

INTERIM REPORT  
ON  
1968 EXPLORATION



RABBIT CREEK PROPERTY,  
KLUANE DISTRICT, YUKON  
CANYON CITY EXPLORATIONS LTD.

*Included with I.P. Survey Report #8025.0  
by PE Wolcott January 1969 for 124h*

R.J. Cathro, P.Eng  
March 1, 1969

This report has been examined by  
the Geological Evaluation Unit  
Approved as to technical merit by:

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RESIDENT GEOLOGIST

Approved as to cost in the amount  
of: \$

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Accepted as representing  
under Section 53(4) of the  
Mining Act

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COMMISSIONER

## INTRODUCTION

This report outlines 1968 surface exploration conducted on the Rabbit Creek property, Kluane District, Yukon, of Canyon City Explorations Ltd. For information on the history, location and regional geology of this property, the reader is referred to a previous report by the writer dated March 1, 1968, printed in the company prospectus.

Exploration of the Canyon City property was both intermittent and incomplete due to delays in financing throughout the summer field season. As a result, only enough work was completed to maintain the claims in good standing until the 1969 field season. During March and April, a five-mile winter tote trail was built to the Rabbit Creek showings from the United Pemetex Ltd. (Silver City) camp on White River. A short, emergency bush airstrip was constructed, some fuel and freight was hauled in before breakup, and two tent frames were erected at the Rabbit Creek campsite. White, Hosford and Impey Ltd. of Whitehorse cut and picketed 8.1 line miles ~~at 200 foot spacing~~, at a 200 foot spacing, in a grid centered on Rabbit Creek, and Seigel Assoc. which had a crew at the adjoining United Pemetex property, attempted an I.P.

survey. This proved unsuccessful due to frozen ground conditions and only two lines were surveyed.

During June and July, a crew from Archer, Cathro and Assoc. Ltd. carried out a reconnaissance geochemical sampling survey of the entire property and a detailed survey over the Rabbit Creek grid. No further work was done until November when Eagle Geophysics conducted 4.3 line miles of I.P. survey over the Rabbit Creek grid.

#### GEOCHEMICAL SURVEY

During late June, a four man crew supplied by Archer, Cathro and Assoc. Ltd. conducted a soil sampling program over most of the property. Sampling was at 100 foot intervals on the Rabbit Creek grid and elsewhere was at 400 foot centres established by pace and compass from claim base lines. A total of 1087 samples were collected and these were analyzed for copper by Chemex Labs, North Vancouver, B.C., using a hot acid extraction. The assays in ppm copper have been plotted in plan on Figures 1 and 2.

The geochemical sampling is strongly influenced by

topography, which has three distinct subdivisions:  
a) the gentle floor of the Tchawsahmon Valley, b) the steep escarpment of the mountain front flanking the valley and the steep walls of Rabbit and McLellan Creeks; and c) the gentle rolling upland. The escarpment defines the edge of the major Generc-Tchawsahmon thrust fault. The deeply incised, transecting valleys of Rabbit and McLennan Creeks probably indicate the presence of strong cross-faults. The plateau is between 300 feet above the valley floor at the southeast end of the property and 1000 feet above at the northwest end. The valley floor is underlain by permafrost and is consequently difficult to sample. Recent deposits of gravel and talus are scattered through this area and ground water circulation is poor, so that sampling here is not conclusive.

Outcrop is only extensive in the steep parts of the escarpment and in the creek bottoms. The relationship between Permian greenstones and Tertiary basalts was mentioned in the earlier report. No detailed geology was attempted during the geochemical survey.

### Rabbit Creek Grid

The background level is about 50 ppm. In some cases the slopes of Rabbit Creek are too steep for sampling. Soil development is poor and erosion has caused considerable slumping and mixing of the soil and talus. Thus, some anomalous samples may reflect primary float from uphill rather than secondary dispersion.

The highest values were obtained from the sides of Rabbit Creek Valley in the area of known low-grade mineralization. Several small anomalous areas occur elsewhere on the grid. One small anomaly occurs at the east end of Lines 84N and 86N. A larger anomaly 1000 feet west of the camp on Lines 94N and 96N is associated with small amounts of chalcopyrite float. Further north, at the west end of Line 100N, a vaguely defined anomaly occurs on the edge of the valley floor. Two small areas also exist just west of the waterfall on Lines 76N, 78N, 80N.

The sampling elsewhere on the claims failed to locate any areas as anomalous as Rabbit Creek, although a few isolated high values were obtained. The most interesting values are at the extreme north end of the area sampled, on claim CC#70, on the face of the escarpment. Hand trenching

here has exposed chalcopyrite and pyrite in a strongly weathered gossan which occurs in limestone and volcanics.

