86-292-14767
C4115

GEOLOGICAL REPORT

ON

LOT 1604 (REVERTED C.G.)

AND THE

BELL CLAIM

OLALLA AREA

OSOYOOS MINING DIVISION, B.C.

82E/5W, 82E/4W

(49°15', 119°49')

BY

GRANT F. CROOKER B.Sc., F.G.A.C.
GEOLOGIST
(OWNER AND OPERATOR)

APRIL, 1986

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ILLUSTRATIONS

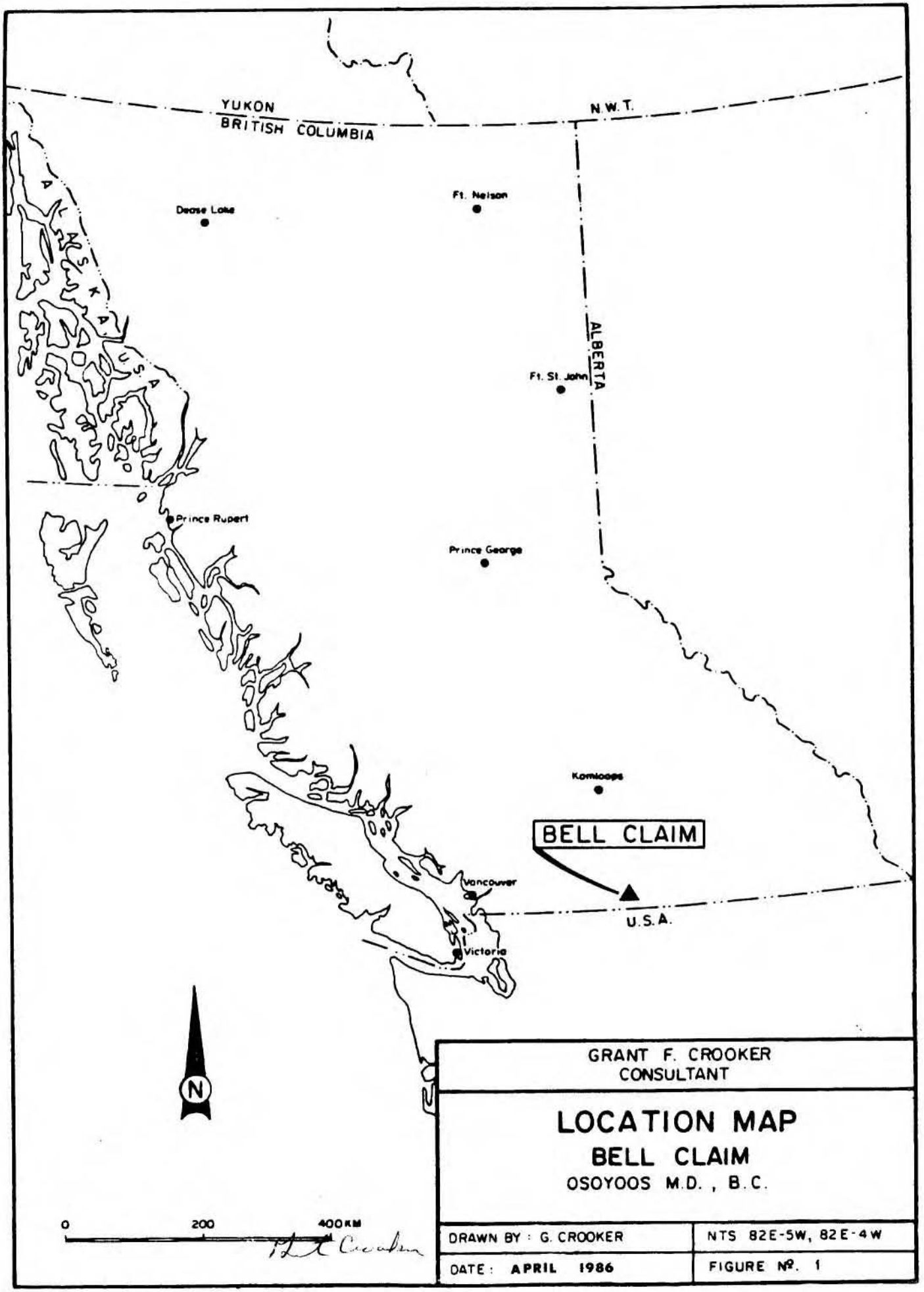
SUMMARY AND RECOMMENDATIONS

Lot 1604 (Rev. C.G.) and the Bell Claim are located in the Osoyoos Mining Division. The property is located 5 kilometers north of Keremeos in the vicinity of Olalla, B.C. Grant Crooker of Keremeos, B.C. is the owner of the claim.

Mining exploration has been carried out in the Olalla area since the late 1880's. Copper, molybdenum, gold and silver have been the main minerals searched for.

Mineralization on the Bell Claim is related to the contact of the Olalla stock and sediments of the Shoemaker Formation. Copper, gold, and silver are the main minerals being sought.

Significant gold and silver assays were obtained from the showings. Additional prospecting, sampling, geological mapping, geochemical and geophysical surveying are recommended for the property.



GRANT F. CROOKER
CONSULTANT

LOCATION MAP

BELL CLAIM

OSOYOOS M.D., B.C.

