CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

GEOLOGY AND GEOCHEMISTRY OF THE DEMUTH CLAIM GROUP

Claim Sheet No. 82E-12W/92H-9E
Lat.: 49°41'N
Long.:120°00'N

Claims:
DEMUTH 1: Units 1-20
Similkameen Mining Division
British Columbia

by:
E. J. Sacks, M.Sc.

Work completed on August 29th, 1979

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SUMMARY

The DEMUTH Claim was staked in June 1978, to cover anomalous stream water and sediment uranium values defined by the Princeton/Nicky Project of 1973. In August 1978 a detailed reconnaissance stream survey detailed the anomalous stream draining the central portions of the claim. In August 1979 systematic soil and rock sampling geological mapping and scintillometer surveys were conducted on the DEMUTH Claim.

The claim is underlain by an igneous-metamorphic complex comprising biotite-diorite gneiss intruded by biotite-quartz monzonite which has been subjected to subsequent metamorphism and deformation resulting in closely spaced fracturing and local porphyroblast development. Aplite and pegmatite dykes intrude all other units. Rocks are unaltered and fractures are clean. No mineralization was seen. Potential uranium mineralization is likely to be of intergranitic vein type.

Coincident soil, rock, stream sediment and stream water uranium and scintillometer anomalies straddle the originally anomalous stream which drains megacrystic biotite-quartz monzonite in the central portion of the claims. A linear north striking soil uranium anomaly overlies biotie-diorite gneiss in the SE part of the claims. The background recoverable uranium content of all rock-types on the DEMUTH Claims is high with respect to other properties in the Penticton area.

Detailed mapping over the entire claim group plus detailed, fill in soil-scintillometer surveys over presently known anomalies are recommended.

I INTRODUCTION

On August 29, 1979 systematic geological mapping, soil and rock sampling and scintillometer surveys were conducted on the DEMUTH Claim by CanadianOxy personnel. This report will review the results of previous work on the claim area and will present the results of the 1979 survey. Conclusions regarding the 1979 data will be drawn and further action recommended.

II LOCATION AND ACCESS

The DEMUTH Claim is located 25 km (15.5 mi) west of the twon of Summerland along the Trout Creek Road. Access to the legal corner post at the NE corner is via the Trout Creek Road. Access to the central portion of the claim is via a dirt road leading NW off the Trout Creek Road fording Trout Creek and crossing the SE corner of the claim block.

The claim block consists of 20 units covering 5 km^2 (1.9 mi^2) along the NE facing slope of the Trout Creek valley above Demuth and is on N.T.S. map sheets 82E/2W and 92H/9E within the Similkameen Mining District, British Columbia.

III PHYSIOGRAPHY AND VEGETATION

Relief over the claims is 880 m (2900 ft.). The claims cover the lower portion of the steep-sided, NE facing slope of Trout Creek valley. Vegetation consists of mature coniferous forest with abundant underbrush. Stream channels draining the slope are narrow and steep sided.

The extreme NE corner, through which Trout Creek flows, is flat valley bottom. Trout Creek is meandering with alder swamp banks, This portion of the claims is fenced off and these open areas are used for cattle grazing.

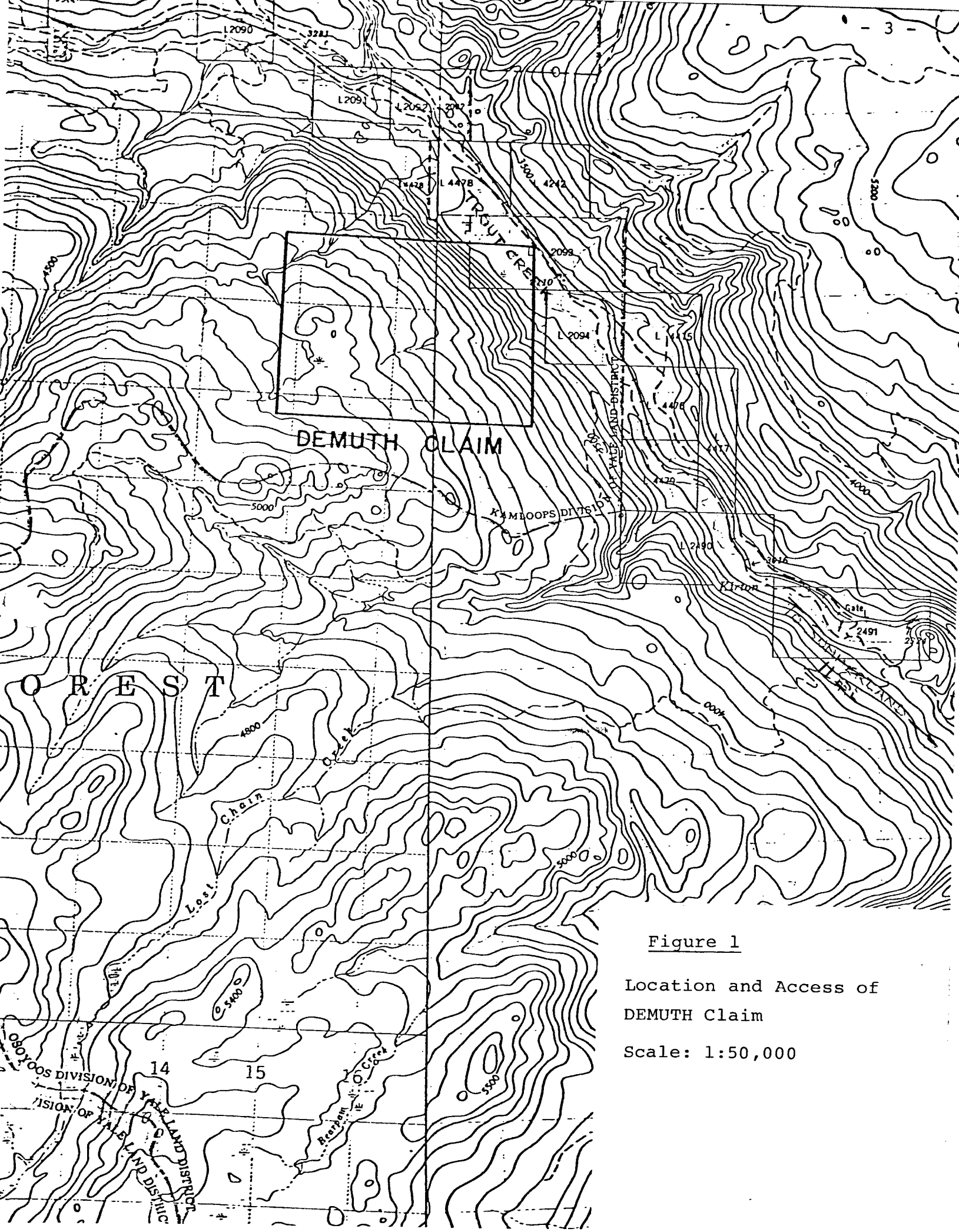


Figure 1

Location and Access of DEMUTH Claim

Scale: 1:50,000

IV PREVIOUS WORK

A total of 9 stream sediment samples containing from 4.1 to 191 ppm U were collected from the DEMUTH area by CanadianOxy personnel during the Princeton-Nicky Project in 1973.

The DEMUTH Claims were staked on June 1, 1978 by Eastern Associates Ltd. of Whitehorse, Y.T. and comprise 20 units covering the headwaters of the anomalous stream, being Area 36 of the Princeton-Nicky project.

On August 23, 1978 a two man crew from CanadianOxy collected a total of 16 stream sediments, 5 stream waters, one heavy mineral and one rock chip sample from Area 36 and carried out reconnaissance prospecting with a scintillometer.

The area was found to be underlain by a medium-grained biotite-quartz-monzonite with a scintillometer response of 140 cps (BGS-ISL) and uranium content of 0.5 ppm.

Sediments derived from streams draining the east side of the claim block contained high amounts of uranium (145-930 ppm - PLAN 5), while sediments from the NW part of the claims contained considerably lower amounts of uranium (0.5 - 32 ppm).

Stream waters from the east side of the claim block contained significant amounts of uranium (3.5 - 4 ppb - PLAN 5) in alkaline waters (pH 7.4 - 7.7).

One heavy mineral sample from the east side of the claim block contained 18 ppm U (PLAN 5) mainly within sphene and magnetite.

Thus, a strong uranium anomaly in stream sediments, stream waters and heavy minerals was defined draining the central portion of the claims. Systematic soil and radiometric surveys and geological mapping were recommended.

V WORK COMPLETED - 1979

5.1 Line Cutting

A total of 8.7 km (5.4 mi) of line were blazed and picketed by Futura Developments Reg'd., of Whitehorse, Y.T. and represented grid boundary lines.

