

# ARCHER, CATHRO

AND ASSOCIATES LTD.

CONSULTING GEOLOGICAL ENGINEERS

Whitehorse, Yukon (403) 667-4415

1016 - 510 West Hastings Street Vancouver, B.C. V6B 1L8 (604) 688-2568

Post Office Box 4127  
Whitehorse, Yukon  
Y1A 3S9



PRELIMINARY REPORT ON

GEOLOGY AND GEOCHEMICAL SURVEYS

CREAM 1-8 CLAIMS - YA56437-YA56444

Latitude 61°23'N; Longitude 127°13'N; NTS 95E/6

WATSON LAKE MINING DISTRICT, YUKON

for Cub Joint Venture

**090860**

R.J. Cathro, P.Eng.

June 30, 1981

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

\$ 2,400.00

~~Resident Geologist or  
Resident Mining Engineer~~

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

*Ruth Dubicki* *Oct 1/81*

Commissioner of Yukon Territory

*for*

008000

FROM: Mining Recorder at WATSON LAKE

Supervising Mining Recorder at Whitehorse, Y.T.



FOR ACTION ARE:

NEW APPL'N for PLACER LEASE to PROSPECT: Name:

RENEWAL APPL'N PLACER LEASE to PROSPECT: Name:

Lease No. ....

AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name:

Lease No. ....

ASSIGNMENT of PLACER LEASE No. ....

From:

To:

GROUPING APPL'N UNDER SEC. 52(2) PLACER MINING ACT.

Owner:

DIAMOND DRILL LOGS:

Claims:

Claim sheet no:

QUARTZ ASSESSMENT REPORT

Claims: CREAM 1-8

Claim sheet no. 95-E-6

Type of report:

Submitted by:

Geology & Geochemical

Archer, Cathro + Assoc.

Cls. work performed on:

\$ Req. for ren. application

CREAM 1-8

\$ 2400.00

[Signature]

Signature

REPLY ACTION:

Date Ret.

090860

Signature



Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)



I (Name)	M.J. Mariacher	Occupation	Office Manager
(Postal Address)	Box 4127, Whitehorse, Y.T.		

OFFICE DATE STAMP

MAKE OATH AND SAY, THAT:-

- I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.
- I have done, or caused to be done, work on the following mineral claim(s):  
(Here list claims on which work was actually done by number and name)

Cream 1-8; YA56437-444

situated at Coal River Claim Sheet No. 95E/6  
 in the Watson Lake Mining District, to the value of at least \$2900.00  
 dollars, since the 11 day of September 19 80

to represent the following mineral claims under the authority of Grouping Certificate No. 2992  
 (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

Cream 1-8 YA56437-444 inclusive 8 claims at 3 yrs = 24 claim years

- The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

See Preliminary Report on Geology and Geochemical Surveys; Cream 1-8 claims NTS 95E/6 by R.J. Cathro, P.Eng. dated June 30, 1981

Total expenditures	\$2991.60
Less	2400.00
Balance	591.60

Sworn before me at Whitehorse, Y.T.  
 this 17 day of August 19 81

[Signature]  
 Notary Public

[Signature]  
 Applicant.  
 M.J. Mariacher for Archer, Cathro & Associates  
 (1981) Limited

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1	Geology, Geochemistry, and Soil Panning, Cream Property	In Pocket

### SUMMARY AND RECOMMENDATIONS

The Cream claim group is located within the Logan Mountains of eastern Yukon. It was staked by Cub Joint Venture to cover tungsten skarns that occur at the contact between lower Cambrian limestones and a Cretaceous to early Tertiary pluton. Reconnaissance soil sampling returned anomalous values. Continued prospecting and geophysical surveys are warranted.

### INTRODUCTION

The Cream claim group was staked in August, 1980 by Cub Joint Venture (Cassiar Asbestos Corporation Ltd., Highland Crow Resources Ltd. and Union Carbide Canada Ltd.). The program was managed by C.A. Main of Archer, Cathro & Associates Limited.

Geological mapping and grid geochemical sampling were conducted by C.A. Main and three assistants between May 28 and June 22, 1981. This report is a preliminary report on property evaluation.

