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92H/1E

92H/SE-56,57

"PRINCE" & "FORKS"

## PROPERTY FILE

REPORT ON THE ASHNOLA RIVER CLAIMS  
49°10'N., 120°00'W., N.T.S. 92 H 82E  
FOR  
COP-EX MINING CORPORATION LIMITED  
by  
G.E.A. von Rosen, P. Eng.

L. J. Manning & Associates Ltd.,  
310 - 890 West Pender Street,  
Vancouver 1, B.C.

July 27, 1971.

**L. J. MANNING & ASSOCIATES LTD.**  
CONSULTING MINING AND GEOLOGICAL ENGINEERS

610-890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:  
683-5861

RESIDENTIAL PHONE:  
L. J. MANNING - 988-5660

August 5, 1971.

Superintendent of Brokers,  
B. C. Securities Commission,  
Parliament Buildings,  
Victoria, B.C.

Dear Sir:

I, G. E. A. von Rosen, P. Eng., hereby consent to the use  
by Cop-Ex Mining Corporation Limited of the following reports  
by myself for the purpose of compiling a prospectus.

1. Report on the Ashnola River Claims  
dated July 27, 1971.
2. Report on the Jura Copper Property  
7 miles north of Princeton, B.C.  
dated September 2, 1971.

Respectfully submitted,

L. J. MANNING & ASSOCIATES LTD.

G. E. A. von Rosen, P. Eng.

GEAvR:MJB

CERTIFICATE

I, G. E. A. von Rosen, of 2149 Vanness Avenue, in the City of Vancouver, Province of British Columbia, do hereby certify:

1. That I am a geological engineer.
2. That I graduated from the University of British Columbia with a B.Sc. Geology degree in 1962 and M.Sc. in 1966.
3. That I am a registered professional engineer in British Columbia.
4. That I have been employed in geological exploration in British Columbia, Washington, and the Northwest Territories.
5. That I have been employed in geophysical exploration in British Columbia, Alberta, and the Northwest Territories.
6. That the report on the Jura Copper Claims is based on a personal examination of the property, and on knowledge gained from the study of reports on the area and the records of the Mining Recorder.
7. That I do not hold any vendor shares or capital stock in Cop-Ex Mining Corporation Limited or any of its affiliates, nor do I expect to do so in the future.

Dated at Vancouver, British Columbia this 27th day of July 1971.

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Certificate: G. E. A. von Rosen	

MAPS

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**L. J. MANNING & ASSOCIATES LTD.**

CONSULTING MINING AND GEOLOGICAL ENGINEERS

610-890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:  
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L. J. MANNING - 985-5690

SUMMARY

Your company's thirty (30) mineral claims on Ashnola River cover several showings of sulfide mineralization thought to be associated with porphyritic intrusions into metasediments.

To aid assessment of the copper-molybdenum potential of this property a staged exploration program is recommended, consisting of Phase I airphoto studies, reconnaissance geological and geochemical surveys, followed, if warranted, by Phase II follow-up Induced Polarization coverage.

LOCATION AND ACCESS:

Co-ordinates: 49°10'N, 120°00'W; N.T.S. 92 H 82E.

The claim area is reached via the Ashnola River Forest Redevelopment Road which leads southerly from a point 4 miles west of Keremeos, B. C. on Highway No. 3.

The northern border of this area is reached near Mile 6 of the Forestry road. The property area extends two claims wide centered about the road, southerly to about mile 8, where an additional parallel location line adds six (6) more claims to the east up to the southern boundary near Mile 8.5.

The Ben Roy 1-6 claims lie immediately north of the confluence of Ewart Creek and Ashnola River opposite mile 12 of the Forestry road. These claims are accessible via the road on the east side of the Ashnola River.

