

105 J/16

ARCHER, CATIRO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

Box 4127, WHITEHORSE, Y.T. 667-4415

BENTALL CENTRE, VANCOUVER, B.C. 688-2538

1475 TWO BENTALL CENTRE
555 BURRARD ST.
VANCOUVER 1, B.C.

REVIEW REPORT ON
CARIBOU LAKE AND FULLER LAKE PROPERTIES
YUKON TERRITORY

for

NORTHERN HOMESTAKE MINES LTD. (N.P.L.)

April 26, 1972

A.R. Archer, P. Eng.

Consulting Engineer

INDEX

	<u>Page</u>
Introduction	1
Property	1
Caribou Lake Property	
Location and Access.....	1
History	2
Geology	2
Fuller Lake Property	
Location and Access	3
History	4
Geology	4
Summary and Conclusions	4
Recommendations	5

INTRODUCTION

Northern Empire Mines Ltd. holds 90 mineral claims in two separate properties; the Caribou Lake property, in the Anvil-Vangorda district, and the Fuller Lake property, 100 miles northeast of Caribou Lake, both in Yukon Territory. Previous exploration on the Caribou Lake property in 1966-68 has been conducted under the writer's direct supervision. The writer has not examined the Fuller Lake property and information on it has been obtained from reports and maps by other geologist.

PROPERTY

Both properties consist of a single block of contiguous claims. The Caribou Lake property claims are registered at Whitehorse, Y.T., the Fuller Lake property claims at Watson Lake, Y.T. Details of registration are:

<u>Claim Name</u>	<u>Record No</u>	<u>Expiry Date</u>
<u>Caribou Lake Property</u>		
Tara 19-47	Y705-Y733	28 Feb, 1973
Dane 85-88	Y1186-Y1189	4 Mar, 1973
Hal 1-6	Y39-Y44	21 Feb, 1976
Hal 7-8	Y45-Y46	21 Feb, 1975
Hal 9-14	Y47-Y52	21 Feb, 1976
Hal 15-16	Y53-Y54	21 Feb, 1975
Hal 17-22	Y55-Y60	21 Feb, 1976
Hal 23-24	Y61-Y62	21 Feb, 1975
Mark 6-13	Y18931-Y18938	6 July, 1973
Mark 22-37	Y18948-Y18963	6 July, 1973
Mark 38	Y18939	6 July, 1973
<u>Fuller Lake Property</u>		
Tara 1-8	Y2362-Y2369	11 Feb, 1975

CARIBOU LAKE PROPERTY

Location and Access

The property lies 22 miles north of the new town of Faro, which is accessible from Whitehorse by a 235 mile all-weather, gravel highway.

The property is accessible by aircraft which land on Caribou Lake, on the south side of the claim block.

History

The Caribou Lake property was staked in early 1966 for its positional value beside claims being explored by Anvil Mining Corp. Ltd. An airborne magnetometer and electromagnetic survey was flown in July, 1966 by Lockwood Survey Corp. Reconnaissance stream sediment and soil sampling was then conducted along the claim base lines, which are approximately 3000 feet apart. A limited amount of outcrop mapping and prospecting was carried out at the same time. On the basis of this work an area of two square miles on the northeast side of the property was selected in 1967 which was prospected and soil sampled for copper and zinc on a 400 foot grid. Several well defined anomalies were obtained and some sulfide float was found. In 1968 the anomalies were explored by bulldozer trenching and two areas of sulfide mineralization were exposed in bedrock. Further limited trenching was done in 1971 but was not seen by the writer.

Geology

General - The property is underlain by regionally metamorphosed Devonian sediments which are in fault contact with Cambrian schists along the south side of the claims. The Devonian rocks are mainly chert and carbonaceous, locally graphitic, argillites that strike east-west and dip about 40° north. All mineral deposits which are presently being mined or being considered for production in this district are confined to the Cambrian schists.

The property has an extensive cover of light timber and outcrop is less than 10%. Overburden, although extensive and permanently frozen, is generally thin. A typical profile is 3 to 6 inches of moss and peat overlying a few inches of poorly developed soil, which in turn overlies broken bedrock that is usually less than ten feet thick. The area has been glaciated but deposits of glacial material are restricted to the valley floors.

Mineralization - Bulldozer trenching in two of five areas of geochemical response exposed separate zones of sulfides some 2000 feet apart. Both zones appear to be stratiform and consist of disseminated to massive pyrrhotite and pyrite with lesser amounts of sphalerite, chalcopyrite and galena. The first zone was completely exposed and proved to be a lens about 40 feet long and 10 feet wide. Assays averaged 1.25% zinc, 0.05% copper and 0.10 ounces silver per ton. The second zone was partially exposed along its southern edge by three trenches 200 feet apart. Each trench uncovered about 8 feet of the zone which assayed 2.84% zinc, 0.37% copper, 0.01% lead and trace gold and silver.

FULLER LAKE PROPERTY

Location and Access

This property is located about two miles east of Fuller Lake, which is about 90 air miles northeast of Ross River and six miles east of the Canol Road. The Canol Road is a secondary gravel road, accessible only during snow-free months, which extends northeast from Ross River to the Northwest Territories boundary. There is presently no access other than by air between the property and the road.

History

The details of the original discovery are not known. In 1954, D.M. Cannon mapped and sampled the showing for Newmont Mining Corp. It was restaked by Yukon Copper Ltd. early in 1966 and examined by T.L. Sadlier-Brown for Atlas Explorations Ltd. later that year. Some hand trenching for assessment has been done since 1966 but no details are available to the writer.

Geology

These claims cover a mineralized shear zone up to ten feet wide which cuts well-bedded, steeply dipping chert, shale and hornfels. It is over 800 feet long and follows a stream bed up the side of a hill. It is within a mile of a granodiorite stock.

Galena, sphalerite, chalcopyrite, pyrrhotite and pyrite occur in bands or lenses which follow the trend of the shear zone. Average grade is about 2.5% lead, 2.2% zinc, and 3.0 ounces ton silver.

SUMMARY AND CONCLUSIONS

The mineralization presently exposed on the Caribou Lake property is sub-economic. However, the nature of the showings suggests that stratiform type deposits, which have potential for large tonnages, are present. Additional bulldozer trenching, together with diamond drilling, is warranted to search for new mineralized zones and extensions of known zones in order to find better widths and better grades. The best zone found to date is at least 400 ft. long and 8 ft. wide and three other geochemical anomalies are known which have not been tested.

On the Fuller Lake property, the economic potential of this low-grade mineralization over such narrow widths and in such a remote location

is rather small. However, its presence in close proximity to an intrusive contact suggests that more substantial occurrences may exist in the surrounding area. The silver content is particularly interesting.

RECOMMENDATIONS

Because of its better accessibility and better tonnage potential, priority should be given to the Caribou Lake property. A two-stage work program is recommended, with the necessity for the second stage dependant on favourable results from the first.

Stage 1 - Caribou Lake

Additional bulldozer trenching -	\$10,000	
Drilling - B ₂ core size - 1000 ft. @ \$25.00/ft (including helicopter support, supervision & assays)	<u>\$25,000</u>	
		\$35,000

Fuller Lake

Prospecting and sampling		<u>\$ 5,000</u>
--------------------------	--	-----------------

Sub-total - Stage 1 - \$40,000

Stage 2 - Caribou Lake

Additional drilling-1000 ft. at \$25.00	\$25,000	
--	----------	--

Fuller Lake

Rock trenching or geophysical surveys	<u>\$10,000</u>	
--	-----------------	--

Sub-Total - Stage 2 - \$35,000

Total both Stages - \$75,000

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LTD.

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