#### GEOCHEMICAL DISCUSSION

Most of above-background assays are associated with areas in which low amounts of chalcopyrite are known to occur in bedrock. These mineralized showings generally consist of pyrite and chalcopyrite in narrow quartz veins, although one area (CC#70) could be a replacement in limestone. This veining probably occupies shatter zones related to the nearby regional thrust fault. The reconnaissance sampling indicates that very small amounts of copper are dispersed throughout the Cache Creek volcanics.

Because pyrite is quite abundant, surface oxidation has produced thin limonite gossans and highly acidic subsoil conditions. This acid condition permits almost total leaching of copper to the sulphate form and this is subsequently retained in the reducing environment of the clay soils. Hence, geochemical anomalies on this property give an exaggerated indication of the amount of copper present in the rock. On the Tchawsahmon Valley floor, on the other hand, a surface capping of well-washed alluvial gravel masks the true bedrock nature.

INDUCED POLARIZATION SURVEY

The details of this survey are well documented in a January, 1969 report by Peter E. Walcott, P.Eng. of Eagle. Owing to freezing conditions Eagle was only able to survey a little more than half the Rabbit Creek grid. Readings were taken at 100 foot intervals, employing a 200-foot electrode spacing, three electrode array, and a Hunttec pulse-type instrument.

The chargeability background is fairly low (between 1.5 and 2.5 milliseconds) on the higher elevations northwest and southeast of the baseline (which follows Rabbit Creek). The only significantly anomalous readings were obtained from the northeast corner of the grid, on lines 96, 98 and 100 North. The values increase sharply to between 10.4 and 13.6 milliseconds on lines 98N and 100N, respectively, at the extreme edge of the survey. The anomaly extends in a long "tail" up Rabbit Creek along the edge of No. 1 and No. 2 showings, and by extrapolation, could be related to them. The magnitude of this tail is from 4.0 to 5.0 milliseconds, or about double background. The "tail" generally follows Rabbit Creek and the possibility

cannot be overlooked that it is caused by surface conditions in the stream channel.

### SUMMARY AND CONCLUSIONS

The low I.P. and geochemical response in the vicinity of the Rabbit Creek showings indicates that they have minor economic potential themselves. Geochemical results on the remaining portions of the property sampled are disappointing. In general, the higher elevations appear to have little exploration interest.

Three areas deserve further exploration, and these are, in order of priority:

(1) Rabbit Creek Grid

The I.P. survey has caught the edge of a strong anomaly lying north and east of the existing Rabbit Creek grid. The magnitude and extent of the anomaly is not yet defined but one reading of 13.6 milliseconds, about four times background, was obtained. The anomaly and its tail, which extends to the west towards mineralized showings along Rabbit Creek, show a pronounced spatial relationship with Rabbit Creek and could, by extrapolation,

be related to the showings. Further I.P. and magnetometer surveys should be conducted north and east of the Rabbit Creek grid to better define the anomalous area. If the anomaly responds well to this work at least one diamond drill hole will be required for evaluation of the indicated mineral content. If copper mineralization was found, the valley floor would become of major interest.

(2) The chalcopyrite on claim CC#70 deserves a small program of detailed mapping and sampling to evaluate its potential.

(3) A small area at the southeast end of the property is thought to be underlain by Mush Lake group volcanic rocks. This unit, Triassic in age, is the host rock for the native copper - chalcocite deposit now being investigated by Silver City Mines Ltd. A small program of geological mapping and soil sampling should be carried out initially to confirm that Mush Lake rocks are actually present.

The estimated expenditure for the initial work, which will primarily determine if drill targets exist on the Rabbit Creek grid, is:

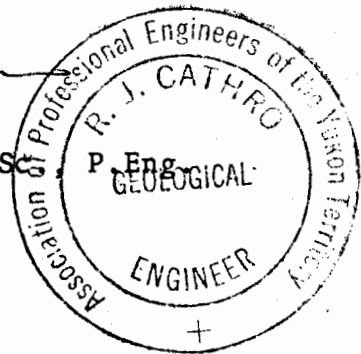
Linecutting .....	\$ 3,000.00
Geophysical surveys .....	5,000.00
Geochemical sampling and geological mapping .....	5,000.00
Air transportation .....	10,000.00
Camp costs .....	5,000.00
Contingencies .....	2,000.00
<hr/>	
TOTAL .....	\$30,000.00

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LTD.



R.J. Cathro, B.A.Sc.



