

GEOCHEMICAL REPORT

on the

TROT, FOX and APPLE SCRUFFS CLAIM GROUP

LIARD MINING DIVISION

N.T.S. 94F/13W and 94K/4W

Latitude: 58°00'N

Longitude: 125°47'W

by

R.C. Carne

ARCHER, CATHRO & ASSOCIATES LTD.

for

WELCOME NORTH MINES LTD. (Owner)

and

GATAGA JOINT VENTURE (Operator)

Submitted December 15, 1980

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

8619

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LIST OF CLAIMS

<u>Claim</u>	<u>Record Number</u>	<u>Number of Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
Trot	977	6	Sept. 17, 1979	Sept. 17, 1981
Fox	974	20	Sept. 17, 1979	Sept. 17, 1981
Apple Scruffs	1319	4	June 24, 1980	June 24, 1982

GEOCHEMICAL REPORT

on the

TROT, FOX and APPLE SCRUFFS CLAIM GROUP

Introduction

The Trot, Fox and Apple Scruffs claims were staked by Gataga Joint Venture in the name of Welcome North Mines Ltd. to cover a belt of black shales which contain numerous rusty gossans and seeps. Gataga Joint Venture (GJV), formed in 1977 to explore for lead-zinc in northeast British Columbia, is a syndicate composed of Aquitaine Company of Canada Ltd., Chevron Canada Limited, Getty Mines Limited, Welcome North Mines Ltd. and Castlemaine Exploration Ltd. The program was managed by Archer, Cathro & Associates Limited and was directed in the field for the fourth successive season by R.C. Carne.

A total of 43 soil, silt and gossan samples were taken on the claims on a single traverse. Sample spacing was approximately 100 metres. Topographic control for the geochemical survey was established with the aid of a contoured 1:20,000 scale orthophoto map produced from aerial photography flown by GJV in 1979. The work was carried out on June 26, 1980.

Location and Access

The Trot, Fox and Apple Scruffs claim group is located 7 km northwest of Gataga Lakes on NTS map sheets 94F/13W and 94K/4W (Figure 1). The centre of the group is located at latitude 58°00'N and longitude 125°47'W.

Access is by float-equipped, fixed-wing aircraft from Watson Lake, Yukon Territory, about 310 km to the northwest, to Gataga Lakes about 7 km to the

