

81-13-11 # 9091

# TERRITORIAL PETROLEUM VENTURES LTD.

1020 - 800 West Pender Street, Vancouver, B.C. V6C 2V6. Telephone: (604) 688-7775

Title: Geological and Geochemical Report on  
the AL Property

Claims: AL 566(5) (6 units)

Mining District: Similkameen

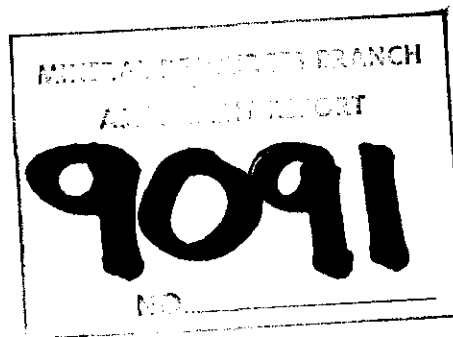
NPS Location: 92 H/10E  
Longitude 120° 36'  
Latitude 49° 42'

Owner: Territorial Petroleum Ventures Ltd.

Author: D.J. Brownlee, Geologist

Dates Work Done: March 29th - April 4th, 1981

Submitted: **1 APR 29 1981**



## SUMMARY

Territorial Petroleum Ventures Ltd. conducted a geological and geochemical survey on their A1 property, Similkameen Mining District. This report is for submission under Mineral Act Regulations to apply assessment work.

The property is located at latitude  $49^{\circ} 42'$  and Longitude  $120^{\circ} 36'$ . The A1 Property consists of the A1 1 to 6 mineral claims.

The geology was mapped at a scale of 1:5000 (Drawing 4). The property is underlain by the Allison Lake Pluton, which is a medium grained biotite, hornblende quartz monzonite which grades into a medium grained biotite, hornblende granite near two fault zones which cross the property.

A geochemical soil grid was laid out over the property (Drawing 5) with the lines 100 metres apart and samples taken every 50 metres. There were 239 soil and 11 silt samples taken and analyzed for copper (Cu) and molybdenum (Mo). Only the copper results showed anomalous values with a mean of 28 ppm Cu, standard deviation of 51 ppm Cu and a threshold of 79 ppm Cu. This outlined two anomalous zones in the south west portion of the property.

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The survey was conducted from March 29th to April 4th 1981, and was terminated early due to a heavy snowfall which covered all outcrops and made it too hazardous to continue the soil sampling. It is planned, to go back to the property during August and complete the soil sampling and geological mapping.

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## 1.0 INTRODUCTION

### 1.1 Introduction

The AI Property is wholly owned by Territorial Petroleum Ventures Ltd. The company conducted a geological and geochemical survey on the property during March and April 1981. This report has been prepared for submission to the Ministry of Energy, Mines and Petroleum Resources as required under Mineral Act Regulations to apply assessment to work.

### 1.2 Location and Access

The property is located at Latitude  $49^{\circ} 42'$  and Longitude  $120^{\circ} 56'$  and is covered by NTS sheet 92H/10E (Drawing 1). Access is by Highway #5 (29 km) north from Princeton, British Columbia.

### 1.3 Terrain

The property is located within the Interior Plateau region of South Central British Columbia, where sharp narrow valleys trend north-south. These valleys were formed by stream dissection and glaciation. The local relief on the property is up to 500 metres.

The vegetation is comprised mainly of fir with a sparse alder underbrush.

The area is characterised by moderate winters and precipitation, with long arid summers.

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### 1.4 Property

The A1 Property consists of one, six-unit, mineral claim (Drawing 2).

| <u>Claim</u> | <u>Recording No.</u> | <u>Units</u> |
|--------------|----------------------|--------------|
| A1           | 566 (5)              | 6            |

### 1.5 Previous Work

The property was first staked in 1972 by a Mr. J.R. Poloni. No evidence of previous work, except for a short test pit sunk on a quartz stringer, has been found. During 1972, Mr. J.R. Poloni conducted a minimal geochemical soil and geological survey of the property. Only thirty soil samples were collected and analyzed.

### 1.6 Work Done

The work covered by this report was done during the period March 29th to April 3rd 1981. During this period D.J. Brownlee, Geologist and G. Robinet assistant carried out a geological and a soil geochemical survey of the property.

This survey was terminated when it was approximately 75% completed. This was due to a 14 cm snowfall which completely covered the outcrops and rendered the slope near the creek extremely treacherous.

... 3

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## 2.0 GEOLOGY

### 2.1 Regional Geology

The region is underlain by the Upper Triassic rocks of the Nicola Group (Drawing 3). The Nicola Group is intruded and overlain by younger rocks, mainly of Upper Triassic to Cretaceous age. In the immediate area of the property the Allison Lake Pluton intrudes the Nicola Group and is of Upper Triassic to Lower Jurassic age.

The major structural elements of the region are too high angle normal fault systems which divides the Nicola Group into three subparallel north trending belts. The western fault system is the Allison Fault and basically follows the Allison Creek Valley. The eastern system is the Summers-Kentucky Alleyne Fault system.

### 2.2 Property Geology

Only approximately 30% of the property is not covered by glacial overburden. This area basically lies north and west of Ketchan Creek (Drawing 4).

The property is underlain entirely by the Allison Lake Pluton which Preto (79) describes as a mainly reddish and grey locally miarolitic, biotite hornblende granite and quartz monzonite. This pluton is of Upper Triassic to Lower Jurassic in age.

...4

- 4 -

Structurally, the property is bounded on the west side by the Allison Lake Fault, which is regional in scope. There seems to be two other major structural features on the property; one basically striking  $190^{\circ}$  along Ketchan Creek is indicated by the gradational change within the composition of the rocks, and by some of the fault orientations obtained. The second feature seems to cross the first in the west central portion of the property. This feature is a fault orientated approximately  $155^{\circ}$  dipping steeply southwest. The only mineralization on the property was noted in this area as minor pyrite disseminated throughout the rocks in this section. The only other mineralization found was some malachite staining on joint surfaces in the southwest portion of the property.

In the northwest portion of the property the rocks are a medium grained buffish grey weathering euhedral biotite, hornblende quartz monzonite. To the south and east small potassic rich veins of up to 2 cm across appear, they have no preferred orientation. Further to the south and east the rocks become a medium grained reddish weathering biotite, hornblende granite. The rocks become well sheared and crushed nearer the fault zones and generally are quite potassic rich and the majority of the fractures infilled with calcite. No rocks on the opposite side of the fault zones

... 5



- 5 -

were examined and so it is not known if the trend of potassic enrichment is reversed in that region.

Cutting the pluton in several places is a andesite dike, dark bluish grey in colour. Oligoclase and/or andesine phenocrysts can be seen in some sections, with the dike being hornfelsic in some sections, most notably near the fault zones.

It is thought that these dikes may be feeder dikes for the Kingsvale group volcanics found further south and east.

The dike or dikes have been faulted by the fault zones, indicating that these faults are relatively young, Cretaceous or Younger in age.