CLAIMS:

Thirty (30) mineral claims comprise the area covered by this report. The Osoyoos Mining Division Recording office, located in Penticton, B. C. showed the following information on record on May 12, 1971:

<u>Claim Name</u>	<u>Record Number</u>	<u>Anniversary Date</u>	<u>Recorded Owner</u>
Prince (Dave 1-6 Incl.	14648-53	April 28, 1972	Gormond Mines Ltd
Gordon 1-8 Incl.	14640-47	April 28, 1972	Gormond Mines Ltd
Reg 1-6 Incl.	14268-73	April 29, 1972	Gormond Mines Ltd
Forks - Ben Roy 1-6 Incl.	22460-64	July 4, 1972	Ben Williams
(Prince, Prince 2	9693, 9695	Nov. 9, 1973	Ben Williams
Prince 1,			
Prince 3	9694, 9696	Nov. 9, 1973	P. R. Swainson

Claims are contiguous, excepting Ben Roy 1-6 which are about 2 miles south of the main claim block.

PHYSIOGRAPHY:

The area lies within the Thompson Plateau Physiographic sub-division. Ashnola River flows northerly in a steep sided valley with partly eroded terrace deposits. Relief is between about 2500 feet a.s.l. at the River and about 5500 feet a.s.l. near the higher portions of Crater Mtn. to the west.

Dry belt vegetation consisting of pine and fir, sage brush and cactus covers the valley slopes. Climate is arid and only the high snowfields feed the Ashnola River, but heavy snowfall and speedy runoff cause the river to swell during spring and early summer.

GEOLOGY:

References:

West Portion: Map 888A: Princeton, G.S.C. Mem 243, H. M. A. Rice, 1960

East Portion: Map 15-1961: Kettle River, H. W. Little, 1959

Claim Area: Report on the Ashnola River Claim Group by Weymark Engineering Ltd., May 15, 1960.

Regional Description:

Triassic or earlier chert, tuff, greenstone and some diorite of the Shoemaker and Old Tom formations with northwesterly strikes and steep easterly dips are mapped as underlying the north claim group.

Further south the Ben Roy claims cover old workings near the contact of Nelson plutonic rocks with altered rocks of the Shoemaker and Old Tom formations.

Local Description and Showings

Rock cliffs cut by the Ashnola Forest Redevelopment Road along the Ashnola River provide good outcrops for mapping purposes. Sidehills are steep and mostly covered but numerous cliffs provide ample detail for reconnaissance type surveys.

The writer examined the property on May 12, 1971. The showings have previously been described as follows:

Showing A (Gordon Claims):- Strikingly stained rusty outcrops occurring on the west side of the road and river is the site of previous assessment trenching and packsack-type drilling. Rock consists of fresh porphyritic granodiorite strongly pyritized as disseminations and fracture fillings. Pyrite oxidation causes strong brown stain of joint surfaces.

Staining can be followed uphill from this location onto bluffs of rusty rocks about 800 feet higher than the road. Scree samples indicate this to be sheared greenstone with rusty fractures

About 1/4 mile northward from the porphyritic granodiorite is an outcrop of pyritized feldspar biotite porphyry located near a bluff of greenstone.

Showing B (Prince Claims):- An adit, drifted on a stained quartz vein on the prince claims, has been described in reports as follows:

*G. S. C. MEMOIR 243, P. 114*

B. C. Minister of Mines: Annual Report, 1920, p. 158

"Prince claim: The Prince claim is owned by Ben Willaims of Keremoes, and is on Ashnola River about 4 miles up from the Similkameen. A short adit has been drilled under the road along a quartz vein from 1/2 inch to 18 inches wide. This cuts through volcanic rocks of the Bradshaw or Independence Formations. A few grains of galena and chalcopyrite were seen in the quartz."

B. C. Minister of Mines: Annual Report, <sup>1920</sup>1921, p. 158

"Prince.....the lead occurs as a fissure and is mainly quartz, varying in width between 1/2 and 18 inches, and carries values in lead and silver. The country rock is greenstone and quartzite, intruded by porphyry dikes.



