6289

GEOLOGY AND ROCK GEOCHEMISTRY

of the
ASHNOLA - McBRIDE CREEK PROPERTY
of

PRISM RESOURCES LTD.

ASH - NOLA - CAT - CLAIMS
92 H/1W

by '77 - #22 - #6289

JAMES S. CHRISTIE, Ph.D.

April 4, 1977

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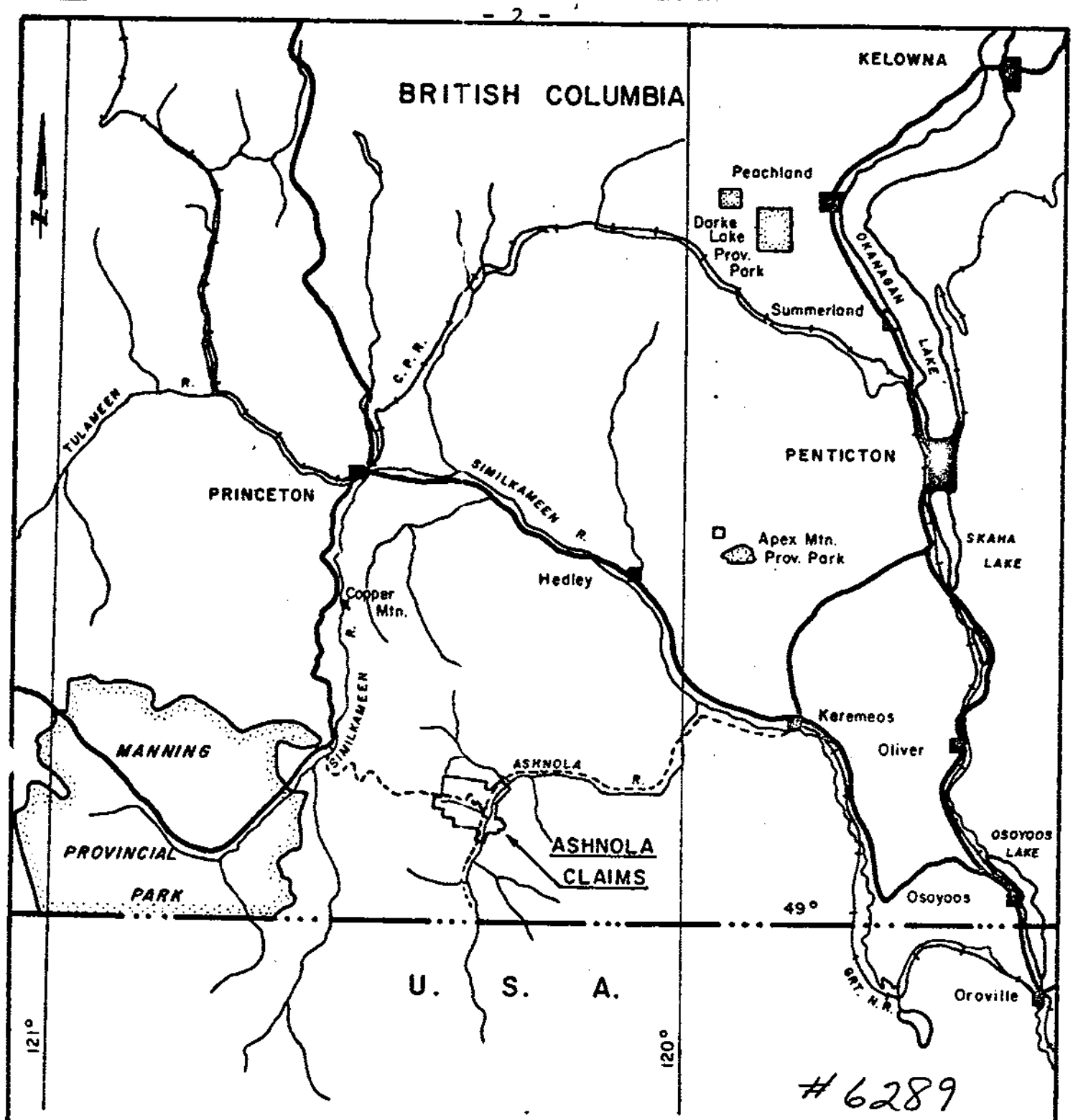
ILLUSTRATIONS