### 3.0 GEOCHEMISTRY

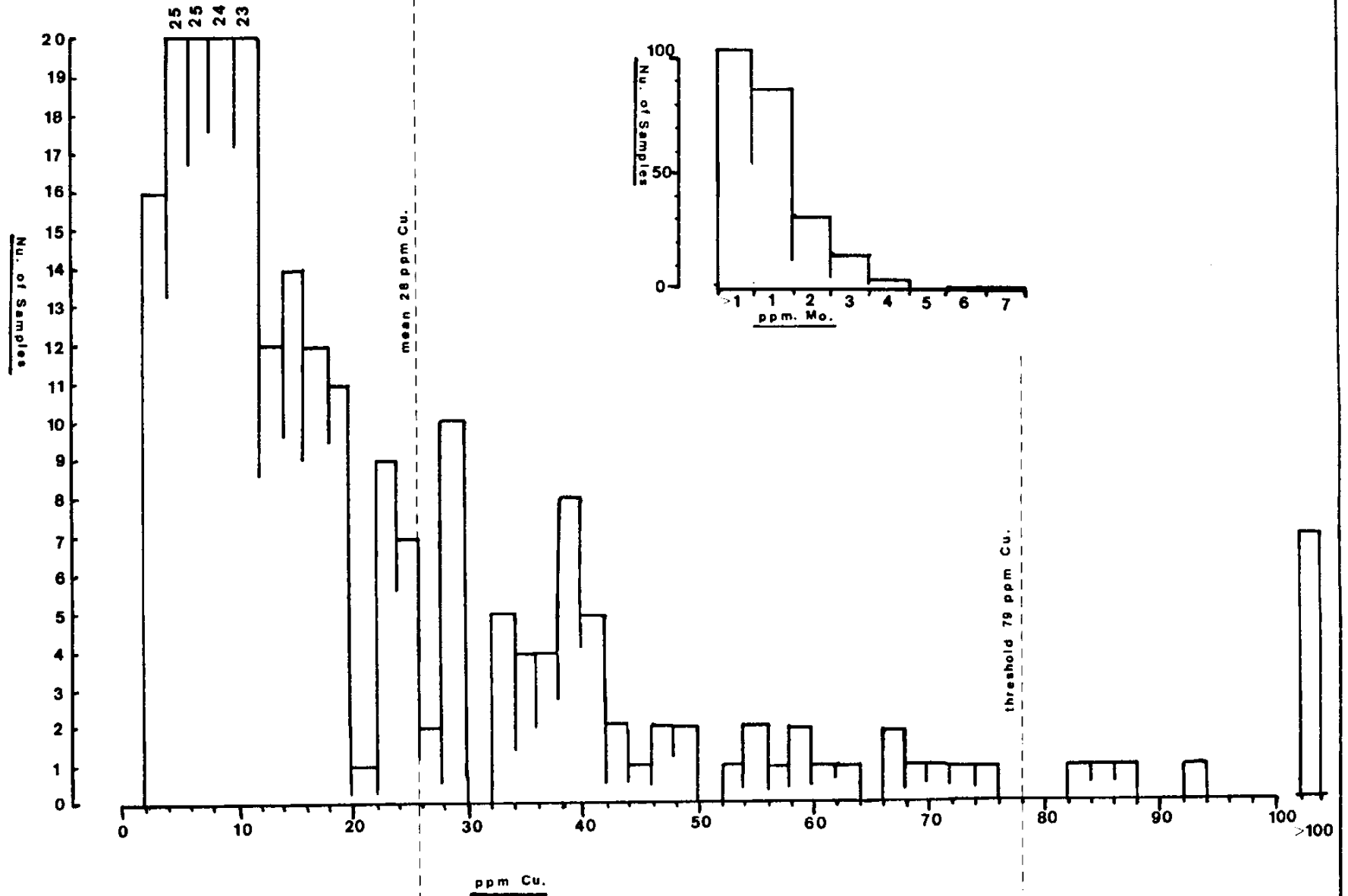
A total of two hundred and thirty nine (239) soil samples were taken along with eleven (11) silt samples and they were analyzed for copper (Cu) and molybdenum (MO) by Bondar-Clegg & Co. Ltd.

The samples were taken on a grid with the lines 50, 75, or 100 metres apart, and the samples were taken from the soil horizon immediately below the organic horizon, and below the frozen layer of the soil. Appendix C notes the method of analysis.

From table 1 and calculations made, the mean copper value obtained was 28 ppm Cu with a standard deviation of

...6

TABLE # 1



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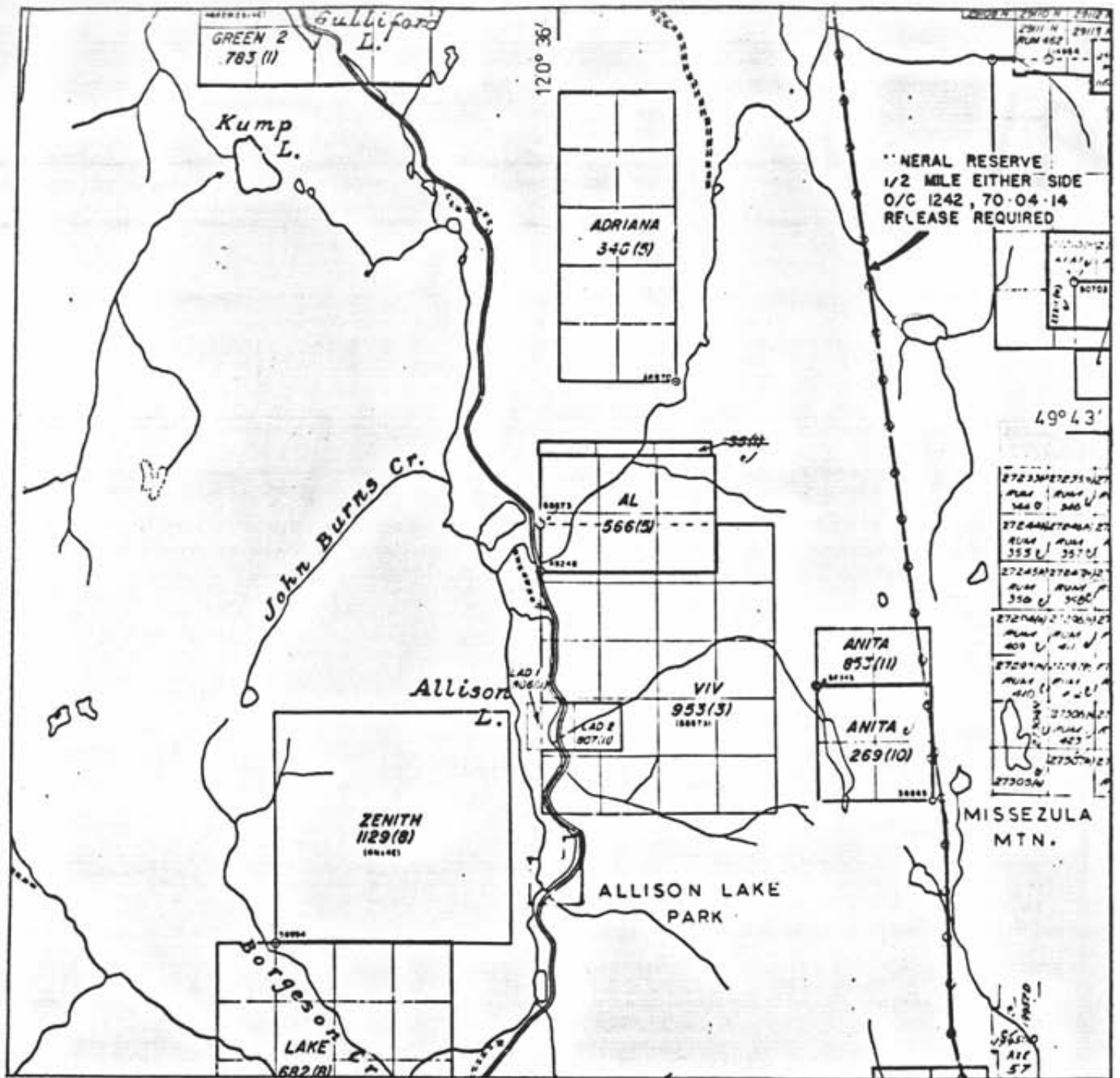
- 6 -

