder to -100 mesh. Au was done using fire assay and atomic absorption techniques with the fire assay bead dissolved in HCl and HNO<sub>3</sub>, then analysed by conventional atomic absorption techniques. For Ag, a mixture of HClO<sub>4</sub> and HNO<sub>3</sub> was used to digest the sample, followed by atomic absorption spectrophotometry. As was done by standard colorometric techniques following an HClO<sub>4</sub> and HNO<sub>3</sub> digestion. For Sb, the sample was digested in HCl, potassium iodide was added, extracting with TOPO-MIBK and then analysing by atomic absorption spectrophotometry. Location of samples and corresponding geochemical results can be seen on Figures 4 to 9.

Au, Ag - No high gold values were found in rocks. High gold values in soil (>100 ppb Au) are confined mostly to the southeast part of the claims between 19+00N and 25+00N on the west side of the grid. This area contains most of the skarn mineralization. Two rocks contained anomalous Ag (>1 ppm). These are a quartz breccia and skarn. Silver in soil is very erratic throughout the grid.

Follow-up of Au and Ag soil anomalies was carried out in the field. Generally the anomalous samples were found to be in areas of poor soil development with a high proportion of organics in the soil. The extent of the anomalies was usually only a few metres from the original sample. Probably these are false anomalies caused by concentration of Au and Ag in the organic portion of the soil.

As - The highest As value in rock is 345 ppm in a quartz breccia in close proximity to the King Salmon thrust fault. High As (>500 ppm) in soil are not uncommon and appears related to the King Salmon Thrust Fault zones.

Sb - High Sb (>20.0 ppm) values in soil correlate fairly well with high As values. No rocks contained high Sb values.

#### CONCLUSIONS

Sixteen man days were spent mapping and sampling the Barb claims. Mapping was concentrated along a northwest trending baseline that approximates the King Salmon thrust fault.

#### RECOMMENDATIONS

Lack of extensive alteration zones or gold and silver mineralization in rock is discouraging. Work to date has not generated any targets for further follow-up. It is recommended that work on the property be discontinued.

REFERENCES

Souther, J.C. (1971). Geology and mineral deposits of Tulsequah map-area, British Columbia. Geological Survey of Canada, Memoir 362, 84 p.

1982 EXPLORATION PROGRAM  
BARB CLAIMS - M514  
KING SALMON LAKE AREA, B. C.  
COST STATEMENT

PERIOD: June 19 to 28, 1982

1. LABOUR:

<u>Name</u>	<u>Position</u>	<u>Field Days</u>	<u>Office Days</u>
K. Shannon	Geologist	-	1
M. Thicke	Geologist	3.5	3
D. Brown	Geologist	1	-
D. Madsen	Sampler	1	-
M. Gray	Sampler	3.5	-
R. Lazenby	Sampler	3	-
S. Goertz	Sampler	1	-
F. Wohlgemuth	Sampler	2	-
L. Rowan	Sampler	1	-
	Total	16	4

AVERAGE COST PER FIELD MAN DAY: \$100. x 16 = \$1,600.00

AVERAGE COST PER OFFICE MAN DAY: \$175. x 3 = 700.00 \$ 2,300.00

2. ANALYSES

Rock (Au, As, Ag, Sb) 11 @\$17.40 = \$ 191.40  
Soil (Au, As, Ag, Sb) 235 @\$15.50 = 3,642.50 3,833.90

3. CAMP COSTS:

Total man days: 16 @\$79.50 1,272.00

4. HELICOPTER:

10.5 hrs @\$510/hr. incl. fuel 5,355.00

5. DRAFTING:

3 man days @\$100. 300.00

6. SAMPLE SHIPMENT:

246 samples @\$0.60 147.60

Total \$13,208.50

## STATEMENT OF QUALIFICATIONS

I, Mike Thicke, graduated from the University of British Columbia in May, 1980 with a B.Sc. degree. Five seasons have been spent working in exploration geology in B.C., including three since graduation. I am presently employed as a geologist by Chevron Standard Limited of Vancouver, B. C.

