

MOUNTAINEER MINES LTD. - PAN OCEAN OIL LTD.

JOINT VENTURE

GEOPHYSICAL REPORT

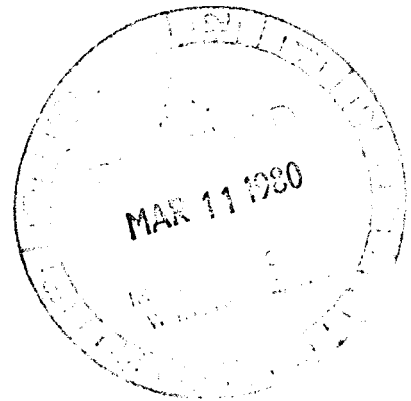
on the

RAM 1-48 MINERAL CLAIMS

N.T.S. 106-C-14

64°58'N 133°11'W

YUKON TERRITORY



by

D. Yeager - Geologist

C. K. Ikona - P.Eng.

January 1980

090589

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

\$ 15,600.⁰⁰

J. A. Mann

Resident Geologist or
Resident Mining Engineer

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

E. R. BAXTER
Supervising Mining Recorder

R. Commissioner of Yukon Territory

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1.0 INTRODUCTION

The RAM 1-48 Mineral Claims were staked on November 16, 1976 by Pamicon Developments Ltd. for a Mountaineer-Pan Ocean joint venture to cover a favourable geological target area during a regional claim staking programme.

During August and September, 1979, a picket grid was established on the property and geophysical surveys carried out by Pamicon Developments Ltd. In addition Jacques Moreau Enterprises from Whitehorse were retained for the purpose of trenching the main showing.

2.0 LIST OF CLAIMS

<u>CLAIM NAME</u>	<u>RECORDING DATE</u>	<u>GRANT NO.</u>
RAM 1-48	November 25, 1976	YA14243-YA14290

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

3.0 LOCATION AND ACCESS

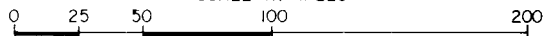
The RAM group is located 15 miles east of Fairchild Lake and 5 miles north of the Dolores Creek airstrip in the northeastern Yukon Territory. The property is 128 miles northeast of Mayo, Y.T. Approximate co-ordinates of the claim group are 64°58' latitude and 133°11'W longitude.

Access to the property is recommended by either float-equipped aircraft to Fairchild Lake or to the Dolores Creek airstrip with wheeled aircraft. Helicopter transport from

