SSESSMENT REPORT

1982 Assessment Report 82-463-10657

Geochemical Survey

Title:

PRINCE CLAIM GROUP

Claims:

PRINCE 2, PRINCE 3

Commodity:

Copper, Silver, Gold

Location:

Boulder Mountain - Similkameen M.D.

92H 10W

49° 36' N 120° 50' W

Consultant

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and

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Operation

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Vancouver, B.C.

Work Dates:

May 20, 1982 to June 28, 1982

Submittal Date: June 28, 1982

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a.

Geochemical Survey

PRINCE CLAIM GROUP, SIMILKAMEEN M.D.

Part A

SUMMARY AND CONCLUSIONS

The Prince Claim Group of Boulder Mountain Resources Ltd. is located seven km northwest of Tulameen in south central British Columbia.

The property is situated within a belt of volcanic and sedimentary Nicola Rocks which are flanked by and enclose stocks of intrusives with which three producing mines within this belt are associated.

The property is adjacent to claims where known intrusives occur and where significnt zinc and gold values occur within a serecitic shear zone. In addition, exploration during the early 1970's on the adjacent property delineated massive sulphide occurrences in a greenstone-rhyolitic environment.

During the previous exploration a copper occurrence was discovered which is now within the northeast portion of the Prince 2 claim.

A geochemical survey carried out during the latter part of May 1982 by Boulder Mountain Resources Ltd. delineated two areas correllative mineral anomalies.

Area A occurs within the northeast portion of the Prince 2 claim in the vicinity of the known copper showing (due to snow cover the showing was not located), and contains a relatively large silver sub-anomalous area within which occur sub-anomalous copper, anomalous copper areas and peripheral EM anomalies.

Of six correllative anomalous zones in area B, there are considered prime areas for follow-up exploration as exhibited by correllation with potential mineral controlling structures.

It is concluded that the geochemical survey was successful as part of Stage I of the exploration program in that more restricted areas for follow-up exploration were delineated.

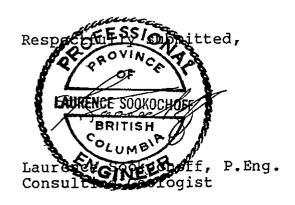
The expression of the correllative anomalous zones in copper-zinc-silver in association with indicated (sub-anomalous) areas and the preferred trend of the zones correllating to known structural and/or bedding direction of the area suggest potential mineral zones within the controlling features.

A continuing exploration program is warranted to provide additional geological information and to delineate prime test locations within the general anomalous areas.

RECOMMENDATIONS

It is recommended that detailed geochemical and geophysical surveys in addition to geological mapping be carried out within Areas A and B as outlined on the accompanying map. In addition, the reconnaissance survey to the west of the completed survey should be extended with prime consideration to open anomalous areas in that direction.

An allocation of \$25,000 should be provided for the initiation and completion of the recommended program.



June 28, 1982 Vancouver, B.C.

1982 Assessment Report

Geochemical Survey

PRINCE CLAIM GROUP, SIMILKAMEEN M.D.

Part B

INTRODUCTION

During the latter part of May 1982, a geochemical survey was completed over approximately 16 units of the eastern portion of the two claim Prince claim group.

The geochemical survey is part of the first stage of the exploration and development program as set out in the writer's original report on the property dated March 22, 1982.

The complete claim area was not covered due to snow conditions. However a reconnaissance program over the western portion can be completed in association with the detailed survey as projected in the second stage of the exploration program.

PROPERTY

The property is comprised of two claims totaling 40 units, however Prince #2 claim contains only an effective 8 units as the southern portion of claim overstakes a claim in good standing. Particulars are as follows:

<u>Claim Name</u>	Record No.	Expiry *
Prince #2	1448	July 3, 1984
Prince #3	1449	July 3, 1984

^{*} Pending approval of two years work applied on May 28, 1982.

LOCATION AND ACCESS

The property is situated on the flanks of Boulder Mountain and Mount Spearing seven kilometers northwest of Tulameen and two km west of Otter and Frembd Lakes.

The property is accessible by a five kilometer four-wheel drive road branching off to the west at km 33 of an all weather secondary Princeton-Tulameen-Aspen Grove road.

WATER AND POWER

Water is plentiful on the property from either many tributaries at the headwaters of Elliot and Lockie Creeks, however water may be a rarity during the winter months.