A handwritten signature in cursive script that reads "Mike Thicke". The signature is written in dark ink and is positioned centrally on the page, below the typed text.

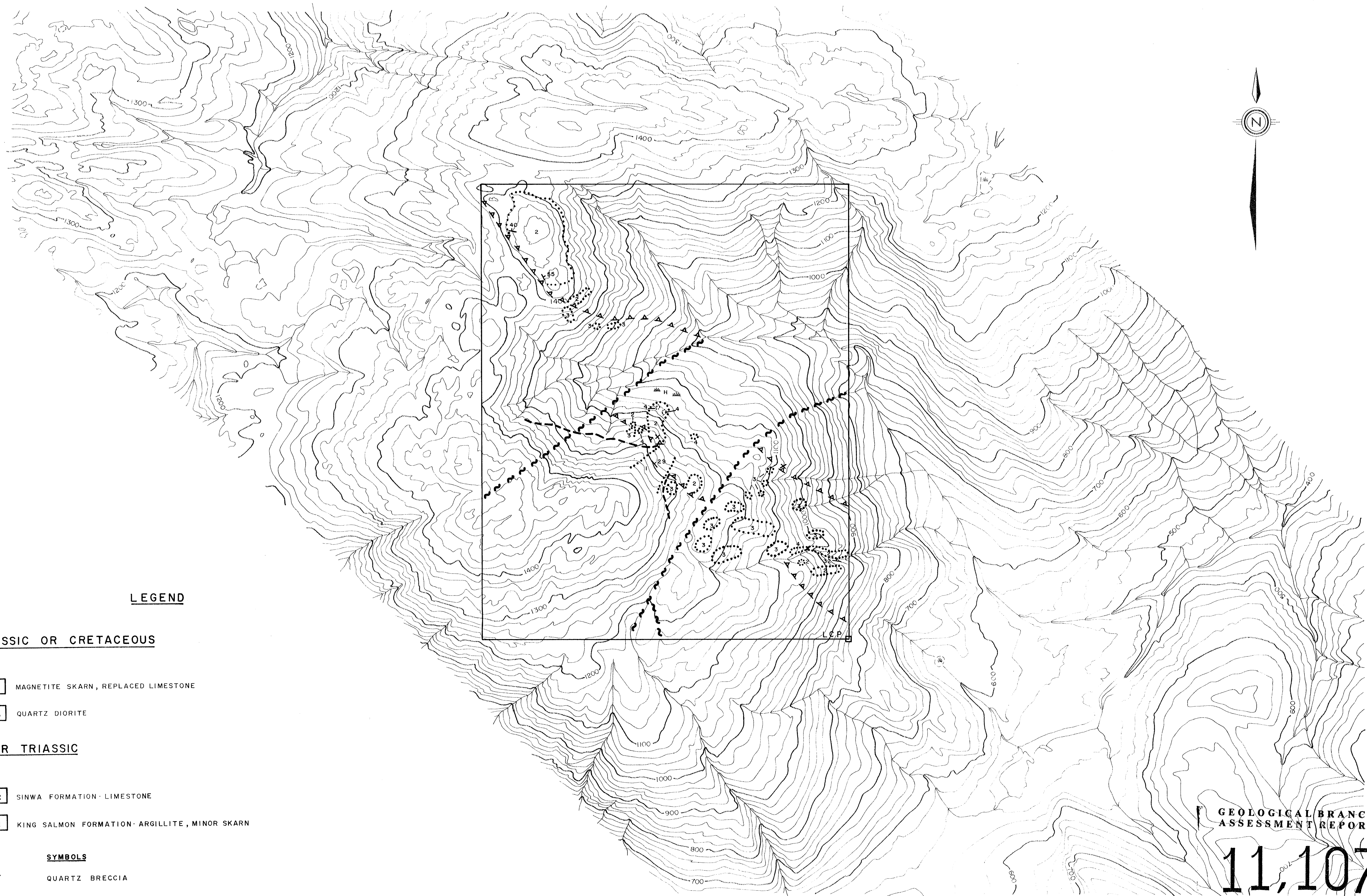
MIKE THICKE

## STATEMENT OF QUALIFICATIONS

I, Ken Shannon, have worked as a geologist in B. C. on a seasonal basis since graduation from the University of British Columbia with a B.Sc. (Hons. Geology) in 1975. A M.Sc. degree