

181-A-149 # 8965

GEOLOGICAL REPORT

ON

BELL CLAIM

OLALLA AREA

Osoyoos Mining Division, B.C.

82E/5W, 82E/4W

(49°15', 119°49')

by

Grant Crooker, B.Sc.

Geologist and Owner

March, 1981

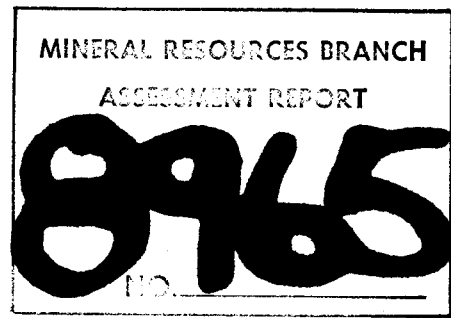


TABLE OF CONTENTS

	<u>PAGE</u>
SUMMARY	1
INTRODUCTION	2
General	2
Location and Access	2
Property and Claim Status	2
Physiography	3
Area and Property History	3
EXPLORATION PROCEDURE	4
GEOLOGY AND MINERALIZATION	4
Area Geology	4
Claim Geology	4
Mineralization	7
CONCLUSIONS AND RECOMMENDATIONS	9
REFERENCES	10
CERTIFICATE OF QUALIFICATIONS	11
APPENDIX	
Certificate of Analysis	
Detailed Cost Statement	12

FIGURES

PAGE

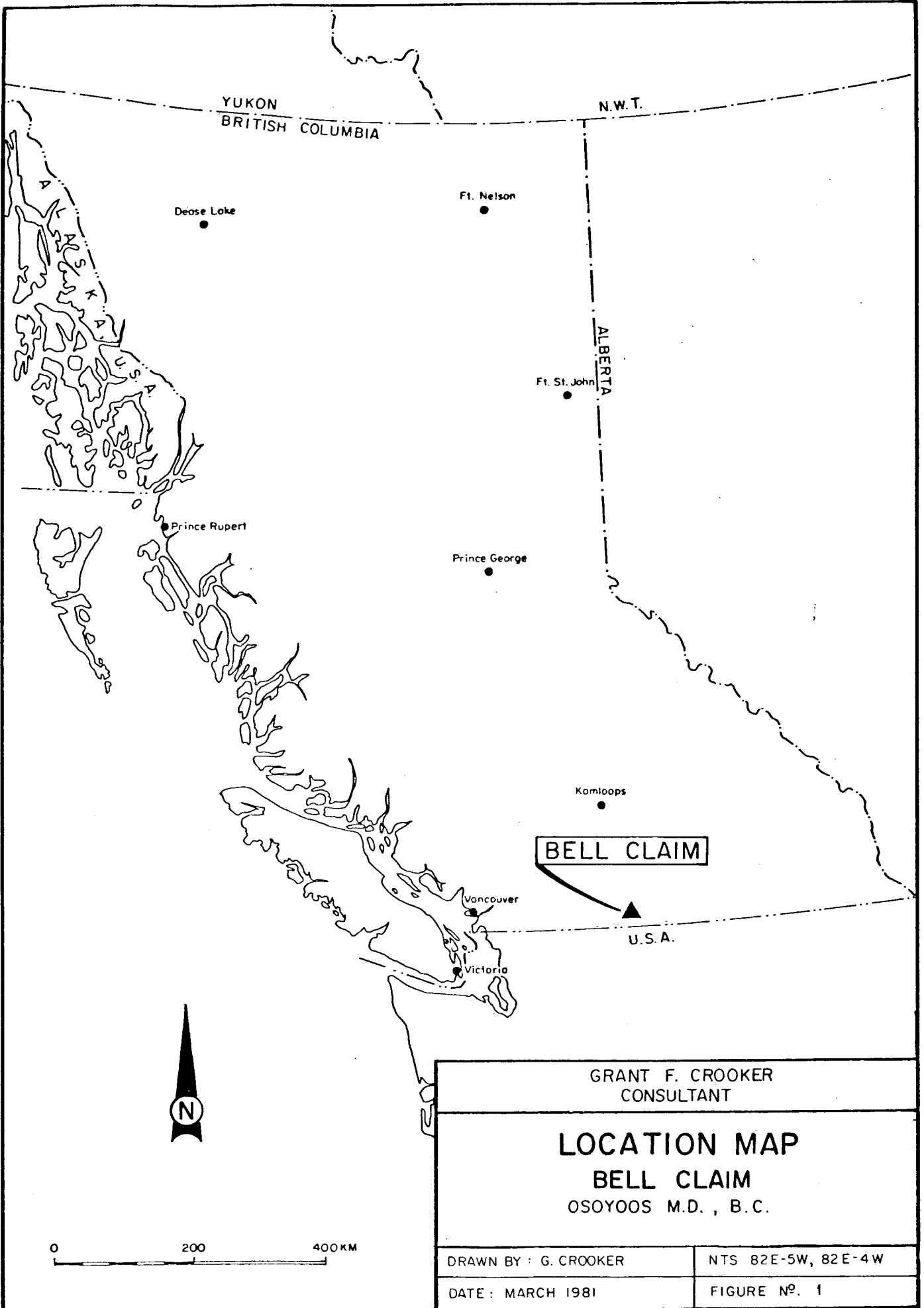
- |                                 |                |
|---------------------------------|----------------|
| 1. Claim Location               | (Frontispiece) |
| 2. Claim Geology, Scale 1:5,000 | (In Pocket)    |