YUKON LOCATION MAP RAM GROUP

PAMICON DEVELOPMENTS LIMITED

SCALE IN MILES



DRAWN

Altair

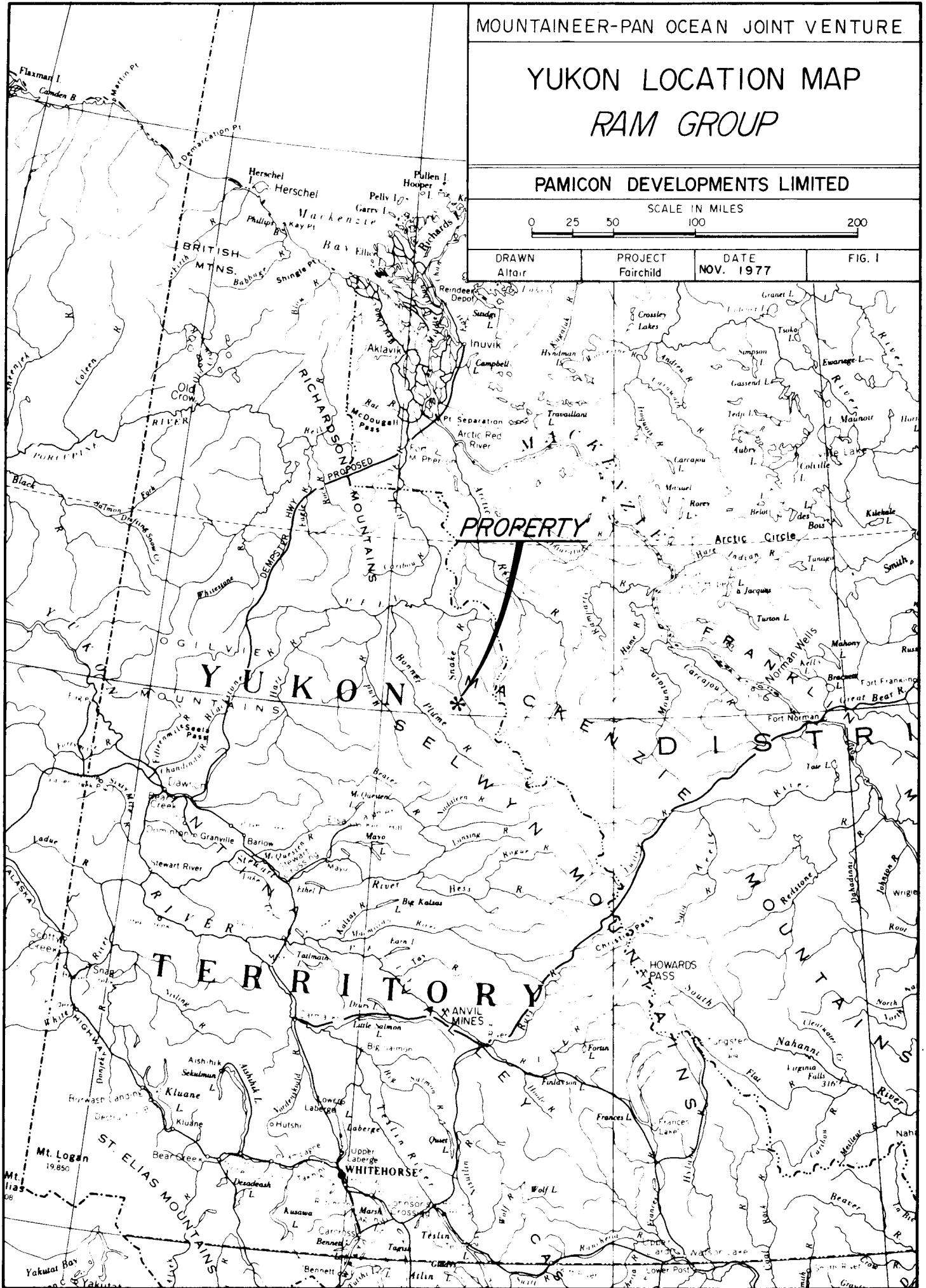
PROJECT

Fairchild

DATE

NOV. 1977

FIG. 1



PROPERTY

YUKON MOUNTAINS

YUKON TERRITORY

ST. ELIAS MOUNTAINS

WHITEHORSE

XANVIL MINES

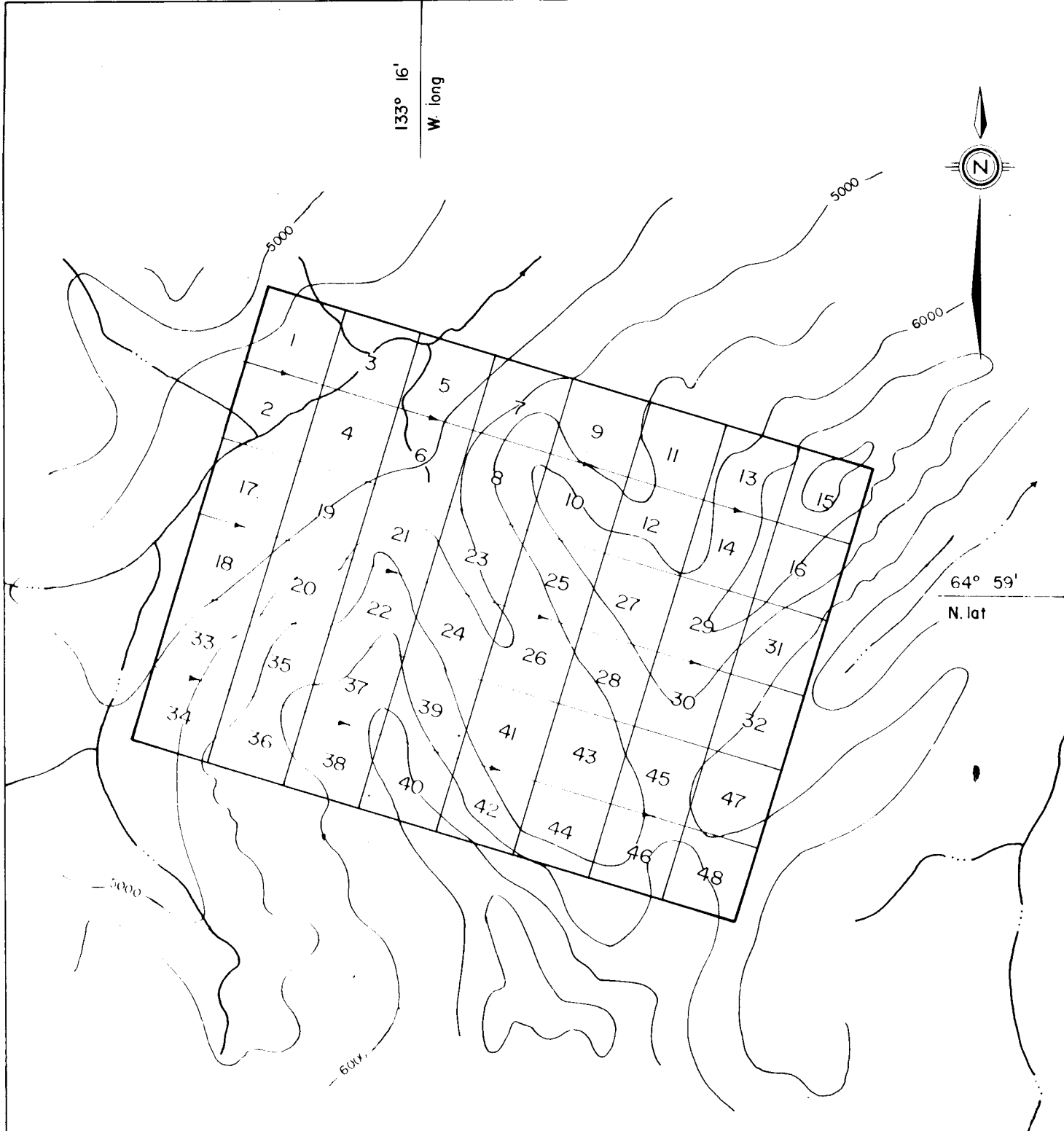
HOWARDS PASS

Nahanni

Mt. Logan 19,850

Yakutat Bay

133° 16'
W. long

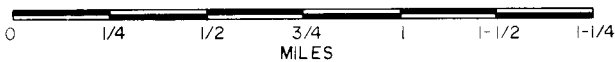


64° 59'
N. lat

MOUNTAINEER-PAN OCEAN JOINT VENTURE

RAM I-48 CLAIMS CLAIM LOCATION MAP

64°59' N & 133°16' W
YUKON TERRITORY



PAMICON DEVELOPMENTS LIMITED

DRAWN: Altair	PROJECT: Fairchild	DATE: Nov. 1978	FIGURE 2
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either fixed-winged landing location is required to reach the property.