#1 GEOLOGY, ROCK GEOCHEMISTRY AND GEOPHYSICS McBRIDE CREEK PROPERTY, PRISM RESOURCES LTD. In pocket

INTRODUCTION

In October 1976, while employed by Quintana Minerals Corporation ,I was sent to evaluate a large sulfide system on the Ashnola River - McBride Creek property of Prism Resources Ltd., with a view to possible option of the property by Quintana. The property had been briefly examined by another Quintana geologist, and it was felt that this sulfide system was similar in some ways to upper levels in the porphyry copper systems of south-western U.S.A. It was hoped that a deep diamond drill target could be indicated. I was instructed to note, map and sample any features of the geology that might indicate similarity with Kerr - McGee's Red Mountain porphyry deposit, Patigonia ,Arizona which I had visited in the Fall of 1975. At Red Mountain the high grade copper deposit occurs at depths of some 3500 feet beneath very low grade surface exposures rich in pyrite and characterized by strong phyllic alteration.(Corn,1975).

Geological examination of bedrock and drill core, surface mapping and rock geochemical sampling were carried out during the 6 day period October 17 - 22, 1976. A base map at the scale of 1"= 4' previously prepared by Prism Resources Ltd. and Craigmont Mines was used for control.



PRISM RESOURCES LIMITED

ASHNOLA RIVER PROPERTY

LOCATION MAP

10 0 10 20

SCALE : MILES

DATED : APRIL 4, 1977

FIG. 1.

April 19, 1977

LOCATION AND ACCESS

The property is located about 25 miles southwest of Keromeos B.C. on a ridge between McBride and Cat Creeks, 1 mile west of Ashnola River. 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 and then by a network of 4-wheel drive roads which have been constructed on the property (several are now impassible).

MINERAL CLAIMS

Mapping was done over parts of the Ash and Nola claims shown on Figure 2 and the accompanying geological map. No attempt was made to locate claim posts or boundaries, and locations shown result from a previous survey by Prism Resources Ltd. and are assumed to be correct.

REGIONAL GEOLOGY

The property lies within a volcanic sequence comprised of siliceous lavas, breccias and crystal tuffs, tentatively assigned to the Kingsvale Group by Rice, 1960. Average composition approximates dacite and small glassy quartz and feldspar phenocrysts are characteristic throughout the system.