5.2 Geological Mapping

The DEMUTH Claim was geologically mapped by Hill, Houle, Hooper, Parry and Rahme of CanadianOxy on August 29, 1979. Mapping was conducted along pace and compass lines approximately 240 m (800 ft) apart established during the soil-scintillometer survey. A total of approximately 26.7 km (16.6 mi) of line were mapped covering an area of 4.8 km^2 (1.9 mi^2). A total of 5 man days of geological mapping (plus accompanying rock geochemistry) were completed.

The claims were visited by Dr. R.H. Wallis of Canadian-Oxy on September 10, 1979.

5.3 Soil Geochemistry

Soil samples were collected by Bracken, Jermakowicz, van Wiechen, Pelletier and Zayachivsky of CanadianOxy on August 29, 1979. Samples were collected at 60 m (200 ft) intervals along pace and compass lines established during the survey at 240 m (800 ft) intervals. A soil pit was dug in the NE corner of the claims. A total of 429 samples were collected and analysed for uranium by Chemex Labs Ltd., Vancouver, B.C. (Appendix I).

The survey covered 26.7 (16.6 mi) of line and represented 2.5 man days of work.

5.4 Rock Geochemistry

A total of 36 rock chip samples were collected during the mapping survey. 36 samples were analysed for uranium by fluorimetry and 31 were analysed for thorium by neutron activation by Chemex Labs Ltd., Vancouver, B.C. (Appendix I).

5.5 Radiometric Survey

A scintillometer survey utilizing Urtec model UG-130 scintillometers was carried out in conjunction with the soil sampling survey. Readings were taken at 30 m (100 ft) intervals along grid lines. A total of 775 readings were taken representing 2.5 man days of work.

5.6 Summary of Work Completed

Type of Work	Man Days	No. Samples	No. Analyses U	No. Analyses Th
Geological mapping and rock geochemistry	5	36	36	31
Soil sampling	2.5	429	429	-
Radiometrics	2.5	-	-	-
Line Cutting		8.7 km(5.4 mi)		
TOTAL	10	455	455	31

5.7 Names and Addresses of Personnel

E. Sacks, M.Sc. Canadian Occidental Petroleum Ltd., 311 - 215 Carlingview Drive, Rexdale, Ontario, M9W 5X8	Geologist
J. Hill, B.Sc. Same address as above	Geologist
J. Houle, B.Eng. Same address as above	Geologist
J. Hooper Same address as above	Senior Assistant
E. Parry Same address as above	Senior Assistant
E. Jermakowicz Same address as above	Junior Assistant
C. Pelletier Same address as above	Junior Assistant
B. Zayachivsky Same address as above	Junior Assistant
J. Bracken Same address as above	Junior Assistant
G. Rahme Same address as above	Junior Assistant
T. van Wiechen Same address as above	Junior Assistant

VI GEOLOGY

6.1 Introduction

The DEMUTH Claims were mapped at a scale of 1"=400' on lines spaced 800 ft. (240 m) apart. Due to the one day effort, mapping is by no means sufficiently detailed and may be considered to be of semi-detailed nature.

6.2 General Geology

The DEMUTH area is underlain by Valhalla Plutonic granite and granodiorite of Cretaceous age. Nelson Plutonic granodiorite, diorite and quartz-diorite, also of Cretaceous age outcrop to the south of the property (Little, 1961).

6.3 Table of Formations

Unit 4	-	Ap	- Aplite and pegmatite dykes
3	-	bQM(m)	- Biotite-Quartz-Monzonite with K-feldspar megacrysts
2	-	bQM	- Biotite-Quartz-Monzonite (massive)
1	-	bDi	- Biotite-Diorite Gneiss

6.4 Descriptions of Rock Types (PLAN 5)

6.4.1 Unit 1 - Biotite-Diorite-Gneiss (bDi)

This is a fine-grained, unaltered, biotite rich foliated rock. The rock consists of plagioclase feldspar (60%), K-feldspar (< 5%), quartz (5-10%) and biotite (20-30%). No other accessory minerals were observed.

Biotite occurs as the dominant mineral within mafic layers as separate euhedra but occasionally forming clots or aggregates. Layers of biotite rich rock alternate with feldspar dominated layers, each up to 10 cm (4 in) in width. Outcrops are resistant to weathering and generally fresh.

6.4.2 Unit 2 - Biotite-Quartz-Monzonite (massive) (bQM)

This is a uniformly medium-grained, leucocratic rock. It consists of plagioclase feldspar (30%), K-feldspar (30%), quartz (40%) and biotite (<5%). Sphene occurs in trace amounts.

The rock occasionally grades into zones of mafic rich rock with up to 50% medium to coarse-grained euhedra of biotite and hornblende (sample 79PR28906R).

This unit is unaltered and generally resistant to weathering.

6.4.3. Unit 3 - Biotite-Quartz-Monzonite with K-feldspar megacrysts (bQM(m))

This unit is megacrystic rock consisting of fine to medium-grained groundmass and megacrysts of perthitic K-feldspar. It consists of plagioclase feldspar (35%), K-feldspar (40%, 10% as groundmass, 30% as megacrysts), quartz (10%) and biotite (<5-15%). Traces of sphene occur as an accessory mineral.

The megacrysts are up to 4 cm (1.5 in) in size. The rock is very fresh with little or no alteration or weathering noted.

The unit is foliated and foliation both pre-dates and post-dates the K-feldspar megacrysts.

6.4.4 Unit 4 - Aplite and pegmatite (Ap)

This unit consists of fine-grained, sucrosic, leucocratic biotite-quartz-feldspar aplite and two feldspar, biotite pegmatite. It forms dykes and is widespread over the claims. It cuts both the diorite gneiss and megacrystic quartz monzonite.

A scintillometer response of 50 cps in aplite is the highest on the property. Pegmatites displayed a 25 cps response. Both rock-types occur as dykes; however, they were not seen in contact and their interelations are unknown.

6.5 Structure

Foliation due to alignment of biotite grains occurs throughout all rock units. Attitudes vary from 330°/50° W to 20°/90° with no patterns evident. Within the diorite gneiss, gneissic layering consisting of alternating mafic and felsic rich layers up to 10 cm (4 in) wide is common.

Fractures are numerous, closely spaced and resolve into main sets at 20°/90°, 70°/90° and 170°/subvertical; however, they do occur in numerous other directions as well.

Aplite (Unit 4) forms dykes cutting all other units. One dyke at 52W, 18S strikes at 050°.

6.6 Metamorphism

The only obvious metamorphic effect on the DEMUTH claims is illustrated by the well-defined mineral layering of the biotite diorite gneiss. Foliation within the quartz monzonite units is likely a flow texture since these rocks are unaltered and igneous in nature. This dichotomy suggests that the quartz monzonite units intruded an older metamorphic diorite complex.

6.7 Alteration

No significant alteration is evident on the DEMUTH claims.

6.8 Economic Geology

There was no visible mineralization noted on the DEMUTH claims. Potential uranium mineralization would likely

be structurally controlled and of intergranitic vein type.

6.9 Summary of Geology and Economic Geology

The DEMUTH claims are underlain by an unaltered complex of quartz-monzonite and diorite gneiss. The quartz-monzonite can be resolved into a megacrystic, biotite rich unit (Unit 3) and massive, leucocratic unit (Unit 2). These two units probably represent phases of the same intrusive event.

