MOUNTAINEER MINES LTD. - PAN OCEAN OIL LTD.

JOINT VENTURE

ASSESSMENT REPORT

ON THE

ARCTOS 1-16 MINERAL CLAIMS

N.T.S. 106-D-16

64°56'N 134°21'W

YUKON TERRITORY

January, 1980

D. Yeager - Geologist

C. K. Ikona - P.Eng.

090587

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

$ 1,600.00

J A Morin

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (1) Yukon Quartz Mining Act.

B. E. BAXTER
Supervising Mining Recorder

for Commissioner of Yukon Territory

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1.0 INTRODUCTION

The ARCTOS 1-16 mineral claims were staked on September 15, 1976 by Harman Management Ltd. to cover copper, uranium, and cobalt showings discovered during a regional prospecting program carried out for Mountaineer Mines Ltd. A brief investigation of the property was conducted by Harman Management Ltd. subsequent to staking the ground.

Pan Ocean Oil Ltd. of Calgary acquired majority interest in the claims in the fall of 1976.

During the period June 17 to September 24, 1979, a geological evaluation and trenching program was carried out on the property by Pamicon Developments Ltd.

2.0 LIST OF CLAIMS

Claim Name	Staking Date	Recording Date	Grant Number
ARCTOS 1-16	September 15/76	September 15/76	YA7144-YA7159 inclusive

Claim posts examined by the author appear to conform with the Yukon Quartz Mining Act regulations.

3.0 LOCATION AND ACCESS

The ARCTOS group is located 13 miles south of Quartet Lakes, 17 miles morthwest of Gillespie Lake and 8 miles north-northwest of the Bear River airstrip in the northeastern Yukon Territory. The property is one hundred miles northeast of Mayo. Approximate co-ordinates of the claim

