

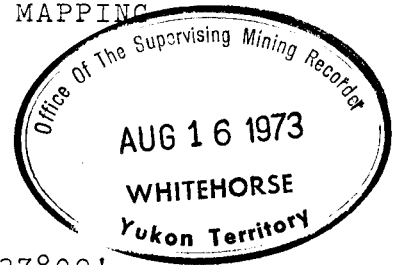
ARCHER, CATRO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

WHITEHORSE, Y.T. 667-4415

6TH FLOOR, TWO BENTALL CENTRE, VANCOUVER, B.C. 688-2568

POST OFFICE BOX 4127
WHITEHORSE, Y.T.

REPORT ON
GEOCHEMICAL SAMPLING AND GEOLOGICAL MAPPING
ROD 1-32 MINERAL CLAIMS



Latitude 62°40'

Longitude 137°09'

Whitehorse Mining Division, Yukon

NTS 115I/11

Northair Mines Ltd.

14 August, 1973

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$4960

D.B. Craig

Resident Geologist or
~~Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

[Signature]
Commissioner of Yukon Territory

Alan R. Archer

Consulting Geological Engineer

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INTRODUCTION

The exploration program on the Rod 1 to 32 claims described in this report was done under contract by Archer, Cathro & Associates Ltd. for Northair Mines Ltd. from August 4 to August 10 inclusive, 1973. Field men were J. Rance and D. Eaton with supervision provided by the writer, A.R. Archer.

The objective of the program was to explore the claims by grid soil sampling and geological mapping for copper mineralization similar to that found two and one half miles southwest on property held by Silver Standard Mines Ltd. and the United Keno Exploration Syndicate.

PROPERTY, LOCATION AND ACCESS

The property consists of 32 mineral claims recorded at Whitehorse, Yukon Territory, as follows-

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Rod 1-32	Y66967-938	14 August, 1973

Figure 1 illustrates the relative position of the individual Rod claims as located in the field. The claim lines were easy to locate and follow. Accessibility is illustrated in the insert in the upper right hand corner of Figure 1. Minto, the nearest road point on the Klondike Highway, is about 150 road miles from Whitehorse.

GEOLOGY

Figure 2 illustrates areas where outcrop, or "near outcrop" irregular fragments of bedrock float, were noted. There is no intrusive outcrop on the property that is sufficiently undisturbed by frost action to enable measurement of foliation attitude. Most of the bedrock float is found along northwest ridges facing the

Yukon River. The predominant rock type is a Jurassic or later intrusion very similar to that found on the United Keno and Silver Standard properties. It is a medium to coarse grained biotite hornblende granodiorite with a high (up to 20 per cent) biotite content. Foliation, caused by alignment of the biotite, is strongly developed. Narrow aplite dykes and simple pegmatite dykes with a high K-feldspar content are occasionally seen. Weak chloritic alteration of the hornblende is fairly common and there is a possibility that the K-feldspar is caused by secondary alteration in which case the intrusive might have originally been dioritic. Minor limonite and/or hematite staining is found which is probably due to alteration of magnetite.

There is no evidence of any significant Pleistocene glaciation. Topography is featureless except for the steep bluffs facing the Yukon River. Overburden on the flat areas, near the Yukon River, is probably river sand and clay rather than locally derived residual till. Vegetation is mainly scrub spruce and pine with dead falls, due to an old forest fire, giving way to poplar stands on steeper slopes.

GEOCHEMICAL SAMPLING

General

The mineralized areas to the southwest of the Rod claims consist of strongly foliated zones, within the Jurassic or later intrusion, that vary from a few feet to several hundred feet in width. They usually strike northwest and occur in sub-parallel groups dipping to the east. Mineralization in them consists of

bornite, chalcopyrite, chalcocite and traces of pyrite and molybdenite. Weathering results in conversion of copper sulfide to copper oxide with little change in grade. Mobilization of copper in ground water is minimal and stream sediment sampling is ineffective unless the stream happens to cut across a zone. Soil sampling, however, has proven to be a very effective preliminary way of detecting mineralized zones through deep residual overburden, even in areas with an additional light cover of glacial till. A soil sample grid spacing of 400 feet by 400 feet on the known properties would have located all areas of interest. The best indicator metal is copper although weak associated silver and molybdenum values are occasionally obtained. Copper background in the district ranges from 10 parts per million (ppm) to 30 ppm, sometimes rising to 40 ppm. Threshold is about 40 ppm and values in excess of 100 ppm are obtained over or near mineralized areas, provided a strong contrast. Swampy or organic rich areas have a tendency to act as copper collectors and occasionally return values 10 to 30 ppm higher than regional background.

Technique

The corner posts of the Rod 9-12 claims was chosen as zero east. A tie line was chained northerly from this point to establish a zero point on the remaining Rod claim line. The Rod claim lines were designated Baseline A and B respectively from a south to north direction. The baselines were chained east and west from their zero points and three foot lath pickets established at 400

foot intervals. Each lath was marked with the appropriate co-ordinate in multiples of 100 feet. For example, a lath on Baseline B located 4000 feet east of the zero tie line would be marked BL B, 40E. The field position of the Rod claim posts was determined while chaining the baselines. A second tie line was established near 4000 west to determine the exact degree of convergence or divergence of the claim lines.