### PROPERTY, LOCATION AND ACCESS

The property consists of 8 contiguous claims recorded in the name of Archer, Cathro & Associates Limited at the Watson Lake Mining Recorder's office as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Cream 1-8	YA56437-YA56444	28 August 1981

In June 1981, a further 44 claims (Cream 9-52) were added to the original 8 to form a contiguous block of 52 claims. The Cream property is situated near the headwaters of the Coal River at 61°23'N, 127°13'W;

80 km SSE of Tungsten and 55 km east of the Nahanni Range Road. Access in 1981 was by helicopter from a base camp on the Ivo claim group, about 33 km south.

#### FIELD AND ANALYTICAL PROCEDURES

Due to the reconnaissance nature of this investigation, sampling lines were roughly located using compass and toposil without slope corrections. Stations were marked with flagging.

Both silt and soil panning samples were taken from non-organic clay or sandy material and a fresh sample was retained for geochemical analysis. Enough material to fill a 12" gold pan was then panned out down to 1-2 teaspoons of heavy mineral concentrates. These were examined in the field with a UV lamp under a light-proof cape to determine the number of grains of fluorescing scheelite and stored on a filter paper in a numbered kraft bag for future reference.

Soil and silt samples were collected in kraft envelopes at each panning site and were shipped to Chemex Labs Ltd., North Vancouver, B.C. for routine geochemical analysis. These soil and silt samples were pulverized like rock samples to ensure that coarse scheelite grains would be included in the assay, since tungsten is thought to disperse in soil mainly as clastic grains of scheelite.

All samples were analyzed for tungsten with a colorometric determination after fusing with potassium bisulfate, leaching with concentrated HCL, extracting into an amyl acetate solution containing dithiotoluene, and reducing interfering elements with stannous fluoride in a hot water bath. Samples were also analyzed for copper using atomic absorption spectrometry of a nitric-perchloric digestion.

## GEOLOGY

Both geology and geochemistry are plotted at a scale of 1:10,000 on Figure 1 and the various regional map units are summarized in the Table of Formations on the following page.

Previous work by Archer, Cathro crews in 1978, 1979 and 1980 has resulted in significant revisions to the published GSC geology in the Coal River District, particularly to strata underlying the lower Cambrian Sekwi Formation, i.e. mainly to the lower Cambrian Backbone Ranges Formation.

The Backbone Ranges Formation is underlain by noncalcareous phyllite and minor quartzite and limestone of the "Phyllite Unit" and overlain by dolomite and limestone of the Sekwi Formation. The geology of these rocks is complicated by facies changes from quartzite, dolomite and limestone on the east to noncalcareous phyllite with minor dolomite, limestone and quartzite on the west. The easterly rock types that are now mapped as the Backbone Ranges Formation were previously assigned by the GSC to the Sekwi Formation. The westerly facies rocks, mainly phyllites, are often indistinguishable and mismapped as older "Phyllite Unit" or the even older "Grit Unit". In most cases no attempt has been made to differentiate these phyllites and they are labeled 6H, "Phyllite Unit".

The lower part of the Backbone Ranges Formation is at least 700 m thick and consists of several carbonate horizons interbedded with lesser thicknesses of quartzite and phyllite. Both the dolomite and limestone are similar to the younger Sekwi carbonates but are commonly rich in quartz sand and pebbles and grade laterally into quartzite. The upper part of the Backbone Ranges Formation, about 800 m thick, consists mainly of massive grey quartzite interbedded with lesser amounts of grey, noncalcareous phyllite and minor limestone.

The limestone and dolomite horizons in the lower part of the Backbone Ranges Formation can be traced for 75 km south-southeastwards from the Cream property. To the south, the Carbonates thin markedly and occur within interbedded phyllite and quartzite that are probably lateral equivalents of the Backbone Ranges Formation but have been mapped as the "Phyllite Unit".