51 ppm giving a threshold of 79 ppm Cu. As can be seen by table 1, there were no anomalous molybdenum values obtained. The major anomalous values of copper obtained are situated on the east bank of Ketchikan Creek, immediately below a dike noticed during the soil sampling but not geologically mapped. The other anomalous copper zone is situated in the southwest corner of the property and lies on one of the hypothesized fault zones cutting the property.

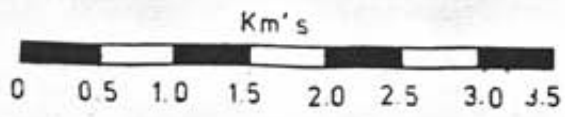
Respectfully submitted,



D.J. Brownlee, Geologist

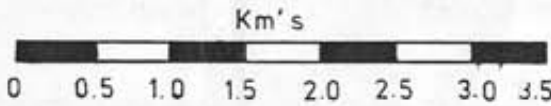


|                                       |                |
|---------------------------------------|----------------|
| TERRITORIAL<br>PETROLEUM VENTURES Ltd |                |
| AL PROPERTY<br>CLAIM MAP              |                |
| silmilkameen M.D.                     | N.T.S. 92H/10E |
| DRAWING 2                             |                |
| DRAWN BY D.J.B APRIL 1981             |                |

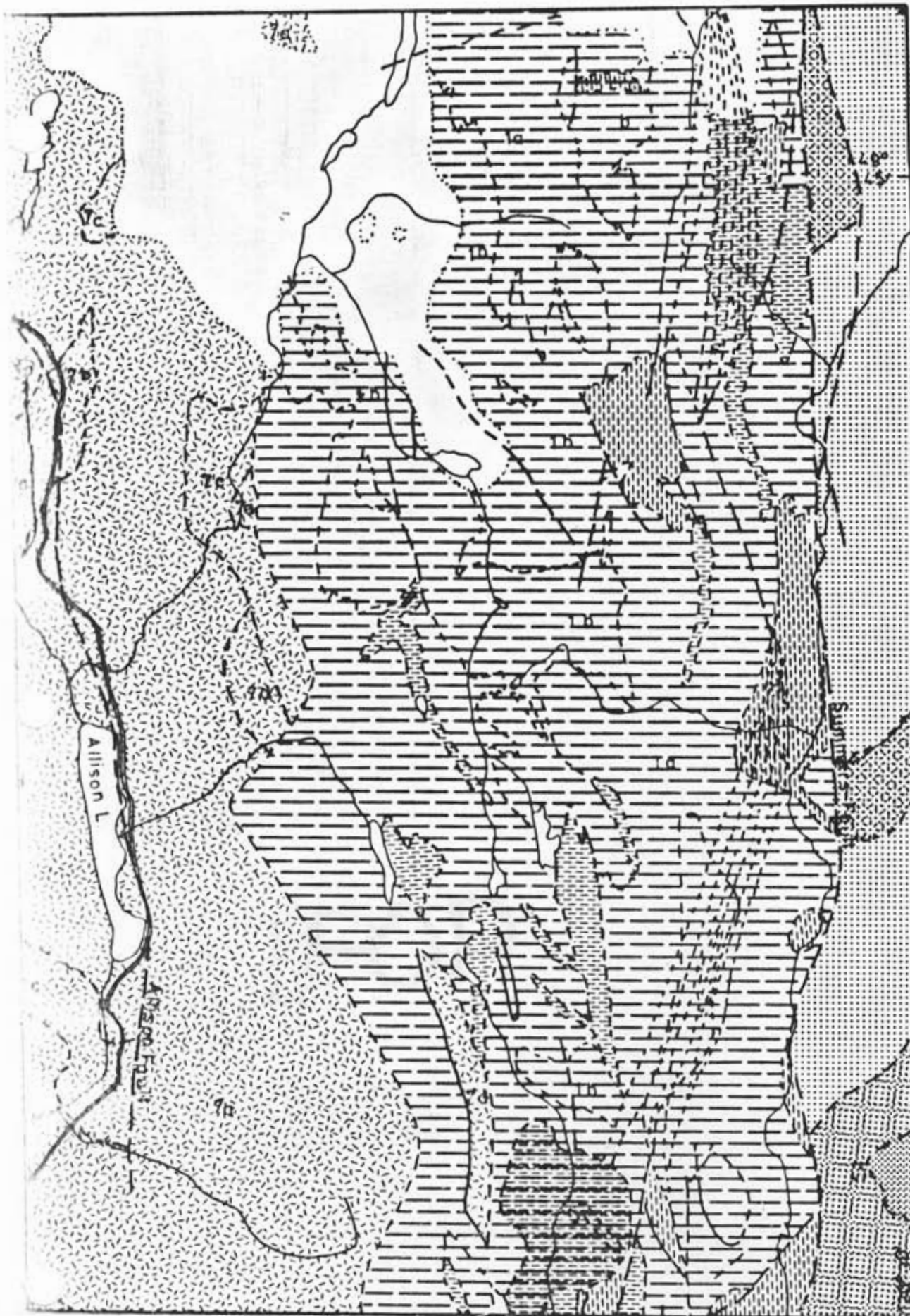




|   |
|---|
| TERRITORIAL<br>PETROLEUM VENTURES Ltd.                          |
| AL PROPERTY<br>LOCATION MAP<br>silmilkameen M.D. N.T.S. 92H/10E |
| DRAWING 1   |
| DRAWN BY D.J.B. APRIL 1981                                      |







AFTER PRETO 1979

MINERAL RESOURCES ACT

ASSESSMENT REPORT

9091 DRAWING 3

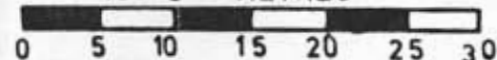
NO.

TERRITORIAL  
PETROLEUM VENTURES Ltd.