Soil samples were taken at 400 foot intervals by pace and compass between the 400 foot stations on the baselines. Soil sample locations were marked with the appropriate co-ordinate relative to the baseline being worked from. For example, a soil sample picket 800 feet south of Baseline A on cross line 1200 East would be marked A12E+8. The soil sample bag number was printed on the reverse side of each picket. Figure 3 shows the soil sample bag number for each point and this map would provide the simplest method of relocating the relative position on any soil sample picket in the field. The soil sample points on Figure 3 and 4 are shown as best possible in their true location. A pace and compass traverse that wandered slightly between baselines is drawn in a straight line from the starting position to the actual finishing position. The tie lines, baselines and soil sample lines were well marked with orange glow flagging.

Soil samples were obtained by digging to a B or B plus C horizon with a mattock. Samples were collected in pre-numbered kraft envelopes and air expressed to Chemex Labs Ltd., North

Vancouver, B.C. Each sample was assayed for copper, molybdenum and silver by atomic absorption spectrometry of a nitric-perchloric extraction of a minus 30 mesh fraction. Sample splits will remain in storage at Chemex for five years in the event that analyses for additional elements are required in the future. In several areas, sample pits could not be dug to a B horizon due to a combination of permafrost and thick peat or black muck in swampy areas. Samples taken from such areas are marked PS (meaning poor sample). A total of 480 soil samples were taken out of a theoretical maximum of 448 for a 400 by 400 foot spacing on 32 claims.

Interpretation

Other than a few swampy sections on the flat area near the Yukon River, soil sample conditions were good. Most of the samples were obtained from a B horizon that varied from a light to red brown colour. Samples near areas of bedrock float were usually obtained from a B plus C horizon. A typical soil profile is several inches of moss and/or organic debris underlain by one to twelve inches of peaty material above the B horizon. There is no evidence of the recent volcanic ash that occurs further south in the district.

Figure 4 illustrates soil sample analyses in parts per million (ppm). Only those molybdenum and silver values that exceed the detection limit of 1 ppm and 0.5 ppm respectively are plotted. These are shown in brackets beneath the appropriate sample points. All copper assays are plotted and values above 30 ppm are contoured. This slightly lower than regional threshold has been used because the background on the Rod claims is lower than normal

for the district. With the exception on one sample point, no samples assayed above the detection limit in molybdenum or silver. Seven areas with three or more adjoining sample points with above threshold copper response were located. Three are on the eastern side of the property where soil sampling conditions were poor and where there is a possibility that river silts, rather than residual till, is the source. The most interesting above threshold area is found between the claim lines near cross line 1600 west. Here, four samples define a northerly trend, which is the general trend of mineralized zones in the district, supported by several above threshold values further north and south. A second area south of Baseline B, near the western side of the claims, is also worth investigation as there is a suggestion of a northerly trend supported by values just south of the claim block. The remaining above threshold value areas appear erratic with no particular trend.

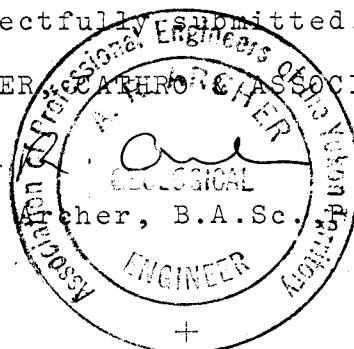
CONCLUSIONS AND RECOMMENDATIONS

The geochemical response on the Rod claims is too weak to justify a major program of surface exploration. However, the areas of above threshold copper response south of Baseline B at line 1600 West and line 5800 West do merit exploration by bulldozer trenching as long as the total cost does not exceed \$5,000. Trenches should be cut deep enough to determine the intensity and attitude of foliation in the granodiorite.

Respectfully submitted,

ARCHER, ARBERO & ASSOCIATES LTD.

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



ARCHER, CATHRO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS



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AFFIDAVIT

I, S. Thompson, of Archer, Cathro & Associates Ltd.,
P.O. Box 4127, Whitehorse, Yukon Territory do solemnly declare
that the following Statement of Expenditures for work on the
Rod Claims located on 115 I/11 Claim Sheet is to the best of
my knowledge true and accurate.

Signed before me at Whitehorse
this 15 day of August, 1973

Alan R. Orr
Yukon Notary.

S. Thompson
S. Thompson
Archer, Cathro & Assoc. Ltd.

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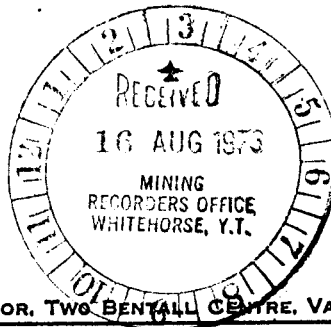
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Statement of Expenditures
Rod and A1 Claims
August 14, 1973

Contract soil sampling and mapping 32 Rod claims at flat
rate of \$155/claims\$4,960.00

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In Account With
Northair Mines Ltd.
August 13, 1973