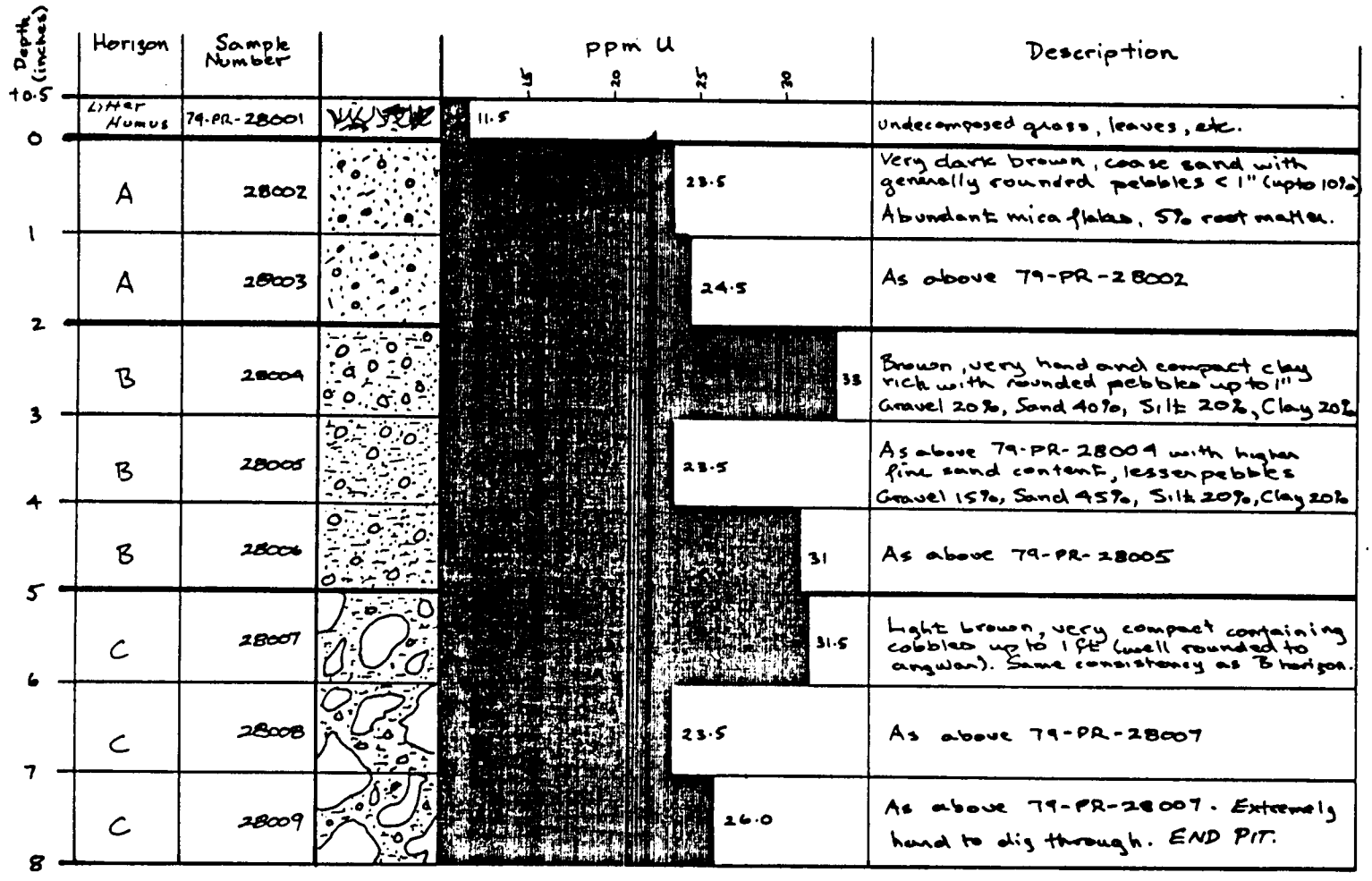
The biotite-diorite is well layered and appears to be metamorphic in nature. It is suggested by the author that an older metamorphic diorite complex was intruded by a quartz-monzonite which resolved into leucocratic and more mafic rich sub-units. The biotite-hornblende rich phases noted within the leucocratic phase (Unit 2) may represent xenoliths of the older diorite. More detailed mapping is required to substantiate this hypothesis.

All units are cut by aplite and large two feldspar pegmatites were noted by R.H. Wallis. The relations of aplite and pegmatite are unknown, however, the two rock types have significantly different scintillometer responses, (aplite 50 cps, pegmatite 25 cps.)

VII SOIL GEOCHEMISTRY

7.1 Introduction

The DEMUTH Claim is primarily covered by a well drained stoney and sandy fill hosting mature coniferous forest with abundant underbrush. Trout Creek valley bottom comprises a thick, swampy, organic rich material which gives way to stoney till in the extreme NE corner of the claims (Soil Pit No.1



General Description: Vegetation - mixed deciduous and conifer, moderate density
Slope - 0 (flat)
Drainage - good
Contamination - none

Poorly differentiated glacial till with lower sections comprising hard, clay rich, bouldery material and upper sections slightly differentiated into A and B horizons comprising looser, less boulderly and more sandy material.

Figure 2 DEMUTH CLAIMS - Soil Pit No. 1 - Schematic Section, Description and Uranium Distribution.

- PLAN 3).

7.2 Soil Profile (PLAN 3, Figure 2)

Soil Pit No. 1 was dug in the NE corner of the claim block to test soil type and uranium content distribution with depth (see PLAN 3 for location). Figure 2 illustrates a vertical section through the pit along with the uranium content of the various horizons.

The soil profile at this location comprises a poorly differentiated glacial till with the "C" horizon, below 5 in (12 cm), dominated by hard, clay rich, bouldery material and upper horizons consisting of a slightly differentiated, loose, less bouldery and more sandy material.

This soil pit lies within a major soil anomaly with a uranium content range of 11.5 to 33 ppm. Uranium appears to concentrate in the "B" and upper "C" horizons which constitute the horizons generally sampled over the entire claim group.

7.3 Sampling Procedure

"B" horizon material was collected at 60 m (200 ft) intervals along picket lines spaced 240 m (800 ft) apart and from baseline and tieline. The soil was collected into heavy duty, high wet-strength, pre-numbered kraft envelopes. An 80 column field data card listing such information as sample location, composition, drainage etc. was completed at each site. Nineteen standard samples were added to the run at random intervals.

Samples were partially dried in the field and then

shipped to Chemex Labs Ltd. in N. Vancouver, B.C. for uranium analysis.

7.4 Laboratory Procedures

All samples were dried and then sieved to obtain a -80 mesh (less than 177 micrometer) fraction which was digested in hot perchloric-nitric acid and then analysed fluorimetrically for uranium. Detection limit was 0.5 ppm U. Details of the procedure are listed in Appendix III.

7.5 Standard Samples

Nineteen standard samples consisting of homogenized material from Soil Pit No. 1 were added to the run at random intervals. Table 1 lists the uranium contents and reproducibility of these samples. A reproducibility of 12 percent average difference from the mean value was obtained over a range of 25 to 47 ppm. This is a highly acceptable figure over this uranium content range which constitutes the bulk of the anomalous values on the DEMUTH Claims.

7.6 Statistical Treatment of Results

The frequency distribution for uranium content in soils (Figure 3) is highly positively skewed with a second anomalous population occurring above 10 ppm U. A cumulative frequency distribution (Figure 4) was constructed for the main background population (less than 10 ppm U) and mean, threshold and probably anomalous levels were selected at the 50th, 84th and 97th percentiles at 0.5 ppm, 2.0 ppm and 5.5 ppm respectively.

Table 1 Reproducibility of Standard Soil Samples

SAMPLE NO.	ppm U	% Diff. From Mean
79PR27119	44	15.8
143	37	2.6
162	46	21.1
211	37	2.6
228	42	10.5
246	36	2.6
267	44	15.8
317	47	23.7
347	25	34.2
373	36	5.3
381	43	13.2
422	41	7.9
444	40	5.3
452	39	2.6
513	35	7.9
528	42	10.5
547	25	34.2
563	35	7.9
612	35	7.9
MEAN	38	12.2

*Total number of samples = 19.

Sample obtained from homogenized material from Soil Pit No. 1.

