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REPORT ON
GEOLOGICAL AND GEOCHEMICAL SURVEYS
CONDUCTED JULY 21-AUGUST 7, 1980

for

CUB JOINT VENTURE
SNEET 1-12 CLAIMS - YA55552-YA55563
SNOT 1-12 CLAIMS - YA55564-YA55575



WATSON LAKE MINING DISTRICT
CLAIM SHEET 95E/3

Latitude 61°10'N

Longitude 127°05'W

C.A. Main, B.Sc.

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

January 15, 1981

090736

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

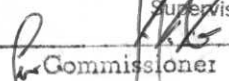
\$ 3,600.00



Resident Geologist or
Resident Mining Engineer

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

B. R. BAXTER
Supervising Mining Recorder



Commissioner of Yukon Territory



090730

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ILLUSTRATIONS

FIGURE NO.

1	Geology, Geochemistry, and Soil Panning, Sneet Property	In Pocket
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SUMMARY AND RECOMMENDATIONS

The Sneet-Snot claim group is located within the Logan Mountains of eastern Yukon. It was staked by CUB Joint Venture to cover tungsten skarns that might occur within lower Cambrian limestones over a Cretaceous (?) pluton. Although no intrusive rocks have been discovered on the property such mineralized skarns may exist at shallow depth as indicated by anomalous scheelite contents of streams draining the property and by the presence of a regional anticline which may enhance plutonic emplacement. Geophysical work is required to evaluate this target.

INTRODUCTION

The Sneet-Snot claim group (called the 'Sneet Property') was staked in July, 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 and Associates Limited.

The property covers lower Cambrian sediments flanking a broad regional anticline and it is speculated that a Cretaceous intrusive has been emplaced at the core of this anticline. No tungsten mineralization or direct evidence of the intrusive have been discovered.

Geological mapping and grid geochemical sampling were conducted by C.A. Main and two assistants between July 21 and August 7.

PROPERTY, LOCATION AND ACCESS

The property consists of 24 contiguous claims recorded in the name of Archer, Cathro & Associates Ltd. at the Watson Lake Mining Recorder's office as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Sneet 1-12	YA55552-YA55563	21 July 1981
Snot 1-12	YA55564-YA55575	21 July 1981

The Sneet property is situated near the headwaters of the Coal River at 61°10' N, 127°05' W; 90 km SSE of Tungsten and 60 km east of the Nahanni Range Road. Access in 1979 was by helicopter from a base camp at Cristos Lake, Yukon, about 8 km south.

FIELD AND ANALYTICAL PROCEDURES

Due to the reconnaissance nature of this investigation, sampling lines were roughly located using compass and topofil 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 is then panned out down to 1-2 teaspoons of heavy mineral concentrates which are examined in the field with a UV lamp under a light proof cape to determine the number of grains of fluorescing scheelite. The heavy mineral concentrates are retained on a filter paper and stored in a number 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 disperses 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 dithioltoluene, 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.

GEOMORPHOLOGY

The geomorphology of the Coal River belt (lying between Coal River on the west and Rock River on the east), unlike most areas with similar geology further north within the Logan Mountains, is relatively subdued with rolling hills, mainly below timberline. The Coal and Rock River valleys are particularly wide and overburden is unusually extensive along valley floors. The Sneet property lies central to the Coal River belt and relief is particularly subdued with no rock outcrops below ridge crests.

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 CUB work in 1978, 1979 and 1980 had 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 exposed in a narrow belt through the Sneet property. It 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

TABLE OF FORMATIONS

CRETACEOUS

Kq Quartz monzonite; granodiorite; minor granite and diorite

ORDOVICIAN, SILURIAN AND LOWER DEVONIAN

OSDr ROAD RIVER FORMATION: black, pyritic shale, locally phyllitic; thin-bedded, black, argillaceous limestone; pale olive-green, shaly limestone, grey and black chert; calcareous siltstone; black cherty dolomite; locally includes strata of middle Devonian to Carboniferous age

MIDDLE ORDOVICIAN

Os SUNBLOOD FORMATION: dark and light grey dolomite; pink, mottled limestone; orange brown sandstone

OSV Vesicular, mafic flow(s)

EOr RABBITKETTLE FORMATION: brown weathering, wavy banded, silty limestone; platy impure limestone; siltstone; limestone

CAMBRIAN (?)

