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CONSULTING GEOLOGICAL ENGINEERS

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CASCA BUILDING, WHITEHORSE, Y.T. 667-4113

BENTALL CENTRE, VANCOUVER, B.C. 688-3022 OR 522-1562

770 ONE BENTALL CENTRE
505 BARRARD ST.
VANCOUVER 1, B.C.

1968 EXPLORATION PROGRAM
EAGLE PROPERTY & AREA, YUKON.

FOR

TINTINA SILVER MINES LTD.

October 25, 1968

Alan R. Archer

Consultant

Vancouver, B.C.

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Figure 1- soil sampling Eagle claims-----scale1"=500'.

Figure 2- reconnaissance silt sampling---scale1"=1/2 mile.

INTRODUCTION

This report describes a reconnaissance soil sampling survey of the Eagle 1-92 and 115-130 claims and a silt sampling survey covering approximately 200 square miles of surrounding, unstaked, ground. The work was conducted under the writer's direct supervision during August 1968. The purpose of the surveys was to-

- a. define specific areas within the Eagle claims warranting further work.
- b. determine if the known area of silver-lead vein occurrences (an area of 10 or 15 claims) was an isolated occurrence or part of an extensive silver-lead vein system similar to that in the Keno Hill, district.

Lead was used as the geochemical indicator metal. The effectiveness of using this technique under the geomorphological environment of the Yukon has been well illustrated in the Keno Hill area (Operation Keno, Geological Survey of Canada, Map 45-1965) and the Ketzka River area (Geochemical Prospecting in the Ketzka River Area, Western Mines, April 1967). Information for this report is derived from the writer's personal observation and from Geological Survey of Canada Paper 63-38. The writer has not had access to any of the Conwest Exploration Co. Ltd. data on the property.

PROPERTY, LOCATION AND ACCESS

The property consists of 108 contiguous mineral claims in a north-south trending sub-rectangular block. The claims are registered in the Watson Lake, Yukon, mining district and are all in good standing until August 1969.

The property is located 140 air miles northeast of Whitehorse, near the headwaters of the Liard River in the rugged St. Cyr Mountain Range. Present access is by air to Junkers Lake or a nearby 2000 foot airstrip, about 12 miles southwest of the property. A 110 mile winter tote trail built by Conwest in 1961-62 from mile 780 on the Alaska Highway is probably still useable for winter freighting.

HISTORY

The first showings were found by Conwest prospectors in late 1961. In early 1962 Conwest built a 110 mile winter road to the property and started underground exploration. By the fall of 1962 about 1,800 feet of drifting, 625' of surface drilling and 3,200' of underground drilling had been completed. This work, costing almost \$400,000.00, was considered unsuccessful and all activities were terminated. Surface exploration away from the discovery area during the summer of 1962 was probably cursory at best and to the writer's knowledge consisted only of conventional outcrop prospecting.

No significant work has been done on the property from 1962 to the present program in 1968.

GEOLOGICAL SETTING

General

The geology of the area has been mapped on a scale of 1"=4 miles by the G.S.C (Map 8-1960). The regional geology is shown on Figure 2 in the appendix and, on the property, consists mainly of Middle or Upper Cambrian shales, phyllites, argillites and limestone. A granodiorite stock about 3 miles in diameter lies immediately north of the property and forms some of the higher peaks in the St. Cyr Mountains. The sediments are complexly folded and exhibit considerable hornfelsic alterations near the stock.

The property is cut by a series of steep north-trending ridges rising to 6500 feet from a valley elevation of 4500 feet. Alpine and valley glaciation has been extensive in recent times and several active alpine glaciers still exist about 4 miles to the north. Outcrop is not nearly as abundant as might be expected in such a mountainous terrain (see photographs in appendix). Glacial deposits are restricted to the valley or cirque floors and are not widespread or thick. Overburden generally consists of frost broken country rock (felsenmeer) in the flatter areas grading into true talus in the steeper areas. There has

been little soil development as most of the property is above timberline.