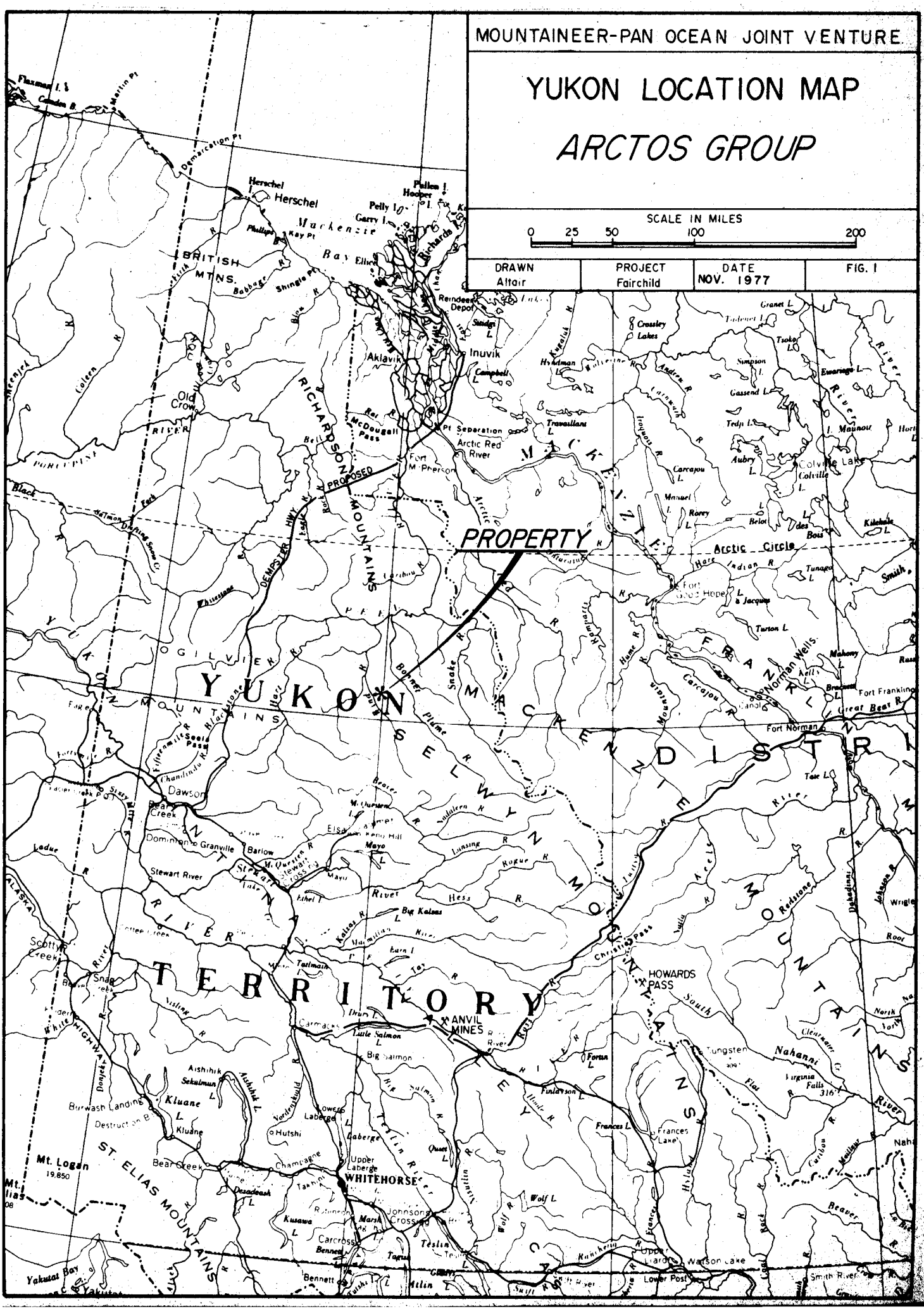
MOUNTAINEER-PAN OCEAN JOINT VENTURE

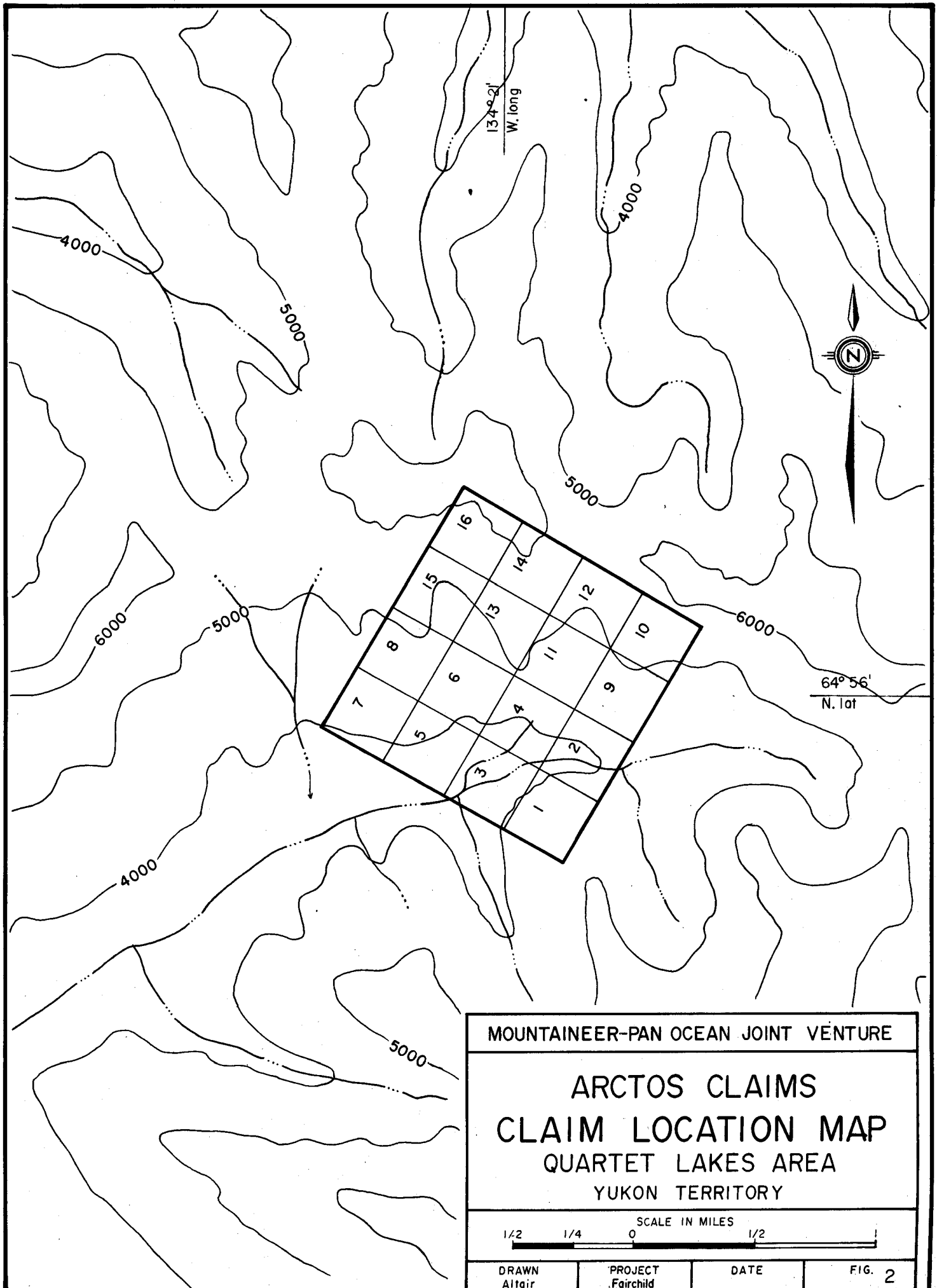
YUKON LOCATION MAP

ARCTOS GROUP

SCALE IN MILES
0 25 50 100 200

DRAWN	PROJECT	DATE	FIG. 1
Altair	Fairchild	NOV. 1977	





MOUNTAINEER-PAN OCEAN JOINT VENTURE

ARCTOS CLAIMS
CLAIM LOCATION MAP
QUARTET LAKES AREA
YUKON TERRITORY

SCALE IN MILES
1/2 1/4 0 1/2 1

DRAWN	PROJECT	DATE	FIG.
Altair	Fairchild		2

group are 64°56'N. latitude and 134°21'W. longitude.

Access to the property is recommended by float equipped, fixed winged aircraft to either Gillespie Lake or Quartet Lakes. Wheeled aircraft may use the serviceable Bear River airstrip. Helicopter transport from any of the three fixed winged landing locations is required to reach the property.

Both helicopter and fixed wing aircraft as well as full expediting services are available in Mayo.

4.0 TOPOGRAPHY AND VEGETATION

Elevations on the property range from 3,600 feet to 6,600 feet and topography is rugged over most parts of the area. Outcrops are found mainly along ridge lines and along eroded stream banks. The entire claim group lies above tree line so vegetation consists entirely of low grasses and moss.

5.0 REGIONAL GEOLOGY

The Quartet-Fairchild region lies in the Wernecke Mountains of the north eastern Yukon Territory. In the general area, the Wernecke consist of local ranges which include the Rackla Range, Bonnet Plume Range and Knorr Range. Topography is normally moderate to rugged with elevations ranging from 2,000 to 6,500 feet. The major river valleys are broad, timbered and extensively overburden covered, while most mountain slopes present greater than 60% outcrop above the 4,000 foot level.