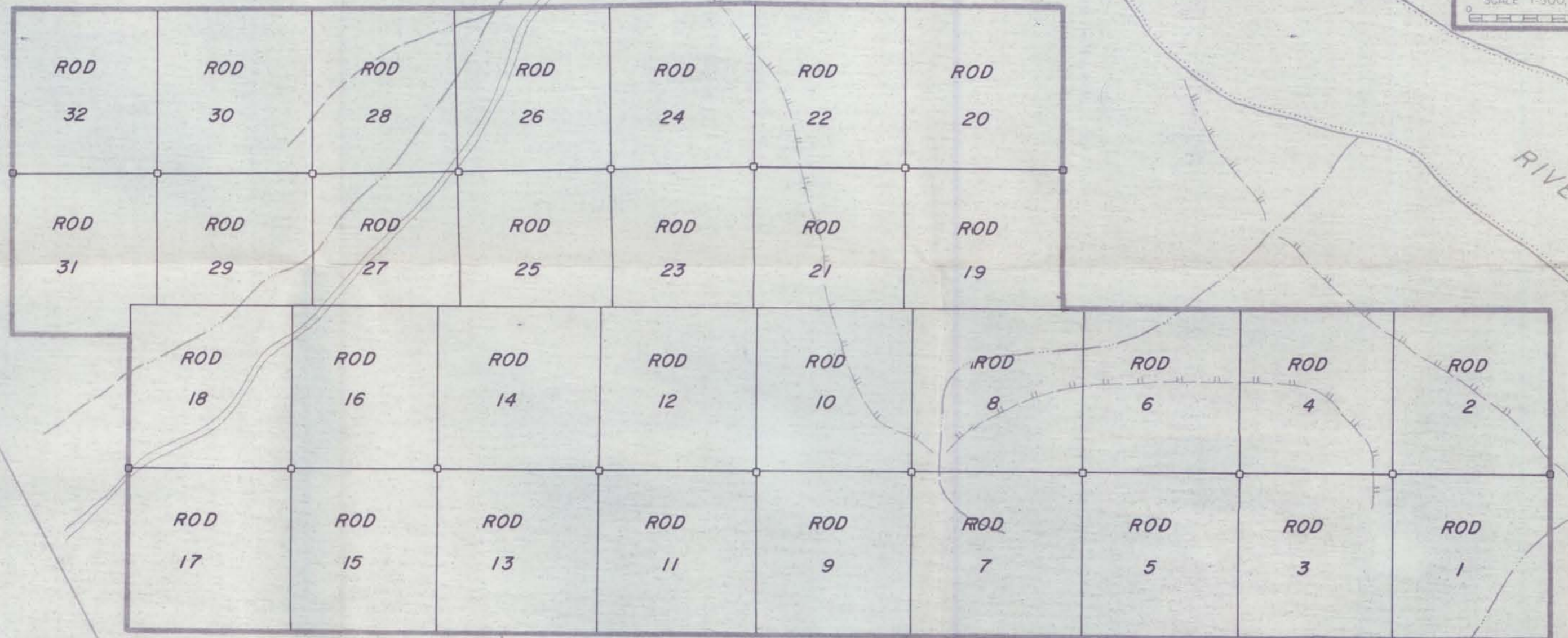
Rod 1-32 Claims, Yukon

Contract soil sampling and mapping 32 Rod claims at flat
rate of \$155/claim \$4,960.00

Respectfully submitted,
ARCHER, CATHRO & ASSOCIATES LTD.

