

REPORT

ON

BUD CLAIM GROUP,

KATHLEEN LAKE, MAYO MINING DIVISION,

YUKON TERRITORY

by

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MARCH 30th, 1968.

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REPORT
ON
BUD CLAIM GROUP
KATHLEEN LAKE, MAYO MINING DIVISION,
YUKON TERRITORY.

SUMMARY AND CONCLUSIONS

1. The Bud claim group, comprising 42 unpatented mining claims, owned by Gordon Dickson, prospector, of Whitehorse, Yukon Territory, is located in an area of Palaeozoic slates and limestone locally mineralized over an extensive area with disseminated lead and zinc sulphides carrying variable values in silver. The existence of large gossans along the limbs of a major synclinal structure suggests the possibility of sulphide replacement deposits at the contact zone between limestone and slate members.
2. Due to the isolated location, previous work carried out by various companies on the showings during the last ten years was limited to hand trenching to shallow depths and limited geochemical survey work. Improved transportation facilities and the proven existence of major base metal discoveries in the Anvil area, 70 miles to the south, enhance the potential of the Dickson discovery and the expenditure of further funds for bulldozer work, geochemical survey, and follow-up diamond drilling is fully justified.

RECOMMENDATIONS

I recommend that funds be expended to complete the following program of work on the claim group:

1) <u>Bulldozing Trenches</u>		
90 days @ \$400.00	\$ 36,000.00	
Transportation to property	<u>2,000.00</u>	\$ 38,000.00
2) <u>Geochemical Survey</u>		
Line Cutting - 42 miles @ \$100.00	4,200.00	
Sample Assay - 2,000 @ \$2.50	5,000.00	
Supervision - 1 man for 3 months	3,000.00	
Crew - 2 men for 1 month	<u>1,600.00</u>	13,800.00
3) <u>Gravity Survey</u>		
Selected targets-10 miles @ \$400.00		4,000.00
4) <u>Contingent Drilling</u>		
Selected targets-5,000 ft. @ \$16.00		80,000.00
5) <u>Contingencies</u>		
@ 10%		<u>13,500.00</u>
	TOTAL	\$149,300.00
	Say,	<u><u>\$150,000.00</u></u>

INTRODUCTION

The Bud claim group consists of 42 unpatented mining claims, owned by Gordon Dickson, prospector, Whitehorse, located in the Mayo Mining Division, Yukon Territory, approximately 3¹/₂ miles north of Kathleen Lake and approximately 41 air miles northeast of Keno Hill. Kathleen Lake coordinates are, 64° 15' north and 134° 12' west. The claims are named Bud 1 to 24 inclusive, Bud 33 to 48 inclusive, and Dago 1 and 2. They are shown on map sheet 106-D-8, Department of Northern Affairs staking map.

Introduction (continued)....

Access is by aircraft to Kathleen Lake, and thence by trail to the property. A winter road from Mayo, a distance of some 70 miles, passes up the McQuesten-Beaver River valley within a mile or so of the property, and transportation of heavy supplies is possible during the winter months.

The immediate area of the claim group is characterized by gently rolling hills, covered by heavy vegetation consisting of spruce, poplar, dwarf birch and buck brush. A dark brown gossan area is visible from the air on the crest of an east-west-trending ridge at about 4,500 feet elevation, and forms a distinctive feature of the claim group. It extends for at least 2,000 feet in length and is 200 feet in width.

The writer is thoroughly familiar with the property, and examined the showings and supervised a program of work on the property for Prospectors Airways Co. Ltd. in 1958, and for Atlas Explorations Ltd. in 1967.

HISTORY OF THE PROPERTY

The original find in the area was made by Gordon Dickson, prospector, in the early 1950's, and preliminary trenching was carried out by the Springer interests. In 1954, Prospectors Airways Company Ltd. of Toronto made a detailed surface examination, including geological mapping and sampling. A total of 39 hand trenches were completed, with approximately 90 samples taken for assay. Some of these samples were of economic grade, but the general grade tenor was low. It is felt by the writer, however, that many of these trenches were of insufficient

History of the Property (continued)....

depth to penetrate the leached and oxidized surface zone. In view of the size of the zones and the erratic good grade silver and base metal values obtained, deeper exploration of the zones by drilling is clearly indicated. To date, this work has not been carried out.

Atlas Explorations of Vancouver conducted a regional geochemical survey over the area between August 20th and September 3rd, 1966. The purpose was to determine the possibility of other mineralized zones in the area and to delineate the extent of the showing. Due to the limited work completed, the second objective was not accomplished, however, positive lead-zinc anomalies were obtained over the main showing. All claims but the Dago 3 and 5 were subsequently lapsed and the present group of 42 claims was staked in 1968 by Dickson.