1E Dark grey-brown to black calcareous argillite, slate, shale, locally pyritic; minor argillaceous limestone

LOWER CAMBRIAN

1Es SEKWI FORMATION: undivided; massive, light pink and orange dolomite, light grey and brown limestone; 1Eshf; cherty calc-silicate rocks

1Esv Vesicular, green and maroon weathering volcanic rocks

1Ebrq BACKBONE RANGES FORMATION: resistant, thick bedded grey quartzite, grey phyllite, minor sandy limestone and pebble conglomerate

1E BACKBONE RANGES FORMATION: massive buff or pink weathering dolomite, grey limestone; local sandy to pebbly limestone and dolomite

CAMBRIAN AND (?) HADRYNIAN

Hv Vesicular and amygdaloidal, blocky, green, purple, volcanic flows and breccias; minor buff dolomite

GH "Phyllite Unit": phyllite, slate, fine-grained quartzite, siltstone, argillite

HADRYNIAN

H "Grit Unit": dark shale and slate, gritty quartzite, calcarenite, quartz-pebble conglomerate; sandstone; maroon, green and buff shale and slate; minor limestone and phyllite

H1s Massive grey limestone

I COAL RIVER DISTRICT

minor dolomite, limestone and quartzite on the west. These easterly rock types, now assigned to the Backbone Ranges Formation, had previously been assigned to the Sekwi Formation. The westerly facies rocks, mainly phyllites, are often indistinguishable and mapped 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 GH, "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 55 km south-southeastwards from the Sneet property. The carbonates thin markedly and occur within interbedded phyllite and quartzite which are undoubtedly lateral equivalents of the Backbone Ranges Formation but are 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° off the regional structural trend, is the dominant structural feature of the area. It appears to have exerted a strong control on the emplacement of the 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° to 40°. 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. In the northern part of the Coal River Belt gently eastward-dipping foliation may be related to the anticline although these are not typical. Near granite margins, cleavage is obliterated by hornfels development.

No intrusive rocks have been discovered on the property during reconnaissance prospecting.

MINERALIZATION

This property has the potential to contain tungsten-bearing skarns at a shallow depth within the limestone members of the Backbone Ranges Formation. No intrusive to develop these skarns has been found on the property and this potential is based on the presence of anomalous amounts of scheelite in creek panning samples in a geological setting similar to that at the Ivo property 10 km south.

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 Sneet property. Creek and soil panning surveys located erratic values up to 50 grains of scheelite from Camp Creek, 80 grains of scheelite from Budget Creek and 70 grains of scheelite from Greener Creek. These creeks have all eroded into the core of the Grizzly Anticline in areas that are probably underlain by phyllite with minor limestone. The presence of scheelite in these quantities possibly indicates the presence of


an intrusion at shallow depth.

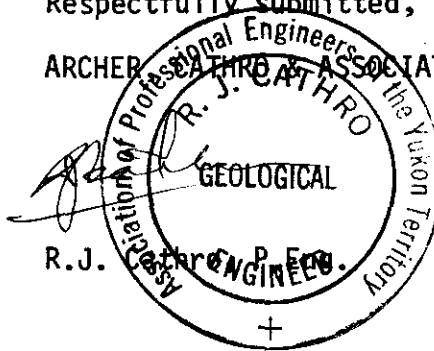
Generally the results of lead, zinc, tungsten and molybdenum geochemical assays are low and uninteresting with the exception of silt samples from a north draining tributary of Budget Creek, central to the Sneet property, where samples returned assays of up to 1500 ppm Zn and 5 ppm W.