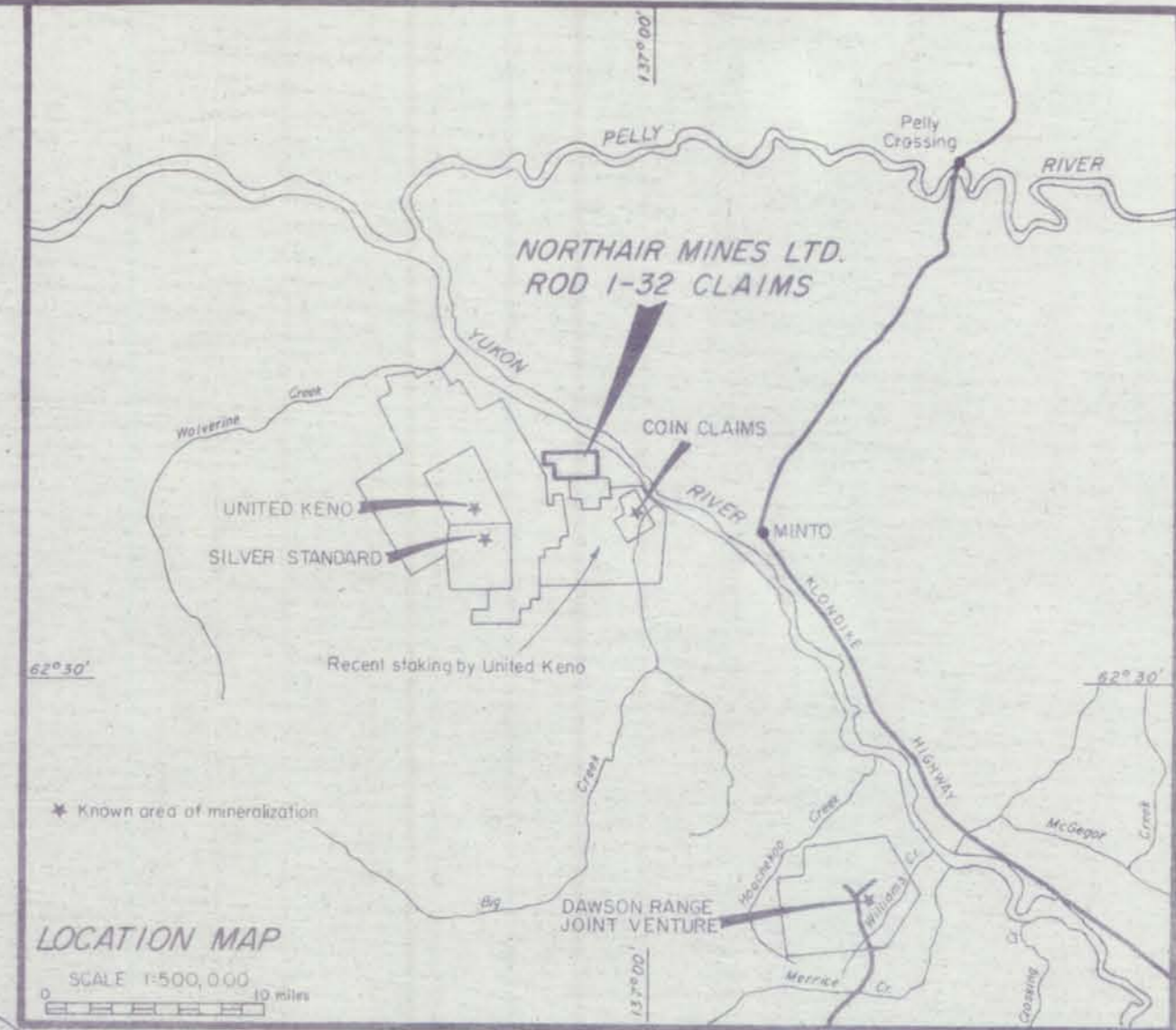
A.R. Archer

ARA:st



ADERA MINING LTD.
B CLAIMS

AL CLAIMS



LEGEND

- Steep bluff
- Winter road
- Claim post