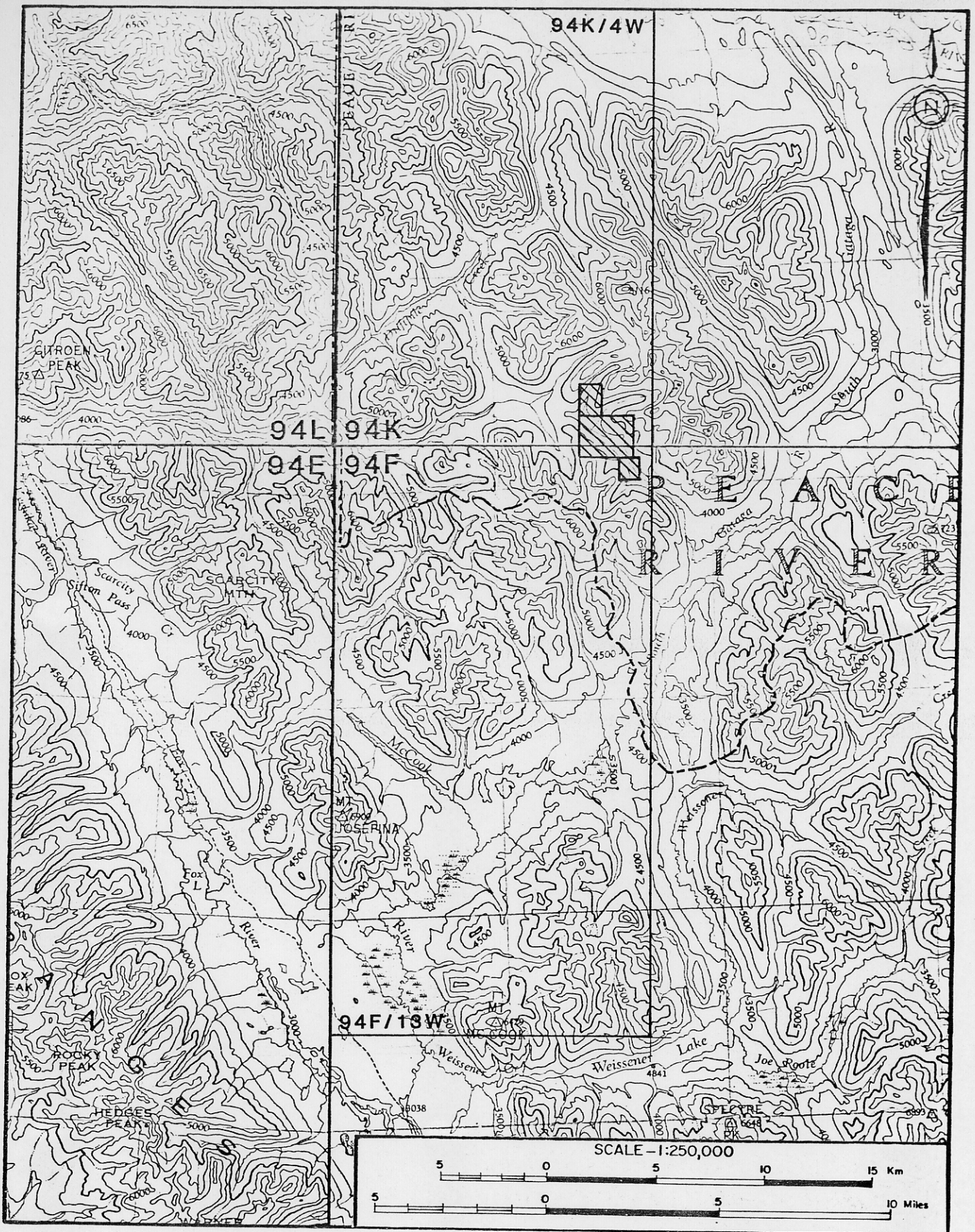


Figure 1: Location of Trot, Fox and Apple Scruffs claim group (NTS 94F/13W and 94K/4W).

southeast and by helicopter from that point to the property. The nearest large town, 210 km to the east, is Fort Nelson which does not have a float plane base. Fuel and camp supplies used for the 1980 program were trucked 300 km from Watson Lake to Muncho Lake (Km 747 on the Alaska Highway) and ferried 100 km during mid-April, 1980 by ski-equipped, single Otter aircraft to Mayfield Lake, located about 28 km northeast of the claim group. Field work was conducted with a helicopter supported program based at a permanent field camp located on Driftpile Creek, about 18 km to the northwest.

Regional Geology

The Gataga Lakes area lies within Kechika Trough, a southeasterly extension of the much larger Selwyn Basin. Sedimentary rocks range in age from Cambrian to lower Mississippian. Prior to upper Devonian, easterly derived clastic sedimentary assemblages reflect normal sedimentation patterns while the westerly derivation of upper Devonian to Mississippian sedimentary rocks resulted from block faulting and uplift along the continental margin. Regional stratigraphic relationships are summarized on Figure 2.

Structural geology of the area is dominated by northwesterly trending, easterly directed thrust faults. Pelitic sedimentary rocks within thrust sheets are complexly deformed into upright to slightly overturned isoclinal folds cut by numerous near-vertical shear zones. A penetrative axial plane foliation is commonly well developed. Structural geology is complicated by deformation initiated prior to deposition of middle Devonian clastic rocks above a pronounced unconformity.

Upper Devonian siliceous and pyritic black shales are host to numerous stratiform barite and barite-lead-zinc deposits in the area, notably those at Driftpile Creek some 18 km along strike to the northwest and at Cyprus Anvil's Cirque claims, located about 100 km southeast of the area.