AL PROPERTY  
REGIONAL GEOLOGY  
simmilkameem M.D. N.T.S. 92H

DRWN. BY D.J.B. APRIL 1981

100' s METRES



**LEGEND**

**LOWER CRETACEOUS**

**KINGSVALE GROUP**

REDDISH VOLCANIC CONGLOMERATE,  
GRIT, SANDSTONE, AND SHALE

**UPPER TRIASSIC TO LOWER JURASSIC**

**ALLISON LAKE PLUTON**

7a REDDISH TO REDDISH GREY BIOTITE-  
HORNBLende GRANITE AND QUARTZ  
MONZONITE

7b GREY HORNBLende GRANODIORITE

7c GREY TO DARK GREY HORNBLende  
DIORITE, GABBRO, AND QUARTZ  
DIORITE

7d METAVOLCANIC ROCKS WITHIN OR NEAR  
THE PLUTON

PINK AND GREY MONZONITE AND SYENITE,  
MEDIUM-GRAINED AND GENERALLY PORPHY-  
RITIC; FINE-GRAINED GREY DACITE

DIORITE, QUARTZ DIORITE, MONZONITE, AND  
DIORITE BRECCIA; MINOR FINE-GRAINED HORN-  
BLende PORPHYRY

**UPPER TRIASSIC**

**NICOLA GROUP**

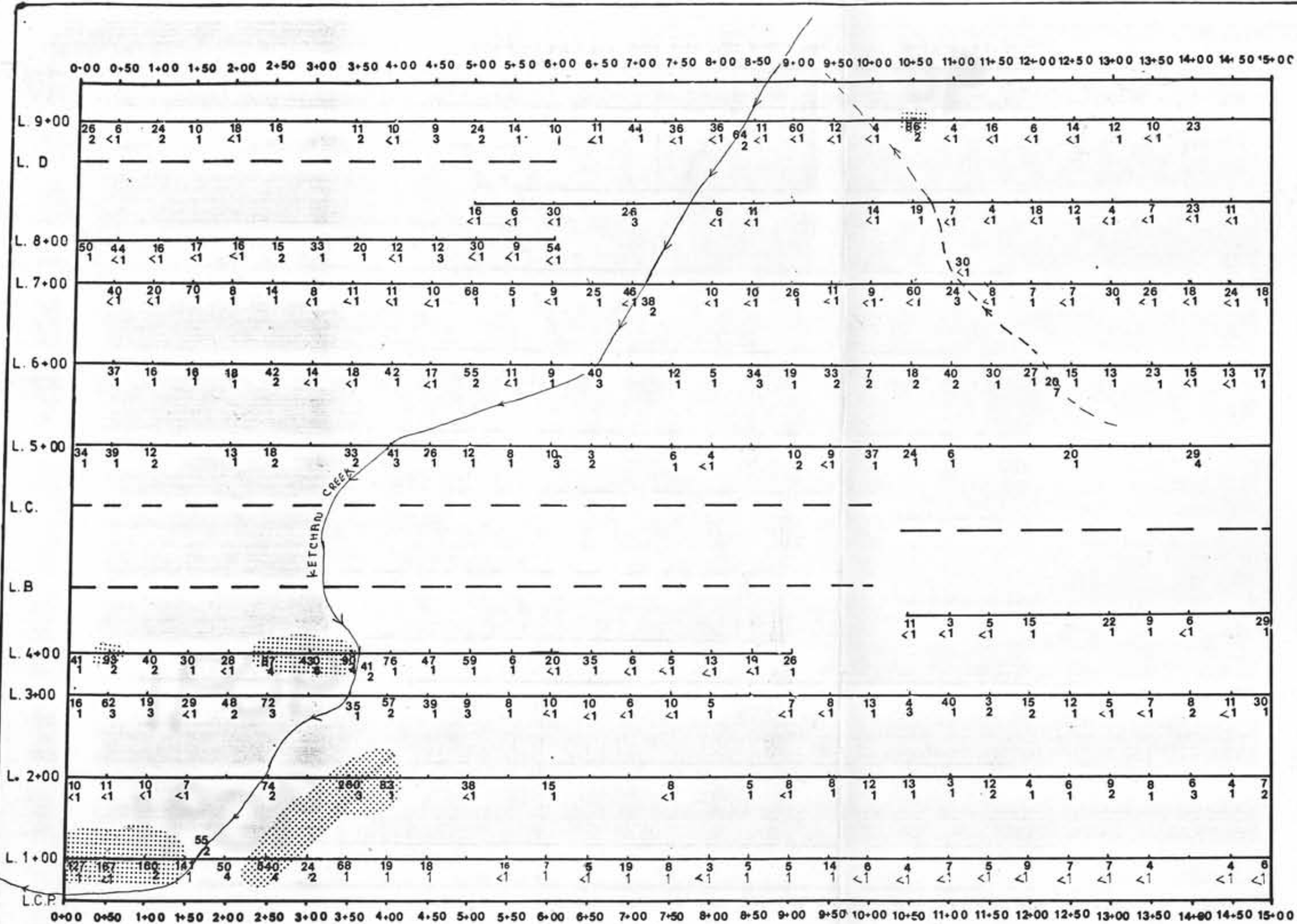
PURPLE AND GREY, LOCALLY  
ANALCITE-BEARING, AUGITE PLAGIO-  
CLASE TRACHYANDESITE AND TRACHY-  
BASALT PORPHYRY FLOWS AND MINOR  
FLOW BRECCIA

VOLCANIC SANDSTONE AND SILTSTONE,  
MINOR TUFF

MASSIVE TO CRUDELY LAYERED LAHAR  
DEPOSITS, MINOR CONGLOMERATE

1a REDDISH TO GREEN AUGITE-  
PLAGIOCLASE ANDESITE AND BASALT  
FLOWS; OCCASIONAL ANALCITE-BEARING  
TRACHYBASALT

1b AUTOBRECCIATED EQUIVALENTS OF 1a  
CRYSTAL AND LITHIC TUFF, GENERALLY  
WELL BEDDED

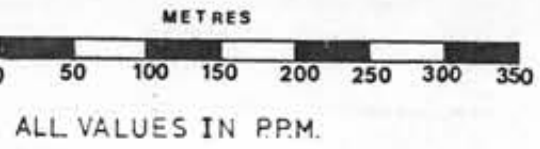


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PETROLEUM VENTURES Ltd.