4.0 TOPOGRAPHY AND VEGETATION

Elevations on the property range from 4,200 to 7,200 feet. Topography on the RAM group ranges from very rugged to extremely rugged. Two active glacial ice sheets are found on the property. Outcrops are abundant on the property but some areas are inaccessible by ground exploration. The entire group lies well above treeline with only caribou moss and low grasses present in limited areas.

5.0 REGIONAL GEOLOGY

The Quartet-Fairchild region lies in the Wernecke Mountains of the north eastern Yukon Territory. In the general area, the Werneckes 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 $134^{\circ}00'W$ and Latitude $65^{\circ}00'N$.

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.

6.0 GEOPHYSICS

6.1 Introduction

The showing on the RAM claims that has received the most attention to date occurs in the sides of the deeply incised canyon of the creek cutting through the northwest corner of the property. Any strike extensions of the showing are covered by overburden on the rolling valley bottom on either side of the canyon. Overburden consists primarily of glacial moraine

material overlain in places by small fan deltas of creeks entering the main creek valley. For this reason it was decided to carry out a number of geophysical surveys in the overburden covered areas.

A picket grid was established for control purposes utilizing a 0+00 E baseline direction of 318°. A total of 12,840 meters of cross-lines were run at 40 meter spacing with stations 40 meters apart. The grid extends from 2+40 N to 3+20 S; from 5+20 W to 5+20 E.

6.2 Altimeter Survey

An altimeter survey was conducted using a Thommens pocket altimeter. The results are presented in Figure 3 of this report. Elevations on the grid ranged from 1160 meters A.S.L. to 1305 meters A.S.L.; results were contoured at ten meter intervals.

6.3 Spectrometer Survey

A spectrometer survey was conducted using an Exploranium DISA 300 discriminating spectrometer. Readings were taken at each station for 60 seconds and four values recorded: total counts per minute, and counts per minute uranium, thorium, and potassium.

Total counts per second were derived from the counts per minute data and results are plotted on Figure 4. Values ranged from 85 cps to 177 cps; the results being contoured at a 10 cps interval.

Equivalent parts per million uranium and thorium were derived from the counts per minute uranium and thorium values then the uranium:thorium ratio calculated for each station. Ratios ranged from 0.15 to 6.26; the results being contoured at a 0.2 contour interval. These results are plotted on Figure 5.

It can be noted on Figure 5 that the values from line 1+20 N and some of the values from lines 1+20 S and 2+80 S have been omitted. During periods of extreme temperature fluctuations as were experienced on the RAM survey, calibration settings are subject to "wandering". While this may not affect the total count readings, upon calculating equivalent parts per million and subsequent ratios, unusually anomalous "single line" values may become apparent. This has happened on lines 1+20 N, 1+20 S and 2+80 S.

The most evident feature on the west half of the grid is an approximately north-south trend to many of the both low and high values. This is in agreement with geologic features noted in previous work whereby a common north-south orientation of fracture sets and shear zones was seen. The main showing occurs on one such shear zone.

The area of alternating highs and lows in the southeast corner of the grid is apparently due to the presence of a diatreme breccia body with typically local pods of uranium enrichment.

6.4 Electromagnetic Survey

An electromagnetic survey was conducted using a Geonics EM-16 VLF-EM unit. In-phase and quadrature profiles are plotted on Figure 6. The 18.6 kHz transmitter at Seattle, Washington was used. A data filtering technique¹ was used to arrive at contourable data for the survey and the results are presented in Figure 7.

A number of conductors were outlined in the survey (see Figure 7):