Mineral Showings

Some twenty-two separate silver-lead-zinc showings are reported to have been found in the north central part of the property more or less within the boundaries of the Eagle 1-6 claims. These occur as veins and disseminations of tetrahedrite, argentiferous galena and sphalerite near or in limy horizons of the sediments. Most of the showings are vein-type with siderite and quartz gangue. The G.S.C. reports that nine of the more important veins average about 5.0 feet in width and contain mineralized sections about 70 feet in length. Assays are reported to average about 42 ounces of silver per ton, 17% lead and 9% zinc.

MINERAL EXPLORATION PROGRAM

General

A six man crew, field equipment and fuel were mobilized between August 10 and 12 from Whitehorse to the property by truck to Ross River Settlement, float plane to Junker Lake and helicopter to a camp site about 1 mile west of the adit. The helicopter, a Bell 47G2, was retained on contract to move the crew to and from the field. The program was completed on August 29 and the crew and field equipment demobilized by helicopter to

the air strip, wheel plane to Ross River and truck to Whitehorse.

The Eagle claims were soil sampled at 400 centres from three main northsouth baselines, each about 18,000 feet long and 4000 feet apart. These were laid out with tape and compass and stations were established at 400 foot intervals with numbered wooden pickets. (see Figure 1). Samples were dug with a mattock and each sample point was marked with a length of red fluorescent tape with the grid location printed on it in waterproof ink. Samples were collected in individual Kraft bags, dried in base camp, and sent to Chemex Labs Ltd., North Vancouver, where they were analysed for lead by atomic absorption spectrometry of a hot nitric-perchloric acid extraction. A split of each sample has been stored at the laboratory in the event that analysis for additional metals is required in the future. A total of 1312 soil samples were taken.

An area of approximately 200 square miles (see Figure 2) surrounding the Eagle claims was silt sampled to locate other possible areas of interest. Silt samples were collected at intervals from most of the creeks in Kraft bags and treated similarly to the soil samples. A total of 407 silt samples were taken.

Interpretation of the soil sampling is relatively straight forward. Lead is not readily soluble under Yukon weathering conditions and dispersion is physical rather than chemical. The present cycle of rapid solif-

luction produces well-defined lead rich float trains some distance downslope (up to 1000 feet under favourable conditions) from the silver-lead veins. Most of the lead consists of particles of the original ore material or its insoluble oxide. Interpretation, therefore, consists simply of postulating mineralized vein faults immediately uphill from a lead-rich float train. Test surveys in the Ketz River area and the Keno Hill area, Yukon, where similar geomorphological conditions prevail, have proven that reconnaissance sampling on 400 foot centres is sufficient to locate all areas of interest and that resampling of these areas on 100 foot centres will define the exact location of the mineralized vein for exposure by bulldozer trenching. It is the writer's experience that lead values exceeding 50 parts per million are of interest and those exceeding 200 parts per million can be considered highly anomalous. Therefore, the sampling shown on Figure 1 indicates that:

- a. the area of interest on the Eagle claims is not significantly larger than already outlined by conventional prospecting by Conwest.
- b. the high values found in the cirque immediately north of the adit (centred at 400 feet west and 800 feet east of Baseline B on line 8+00S and at 400 feet east of Baseline B on line 16+00S) are probably related to known veins, and, although not indicative of a new area of interest, do

prove the technique.

- c. the high values just south of the camp (centred at 2000 feet west of Baseline B on line 0+00) are in an overburden covered area where no trenching has been done and indicate one or more undiscovered mineralized veins.
- d. the high background immediately west of Baseline C between lines 0+00 and 40+00S is on an east facing slope where no significant showings have been found. The high values may indicate a number of weakly mineralized veins or disseminations of mineralization in a particular stratigraphic horizon.

Interpretation of the silt sampling is somewhat similar to the soil sampling. Creeks with lead values exceeding 50 parts-per-million can be considered of interest particularly if the lead values increase to 100 parts-per million toward the headwaters. The creek draining the Eagle claims from the northeast illustrates the pattern of values expected from an area of significant mineralization. None of the other creeks have values consistently exceeding 50 parts per million except a south flowing creek from the east end of the Ron claims, about 12 miles southeast of the Eagle camp.