DRAWN BY : G. CROOKER	NTS 82E-5W, 82E-4W
DATE : APRIL 1986	FIGURE Nº. 1

INTRODUCTION

General

Field work was carried out on the property on March 19, 20, 21 and April 7, 8, 12, 1986.

Lot 1604 (Rev. C.G.) and adjoining areas on the Bell claim were geologically mapped, and three adits were surveyed, mapped and sampled.

Location and Access

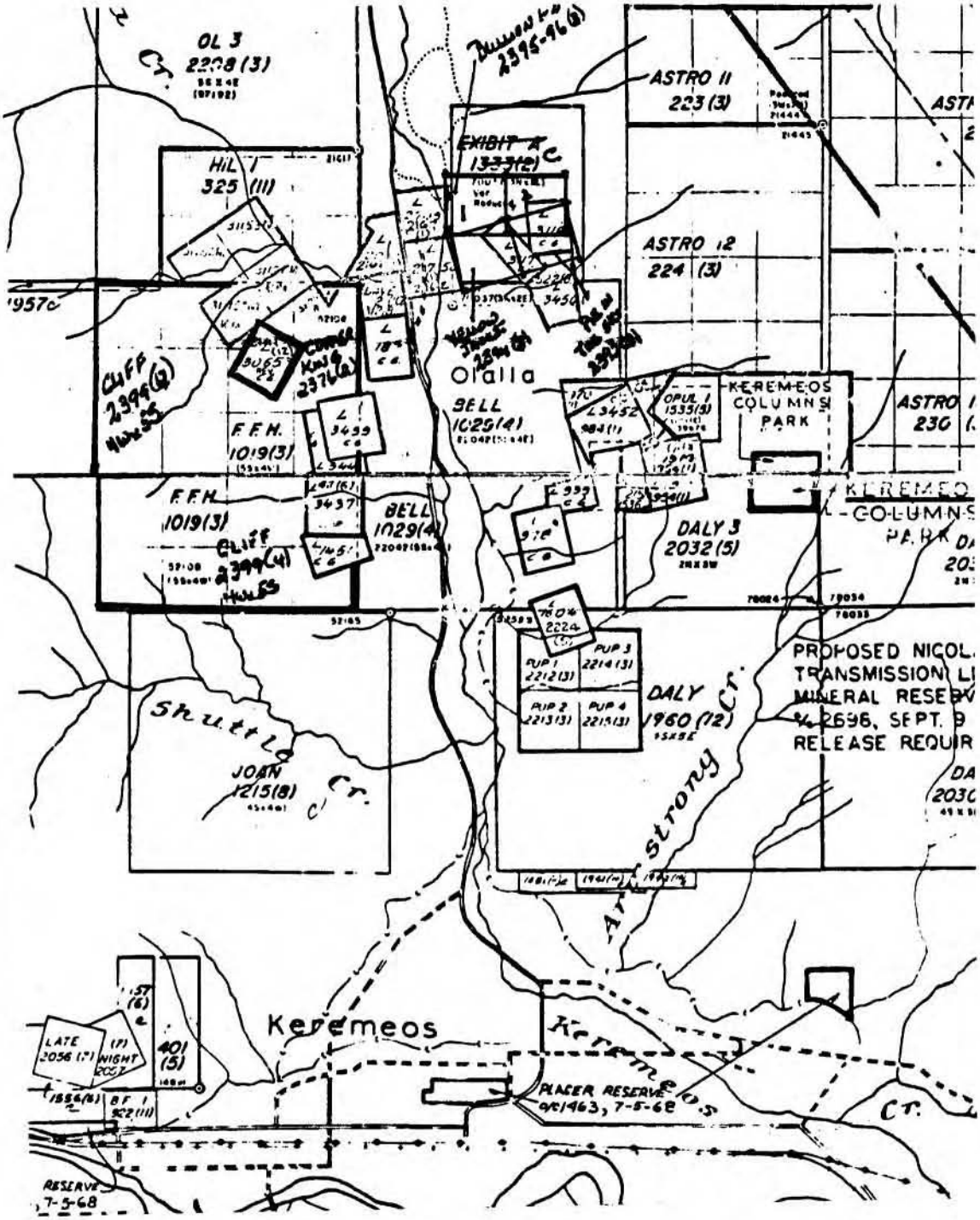
The Bell claim and Lot 1604 (figure 1) are located at Olalla, B.C. and extend across and up the east and west sides of the Keremeos Creek Valley. (latitude 49°15'N, longitude 119°49'W).

Highway 3A passes through the claim and a number of logging and mining roads give good access to various areas of the property.

Property and Claim Status

The Bell claim and Lot 1604 (Rev. C.G.) are located within the Osoyoos Mining Division. (figure 2). The owner is Grant Crooker, Box 234, Keremeos, B.C. The claims lie between and around a number of Crown Grants, reverted Crown Grants and mineral claims.

Claim	Units	Record Number	Record Date
Bell	20	1029	April 24, 1980
Juniper	1	2224	May 13, 1985
Lot 1604 (Rev. C.G.)	Upon acceptance of this report the Bell claim will be in good standing until April 24, 1987, and Lot 1604 until May 13, 1989.		