The entire area has been mapped by the Geological Survey of Canada and three separate publications are presented. The following memoir and open file reports give 1" = 4 miles geological coverage of the Nash Creek, Nadaleen River, Wind River and Snake River map areas.

(1) Geology of Nash Creek, Larsen Creek and Dawson Map-Area, Yukon Territory by L.H. Green 1972 (Memoir 364).

(2) Open File 205 (Geology of Nadaleen River and Bonnet Plume Lake Map sheets by S. Blusson) 1975.

(3) Open File 279 (Geology of Snake River and Wind River sheets by D.K. Norris) 1975.

In the Quartet-Fairchild-Gillespie Lakes region Helikian rocks are exposed over an area of some 1,500 sq. miles in a roughly circular fashion centered near Longitude 134°00W and Latitude 65°00'N.

These rocks have been described as Units 1 & 2 by L. Green on the Nash Creek Sheet.

Recent G.S.C. stratigraphic work by Bell and Delaney (1976) has redesignated Units 1a, 1 and 2 (Green 1972) as Units A, B, and C respectively. The unit designations as established by Bell and Delaney will be used in this report.

Unit A whose base is not exposed, is composed of a thick succession of moderately metamorphosed fine grained clastic sediments with interbedded carbonates. The overlying Unit B consists of thinly interbedded slates and argillites with occasional quartzite beds.

Unit C, which conformably overlies the uppermost slate-quartzite section of Unit B, consists mainly of thickly bedded orange weathering dolomites. The base of the unit is marked by a series of transitional beds of alternating buff weathering dolomites and interbedded slates and quartzites.