SUMMARY

The Bell claim is located in the Osoyoos Mining Division and consists of 20 units. The property is located 5 kilometers north of Keremeos in the immediate vicinity of Olalla, B.C. Grant Crooker of Keremeos is the owner.

Mining exploration has been carried out in the Olalla area since the late 1880's. This report was written to obtain more detailed information on the area south of Olalla covered by the Bell claim.

Mineralization related to the contact of the Olalla stock and the Shoemaker Formation, as well as quartz veining was located.



## INTRODUCTION

### General

During the month of March 1981, the writer conducted a field exploration program on the Bell claim located at Olalla, B.C.

The program consisted of prospecting, geological mapping and sampling.

### Location and Access

The Bell claim (Figure 1) extends across and up the east and west sides of the Keremeos Creek Valley south of Olalla, B.C. (lat. 49°15'N, long. 119°49').

Access to the claims is via highway 3A which bisects the Bell claim. Several old logging and mining roads lead to various areas of the Bell claim.

### Property and Claim Status

The Bell claim is located within the Osoyoos Mining Division and consists of 20 units. The owner is Grant Crooker, Box 234, Keremeos, B.C. The claim lies between and around a number of Crown grants, reverted Crown grants and mineral claims (Figure 2).

<u>Claim</u>	<u>Record Number</u>	<u>Expiry Date</u>
Bell	1029	April 24, 1981

### Physiography

The property covers the bottom of the Keremeos Creek Valley, and extends up the steep hillsides on the east and west sides of the Valley. Elevation varies from 500 meters to 1000 meters above sea level.

Keremeos Creek flows in a southerly direction through the claim.

Vegetation varies from pine and fir trees, sage brush and bunch grass on the hillsides to meadows on the Valley.

### Area and Property History

Mining activity began in the Olalla area in the late 1880's for gold, silver and copper. The main properties that have been explored are the Bullion, Golconda and Shepard-Sunrise. Exploration has continued sporadically on the properties up until the present time.

The only specific references to the area covered by the Bell claim are found in the B.C. Department of Mines annual reports for 1899 and 1900. They report several open cuts and a 40 foot shaft in the vicinity of the Road side showing. Good copper ore assaying about \$7.00 per ton in gold was reported.

## EXPLORATION PROCEDURE

The Bell claim was located by a chain and compass survey. Geological mapping, prospecting and rock sampling was carried out during the field program.

The geological mapping was done at a scale of 1:5,000. Six samples were taken for assay, all were tested for gold and silver, and two were also tested for copper. The samples were assayed by Min-En Labs of North Vancouver, B.C.

## GEOLOGY AND MINERALIZATION

### Regional Geology

Olalla is mainly underlain by differentiated late Mesozoic, mafic-to-alkalic intrusive rocks of the Olalla stock. The Olalla stock has a magnetite deficient granitic core, and grades to a peripheral zone of pyroxene high in mafics and magnetite. A number of dykes of varying composition cut the stock. The stock occupies nearly 10 kilometers and intrudes sediments of the Triassic? Shoemaker Formation. A superficial mantle of unconsolidated Pleistocene and recent debris cover the area.



### Claim Geology

The Bell claim is mainly underlain by the magnetite-biotite bearing augite pyroxenite of the Olalla stock (Figure 2). Smaller areas are underlain by the magnetite deficient augite syenite.

In the southern part of the claim the Olalla stock intrudes sediments of the Shoemaker Formation. The Shoemaker Formation is composed of mainly chert.

Conglomerates and shales of the Springbrook Formation overlie all other rock types at the south east corner of the claim.

One out crop of diorite was found at the eastern edge of the claim.

Most of the center portion of the claim is covered by superficial alluvial and glacial deposits.

### Rock Types

1. Magnetite-biotite bearing augite pyroxenite - The pyroxenite is a dark green mainly coarse grained but occasionally fine grained rock. Augite is the predominate mafic, but large clots of biotite are often also found. The rock is often highly magnetic and will deflect a compass. The pyroxenite weathers readily to greenish soil.