0 1 2 3 kms.

scale

GRANT F. CROOKER

CLAIM MAP

Lot 1604 & Bell Claim

DRAWN BY: G. CROOKER	N.T.S. : 82 E – 4W, 5W
DATE: APRIL 1986	FIGURE Nº. 2

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 1,000 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 meadow in the valley.

Area and Property History

Mining activity began in the Olalla area in the late 1880's exploring for gold, silver and copper. The main properties that have been explored are the Bullion, Golconda, and Shepard Sunrise. Exploration has continued sporatically 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 Roadside showing. Good copper ore assaying about $7.00 per ton in gold was reported.

During 1985, geochemical and geophysical surveys were carried out on the Bell claim and Lot 1604. These surveys indicated a number of coincidental VLF electromagnetic conductors and magnetic highs. Further information on these surveys can be found in the report entitled Geological-Geophysical-Geochemical Surveys Bell Mineral Claim Group, February 15, 1986, by W.J. Weymark, P.Eng. The geophysical anomalies can be tested properly only by diamond drilling.

EXPLORATION PROCEDURE

The 1986 field program conducted on the property consisted of prospecting and geological mapping on Lot 1604 and adjoining areas of the Bell claim. Several surveyed traverses were ran on steeper areas of the property, while 4 lines were established on the less rugged areas. The lines were 100 meters apart, and consisted of a total of 1250 line meters. The data was plotted at a scale of 1:2500 on figure 3.

A number of adits and trenches were discovered during prospecting. Adits A, B and C (figure 3) were surveyed, mapped and sampled (figures 4, 5 and 6) and the data plotted at a scale of 1:100.

A total of 16 rock samples were taken and fire assayed for gold and silver.

All samples were sent to Chemex Labs. Ltd., 212 Brooksbank Avenue, North Vancouver, B.C. for analysis.

Laboratory technique for fire assaying consists of a standard precious metal prep. This consists of drying, crushing the entire sample in two stages using jaw and cone crushers, and subsample and pulverize using a rotary grinder. Samples are screened to -140 mesh and examined for metallics. If metallics are present they are analyzed separately, otherwise the +140 mesh fraction is hand pulverized and homogenized with the original sample. Gold and silver content are then determined by fire assay with a gravimetric finish. The detection limit for gold is 0.003 oz/ton, and for silver 0.01 oz/ton.

GEOLOGY AND MINERALIZATION

Regional Geology

Olalla is mainly underlain by differentiated, late Mesozoic, mafic-to-alkalic instrusive 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 dikes of varying compositions cut the stock. The stock occupies nearly 10 kilometers and intrudes sediments of the Shoemaker Formation. A superficial mantle of unconsolidated Pleistoncene and recent debris cover the valley bottom.

The Olalla stock is spatially related to a number of precious metal prospects. These include gold values related to quartz veins, a silicious, pyrtic breccia zone, shear zones and contact metosomatic zones.

Claim Geology

The geology of Lot 1604 and adjoining areas of the Bell claim is shown on figure 3. Most of the claim is underlain by quartzites and argillites (Unit 1a) of the Shoemaker Formation. One lens of a bluish, crystalline limestone (Unit 1b) was also mapped.

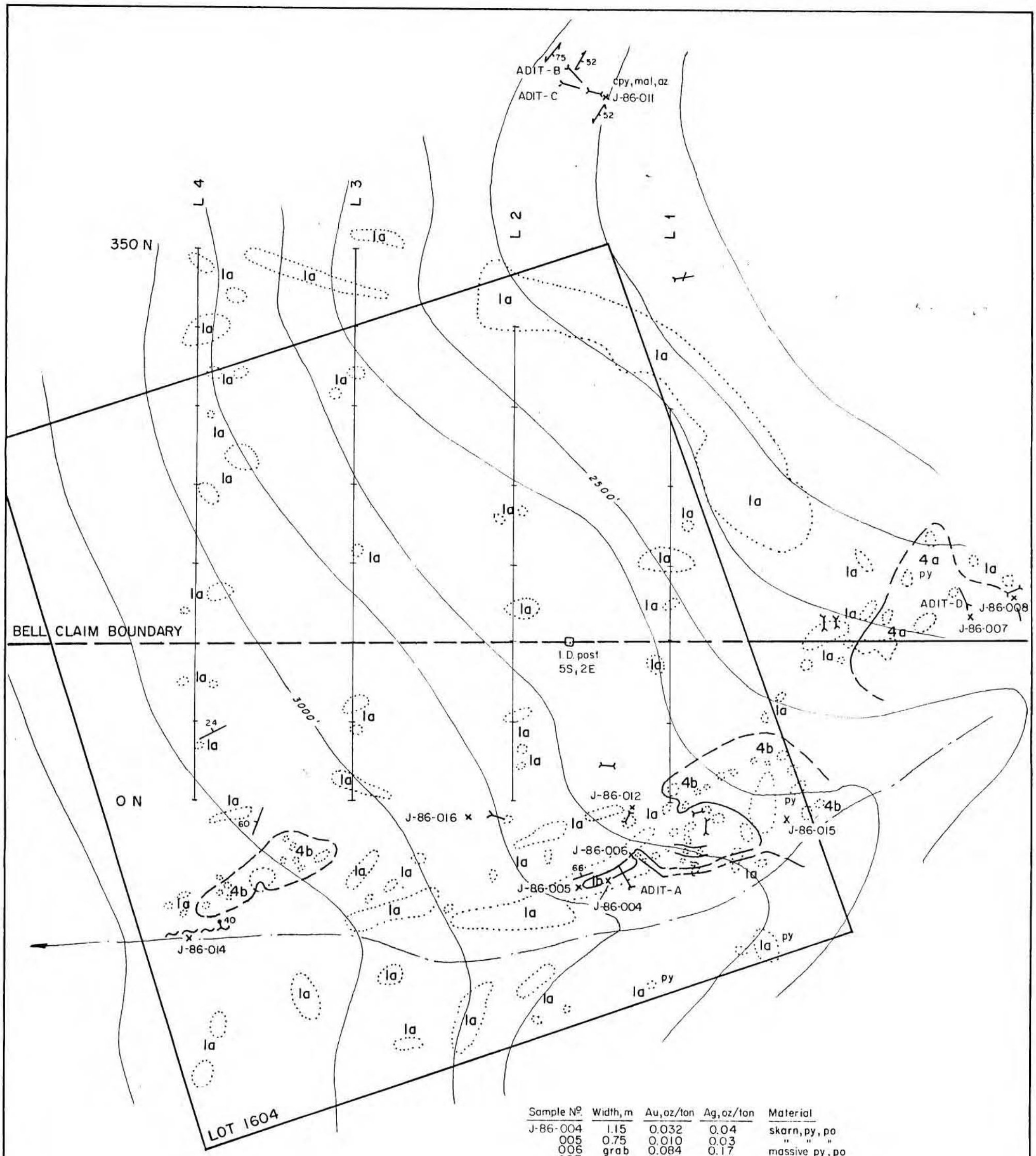
The Shoemaker Formation has been intruded by two types of dikes and plugs. Unit 4a is a hornblende syenite which occurs as a small plug. Unit 4b is a quartz eye porphyry which occurs as dikes and small plugs.