AL PROPERTY  
GEOCHEMISTRY  
silmilkameen M.D. N.T.S. 92H/10E

DRAWING 5

DRAWN BY D.J.B APRIL 1981



LEGEND

64-ppm Cu.  
2-ppm Mo

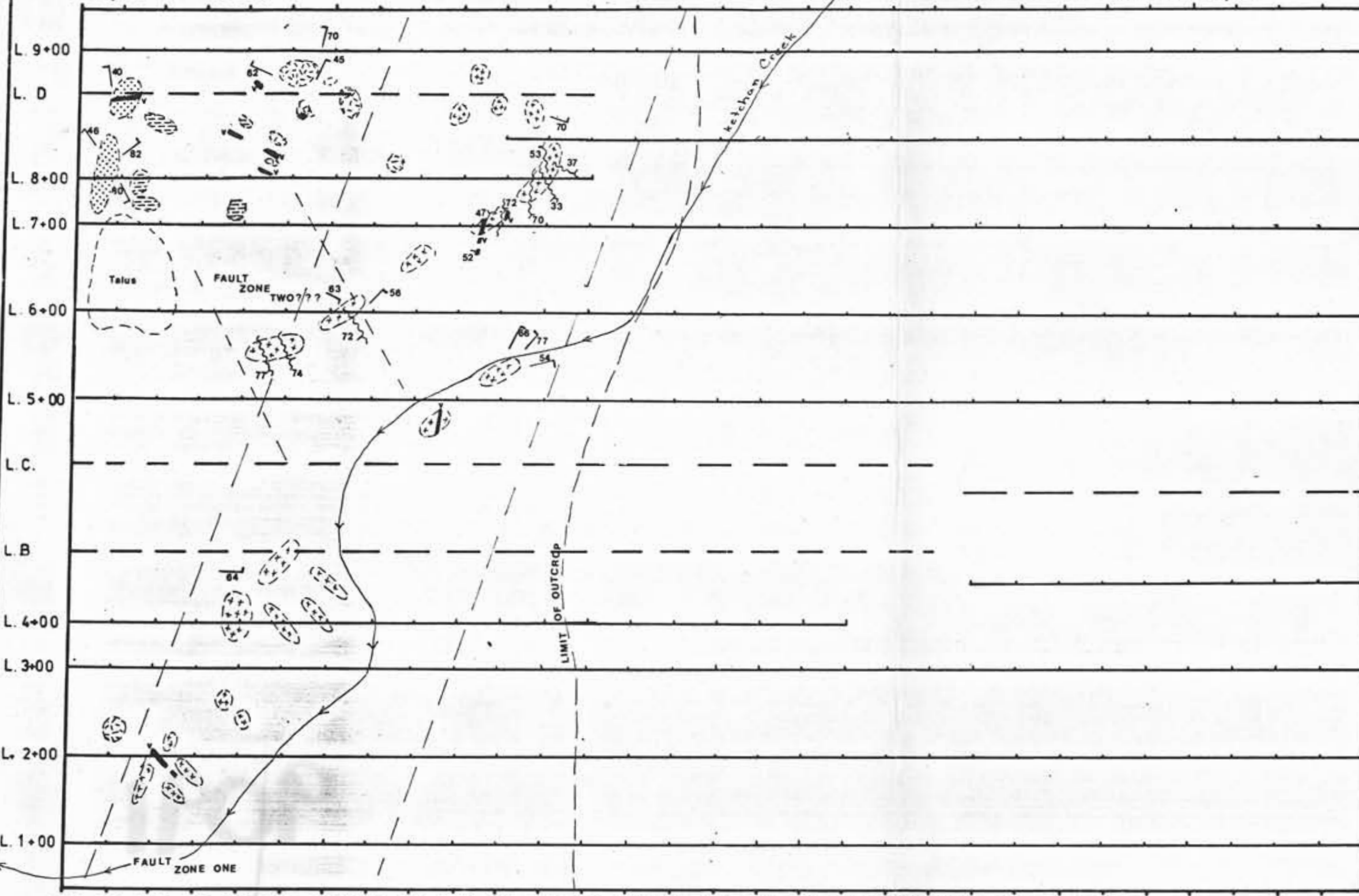
- anomalous Cu.  
> 79 ppm

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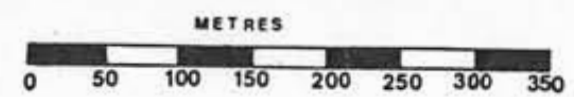
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



0-00 0-50 1-00 1-50 2-00 2-50 3-00 3-50 4-00 4-50 5-00 5-50 6-00 6-50 7-00 7-50 8-00 8-50 9-00 9-50 10-00 10-50 11-00 11-50 12-00 12-50 13-00 13-50 14-00 14-50 15-00



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 AL PROPERTY  
 PROPERTY GEOLOGY  
 silmilkameen M.D. N.T.S. 92H/10E  
 DRAWING 4  
 DRAWN BY D.J.B. APRIL 1981



LEGEND

-  Biotite, Hornblende Quartz Monzonite
-  Transition zone, potassic veins in Quartz Monzonite
-  Granite
-  Altered, sheared & fractured intrusive hornfelsic and/or potassic
-  fault
-  joint

MINERAL RESOURCES BRANCH  
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**9091**  
 NO.

0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50 15+00




**BONDAR-CLEGG & COMPANY LTD.**

130 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.

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TLX: 04-352667

## Geochemical Lab Report

FROM: Territorial Petroleum Ventures Ltd.REPORT NUMBER: 21 - 466PROJECT: BROWNLEEDATE: April 13, 1981

| SAMPLE NUMBERS |          | Cu<br>ppm | Mo<br>ppm |      |  |  |  |  |  |
|----------------|----------|-----------|-----------|------|--|--|--|--|--|
| L1 -           | 0 + 00 R | 127       | 1         |      |  |  |  |  |  |
|                | 0 + 50   | 167       | < 1       |      |  |  |  |  |  |
|                | 1 + 00   | 160       | 2         |      |  |  |  |  |  |
|                | 1 + 50   | 141       | 1         |      |  |  |  |  |  |
|                | 1 + 62   | 55        | 2         | Salt |  |  |  |  |  |
|                | 2 + 00   | 50        | 4         |      |  |  |  |  |  |
|                | 2 + 50   | 540       | 4         |      |  |  |  |  |  |
|                | 3 + 00   | 24        | 2         |      |  |  |  |  |  |
|                | 3 + 50   | 60        | 1         |      |  |  |  |  |  |
|                | 4 + 10   | 19        | 1         |      |  |  |  |  |  |
|                | 4 + 50   | 13        | 1         |      |  |  |  |  |  |
|                | 5 + 50   | 16        | < 1       |      |  |  |  |  |  |
|                | 6 + 10   | 7         | 1         |      |  |  |  |  |  |
|                | 6 + 50   | 5         | < 1       |      |  |  |  |  |  |
|                | 7 + 00   | 19        | 1         |      |  |  |  |  |  |
|                | 7 + 50   | 3         | 1         |      |  |  |  |  |  |
|                | 8 + 10   | 3         | < 1       |      |  |  |  |  |  |
|                | 8 + 50   | 5         | 1         |      |  |  |  |  |  |
|                | 9 + 05   | 5         | 1         |      |  |  |  |  |  |
|                | 9 + 50   | 14        | 1         |      |  |  |  |  |  |
|                | 10 + 00  | 6         | < 1       |      |  |  |  |  |  |
|                | 10 + 50  | 4         | < 1       |      |  |  |  |  |  |
|                | 11 + 00  | 7         | < 1       |      |  |  |  |  |  |
|                | 11 + 50  | 5         | < 1       |      |  |  |  |  |  |
|                | 12 + 00  | 9         | < 1       |      |  |  |  |  |  |
|                | 12 + 50  | 7         | < 1       |      |  |  |  |  |  |
|                | 13 + 15  | 7         | < 1       |      |  |  |  |  |  |
|                | 13 + 55  | 4         | < 1       |      |  |  |  |  |  |
|                | 14 + 50  | 4         | < 1       |      |  |  |  |  |  |
|                | 15 + 00  | 6         | < 1       |      |  |  |  |  |  |
| L2 -           | 0 + 00   | 10        | < 1       |      |  |  |  |  |  |
|                | 0 + 50   | 11        | < 1       |      |  |  |  |  |  |
|                | 1 + 00   | 10        | < 1       |      |  |  |  |  |  |
|                | 1 + 50   | 7         | < 1       |      |  |  |  |  |  |
|                | 2 + 50   | 74        | 9         | Salt |  |  |  |  |  |
|                | 3 + 50   | 230       | 3         |      |  |  |  |  |  |
|                | 4 + 00   | 33        | 1         |      |  |  |  |  |  |
|                | 5 + 00   | 35        | < 1       |      |  |  |  |  |  |
|                | 6 + 00   | 15        | 1         |      |  |  |  |  |  |
|                | 7 + 50   | 3         | < 1       |      |  |  |  |  |  |