The contact alteration zone in the limy sediments surrounding the granitic stock is a favourable setting for tungsten deposits. Twenty samples of skarn were collected

during the regional silt survey and inspected for fluorescent scheelite under an ultra-violet lamp. No mineralization was found.

CONCLUSIONS & RECOMMENDATIONS

Silt sampling has shown that the Tintina silver-lead showings are an isolated occurrence and not part of a larger silver-lead camp similar to the Ketzka River or Keno Hill camps. Soil sampling has indicated that the overall area of interest within the Eagle claims is restricted to approximately 12 claims centred on the Conwest adit.

Further work on the property should be restricted to the above mentioned 12 claim area and should consist initially of detailed soil sampling. The results of the soil sampling in conjunction with data already collected by Conwest will determine the scope and nature of the next phase of development. No further regional work is recommended. However, the silt sample splits should be analyzed for silver, copper, zinc, molybdenum and tungsten in case deposits of other metals exist in the area. Also, the soil sample splits should be analyzed for silver to check the remote possibility of significant tetrahedrite mineralization without a lead association.

Respectfully submitted,



Alan R. Archer, B.A.Sc., P. Eng.

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BUDGET

Winter 1968

Silver analyses soil samples-

1300 samples @ .70¢-----\$900.00

Silver, copper, zinc, molybdenum, tungsten

analyses of silt samples 400 @ \$3.00--- 1200.00

Drafting, interpretation----- 1000.00

\$3100.00

Summer 1969

The following budget is for the detailed soil sampling of 12 claims only and does not include possible physical work which might follow.