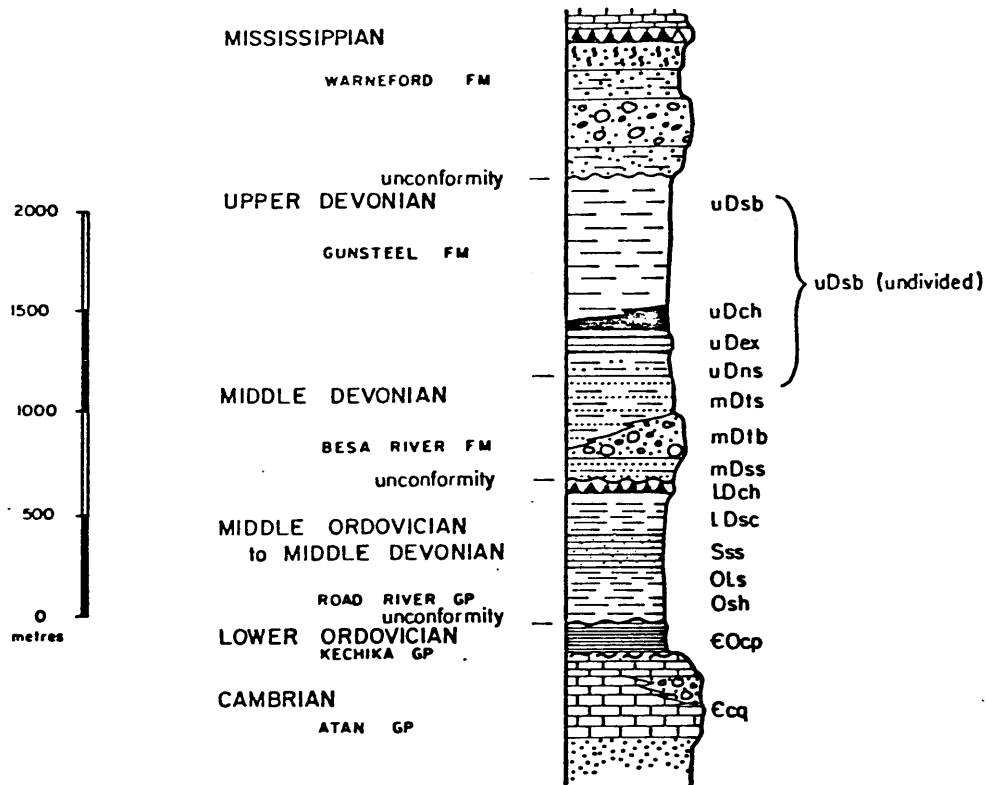


FIGURE 2

ARCHER, CATHRO & ASSOCIATES LTD

STRATIGRAPHY
GATAGA LAKES AREA
GATAGA JOINT VENTURE

Geochemical Survey

During the 1980 field season, 43 soil, silt and gossan samples were taken on the Trot, Fox and Apple Scruffs claim group. Samples were taken at 100 m intervals along a traverse designed to sample an area of numerous rusty gossans and springs for base metal and silver potential. Samples, taken from the "B" soil horizon where possible, were located with the aid of a Hip Chain measuring device and a contoured 1:20,000 scale orthophoto. Sample locations were marked in the field with orange survey flagging. All samples were shipped air freight to Chemex Labs Ltd., North Vancouver, B.C. where they were dried, screened to a minus 80 mesh fraction and analyzed routinely for copper, lead, zinc and silver using a nitric-perchloric acid extraction and atomic absorption spectrometry. Samples which contained a high barium content required redigestion due to barium interference with lead analysis. A portion of the minus 80 mesh fraction from each sample was stored at the lab.

Background levels for the four metals have been established statistically on results of grid soil geochemical surveys carried out by GJV over known mineralization at Driftpile Creek. Results are tabulated below:

	<u>Threshold Value (ppm)</u>	<u>Moderately Anomalous (ppm)</u>	<u>Strongly Anomalous (ppm)</u>
Cu	75	150	300
Pb	175	700	3,000
Zn	700	3,000	10,000
Ag	0.6	2.5	5.0

Copper anomalies are rare in the area, only minor copper values have been recorded from known mineralization. Lead geochemistry has proven to be the most valuable tool for both regional and detailed exploration for shale hosted massive

sulphide deposits. Lead distribution in both soil and silt is not as erratic as that for zinc which has a high mobility in locally acid ground waters. Exotic zinc soil geochemical anomalies resulting from dispersion in acid springs can range up to several percent. Silver distribution is very erratic in soils which overlie the upper Devonian Gunsteel Formation. Little is known about the silver content of the shales although values of greater than 30 ppm silver over several metres have been received from drill core of black shale on the nearby Bear claims. Massive sulphide mineralization at Driftpile Creek contains only trace amounts of silver while similar mineralization on the Bear claims can contain as much as 35 ppm silver.