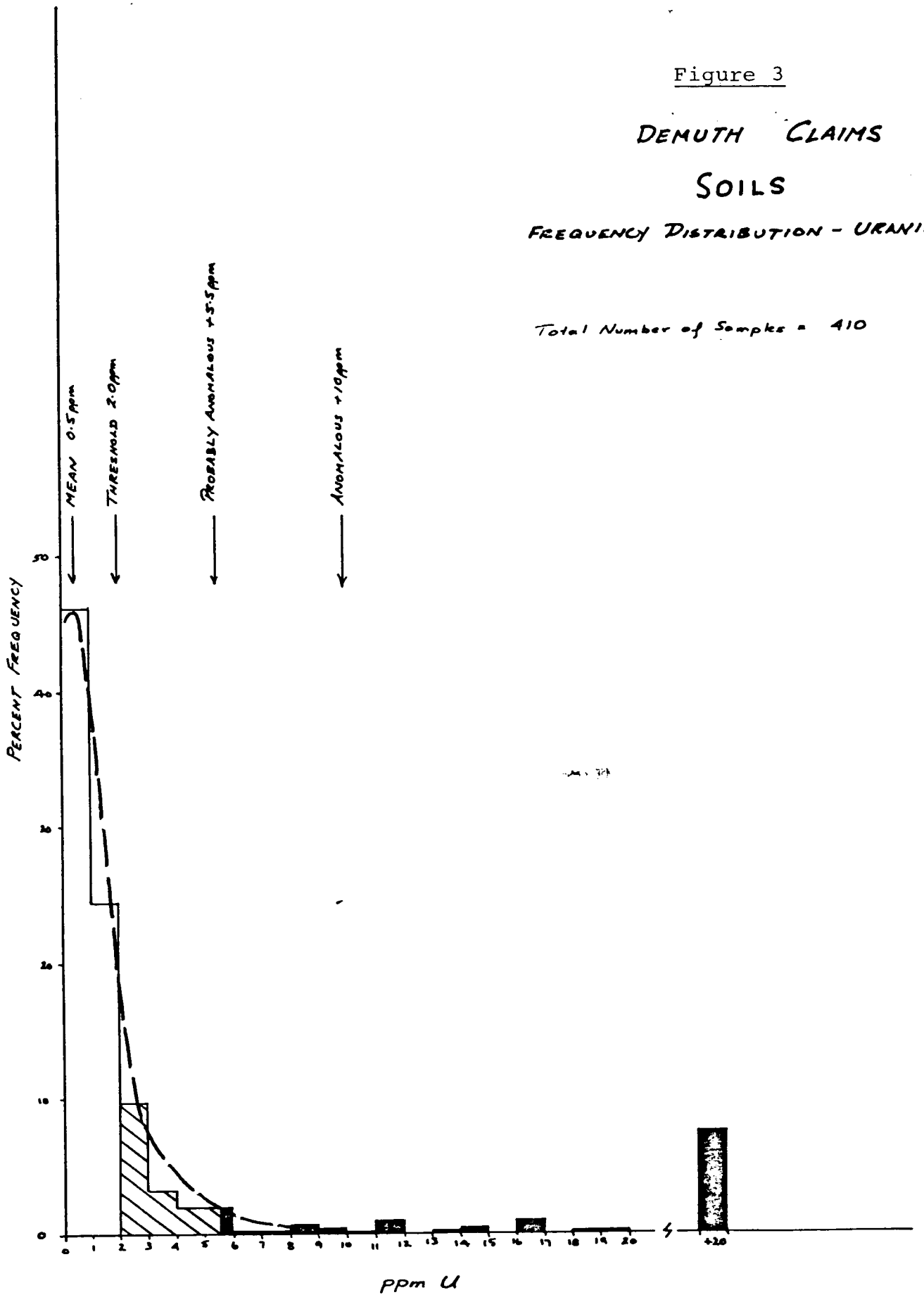
Figure 3

DEMUTH CLAIMS

SOILS

FREQUENCY DISTRIBUTION - URANIUM

Total Number of Samples = 410



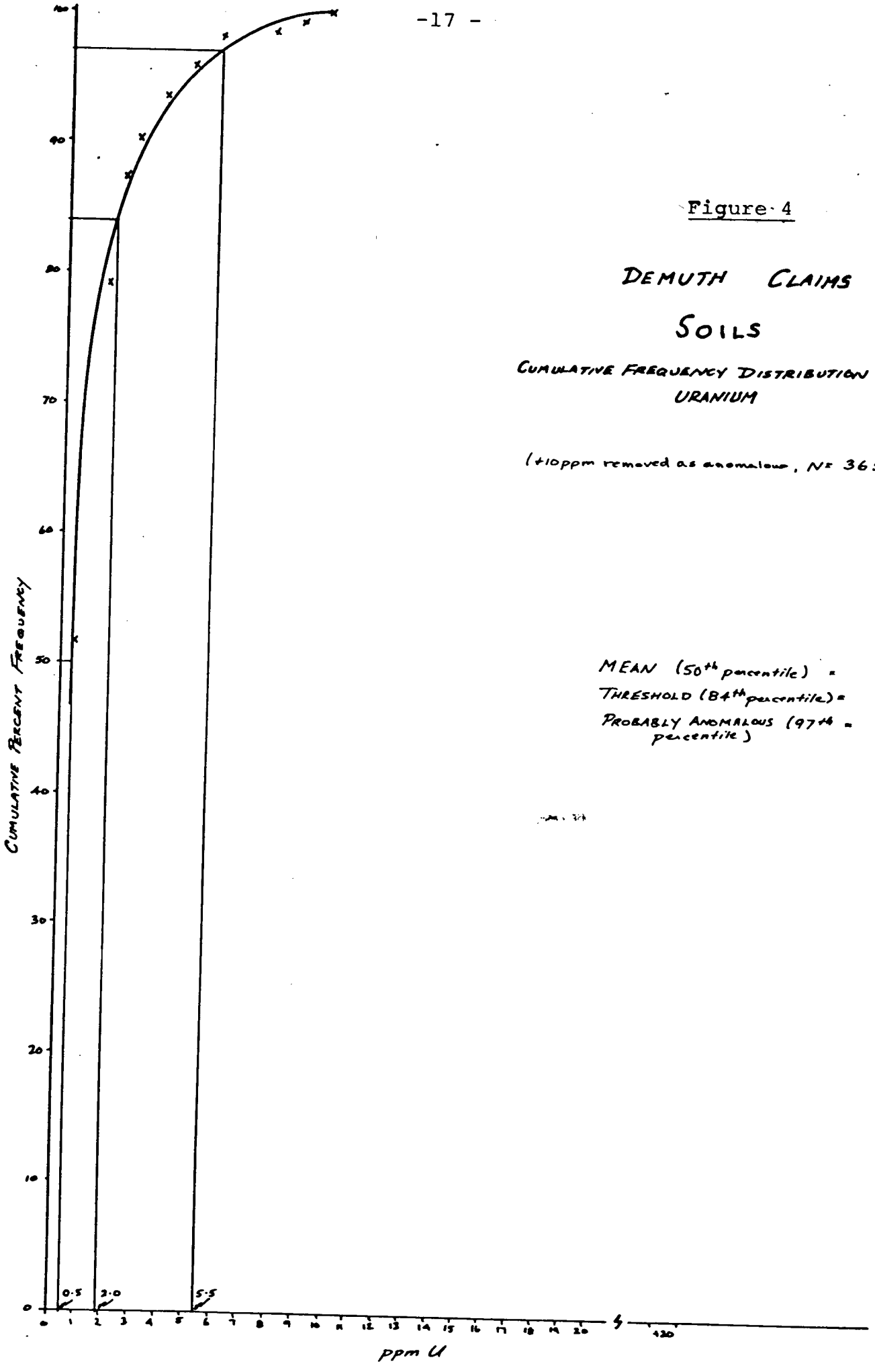


Figure 4

DEMUTH CLAIMS

SOILS

CUMULATIVE FREQUENCY DISTRIBUTION
URANIUM

(+10ppm removed as anomalous, N= 365)

MEAN (50th percentile) =	0·5ppm
THRESHOLD (84th percentile) =	2·0 ppm
PROBABLY ANOMALOUS (97+4 percentile) =	5·5 ppm

Level	Percentile	Value
Mean	50th	0.5
Threshold	84th	2.0
Probably Anomalous	97th	5.5

Appendix I lists analytical results.

7.7 Results of Soil Geochemistry Survey (PLAN 3, 3a, 5)

1. L0 to L18W, BL to 18S - up to 58 ppm U occurs in soils in this portion of the Trout Creek valley bottom in the NE corner of the claims. The anomaly is triangular in shape and 1800 ft x 800 ft in size (550 m x 240 m).

There appears to be some correlation between anomalous uranium contents (> 5 ppm U) and organic contents > 10%, however, several samples with up to 35 ppm U have organic contents of <10%. The majority of anomalous soils in this area consist of well drained stoney till but some comprise swampy gleysol.

This anomaly is likely derived by downslope, hydromorphic uranium transport by stream and groundwater draining megacrystic biotite-quartz-monzonite and aplite which underlies the central portion of the claims.

2. L32W to L64W, BL to 40S - Local, 2 to 3 station soil anomalies with up to 18.5 ppm U occur within two broad areas of probably anomalous (> 2 ppm U) soils separated by an intervening region of less than 0.5 ppm U in the central portion of the claims. the area is underlain by megacrystic biotite-quartz-monzonite and aplite with uranium contents of up to 4 ppm (see PLAN 5). There appears to be no correlation

between anomalous uranium values and organic contents in the soil. The anomalies straddle the originally anomalous creek.

3. L8W to L24W, 38S to 65S - Up to 140 ppm uranium occurs in soils within a linear, north striking zone approximately 100 m x 120 m (2700 ft x 400 ft) in size. This area is underlain by biotite-diorite gneiss. There is no correlation between anomalous uranium content and organic content in soils.

The anomaly contains an east trending lobe which deflects towards a 4.5 ppm U rock anomaly in biotite-diorite gneiss. (PLAN 5)

VIII ROCK GEOCHEMISTRY

8.1 Introduction

Rock chip samples were collected during the mapping survey at 300 m (1000 ft) intervals and analysed for U (fluorimetric) and Th (neutron activation) by Chemex Labs, Vancouver, B.C.

8.2 Laboratory Procedures

Rock samples were crushed to 90% -200 mesh and analysed for uranium by hot acid-fluorimetric method and thorium by neutron activation. Detection limits were: U - 0.5 ppm; Th - 1 ppm.

Details of laboratory procedures are listed in Appendix III.