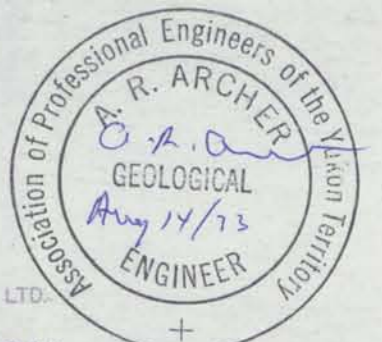
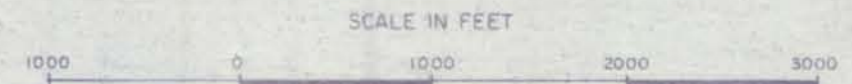
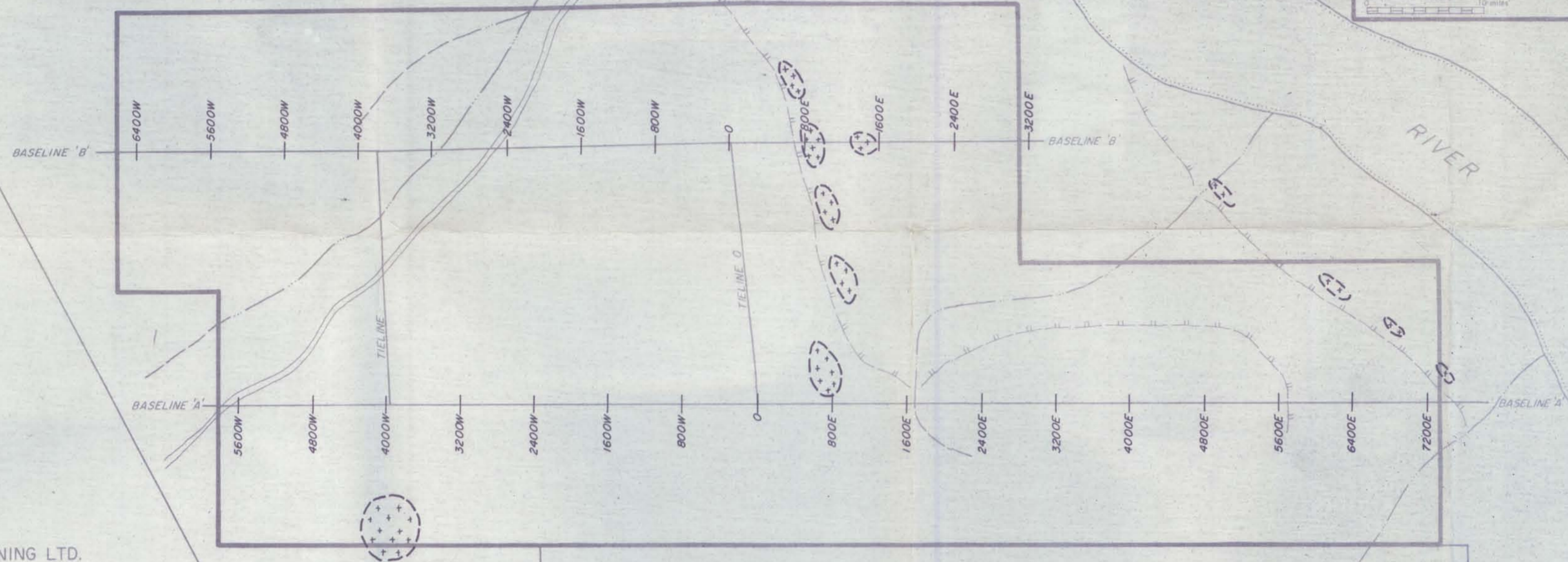
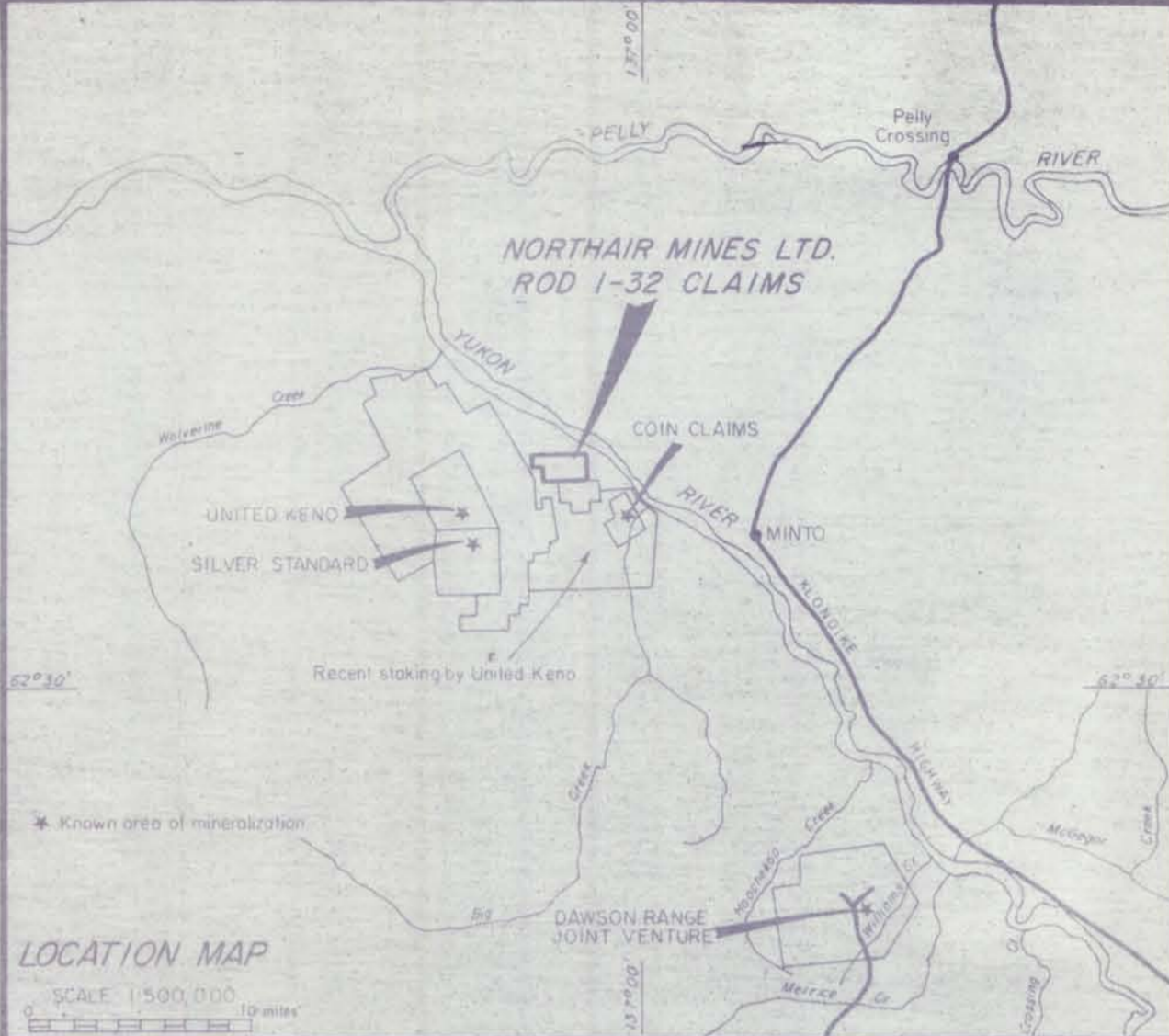