It is this appreciation of the facies change in the Backbone Ranges Formation that has led to recognition of the "Grizzly Anticline", a gently northward-plunging, broad, open anticline, up to 8 km across. This anticline, which strikes north about  $30^\circ$  off the regional structural trend, is the dominant structural feature of the district. It appears to have exerted a strong control on the emplacement of small plutons and may follow a much older structure since it seems to coincide with the lower Cambrian continental "hinge" (facies boundary). Rocks on both limbs dip uniformly at about  $20^\circ$  to  $40^\circ$ . No related smaller scale structures have been observed; medium-scale folds mapped near the contact of the Ivo Stock appear to be younger local features related to emplacement. To the north, gently eastward-dipping foliation may be related to the anticline although these are not typical. Near granite margins, cleavage is obliterated by hornfels development.

Rocks on the Cream property are mainly phyllites. These could be either part of the base of the lower Cambrian Backbone Ranges clastic facies or part of the older underlying clastic grit unit. Minor limestone horizons occur within the phyllite package. The North Coal stock, a larger biotite granodiorite body, intrudes the phyllite unit along the north margin of the Cream property developing skarns within the limy horizons within the phyllite unit.

### MINERALIZATION

No mineralization has been found as yet on the Cream 1-8 claims although a skarn specimen grading 3.7%  $WO_3$  was found in a talus slope just south of the claim group. Numerous specimens grading around 0.4%  $WO_3$  were also found nearby.

### GEOCHEMISTRY AND PANNING

Sampling has been of a reconnaissance nature beginning with panning creek silts and then panning soils in areas where silts contained some scheelite. In each case a fresh sample was retained for geochemical analysis of tungsten and in many cases the samples were also analyzed for lead, zinc and molybdenum.

Figure 1 (in pocket) shows the data on and around the Cream property. Creek and soil panning surveys located erratic values up to 300 grains scheelite per pan in soil and 10 grains scheelite per pan of silt. Values of 35 ppm  $WO_3$  in soil and 5 ppm  $WO_3$  in silt were also obtained. Generally the lead, zinc and molybdenum assays were below the anomalous threshold.

### CONCLUSIONS

Reconnaissance panning and geochemical surveys are anomalous in tungsten and warrant more detailed surveys. The incidence of mineralized skarn float to the south of the original 8 Cream claims and favourable geological setting of lower Cambrian carbonate-bearing sediments intruded by high level Cretaceous plutons warrant detailed prospecting and geochemical surveys.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED,

  
B.J. Cathro

# ARCHER, CATHRO

AND ASSOCIATES LTD.

CONSULTING GEOLOGICAL ENGINEERS

Box 4127, WHITEHORSE, Y.T. Y1A 3S9 667-4415

STANDARD BUILDING, VANCOUVER, B.C. 688-2568

1016 STANDARD BUILDING  
510 WEST HASTINGS STREET  
VANCOUVER, B.C.  
V6B 1L8

## CERTIFICATE

I, Robert J. Cathro, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in West Vancouver, British Columbia, do hereby declare

1. I am a consulting engineer.
2. I am a 1959 graduate of the University of British Columbia in geological engineering.
3. From 1959 to 1965 I was engaged in mining and exploration geology with United Keno Hill Mines Ltd., Giant Yellowknife Mines Ltd., and Eldorado Mining and Refining Ltd. I entered private practice in January, 1966.
4. I am a registered professional engineer in British Columbia and Yukon Territory.
5. I have supervised the work described in this report.

Respectfully submitted,



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

/mc

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AND ASSOCIATES LTD.  
CONSULTING GEOLOGICAL ENGINEERS



Box 4127, Whitehorse, Y.T. VIA 359 667-4415

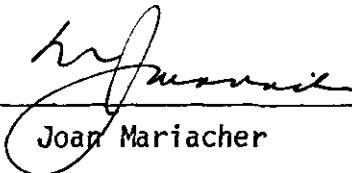
STANDARD BUILDING, VANCOUVER, B.C. 688-2568

1016 STANDARD BUILDING  
510 WEST HASTINGS STREET  
VANCOUVER, B.C.  
V6B 1L8

AFFIDAVIT

I, Joan Mariacher, of Whitehorse make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Cream 1-8 mineral claims on Claim Sheet 95E/6 is accurate.