2. Augite Syenite - The syenite grades from a medium grained mafic rich rock to a coarse grained pink feldspathic rock. Augite is the predominant mafic and jointing is common in the syenite.
3. Diorite - The diorite is gray and medium to coarse grained. Quartz, feldspar and hornblende make up the main constituents of the rock.
4. Shoemaker Formation - The Shoemaker Formation (Triassic?) is composed mainly of dark green to blue grey cherts. Quartzite, argillite, and metagraywacke are also found in the formation.
5. Springbrook Formation - the Springbrook is a Tertiary sedimentary formation. It grades from basal conglomerate containing large angular boulders to grey shales.
6. Recent - This is composed of glacial till and alluvial deposits from Keremeos Creek.

### Mineralization

A number of types of mineralization occur in the Olalla area. Several showings are related to faulting, veining and brecciation, possibly associated with consolidation features of the Olalla stock. Other showings are of the contact metamorphic type, and are related to the contact of the stock and the Shoemaker Formation.

The Roadside showing on the Bell claim is at the contact of the stock and the Shoemaker Formation. Several old pits and cuts have exposed pyrite, limonite and minor malachite along the contact. The zone appears to be continuous along the contact and is of unknown width.

Four samples were taken at the Roadside showing (Figure 2) and returned the following results:

Sample No.	Au oz	Ag oz	Cu %
1115	0.001	0.02	-
1116	0.001	0.01	-
1117	0.001	0.07	0.033
1118	0.001	0.03	-

Another contact zone appears to exist in the vicinity of sample no. 1113. A caved adit was located with dump rock showing pyrite, chalcopyrite and malachite. Sample no. 1113 returned 0.025 oz Au and 0.45 oz Ag per ton, and 2.14% Cu.

A quartz vein and quartz stringer zone were found at the Calumet showing (Figure 2). The vein is approximately 0.5 meters and the quartz stringer zone is 1.0 meters wide. The zone strikes N70°E and is vertical. Pyrite cubes up to 0.5 mm in size are found within the vein.

Sample no. 1114 taken across 1.0 meters returned 0.023 oz Au and 0.02 oz Ag per ton.

Several pieces of pyroxenite float were found with short asbestos fibers. However, the asbestos was not found in place.

Several showings were found on Crown grants within the Bell claim. Molybdenite, chalcopyrite, magnetite and pyrite were observed at these showings. However as the showings do not belong to the Bell claim they were only noted in passing.

### CONCLUSIONS AND RECOMMENDATIONS

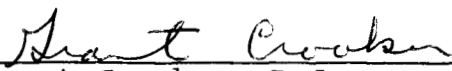
All mineralization found on the Bell claim is related to the contact of the Olalla stock and Shoemaker Formation, with the exception of the quartz vein at the Calument showing. The samples sent for assay returned low values in gold and silver. However, one sample returned 2.14% copper which is significant.

While none of the samples taken returned high values in gold or silver, the geologic setting of the Olalla stock and the associated copper-gold-silver mineralization is an attractive target for exploration. Additional work should be carried out.

Recommendations are:

1. Prospecting and mapping should be continued in more detail over the Bell claim to gather additional information.
2. Additional detailed sampling and prospecting should be carried out near the known showings. An attempt should be made to locate the area of the Roadside showing reported to give \$7.00 per ton in gold in 1899.

Respectfully submitted,

  
Grant Crooker, B.Sc.  
Geologist

References

B.C. Department of Mines - Annual Reports  
1899, 1900.

Bostock, H.S. - Geological Survey of Canada,  
Map 628A, Olalla. (1927)

Bostock, H.S. - Geological Survey of Canada,  
Map 341A, Keremeos. (1930)

Newman, W.R. - Geological Report on area of Main  
Working on Opulence and Adjoining Claims,  
Lucky Strike Mines Ltd., Keremeos, B.C.  
(Dec. 10, 1968)

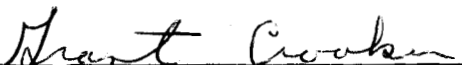
Sturdevant, J.A. - Petrography of the Olalla Stock,  
Okanagan Mountains, British Columbia, unpublished  
M.Sc. Thesis, University of New Mexico. (1963)

Certificate of Qualifications

I, Grant F. Crooker, B.Sc., Geology, of Box 234  
Keremeos, British Columbia, state as follows:

- 1) That I graduated from the University of British Columbia in 1972 with a Bachelor of Science degree in geology.
- 2) That I have prospected and actively pursued geology prior to my graduation and have practiced my profession since 1972.
- 3) That I am a member of the Canadian Institute of Mining and Metallurgy.
- 4) That I am presently a consulting geologist residing at Keremeos, B.C.
- 5) That I am the sole owner of the Bell claim.