Weymark Engineering Ltd.: Report on the Ashnola River Claim Group, May 15, 1967, p.15

"Sampling of the vein across 18 inches completed for this report examination yielded the following results:

Sample Number	Gold oz/T	Silver oz/T	Copper %	Molybdenite %
11203	0.02	0.40	0.48	0.050

The strike of the vein is 64 degrees with 75 degrees west and the dip is 70 degrees to the north. The vein has been explored by a 40-foot 5 by 7 foot adit and has been cut off by a flat lying fault."

Showing C (Prince Claims):- A showing of sulfide mineralization occurs on the east bank of Ashnola River. It has variously been surficially explored for copper, molybdenum and uranium in the past and has been reported on by Weymark Engineering Ltd. as follows:

Report on Ashnola River Claim Group, May 15, 1967, p.16

"Zone B: This mineralized zone occurs in a quartz filled fractured zone in the base granodiorite formation. The strike is N25°E and the dip is 70° to the west. Widths in the exposed sections vary from 5 to 16 feet. Visible mineralization consists of pyrite, chalcopyrite, molybdenite, apart from the non-metallics.....The following results were obtained from the chip samples taken in connection with this report examination:

Sample Number	Width Feet	Gold oz/T	Copper %	Molybdenite %
11204	3.0	Trace	0.08	0.420
11205	3.0	Trace	0.23	0.130

(End Quotation)

Showing D (Ben Roy Claims):- Six (6) Ben Roy Claims covering a contact area between the main body of intrusives and volcanics have been staked over a showing described in G.S.C. Memoir 243, p.114, by H.M.A. Rice, 1960, as follows:

"Forks Claim (76): The Forks claim is on the southeast side of Ashnola River above the mouth of Ewart Creek. Here a quartz vein from 2 to 6 feet wide follows the contact between a granite dyke and badly altered sediments, now quartz-mica schist and gneiss of the Bradshaw or Independence formations. Faulting and fracturing have occurred along this contact, so that both the dike and the intruded rocks are traversed with veinlets of quartz. Finely disseminated pyrite, molybdenite, and some chalcopryrite occur in the main quartz vein and veinlets, and in the adjacent wall rocks. A little carbonate is also present."

Weymark Engineering Ltd., in their "Report on the Ashnola River Claim Group" May 15, 1967, p. 14, continue describing the Ben Roy showing as follows:

"As shown on Fig. 6, trenching has now extended the length of the mineral zone to over 200 feet and indicated the strike to be north 45° east and the dip to be steep to the north. A representative chip sample taken across 4.0 feet yielded the following results:

Assay No.	Gold oz/T	Copper %	Molybdenite %
11201	0.005	0.07	0.390

(End Quotation)

#### CONCLUSIONS:

1. Dave-Gordon-Reg-Prince include 24 mineral claims which cover copper-molybdenum showings which have been explored on a very local scale. Porphyritic granodiorite and fractured greenstone here are flooded with pyrite and some molybdenite and chalcopryrite. The extent of formations, structure, and sulfide mineralization has yet to be mapped.
2. Six (6) Ben Roy claims cover a contact area between Coast Intrusives and altered volcanics. Mineralized outcrops have been hand trenched to a limited extent.

FORKS  
92H/SE-57

FORKS

3. The showings on the property examined to date have been explored locally for high grade potential. No regional approach with the intent of localizing large-tonnage, low-grade mineralization is on record to the writers' knowledge.

RECOMMENDATIONS:

Exploration of the thirty (30) claims here described is spatially divided between the north group of 24 claims and the south group of 6 claims, but as the work approach is the same for both, the recommended program is here only divided as to phases. The results of each preceding work phase should be evaluated before the next phase is begun.