was awarded from the Department of Geology at U.B.C. in May, 1982. I am employed as a geologist by Chevron Standard Limited of Vancouver, B. C. Work on the EMU CLaims Group was done under my supervision.

A handwritten signature in cursive script that reads "Ken Shannon". The signature is written in black ink and is positioned to the right of the center of the page.

KEN SHANNON



**LEGEND**

**JURASSIC OR CRETACEOUS**

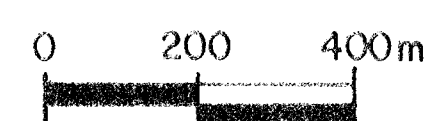
- 4 MAGNETITE SKARN, REPLACED LIMESTONE
- 3 QUARTZ DIORITE

**UPPER TRIASSIC**

- 2 SINWA FORMATION - LIMESTONE
- 1 KING SALMON FORMATION - ARGILLITE, MINOR SKARN

**SYMBOLS**

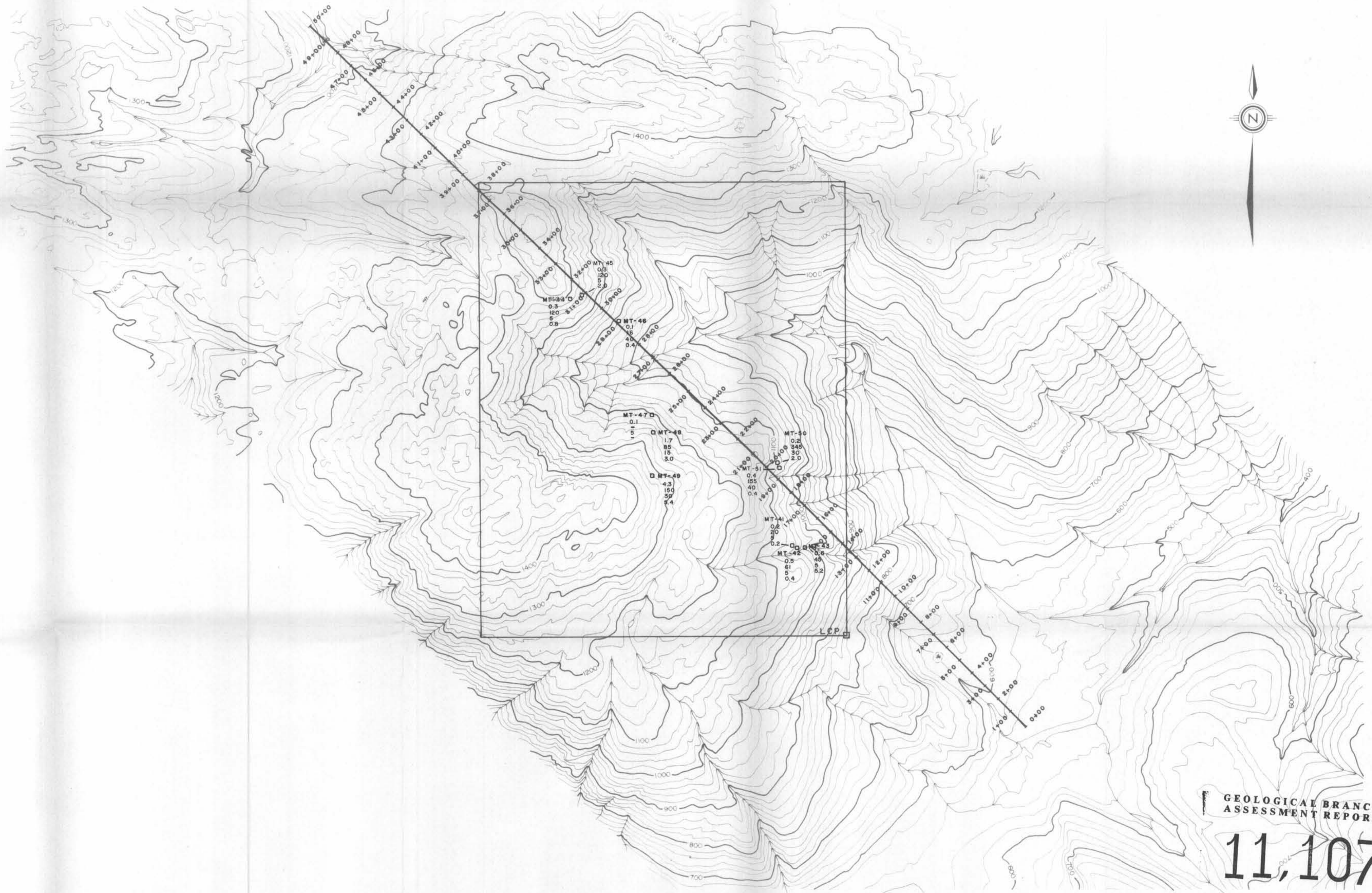
- X QUARTZ BRECCIA
- ▲▲▲ KING SALMON THRUST FAULT
- - - CONTACT - APPROXIMATE, DEFINED
- OUTCROP
- ↘ 29° BEDDING SHOWING DIP
- SSS PHOTO LINEARS
- ≡ SWAMP
- H HELICOPTER LANDING