Unit 1a is a fine grained white, grey, black and purple quartzite, with some black argillite. The unit strikes northeasterly, with moderate dips to the northwest.

Unit 1b is a lens of bluish crystalline limestone 40 to 50 meters long and 3+ meters wide. The unit strikes northeast and dips steeply to the northwest.

Unit 4a is a fine grained, grey, sugary textured syenite?, with small hornblende crystals. This small body occupies an area 125 meters long by 70 meters wide.

Unit 4a is a light green, aphanitic rock with fine grained quartz eyes. This unit occurs as dikes (5 meters + wide) and a small body 80 meters long by 50 meters wide.



Sample Nº.	Width, m	Au, oz/ton	Ag, oz/ton	Material
J-86-004	1.15	0.032	0.04	skarn, py, po
005	0.75	0.010	0.03	" " "
006	grab	0.084	0.17	massive py, po
007	"	0.002	0.03	skarn, py
008	"	<0.002	0.01	intrusive py, po
011	"	0.324	17.20	qtz. vein, cpy, mal, az, te
012	"	0.002	0.05	rusty, massive py
013	"	0.002	0.28	skarn, py
014	0.40	0.002	0.05	rusty, shear
015	grab	<0.002	0.02	py, quartz eye porphyry
J-86-016	"	0.008	0.07	massive py

LEGEND

- Stream
- Outcrop
- Adit
- Trench
- 40 Bedding
- 60 Strike & dip of quartz vein
- Geological boundary (observed, assumed)
- ~c54~ Shear zone, dip
- py Pyrite
- po Pyrrhotite
- cpy Chalcopyrite
- mal Malachite
- az Azurite
- te Tetrahedrite
- X J-86-004 Rock sample location & no.
- 40 Beddings (inclined)
- 4a Hornblende syenite ?
- 4b Quartz eye porphyry
- 1a Quartzite, argillite, chert } Shoemaker Fm.
- 1b Limestone } Shoemaker Fm.

GRANT F. CROOKER

LOT 1604 AND BELL CLAIM

CLAIM GEOLOGY

OSOYOOS M.D., B.C.