-4-

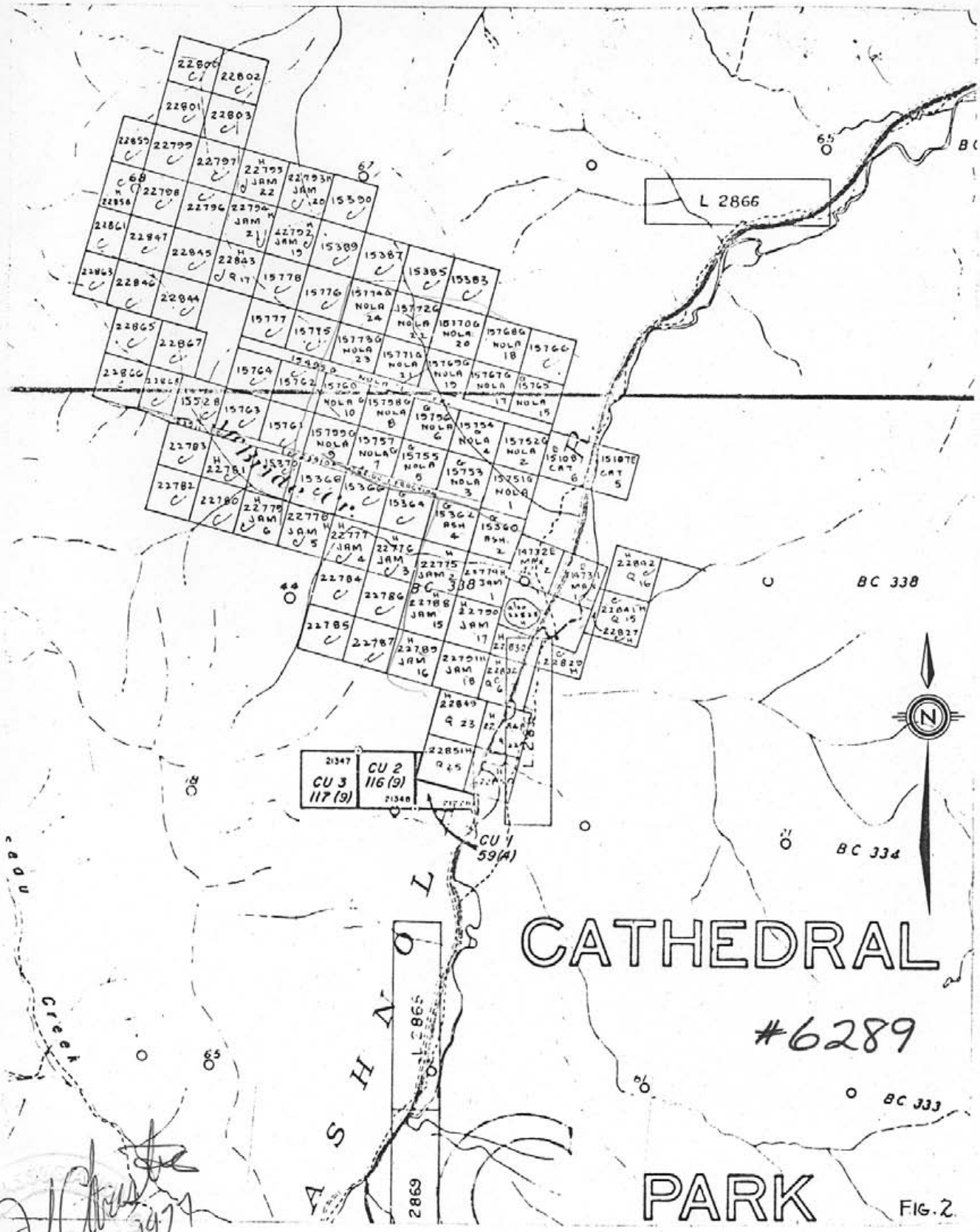


FIG. 2

April 19 1977

Mineral Claim Map 92H/1W

0 500 1000 2000 3000 Metres

DATE OF MICROFILM
MAR 10 77

PROPERTY GEOLOGY

The sulfide system is developed in rhyolitic lavas bearing abundant 1 - 3 mm quartz eyes and smaller feldspar phenocrysts. Coarser grained quartz porphyries (3 - 5 mm quartz eyes) form small dykes and stocks. Younger, late-mineral quartz monzonite porphyry forms a small central stock from which dyke-like apophyses emanate.

A large diatreme has been mapped and interpreted to be of latest-mineral age. This is cut by minor dykes of fine grained dacite, medium grey in colour. The breccias and pebble dykes comprising the diatreme were previously considered to be pyroclastic members of the volcanic succession. Clasts within the breccias are matrix supported and range up to 100 mm in diameter. Average clast size is less than 10 mm in a fine grained porous matrix grading to igneous matrix, in proximity to related medium greenish grey quartz porphyry dykes.

Most clasts are mineralized and include varieties of all rock types mentioned above with exception of post mineral dacite. Mineralization within the clasts is distinctly stronger than in the matrix and more diverse in style and intensity. Disseminated pyrite is the only sulfide within the diatreme matrix. Clasts inaddition display both chalcopyrite and molybdenite, disseminated and along fractures. Three clasts contain molybdenite mineralization of considerably higher grade than any observed at surface.

ALTERATION AND MINERALIZATION

Alteration and sulfide mineral zoning are well developed about a central core area some 800 feet in diameter. Strong magnetite mineralization both fracture controlled and disseminated characterizes core zone rocks, which also contain wide spaced quartz veinlets and less than 1% total sulfides. Outward an annular phyllic zone surrounds this core, wherein easily visible fracture related sericite is distinctive. Rocks of the phyllic zone are more highly fractured than those of the core and contain considerably more sulfide and quartz veinlets. Total sulfide content grades outward from 1% to 5% across the phyllic zone, while pyrite relative to chalcopyrite increases in ratios from 2:1 to 50:1. Other mapable features are silicification grading from pervasive to fracture selvage alteration 1000 feet or more distant from the magnetite zone, and smaller zones of argillic alteration contained within the phyllic zone. Argillic alteration may in part be related to supergene processes especially north and east of the core where argillic alteration is associated with "live" limonite and areas of deepest oxidation.

Molybdenite in association with chalcopyrite forms easily visible fracture coating within the inner part of the phyllic zone. It is strongest in the southeast and southwest quadrants coincident with a large area of pervasive silicification, which has given rise to hard dense flinty lithologies.

Molybdenite has also been noted in three 10 - 15 mm clasts from the diatreme as seen in the core of diamond drill holes D72-1 and D72-6. While not noticed during field examination the molybdenite was subsequently discovered in 3 of 20 core samples collected during more detailed examination under better light conditions. One molybdenite bearing clast is strongly silicified and similar to the known surface exposures. The other two appear to be softer quartz-sericite altered rocks containing higher grade molybdenite - pyrite mineralization, unlike any observed at surface.

Beyond the phyllic zone a strong pyritic zone is developed characterized by pyrite fracture fillings with coatings of chlorite but little visible chalcopyrite. This pyrite halo is horseshoe shaped open to the east, and is well defined by the I.P. high (plus 29 millisecond chargeability contour) shown on the accompanying geology map. Further outward alteration, intensity , fracturing and sulfide mineral content diminish gradually.

Minor supergene copper enrichment in the form of chalcocite and cuperite has been reported, and tested by drilling. Maximum enrichment (sub-marginal grade) predictably occurs beneath flatter upland slopes and ridges where greater depths of oxidation and leaching are reported, and the occurrence of "live"limonite in these areas suggests a multi-cycle enrichment history. Live limonite also appears to approximate the distribution of better-grade hypogene chalcopyrite mineralization internal to the pyrite halo.

ROCK GEOCHEMISTRY AND ASSAYING

Rock geochemical analyses and assays for copper and molybdenum (see map) are consistent with the zonal pattern previously described. Apparent exceptions are oxidized and partially leached samples which are anomalously low especially for copper values. Best hypogene copper grades are in the order of 0.1% Cu, and occur within the inner part of the phyllic zone external to the magnetite core. Strongly silicified rocks are characterized by better than average copper grades.

Molybdenum appears to be even more closely restricted than copper ,to the innermost phyllic zone. Sample 76C 366 (79 ppm Mo) is however a noteworthy exception which suggests that the quartz porphyry stock ,southeast of the magnetite, may be associated with a second molybdenum high. Outcrops and sampling in the area is not sufficiently abundant to provide any real definition in that vicinity, but a nearby diamond drill hole - Q-3 also contained strongly anomalous Mo, and assays indicated a definite increasing grade trend with depth.

INTERPRETATION

The results of this examination have confirmed that no near-surface target worthy of exploration is present at the McBride Creek property. However it appears advisable to further consider the geology and zonal patterns described in the light of several conceptual models, before evaluating the possibility of deeper targets.

In comparison to the Red Mountain porphyry copper model little if any similarities are present at McBride Creek. The rhyolitic volcanic succession and related quartz porphyry intrusives do not closely resemble the andesite - quartz monzonite - monzonite suite at Red Mountain. Futher if the McBride prospect is actually a porphyry copper system,strong arguments may be advanced to suggest that it represents a fairly deep level rather than high level of exposure. The 2:1 ratio of pyrite to chalcopyrite in rocks of sub-marginal copper grade but pervasive quartz sericite (phyllic) alteration, external to magnetite bearing (barren-core) rocks is fairly typical of the innermost zones of most porphyry copper models. If ore grade copper is not encountered in such rocks little may be said to recommend deeper exploration. Copper grade would be more likely to diminish with depth.