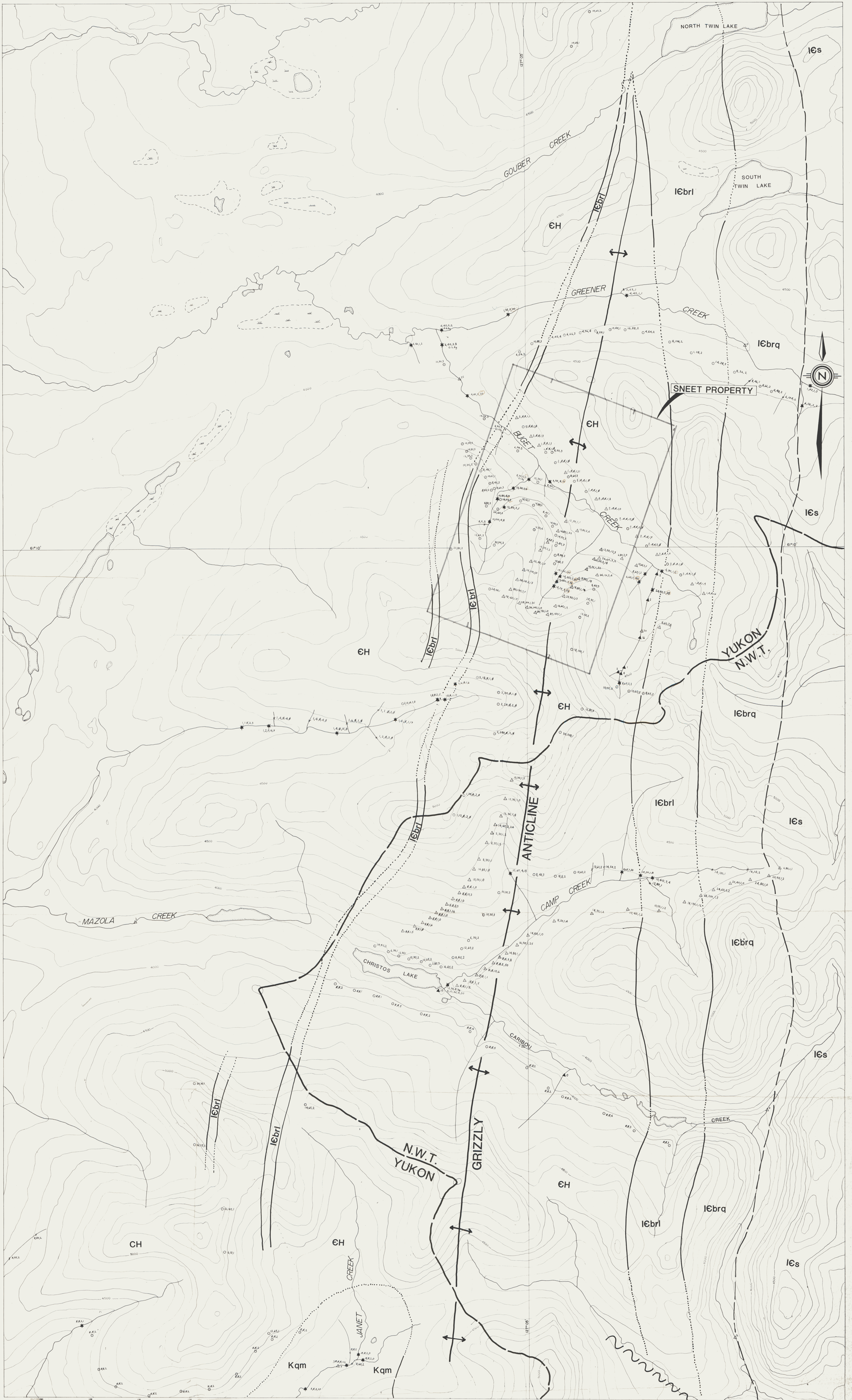
CONCLUSIONS

Preliminary mapping, geochemical and panning surveys suggest there is a possibility that tungsten bearing skarns occur at a shallow depth on the Sneet property. It is unlikely that prospecting or geochemical surveys would be useful in evaluating this target and geophysical techniques such as EM-16 and ground magnetics should be used.

Respectfully submitted,
ARCHER THROUGH ASSOCIATES LIMITED


C.A. Main, B.Sc.





- CRETACEOUS**
 Kqm Quartz monzonite
- UPPER CAMBRIAN to ORDOVICIAN**
 ICs Skeelvi Fm
 ICbrl Backbone Range Fm
 ICbrq Skeewis limestone, partly limestone
- LOWER CAMBRIAN and OLDER (?)**
 ICbrt Pink or cream colored dolomite
- LOWER CAMBRIAN (?) and OLDER**
 CH Phyllite Unit

LEGEND

- bedding
- foliation
- fault
- geological contact (dotted, approximate, assumed)
- anticline, syncline
- limit of outcrop
- stream boundary
- 5 numbers: M, P, S, W, O, S, Scheelite
- 4 numbers: P, S, W, O, Scheelite
- 3 numbers: P, S, W, Scheelite
- 1 number: Scheelite
- ☒ "out outcrop"
- ☒ X soil, soil sample location
- ▲ UCEX stream geo sample location
- ▲ stream geo, stream geo/soil, soil geo sample location - CUB 979, 979, 980
- 40 meters reported as ppm, scheelite as number of grains observed

FIGURE 1
 GEOLGY, GEOCHEMISTRY
 and SOIL PANNING
 SNET PROPERTY
 CUB JOINT VENTURE
 SCALE - 1:10000