Figure 5

DEMUTH CLAIMS

ROCK

FREQUENCY DISTRIBUTION - URANIUM

(Total number of samples = 36)

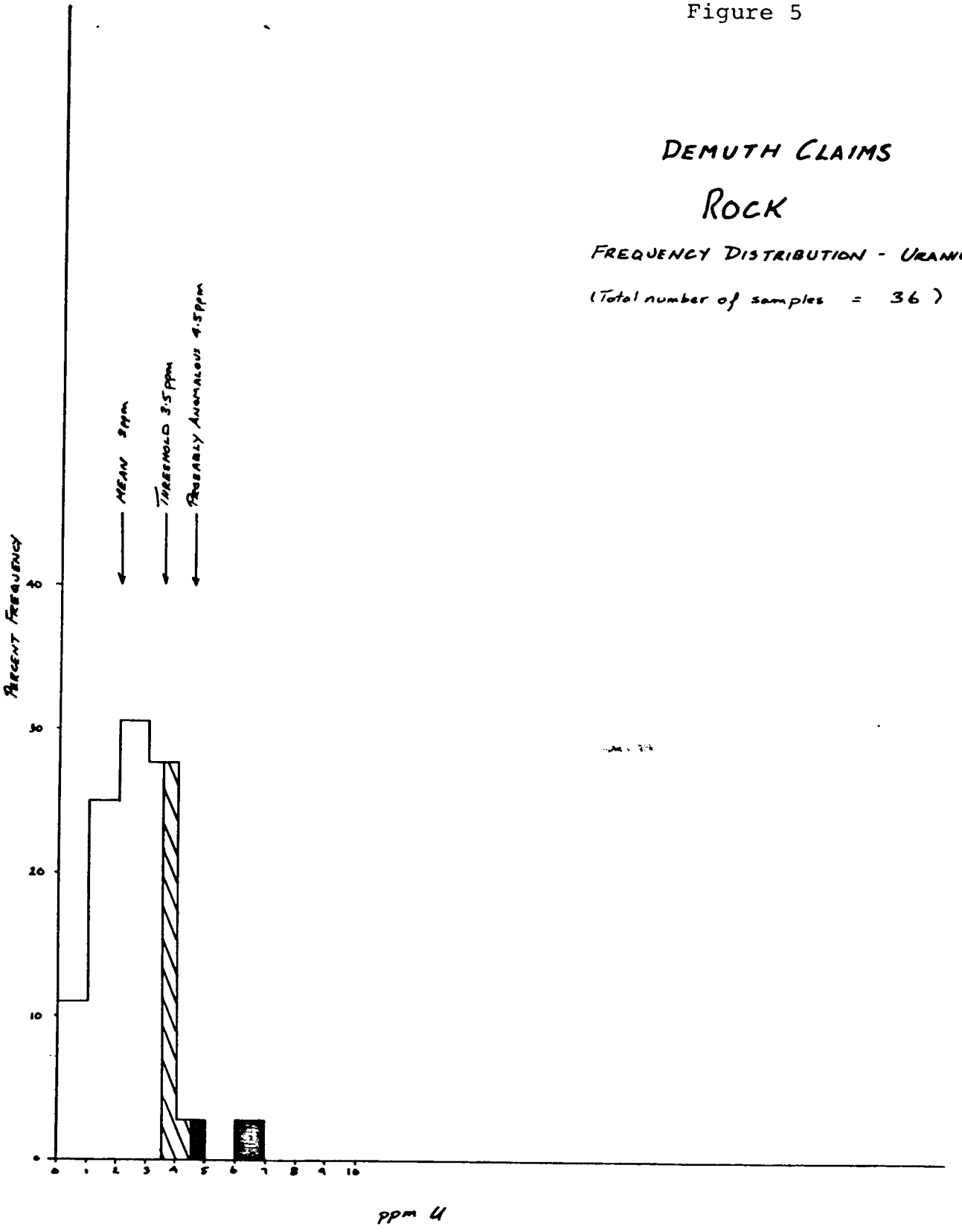
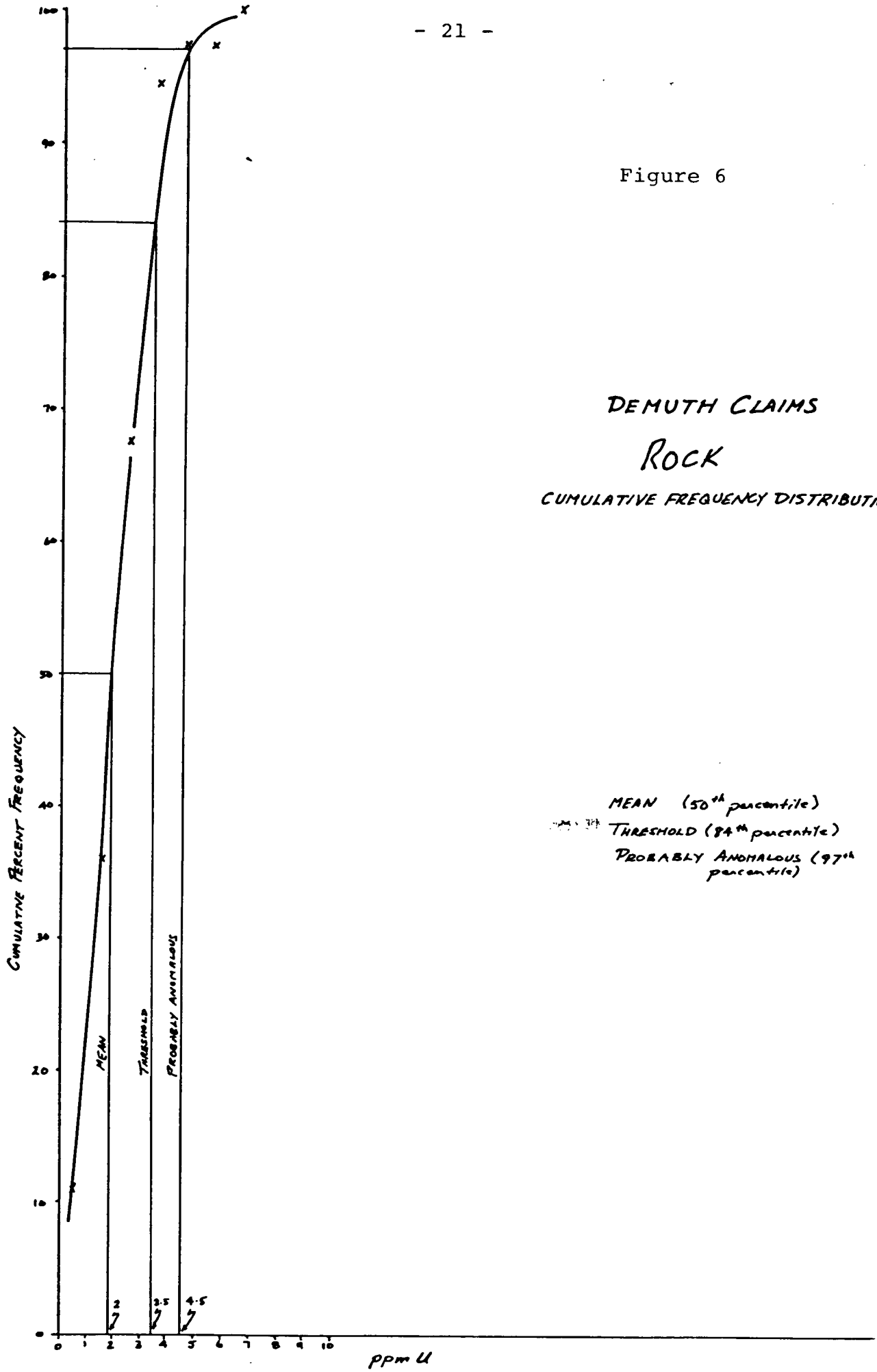


Figure 6


DEMUTH CLAIMS
ROCK
CUMULATIVE FREQUENCY DISTRIBUTION
CUMULATIVE PERCENT FREQUENCY
MEAN
THRESHOLD
PROBABLY ANOMALOUS
2
3.5
4.5
ppm U
MEAN (50th percentile) 2 ppm
THRESHOLD (84th percentile) 3.5 ppm
PROBABLY ANOMALOUS (97th percentile) 4.5 ppm

8.3 Statistical Treatment of Results

The uranium contents for a rock samples were plotted on a frequency distribution (Figure 5). A narrow, slightly positively skewed distribution resulted. Mean, threshold and probably anomalous values were determined from a cumulative frequency diagram (Figure 6) at the 50th, 84th and 97th percentiles and were 2 ppm, 3.5 ppm and 4.5 ppm respectively.