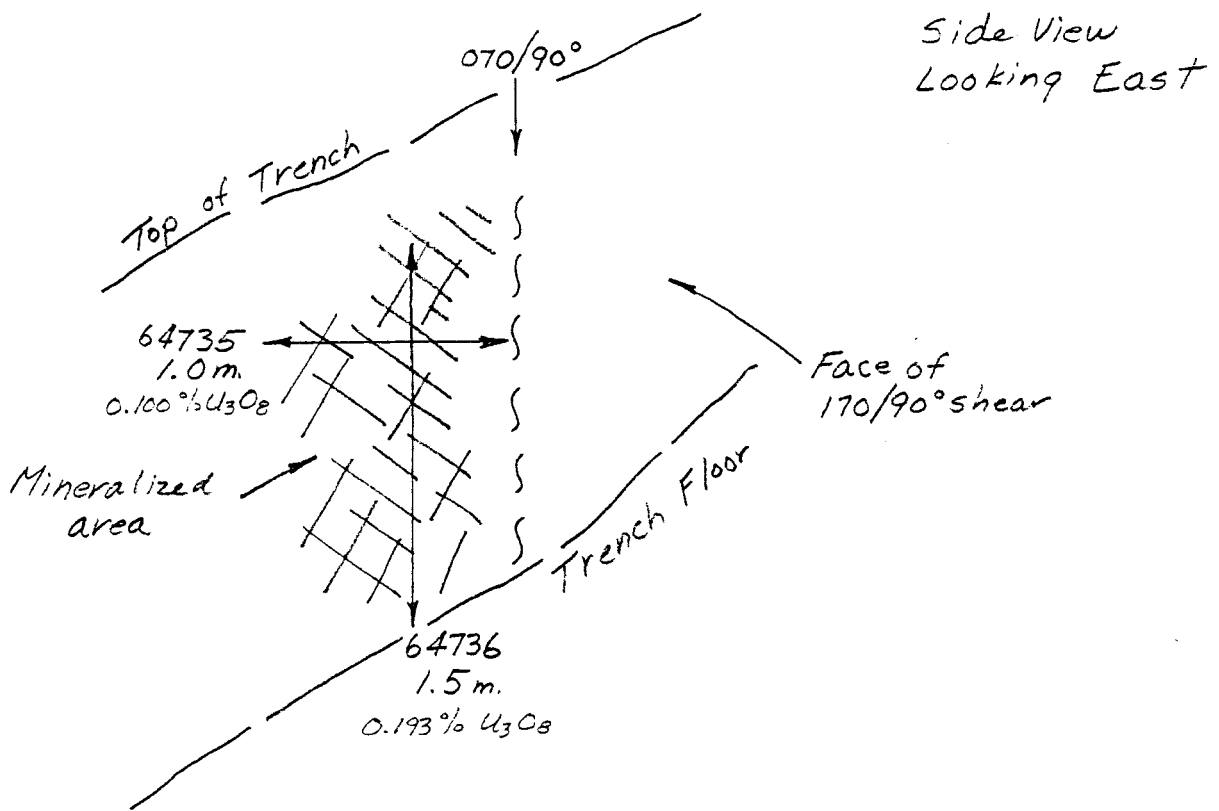
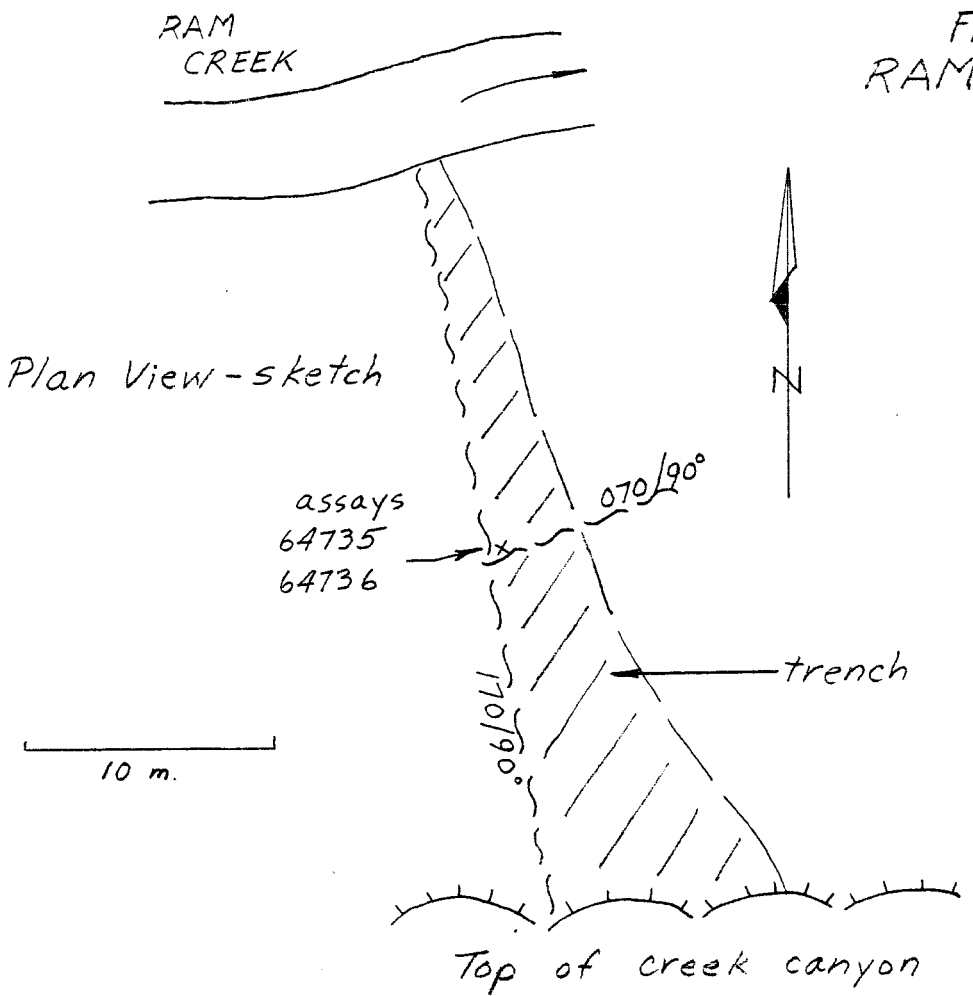
1. A secondary response is associated with the breccia body in the SE corner of the grid.
2. A large primary response lies along the western edge of the grid then cuts in a north-south direction across the northwest grid area. While it is not known what geologic feature this represents, there is no doubt that it parallels the nearby main showing shear zone.
3. A large primary response is coincident with the large spectrometer total count low in the northeastern quadrant of the grid. The geology is unknown due to overburden cover in that area, however it is assumed that part of the response is due to the presence of a breccia body.

7.0 TRENCHING

Encouraging results from the 1978 stripping and blasting

¹ "Contouring of VLF-EM Data" D.C. Fraser
Geophysics, Vol. 34, No. 6, Dec. 1969

Fig. 8
RAM: Trench No. 1



program on the RAM resulted in a follow up trenching program in 1979. The No. 1 Trench area was drilled and blasted to a depth of 2 meters for approximately 30 meters from the top of the creek canyon to the creek. The trench is now from one meter wide at the creek to eight meters wide at the canyon top.

A 170/90° shear zone was early recognized as a controlling structure for mineralization (Stammers 1977). The 1979 work revealed that the 070/90° shear is also a controlling feature and that the best mineralization occurs at the intersection of the two zones. Two assay samples were taken at the intersection; a 1.0 meter horizontal continuous chip sample and a 1.5 meter vertical continuous chip sample, which assayed 0.100% U₃O₈ and 0.193% U₃O₈ respectively.