Copper, lead, zinc and silver geochemistry of the Trot, Fox and Apple Scruffs claim group is shown on Figure 3. Copper values range from 4 ppm to 88 ppm. Lead values range from 1 ppm to a high of 40 ppm. Zinc content of soil, silt and gossan samples is much more erratic, ranging from a low of 30 ppm to several samples which returned assays greater than the 10,000 ppm upper detection limit of the analytical method. Silver values are generally low, ranging from 0.1 ppm to an isolated sample which returned a value of 2.2 ppm silver.

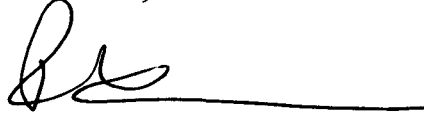
With the exception of scattered high zinc values, the geochemical sampling of the Trot, Fox and Apple Scruffs claims does not indicate the presence of significant stratiform base metal mineralization in the underlying shales. Zinc contents of soil samples in excess of 10,000 ppm may result from scavenging of zinc in underlying black shales by acid ground water, resulting in concentration at surface in limonitic gossans which are numerous in the area.

Conclusions and Recommendations

Geochemical sampling of the Trot, Fox and Apple Scruffs claim group does not indicate the presence of significant stratiform base metal mineralization in the underlying black shales. High zinc values in scattered samples probably result from surface concentration of zinc from acid springs by limonitic gossans. The claim group should be geologically mapped and limited prospecting should be carried out to test this conclusion.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read 'R.C. Carne', with a long horizontal line extending to the right.

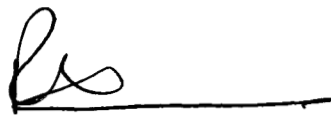
R.C. Carne.

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Robert C. Carne, geologist, with business and residential addresses in Vancouver, British Columbia, hereby certify that:

- 1) I graduated from the University of British Columbia in 1974 with a B.Sc. and in 1979 with an M.Sc. majoring in Geological Sciences.
- 2) I am a member of the Geological Association of Canada.
- 3) From 1974 to the present I have been actively engaged as a geologist in mineral exploration in British Columbia and Yukon Territory.
- 4) I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



Robert C. Carne

APPENDIX II

SUMMARY OF COSTS

on work performed on the
TROT, FOX and APPLE SCRUFFS CLAIMS
 on June 26, 1980

Salaries and Wages

K. Kauppi (Assistant)	June 26	1 day @ \$71/day	\$71.00	
T. Paulson (Draftsman)		1/2 day @ \$62/day	<u>31.00</u>	\$102.00

Camp Maintenance (includes fixed-wing aircraft support)

1 1/2 mandays @ \$35/day				52.50
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Helicopter (includes fuel costs on site)

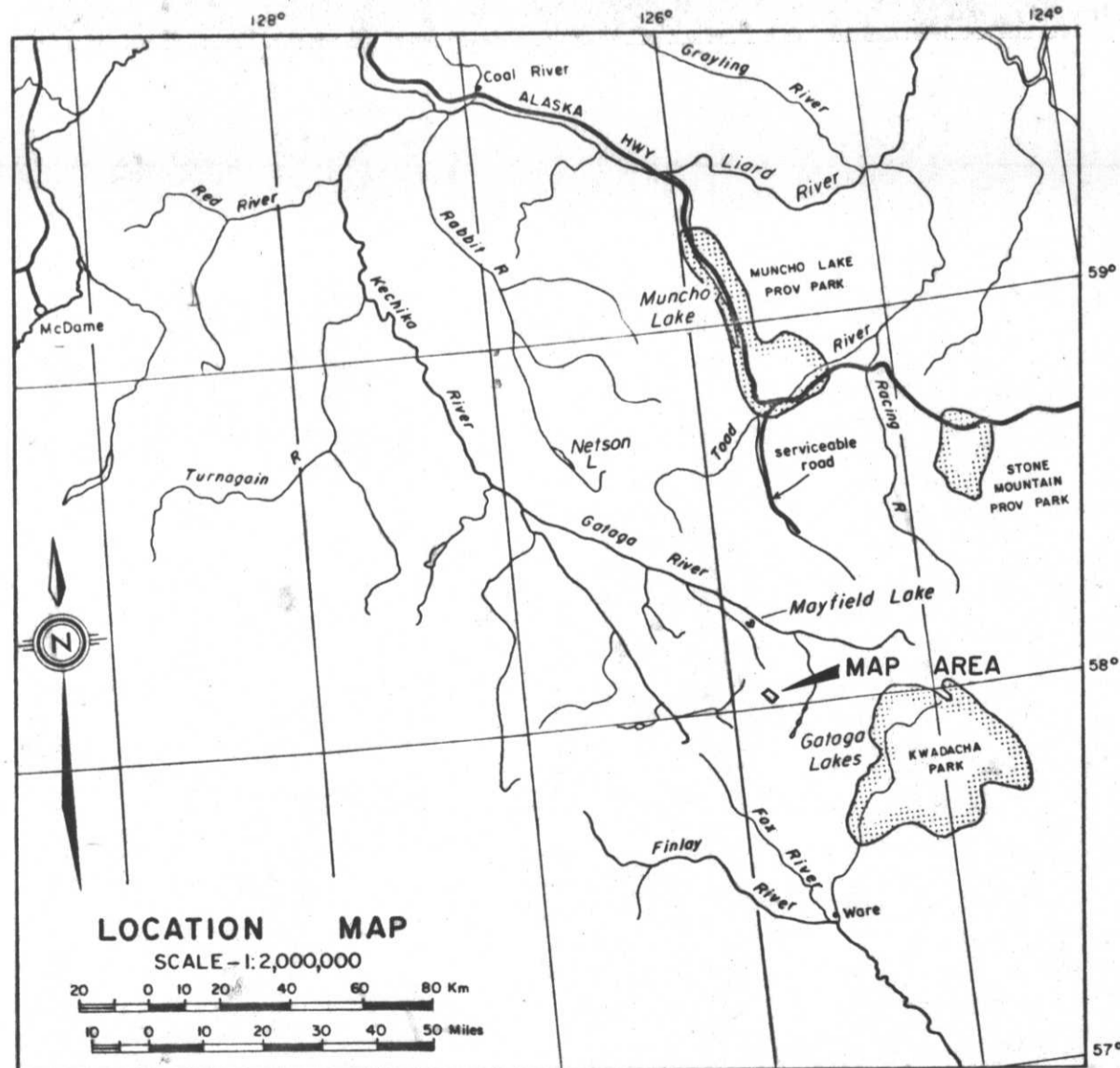
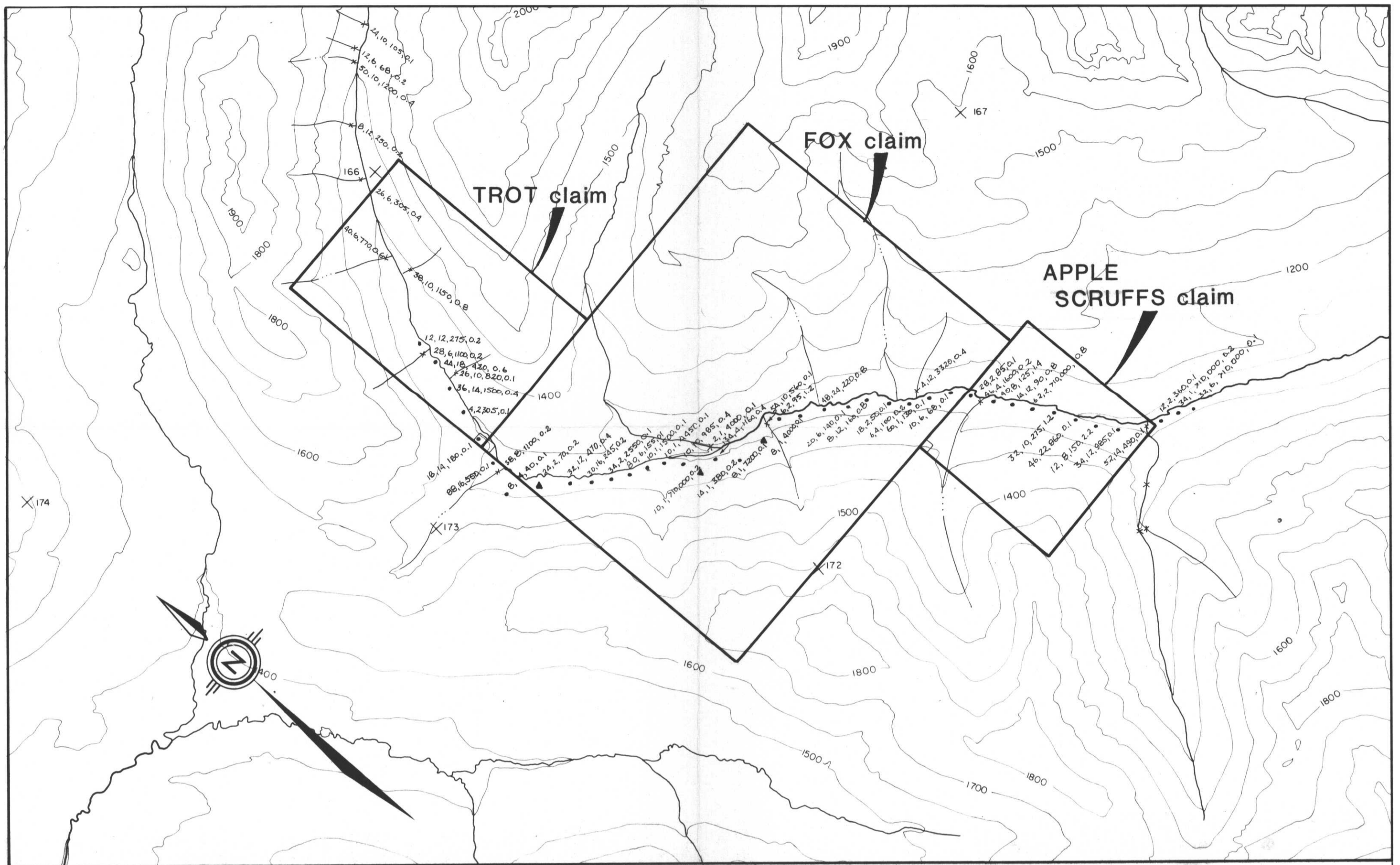
Northern Mountain Helicopters Ltd.

