

MAP NO.: 115 F 15
ASSESSMENT REPORT X
PROSPECTUS X
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 092734
MINING DISTRICT: Whitehorse
TYPE OF WORK: Geological, geophysical,
geochemical

REPORT FILED UNDER: Archer, Cathro & Associates (1981) Ltd

DATE PERFORMED: 29 July - 05 September, 1988

DATE FILED: 27 June, 1989

LOCATION: LAT.: 61 58'N

AREA: White River

LONG.: 140 41'W

VALUE \$: 3200.00

CLAIM NAME & NO.: ARN 1-8 (YB06323-30)

WORK DONE BY: C.A. Main

WORK DONE FOR: Kluane Joint Venture

DATE TO GOOD STANDING:

REMARKS: #36 SANPETE

Copper and gold occur in epidote-garnet-pyrrhotite skarn. 1988 work included mapping, soil sampling, magnetometer and VLF-EM surveys. The best chip samples assayed 23.3 g/t Au and 0.32% Cu over 3.0 m and 2.4 g/t Au, 3.71% Cu over 4.0 m.

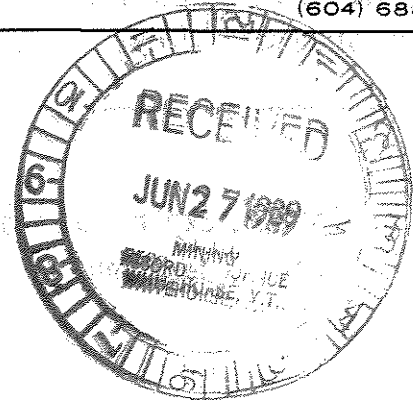
ARCHER, CATHRO

& ASSOCIATES (1981) LIMITED

CONSULTING GEOLOGICAL ENGINEERS

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Geological, Geochemical and Geophysical Report

Arn 1-8 Claims

(YB06323-YB06330)

White River Area, Southwestern Yukon

Latitude 61°58' Longitude 140°41'

NTS Mapsheet 115F/15

Whitehorse Mining Recorder

May 10, 1989

C.A. Main, B.Sc.

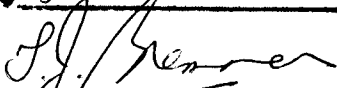
092734

Work performed between July 29 and September 5, 1988

#36 SANDPETE

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount

of \$ 3200.00.



for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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Appendix I Statement of Qualifications

INTRODUCTION

The Arn property covers a gold- and copper-bearing skarn and is owned 100% by Kluane Joint Venture (Chevron Minerals Ltd. - 50% and All-North Resources Ltd. - 50%). This report describes results of geological mapping, soil geochemical surveys and chip sampling done between July 29 and August 4 and magnetic and VLF-EM surveys done on September 5. The work was done under the author's supervision by an Archer, Cathro & Associates (1981) Limited crew from a fly camp on the property. The crew consisted of geologist D. Davis, field people N. Hachey and J. Mannarino, and geophysicist S. Cosman who was contracted from Delta Geoscience Ltd. Appendix I contains the Author's Statement of Qualifications.

PROPERTY, LOCATION AND ACCESS

The property is located at latitude 61°58' and longitude 140°41' on NTS mapsheet 115F/15 (Figures 1 and 2). It consists of eight contiguous mineral claims registered in the name of Archer, Cathro & Associates (1981) Limited with the Whitehorse Mining Recorder, as listed below:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Arn 1-8	YB06323-YB06330	January 28, 1993

The claims lie on the northwest flank of Mount Taylor in the headwaters of Miles Creek, approximately 7 km west-southwest of the White River Bridge on the Alaska Highway. A lodge and service station are located 1 km east of the bridge and from there it is 375 km by road to Whitehorse. Access in 1988 was by helicopter operating from a permanent base at Haines Junction, 216 km to the southeast.