Level	Percentile	Value (ppm U)
Mean	50th	2.0
Threshold	84th	3.5
Probably Anomalous	97th	4.5

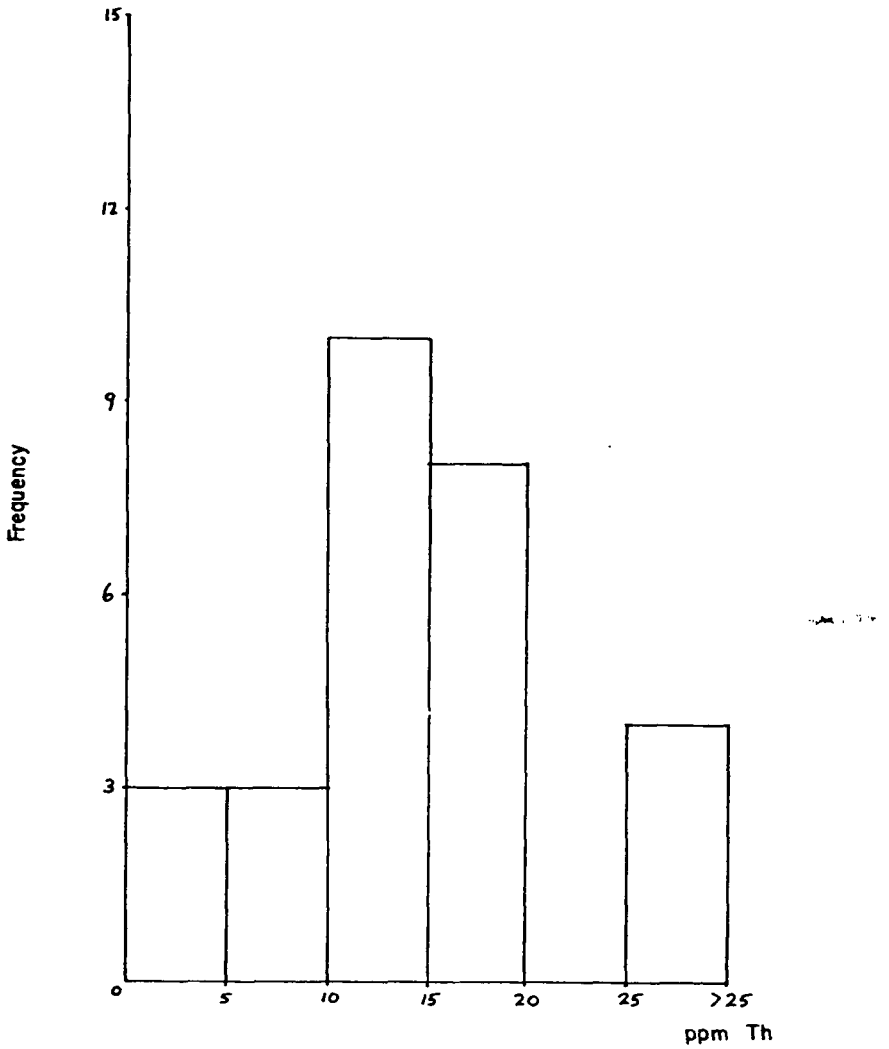
Thorium values were used to construct U/Th ratios. Appendix II lists the U and Th contents and U/Th ratios, with their mean values, for each rock type, and see Figs. 7 & 8.

8.4 Results of Rock Geochemistry Survey (PLAN 2, 5)

1. L72W, 52S - 6.5 ppm U (41 ppm Th) occurs in megacrystic quartz-monzonite. U/Th ratio is 0.16. There is no co-incident soil or radiometric anomaly.
2. L8W, 56S - 4.5 ppm U (15 ppm Th) occurs in biotite-diorite gneiss. U/Th ratio is 0.3. A 28 ppm U soil anomaly occurs about 800' to the north and just downslope. No other nearby rock samples were obtained.
3. As seen from PLAN 2, anomalous rocks (+3.5 ppm U) are not restricted to any particular rock-unit. Examination of Table 2, below indicates the following: the mean recoverable uranium contents of all rock units are about the same (2.5 - 2.8 ppm); U/Th ratios for all rock-types are very small (.13 to .34);

Figure 7

PROJECT PRINIC
DEMUTH
FREQUENCY DISTRIBUTION OF
THORIUM IN ROCK CHIPS
NOVEMBER , 1979
N= 28



Values greater than 25 ppm Th are considered to be anomalous.

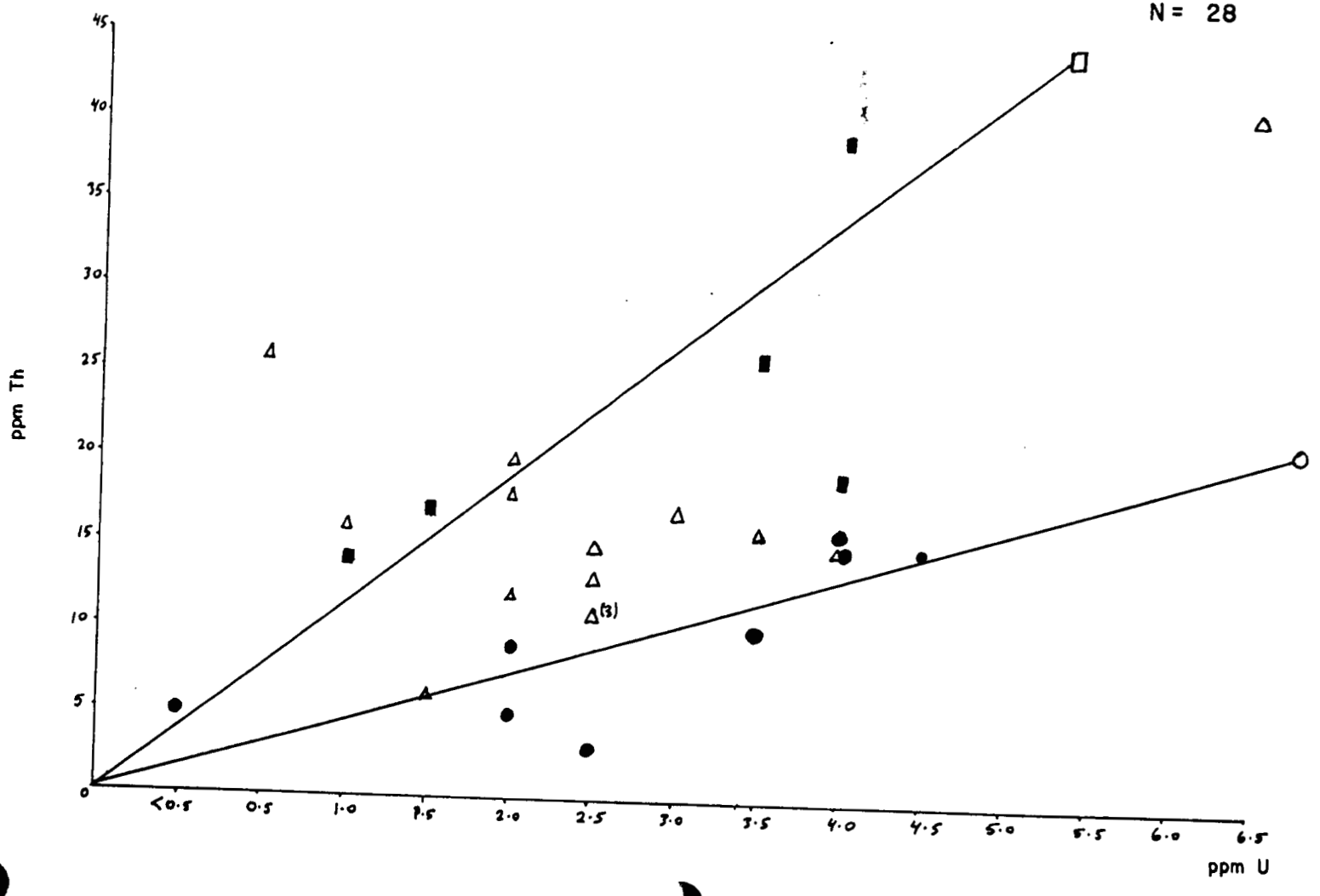
IC

Fig. 8 Note - Clear distinction of biotite-diorite-gneiss from leucocratic biotite-quartz-monzonite, but overlap of the megacrystic quartz monzonite.

Figure 8

KEY TO ROCKTYPE SYMBOLS:
● = BIOTITE DIORITE GNEISS
■ = LEUCOCRATIC BIOTITE QUARTZ MONZONITE
Δ = MEGACRYSTIC BIOTITE QUARTZ MONZONITE

PROJECT PRINIC
DEMUTH
SCATTERGRAM OF URANIUM VERSUS THORIUM VALUES IN ROCK CHIPS
NOVEMBER , 1979
N = 28



variations in U/Th ratios are related to variations in Th content, the biotite-diorite-gneiss having the lowest mean thorium content (9 ppm versus 23 ppm in bQM and 17 ppm in bQM(m)) and therefore the highest U/Th ratio. Unit 1 (bDi) has the lowest total U+Th content and lowest scintillometer response. Units 2 and 3 cannot be distinguished on this basis.