ARCHER, CATHRO  
AND ASSOCIATES LTD.  
CONSULTING GEOLOGICAL ENGINEERS

Box 1708, WHITEHORSE, Y.T. 667-4113

BENTALL CENTRE, VANCOUVER, B.C. 688-3022

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

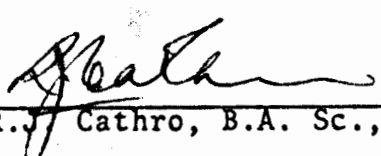
March 1, 1969

I, Robert J. Cathro, with business and residential address in Vancouver, B.C., do hereby declare that:

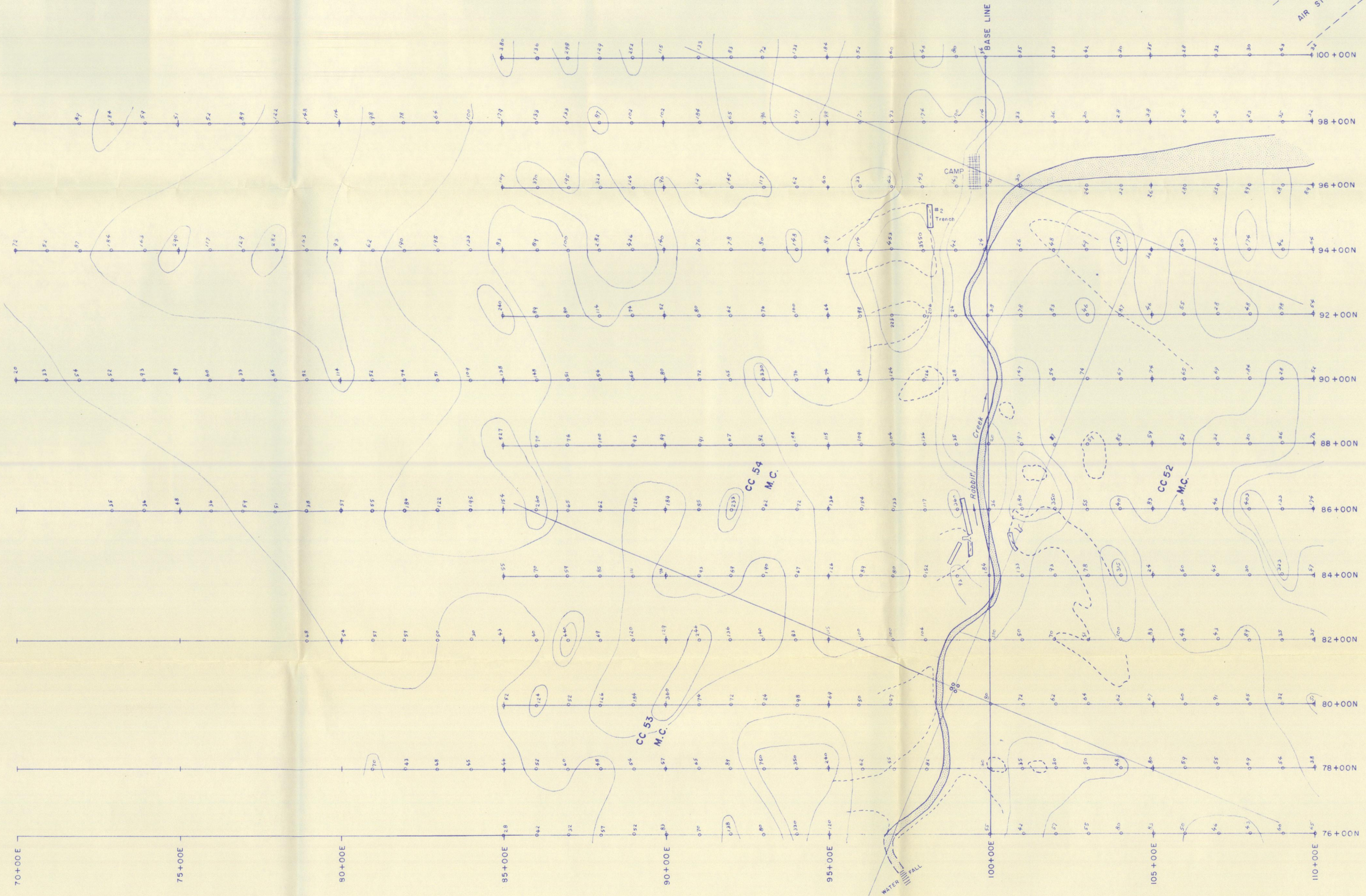
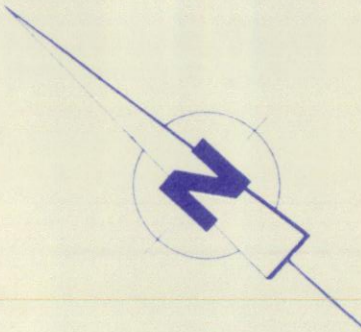
- (1) I am a consulting geological engineer.
- (2) I am a graduate of the University of British Columbia, 1959.
- (3) I am a registered professional engineer in British Columbia and Yukon.
- (4) From 1959 to 1965 I was engaged in mining and exploration geology and held positions of responsibility with United Keno Hill Mines Ltd., Giant Yellowknife Mines Ltd., and Eldorado Mining and Refining Ltd.
- (5) I have personally supervised the exploration work referred to in this report and have visited the property several times.
- (6) I have no interest, nor do I expect to receive any interest, direct or indirect, in any properties or companies referred to in this report.