DATED at Vancouver, British Columbia this  
27th day of March, 1981.



Grant Crooker, B.Sc.  
Geologist

# MIN-EN Laboratories Ltd.

705 WEST 15th STREET,  
NORTH VANCOUVER, B.C., CANADA V7M 1T2  
TELEPHONE (604) 980-5814

## ANALYTICAL REPORT

Project ..... Olalla ..... Date of report ..... Mar. 13/81 .....

File No. .... 1-88 ..... Date samples received ..... Mar. 11/81 .....

Samples submitted by: .....

Company: ..... E & B Explorations .....

Report on: ..... Geochem samples .....

..... 6 ..... Assay samples .....

Copies sent to:

1. L.W. Saleken, Vancouver, B.C. .....

2. ....

3. ....

Samples: Sieved to mesh ..... Ground to mesh ..... -100 .....

Prepared samples stored  discarded

rejects stored  discarded

Methods of analysis: ..... Cu, Ag-Acid digestion-chemical analysis. Au-Fire  
and A.A. Finish. .....

Remarks: .....

SPECIALISTS IN MINERAL ENVIRONMENTS



MIN-EN LABORATORIES LTD.

705 WEST 15TH STREET, NORTH VANCOUVER, B.C. V7M 1T2

PHONE: (604) 980-5814 OR (604) 988-4524

Certificate of Assay

TO: E & B Explorations,  
1440-800 W. Pender St.,  
Vancouver, B.C.

PROJECT No. Olalla

DATE: Mar. 13/81

File No. 1-88

SAMPLE No.	Cu %	Ag oz/ton	Au oz/ton			
1113	2.140	.45	.025			
4		.02	.023			
5		.02	.001			
6		.01	.001			
7	.033	.07	.001			
1118		.03	.001			

MINE-EN Laboratories Ltd.  
 CERTIFIED BY: *[Signature]*

Cost StatementSalary

Grant Crooker, Geologist	
Feb.25, March 1-8, 12-15, 24	
14 days @ \$200.00	\$2,800.00

Fred Crooker, Field Assistant	
March 1-8	
8 days @ \$75.00	600.00

Transportation

1 trip to Vancouver March 24	
Air fare	110.00
Airporter	7.50
Truck Rental (Ford 4 x 4) March 1-8	
8 days @ \$36.00	288.00
Gasoline	34.50

Food and Accomodations

Grant Crooker, Feb.25, March 1-8, 12-15, 24	
14 days @ \$40.00	560.00

Fred Crooker, March 1-8	
8 days @ \$40.00	320.00

Preparation of Report

Draftsman	\$ 200.00
Typing	51.00
Mylar (Base Map)	25.00
Printing and Copying	48.05
Topographic Maps	5.20

Analysis

6 assays gold & silver @ \$8.00	48.00
2 assays copper @ \$5.00	10.00
Postage	<u>4.05</u>
Total	<u>\$5,111.30</u>



SCALE 1:5000  
0 100 200 300 metres

**LEGEND**

- QUATERNARY
  - 1 RECENT ALLUVIUM AND GLACIAL TILL
  - TERTIARY
  - 5 SPRING BROOK FORMATION: mainly conglomerate, shale, sandstone
  - JURASSIC ?
  - 4 DIORITE
  - 3 OLALLA SYENITE: augite syenite
  - 2 OLALLA PYROXENITE: magnetite-biotite bearing augite pyroxene
  - TRASSIC ?
  - SHOEMAKER FORMATION: mainly chert, argillite, some melagreywacke
- ROAD
  - BELL CLAIM BOUNDARY
  - LCP LEGAL CORNER POST
  - STREAM
  - ADIT
  - PROSPECT PIT
  - GEOLOGICAL BOUNDARY (OBSERVED, ASSUMED)
  - JOINTING
  - OUTCROP
  - QUARTZ VEIN
  - cpy CHALCOPYRITE
  - mag MAGNETITE
  - mal MALACHITE
  - mo MOLYBDENITE
  - py PYRITE
  - lim LIMESTONE
  - cg CONGLOMERATE
- 117 0211.5 Au oz/ton, Ag oz/ton, Cu %  
L2 ASSAY SAMPLE NO. WIDTH IN METRES

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8965**  
NO.

CONTOUR INTERVAL 100 FEET

GRANT F. CROOKER  
CONSULTANT

**GEOLOGY**  
**BELL CLAIM**  
OSOYOOS MD, B.C.

DRAWN BY: G. CROOKER N.T.S. 82E-5W, 82E-4W  
DATE: MARCH 1981 FIGURE NO. 2