SCALE 1:2500

0 50 100 150 METRES

DRAWN BY : G. CROOKER	N.T.S. 82E-4W, 5W
DATE : APRIL 1986	FIGURE Nº. 3

CHONG

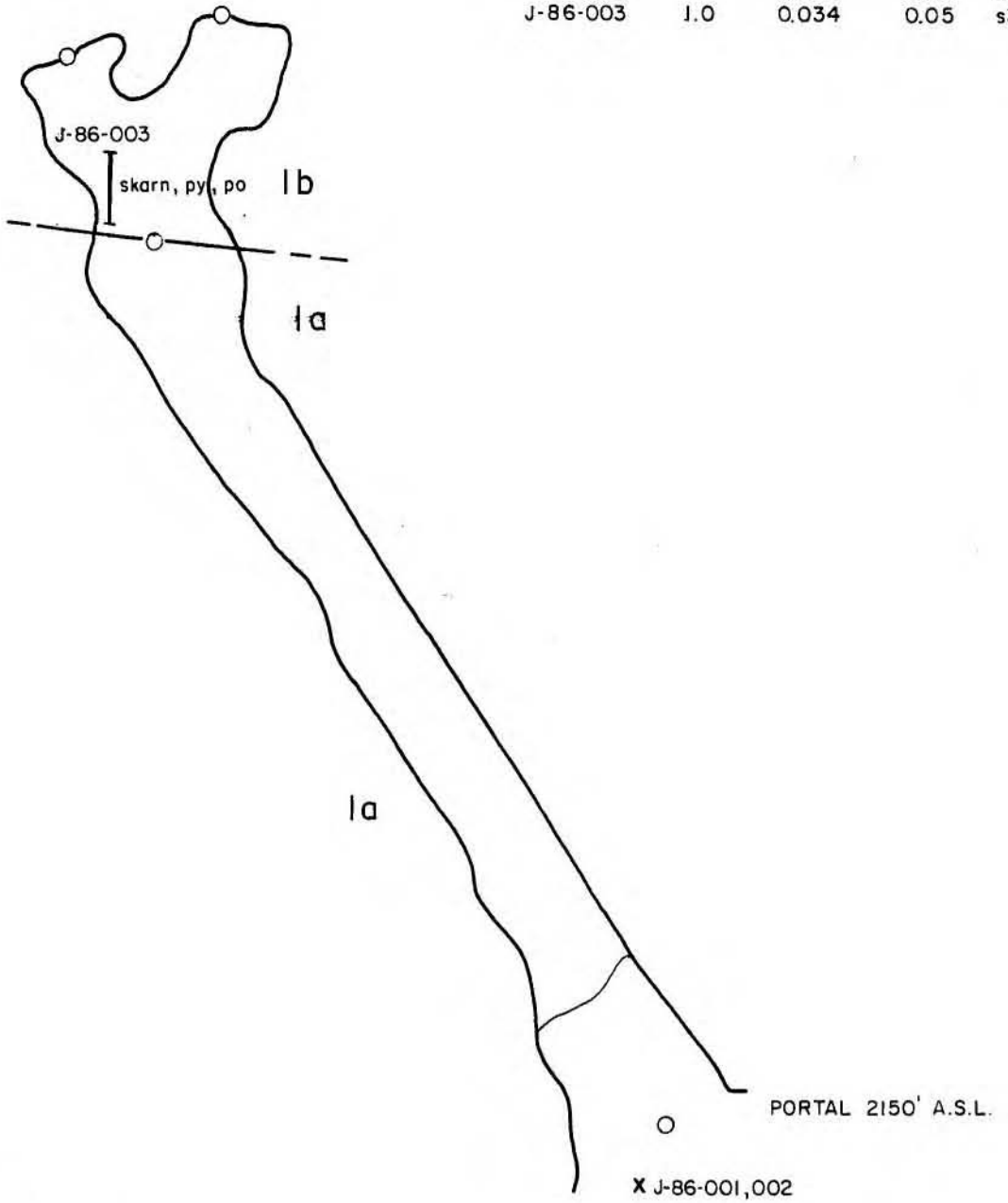
Mineralization

A number of types of mineralization occur on the property. These include mineralization related to skarns, shearing and quartz veining. Exploration at this time is being directed towards precious metals.

Sixteen rock samples were taken on the property with the following results:

Sample No.	Width (m)	Au oz/ton	Ag oz/ton	Material
J-86-001	grab	0.176	0.07	skarn, py, po, dump
" " 002	grab	0.002	0.06	limestone, py, dump
" " 003	1.0	0.034	0.05	skarn, py, po
" " 004	0.75	0.032	0.04	" " "
" " 005	grab	0.010	0.03	" " "
" " 006	grab	0.084	0.17	massive po, py
" " 007	grab	0.002	0.03	skarn, py
" " 008	grab	<0.002	0.01	intrusive py
" " 009	grab	0.198	17.20	vein, cpy, mal, az, te?
" " 010	0.50	0.010	0.58	shearzone
" " 011	grab	0.324	17.20	vein, cpy, mal, az, te?
" " 012	grab	0.002	0.05	rusty, massive py
" " 013	grab	0.002	0.28	skarn, py
" " 014	0.40	0.002	0.05	rusty shear
" " 015	grab	<0.002	0.02	quartz eye porphyry, py
" " 016	grab	0.008	0.07	massive py

Sample Nº.	Width, m.	Au, oz/ton	Ag, oz/ton	Material
J-86-001	grab	0.176	0.07	skarn, py, po dump
002	"	0.002	0.06	limestone, py dump
J-86-003	1.0	0.034	0.05	skarn, py, po



LEGEND

- 40 — Strike & dip of quartz vein
- O — Survey point
- ~ 40 ~ — Shear zone, dip
- — — Quartz vein
- X — Grab sample
- — Chip "
- cpy — Chalcopyrite
- mal — Malachite
- az — Azurite
- py — Pyrite
- po — Pyrrhotite
- — — — Geological boundary (observed, assumed)
- 1a — Quartzite, argillite, chert
- 1b — Limestone

N

GRANT F. CROOKER

LOT 1604 AND BELL CLAIM

GEOLOGY – ADIT A

OSOYOOS M.D., B.C.