Erratically distributed throughout the Proterozoic metasediments are irregularly shaped breccia bodies. The breccia zones vary from tens of feet to several thousand feet in size and appear as cross cutting pipe-like features at all levels in the stratigraphic column. Several varieties exist, but all exhibit an assortment of angular clasts derived from rock types common to the area. Hornfels margins observed at several localities indicate an intrusive origin.

A common association with many of the breccia bodies are zones of veining or locally pervasive feldspar alteration seen as internal features within the breccias or in host rocks adjacent to them.

The alteration zones are pink in colour due to either K-spar or strong hematization and in some instances contain varying amounts of specularite, chalcopyrite and minor uranium mineralization.

5.1 Structure

Two major periods of deformation have taken place within the Wernecke Mountain region. During the first period or Racklan Orogeny, the Proterozoic rocks of Units A, B, and C underwent intense folding and faulting. Folds are tight to isoclinal with the development of strong axial plane

cleavage and commonly an almost vertical foliation.

A major unconformity of Lower Hadrynian age forms the upper contact of Unit C. In many localities, erosion beneath this unconformity has resulted in the complete removal of Unit C and the strong angular relationship between the relatively flat lying Cambrian and younger rocks directly overlying Units A and B is apparent.

Further unconformities near the Upper Hadrynain, Lower Cambrian and Upper Cambrian margins leave Devonian carbonates directly over the Helkian section.

The second period of deformation, which involves both Paleozoic and Proterozoic strata, is weak compared to the first. This is particularly evident in the younger Carbonate sections to the west and southwest where deformation consists mainly of broad open folding and minor overthrusting.

6.0 TRENCHING

The 1979 trenching program was designed to follow up on preliminary work initiated in 1978 (see Figure 3 this report). During this preliminary work, Trench No. 1 (1978) was blasted once. Surface debris, vegetation, and some bedrock were removed from a 2.5 m x 1 m area to a depth of 0.25 m.

As assay results from samples taken from Trench No. 1 (1978) were encouraging, further trenching was done in 1979. Trench No. 1 (1979) was drilled and blasted to a depth on the

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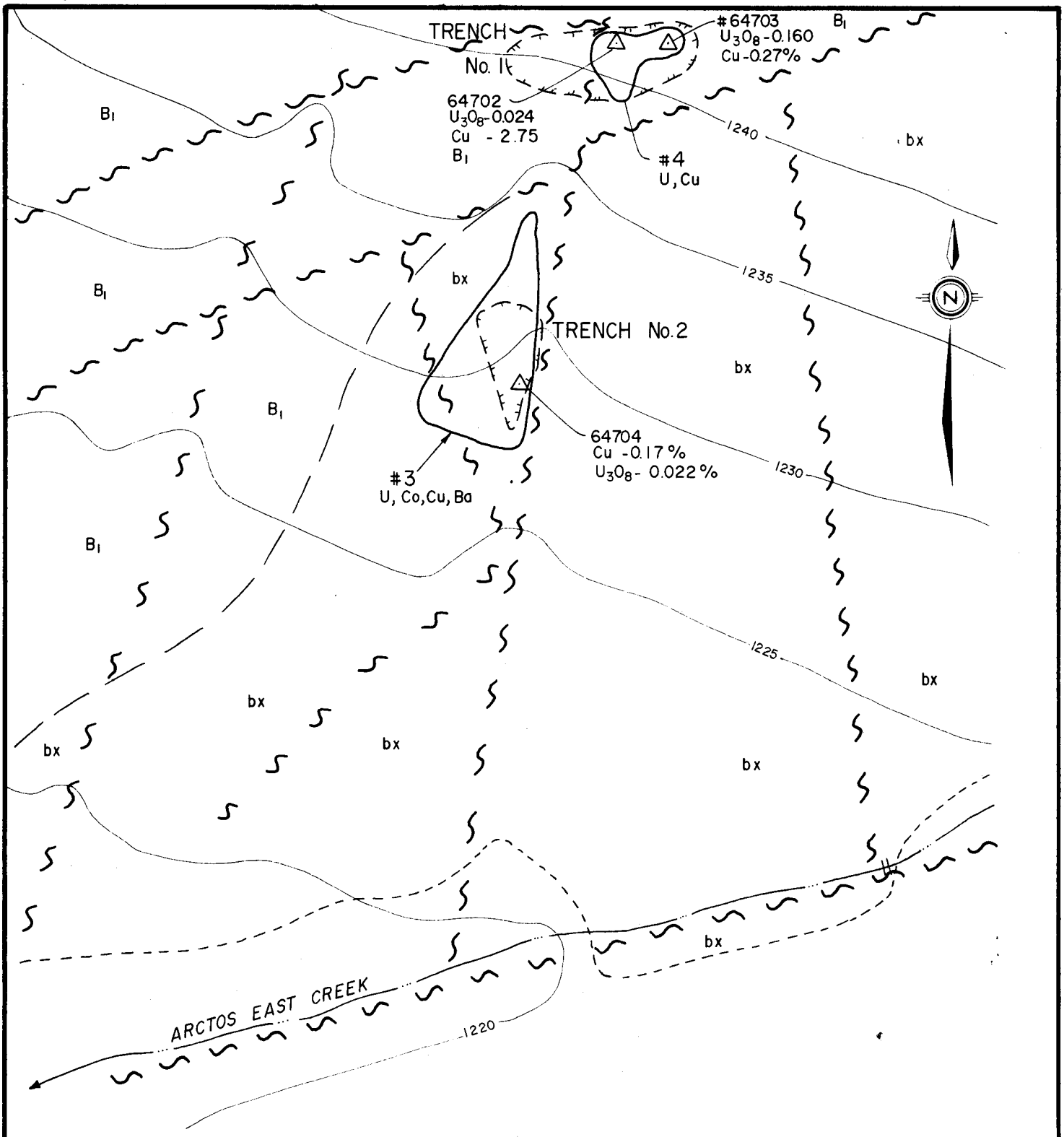