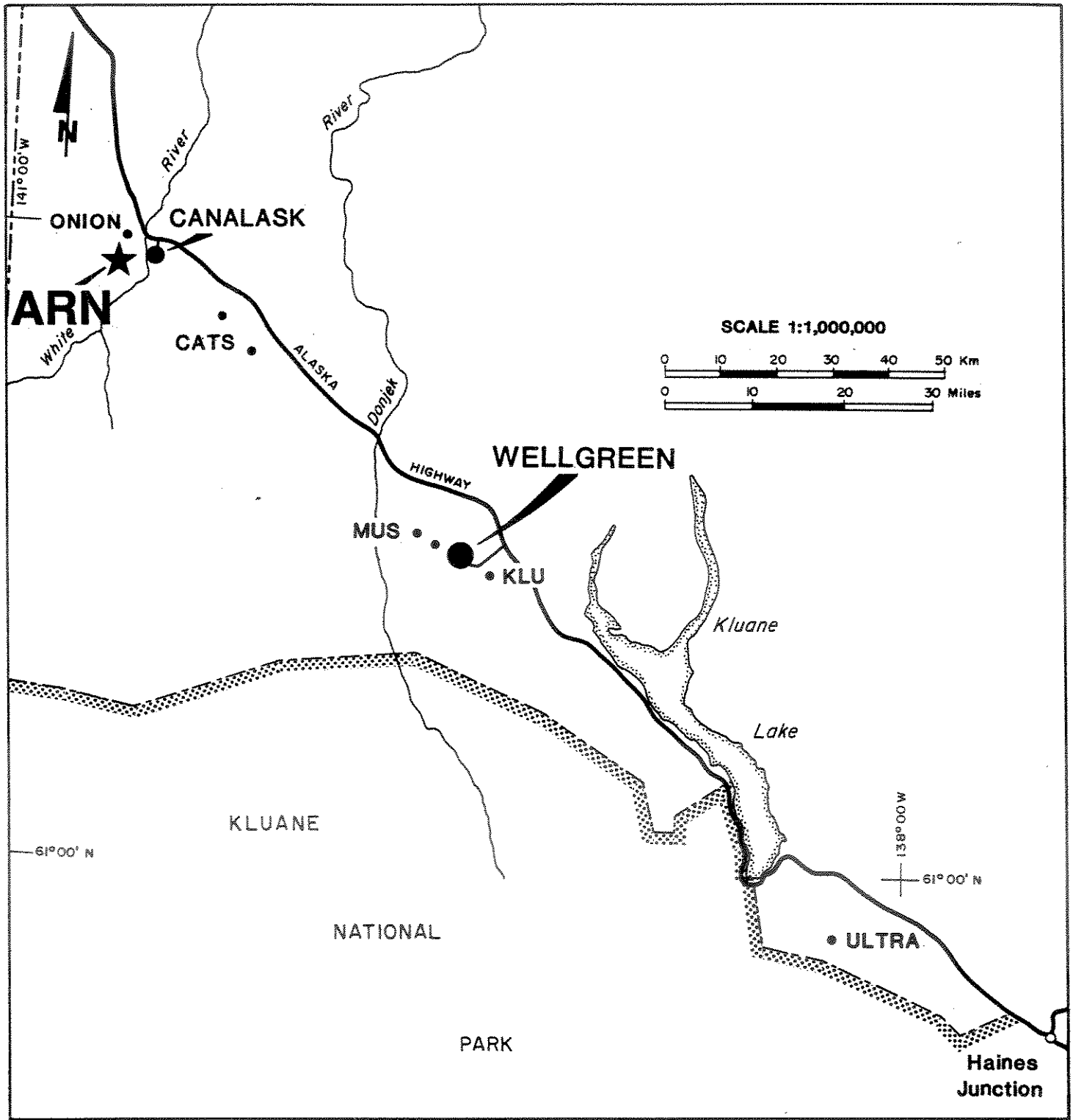


Figure 1

GENERAL LOCATION MAP

ARN PROPERTY
 KLUANE JOINT VENTURE

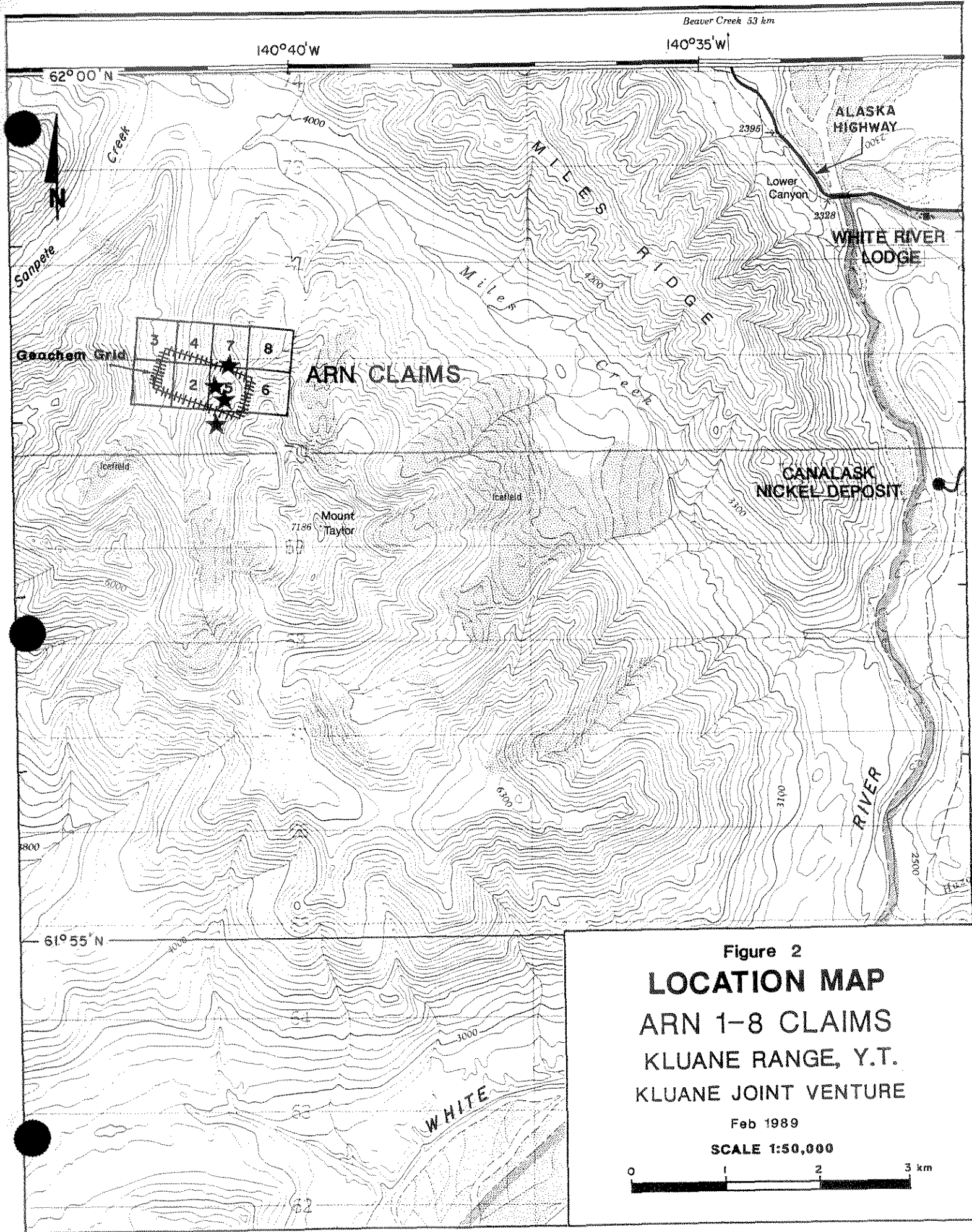


Figure 2
LOCATION MAP
 ARN 1-8 CLAIMS
 KLUANE RANGE, Y.T.
 KLUANE JOINT VENTURE

Feb 1989

SCALE 1:50,000



PREVIOUS WORK

The Arn area was first staked and sampled as a copper target in 1970 by a syndicate composed of Imperial Oil, Bow Valley and Canadian Industrial Gas & Oil. It was recognized as a gold target in 1980 by Nat Joint Venture (Chevron and Armco) when reconnaissance stream sediment samples returned strongly anomalous gold values (up to 200 ppb). Prospecting in 1981 and 1982 discovered skarnified volcanic float that assayed up to 7 g/t Au. However, no further work was done after it was decided that a skarn source would not likely yield a large open pit deposit, the principal exploration criteria.

Kluane JV staked the Arn claims in July, 1987 just before results of a Geological Survey of Canada reconnaissance stream sediment survey were released. This survey (GSC Open File 1362) also returned an anomalous gold value (93 ppb) from the stream draining the claims.

GEOMORPHOLOGY

The claims cover a rugged north-trending ridge on the east side of a broad, U-shaped glacial valley. Elevations range from about 1300 m on the valley bottom to 1800 m on the ridge crest. The entire area is above treeline and is vegetated with slide alder and buckbrush on the valley bottom giving way to lichen at higher elevations. Glacial debris and talus blanket the valley bottom and lower slopes but outcrop is abundant on the upper slopes. The main area of interest is located in the transition zone between the lower and upper slopes and is partially exposed in a series of scattered outcrops that are surrounded by talus and glacial debris.

GEOLOGY

The Arn property lies about 6 km southwest of the Shakwak Fault which forms the northeastern margin of Wrangellia, a Paleozoic to Lower Mesozoic, volcanic-sedimentary island arc complex that was accreted to North America in Jurassic time. The island arc rocks are capped by Jurassic-Cretaceous sedimentary rocks and intruded by multi-stage, plutonic and hypabyssal Cretaceous stocks and dykes. The entire package is cut by a series of west northwest-trending, high angle faults that form an anastomosing array subparallel to the Shakwak Fault. Geology in the immediate vicinity of the property is shown on Figure 3 while the main rock types are described below.

The oldest rocks on the property are andesitic flows, tuffs and argillites of the Pennsylvanian to Permian Station Creek Formation. These rocks are unconformably overlain by an Upper Triassic package comprised of dark green and maroon amygdaloidal basalt flows of the Nikolai Greenstone and light to dark grey, massive to well bedded limestone of the Nazina and Chitistone Formations. A relatively flat-lying sequence of Jurassic-Cretaceous greywacke, sandstone and siltstone belonging to the Dezadeash Group unconformably overlies the older strata.