SCALE 1:100

0 1 2 3 4 5 METRES

DRAWN BY : G. CROOKER	N.T.S. 82E – 4W, 5W
DATE : APRIL 1986	FIGURE Nº. 4

CHONG

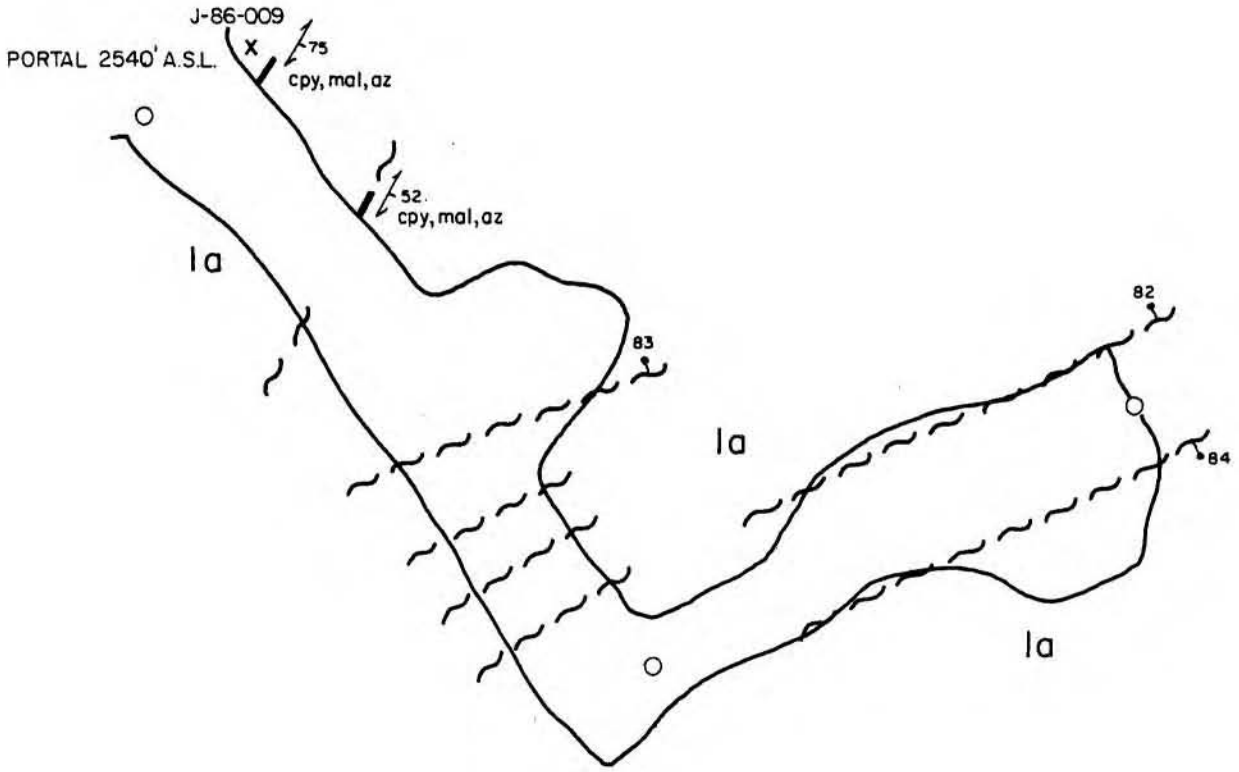
Skarn mineralization occurs at a number of locations on the property. The most significant mineralization occurs at Adit A (figures 3 and 4). Here, a northeast striking, steeply northwest dipping limestone lens 50 meters long and 3 to 5 meters wide has been partially skarnified. Massive pyrrhotite and pyrite occur sporadically throughout the lens. Samples of the skarn assayed from 0.002 to 0.176 ounces per ton gold and from 0.03 to 0.17 ounces per ton silver.

A number of showings of massive pyrite (figure 3) occur peripheral to several small intrusive bodies and dikes. The showings are very irregular and samples assayed from less than 0.002 to 0.008 ounces per ton gold and 0.01 to 0.07 ounces per ton silver.

In the area of Adits B and C (figures 3, 5 and 6) a zone of shearing occurs. Several narrow but well mineralized quartz veins also occur at the adits.

The shears strike approximately 060° and dip steeply north and south at Adit B. Two quartz veins exposed at the adit strike 015°, and dip 52° and 75° respectively to the southeast. The veins are 3 to 5 centimeters wide and contain chalcopyrite, malachite, azurite and possibly tetrahedrite. An assay of 0.198 ounces per ton gold and 17.20 ounces per ton silver was obtained from the vein.

Sample Nº.	Width, m.	Au, oz/ton	Ag, oz/ton	Material
J-86-009	grab	0.198	17.20	qtz. vein, cpy, mal, az



LEGEND

- 40 — Strike & dip of quartz vein
- Survey point
- 40 — Shear zone, dip
- Quartz vein
- X — Grab sample
- Chip "
- cpy — Chalcopyrite
- mal — Malachite
- az — Azurite
- py — Pyrite
- po — Pyrrhotite
- Geological boundary (observed, assumed)
- 1a — Quartzite, argillite, chert
- 1b — Limestone

N

GRANT F. CROOKER

LOT 1604 AND BELL CLAIM

GEOLOGY – ADIT B

OSOYOOS M.D., B.C.