GENERAL GEOLOGY

The area north of the Rackla River, in the vicinity of Kathleen Lakes has not been mapped in detail, but is largely underlain by grey, bedded limestone, brown-weathering limestone and intercalated grey slate. The age of these formations is tentatively classified as early Palaeozoic, possibly of Cambrian age. Several bodies of diorite outcrop in the area to the north; and in addition, several steeply-dipping, west-trending dikes, a few lens, 7 feet wide, were noted intruding the sedimentary rocks in the Kathleen Lake area. They are classified as post Devonian in age.

DETAILED GEOLOGY AND STRUCTURE

In the area of the Bud claims, shale, limestone and ferruginous carbonate breccia outcrop. Detailed mapping by Lomer Daigle of Prospectors Airways Co. Ltd. in 1958, indicates that tight folding of the limestone and shale resulted in the formation of an intensely brecciated zone of shale which lies above the limestone and inside the fold. The greatest brecciation is around the apex of the fold and it is cemented with dolomite, followed by replacement with galena and sphalerite mineralization.

Shearing and drag folding occur locally in both the shale and limestone. The variable dips and strikes in the top shale member indicate that thrust faulting has taken place between formations.

Dips in the uppermost shale, along the northeast limit of the fold, are between 20 and 50 degrees. The southwest limb is obscured by overburden, but the few dips that could be measured here are to the northeast.

The structure indicated there is a synclinal fold, plunging southeast along its axis. This is shown on the accompanying composite plan of the property.

The mineralized zones occur near the nose of the fold and are accompanied by heavy, black manganese-stained gossan. The zone on the northeast limb strikes at 70° and dips 40° to the southwest, while the south-west mineralized zone strikes at 110° and dips at 20° to the northeast.

MINERAL OCCURRENCES

The principal mineral occurrence revealed to date on the property is a large gossan zone measuring at least 2,000 feet in length by some 300 feet in width, located near the north boundary of claim Dago No. 3. It contains disseminated sphalerite and galena mineralization in quite variable quantities throughout the zone in a dolomite breccia horizon that parallels the contact between an overlying shale member and an underlying limestone. Considerable siderite mineralization accompanies the lead-zinc, and the siderite contains appreciable manganese which imparts a black colour to the oxidized portions of the zone. The oxidation extends to a depth of at least 4 feet where trenched, and probably much deeper. It is possible that since most of the trenches are in the leached and oxidized zone, sampling to date does not accurately reflect the true mineral content of the underlying rock. It would be reasonable to assume that the values obtained are somewhat lower than the true value due to removal of the ore minerals by leaching.

The main zone has been exposed in 37 trenches along strike. These vary in size but average 5 x 4 x 3 feet in dimensions. Bedrock containing highly oxidized sulphides was reached in nearly all trenches. Permafrost was encountered at an average depth of 4 feet. Unoxidized sphalerite and galena mineralization was reported in only one trench.

Approximately 90 samples were taken for assay by L. Daigle of Prospectors Airways Co. Ltd., from highly oxidized sulphide zones. No sample exceeded 3 feet in length.

The following results were reported:

Mineral Occurrences (continued)....Trench Sampling:

<u>Trench No.</u>	<u>% Zn</u>	<u>Average</u>	
		<u>% Pb</u>	<u>Oz. Ag</u>
1	3.11	Nil	0.16
2	3.42	Nil	0.17
3	0.40	0.16	-
4	0.35	0.69	Tr
5	1.25	0.03	0.18
6	0.05	0.18	-
7	3.53	0.60	0.74
8	1.35	Nil	-
9	Nil	Nil	-
10	Nil	Nil	-
11	Nil	Nil	-
12	Nil	Nil	-
13	No	Mineralization	
14	No	Mineralization	
15	0.76	Tr	-
16	Nil	Nil	Tr
17	Nil	Nil	-
18	Nil	Tr	Tr
19	6.41	0.11	0.58
20	1.18	0.05	Tr
21	0.17	Nil	-
22	2.00	0.32	-
23	0.31	Nil	-
24	0.34	0.04	0.20
25	1.33	0.80	Tr
26	0.51	Nil	Tr
27	1.02	0.05	Tr
28	Tr	1.00	0.96
29	1.64	Nil	-
30	0.80	Nil	-
31 and 32	2.94	1.63	4.56
33	1.74	Tr	-
34	11.55	1.55	3.96
35	25.78	0.44	-
36	16.61	2.65	3.92
37	0.10	Nil	Tr
38	Nil	Nil	Tr
39	Nil	7.77	2.84

Mineral Occurrences (continued)....