8.0 DISCUSSION AND CONCLUSIONS

The 1979 trenching and assay results indicate that the controlling structures are not mineralized along their entire length. However, where adequate porosity has been developed, as at the intersection with other structures, significant grade mineralization can be found.

The geophysical studies carried out in 1979 show a consistent structural trend parallel to the roughly north-south shear zone in the main showing. This indicates the presence of other similar shear zones which are likely hosts for uranium mineralization where intersected by cross structures.

9.0 RECOMMENDATIONS

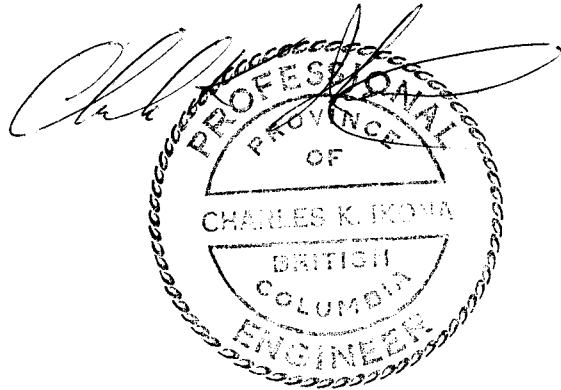
At present, it is necessary to continue trenching on the main showing further south along the 170/90° shear to test for uranium mineralization in that direction. In addition, trenching should be carried out on the north side of Ram Creek directly along strike from Trench No. 1 to test uranium mineralization reported at that location (Stammers 1979, 1978).

Respectfully submitted,

David A. Yeager

D.A. Yeager, Geologist

C.K. Ikona, P.Eng.

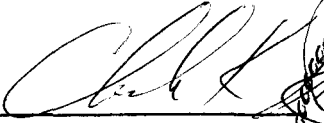


ENGINEERS CERTIFICATE

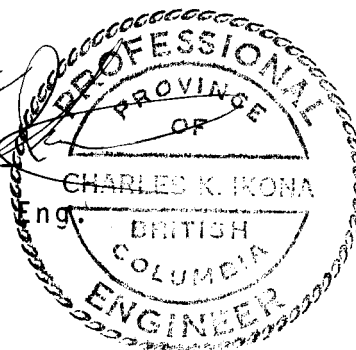
I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody
in the Province of British Columbia DO HEREBY CERTIFY
that:

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.



LIST OF PERSONNEL
RAM 1-48
MINERAL CLAIMS
JUNE 25 - SEPTEMBER 22, 1979

D. Yeager 208, 850 West Hastings Street Vancouver, B.C.	Geologist	September 17, 19, 21, 22
B. Yorston R.R. #2 Duncan, B.C.	Geologist	June 25
N. Debock Clearwater, B.C.	Prospector	August 27 - 31 September 19, 21, 22
J. Cowie 1045 Varsity Est. Place Calgary, Alberta	Prospector	August 27 - 31
G. Garrett 4516 Vegas Road N.W. Calgary, Alberta	Geologist	August 19
G. McArther 111 Chelsea Street N.W. Calgary, Alberta	Geologist	August 19
E. Louen 2424 - 34th Avenue N.W. Calgary, Alberta	Prospector	August 19
J. Moreau Whitehorse, Yukon Territory	Blaster	September 17, 18, 22
Helper Whitehorse, Yukon Territory	Helper	September 17, 18, 22

CANADA) In the matter of an evaluation program on the Ram 1-48
) 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 Ram 1-48 Mineral Claims during the period June 25 - September 22, 1979.

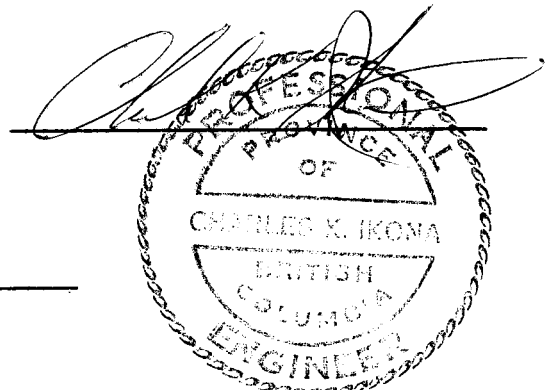
The following expenses were incurred during the course of this work and in the compilation and reporting of the results:

Equipment Rentals	\$ 668.28
Expendible Field Supplies	186.57
Office Supplies, Maps, Photos	98.34
Drafting and Reproduction	37.39
Equipment and Machinery	392.71
Supplies	362.15
Food	799.50
Expediting	195.00
Freight	179.57
Travel and Accommodation .	552.87
Prepaid Expenses	18.45
Sundry	5.24
Camp and Miscellaneous Fuels	1,303.86
Camp Fixed Wing Support	1,527.01
Overhead	-
Wages	2,289.96
Helicopter Support	5,088.00
Assaying and Geochemistry	20.00
Trenching	1,980.00
Contracting Fees	1,354.09
Report Preparation	300.00
	<hr/>
TOTAL	\$17,358.99
	<hr/> <hr/>