Skarn zones up to 25 m thick and 150 m are developed in the Upper Triassic and Jurassic-Cretaceous strata on the margins of the intrusions. These skarns are the main exploration targets on the property and are described in more detail in the Mineralization section.

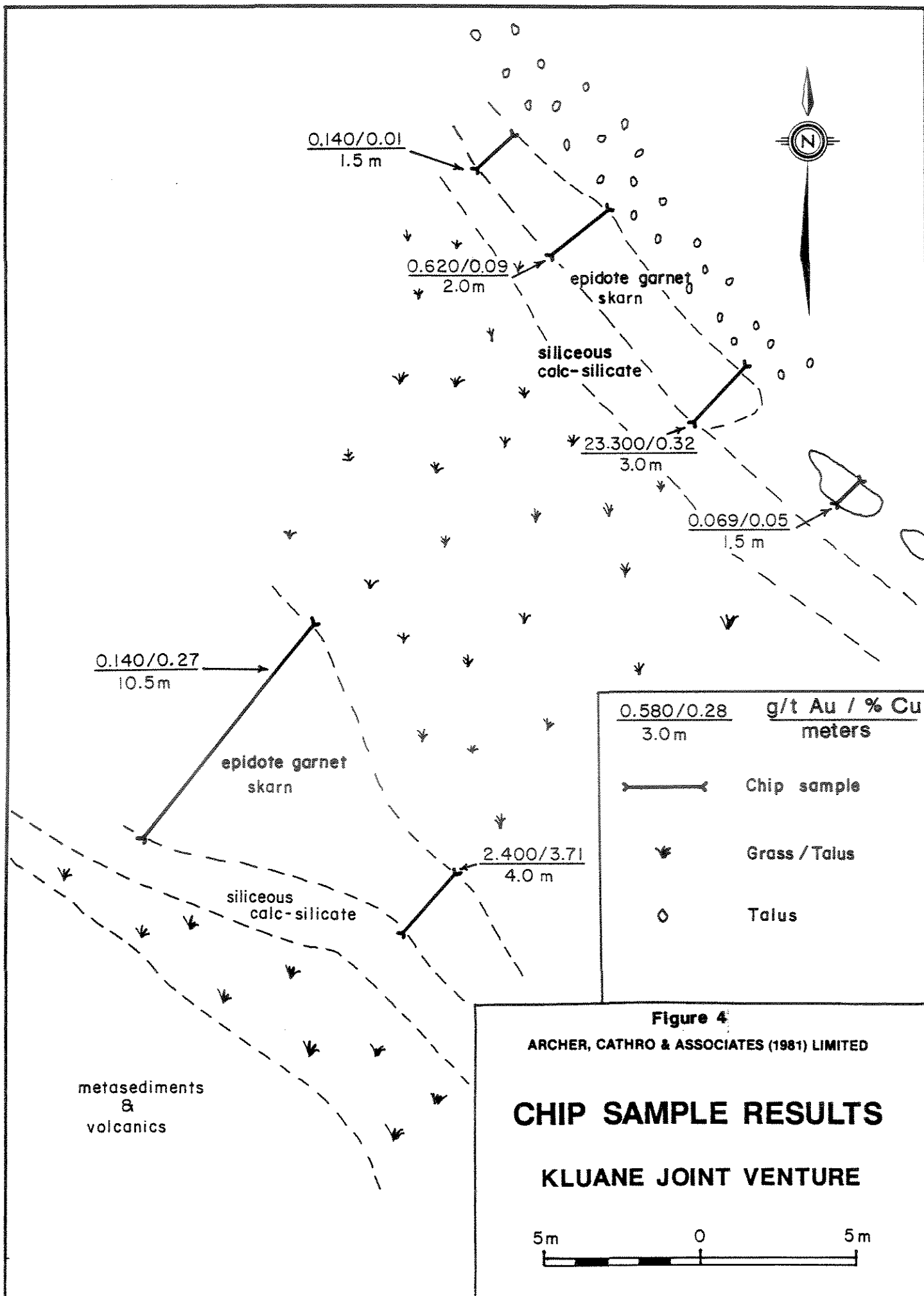
A west northwest-trending, nearly vertical fault bisects the property. None of the contacts appears to be offset by the structure so its sense of movement has not been determined.

MINERALIZATION

A series of skarn zones occur near the centre of the property and host copper and gold mineralization (Figure 3). The skarns are typically fine-grained mixtures of epidote, garnet and other calc-silicate minerals with trace to 40% sulphides (pyrrhotite with lesser chalcopyrite and pyrite) and 0 to 10% magnetite.

Specimens taken in 1982 include light green epidote skarn with traces of sulphides and magnetite that assayed 7.0 g/t Au with only 9.8 ppm Ag and 74 ppm Cu and less than 5 ppm As, and dark green epidote-magnetite skarns that returned 1.1 g/t Au, 0.2 ppm Ag, 71 ppm Cu and 5 ppm As.

In 1988, a number of specimens were collected from skarn zones in different parts of the property. Most returned anomalous values ranging from 0.07 to 0.55 g/t Au with 0.01 to 0.41% Cu. However, one returned 96.70 g/t Au with only 0.34% Cu while another assayed 1.23 g/t Au with 2.36% Cu. The highest gold assay came from a skarnified sequence of Jurassic-Cretaceous sediments exposed in two linear outcrops 10 m apart on a grassy, talus and glacial debris covered slope just above the valley floor (Skarn A on Figure 3). Exposures in this area were later chip sampled at 5 to 10 m intervals and produced widely variable results, as shown on Figure 4. One sample assayed 23.3 g/t Au and 0.32% Cu over 3 m and another 15 m to the south, on a second skarn horizon, produced 2.4 g/t Au and 3.71% Cu over 4.0 m. The other four samples returned anomalous but less significant values ranging up to 0.62 g/t Au and 0.27% Cu.



SOIL GEOCHEMISTRY

Grid soil geochemistry was performed over a 1000 by 400 m area in the south-central part of the property. The grid does not cover the mineralized skarn that produced the highest chip sample assays described in the previous section (Skarn A) because the soil sampling was done before the assays were obtained. However, it does cover the two other skarn zones.

Samples were collected from "B" and "C" horizon material at approximately 50 m intervals on compass and topofil controlled lines spaced 100 m apart. They were sent to Chemex Labs in North Vancouver where they were dried, sieved to -35 mesh and ring pulverized, then geochemically analyzed for gold using fire assay followed by atomic absorption, and copper using an aqua regia digestion and atomic absorption finish.

Figures 5 and 6 illustrate gold and copper results, respectively. Moderate to strongly anomalous gold response occurs in a 150 to 300 m wide band that trends northwesterly across the grid. This band crosses Skarns B and C and heads toward Skarn A. Copper results are well correlated with gold and the areas of anomalous response are nearly coincident. The highest values (up to 1350 ppb Au and 5780 ppm Cu are on the south side of the grid (along the property boundary) in an area where no skarns have been mapped.

GEOPHYSICAL SURVEYS

Magnetic and VLF-EM surveys were performed over a 500 by 400 m area at the east end of the soil grid. Readings were taken at 20 m intervals on lines spaced 100 m apart using the Scintrex (I.G.S.) System with an MP3 base station.

The results are shown on Figure 7. Both magnetic and VLF response exhibit east-west trends. The highest magnetic readings and only significant VLF conductor are approximately coincident. They occur in the vicinity of the highest soil geochemical response but trend perpendicular to the soil anomalies. Surprisingly, the skarn zones (Skarns B and C) that were covered by the grid produced a strong magnetic low.

SUMMARY AND RECOMMENDATIONS

Preliminary geological, geochemical and geophysical results for the Arn property are encouraging and show that gold is closely associated with skarn zones. The area of known mineralization and anomalous gold geochemical response forms a 700 m long, northwest-trending belt that is open in both directions along strike. The best mineralization (up to 23.3 g/t Au over 3 m) occurs in poorly exposed outcrops at the north end of the belt while the strongest soil response is at the south end along the property boundary.

The next stage of exploration should consist of additional claim staking to the south and possibly north, property-wide mapping, prospecting, soil sampling and magnetic and VLF-EM surveys, plus trenching and chip sampling to define specific targets for later bulldozer trenching or diamond drilling.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



C.A. Main.

/mc


APPENDIX I

AUTHOR'S STATEMENT OF QUALIFICATIONS

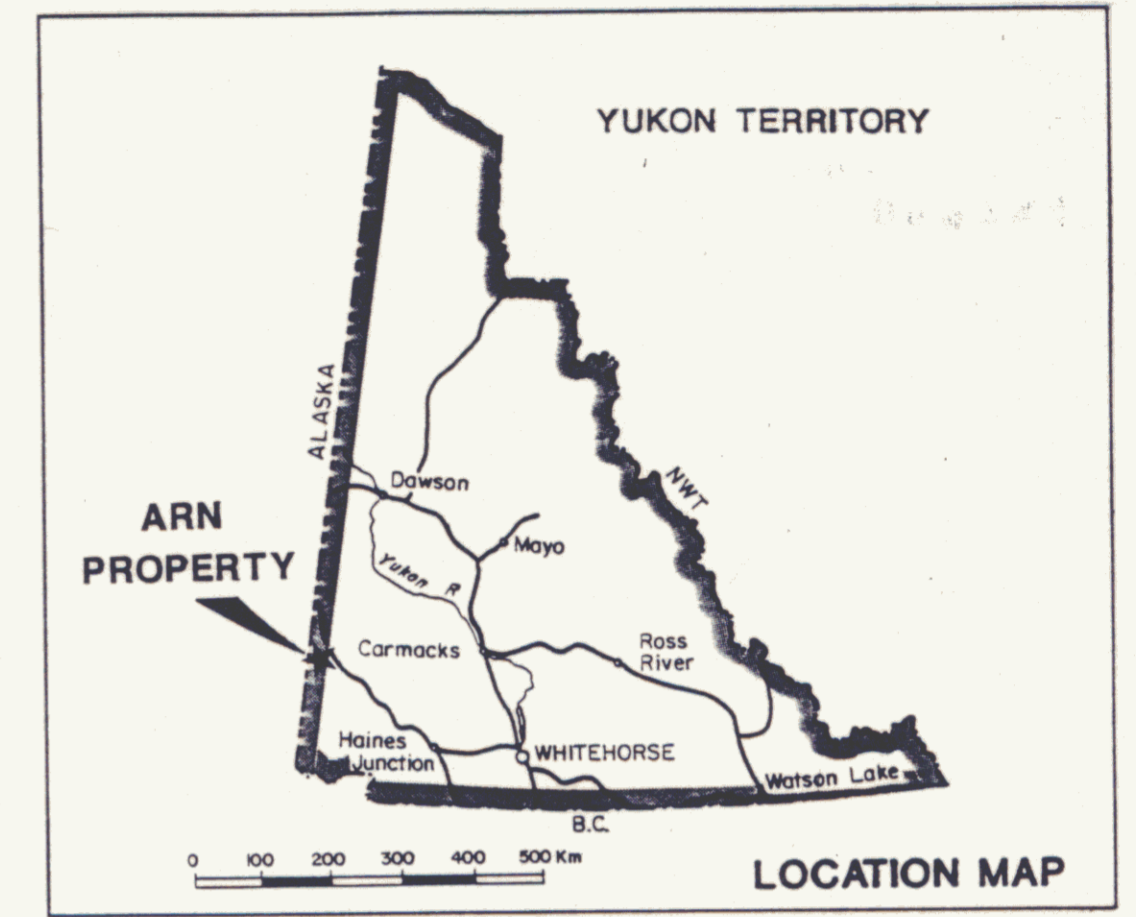
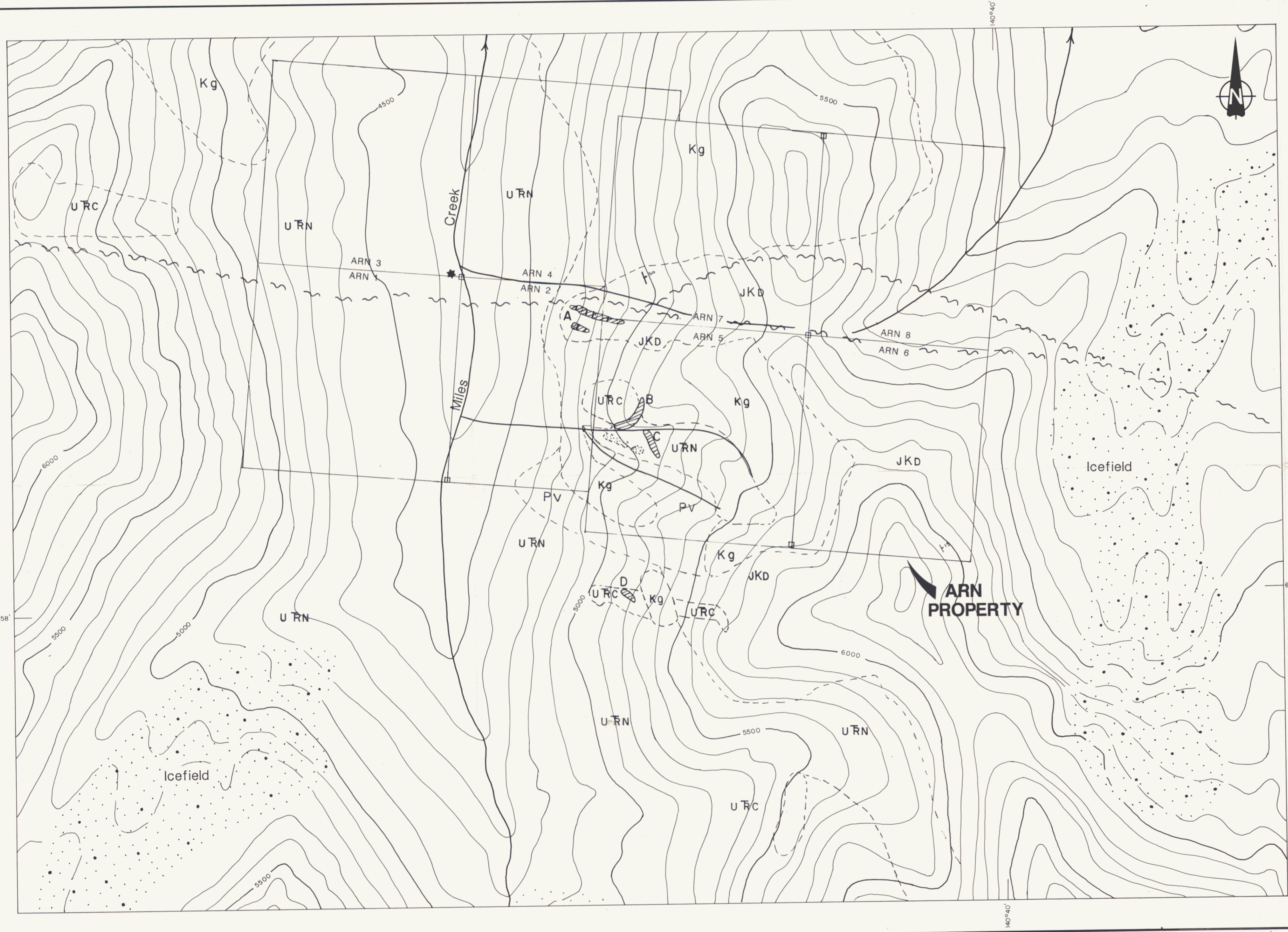
STATEMENT OF QUALIFICATIONS

I, Charles A. Main, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia and residential address in Vancouver, British Columbia, hereby certify that:

1. I graduated from the University of British Columbia in 1971 with a B.Sc. majoring in Geological Sciences and Chemistry.
2. I have been actively engaged as a geologist in mineral exploration since 1971 and as a partner of Archer, Cathro & Associates (1981) Limited since June 1, 1981.
3. I have personally participated in or supervised the field work reported herein.



Charles A. Main, B.Sc.



LEGEND

Cretaceous	KLUANE RANGES INTRUSIONS
Kg	multi-phase intrusions, locally hornblende-diorite to granodiorite
Jurassic-Cretaceous	DEZADEASH GROUP
JKD	greywacke, sandstone and siltstone
Triassic	NAZINA AND CHITISTONE FMS
URC	amygdaloidal basalt
URN	NIKOLAI GREENSTONE
	limestone
Pennsylvanian-Permian	STATION CREEK FM
PV	volcanics and sediments

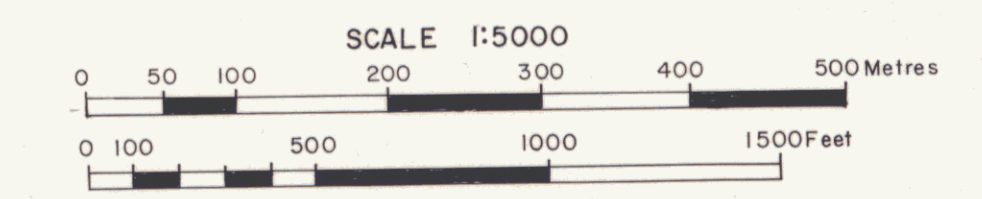
SYMBOLS

	dike swarm (age uncertain)
	mineralized skarn
	channel sample location
	geological contact (approximate)
	bedding orientation
	fault
	campsite

Figure 3
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GEOLOGY
 ARN PROPERTY
 KLUANE JOINT VENTURE

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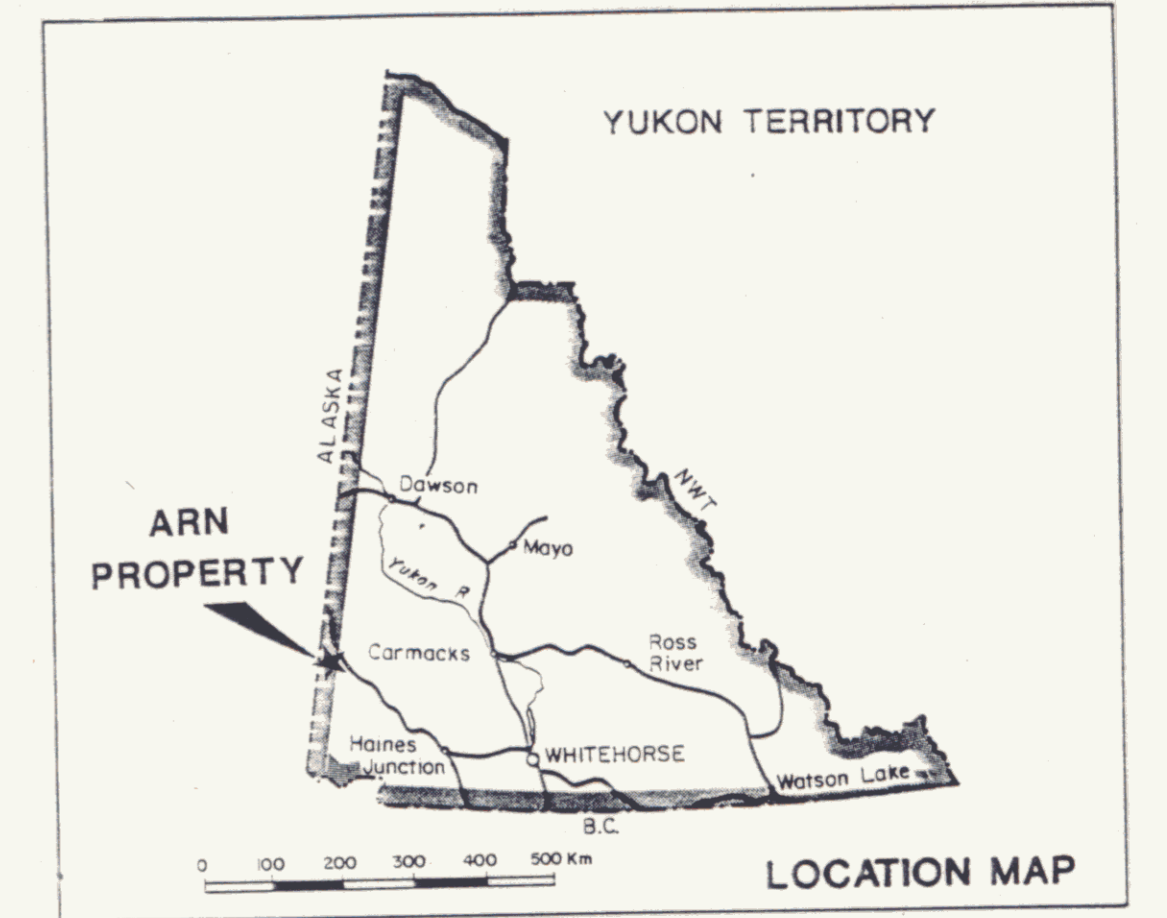
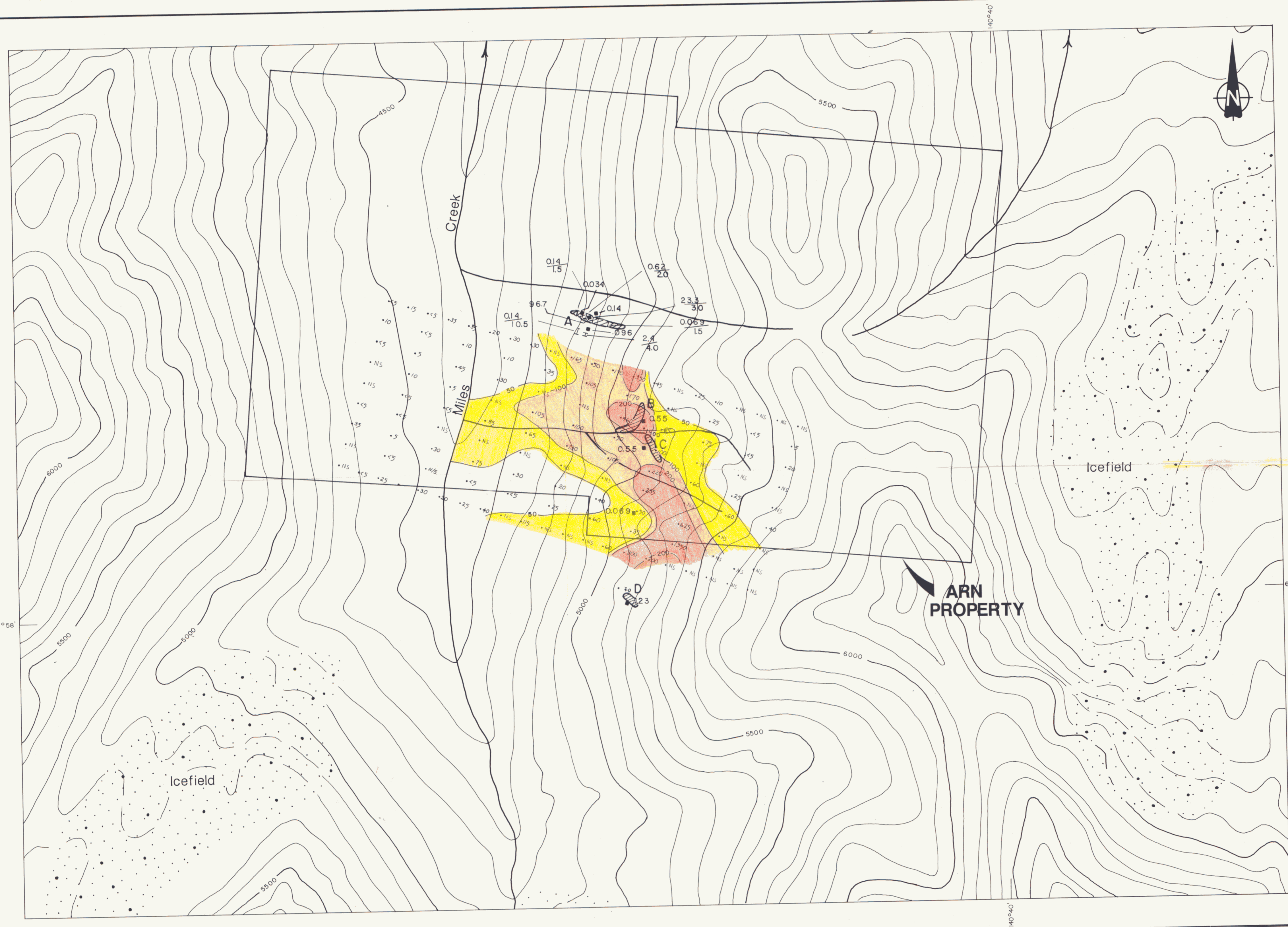
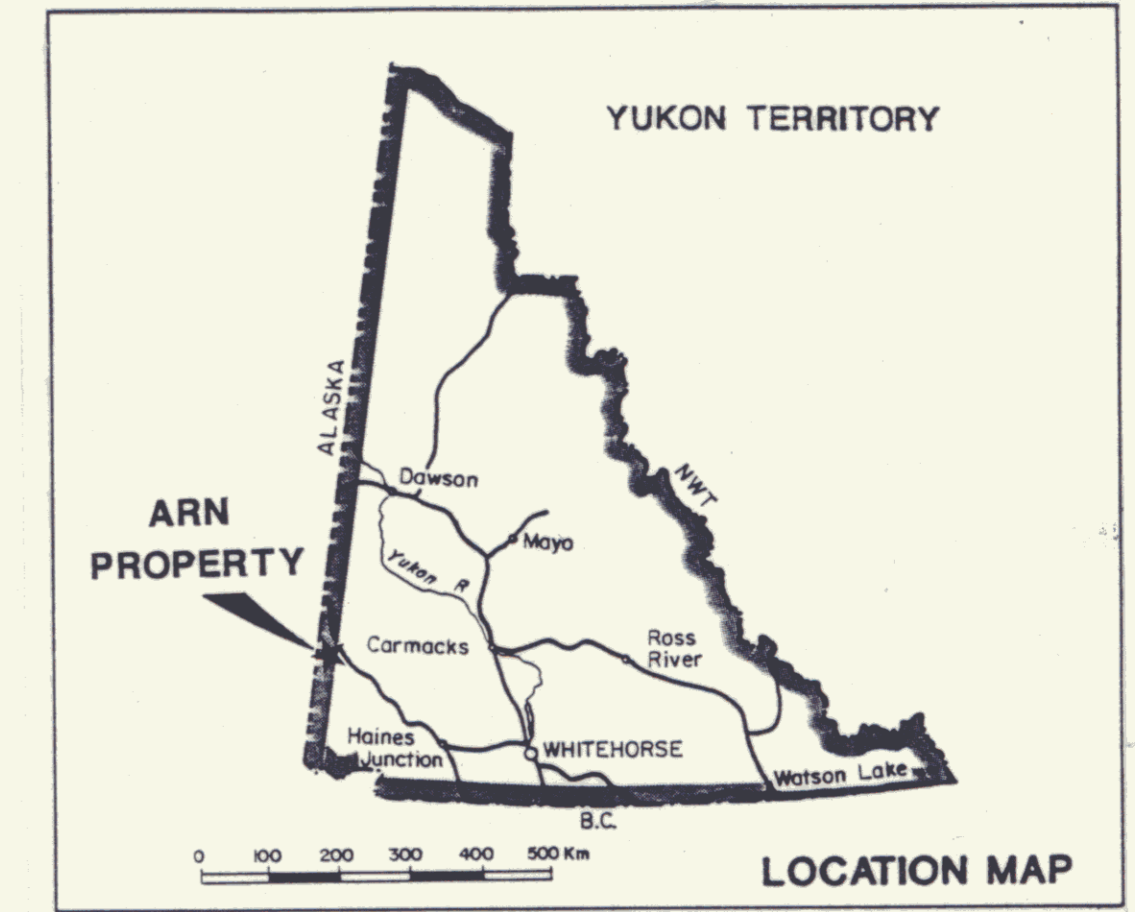
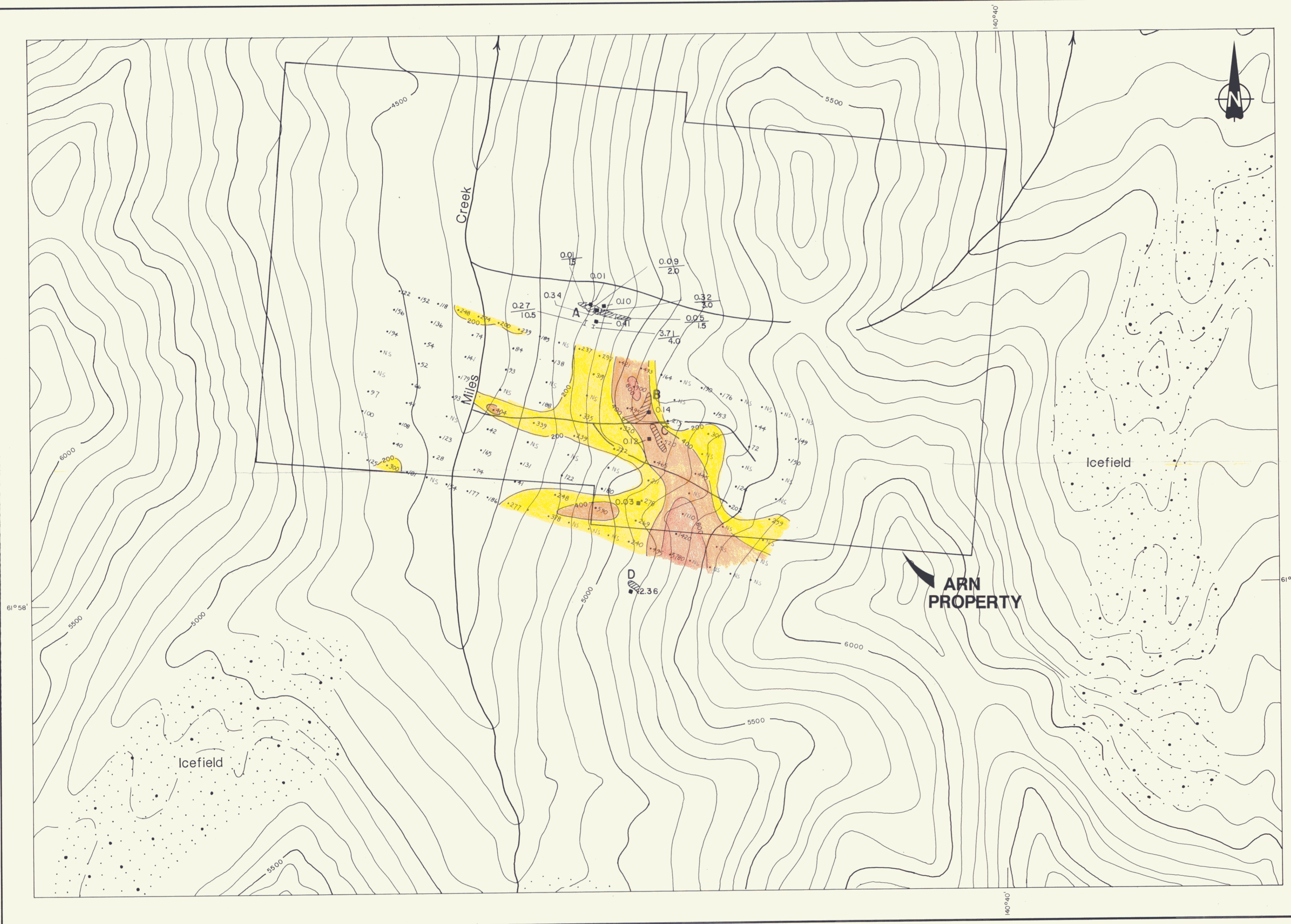


Figure 5
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
GOLD GEOCHEMISTRY
 ARN PROPERTY
 KLUANE JOINT VENTURE
 SCALE 1:5000
 0 50 100 200 300 400 500 Metres
 0 100 500 1000 1500 Feet



- LEGEND**
- ↙ 2.0/1.0 channel sample with % Cu/m
 - 2.0 rock sample with % Cu
 - 164 soil sample with ppm Cu
 - NS no sample taken
 - A mineralized skarn

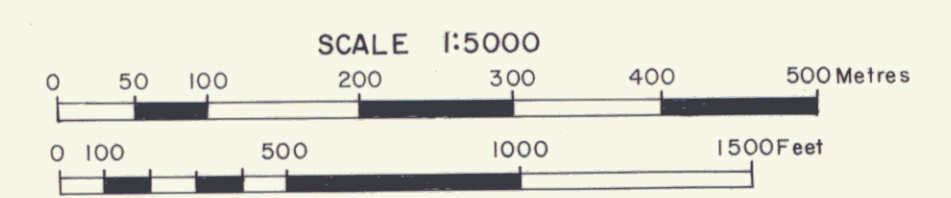
Figure 6
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

COPPER GEOCHEMISTRY

ARN PROPERTY

KLUANE JOINT VENTURE

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To accompany report dated May / 89

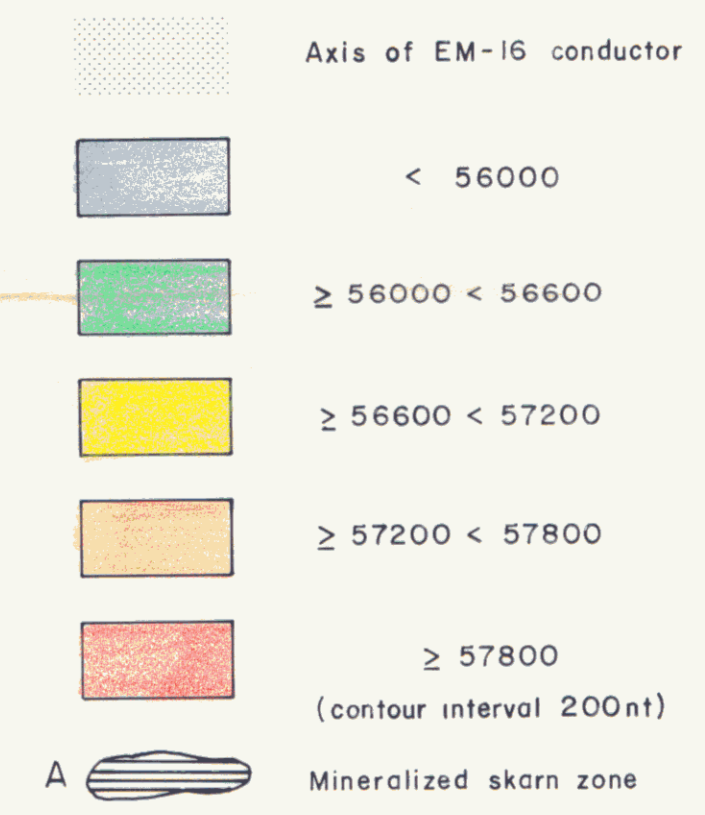
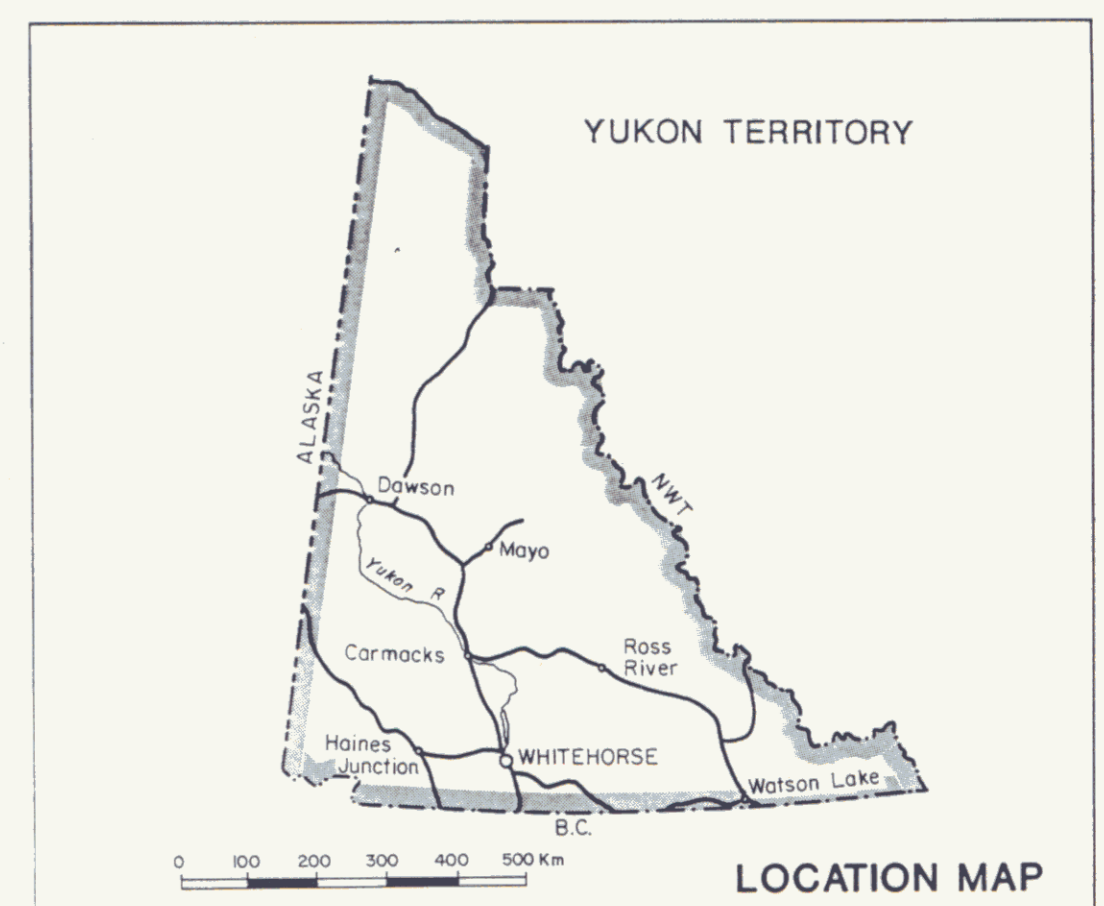
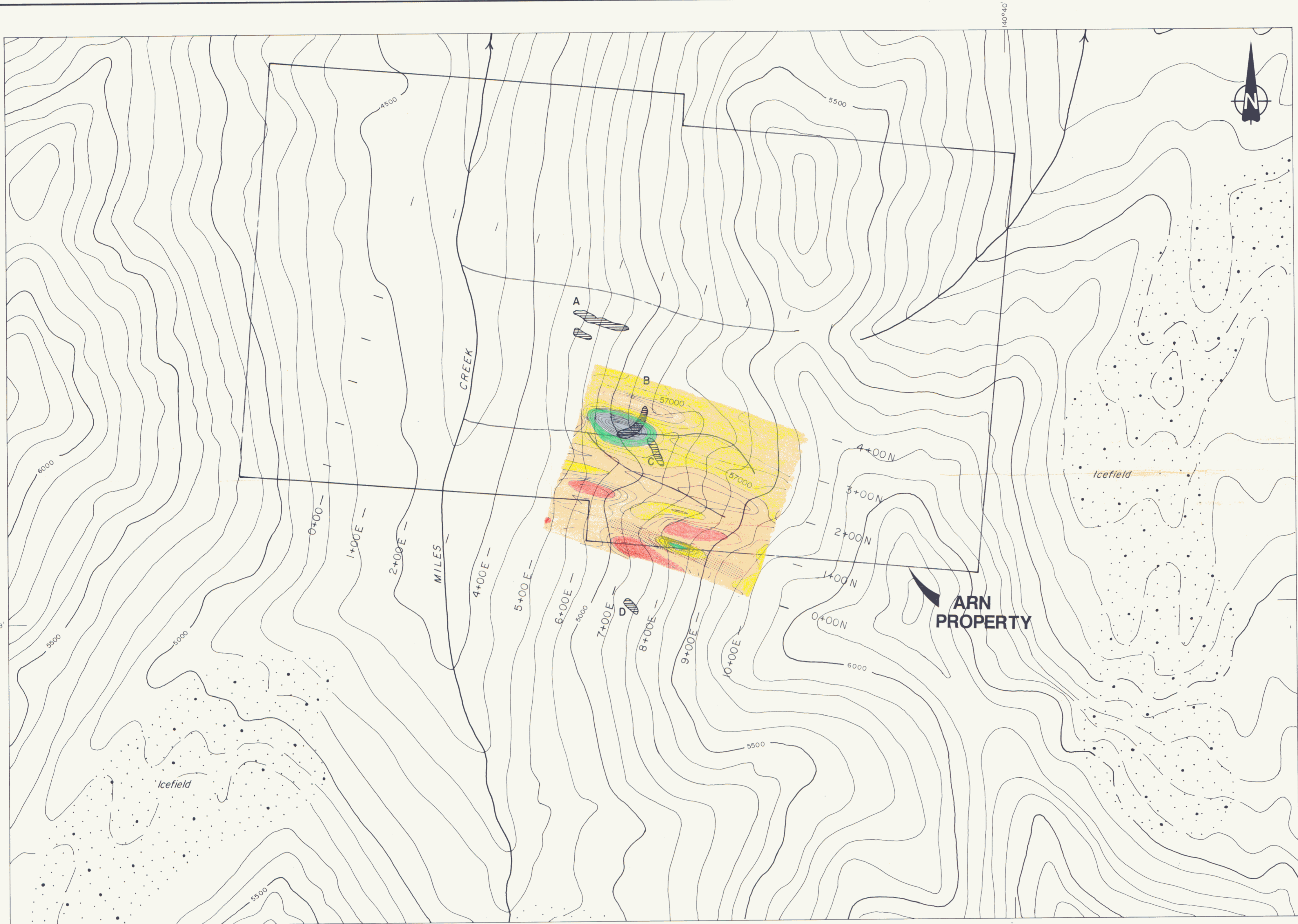
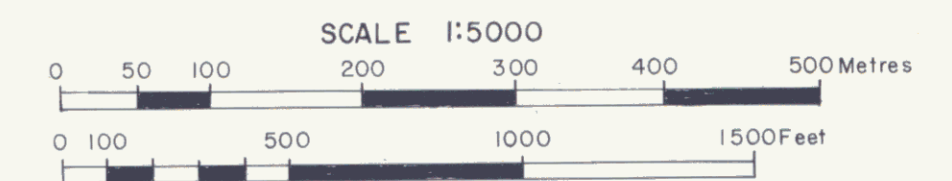


Figure 7

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

MAGNETICS & VLF - EM
 ARN PROPERTY
 KLUANE JOINT VENTURE

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To accompany report dated May/89