LITHOLOGY

- bx Breccia Group
- B1 Metasomatite
- U Uranium Mineralization
- Cu Copper "
- Ba Barium "
- Co Cobalt "
- Mineralization Location #3

LEGEND

- Geologic Contact
- Trench
- Fault
- 64702△ Rock Geochem. Sample Location
- Outcrop Limit
- 1240 Contour (meters)

MOUNTAINEER-PAN OCEAN JOINT VENTURE

CENTRAL ARCTOS CLAIMS

NTS 106-D-16

ARCTOS MAIN SHOWING

ARCTOS #3 + 4

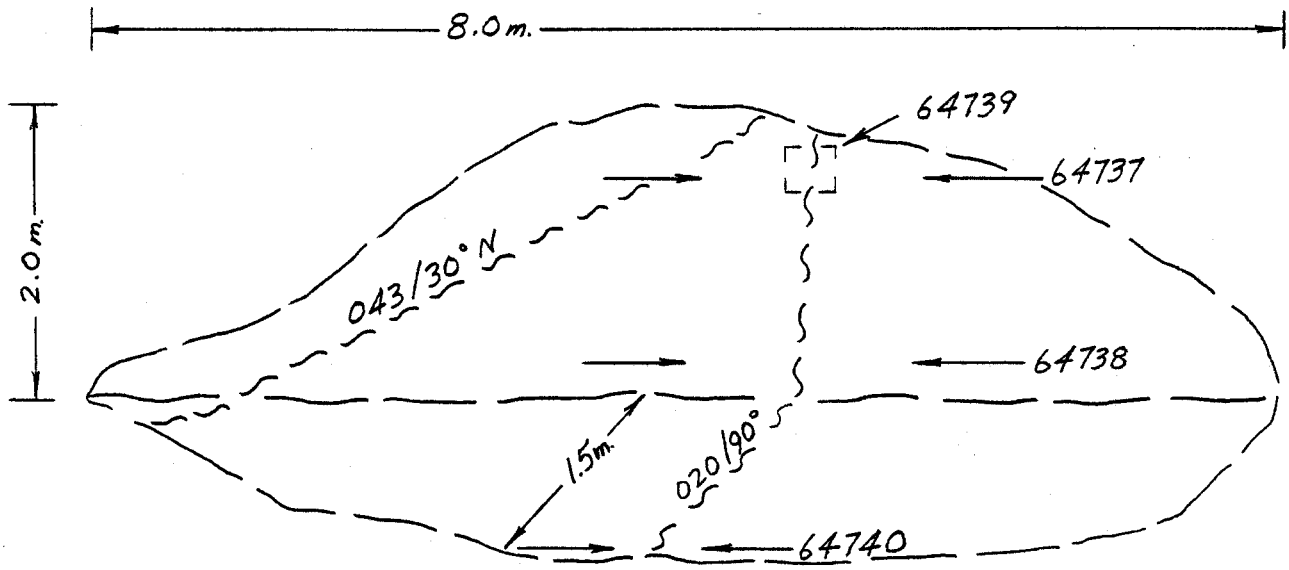
YUKON TERRITORY

0 2 4 6 8

METRES

PAMICON DEVELOPMENTS LIMITED

DRAWN:	PROJECT:	DATE:	FIGURE
Altair	Fairchild	Nov. 1978	3



Sketch looking north

Side view looking west

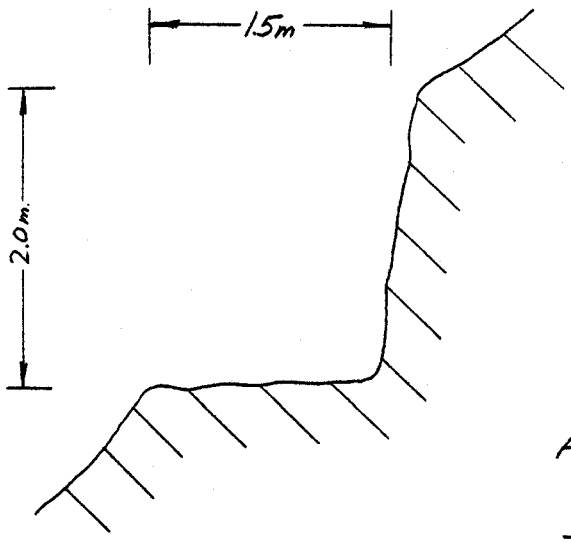


Fig. 4
ARCTOS MINERAL CLAIMS
NTS 106-D-16
TRENCH NO. 1 (1979)

backwall of 2.0 m. The floor area of the trench is 2.0 m x 8.0 m (see Figure 4 this report).

The trenching exposed copper and uranium mineralization associated with silicification and feldspathization around a 0.1 m wide vertical shear trending 020°. This shear is a strike extension of mineralized shears further to the south in Trench No. 2 (1978).

TABLE 6.0.1 - 1979 ASSAYS

Sample No.	% Cu	% U_3O_8	Description
64737	0.33	0.038	Continuous chip sample across 1.5 m in top of backwall Trench No. 1 (1979 - centred on 020/90° shear.
64738	0.43	0.020	Continuous chip sample across 1.5 m in bottom of backwall Trench No. 1 (1979) - centred on 020/90° shear.