4. No sample collected from the DEMUTH Claims has a U/Th ratio greater than unity; however, the mean recoverable uranium content of rocks underlying these claims (2.5 to 2.8 ppm) is high for the Penticton-Princeton area. Given suitable structural preparation the DEMUTH Claims could potentially host uranium mineralization of intergranitic vein type.

Table 2 - Summary of U and Th Content, U/Th Ratio and Scintillometer Response by Rock Type

Unit	Mean ppm U	Mean ppm Th	Mean U/Th	Scintillometer (cps)
4 - Aplite	2.5	-	-	20 - 50
3 - Megacrystic biotite quartz monzonite	2.7	16.5	.17	17 - 32
2 - Leucocratic biotite	2.8	23.0	.13	18 - 26
1 - Biotite diorite gneiss	2.7	9.0	.34	12 - 23

IX RADIOMETRIC SURVEY

9.1 Introduction

A radiometric survey was conducted in conjunction with the soil geochemistry survey. Readings were taken at 30 m (100 ft) intervals along grid lines. An Urtec model UG-130 was utilized with readings taken on the TC2 channel over a 10 second integration time.

9.2 Statistical Treatment of Results

Data was plotted on a frequency distribution diagram (Figure 7) and cumulative frequency distribution diagram (Figure 8). The distribution was normal; and mean, threshold and anomalous levels were chosen at the 50th, 84th and 97th percentiles at 19 cps, 23 cps and 28 cps respectively.

9.3 Results of Radiometric Survey (PLAN 4, 4a, 5)

1. L32W to L52W, 22S to 25S - Up to 32 cps occurs within a linear, EW striking anomaly ($\geq$ 28 cps) 600 m x 900 m (2000 ft x 300 ft) in size. The anomaly lies within a broad area of probably anomalous radioactivity ($>$ 23 cps) centered over the originally anomalous creek.

The $>$ 28 cps anomaly coincides with probably anomalous soils ($>$ 2 ppm U) on either end with its central portion coinciding with an area of $<$0.5 ppm U in soils. (PLAN 5, 5a) The area is underlain by megacrystic biotite-quartz-monzonite and aplite with uranium contents of up to 3.5 ppm U (probably anomalous. (PLAN 5)

2. R.H. Wallis noted that aplites displayed a scintillometer response of 50 cps; the highest response on the property.

3. Single station anomalies up to 32 cps occur scattered over the western portion of the property but do not correlate with soil or rock anomalies. They are confined to the quartz-monzonite units (PLAN 5).

4. Scintillometer responses of the various rock units correlate well with their total U+Th contents. The biotite-diorite-gneiss with the lowest U+Th content displays the lowest response. Some of the spot highs within the quartz-monzonite units may be simply

Figure 9

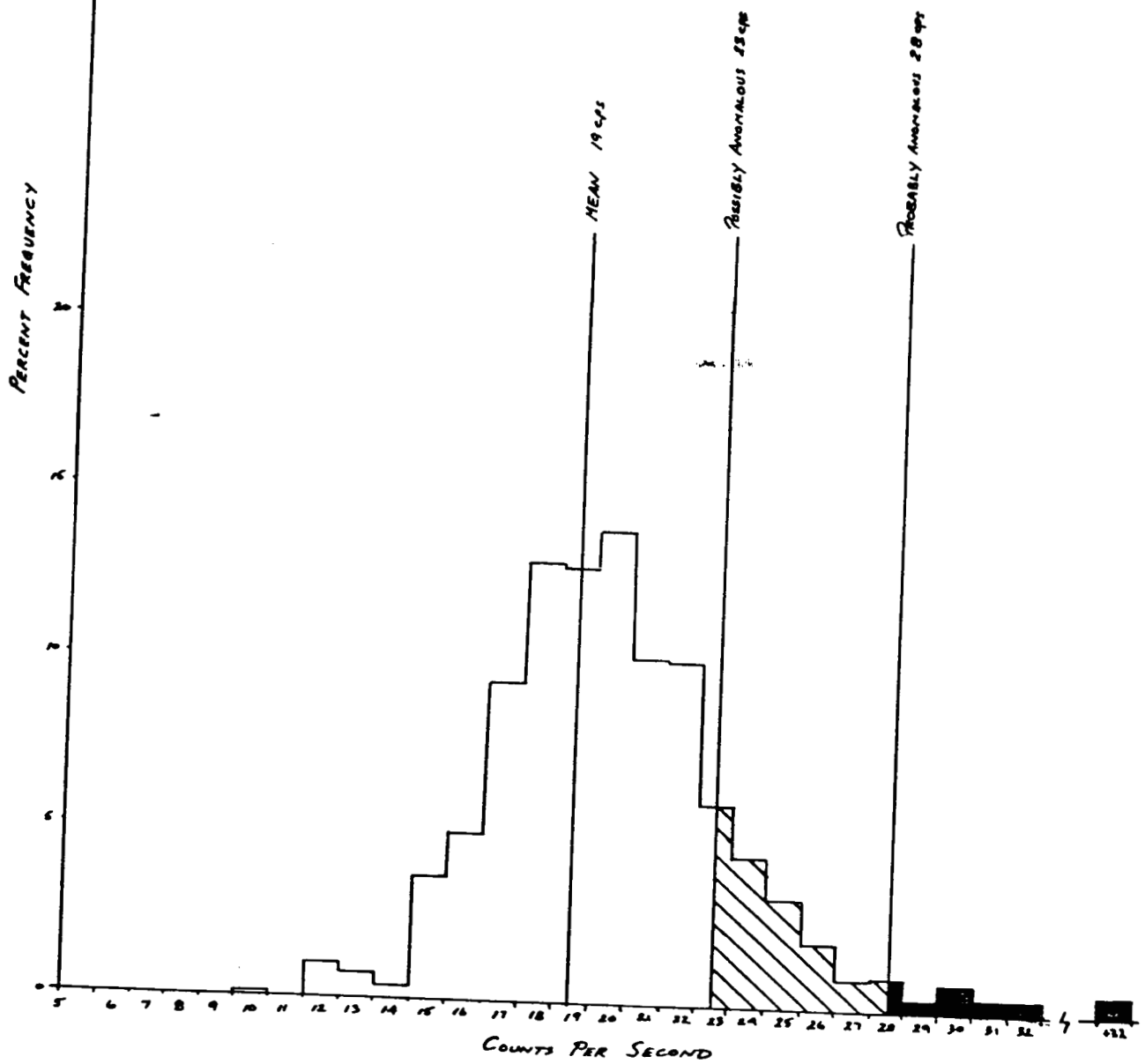
DEMUTH CLAIMS

RADIOMETRICS

FREQUENCY DISTRIBUTION
Counts Per Second

(Readings taken with URTEC UG-130)

(Total number of readings = 775)