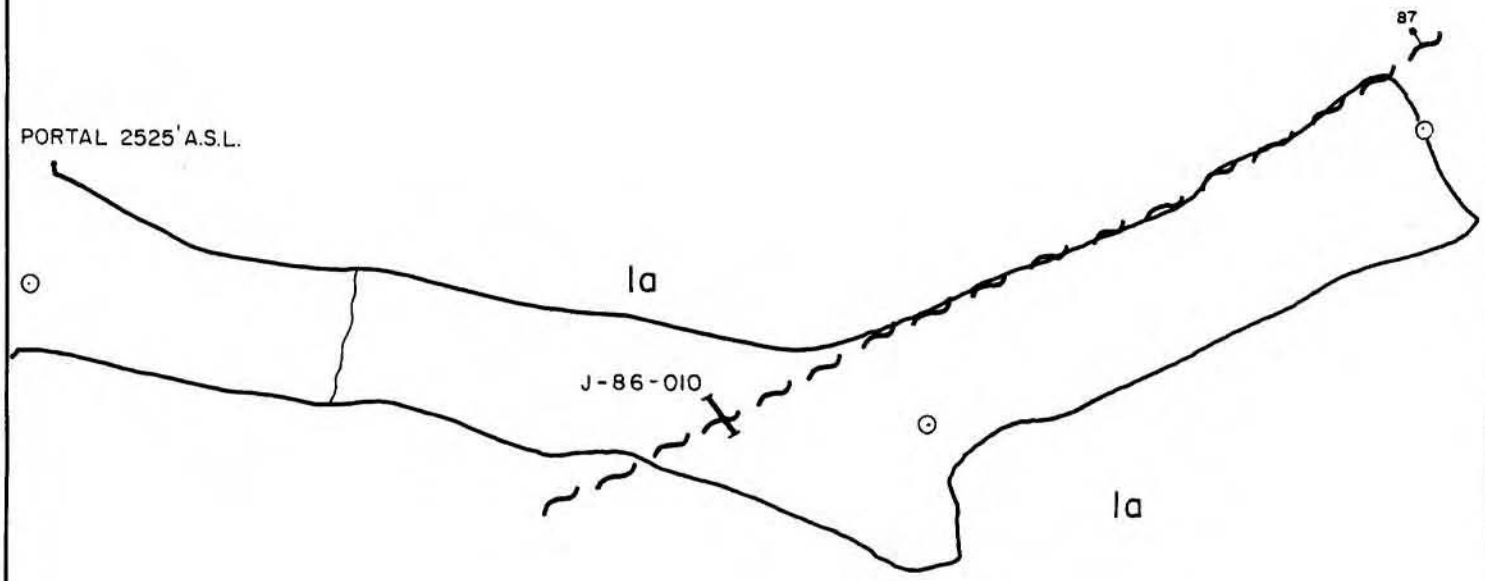
SCALE 1:100

0 1 2 3 4 5 METRES

DRAWN BY · G. CROOKER	N.T.S. 82E – 4W, 5W
DATE: APRIL 1986	FIGURE Nº. 5

CHONG

Sample Nº.	Width, m.	Au, oz/ton	Ag, oz/ton	Material
J-86-010	0.5	0.010	0.58	shear zone



LEGEND

- 40 — Strike & dip of quartz vein
- Survey point
- 40 — Shear zone, dip
- Quartz vein
- X — Grab sample
- Chip "
- cpy — Chalcopyrite
- mal — Malachite
- az — Azurite
- py — Pyrite
- po — Pyrrhotite
- Geological boundary (observed, assumed)
- 1a — Quartzite, argillite, chert
- 1b — Limestone

N

GRANT F. CROOKER

LOT 1604 AND BELL CLAIM

GEOLOGY – ADIT C

OSOYOOS M.D., B.C.

SCALE 1:100

0 1 2 3 4 5 METRES

DRAWN BY · G. CROOKER	N.T.S. 82E - 4W, 5W
DATE: APRIL 1986	FIGURE Nº. 6

CHONG

Adit C has been driven into the same shear system as Adit B, but is 5 meters lower in elevation. The shearing at Adit C also strikes 060° and dips steeply north. An assay of the shear material returned 0.010 ounces per ton gold and 0.58 ounces per ton silver.

Another narrow quartz vein occurs 10 meters east of Adits B and C. The vein is 3 to 6 centimeters wide, strikes 025° and dips 52° southeast. Chalcopyrite, malachite, azurite and possibly tetrahedrite occur in the vein, and an assay of 0.324 ounces per ton gold and 17.20 ounces per ton silver was returned from the vein.

CONCLUSIONS AND RECOMMENDATIONS

Several significant assay results were obtained from the property. The most significant mineralization is related 1) to skarn development and 2) shearing and quartz veining.

The skarn occurs at Adit A and is related to a limestone lens 50 meters long and 3 to 5 meters wide. Assays of up to 0.176 ounces per ton gold were obtained from the zone.

Shearing and quartz veining occur at Adits B and C. Assays of 0.198 and 0.324 ounces per ton gold, and 17.20 ounces per ton silver were returned from the quartz veins. While the veins are narrow, the shearing is more extensive, and the assay values are significant.

Additional work is warranted on this section of the property. Recommendations are:

1) carry out additional prospecting, sampling and geological mapping on the property.

2) Closely spaced geochemical, magnetometer and VLF-EM surveys be carried out over the area of the showings.

Respectfully submitted,

Grant F. Crooker, B.Sc., F.G.A.C.
Geologist

REFERENCES

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

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

WEYMARK, W.J. - Geological-Geophysical-Geochemical Surveys Bell Mineral Claim Group, Feb. 15, 1985.

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 a Fellow of the Geological Association of Canada.

5. That I am presently a consulting geologist residing at Keremeos, B.C.

6. That I am the owner of the Bell claim and L1604 (Reverted Crown Grant).

DATED at Keremeos, British Columbia this 23 day of May, 1986.

Grant F.Crooker, B.Sc., F.G.A.C.
Geologist

Chemex Labs Ltd.

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212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1
Phone: (604) 984-0221
Telex: 043-52597

CERTIFICATE OF ASSAY

TO : LONE JACK RESOURCES LTD.
ATTN: RUDY RIEPE
501 - 700 W. PENDER ST.
VANCOUVER, B.C.
V6C 1G8

CERT. # : A8611693-001-A
INVOICE # : I8611693
DATE : 15-APR-86
P.O. # : NONE

ATTN: RUDY RIEPE

Sample description	Prep code	Ag FA oz/T	Au FA oz/T				
J-86-001	207	0.07	0.176	--	--	--	--
J-86-002	207	0.06	0.002	--	--	--	--
J-86-003	207	0.05	0.034	--	--	--	--
J-86-004	207	0.04	0.032	--	--	--	--
J-86-005	207	0.03	0.010	--	--	--	--
J-86-006	207	0.17	0.084	--	--	--	--
J-86-007	207	0.03	0.002	--	--	--	--
J-86-008	207	0.01	<0.002	--	--	--	--
J-86-009	207	17.20	0.198	--	--	--	--
J-86-010	207	0.58	0.010	--	--	--	--
J-86-011	207	17.20	0.324	--	--	--	--
~~T-01~~	~~207~~	~~--~~	~~0.034~~	--	--	--	--
~~T-02~~	~~207~~	~~--~~	~~0.104~~	--	--	--	--
~~W-01~~	~~207~~	~~--~~	~~0.002~~	--	--	--	--
~~W-02~~	~~207~~	~~--~~	~~0.002~~	--	--	--	--
~~W-03~~	~~207~~	~~--~~	~~<0.002~~	--	--	--	--
~~OS-03~~	~~207~~	~~--~~	~~<0.002~~	--	--	--	--
~~OS-04~~	~~207~~	~~--~~	~~<0.002~~	--	--	--	--
~~OS-05~~	~~207~~	~~--~~	~~<0.002~~	--	--	--	--
~~OS-06~~	~~207~~	~~--~~	~~<0.002~~	--	--	--	--
~~OS-07~~	~~207~~	~~--~~	~~<0.002~~	--	--	--	--

B Stewart

VOI rev. 4/85

Registered Assayer, Province of British Columbia

Chemex Labs Ltd.

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North Vancouver, B.C.
Canada V7J 2C1
Phone: (604) 984-0221
Telex: 043-52597

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VANCOUVER, B.C.
V6C 1G8

CERT. # : A8611781-001-A
INVOICE # : I8611781
DATE : 21-APR-86
P.O. # : NONE

ATTN: RUDY RIEPE

Sample description	Prep code	Ag FA oz/T	Au FA oz/T				
~~DDH86-5 109-14.5~~	~~207~~	~~0.33~~	~~0.002~~	--	--	--	--
~~DDH-86-5 117-123~~	~~207~~	~~0.22~~	~~0.002~~	--	--	--	--
~~86-5 25-208.5~~	~~207~~	~~4.20~~	~~0.038~~	--	--	--	--
~~86-5 292.5-299~~	~~207~~	~~0.07~~	~~0.002~~	--	--	--	--
~~86-5 299-301.5~~	~~207~~	~~0.03~~	~~<0.002~~	--	--	--	--
~~DDH-86-5 460-462~~	~~207~~	~~0.07~~	~~<0.002~~	--	--	--	--
~~86-5 552.5-556~~	~~207~~	~~0.15~~	~~<0.002~~	--	--	--	--
J-86-012	207	0.05	0.002	--	--	--	--
J-86-013	207	0.28	0.002	--	--	--	--
J-86-014	207	0.05	0.002	--	--	--	--
J-86-015	207	0.02	<0.002	--	--	--	--
J-86-016	207	0.07	0.008	--	--	--	--

VOI rev. 4/85

W. Stevenson

Registered Assayer, Province of British Columbia

DETAILED COST STATEMENT

	$
Salary	
1 Geologist, G.Crooker March 19, 20, 21, April 2, 3, 5, 7, 8, 12, 1986 9 days @ $350.00/day	3,150.00
Meals and Accommodations	
G. Crooker, March 19, 20, 21, April 2, 3, 5, 1986 6 days @ $60.00/day	360.00
Transportation	
Truck Rental (Ford 4 x 4) March 19, 20, 21, April 2, 3, 5, 1986 6 days @ $60.00/day	360.00
Gasoline	43.75
Freight	20.25
Supplies	25.00
Analysis	
16 rock samples @ $14.50 Fire assay Au, Ag	232.00
Preparation of Report	
Secretarial, draughting, reproduction, telephone, office overhead etc.	800.00
TOTAL	$ 4,991.00