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Chevron Standard Limited Minerals Staff	
<b>BARB CLAIMS GEOLOGY</b>	
FIGURE No <b>3</b>	PROJECT No. <b>M514</b>
DATE <b>OCT / 82</b>	SCALE <b>1:10,000</b>
BY <b>NTS</b>	
CHECKED BY <b>K.S.</b>	



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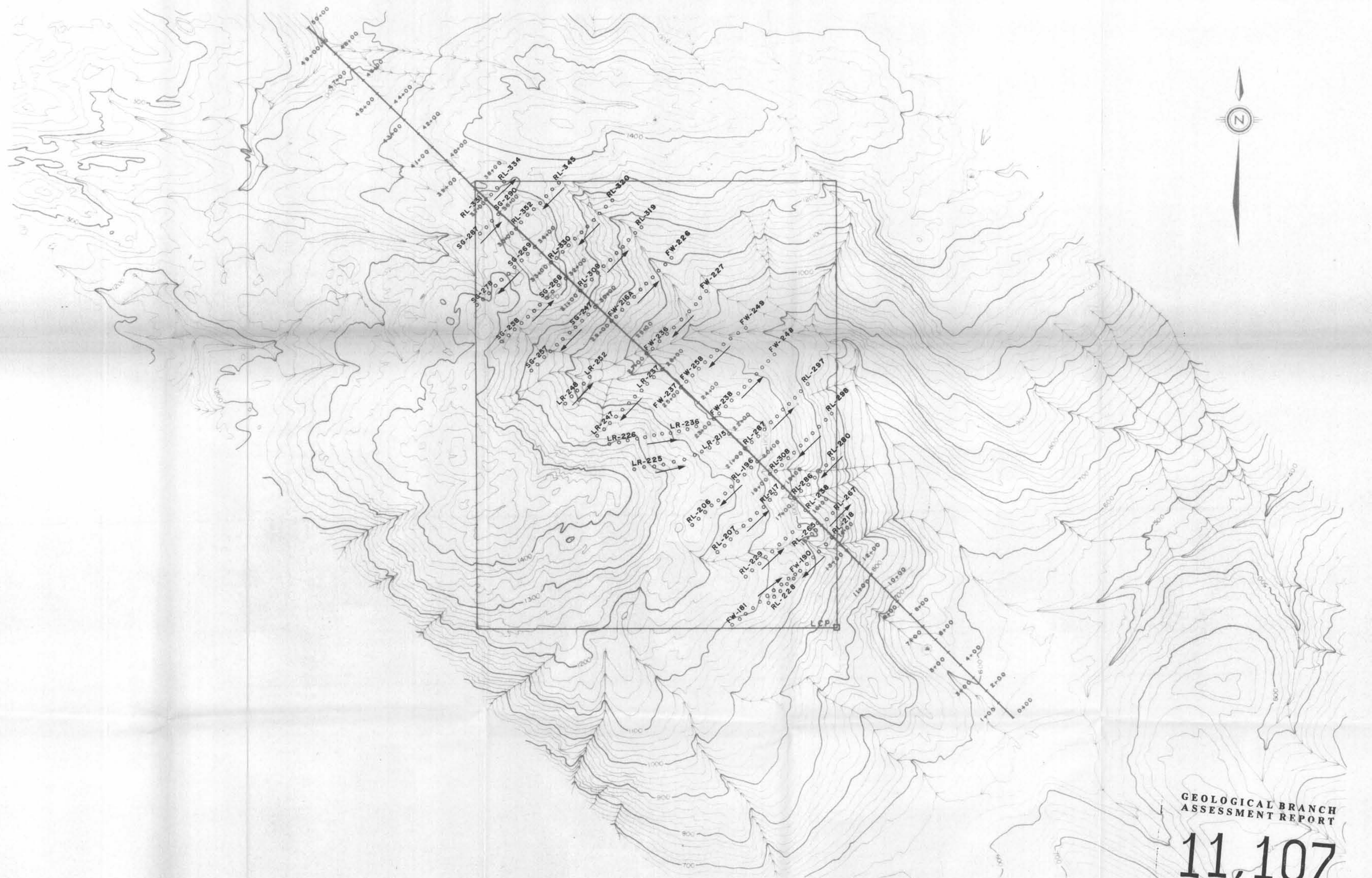
**LEGEND**

- ROCK SAMPLE
- 0.3 ppm Ag
- 120 ppm As
- 50 ppb Au
- 7.7 ppm Sb

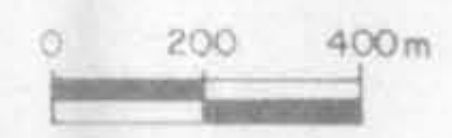


Chevron Standard Limited Minerals Staff	
<b>BARB CLAIMS ROCK GEOCHEMISTRY AND SAMPLE LOCATIONS</b>	
FIGURE No. <b>4</b>	PROJECT No. <b>M514</b>
DATE: <b>OCT/82</b>	SCALE: <b>1:10,000</b>
BY: <b>KS</b>	

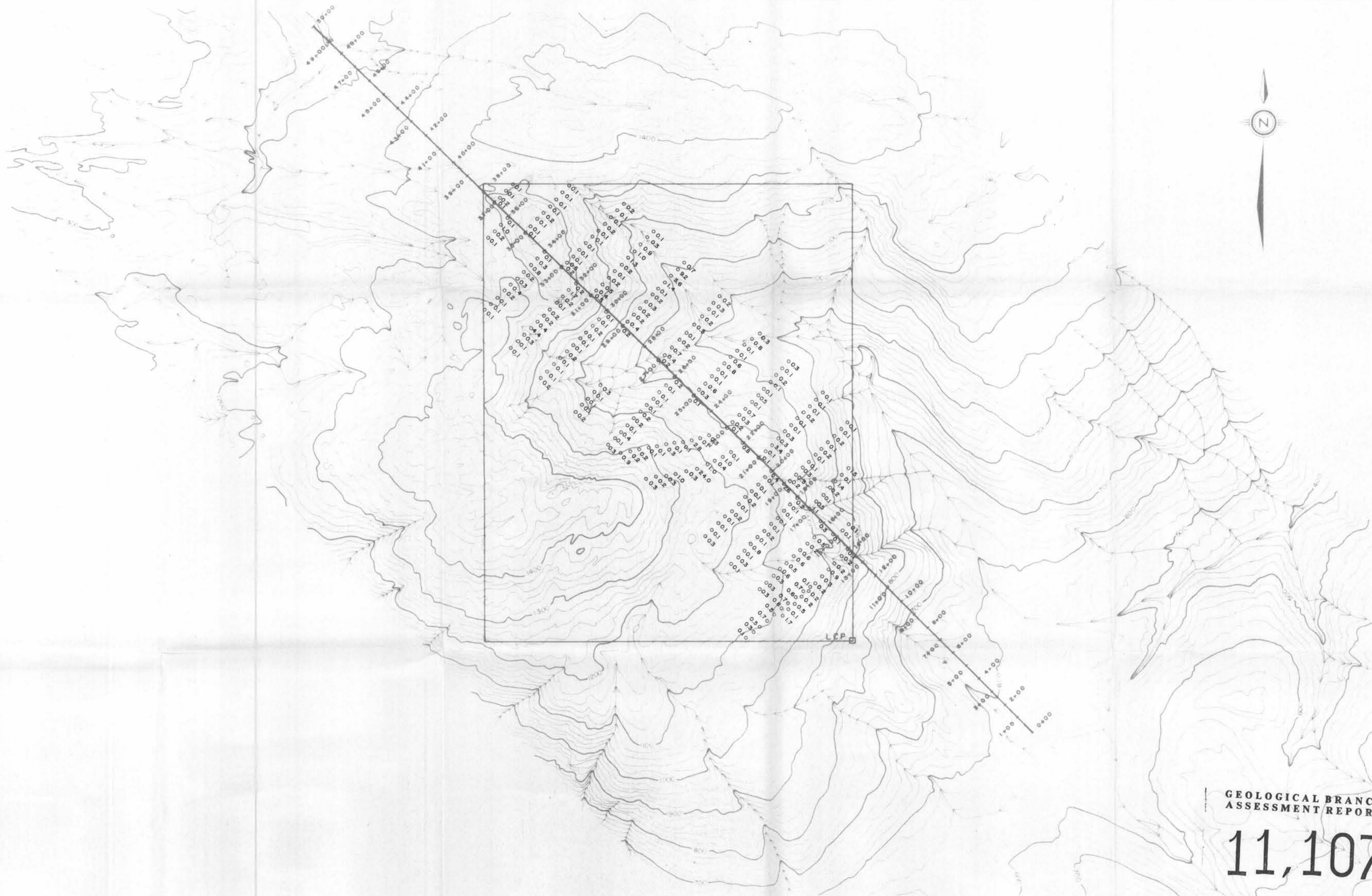




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Chevron Standard Limited Minerals Staff	
BARB CLAIMS SOIL SAMPLE LOCATIONS	
FIGURE No. <b>5</b>	PROJECT No. <b>M514</b>
DATE <b>OCT / 82</b>	SCALE <b>1:10,000</b>
BY <b>K.S.</b>	

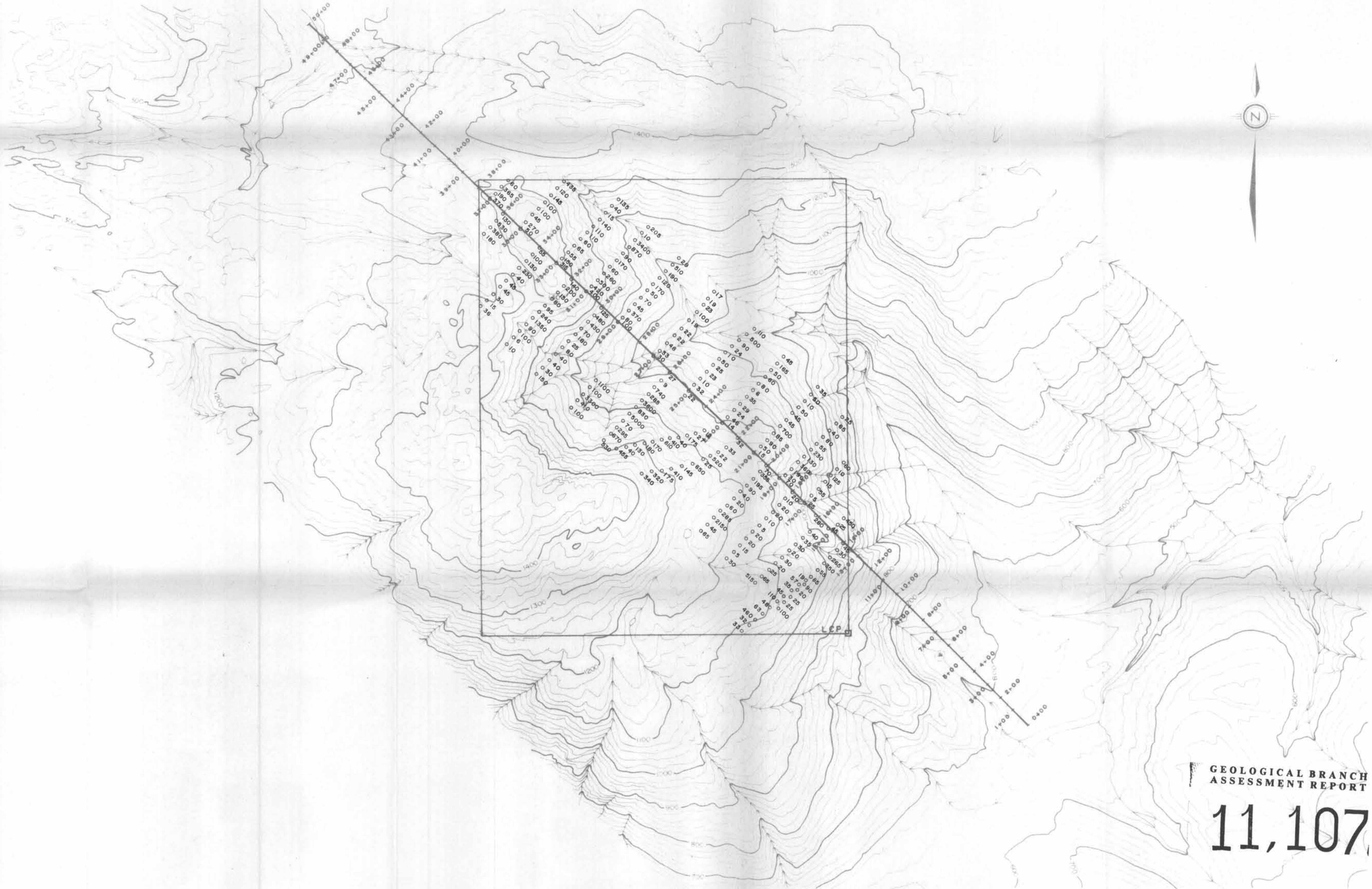


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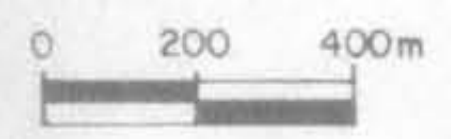



Chevron Standard Limited Minerals Staff	
BARB CLAIMS SOIL GEOCHEMISTRY Ag - ppm	
FIGURE NO. <b>6</b>	DATE <b>M514</b>
<b>OCT 782</b>	<b>10/000</b>
<b>K S</b>	