64739	0.45	0.110	Grab sample from 0.3 m x 0.3 m area of better grade material in top of backwall Trench No. 1 (1979) - from 020/90° shear.
64740	0.41	0.090	Continuous chip sample across 0.6 m in south edge of floor of Trench No. 1 (1979) - centred on 020/90° shear.

7.0 DISCUSSION AND CONCLUSIONS

The 1979 work on Trench No. 1 has successfully extended the strike length of mineralization controlled by a strong shear having an altitude of 020/90°. Although the shear itself is only in the order of 0.1 m wide, alteration and mineralization

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associated with it has been noted and sampled for widths up to 1.5 m. This is a significant width.

At the top or north edge of Trench No. 1, the 020° shear is covered by overburden and vegetation; the same holds true on the south side of East Arctos Creek (see Figure 3). Both areas require more work in order to determine the strike length of the mineralized portion of the shear.

8.0 RECOMMENDATIONS

The ARCTOS mineral claims should be retained on assessment credits and a program of hand trenching carried out in the following areas:

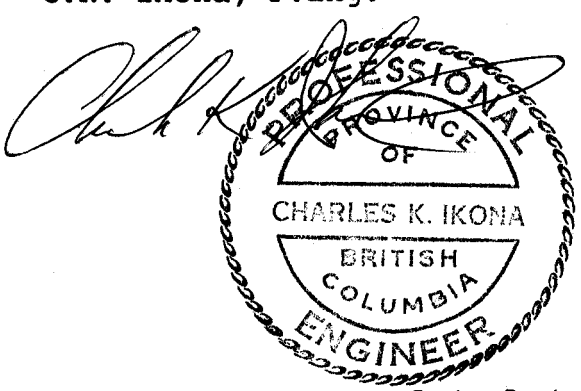
1. At approximately 10 meter spacing along the favourable 020° shear to the north of Trench No. 1.
2. South of East Arctos Creek on strike extensions of the 020° shear.