Crew & camp, 6 men for 2 weeks----- 5000.00

Mobilization, demobilization----- 4000.00

Geochemical analyses----- 2500.00

Supervision, drafting & duplicating----- 1500.00


13000.00

Plus contingencies----- 900.00

Total cost of winter

& summer programs-----17000.00

Respectfully submitted,



A.R. Archer

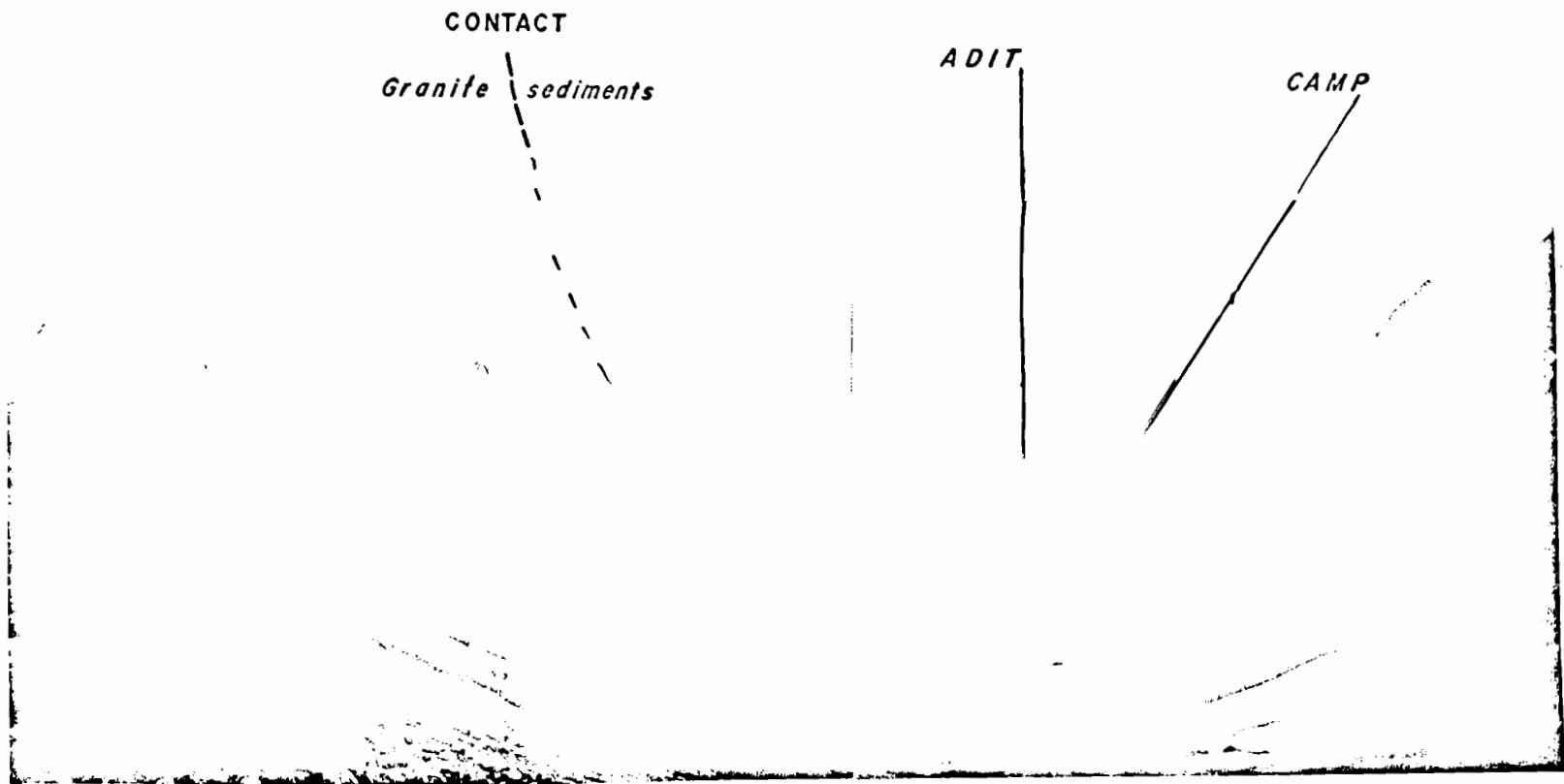


PHOTO 1

Looking southeast toward camp and adit from small lake at northwest corner of grid.

CAMP

ADIT (on other side of ridge)

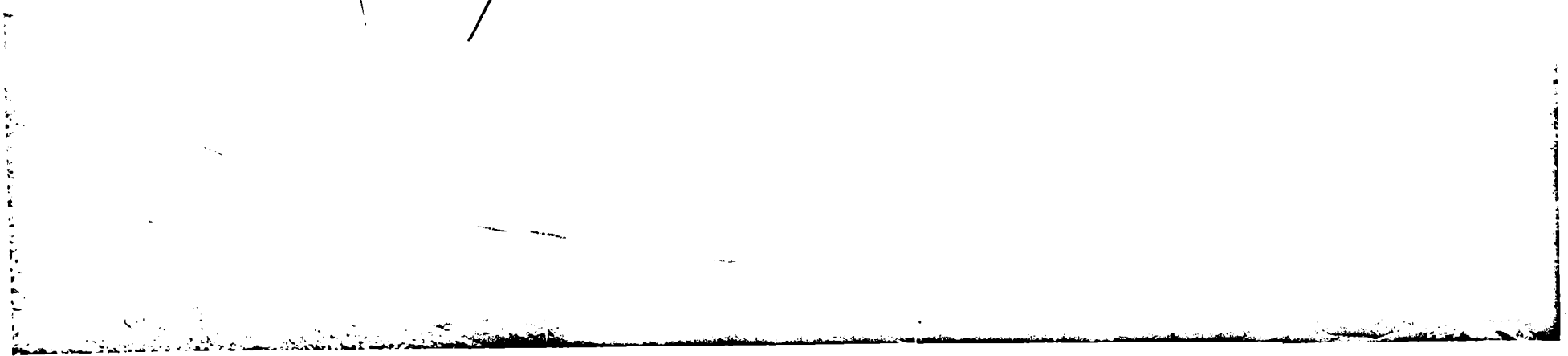


PHOTO 2

Looking northeast toward camp from west side of grid. Note old tote road along the base of the mountain



PHOTO 3

Looking due west from camp.

ADIT



PHOTO 4

Looking northeast from camp, adit lies over the ridge



PHOTO 5

Looking north toward adit from LINE 40 + 00S on BASELINE - B.



PHOTO 6

Looking south from 16 + 00N and 12 + 00 W. of BASELINE C. Camp lies just over ridge.



PHOTO 7

Looking west from BASELINE-C at south edge of grid (adit and camp to right beyond picture.)