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 _____




CERTIFICATE OF ANALYSIS
CHEMEX LABS LTD.
212 BROOKSBANK AVENUE
NORTH VANCOUVER B.C. CANADA

CLIENT : PANICON - VANCOUVER B.C.
COPY TO PANOCHEAN -CALGARY

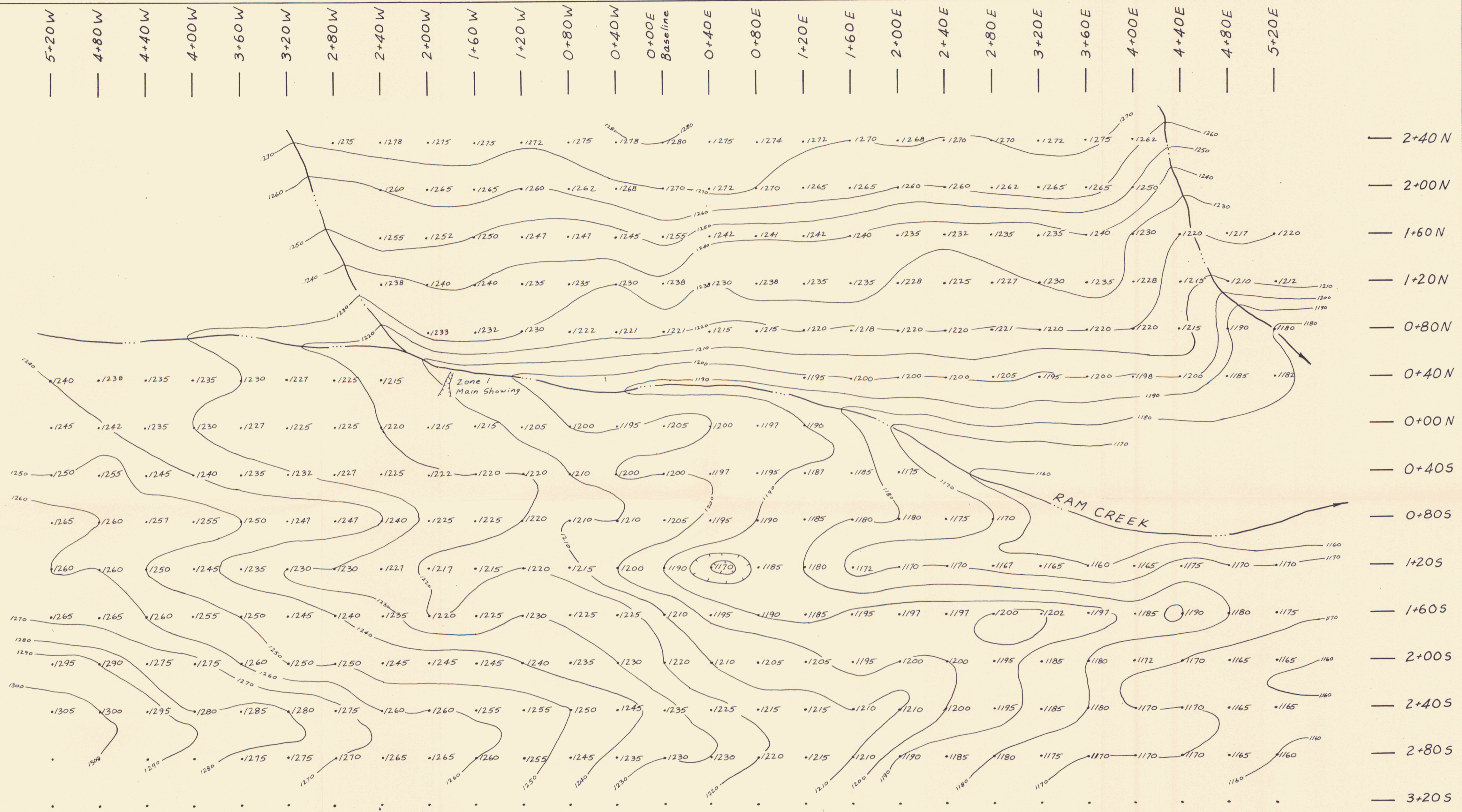
SAMPLES RECEIVED : 19-OCT-79
ANALYSIS COMPLETED : 24-OCT-79
NOVATRACK CERT. NO. : B90138.
CHEMEX CERT. NO. : ASSAY 66568
INVOICE NO. :

ATTN. :