Comparison at the McBride Creek prospect with a deep model porphyry molybdenum deposit such as Henderson could be more rewarding. The moly porphyries are typically associated with siliceous rhyolite-quartz porphyry suites such as this, and the rock types at Henderson are closely similar. Also at Henderson high level chalcopyrite bearing and magnetite bearing shells occur, well above the Mo orebodies. Direct although tenuous evidence suggesting that deep seated molybdenum mineralization may be present has been found at McBride Creek in the form of possible ore grade mineralized clasts in the diatreme. Further evaluation may be easily and relatively cheaply undertaken by further studying the geochemistry. Porphyry moly deposits typically have generally high background levels and strong zonal patterns in such elements as W, Sn, F that are amenable to rock geochemical study. The core from the diatreme could also be re-examined to determine more precisely relative abundance and nature of molybdenum mineralization occurring therein as compared to surface mineralization.

Less significant but noteworthy are the implications of re-interpretation as a diatreme, of rocks previously mapped as fragmental rhyolite volcanics. The age of the diatreme is interpreted as late-mineral, post copper-moly and inspection of the map leads to the interpretation that the diatreme is likely responsible for the incomplete, horseshoe shape I.P. high. It appears to have effectively "blown a hole" in the east side of the pyritic shell.

A zone of potassic alteration, outlined by Sinclair, 1975 on the basis of considerable petrographic work, was presented as the likely alteration centre of the McBride Creek system. This xone, while centrally located, was found to be essentially co-extensive with the outcrop of a quartz monzonite stock interpreted to be of very late-mineral age. It is believed to be younger than the strong hydrothermal event which gave rise to the principal zonal patterns of alteration and mineralization.

RECOMMENDATIONS

The McBride Creek property of Prism Resources Ltd., warrants further geological work with the objective of establishing affinity with known porphyry molybdenum sulfide systems. The following should be done to provide a basis for additional exploration, specifically deep diamond drilling, if warranted. In this regard it should be noted that a 2200 foot difference in elevation exists between the floor of Ashnola River valley and the surface exposures of the central part of the system. For the purpose of mining a relatively short decline could be driven to reach an orebody 3000 - 4000 feet below the surface.

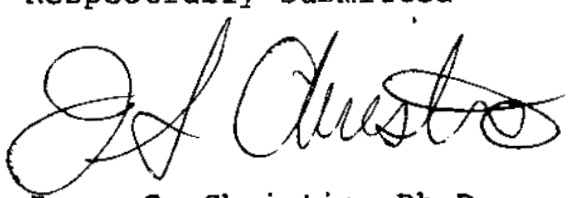
1) Detailed geological mapping of all outcrops combined with rock geochemical sampling, to thoroughly study the entire area internal to the pyrite halo.

2) Rock geochemical analysis for Cu-Mo-Pb-Zn-Sn-W-F with attention given to the degree of surface oxidation in interpretation.

3) Detailed examination of all available drill-core from the diatreme to study frequency of occurrence and style of molybdenum mineralization within the clasts.

4) If warranted, two or more 2000 - 3000 foot deep diamond drill holes based on results of foregoing work.

Respectfully submitted



James S. Christie, Ph.D.

STATEMENT OF EXPENDITURES

1)	Property Mapping and Evaluation J.S. Christie October 17-22,1976 6 days @ $150/day	$ 900.00
2)	Preparation of Report, Maps, Illustrations J.S. Christie April 3- 4 ,1977 2 days @ $150/day	300.00
3)	Drafting ,typing ,duplication	145.00
4)	Vehicle Rental - 4-wheel drive Blazer 1/4 month @ $750/month	188.00
5)	Accomodation - motel 5 nights @ $18/night	90.00
6)	Food - 6 days @ $15/day	90.00
7)	Geochemical analysis and Assays	120.00
		$1,833.00

CERTIFICATE

I, James S. Christie of North Vancouver, British Columbia do hereby certify that.

1) I am a Professional Geologist residing at 191 Rondoval Crescent, North Vancouver, B.C. V7N 2W6.

2) I am a graduate of the University of British Columbia, B.Sc. Honours Geology - 1965, Ph.D. Geology - 1973.

3) I have practiced my profession as a mining exploration geologist, continuously since 1965.

4) I am a Fellow of the Geological Association of Canada.

5) I am a Member of the Geological Society of America.

6) I have no interest direct or indirect in any property of Prism Resources Limited nor do I expect to receive any such interest for writing this report.

7) This report is based on my persoanl knowledge of the district, an examination of the geology at the property and the literature cited.

James S. Christie, Ph.D.
April, 1977

REFERENCES

1) Cochrane D.R., Giroux, G., Scott, A., 1970, Geophysical and Geochemical Report on Prism Resources Ashnola Property.

2) Corn, R.M., 1975, Alteration-Mineralization Zoning, Red Mountain,Arizona. Econ Geol. V. 70, 1975, pp 1437-1447.

3) Lowell, J.D., 1968, Private Quintana Minerals Corporation Report on McBride Creek Deposit.

4) Montgomery, J.H., 1968, Report on Diamond drilling of the St. Louis Project ,Osoyoos Mining Division, British Columbia for Quintana Minerals Corporation.

5) 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.

6) Rice, H.M.A., 1960, Geology and Mineral Deposits of the Princeton Map Area, British Columbia. G.S.C. Mem. 243.

COMPANY: Quintana Minerals

PROJECT :

ATTENTION: J. Christie

GEOCHEMICAL ANALYSIS DATA SHEET

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

File No. 3000

DATE: Nov. 8, 1976.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
7 6 C 3 5 6	2.2	115					•					
5 7	2.7	50					•					
5 8	3.1	35					•					
5 9	1.4	56					•					
6 0	0.9	230					•					
6 1	20.0	29					•					
6 4	1.5	11					•					
6 5	2.4	6					•					
6 6	79.0	25					•					
6 7	5.3	13					•					
6 8	3.1	8					•					
6 9	2.6	29					•					
7 0	1.5	36					•					
7 1	1.9	428					•					
7 2	1.7	15					•					
7 3	20.0	54					•					
7 4	15.0	655					•					
7 5	12.0	888					•					
7 6	25.0	415					•					
7 7	72.0	1070					•					
7 8	26.0	422					•					
7 9	98.0	91					•					
8 0	3.8	29					•					
8 1	9.0	58					•					
8 2	2.6	7					•					
8 3	1.8	37					•					
8 4	2.0	161					•					
8 5	16.0	28					•					
8 6	27.0	220					•					
7 6 C 3 8 7	2.4	16					•					

Dr. K. Allen

COMPA: Quintana Minerals

PROJECT No.:

ATTENTION: J. Christie

GEOCHEMICAL ANALYSIS DATA SHEET

MIN - EN Laboratories Ltd.

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2

PHONE (604) 980-5814

F No. 3000

DATE: Nov. 8, 1976.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
76C390	1.3	55			Abortive							

CERTIFIED BY

MIN-EN LABORATORIES LTD.
705 WEST 15TH STREET
NORTH VANCOUVER, B.C.
Phone: 980-5814

Certificate of Assay

TO: Quintana Mineral Explorations, Attn: J. Christie
1215 - #2 Bentall Centre, PROJECT No.
DATE Nov. 8/76.
Vancouver, B.C. File No. 3000

SAMPLE No.	Mo %	Cu %		
76C388	.006	.070		
76C389	.003	.069		

MIN-EN Laboratories Ltd.

CERTIFIED BY

To: Qu ana Minerals Corporation

PAGE No. 1

1215 - 555 Burrard Street
Vancouver, B.C.
V7X 1M9

REPORT No A2 927

DATE: Nov 23, 1976

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

Samples submitted: Nov 18, 1976
Results completed: Nov 23, 1976

I hereby certify that the following are the results of assays made by us upon the herein described pulp samples.

MARKED	GOLD		SILVER	Cu	Mo						TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
76C - 388				0.07	0.009						
389				0.07	0.004						

CHECK ASSAYS - ASHNOLA

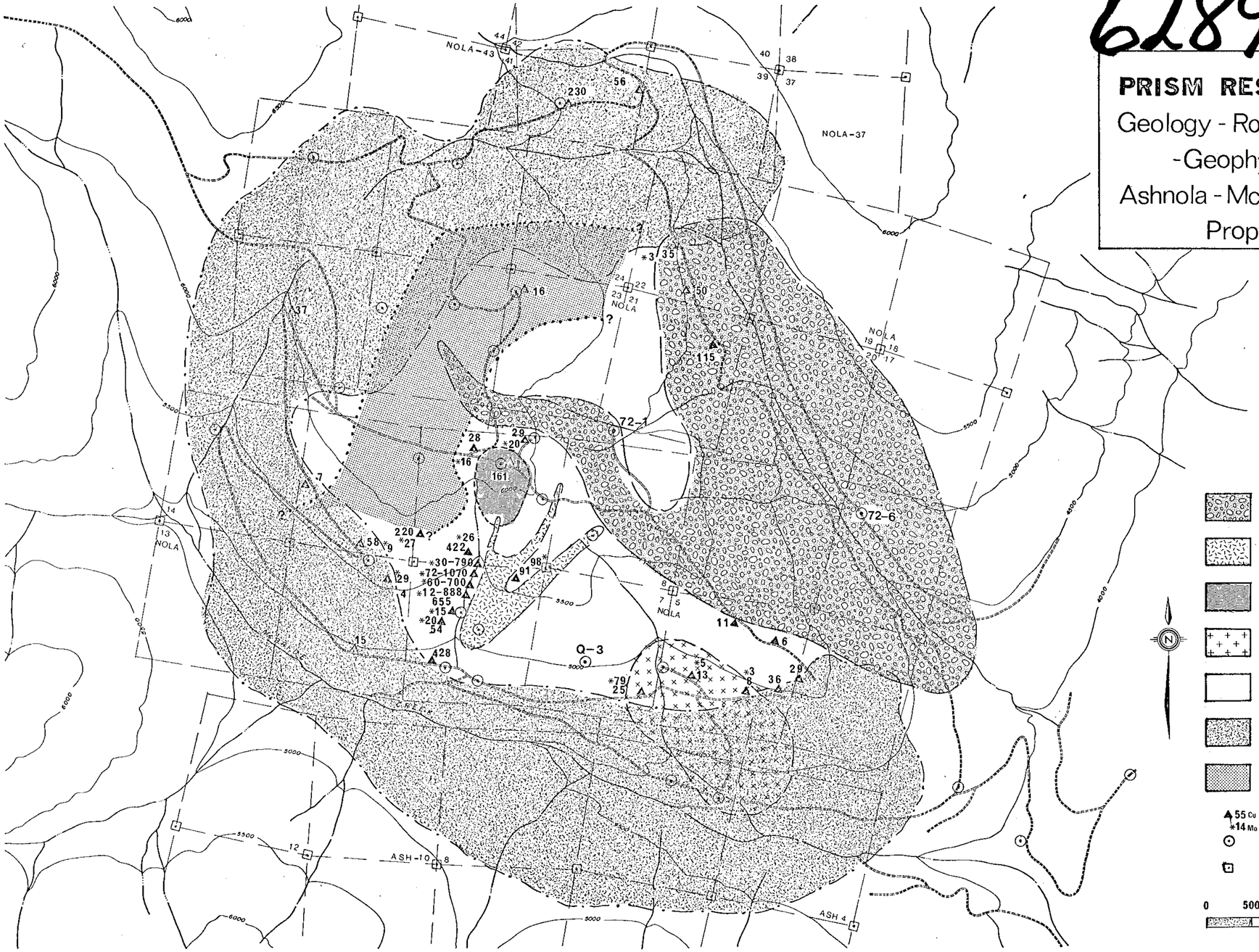
Registered Assayer, Province of British Columbia

6289 M-1

PRISM RESOURCES LTD.

Geology - Rock Geochemistry
-Geophysics
Ashnola - McBride Creek
Property

April 1977
J. S. Christie



LEGEND

- DIATREME - Pebble Breccia
- QUARTZ MONZONITE
- MAGNETITE CORE ZONE
- QUARTZ PORPHYRY
- RHYOLITIC VOLCANICS
- I.P. CHARGEABILITY HIGH +29 MILLISECONDS
- AREA OF "LIVE" LIMONITE
- ▲55 Cu *14 Mo — ROCK SAMPLE PPM
- ⊙ DRILL HOLE
- CLAIM POST

0 500 1000 1500 2000 2500
FEET

April 18, 1977