Bell Jet Ranger 206B @ \$406/hr. x 0.4 hr.				162.40
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Geochemical Analyses

Analysis of 43 samples for Cu, Pb, Zn & Ag @ \$3.40				<u>146.20</u>
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Total Expenditures				<u><u>\$463.10</u></u>
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N.B. claims and geologic information were located in the field with the aid of a 1:20,000 scale orthophoto

LEGEND

- x sill sample
- soil sample
- ▲ gossan sample
- Cu, Pb, Zn, Ag (values in ppm)
- legal corner post

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NO.

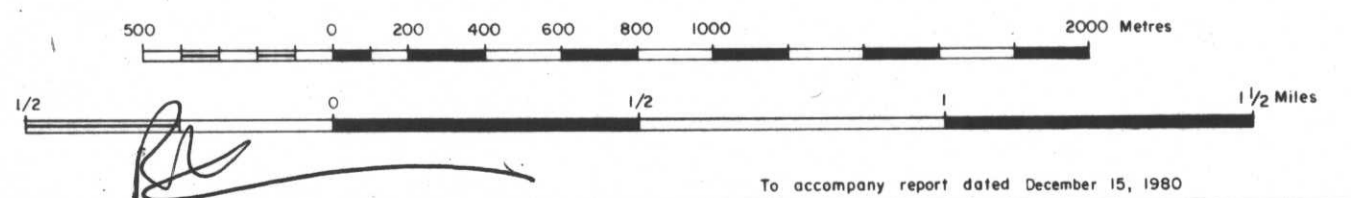
FIGURE 3
ARCHER, CATHRO & ASSOCIATES LTD

GEOCHEMISTRY

TROT, FOX & APPLE SCRUFFS CLAIMS

GATAGA JOINT VENTURE

SCALE 1:20,000



To accompany report dated December 15, 1980