Respectfully submitted,

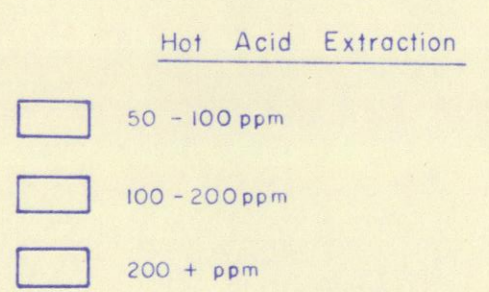
ARCHER, CATHRO & ASSOCIATES LTD.

  
R.J. Cathro, B.A. Sc., P.Eng.





SU - SAMPLE UNOBTAINABLE  
 o - SOIL  
 x - SILT



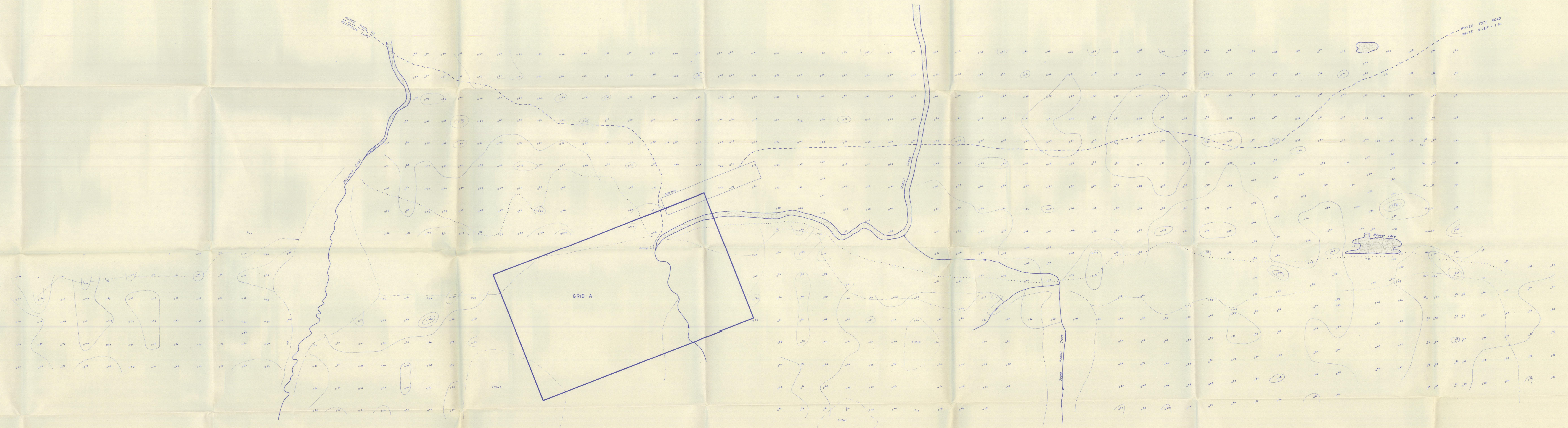
**Legend**

Outcrop  
 Trench  
 Old Adit

**Cu Geochemistry**  
**RABBIT CREEK GRID**  
 CANYON CITY EXPLORATIONS LTD.  
 White River District, Yukon  
 ARCHER, CATHRO & ASSOC. LTD.  
 Consulting Geological Engineers

DATE	15 May 1968	<b>GRID - A</b>
DRAWN	<i>[Signature]</i>	
SCALE	1" = 200'	

DWG.



SU - SAMPLE UNOBTAINABLE  
 ○ - SOL  
 x - SILT

Hot Acid Extraction

50 - 100 ppm  
 100 - 200 ppm  
 200 + ppm

--- Edge of steep cliff area  
 ..... Edge of Tshawashan White Valley

Copper Geochemical Survey

CC CLAIMS 1-72  
 CANYON CITY EXPLORATIONS  
 WHITE RIVER AREA, Y.T.

ARCHER, CATHRO & ASSOC. LTD.  
 Consulting Geological Engineers

DATE 29 June 1964  
 DRAWN [signature]  
 SCALE 1" = 500' DWG.