FIG. 1
ARCHER, CATHRO & ASSOCIATES LTD.
CLAIM LOCATION
NORTHAIR MINES LTD.
ROD 1-32 CLAIMS
MINTO AREA, YUKON





ADERA MINING LTD.
B CLAIMS

AL CLAIMS

- LEGEND**
- Steep bluff
 - Winter road
 - Area of outcrop or "near bedrock" float. All rock is biotite hornblende granodiorite.

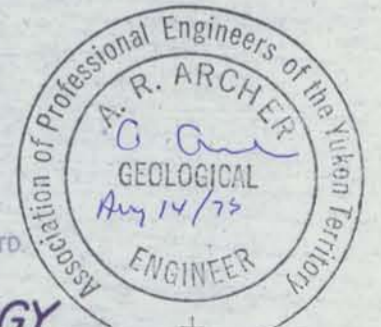
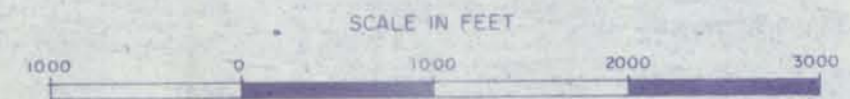
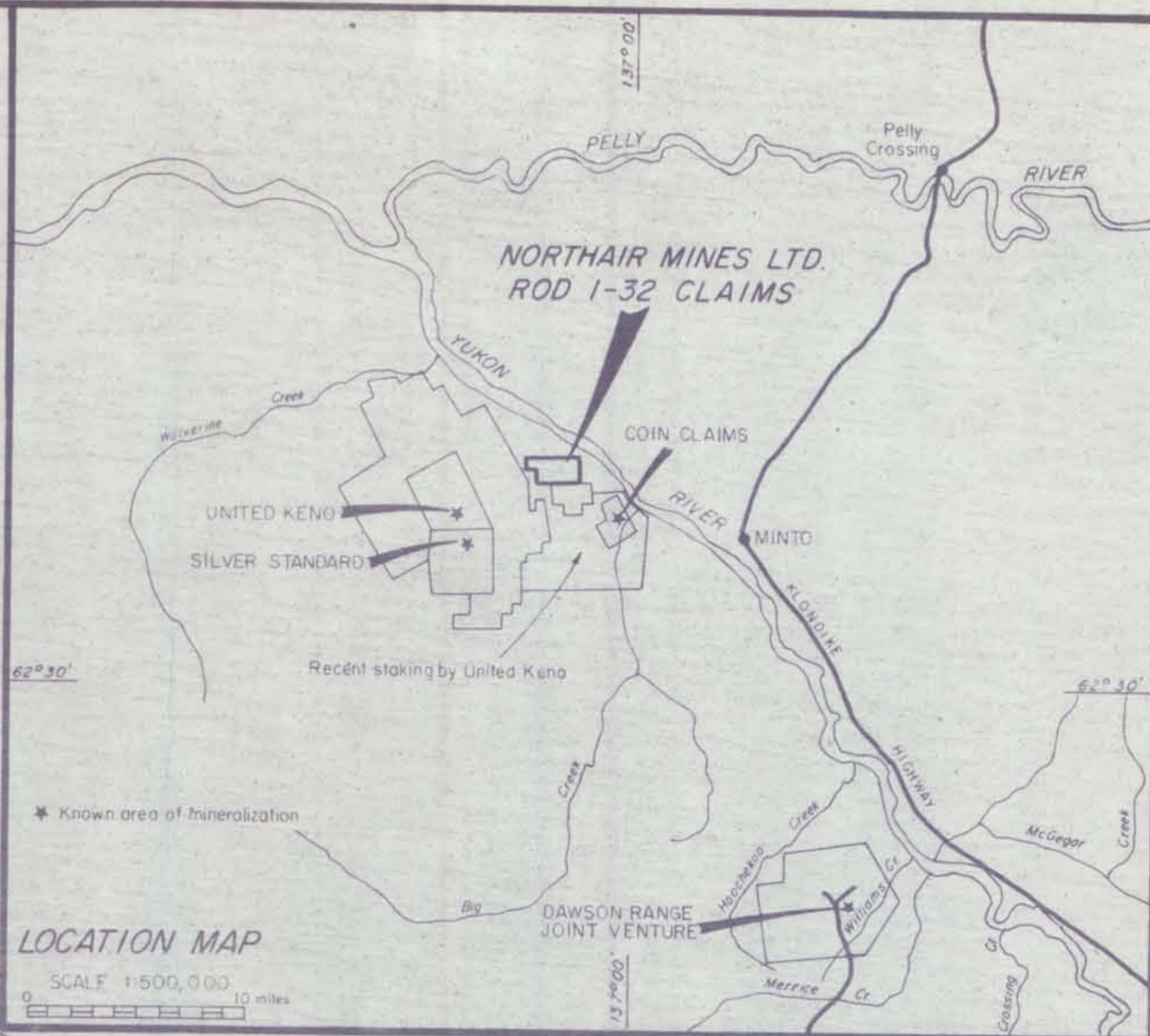
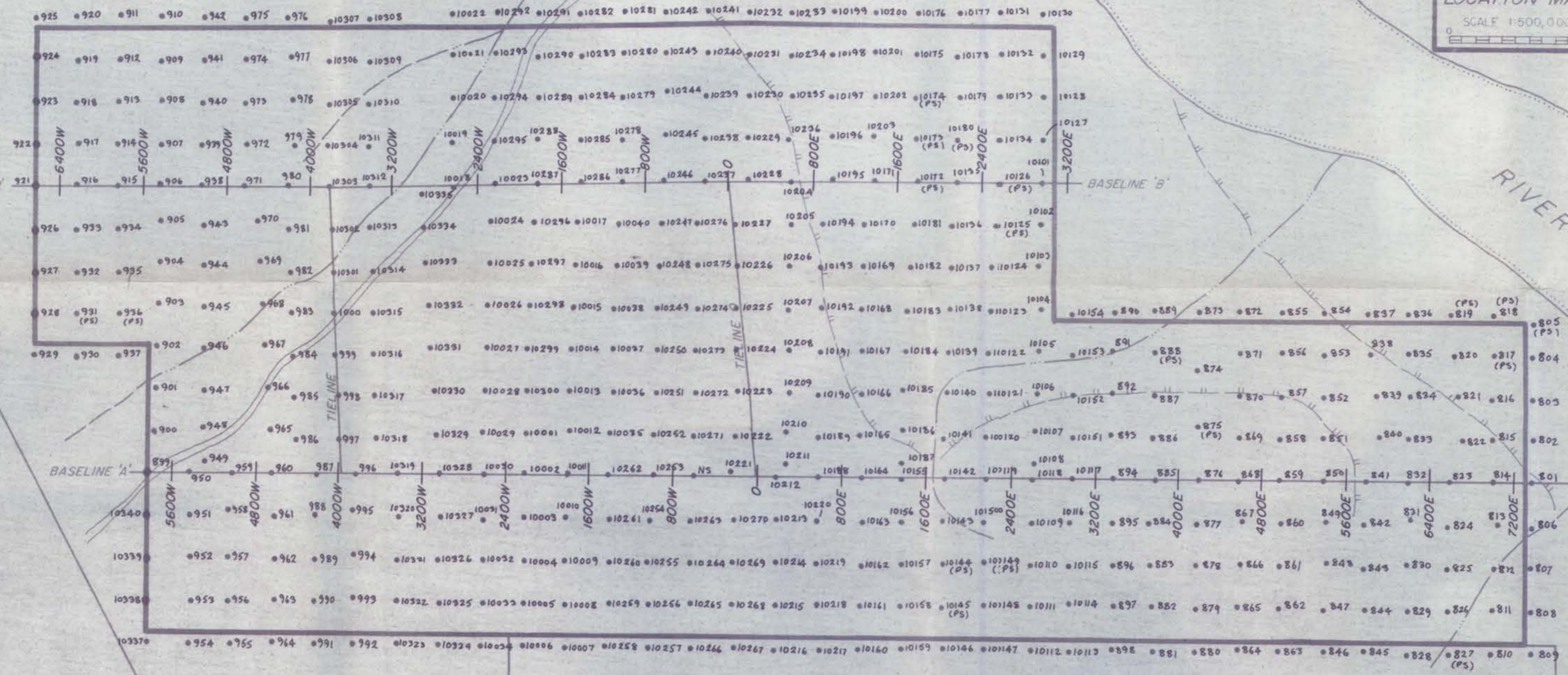