Respectfully submitted,

David A. Yeager

D. Yeager, Geologist

C.K. Ikona, P.Eng.



ENGINEERS CERTIFICATE

I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody in the Province of British Columbia DO HEREBY CERTIFY that:

1. I am a Consulting Mining Engineer with offices at 208-850 W. Hastings St., Vancouver, B.C.
2. I am a graduate of the University of British Columbia with a degree in Mining Engineering.
3. I am a member in good standing of the Association Of Professional Engineers of the Province of British Columbia.
4. The work reported heron was conducted during a program under my supervision and under the supervision of geologists with whom I have worked for a period of years and of whom I have every confidence in.

Dated this 28th day of Feb 1980

Charles K. Ikona, P. Eng

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
CHARLES K. IKONA

LIST OF PERSONNEL
ARCTOS 1-16
MINERAL CLAIMS
JUNE 17 - SEPTEMBER, 1979

B. Yorston R.R. #2 Duncan, B.C.	Geologist	June 17
D. Yeager 208, 850 West Hastings Street Vancouver, B.C.	Geologist	September 24
N. Debock Clearwater, B.C.	Prospector	July 24 to August 3
G. Garrett 4516 Vegas Road N.W. Calgary, Alberta	Geologist	July 24 to August 3
G. McArther 111 Chelsea Street N.W. Calgary, Alberta	Geologist	July 24 to August 3
E. Louen 2424 - 34th Avenue N.W. Calgary, Alberta	Prospector	July 24 to August 3
A. Chan Calgary, Alberta	Geologist	June 17
J. Touborg Calgary, Alberta	Geologist	June 17
R. Mazur Calgary, Alberta	Geologist	September 24
B. McPherson Calgary, Alberta	Geologist	June 17
J. Moreau Whitehorse, Yukon Territory	Blaster	September 19
Helper Whitehorse, Yukon Territory	Blaster	September 19

CANADA) In the matter of an evaluation program on the Arctos 1-16
) Mineral Claims.
)
)

TO WIT) On behalf of PAN OCEAN OIL LTD.

I, C. Ikona for Pamicon Developments Ltd., of 208, 850 West Hastings Street, Vancouver, B.C. do solemnly declare that a program consisting of geological mapping, geochemical surveying and prospecting was carried out on Arctos 1-16 Mineral Claims during the period June 17 - September 24, 1979.

The following expenses were incurred during the course of this work and in the compilation and reporting of the results:

Equipment Rentals	$ 85.87
Expendible Field Supplies	23.97
Office Supplies, Maps, Photos	12.63
Drafting and Reproduction	3.70
Equipment and Machinery	50.46
Supplies	46.53
Food	209.10
Expediting	54.00
Freight	23.07
Travel and Accommodation	71.04
Prepaid Expenses	2.38
Sundry	-
Camp and Miscellaneous Fuels	378.47
Camp Fixed Wing Support	385.53
Overhead	-
Wages	898.09
Helicopter Support	1,632.00
Assaying and Geochemistry	60.00
Trenching	660.00
Contracting Fees	408.08
Report Preparation	300.00
Not Assigned	-
TOTAL	$5,304.92

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Declared before me at Vancouver in)
the Province of British Columbia this)
_____ day of _____, 1980)

_____

_____

A Commissioner for Oaths for,
or Notary Public for the _____

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
CHARLES K. IKONA

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE OF ASSAY

CERTIFICATE NO. 66543

INVOICE NO. 33510

RECEIVED Sept. 28/79

ANALYSED Oct. 29/79

TO: Pamicon Developments Ltd.
208 - 850 W. Hastings St.
Vancouver, B.C.
V6B 1P1

ATTN:

SAMPLE NO. :	% Cu	% (N.A.) U308
64737A	0.33	0.038
64738	0.43	0.020
64739	0.45	0.110
64740	0.41	0.090
64741		0.072
64742		0.029
64743		0.035
64744		0.066
64745A		0.016

CTA MEMBER CANADIAN TESTING ASSOCIATION

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA