

PROSPECTING REPORT

on the

URSULA CLAIM

Mamquam River Area, Vancouver Mining Division

92G 10W, Lat. 49° 38' Long. 123° 25'

by

K.R. MacKenzie, B.Sc., M.D.

Owner/Operator: Alpen Exploration Ltd.

Squamish, B.C.

August 1980

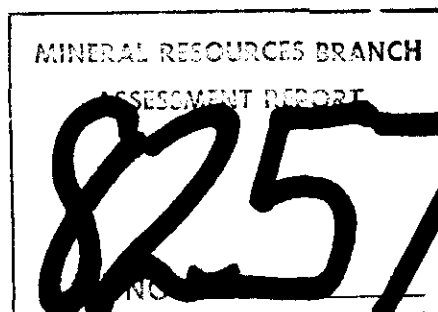
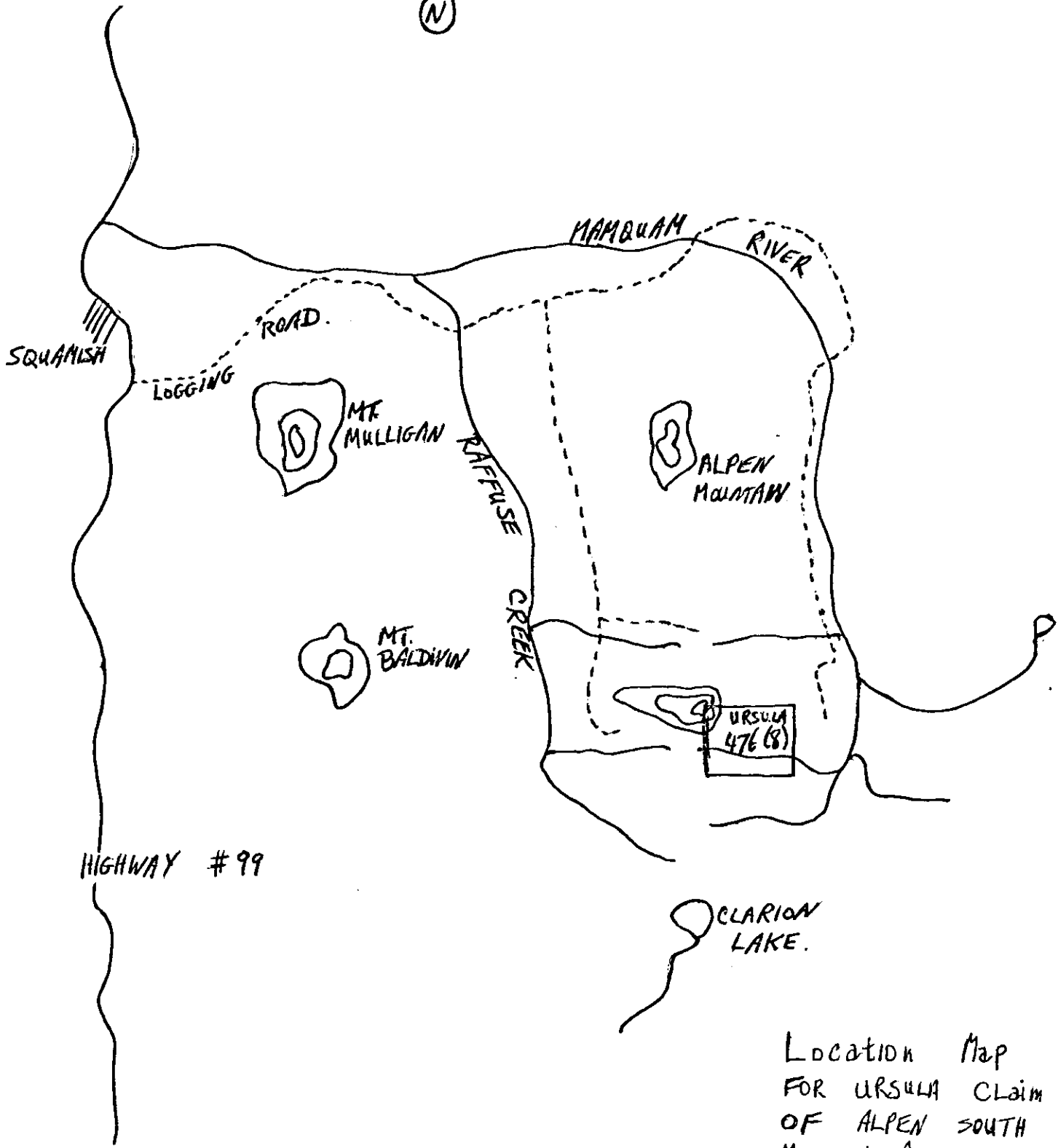