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## Geochemical Lab Report

REPORT NUMBER: **21 - 466**

PAGE: **2**

| SAMPLE NUMBERS       | Cu<br>PPM | Mo<br>PPM |      |  |  |  |  |  |
|----------------------|-----------|-----------|------|--|--|--|--|--|
| <b>L2 -</b> 8 + 50 E | 5         | 1         |      |  |  |  |  |  |
| 9 + 00               | 8         | < 1       |      |  |  |  |  |  |
| 9 + 50               | 8         | 1         |      |  |  |  |  |  |
| 10 + 00              | 12        | 1         |      |  |  |  |  |  |
| 10 + 50              | 13        | 1         |      |  |  |  |  |  |
| 11 + 00              | 3         | 1         |      |  |  |  |  |  |
| 11 + 50              | 12        | 2         |      |  |  |  |  |  |
| 12 + 00              | 4         | 1         |      |  |  |  |  |  |
| 12 + 50              | 6         | 1         |      |  |  |  |  |  |
| 13 + 00              | 9         | 2         |      |  |  |  |  |  |
| 13 + 50              | 8         | 1         |      |  |  |  |  |  |
| 14 + 00              | 6         | 3         |      |  |  |  |  |  |
| 14 + 50              | 4         | 1         |      |  |  |  |  |  |
| 15 + 00              | 7         | 2         |      |  |  |  |  |  |
| <b>L4 -</b> 0 + 00   | 41        | 1         |      |  |  |  |  |  |
| 0 + 50               | 53        | 2         |      |  |  |  |  |  |
| 1 + 00               | 40        | 2         |      |  |  |  |  |  |
| 1 + 50               | 30        | 1         |      |  |  |  |  |  |
| 2 + 00               | 28        | < 1       |      |  |  |  |  |  |
| 2 + 50               | 37        | 4         |      |  |  |  |  |  |
| 3 + 00               | 430       | 6         |      |  |  |  |  |  |
| 3 + 45               | 90        | 4         |      |  |  |  |  |  |
| 3 + 55               | 41        | 2         | salt |  |  |  |  |  |
| 4 + 00               | 76        | 1         |      |  |  |  |  |  |
| 4 + 50               | 47        | 1         |      |  |  |  |  |  |
| 5 + 00               | 59        | 1         |      |  |  |  |  |  |
| 5 + 50               | 65        | 1         |      |  |  |  |  |  |
| 6 + 00               | 20        | < 1       |      |  |  |  |  |  |
| 6 + 50               | 35        | 1         |      |  |  |  |  |  |
| 7 + 00               | 6         | < 1       |      |  |  |  |  |  |
| 7 + 40               | 5         | < 1       |      |  |  |  |  |  |
| 8 + 00               | 13        | < 1       |      |  |  |  |  |  |
| 8 + 50               | 19        | < 1       |      |  |  |  |  |  |
| 9 + 00               | 26        | 1         |      |  |  |  |  |  |
| 10 + 45              | 11        | < 1       |      |  |  |  |  |  |
| 11 + 00              | 3         | < 1       |      |  |  |  |  |  |
| 11 + 40              | 3         | < 1       |      |  |  |  |  |  |
| 12 + 10              | 15        | 1         |      |  |  |  |  |  |
| 13 + 00              | 22        | 1         |      |  |  |  |  |  |
| 13 + 50              | 9         | 1         |      |  |  |  |  |  |
| 14 + 00              | 6         | < 1       |      |  |  |  |  |  |
| 15 + 00              | 29        | 1         |      |  |  |  |  |  |
| <b>L5 -</b> 0 + 00   | 34        | 1         |      |  |  |  |  |  |
| 0 + 50               | 39        | 1         |      |  |  |  |  |  |
| 1 + 00               | 12        | 2         |      |  |  |  |  |  |