Phase I:- (Cost based on 30 claims)

Air photo study	\$ 500.00
Geological mapping and Geochemical reconnaissance survey	
30 days @ \$220 (geol. & Helper)	6,600.00
Sample analysis 30 x 8 x 2.00	480.00
Report on Geology and Geochemistry, say	<u>1,450.00</u>
	9,030.00
Contingencies	<u>900.00</u>
	\$ 9,930.00

Phase II:-

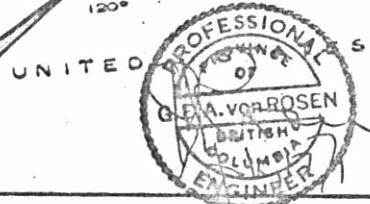
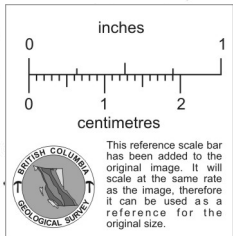
Allow 5 miles of I.P. for follow-up	\$ <u>2,500.00</u>
Total Phase I & II	\$ 12,430.00
say	<u>\$ 12,500.00</u>

Respectfully submitted,

L. J. MANNING & ASSOCIATES LTD.

G. E. A. von Rosen, P.Eng.

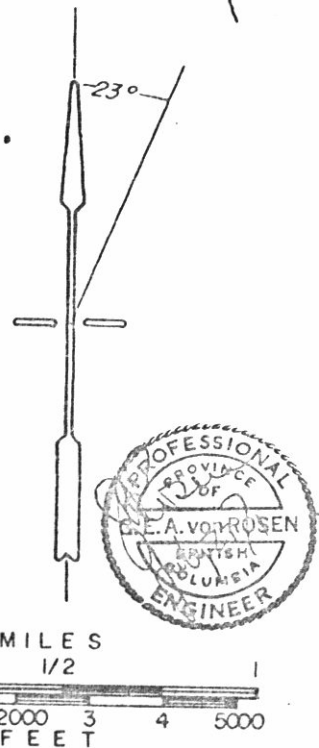
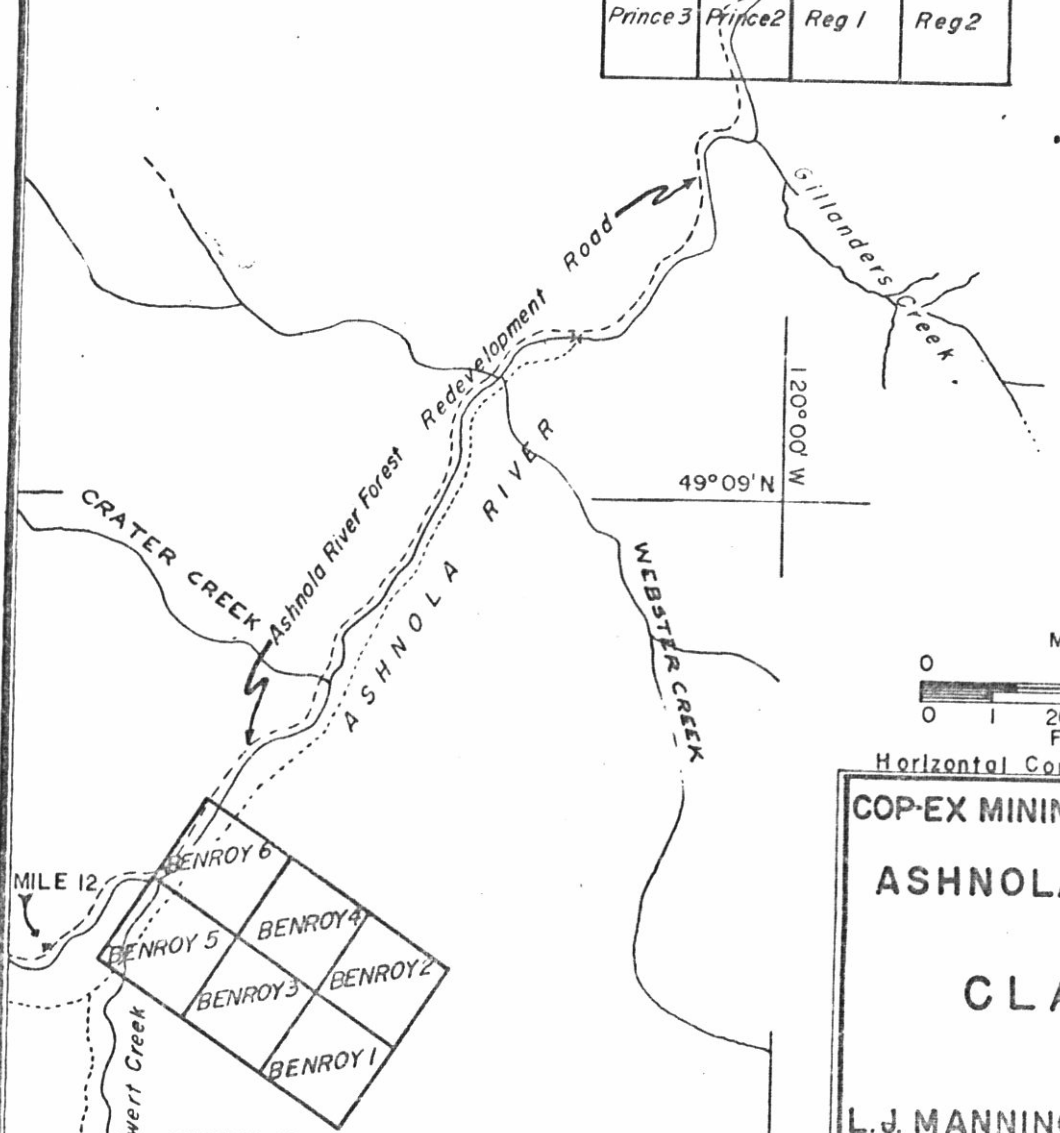
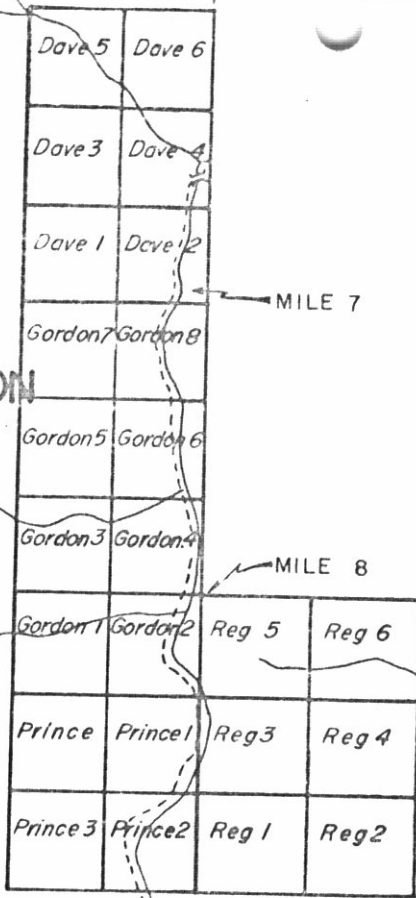
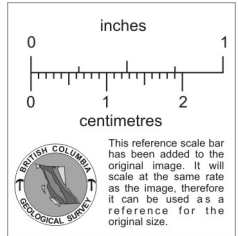
GEAvR:mjb