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INDEX MAP



1000 0 1000 2000 3000 Meters.

Location Map
FOR URSULA CLAIM
OF ALPEN SOUTH
Mineral Property

MAP #1
92610 W.

92G 11

INTRODUCTION

The Alpen South property is located approximately fifteen kilometers southeast of Squamish on a northwest trending ridge to the south of Alpen Mountain and north of Clarion Lake. The Mamquam River lies to the east and Raffuse Creek to the west.

Access is by logging road that leaves Highway 99 approximately one-half kilometer south of the turnoff to Squamish. The road is used for active logging by McMillan-Bloedel and Weldwood. Permission to use the road can be obtained from the MacMillan-Bloedel offices near the entrance to the road. The two logging roads to the area are shown on the index map.

This property has been staked in the past but no assessment reports have been filed.

The property is owned by Alpen Exploration Ltd. of Squamish.

This area has been explored mainly by geochemical and regular prospecting methods. The geochemical assessment of the property has been done with a Dithizone Kit sold by Bondar-Clegg & Company Ltd. Anomalous silt samples found with the kit have been checked by having analyses done by Bondar-Clegg & Company Ltd. The number of silt samples tested with the Dithizone Kit was 25; the number of silt samples analyzed was 4; the number of seep samples analyzed was 2. A separate list of these will be found in Appendix D. The

traditional prospecting method yielded 4 rock analyses and one assay. The total area prospected is 150 hectares.

TECHNICAL DATA AND INTERPRETATION

The Dithizone Field Kit was used to test silt from almost every creek in the area. The test is a colorimetric measure of the total heavy metals in a given sample. It measures the total of zinc, lead, copper, tin, silver, cobalt, and nickel, but, it is most sensitive to zinc.

The test is roughly quantitative and can distinguish between low, medium and high totals of heavy metals. The higher the number of cc's of dithizone to reach an end point, the higher is the total heavy metal content. A table correlating the dithizone readings and subsequent analyses of the silt is given in Appendix C. The range of the test is from zero to fifty according to company literature. However, once the kit was used within the central zone of the prospect, it was found that a high reading of fifty was insufficient and the reading of the test has since been modified to give an upper limit of one hundred. The background as measured by this kit is zero or one.

Ten soil samples were taken across the hill between the main creek and creek #2; five samples were taken at 50 to 100 m intervals on the 4000' contour and with the same interval on the 4350' contour. The soil samples at 4000' ranged from 0 to 20 cc's of dithizone while those on the 4350' contour ranged from 0 to 3 cc's of dithizone. None of the samples has been analyzed in the lab.

The results of the silt, soil and seep sample survey done are shown on Map #2. They are given in cc's of dithizone and are shown as a circled number, i.e. (50). Where analyses were done, the results are given. Analyses were done on Cu, Pb, Zn, occasionally Ag, and are given as ppm. Gold analyses are in ppb. Elevations where samples were taken, were measured by altimeter and were recorded in meters.

The soil samples taken correspond very well with the rock examined while prospecting. In general, the outcropping rock is barren of mineralization other than pyrite. Occasionally some chalcopyrite was found filling fractures but no sphalerite has been identified to date. Outcrops containing chalcopyrite have been marked (ccp) on Map #2. Rock analyses where done have been marked on the map. One interesting piece of float found at the junction of creek #2 and the main creek was assayed to contain 2.62% copper (as chalcopyrite). The source of this piece of float has not been found to date.

The major concentration of chalcopyrite has been found in the main creek roughly at elevation 3400'. It is in an area of heavy pyrite concentration with evidence of shearing and fracturing. There are also black dykes, one to two meters wide, running approximately north-south across the main creek. The mineral in this area does not appear to be of economic grade or extent.

For the purpose of prospecting, the rock in this area has been classified into three groups:

1. The Gambier Group - rocks that include rhyolites, dacites, andesites and pyroclastic rocks.

2. Quartz Diorite

3. Granodiorite

The approximate boundaries of these rock groups are shown on Map #2.

The names and definitions for these rocks were taken from G.S.C. Memoir #335 by J.A. Roddick, pp. 58-61. The results of our prospecting have altered the contacts of these rocks, as shown on Map 1151A "Pitt Lake".

All of the Gambier group rocks found in this area have been subjected to a low grade of regional metamorphism. As one approaches the center of the presumed geochemical anomaly, the local alteration becomes more intense. Approaching from the north, along the Mamquam River, four kilometers from the center, the rock is typical quartz diorite containing hornblende only. About 3.5 km from the center, epidote appears in the rock. At about two kilometers from the center, chlorite appears and remains the main mafic mineral for the area. Once within the presumed center area, whitish altered rocks containing sericite have been found and there is one section of rock approximately two hundred and fifty meters wide that contain feldspars altered to clay minerals.


CONCLUSION

The main creek draining the Ursula Claim has been found to have anomalous values of copper and zinc. These have been traced to an area of approximately twenty-five hectares at the 4000' to 4350' level above creek #3 between the main creek and creek #2. This area also shows anomalous values of lead.

Outcropping rocks and soil samples do not correlate well with the high geochemical findings.

It is felt by the author that the mineral detected geochemically in the streams and seeps of this area, is not being derived from the outcropping rocks but is being transported by water from a mineralized area within the mountain. Since lead does not travel far from the source, the lead anomalies seem to indicate that the source is quite close.

The pyrite, chalcopyrite, and altered zones mentioned earlier, appear to be "fringe" or peripheral manifestations of the mineral forming process presumed to be present in this area.


K. R. MacKenzie, B.Sc. M.D.

APPENDIX A

AUTHOR'S QUALIFICATIONS

K. R. MacKenzie, B.Sc., M.D.

Doctor MacKenzie is a medical doctor who graduated from the University of British Columbia in 1963 with a B.Sc. in Chemistry and Mathematics. Geology 105 was taken as part of his undergraduate studies. He spent three summers working for the Geological Survey of Canada under Dr. J. O. Wheeler.

After graduating from U.B.C. in 1968 with a medical degree, Dr. MacKenzie has continued to prospect as a hobby.

Recent reading by the author includes:

- G.S.C. Memoir No. 335 - J.A. Roddick
- Prospecting in Canada (G.S.C.) by A.H. Lang.
- G.S.C. Paper 72-53, Rock and Mineral Collecting in British Columbia, by S. Leaming.
- G.S.C. Paper 72-22, Precambrian Volcanogenic Massive Sulphide Deposits in Canada: A Review by D.F. Sangster.
- Geol. Soc. Malaysia, Bulletin 9, Nov. 1977, pp.1-16, Mineralization in the Coast Plutonic Complex of British Columbia, south of latitude 55°N by G.J. Woodsworth and J.A. Roddick.
- International Geologic Congress, Field Excursion A09-C09, Copper and Molybdenum Deposits of the Western Cordillera.
- Exploration and Mining Geology by William C. Peters.
- A Field Guide to Rocks and Minerals by Pough.
- Volcanogenic Deposits and their Regional Setting in the Canadian Cordillera - Abstracts from the Geological Association of Canada Conference, January 25, 26, 1980.

The author has received significant input from F. Baumann, P.Eng., who was previously employed by Duval Corporation, now teaching high school earth sciences and mathematics; from R. Price, Geology 105 at U.B.C. and three summers of field work doing geochemistry and prospecting; and, Rod Arnold, project geologist for Western Mines.

APPENDIX B

ITEMIZED COST STATEMENT

STATEMENT OF EXPENDITURES

URSULA CLAIM

VALUE OF MAN-HOURS OF WORK PERFORMED

K. MacKenzie

Period - 1979: September 9, 15, 26; November 10.

- 1980: July 2 ($\frac{1}{2}$ day), 6, 9, 17, 25 ($\frac{1}{2}$ day).

8 days @ \$50.00/day 400.00

F. Baumann, P.Eng.

Period - 1979: September 9, 15.

- 1980: July 2 ($\frac{1}{2}$ day).

2 $\frac{1}{2}$ days @ \$100.00/day 250.00

R. Price

Period - 1980: July 2 ($\frac{1}{2}$ day), 9, 17.

2 $\frac{1}{2}$ days @ \$50.00/day 150.00

750.00 750.00

TRANSPORTATION

9 days @ \$20.00 180.00

GEOCHEMICAL (DITHIZONE) TESTING

Cost of

25 samples taken @ \$1.00 25.00

955.00 fw'd

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forward 955.00

SOIL AND ROCK SAMPLE PREPARATION AND ANALYSES

4 Analyses	15.35	
1 Analysis	4.05	
1 Analysis	3.65	
4 Analyses	19.10	
	<u>42.15</u>	42.15

<u>ROCK ASSAY</u> - 1 sample	5.00	5.00
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REPORT PREPARATION COSTS

Preparation	150.00	
Maps	15.00	
Miscellaneous	<u>20.00</u>	
	185.00	<u>185.00</u>
		1187.15

STATEMENT OF EXPENDITURES
for
PROPERTY EVALUATION BY WESTERN MINES
on the
URSULA CLAIM

SALARIES

Rod Arnold, Project Geologist

July 17, 1980 118.50

ACCOMMODATION AND MEALS

46.77

TRANSPORTATION

Truck - 150 miles @ $.23\frac{1}{2}$ 35.23

Helicopter
- 0.7 hours 285.10

320.35

320.35

485.00

ADD TOTAL FROM PAGE 1 and PAGE 2

1187.15

TOTAL

\$1672.15

APPENDIX C

CORRELATION OF CC'S OF DITHIZONE WITH RESULTS OF
SUBSEQUENT ANALYSES FOR COPPER, LEAD, AND ZINC

<u>Sample No.</u>	<u>Dithizone Test Reading (cc's of Dithizone)</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>	<u>Totals (ppm)</u>
19	20	138	19	168	325
25	30	187	18	216	421
36	50	300	--	300	600
179	50	570	42	387	999
180	50	380	36	785	1201
175	100	415	145	2000	2560
176	100	267	330	2210	2807

APPENDIX D

SAMPLES ANALYZED - LOCATIONS AND RESULTS

1. Rock (Float) - Found at the junction of the main creek and creek #2 in a position where it could have come from either one.

Assay: 2.62% Cu

Analysis: Pb 7 ppm; Zn 30 ppm; Ag 12 ppm.

2. Silt - Main creek above junction with creek #2.

Analysis: Cu 570 ppm; Pb 42 ppm; Zn 387 ppm.

3. Silt - Creek #2 above junction with the main creek.

Analysis: Cu 380 ppm; Pb 36 ppm; Zn 785 ppm.

4. Seepage of a white solution mineral from the rocks bordering the main creek about elevation 3350'.

Analysis: Cu 980 ppm; Pb 13 ppm; Zn 151 ppm; Ag 0.4 ppm.

5. Rock from the same area as above.

Analysis: Au 5 ppb.

6. Rock from shear zone in main creek at elevation 3400'

Analysis: Au less than 5 ppb.

7. Rock from creek #2 at elevation 3280'.

Analysis: Cu 6 ppm; Ag 0.3 ppm.

8. Silt sample from north branch of main creek at elevation 4000'.

Analysis: Cu 610 ppm Pb 107 ppm; Zn 2200 ppm.

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9. Seep sample from creek #3, at elevation 3850'.
Analysis: Cu 267 ppm; Pb 330 ppm; Zn 2210 ppm.
10. Silt from creek #2 at elevation 4150'.
Analysis: Cu 415 ppm; Pb 145 ppm; Zn 2000 ppm.