## BONDAR-CLEGG &amp; COMPANY LTD.

## Geochemical Lab Report

REPORT NUMBER: 21 - 466

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| SAMPLE NUMBERS | Cu<br>ppm | Mo<br>ppm |      |  |  |  |  |  |  |
|----------------|-----------|-----------|------|--|--|--|--|--|--|
| L 5 - 2 + 00 E | 13        | 1         |      |  |  |  |  |  |  |
| 3 + 00         | 18        | 2         |      |  |  |  |  |  |  |
| 3 + 50         | 37        | 1         |      |  |  |  |  |  |  |
| 4 + 00         | 33        | 2         |      |  |  |  |  |  |  |
| 4 + 00 SL      | 41        | 3         | silt |  |  |  |  |  |  |
| 4 + 50 E       | 26        | 1         |      |  |  |  |  |  |  |
| 5 + 00         | 12        | 1         |      |  |  |  |  |  |  |
| 5 + 50         | 8         | 1         |      |  |  |  |  |  |  |
| 6 + 00         | 10        | 3         |      |  |  |  |  |  |  |
| 6 + 50         | 3         | 2         |      |  |  |  |  |  |  |
| 7 + 50         | 6         | 1         |      |  |  |  |  |  |  |
| 8 + 00         | 4         | < 1       |      |  |  |  |  |  |  |
| 9 + 00         | 10        | 2         |      |  |  |  |  |  |  |
| 9 + 50         | 9         | < 1       |      |  |  |  |  |  |  |
| 10 + 00        | 37        | 1         |      |  |  |  |  |  |  |
| 10 + 50        | 24        | 1         |      |  |  |  |  |  |  |
| 11 + 00        | 6         | 1         |      |  |  |  |  |  |  |
| 12 + 50        | 20        | 1         |      |  |  |  |  |  |  |
| 14 + 00        | 29        | 4         |      |  |  |  |  |  |  |
| L 6 - 0 + 50   | 37        | 1         |      |  |  |  |  |  |  |
| 1 + 50         | 16        | 1         |      |  |  |  |  |  |  |
| 2 + 00         | 16        | 1         |      |  |  |  |  |  |  |
| 2 + 50         | 42        | 2         |      |  |  |  |  |  |  |
| 3 + 00         | 14        | < 1       |      |  |  |  |  |  |  |
| 3 + 50         | 18        | < 1       |      |  |  |  |  |  |  |
| 4 + 00         | 42        | 1         |      |  |  |  |  |  |  |
| 4 + 50         | 17        | < 1       |      |  |  |  |  |  |  |
| 5 + 00         | 55        | 2         |      |  |  |  |  |  |  |
| 5 + 50         | 11        | < 1       |      |  |  |  |  |  |  |
| 6 + 00         | 9         | 1         |      |  |  |  |  |  |  |
| 6 + 60         | 40        | 3         | silt |  |  |  |  |  |  |
| 7 + 50         | 12        | 1         |      |  |  |  |  |  |  |
| 8 + 00         | 5         | 1         |      |  |  |  |  |  |  |
| 8 + 50         | 34        | 3         |      |  |  |  |  |  |  |
| 9 + 00         | 19        | 1         |      |  |  |  |  |  |  |
| 9 50           | 33        | 2         |      |  |  |  |  |  |  |
| 10 + 05        | 7         | 2         |      |  |  |  |  |  |  |
| 10 + 50        | 18        | 2         |      |  |  |  |  |  |  |
| 11 + 10        | 40        | 2         |      |  |  |  |  |  |  |
| 11 + 60        | 30        | 1         |      |  |  |  |  |  |  |
| 12 + 05        | 27        | 1         |      |  |  |  |  |  |  |
| 12 + 20        | 20        | 7         | silt |  |  |  |  |  |  |
| 12 + 50        | 15        | 1         |      |  |  |  |  |  |  |
| 13 + 00        | 13        | 1         |      |  |  |  |  |  |  |
| 13 + 50        | 23        | 1         |      |  |  |  |  |  |  |

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| SAMPLE NUMBERS  | Cu<br>ppm | Mn<br>ppm |      |  |  |  |  |
|-----------------|-----------|-----------|------|--|--|--|--|
| L 6 - 14 + 00 E | 15        | < 1       |      |  |  |  |  |
| 14 + 50         | 13        | < 1       |      |  |  |  |  |
| 15 + 00         | 17        | 1         |      |  |  |  |  |
| L 7 - 0 + 50    | 40        | < 1       |      |  |  |  |  |
| 1 + 00          | 20        | < 1       |      |  |  |  |  |
| 1 + 50          | 70        | 1         |      |  |  |  |  |
| 2 + 00          | 8         | 1         |      |  |  |  |  |
| 2 + 50          | 14        | 1         |      |  |  |  |  |
| 3 + 00          | 8         | < 1       |      |  |  |  |  |
| 3 + 50          | 11        | < 1       |      |  |  |  |  |
| 4 + 00          | 11        | < 1       |      |  |  |  |  |
| 4 + 50          | 10        | < 1       |      |  |  |  |  |
| 5 + 00          | 60        | 1         |      |  |  |  |  |
| 5 + 50          | 5         | 1         |      |  |  |  |  |
| 6 + 00          | 9         | < 1       |      |  |  |  |  |
| 6 + 50          | 25        | 1         |      |  |  |  |  |
| 6 + 90          | 46        | < 1       |      |  |  |  |  |
| 7 + 20          | 30        | 2         | silt |  |  |  |  |
| 8 + 00          | 10        | < 1       |      |  |  |  |  |
| 8 + 50          | 10        | < 1       |      |  |  |  |  |
| 9 + 00          | 26        | 1         |      |  |  |  |  |
| 9 + 50          | 11        | < 1       |      |  |  |  |  |
| 10 + 00         | 9         | < 1       |      |  |  |  |  |
| 10 + 50         | 60        | < 1       |      |  |  |  |  |
| 10 + 90         | 24        | 3         |      |  |  |  |  |
| 11 + 00         | 30        | < 1       | silt |  |  |  |  |
| 11 + 40         | 8         | < 1       |      |  |  |  |  |
| 12 + 00         | 7         | 1         |      |  |  |  |  |
| 12 + 50         | 7         | < 1       |      |  |  |  |  |
| 13 + 00         | 30        | 1         |      |  |  |  |  |
| 13 + 50         | 26        | < 1       |      |  |  |  |  |
| 14 + 00         | 18        | < 1       |      |  |  |  |  |
| 14 + 50         | 24        | < 1       |      |  |  |  |  |
| 15 + 00         | 18        | 1         |      |  |  |  |  |
| L 8 - 5 + 00    | 16        | < 1       |      |  |  |  |  |
| 5 + 50          | 6         | < 1       |      |  |  |  |  |
| 6 + 00          | 30        | < 1       |      |  |  |  |  |
| 6 + 50 SL       | 26        | 3         |      |  |  |  |  |
| 8 + 00 E        | 6         | < 1       |      |  |  |  |  |
| 8 + 50          | 11        | < 1       |      |  |  |  |  |
| 10 + 00         | 14        | < 1       |      |  |  |  |  |
| 10 + 50         | 19        | 1         |      |  |  |  |  |
| 11 + 00         | 7         | < 1       |      |  |  |  |  |
| 11 + 50         | 4         | < 1       |      |  |  |  |  |
| 12 + 50         | 18        | 1         |      |  |  |  |  |

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| SAMPLE NUMBERS  | Cu<br>PPM | Zn<br>PPM |  |  |  |  |  |  |  |
|-----------------|-----------|-----------|--|--|--|--|--|--|--|
| L 8 - 12 + 50 W | 12        | < 1       |  |  |  |  |  |  |  |
| 13 + 00         | 4         | < 1       |  |  |  |  |  |  |  |
| 13 + 50         | 7         | < 1       |  |  |  |  |  |  |  |
| 14 + 00         | 23        | < 1       |  |  |  |  |  |  |  |
| 14 + 50         | 11        | < 1       |  |  |  |  |  |  |  |