SAMPLE ID	USOB PERCENT
64735	0.100
64736	0.193

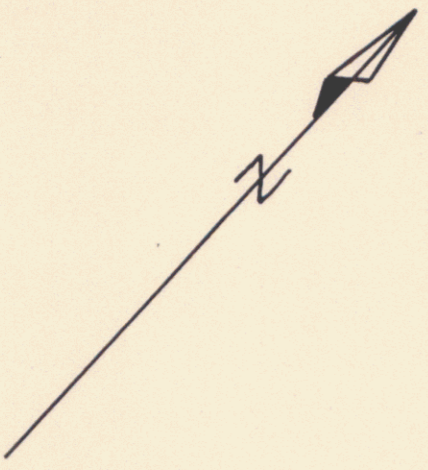
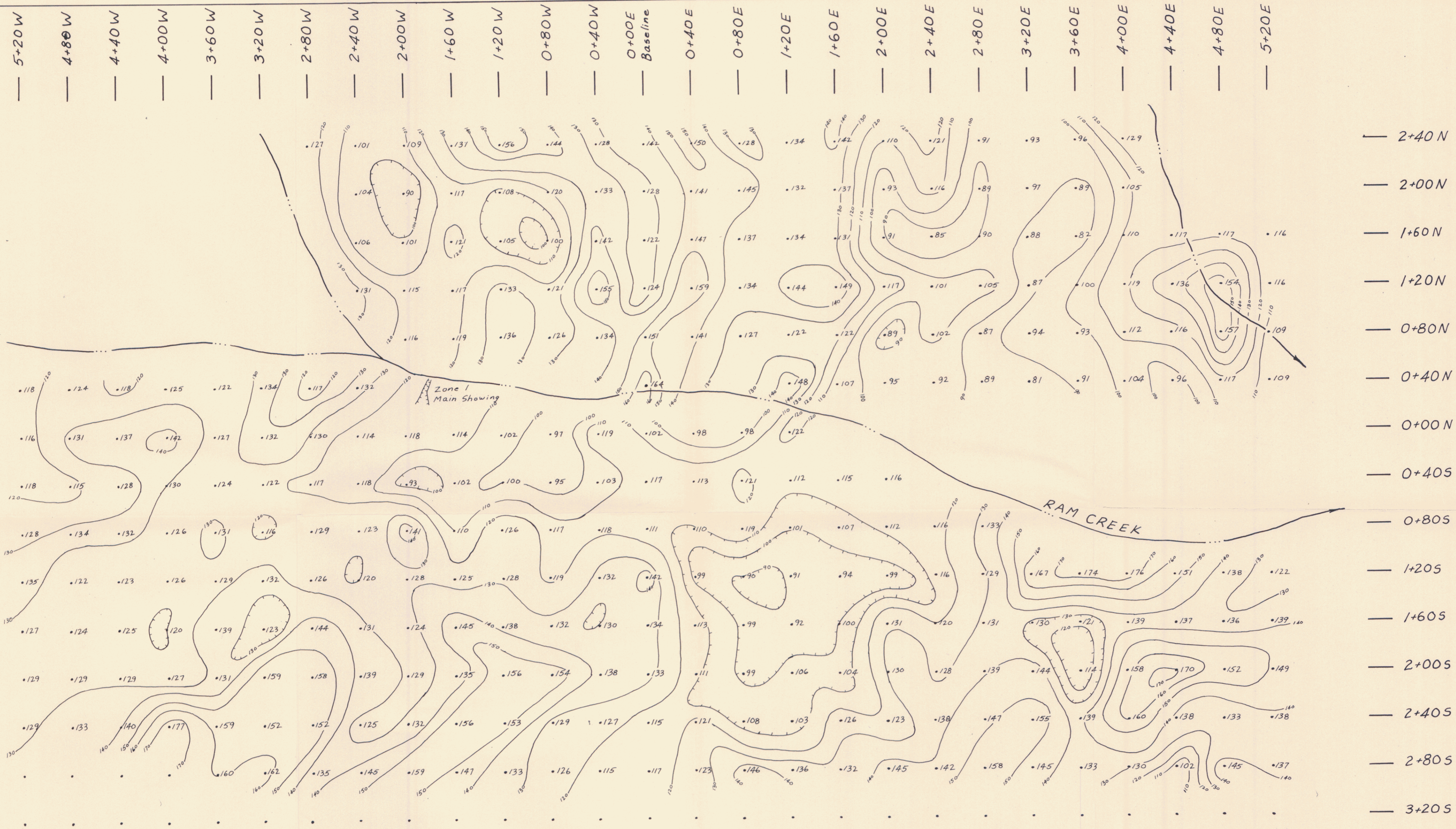
CERTIFIED BY 

ANALYSIS PERFORMED BY NOVATRACK ANALYSTS LTD.
A SUBSIDIARY COMPANY OF CHEMEX LABS LTD.
SPECIALIZING IN NEUTRON ACTIVATION ANALYSIS



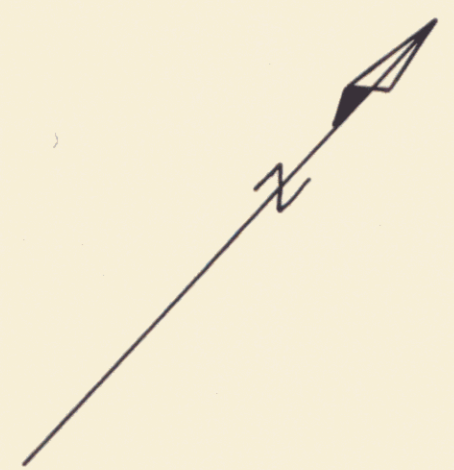
-elevations in meters
above sea level
-contour interval 10 meters

MOUNTAINEER-PAN OCEAN JOINT VENTURE			
RAM 1-48 MINERAL CLAIMS NTS 106-C-14 YUKON TERRITORY			
ALTIMETER SURVEY			
0 40 80 120 160 meters			
PAMICON DEVELOPMENTS LIMITED			
DRN. DAY	PROJECT Fairchild	DATE JAN 1980	FIGURE 3