Additional sampling for the main mineralized zone is reported as follows:

Samples taken by P.M. Cavanagh, Asbestos Corporation, 1957:

	<u>% Zn</u>	<u>% Pb</u>	<u>Oz. Ag</u>	<u>Au</u>
1) Chip sample across 6 feet width in Pit #7	4.6	Nil	1.14	
2) Chip sample across 8 feet width in Pit #19	4.9	Nil	0.34	
3) Gouge across 2 feet width at end of Pit #19	4.9	2.0	3.10	
4) Grab sample from pit dump of Pit #35	32.6	0.4	1.12	
5) Grab sample from pit dump of Pit #35	15.4	19.4	11.36	

Samples taken by A.E. Aho, 1957:

1) Zinc float, 50 feet southeast of trench #20	44.2	-	33.86	Nil
2) Galena, dump of trench #36	29.2	19.9	14.44	Tr
3) Oxidized float, 75 feet east of trench #5	1.1	1.0	0.74	Tr
4) New trench, N.W. of limestone outcrop between trench #9 and #10	6.4	Nil	4.56	Tr

Mineral Occurrences (continued)....

Specimens of massive galena and sphalerite, weighing several pounds, were obtained from the surface of the central part of the gossan, but attempts to trench these were unsuccessful.

Two grab samples, one of massive galena and another sphalerite, located within 100 feet of the limestone/shale contact, assayed 19 ozs. and 50 ozs. respectively in silver. The sphalerite specimen assayed 0.6% cadmium as well. A rusty specimen of limestone, containing no visible mineralization, also taken near the contact, assayed 0.44% lead and 0.41% zinc. The mineralization in trenches 35 and 36, which are closest to the contact, is higher in lead/zinc values. Nowhere was the actual contact exposed, and nearly all the trenching was done in gossan zones lying parallel to the contact and at an average distance of 200 feet from it. The contact zone should be thoroughly explored around the perimeter of the fold by deep trenching by bulldozer and ripper, or drilling.

The work done to date indicates a 1,500 to 2,000 feet zone of mineralization some 300 feet in width, with a grade tenor in trenching of about 3% zinc with low values in lead, silver and manganese. Spotty, erratic high grade silver values were obtained throughout the zone and encourage additional exploration, both along strike and at depth.

Another smaller gossan zone occurs some 1,500 feet south of the main zone and some 500 feet lower in elevation. A rock trench, No. 39, in this area exposed fresh dolomitic breccia containing coarse galena. A composite representative grab sample of the material from this trench ran 7.77% lead, nil zinc and 2.89 ozs. of silver. The

Mineral Occurrences (continued)....

trench was approximately 6 feet by 2 feet by 2 feet deep, and the true width of the zone here is unknown. The material from this trench resembles typical Mississippian replacement-type mineralization of the tri-state and other similar limestone replacement deposits. As this type of deposit is often of considerable extent, thorough exploration should be undertaken of this area.

GEOCHEMICAL SURVEY RESULTS

Atlas Explorations Ltd. conducted a detailed geochemical survey over the area of the main gossan zone, on claim Dago No. 3 and the south half of adjoining claims, Bud 11 and Bud 10. In addition, a geochemical reconnaissance survey was done along the centre line of the southern group of claims, Bud 34 to Bud 48 inclusive.

A high-order, coincident lead and zinc anomaly was obtained over the main zone, on claim Dago No. 3 and adjoining claims, measuring some 2,200 feet in length and 200 to 500 feet in width. Values up to ten times background in lead and zinc were encountered over extensive areas. The area, as a whole, had a high background value both in lead and zinc. Copper values were all very low. The soil sampling indicates the known showing extends laterally for a considerable distance, measured in hundreds of feet beyond the trenched area. Stream sediment samples, taken along creeks traversing the area, showed a number of scattered, geochemically high areas and indicate the possibility of mineralization extending along strike of the presently outlined zone.

Geochemical Survey Results (continued)....

Additional detailed geochemical survey work should be conducted over the entire claim group as an initial exploration step. Anomalies should be trenched, where possible, with a bulldozer equipped with a ripper; followed by contingent diamond drilling.

Respectfully submitted,



Edward O. Chisholm, B.Sc., P.Eng.
Vancouver, B.C.
March 30th, 1968.

CERTIFICATE

I, Edward O. Chisholm, of the City of Vancouver in the Province of British Columbia, hereby certify that:

- 1) I am a geologist with offices at 602 West Hastings Street, Vancouver 2, B.C.
- 2) I am a graduate of the University of Toronto, Ontario, Master of Arts, 1945.
- 3) I am a member of the Professional Engineers of Ontario and British Columbia.
- 4) I have no direct interest or indirect interest in the property described in this report, nor do I expect to receive any such interest.
- 5) This report is based on an examination of company records, maps and sections, and also several visits to the property.

Dated Vancouver, British Columbia,
March 30th, 1968



Edward O. Chisholm, B.Sc., P.Eng.