

ROCK GEOCHEMISTRY ORIENTATION,  
ASHNOLA PORPHYRY DEPOSIT, OSOYOOS  
MINING DIVISION

FOR

PRISM RESOURCES LTD.,

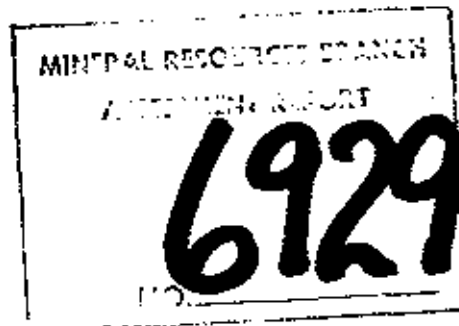
(~~56°27'~~N latitude; ~~126°03'~~W longitude)

49°57'

120°20'

by

Dr. A. J. Sinclair, P. Eng.  
July 20, 1978



## SUMMARY

1. An orientation rock geochemical study recommended by Dr. J.S. Christie, P. Eng., was undertaken to examine the likelihood that the Ashnola Porphyry system has an affiliation to the Cu-Mo-W class of deposits.
2. Specimens were selected from available drill core and were analyzed for Cu, Mo, W, F and Sn.
3. Results indicate that Mo and Cu are concentrated two orders of magnitude or more, greater than normal expected values in fine-grained acidic host rocks, W and Sn are weakly concentrated (1.3 and 2.8 times respectively) relative to expected values, and F is deficient relative to expected values.
4. It seems likely that the Ashnola property belongs to the Mo-Cu-W affiliation. Additional rock geochemistry of the type investigated here, therefore, could be useful in outlining zoning in the deposit as a basis for continued exploration.

## INTRODUCTION

A recent examination of the Ashnola porphyry Cu-Mo prospect of Prism Resources Ltd, by Dr. J.S. Christie, P. Eng. (Christie, 1977) raised several points of interest regarding the potential of the property. One of these was the likelihood that the porphyry system belonged to a Mo-W-Sn affiliation, a possibility that had not been made formerly. Dr. Christie recommended that a rock geochemical program be undertaken to test the possibility of this association.

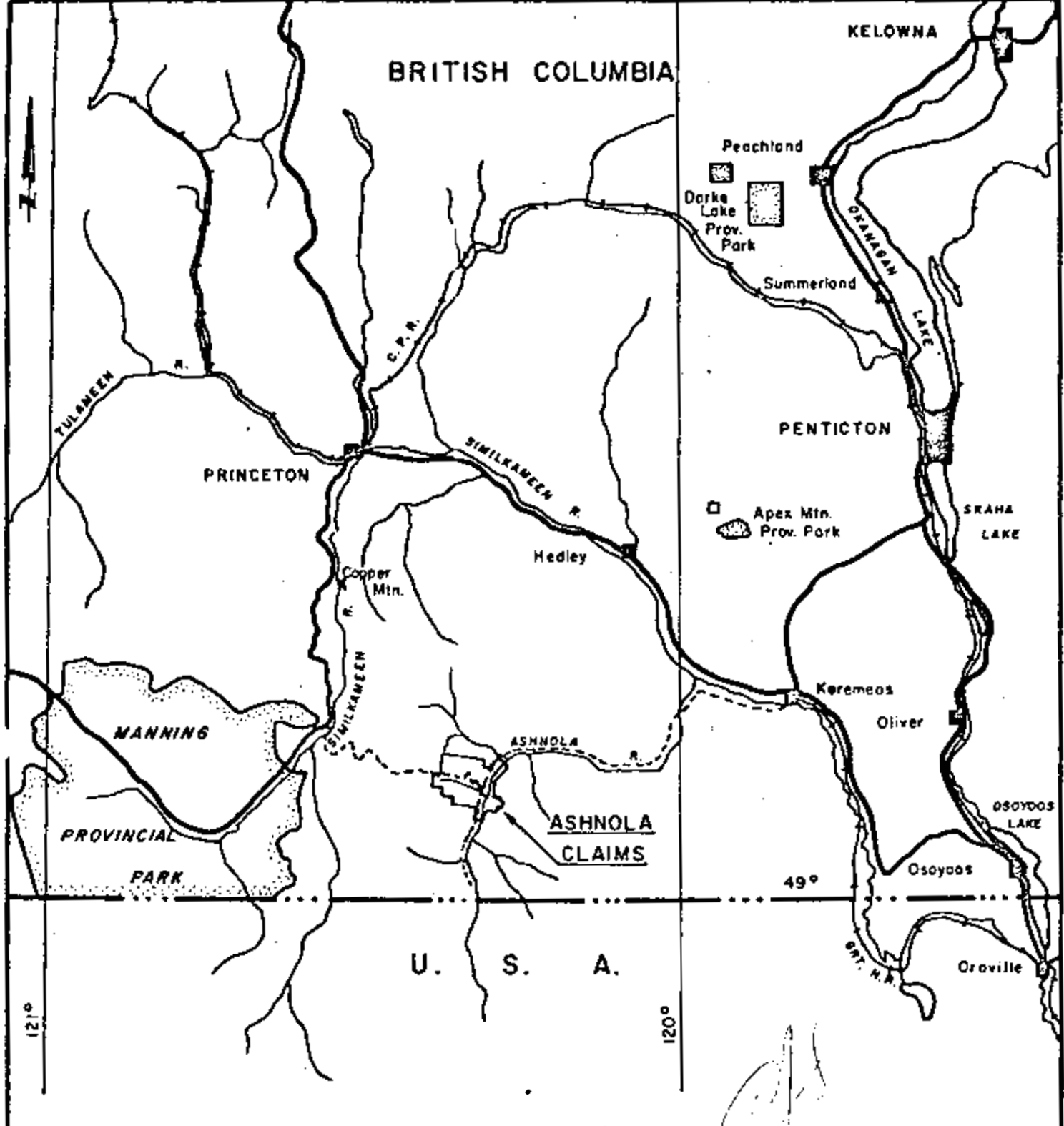
The writer undertook a preliminary sampling program from available drill core representing 7 diamond drill holes covering a variety of environments over the southern part of the Ashnola porphyry system. A total of 23 samples of core were taken and submitted to Min-En Labs, North Vancouver to be analyzed for Cu, Mo, W, F and Sn.

## LOCATION AND ACCESS

The property is located about 25 miles southwest of Keremeos B.C. on a ridge between McBride and Cat Creeks, 1 mile west of Ashnola River in Osoyoose Mining Division. The geological centre of the deposit is at elevation 6000 feet, some 2700 feet above the local Ashnola base-level. Access is by the Ashnola River valley road from Keremeos and then by a network of 4-wheel drive roads which have been constructed on the property (several are now impassible).

## RESULTS

Geochemical results for Mo, Cu, W, F and Sn for 23 rock samples are shown on the accompanying appendix. Analyses were done by Min-En Labs.

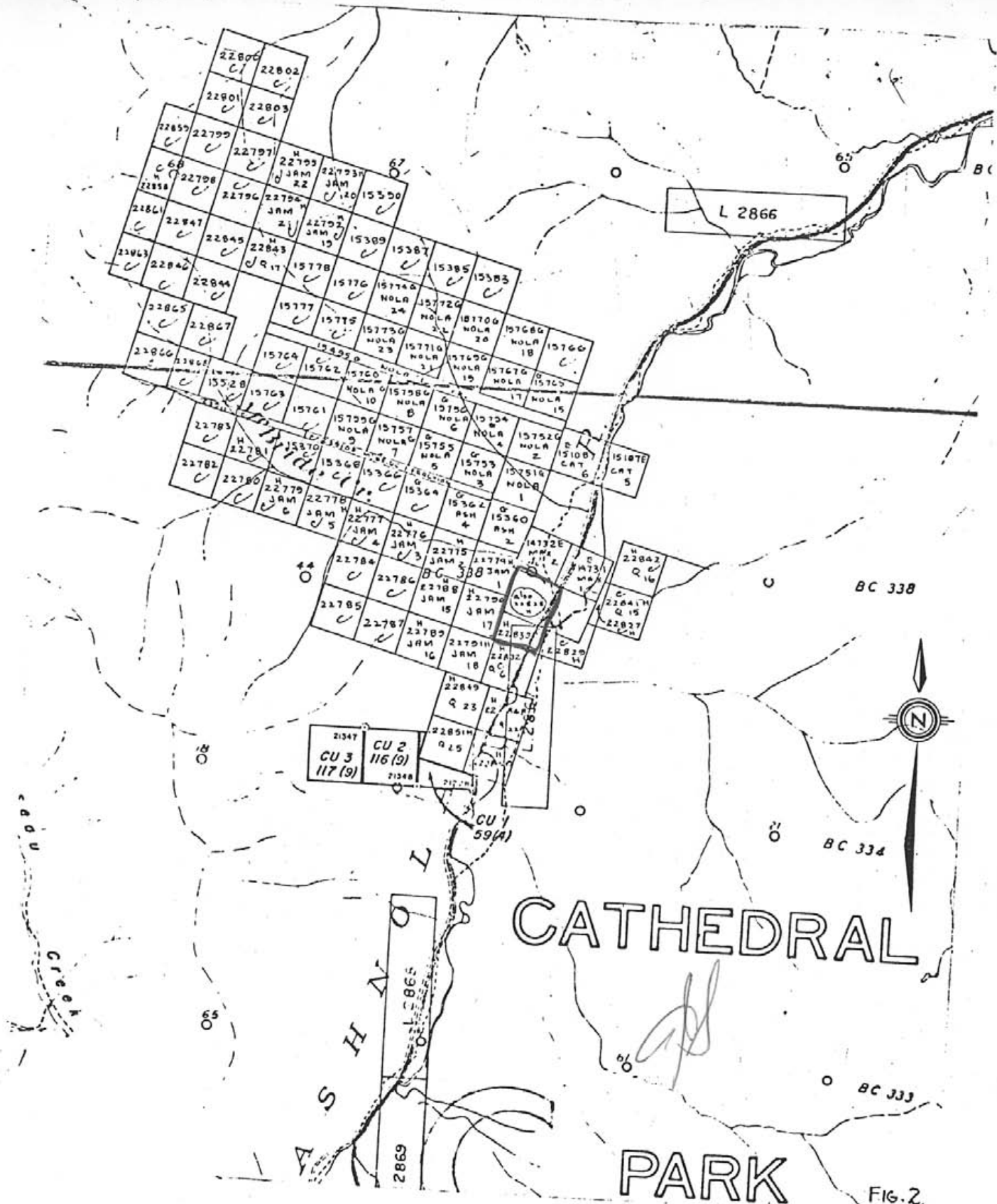


PRISM RESOURCES LIMITED  
 ASHNOLA RIVER PROPERTY  
 LOCATION MAP

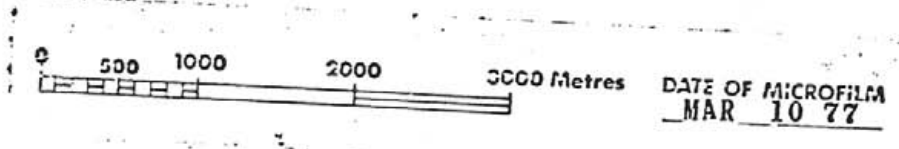


DATED: APRIL 4, 1977

FIG. 1.



Mineral Claim Map 92H/IW



## ANALYSIS OF DATA

Copper data are more-or-less representative of the range of values common in drill intersections on the Ashnola property. In general, though, specimens well mineralized with Cu and/or Mo were not taken so a deficiency of high values of these two elements exists. Furthermore, in the preliminary nature of the study did not warrant the high added expense of visiting the property for additional samples.

Host rocks are rhyolitic in nature and data should thus be compared with clarkes (mean compositions) for rhyolites in order to evaluate the concentration ratio.

<u>Element</u>	$\bar{X}$	S	Clarke <sup>*</sup>	Concentration Ratio
Mo	14.5	18.0	1.3	11.2
Cu	384.7	452.6	10.0	38.5
W	2.8	1.1	2.2	1.3
F	412.4	206.8	850	0.805
Sn	8.0	5.0	3.0	2.8

\* Clarke for rhyolitic composition, from Turekian and Wedepohl, 1961.

## CONCLUSIONS

Comparison of average abundances of Cu, Mo, W, F and Sn for 23 selected specimens from drill core of the Ashnola prophyry system with mean values of rhyolitic rocks shows that the system is enriched in Cu, Mo and Sn, is about normal in W and is deficient in F relative to expected values. Thus, it seems likely that zonal patterns within the system might be shown by Cu, Mo

and Sn and less pronounced by W. Further comprehensive rock geochemistry as recommended by Christie (1977) is warranted and has a good potential for showing zonal patterns that might aid in delineating targets for future drilling.

#### REFERENCES

- CHRISTIE, J.S., 1977. Geology and rock geochemistry of the Ashnola-McBride Creek property of Prism Resources Ltd., April 4, 1972, 14 p. plus appendices and map.
- MONTGOMERY, J.H., COCHRANE, D.R., and SINCLAIR, A.J., 1975. Discovery and exploration of Ashnola porphyry copper deposit, near Keremeos, B.C.: A geochemical case history: in Geochemical Exploration 1974, Spec. Vol. 2, Assoc. Expl. Geochem. p. 85-100.
- TUREKIAN, K.K. and WEDEPOHL, K.H., 1961. Distribution of some elements in some major units of the earth's crust. Geol. Soc. Amer. Bull. V.72, p. 175-191.



GEOCHEMICAL ANALYSIS DATA SHEET

No. 8-195

PROJECT No.:

MIN - EN Laboratories Ltd.

DATE: July 5,

ATTENTION: **A.J. Sinclair**

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2  
PHONE (604) 980-5814

1978.

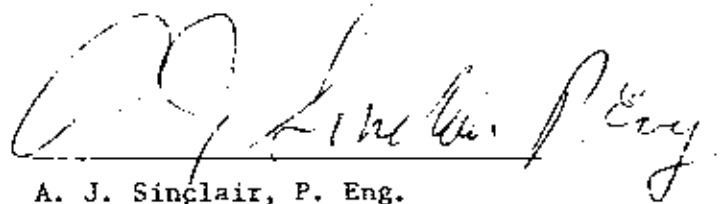
Sample No.	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb	W ppm	F ppm	Sn ppm
AD1-5.8	12	315											2	670	5
161	37	305											3	610	8
267	8	545											2	555	14
AD1424	3	115											5	475	4
AD2-9.6	3	250											6	275	15
122	8	260											2	610	7
226	3	650											2	555	17
389	25	400											3	725	15
584	5	83											3	725	3
738	5	104											2	670	15
AD297.9	1	330											3	555	5
AD3-95	37	37											2	135	3
193	4	180											4	330	12
365	50	730											3	250	4
439	5	172											2	310	5
AD350.1	27	1000											2	295	5
AD425.3	67	2050											3	170	11
AD525.6	20	116											2	115	15
AMC1-119	7	840											4	250	3
225	2	190											2	80	7
AMG2-140	1	23											2	240	3
225	1	36											3	465	4
366	2	118											2	420	3
$\bar{x}$	14.3	204.8											2.6	412.4	8.8
S.	18.4	452.6											1.1	206.8	5.0

CERTIFICATE

I, Alastair J. Sinclair, of the City of Vancouver, Province of British Columbia, hereby certify:

1. That I am a Geological Engineer residing at 2972 W. 44th Avenue, Vancouver, British Columbia.
2. That I obtained a B.A.Sc. degree in Applied Geology from the University of Toronto in 1957, an M.A.Sc. degree in Geological Engineering from the University of Toronto in 1958, and a Ph.D. in Geology from the University of British Columbia in 1964.
3. That I am a registered Professional Engineer in the Province of Ontario in the Mining Division, and in the Province of British Columbia in the Geology Division.
4. That I have practiced my profession for twenty-one years.
5. That I have no interest directly or indirectly, nor do I expect to have any direct or indirect interest in the properties or securities of Prism Resources Limited.
6. That the accompanying report is based on work done by me.

Dated at Vancouver in the Province of British Columbia,  
this 20th day of July, 1978.

  
A. J. Sinclair, P. Eng.

STATEMENT OF EXPENDITURES

	3/4 <sup>2</sup> -	
1.	Sampling drill core - \$14 day at \$200 per day	\$150.00
2.	Geochemical analyses by Min-En	354.20
3.	Report preparation	150.00
		<hr/>
	Total	<u>\$754.20</u>