  
Joan Mariacher

Sworn before me at Whitehorse  
this 11th day of  
August, 1981

  
Notary, Yukon Territory

090860

Cream Property  
 Statement of Expenditures for  
Field Work for May 28, June 13, and June 22, 1981

Labour

C.A. Main	May 28	1 day @ \$230/day	\$230.00
W. Penno	June 13	1 day @ \$107/day	107.00
D. Lister	June 13 & 22	2 days @ \$86/day	172.00
C. Shuttle	June 22	1 day @ \$86/day	86.00
H. MacIssac	June 22	1 day @ \$80/day	<u>80.00</u>
			\$ 675.00

Helicopter

Trans North Turbo Air contract Bell 47G3/B2			
	May 28, June 13	3.3 hours @ \$230/hr	\$759.00
Shirley Helicopters contract Bell 206C			
	June 22	1.9 hours @ \$365/hr	694.00
Helicopter fuel - 3.3 hours @ 18 gal/hr @			
		\$6.50/gallon - delivered to site	386.10
		1.9 hours @ 20 gal/hr @ 6.25/gal -	
		delivered to site	<u>237.50</u>
			2,076.60

Camp & Field Survey Costs

6 mandays @ \$40/day - groceries, propane, flagging, hipchains, etc.	<u>240.00</u>
	<u>\$2,991.60</u>







**TRANS NORTH TURBO AIR LTD.**  
 BOX 4338, WHITENORSE, YUKON VIA 3T8  
 TELEPHONE 14031868-2177 • TELEX 036-B-290

ACCOUNT NUMBER	116
54162	
INVOICE DATE	16/06/81
A/C TYPE	4752
AIRCRAFT REGISTRATION	F C R 72
FLIGHT DATE	28/05/81
PURCHASE ORDER NO.	

CHARTERER ARCHER CATRU

BILLING ADDRESS CUB

FUEL & OIL - TMTA	DIL - TMTA FUEL USED	HRS. - GALS.	FROM
TMTA	CUST.		

FROM	MILES	HOURS	ZONE	REMARKS - NO. OF PASS. - FREIGHT LBS.
CRISCO LK		3.5		slinging ; area reseed
TO Local				2.5 No 1.0 Clean

SUB	S.L.	AMOUNT
6455	5020	805.00

TERMS: NET 30 DAYS  
 1.75% INTEREST PER MONTH (21% PER ANNUM)  
 WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS.