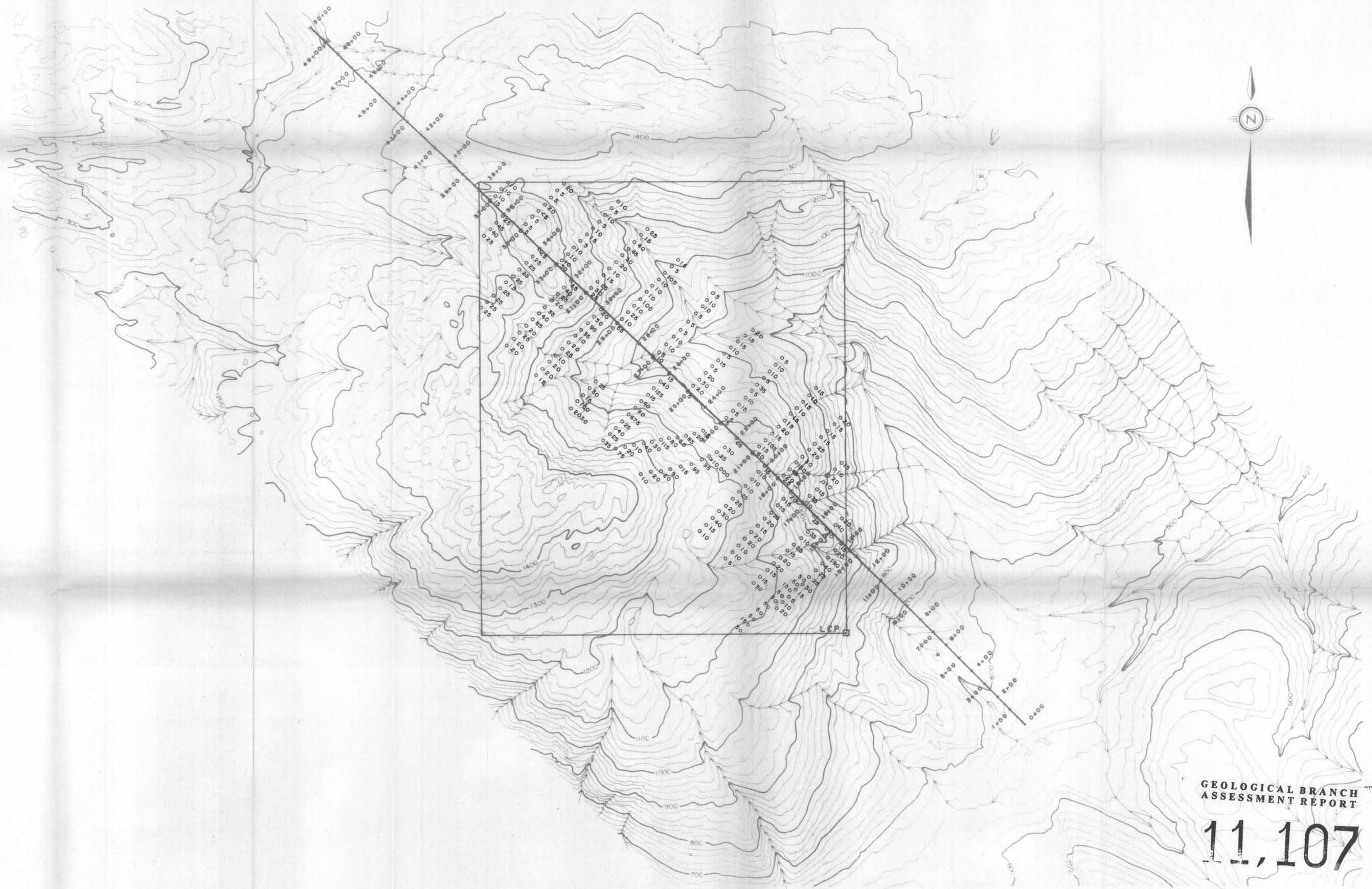


**GEOLOGICAL BRANCH  
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 Chevron Standard Limited Minerals Staff	
<b>BARB CLAIMS</b> <b>SOIL GEOCHEMISTRY</b> As - ppm	
7	M514
OCT '82	1:40,000
K.S.	



GEOLOGICAL BRANCH  
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Chevron Standard Limited Minerals Staff	
BARB CLAIMS SOIL GEOCHEMISTRY Au - ppb	
FIGURE No. <b>8</b>	PROJECT No. M514
DATE: OCT / 82	SCALE: 1:10,000
BY: K.S.	



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