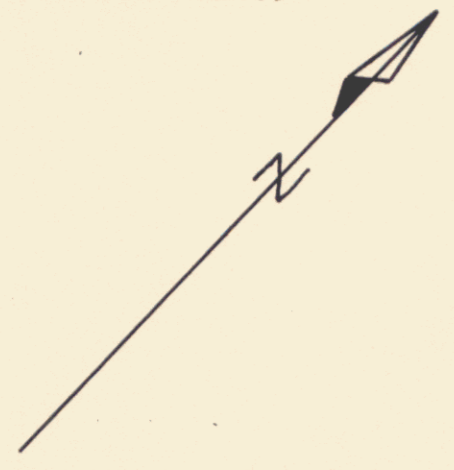
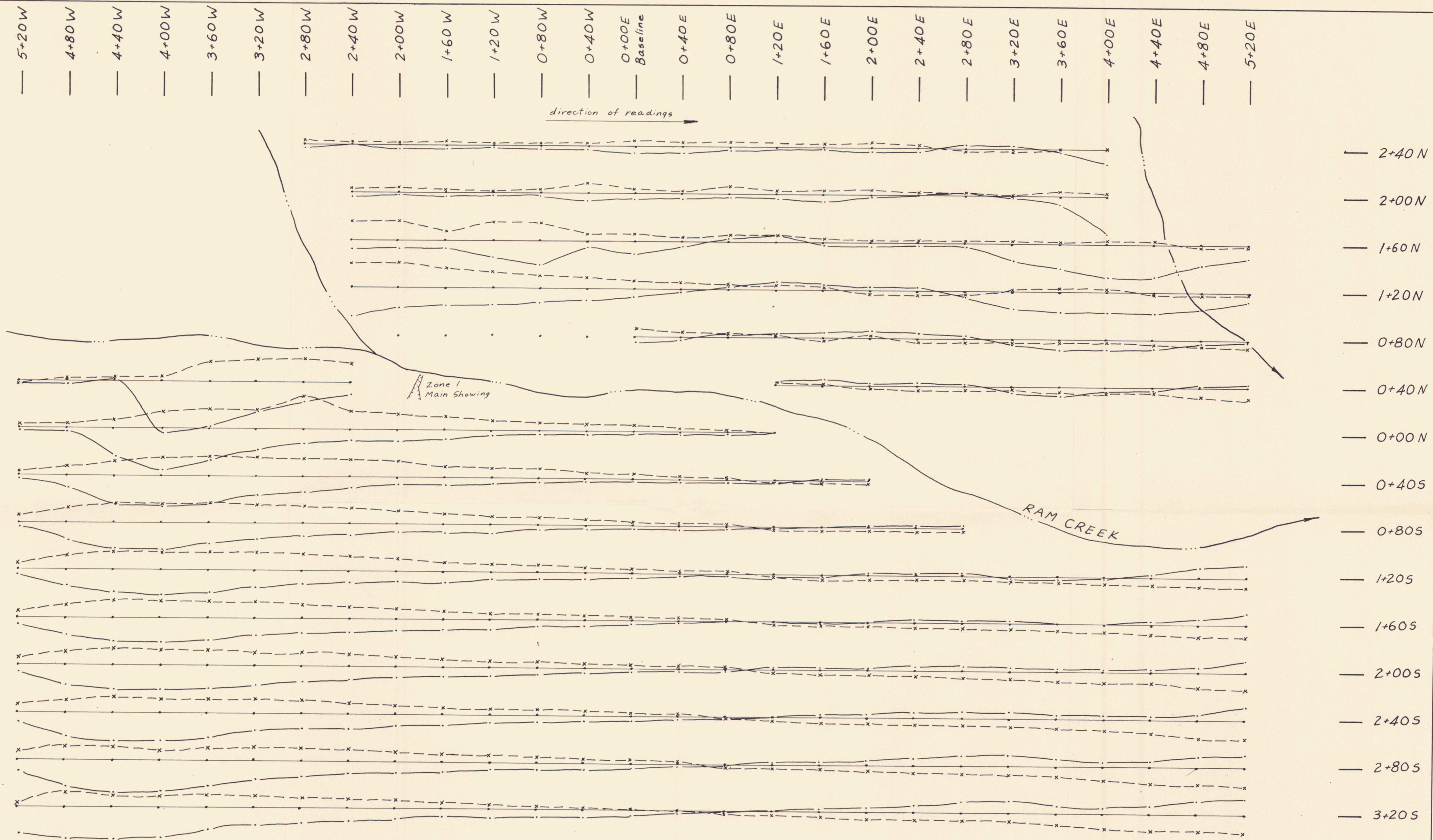
- values in total counts per second
 - contour interval 10 cps

MOUNTAINEER-PAN OCEAN JOINT VENTURE			
RAM 1-48 MINERAL CLAIMS			
NTS 106-C-14			
YUKON TERRITORY			
SPECTROMETER SURVEY-TOTAL COUNT			
PAMICON DEVELOPMENTS LIMITED			
DRN. DAY	PROJECT Fairchild	DATE JAN 1980	FIGURE 4

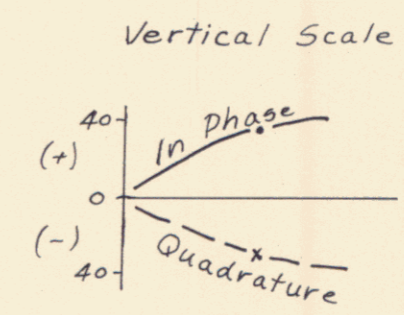


-values represent ratio:
 $\frac{\text{equivalent ppm Uranium}}{\text{equivalent ppm Thorium}}$
 -contour interval 0.2

MOUNTAINEER-PAN OCEAN JOINT VENTURE			
RAM 1-48 MINERAL CLAIMS			
NTS 106-C-14			
YUKON TERRITORY			
SPECTROMETER SURVEY U/Th RATIO			
PAMICON DEVELOPMENTS LIMITED			
DRN. DAY	PROJECT Fairchild	DATE JAN 1980	FIGURE 5



Seattle Washington



MOUNTAINEER-PAN OCEAN JOINT VENTURE

RAM 1-48 MINERAL CLAIMS
NTS 106-C-14
YUKON TERRITORY

EM-16 SURVEY PROFILES

0 40 80 120 160
meters

PAMICON DEVELOPMENTS LIMITED

DRN. DAY	PROJECT Fairchild	DATE JAN 1980	FIGURE 6
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MOUNTAINEER-PAN OCEAN JOINT VENTURE

RAM 1-48 MINERAL CLAIMS
NTS 106-C-14
YUKON TERRITORY

EM-16 SURVEY-FILTERED DATA

0 40 80 120 160
meters

PAMICON DEVELOPMENTS LIMITED

DRN. DAY	PROJECT Fairchild	DATE JAN 1980	FIGURE 7
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