Charles S. Martin  
 CHARTERER'S SIGNATURE

RRC  
 INITIALS

Reese Colby  
 PILOT'S SIGNATURE

CO-PILOT'S NAME

JAL  
 ENGINEER'S NAME

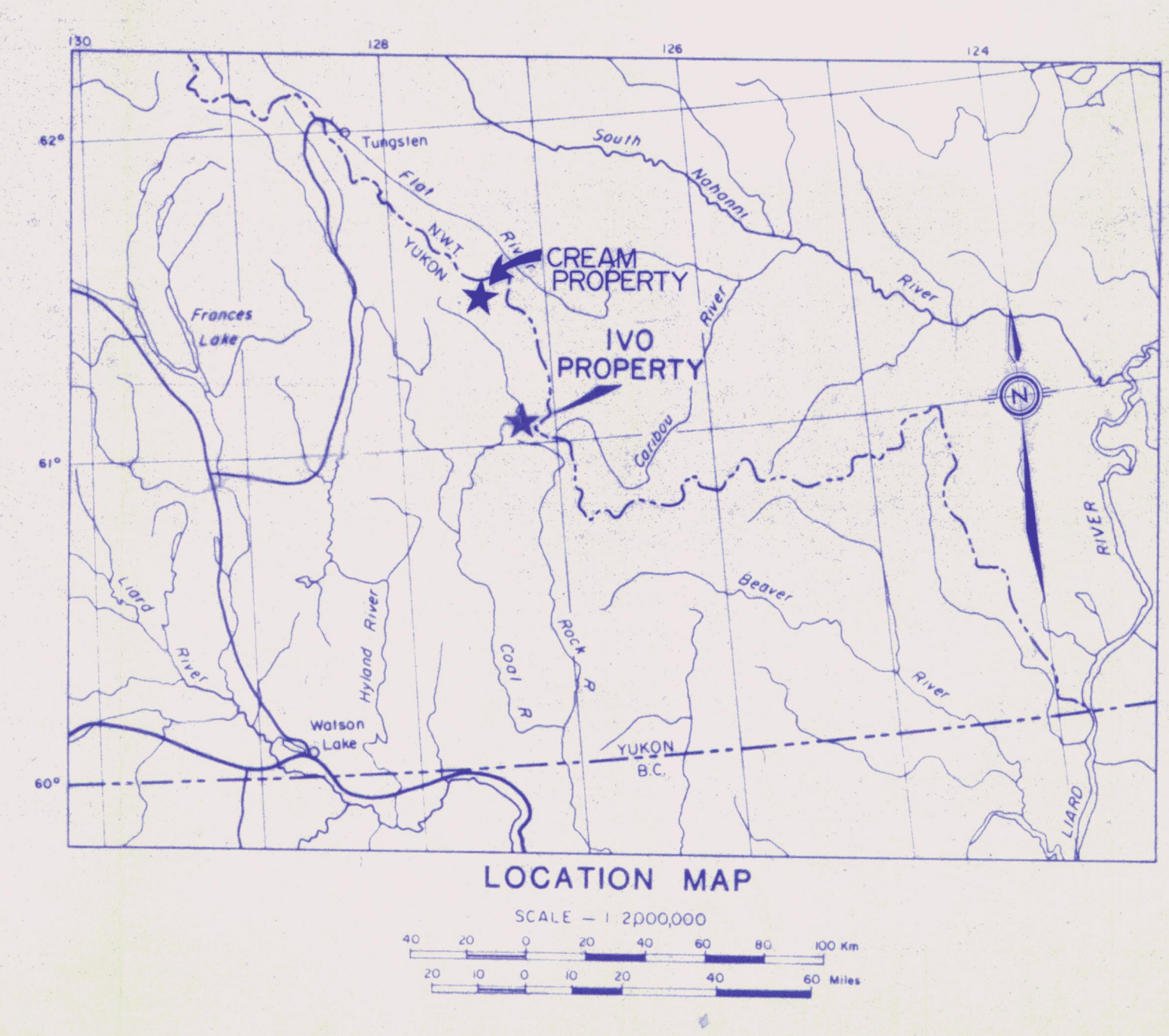
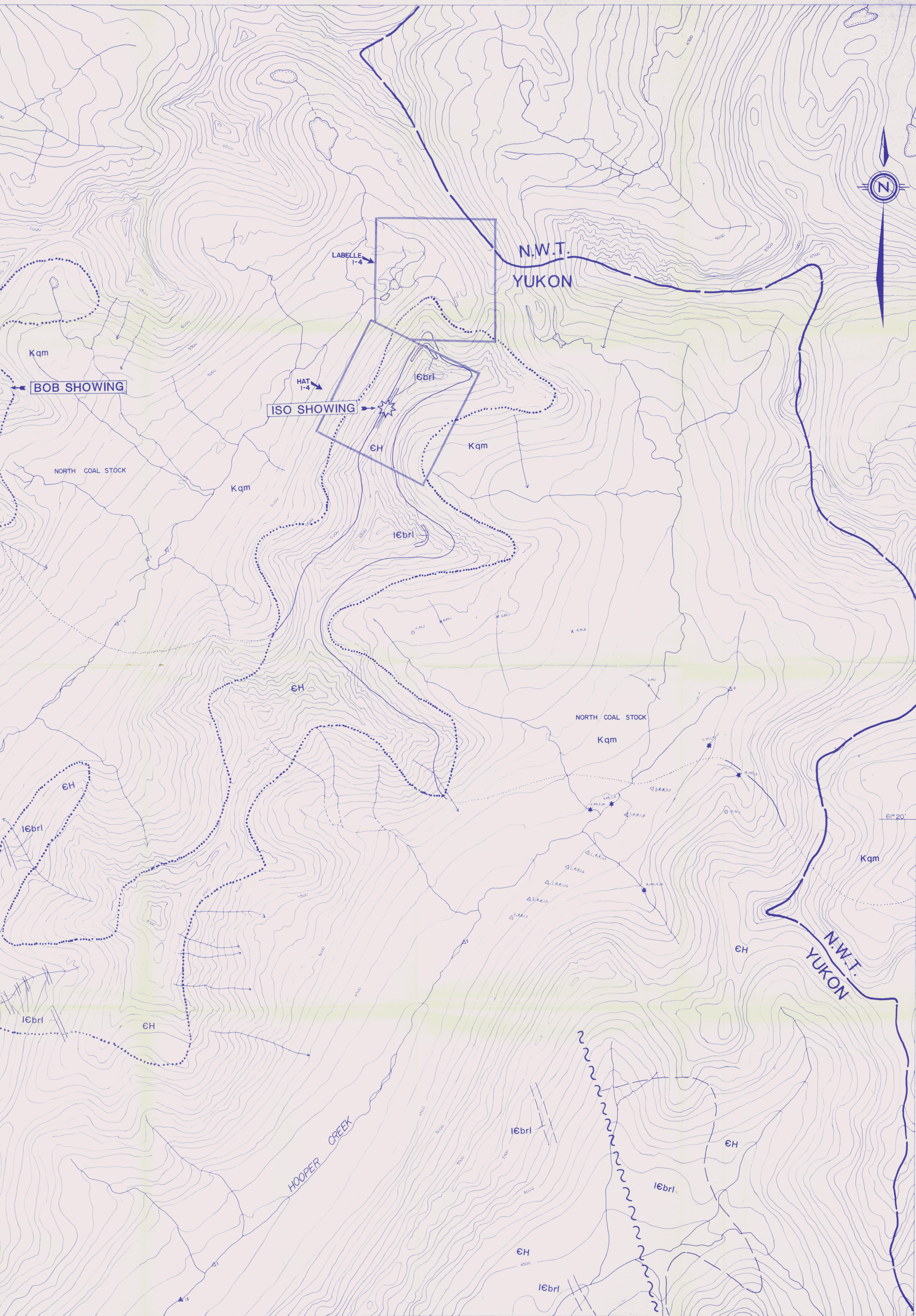
Jerb Lister  
 FLIGHT ATTENDANT