**ASHNOLA RIVER CLAIMS**

L.J. MANNING & ASSOCIATES LTD.  
 CONSULTING ENGINEERS  
 VANCOUVER, B.C.  
 COP-EX MINING CORP. L.T.D.  
 LOCATION MAP

**OSOYOOS MINING DIVISION**



Horizontal Control Approximate

**COP-EX MINING CORPORATION LTD.**

**ASHNOLA R. PROPERTY**

**CLAIMS**

**L.J. MANNING & ASSOC. LTD.**

92-H-1-E & 82-E-4-W

REFERENCE: B.C. DEPT. OF MINES—CLAIM MAPS

OSOYOOS MINING DIVISION

Dave 5	Dave 6		
Dave 3	Dave 4		
Dave 1	Dave 2		
Gordon 7	Gordon 8		
Gordon 5	Gordon 6		
Gordon 3	Gordon 4		
Gordon 1	Gordon 2	Reg 5	Reg 6
Prince	Prince 1	Reg 3	Reg 4
Prince 3	Prince 2	Reg 1	Reg 2

**LEGEND**

**GRANITIC ROCKS**

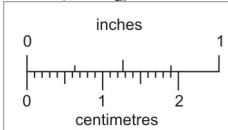
COAST INTRUSION  
(contacts approximate)

PORPHYRITIC INTRUSIONS  
(extent unknown)

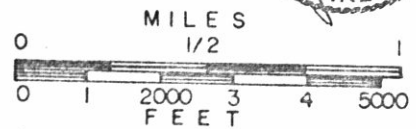
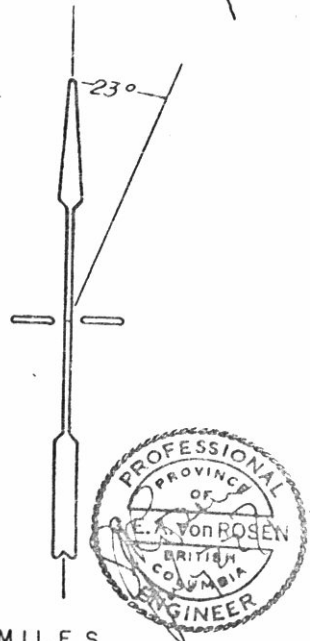
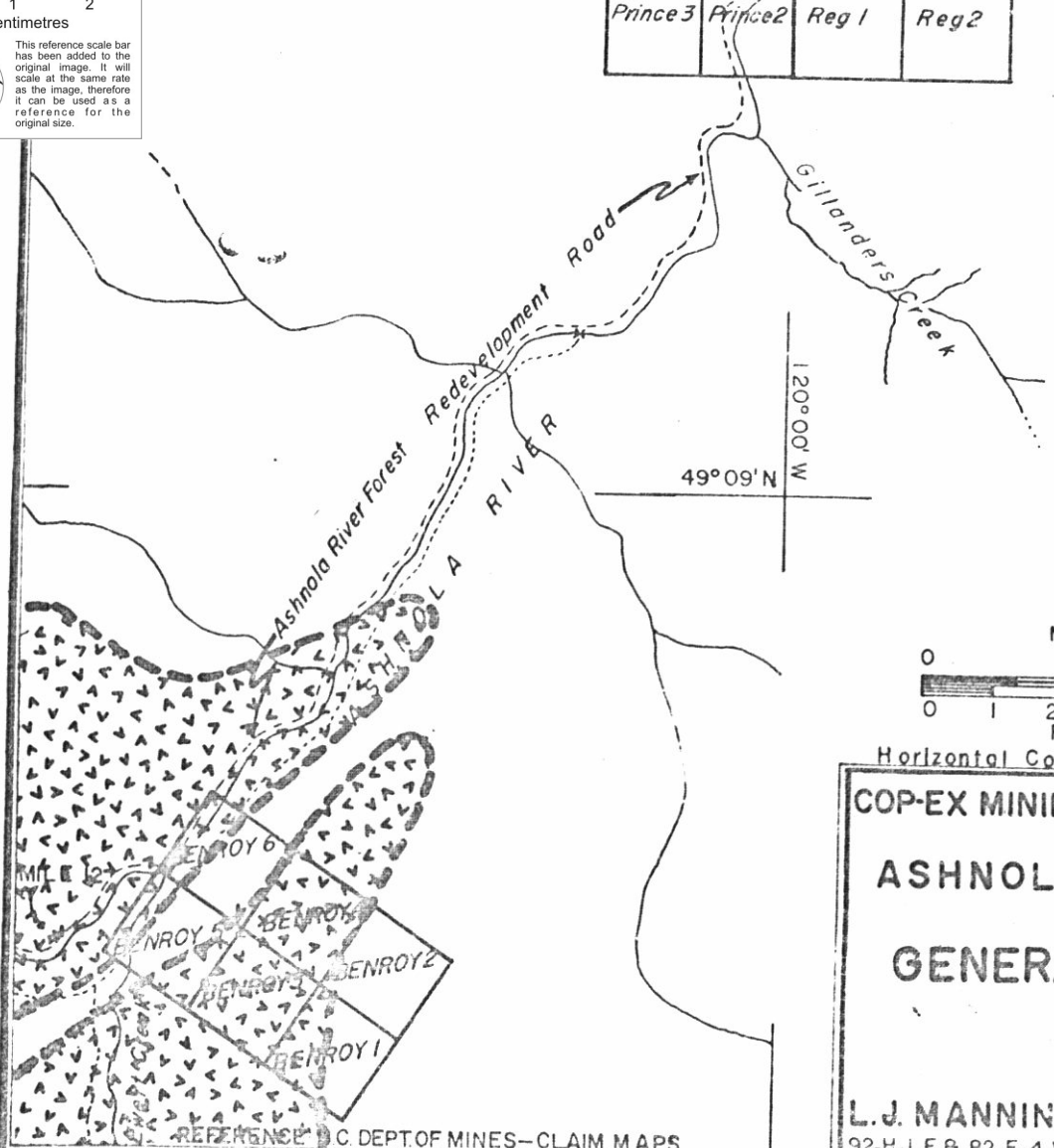
**META-SEDIMENTS & VOLCANICS**

SHOEMAKER & OLD TOM FORMATIONS

(country rocks)



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Horizontal Control Approximate

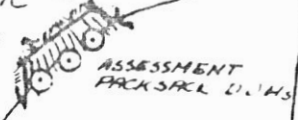
**COP-EX MINING CORPORATION LTD.**  
**ASHNOLA R. PROPERTY**  
**GENERAL GEOLOGY**  
**L.J. MANNING & ASSOC. LTD.**  
 92-H-1-E & 82-E-4-W

REFERENCE: D.C. DEPT. OF MINES - CLAIM MAPS

GORDON CLAIMS



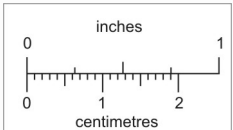
OPENCUT OF RUSTY PORPHYRITIC GRANODIORITE



TO HIGHWAY #2

N#2 POST PRINCE PRINCE I

MILE 8



BRITISH COLUMBIA GEOLOGICAL SURVEY. This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

RIVER FLOOD GRAVELS

CAMP GROUND



SCREE SLIDE RUSTY GREENSTONE

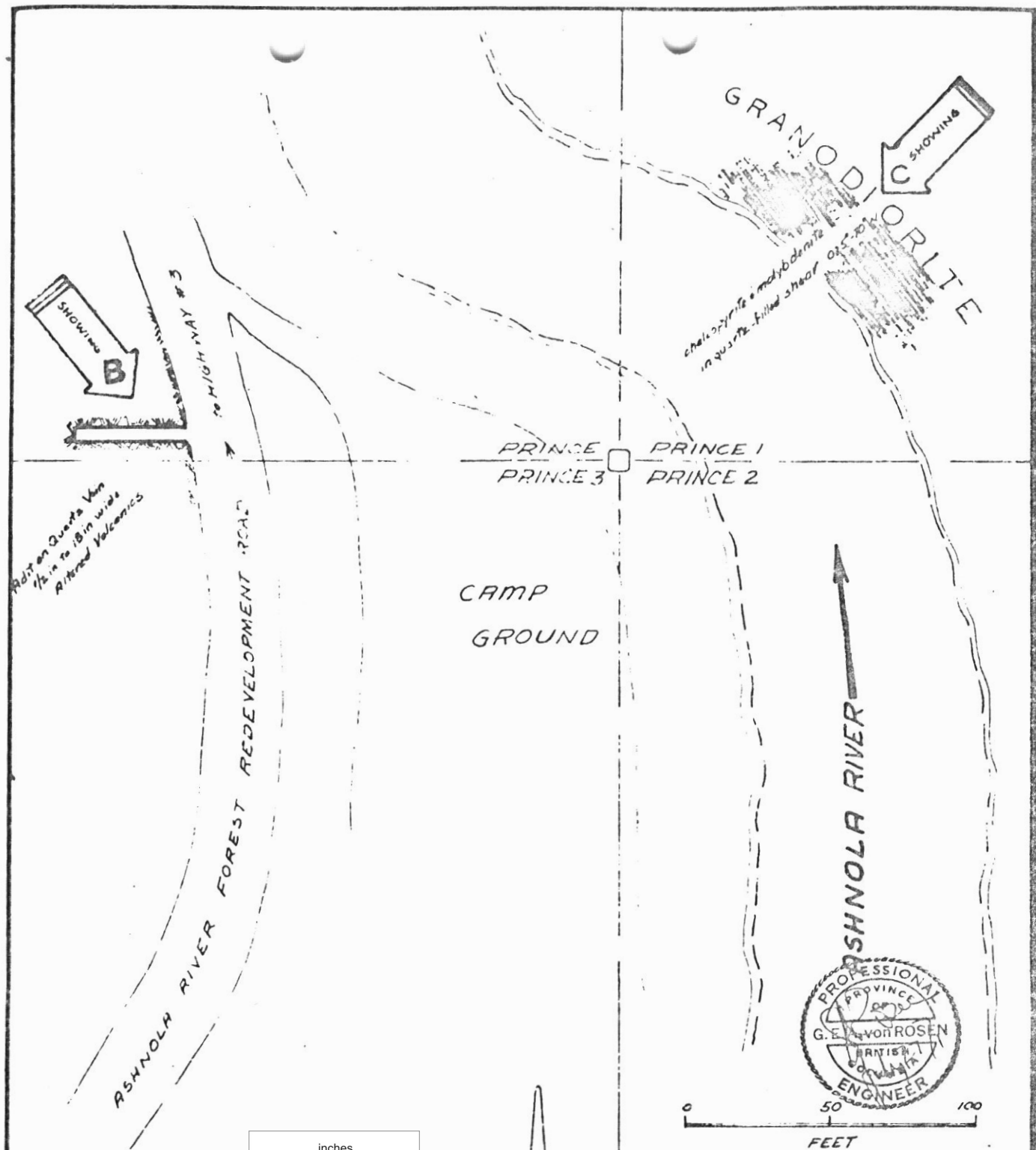
CRUSHED ROCK BORROW AREA (O.P.S.)

ASHNOLA RIVER

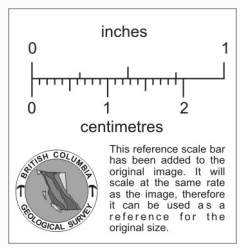
Sketch - not surveyed

COP-EX MINING CORPORATION LTD. ASHNOLA R. PROPERTY SHOWING "A" : GORDON CLAIMS L.J. MANNING & ASSOC. LTD. 92-H-1-E & 82-E 4-W





Adit on Quartz vein  
1/2 in to 1/8 in wide  
Altered Volcanics



SKETCH - not surveyed

**COP-EX MINING CORPORATION LTD.**  
**ASHNOLA R. PROPERTY**  
**PRINCE SHOWINGS**  
**"B & C"**  
**L.J. MANNING & ASSOC. LTD.**  
 92-H-1-E & 82-E-4-W