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## Geochemical Lab Report

FROM: **Territorial Petroleum**REPORT NUMBER: **21 - 497**PROJECT: **BROWNLEE**DATE: **April 16, 1981**

| SAMPLE NUMBERS |        | Cu<br>ppm | Mo<br>ppm |      |  |  |  |  |  |
|----------------|--------|-----------|-----------|------|--|--|--|--|--|
| LINE 3         | 0+00W  | 16        | 1         |      |  |  |  |  |  |
|                | 0+50W  | 62        | 3         |      |  |  |  |  |  |
|                | 1+00W  | 19        | 3         |      |  |  |  |  |  |
|                | 1+50W  | 29        | < 1       |      |  |  |  |  |  |
|                | 2+00W  | 48        | 2         |      |  |  |  |  |  |
|                | 2+50W  | 72        | 3         |      |  |  |  |  |  |
|                | 3+50W  | 35        | 1         | silt |  |  |  |  |  |
|                | 4+00W  | 57        | 2         |      |  |  |  |  |  |
|                | 4+50W  | 39        | 1         |      |  |  |  |  |  |
|                | 5+00W  | 9         | 3         |      |  |  |  |  |  |
|                | 5+50W  | 8         | 1         |      |  |  |  |  |  |
|                | 6+00W  | 10        | < 1       |      |  |  |  |  |  |
|                | 6+50W  | 10        | < 1       |      |  |  |  |  |  |
|                | 7+00W  | 6         | < 1       |      |  |  |  |  |  |
|                | 7+50W  | 10        | < 1       |      |  |  |  |  |  |
|                | 8+00W  | 5         | 1         |      |  |  |  |  |  |
|                | 9+00W  | 7         | < 1       |      |  |  |  |  |  |
|                | 9+50W  | 8         | < 1       |      |  |  |  |  |  |
|                | 10+00W | 13        | 1         |      |  |  |  |  |  |
|                | 10+50W | 4         | 3         |      |  |  |  |  |  |
|                | 11+00W | 40        | 1         |      |  |  |  |  |  |
|                | 11+50W | 3         | 2         |      |  |  |  |  |  |
|                | 12+00W | 15        | 2         |      |  |  |  |  |  |
| 12+50W         | 12     | 1         |           |      |  |  |  |  |  |
| 13+00W         | 5      | < 1       |           |      |  |  |  |  |  |
| 13+50W         | 7      | < 1       |           |      |  |  |  |  |  |
| 14+00W -20 M   | 8      | 2         |           |      |  |  |  |  |  |
| 14+50W         | 11     | < 1       |           |      |  |  |  |  |  |
| 15+00W         | 30     | 1         |           |      |  |  |  |  |  |
| LINE 8         | 0+00W  | 50        | 1         |      |  |  |  |  |  |
|                | 0+50W  | 44        | < 1       |      |  |  |  |  |  |
|                | 1+00W  | 16        | < 1       |      |  |  |  |  |  |
|                | 1+50W  | 17        | < 1       |      |  |  |  |  |  |
|                | 2+00W  | 16        | < 1       |      |  |  |  |  |  |
|                | 2+50W  | 15        | 2         |      |  |  |  |  |  |
|                | 3+00W  | 33        | 1         |      |  |  |  |  |  |
|                | 3+50W  | 20        | 1         |      |  |  |  |  |  |
|                | 4+00W  | 12        | < 1       |      |  |  |  |  |  |
|                | 4+50W  | 12        | 3         |      |  |  |  |  |  |
| 5+00W          | 30     | < 1       |           |      |  |  |  |  |  |

FOR METHOD, EXTRACTION AND FRACTION USED - SEE ATTACHED

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## Geochemical Lab Report

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| SAMPLE NUMBERS |        | Cu<br>ppm | Mo<br>ppm |      |  |  |  |  |
|----------------|--------|-----------|-----------|------|--|--|--|--|
| LINE 8         | 3+50W  | 9         | < 1       |      |  |  |  |  |
|                | 6+00W  | 54        | < 1       |      |  |  |  |  |
| LINE 9         | 0+00E  | 26        | 2         |      |  |  |  |  |
|                | 0+60E  | 6         | < 1       |      |  |  |  |  |
|                | 1+00E  | 24        | 2         |      |  |  |  |  |
|                | 1+50E  | 10        | 1         |      |  |  |  |  |
|                | 2+00E  | 18        | < 1       |      |  |  |  |  |
|                | 2+50E  | 16        | 1         |      |  |  |  |  |
|                | 3+60E  | 11        | 2         |      |  |  |  |  |
|                | 4+00E  | 10        | < 1       |      |  |  |  |  |
|                | 4+50E  | 9         | 3         |      |  |  |  |  |
|                | 5+00E  | 24        | 2         |      |  |  |  |  |
|                | 5+50E  | 14        | 1         |      |  |  |  |  |
|                | 6+00E  | 10        | 1         |      |  |  |  |  |
|                | 6+50E  | 11        | < 1       |      |  |  |  |  |
|                | 7+00E  | 44        | 1         |      |  |  |  |  |
|                | 7+60E  | 36        | < 1       |      |  |  |  |  |
|                | 8+00E  | 36        | < 1       |      |  |  |  |  |
|                | 8+40E  | 64        | 2         | Silt |  |  |  |  |
|                | 8+50E  | 11        | < 1       |      |  |  |  |  |
|                | 9+00E  | 60        | < 1       |      |  |  |  |  |
|                | 9+50E  | 12        | < 1       |      |  |  |  |  |
|                | 10+00E | 4         | < 1       |      |  |  |  |  |
|                | 10+50E | 86        | 2         |      |  |  |  |  |
|                | 11+00E | 4         | < 1       |      |  |  |  |  |
|                | 11+50E | 16        | < 1       |      |  |  |  |  |
|                | 12+00E | 6         | < 1       |      |  |  |  |  |
|                | 12+50E | 14        | < 1       |      |  |  |  |  |
|                | 13+00E | 12        | 1         |      |  |  |  |  |
|                | 13+50E | 10        | < 1       |      |  |  |  |  |
|                | 14+00E | 23        | 2         |      |  |  |  |  |

Geochemical Analysis for Ag\*, Bi\*, Cd\*, Co, Cu, Fe, Mn, Mo, Ni, Pb, Sb\*, V, Zn

0.5 gram samples are digested hot dilute aqua regia in a boiling water bath and diluted to 10 ml with demineralized water.

All the above elements are determined in the acid solution by Atomic Absorption.

\* denotes background correction.



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## APPENDIX C

### Itemized Cost Statement

#### FEES

D.J. Brownlee, Geologist, April 6th, March 29th -  
April 4th, 1981, \$100/day - 7 days \$ 700.00

G. Robinet, Assistant, March 29th - April 3rd,  
1981, \$50/day - 6 days 300.00

\$1,000.00

#### DISBURSEMENTS

4 x 4 Truck, \$15/day, March 29th - April 3rd, 1981 90.00

Fuel 90.13

Maps 23.70

Groceries 66.48

Soil Samples - 258 samples, analysed for Co & Mo.  
\$1.75/sample 1st element 416.50

\$ .75/sample 2nd element 178.50

\$ 865.31

Total \$1,865.31

APPENDIX D

Statement of Author's Qualifications

I, Douglas J. Brownlee, hereby certify that:

1. My residence address is 310 - 306 W. 1st Street, North Vancouver, B.C.; my office address is 1020 - 800 West Pender Street, Vancouver, B.C. and I am a Geologist by occupation.
2. I graduated from the University of Alberta in June, 1980 with a B.Sc. (specialization) in Geology. I have been practicing my profession since January, 1980.
3. I conducted the geotechnical and geological work described in this report.



Douglas J. Brownlee, Geologist

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## APPENDIX E

### References

Preto, V.A.; "Geology of the Nicola Group between Merrit and Princeton", Bull. No. 69, British Columbia Department of Mines and Petroleum Resources, 1979.

Poloni, J.R.; Report on the AL Claims Similkameen M.D.", internal report for Territorial Petroleum Ventures Ltd.