Initially diesel-electric power would be required for any development purposes. Commercial power sources are within two kilometers of the property.

TOPOGRAPHY AND TIMBER

Elevations range up to 1700 meters on the property with gentle to moderate northerly slopes. Relief is in the order of 500 meters.

Moderate to heavy stands of pine cover the property which if required would provide sufficient timber for mining or exploration purposes. Finished timber is available locally.

HISTORY

The history of the immediate area stems from the adjacent Cousin Jack Group which was staked before 1901, and has been explored intermittently since. In 1967 it was reported that Nelway Mines Ltd. carried out a geochemical survey and some surface diamond drilling on the Cousin Jack Group which consisted of a total of 36 claims centered on the crown granted mineral claims.

In 1971 Gold River Mines carried out 16.25 miles of line cutting, an 800 sample geochemical survey, a VLF EM survey and an I.P. survey which included the northeast portion of the present Prince claim group.

In 1973 Gold River Mines and Enterprises Ltd. completed "5,800 feet" of diamond drilling on the Cousin Jack showings and on the two showings on the property adjacent and to the south of the northeastern portion of the present Prince claim group.

RESULTS OF PREVIOUS WORK ON CLAIM GROUP

Work completed in the area by Gold River Mines in 1971 included approximately a two unit area of the northeastern present Prince claim group. The work included a geochemical survey, an I.P. survey and a VLF-EM survey.

A number of anomalies are indicated including:

- 1. A VLF-EM anomaly to the east of the copper showing
- A low chargeability anomalous zone correllating to the copper showing
- 3. Sub-anomalous copper values localized and correllating with the copper showing

GENERAL GEOLOGY

A northerly trending belt of Nicola rocks ranging up to 40 km wide stretches northward from near the U.S. border to beyond Kamloops Lake. Within the Nicola Group, which is comprised of vari-colored lavas, argillite, tuffs, limestones, chlorite and serecite schists are more recent formations of sedimentary rocks as well as stocks and plugs of Coast or Copper Mountain Intrusives. Coast Intrusives are also peripheral to the belt of Nicola Rocks.

Three major ore bodies from which production is currently in progress in addition to many mineral showings occur within the Nicola rocks; The Afton deposit is associated with the Iron Mask Intrusive near Kamloops; the Craigmont deposit near Merritt is associated with a limestone of the Nicola series and adjacent to the Guichon batholith; and the Similkameen deposit near Princeton is associated with the Lost Horse Intrusive and Nicola rocks. These three deposits are intimately associated with intrusives.

The geology of the area also lends itself to volcanogenic related deposits to which an occurrence on Boulder Mountain may be attributed or Sustut type volcanic bed-stratigraphic controlled deposits which some Aspen Grove occurrences may relate to.

Structural control relationships are also significant in localizing zones of mineralization. The Similkameen or Copper Moutain ore bodies occur fifteen km south of Princeton at the projected intersection of two major faults — the Summers Fault and the Otter Lake Fault Systems. The Otter Lake Faults trends northwesterly from south of Princeton to Tulameen and through the Boulder Mountain Property.

PROPERTY GEOLOGY AND MINERALIZATION

G.S.C. Map No. 888A indicates the property covers the Nicola Group of rocks. A mapping program carried out by the writer in 1972 which included the northeastern portion of the property revealed greenstones with occasional quartz stringers, light to moderate localized disseminated pyrite zones and a copper showing. The greenstone varies as to porphyritic content, silica and general alteration. Minor structures and fractures trend northwesterly, indications of the paralleling adjacent major Otter Fault zone.

Quartz veins and stringers predominantly barren strike northwesterly and northeasterly and dip steeply. Pyrite is associated with quartz veining.

A copper showing occurs in the northeastern section of the property. The showing is of moderate chalcopyrite mineralization associated with northeasterly trending quartz veins. Brecciation and pyrite is associated with the mineralization.

In the immediate area, three zones of mineralization occur on an adjacent property. To the south two areas of copper mineralization reveal up to "5.55% Cu across 7.0 feet" "in a greenstone-rhyolite environment and within a mineralized area up to 500 meters long, 800 meters to the south in addition to 7.23% Cu across 1.8 feet" 2300 meters to the south in an area of mineralization 80 meters by 120 meters.

To the southeast a shear zone has altered the greenstone to chlorite and serecite schists.

"These schists have a general northwesterly strike and dip at various angles to the west. In them are four or more zones of more intense shearing in which irregular veins and bodies of quartz have been deposited. Both the quartz bodies and in places the schists themselves have been mineralized with pyrite, sphalerite, galena and chalcopyrite, but so irregularly that, although the zones have been traced for considerable distances, it is difficult to determine the continuity or grade of the orebodies. The principal value is in zinc, which is also accompanied by significant amounts of A number of chip samples taken across widths of from 2 to 6 feet by the Resident Engineer returned from 2.3 to 19.1 per cent zinc and from a trace to 0.32 ounce a ton in gold.

Zone No. 1, lying to the south and west of the cabin, has been traced on the surface for some 1,200 feet and is opened up by two crosscut adits and a number of open-cuts. So irregular has mineral deposition been in this zone that its limits have not been defined. Zone No. 2, immediately north of the cabin, has been traced by open-cuts for 550 feet, and much resembles the Zone No. 3 lies some 500 feet to the north and east of No. 2 zone, and has been traced for 350 feet by four open-cuts. These have exposed ribs of quartz and irregularly disseminated sulphides. Zone No. 4, 100 feet or so to the northeast of No. 3 zone, has been traced for some 200 feet by three open-cuts, a short adit crosscut, and a shaft. is mineralized quite irregularly, but in places the occurrences are of good grade. Several open cuts and at least one short adit, prove the existence of other zones intermediate between the four mentioned, but as yet none of these has been explored to any extent."

Structurally, northerly trending zones predominate in addition to gentle northeasterly and northwesterly trends. The Cousin Jack zone is within a gentle concave (from the west) zone.

GEOCHEMICAL SURVEY

1. Survey Procedure

A grid system of east-west lines at 120 meter intervals was established covering most all of the eastern Prince 2 claim and into the eastern portion of the adjacent Prince 3 claim.

Samples were picked up at 60 meter intervals along the main grid lines. Due to variable amounts of snow cover, not all stations were sampled and thus were designated as NS on the accompanying maps. Samples were selected from the B horizon of the brown to brownish gray sandy-loam forest soil at a depth of commonly 30 centimeters. The soil was placed in a brown wet-strength paper bag with the grid co-ordinates marked thereon. A total of 402 samples were collected.

2. Testing Procedure

All samples were tested by Rossbacher Laboratories of Burnaby, B.C. The testing procedure is first to thoroughly dry and sift the sample through a -80 mesh screen. Then a measured amount of the sifted material is placed into a test tube, aqua regia added, heated, and the parts per million (ppm) metal measured by atomic absorption. The samples were analysed in this manner for four metals - copper, zinc, silver and lead.

Treatment of Data

In assessing the data results, the background, sub-anomalous and anomalous values were determined utilizing a pocket calculator with a mean and standard deviation read-out.

The sub-anomalous threshold value, which is a value not considered anomalous, but an indicator of potential mineralization, is taken as one standard deviation from the mean background value. The anomalous values or the prime indicator values are taken at two standard deviations from the mean background values.

The results of the data treatment were as follows:

	Cu	Ag	Pb	Zn
Mean background value	33	0.3	10	140
Sub-anomalous threshold value	49	0.6	16	205
Anomalous threshold value	65	0.9	22	370
All values are in parts per million.				

In contouring the values on the maps, the intervals are at one standard deviation from the mean background value.

DISCUSSION OF RESULTS

In discussing the results, the compilation map is referred to as the correllative results are considered more significant than individual localized anomalous areas. In addition the correllative anomalous zones that cover a larger area could be considered more indicative of economic mineral zones however, localized anomalies should not be disregarded.

In view of the above, the geochemical survey results have delineated two restricted areas of correllative anomalies.

Area A of 600 by 450 meters contains three correlative anomalous and sub-anomalous zones, the most significant of which is a large silver anomaly containing localized sub-anomalous copper values and an adjacent northeast trending E.M. anomaly. A sub-anomalous silver zone envelopes two of the correllative anomalies.

Area B contains six correllative zones for follow-up exploration. The zones are closely related which would facilitate detailed exploration as a blanket coverage to include all anomarous areas.

The significant aspects of the correllative Area B anomalies are: (letter designate refers to anomalous areas on correlation map Fig 7)

- A prime correllative anomalous area reflecting substantial zinc and copper anomalies with a potential mineral localizing fault structure in a localized area of correllation.
 - b) An extensive prime correllative anomalous area reflecting a 300 meter (N-S) anomalous zinc zone enveloped by a substantial sub-anomalous zinc area. A localized correllative copper, lead and silver anomaly at the indicated intersection of a northwesterly and northeasterly structure. A magnetometer low is also in association with or adjacent to the zinc zone.

The b zone extends southerly to the c anomaly.

- c) A more localized prime anomalous area of a 300 X 200 meter sub-anomalous copper zone containing two localized correllative copper-lead-zinc anomalies.
- f) A sub-anomalous zinc and copper zone to the south of c correllating with an EM anomaly. Anomalies a, b, c and f could reflect a convex structural zone containing mineralization similar to the Cousin Jack zone on an adjacent property to the east.
- d) Two separate localized correllative copper-zinc anomalies trending northwesterly towards the sub-anomalous copper zone of A and enveloped by copper sub-anomalies
- e) A sub-anomalous zinc zone containing a sub-anomarous copper zone and localized anomalous lead and copper areas. Magnetic highs are peripheral with a north-south EM anomaly bisecting the sub-anomalous copper area.

The geological environment as discussed previously lends itself to Cu-Pb-Zn-Ag-Au mineralization with shear zones or as massive sulphide stratabound (?) zones in metavolcanic rocks as on the adjacent property.

As the geological environment on the property lends itself to massive sulphide, shear controlled, or porphyry mineral deposits, a geological mapping program would aid in the interpretation of the anomalous zones. The geological mapping in addition to localized geochemical and geophysical surveys in the designated areas would enhance the geological concept.

As a general interpretation at this stage, it appears that a northwesterly mineral trend predominates as apparent from the copper-silver trend along the east of area B, (d) the dominant copper-zinc trend along the central area of B (a, b) and the EM anomalous trend in this direction. The Area B anomalies also suggest a northwesterly trend with indicated potential mineral controlling cross structures.

RECOMMENDED EXPLORATION AND DEVELOPMENT PROGRAM

It is recommended that Stage II of the recommendations as set out in the writer's report on the Prince claim group dated March 22, 1982 be initiated. The recommendations as stated are detailed geophysical and geochemical surveys in conjunction with geological mapping. The areas to be covered by the program are delineated on the accompanying compilation map.

In addition to the established program, a reconnaissance program should be included to cover the western portion of the claim group. This area was not completed due to adverse snow conditions.

Completion of Stage II of the exploration program including supportive costs is estimated at \$25,000 and should take six weeks to complete and report thereon.

Respectfull Probabilitied

ENHENCE SOOKOCHOFF
BRITISH

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Consulting NHE Dist

June 28, 1982 Vancouver, B.C.

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CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist with the firm of Pan-American Consultants Ltd. of 1406-1055 West Georgia Street, Vancouver, B.C.

I further certify that:

- 1. I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- 2. I have been practising my profession for the past sixteen years.
- 3. I am registered with the Association of Professional Engineers of British Columbia.
- 4. The information for the accompanying report is based on pertinent material as cited under references and from work done on the property during May 20 May 30, 1982.
- 5. Neither I or Pan-American has direct or indirect interest in the property described herein, or in the securities of Boulder Mountain Resources Ltd.

Laurence Secretary P. Eng. Consulting Geologist

June 28, 1982 Vancouver, B.C.

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AFFIDAVIT OF EXPENSES

The soil geochemistry survey was carried out on the Prince Claim Group, Boulder Mountain, Similkameen M.D., B.C. to the value of the following:

<u>Field</u>

Plowing snow off road for access Fieldwork - 4 men - May 20 to May 30, 1982	\$1,125.00 7,500.00
Vehicle rental (4 X 4) 9 days @ \$65 Room and Board 4 men @ \$40/man day for 9 days Survey Supplies	585.00 1,440.00 400.00
Supervision	
L. Sookochoff, P. Eng. 4 days @ \$400 P.W.A. 2 X 144.55 Vehicle rental (4 X 4) 4 days @ \$65 Room and Board 4 days @ \$50	1,600.00 289.10 260.00 200.00
<u>Lab</u>	
Soil testing 402 samples @ \$4.00	1,608.00
Data and Report	
Data compilation Rough Drafting Final Drafting Sepias, photocopying maps Report	400.00 325.00 750.00 190.00 1,450.00
Office overhead - telephone - typing, photocopying report etc.	350.00
	\$18,472.10