FIG. 2
ARCHER, CATHRO & ASSOCIATES LTD.
PROPERTY GEOLOGY
NORTH AIR MINES LTD.
ROD 1-32 CLAIMS
MINTO AREA, YUKON





ADERA MINING LTD.
B CLAIMS



AL CLAIMS

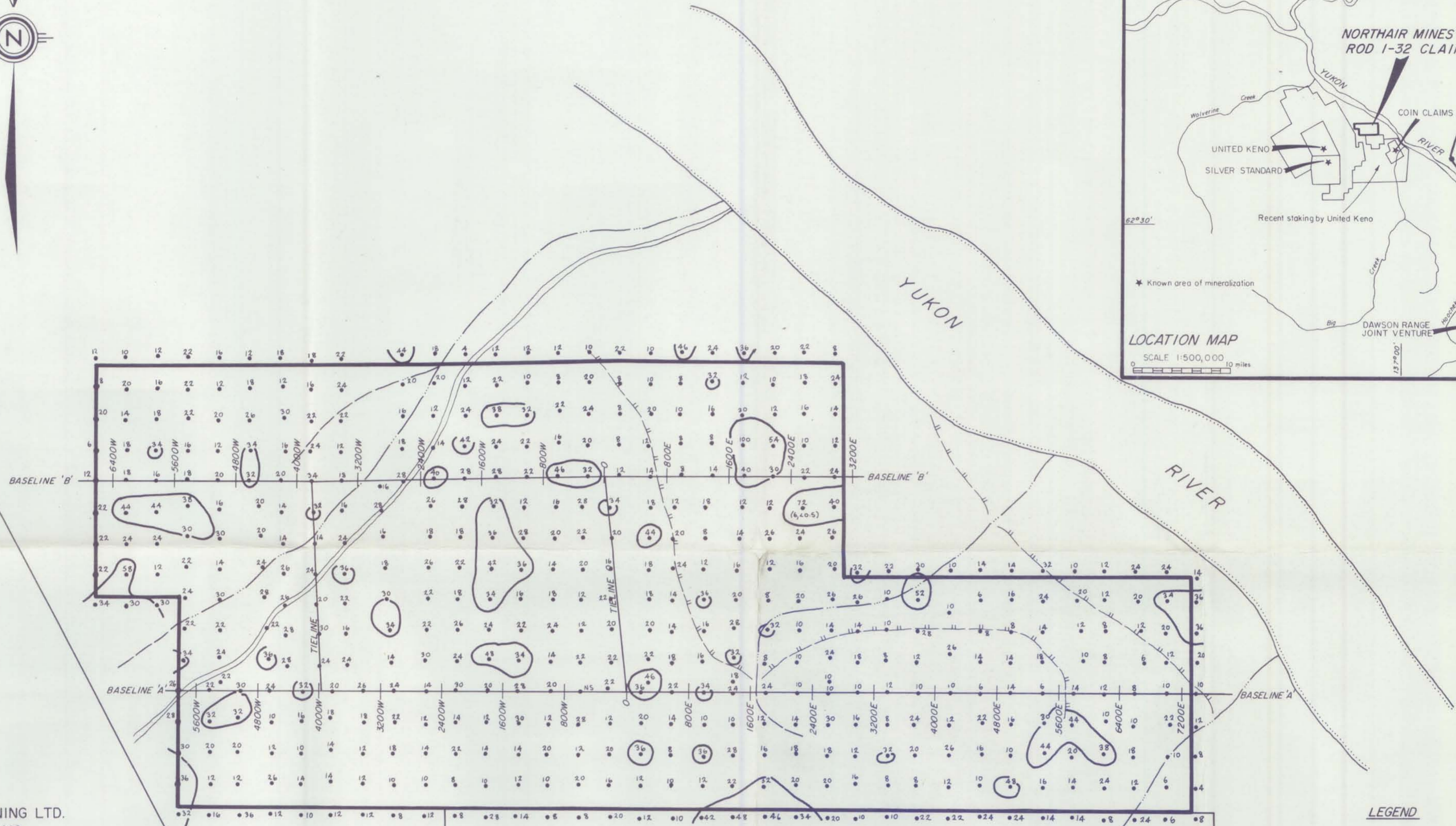
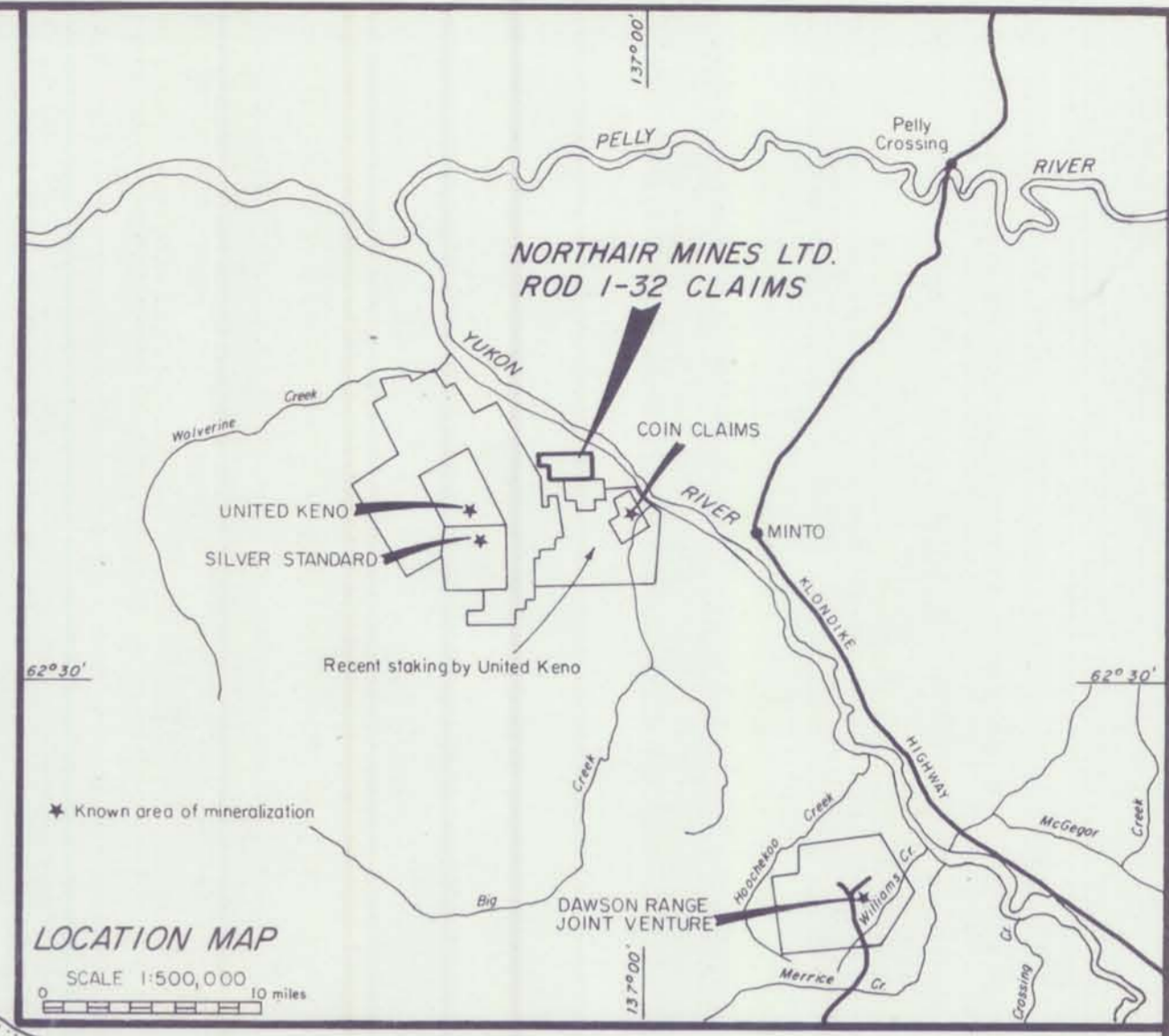
LEGEND