WAITING TIME	e	/HR.
FUEL:	e	/GAL.
FUEL:	e	/GAL.
MEALS & LODGING		
OTHER		
OTHER		

LA TOTAL \$ 805.00

FLIGHT REPORT INVOICE





**LEGEND**

**CRETACEOUS**

Kqm Quartz monazite

**UPPER CAMBRIAN to ORDOVICIAN**

EO<sub>r</sub> Rabbitkettle Fm  
shaly bedded limestone

**LOWER CAMBRIAN**

IC<sub>s</sub> Sekwi Fm  
Limestone and dolomite; Swiss cheese limestone

**LOWER CAMBRIAN and OLDER (?)**

ICbrq Backbone Ranges Fm  
Quartzite, siliceous light grey hornfels, quartz-biotite schist, ester green phyllite and siltstone

ICbrl Siliceous limestone, pebbly limestone

ICbrd Pink or cream colored dolomite

**LOWER CAMBRIAN (?) and OLDER**

CH Phyllite Unit  
Green muscovite-chlorite phyllite, siltstone, banded argillite, dark grey phyllite, dark grey pyritic hornfels

bedding	5 numbers: Mo, Pb, Zn, W <sub>2</sub> , Scheelite
foliation	4 numbers: Pb, Zn, W <sub>2</sub> , Scheelite
fault	3 numbers: Pb, Zn, W <sub>2</sub>
geological contact (defined, approximate, assumed)	1 number: Scheelite
anticline, syncline	∅ "not analysed"
limit of outcrop	⊗ X soil, silt sample location
claim boundary	Δ UCEX stream pan sample location
	▲ * Δ stream pan, stream pan/alt, soil pan sample location — CUB 1978, 1979, 1980
	- all analyses reported as ppm, scheelite as number of grains observed

limit of mapping

FIGURE 1  
 ARCHER, CATROD & ASSOCIATES LTD.  
**GEOLOGY, GEOCHEMISTRY and PANNING**  
 CREAM PROPERTY  
 CUB JOINT VENTURE  
 SCALE - 1:10,000