- || Steep bluff
- == Winter road
- (PS) Poor sample
- 977 All sample numbers prefixed F



FIG. 3
ARCHER, CATHRO & ASSOCIATES LTD.
SOIL SAMPLE LOCATIONS
NORTHAIR MINES LTD.
ROD 1-32 CLAIMS
MINTO AREA, YUKON

SCALE IN FEET
0 1000 2000 3000



ADERA MINING LTD.
B CLAIMS

AL CLAIMS

- LEGEND**
- Sample value for copper in parts-per-million (ppm)
 - Sample value of molybdenum, silver in ppm. Points with assays not shown assayed less than 1 ppm molybdenum and/or less than 0.5 ppm silver.
 - (6, 40.5) Area of copper values above threshold.
- Samples assayed by Chemex Labs Ltd. North Van.
Analyses by atomic absorption spectrometry of a nitric-perchloric extraction.

- LEGEND**
- Steep bluff
 - Winter road

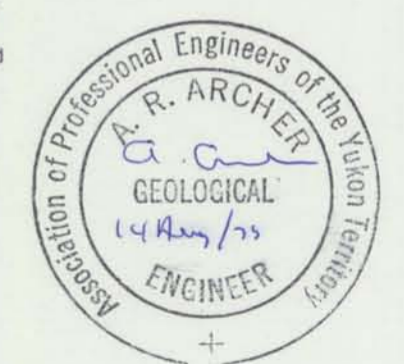


FIG. 4
ARCHER, CATHRO & ASSOCIATES LTD.
COPPER, MOLYBDENUM & SILVER GEOCHEMISTRY
NORTHAIR MINES LTD.
ROD 1-32 CLAIMS
MINTO AREA, YUKON