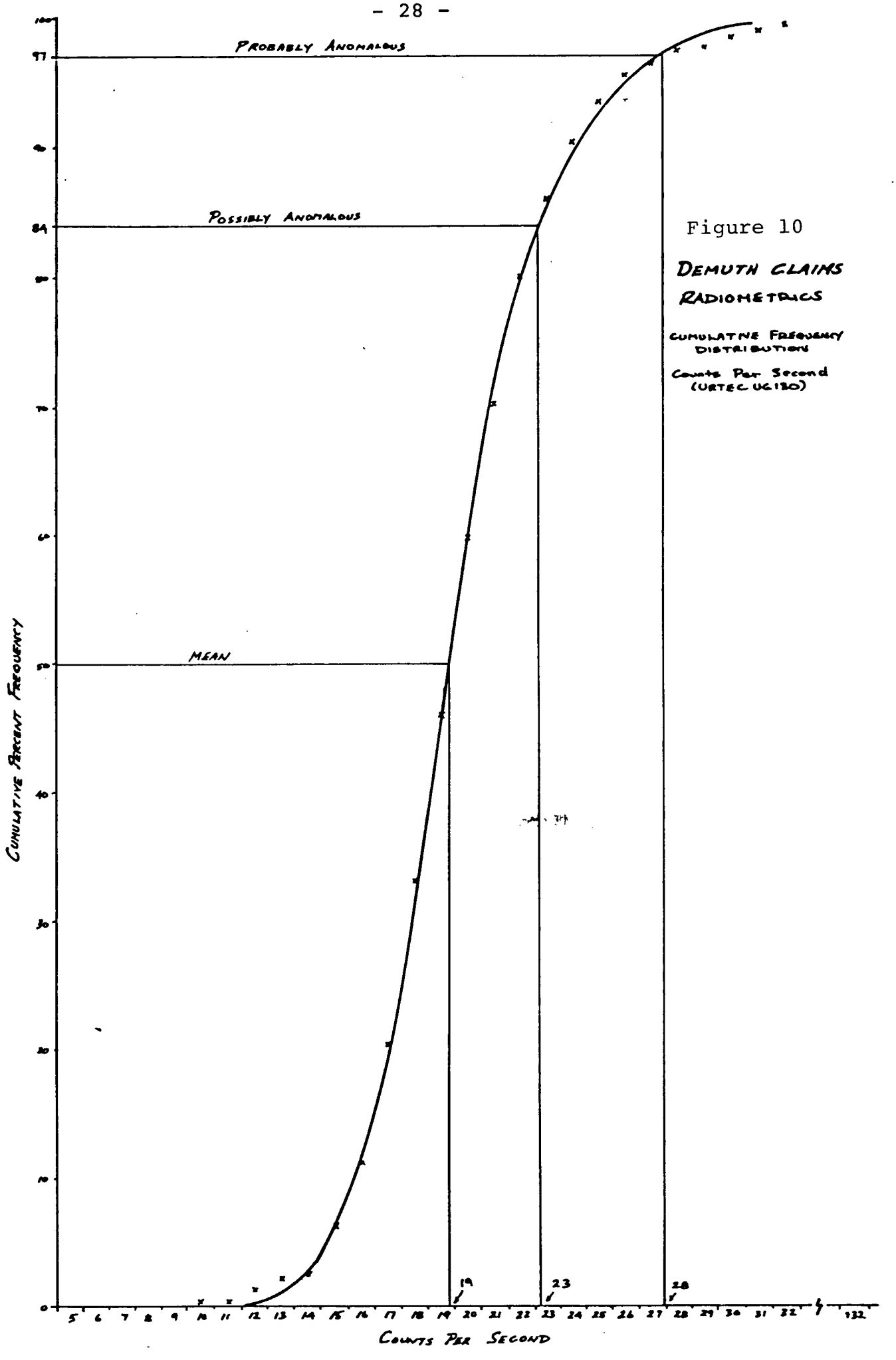


Figure 10

DEMUTH CLAIMS
RADIOMETRICS

CUMULATNE FREQUENCY
DISTRIBUTION

Counts Per Second
(URTEC UG1320)

related to statistical treatment of results in which data from all units were lumped together and the higher background quartz-monzonites would form the "anomalous" component.

X CONCLUSIONS

1. The DEMUTH Claim is underlain by an igneous-metamorphic complex. Older, metamorphic, biotite-diorite-gneiss has been intruded by biotite-quartz-monzonite, sections of which have developed porphyroblasts of K-feldspar. Porphyroblast development and post-porphyroblast mineral foliation within the quartz-monzonite unit indicate that metamorphism either continued through or was renewed after the igneous event. All units have been intruded by dykes of biotite-aplite and of pegmatite, however the interrelations of the two are unknown.

Post-igneous, dynamic metamorphism has consisted of development of closely spaced fractures without accompanying alteration or mineralization.

2. No mineralization was seen on the DEMUTH claims. Potential economic uranium mineralization is likely to be of intergranitic vein type.

3. Soil uranium, radiometric, rock uranium, stream sediment uranium and stream water uranium anomalies correlate over the central portion of the claims which is underlain by megacrystic biotite-quartz-monzonite and aplite.

4. The strong soil uranium anomaly in Trout Creek valley in the NE corner of the claims is likely due to uranium transport down the anomalous creek with uranium deposition occurring at the break of slope in organic and clay-rich material.

5. The linear, NS striking soil anomaly in the SE corner of the claims appears to be underlain by biotite-diorite-gneiss with anomalous uranium content, however, sufficient geological control is lacking.

6. Rocks from the DEMUTH Claim contain a high background content of uranium (2.5 - 2.8 ppm).

XI RECOMMENDATIONS

1. The entire claim group should be mapped in detail on 400 ft (120 m) lines. Mapping should concentrate on defining lithologic distribution, location of pegmatites and aplites, determining their interrelation and defining fracture geometry. The intergranitic vein model for uranium mineralization will be used.

2. Fill in soil sampling, rock geochemistry and scintillometer surveys on 400 ft (120 m) lines should be conducted over the entire length of the originally anomalous stream in order to properly define the only co-incident, multi-media anomalies defined by the present survey.

If this area were to come to drilling status, access would be relatively easy via the road leading up through the SE corner of the claim group.

3. Fill in soil sampling on 400 ft (120 m) lines, in conjunction with the mapping survey should be conducted over the linear, NS striking soil anomaly in the SE corner of the claims.

4. The strong soil anomaly in the NE corner of the claims (Trout Creek valley) should be further examined by determining the correlation between uranium content and organic content

through LOI (loss on ignition) studies. It is the author's opinion that this anomaly is transported down the anomalous creek, however, the possibility that it is "in-situ" should not be ignored.

5. No drilling is justified at this point in time.

Respectfully submitted,

Eric James Sacks

Eric James Sacks, M.Sc.

Toronto, November 1979

APPENDIX I

LIST OF ANALYTICAL RESULTS

U and Th

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 ANALYSIS

CERTIFICATE NO. 50665

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
Ste. 311 - 215 Carlingview Dr.
Rexdale, Ontario M9W 5X8 CC: Kamloops-Penticton)

ATTN: PROJECT: Prinic - Demuth Claims (ROCKS)

INVOICE NO. 33519-Th
33035(U)

RECEIVED Sept. 15/79

ANALYSED Oct. 5/79

SAMPLE NO. :	PPM U	PPM Th
79PR 28901	3.5	10
28902	6.5	41
28903	2.5	13
28904	2.5	11
28905	1.0	14
28906	3.0	17
28921	2.0	5
28922	2.0	12
28923	4.0	16
28924	2.5	11
28925	4.0	15
28926	2.5	15
28927	2.5	3
28941	4.5	15
28942	2.5	9
28943	2.0	13
28944	1.5	4
28945	2.0	9
28961	1.5	6
28962	2.5	11
28963	3.5	16
28964	1.5	17
28965	4.0	19
28966	4.0	39
28967	4.0	14
28981	2.5	
28983	2.5	
28984	3.0	
28985	4.0	
28986	3.5	
28987	3.5	26
28988	2.0	20
28989	1.0	16
28990	2.0	18
28991	0.5	26
79PR 28982	<0.5	5

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
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CERTIFICATE NO. 49626

INVOICE NO. 32138

RECEIVED Aug. 13/79

ANALYSED Aug. 24/79

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
Ste. 311 -215 Carlingview Dr.
Rexdale, Ont. M9W 5X8

ATTN: PROJECT: Denuth-Soil R. Evans CC: E. Sacks

SAMPLE NO. :	PPM U
79PR028001	11.5
028002	23.5
028003	24.5
028004	33
028005	23.5
028006	31
028007	31.5
028008	23.5
79PR028009	26

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
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CERTIFICATE NO. 50410

INVOICE NO. 32685

RECEIVED Sept. 1/79

ANALYSED Sept. 19/79

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
311 - 215 Carlingview Drive
Rexdale, Ontario

ATTN: cc: J. Hill

PRINIC DEMUTH SOIL

SAMPLE NO. :	PPM U
79 PR 28101	2.5
28102	0.5
28103	< 0.5
28104	5.5
28105	< 0.5
28106	3.5
28107	2.0
28108	1.5
28109	2.0
28110	1.0
28111	0.5
28112	140
28113	0.5
28114	72
28115	1.0
28116	1.5
28117	1.5
28118	5.5
28119	44
28120	1.5
28121	1.0
28122	1.0
28123	2.0
28124	11.5
28125	1.5
28126	2.0
28127	1.5
28128	1.0
28129	1.5
28130	1.0
28131	1.0
28132	0.5
28133	1.0
28134	1.0
28135	0.5
28136	2.5
28137	0.5
28138	0.5
28139	0.5
9 PR 28140	0.5

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CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
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CANADA V7J 2C1
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Minerals Division
311 - 215 Carlingview Drive
Rexdale, Ontario

ATTN: cc: J. Hill

PRINIC DEMUTH SOIL

SAMPLE NO. :	PPM U
79 PR 28141	1.0
28142	1.0
28143	37
28144	17.0
28145	17.0
28146	3.0
28147	23.0
28148	17.0
28149	39
28150	2.0
28151	9.5
28152	9.5
28153	58
28154	14.5
28155	12.0
28156	8.5
28157	3.5
28158	5.5
28159	1.0
28160	2.5
28161	11.5
28162	46
28163	2.0
28164	3.0
28165	1.5
28166	1.0
28167	1.0
28168	2.5
28169	2.0
28170	2.0
28171	2.5
28172	1.5
28173	0.5
28174	1.0
28175	0.5
28176	0.5
28177	2.5
28201	0.5
28202	1.0
79 PR 28203	1.0

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648 984-0221
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CERTIFICATE NO. 50412

INVOICE NO. 32707

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ANALYSED Sept. 19/79

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
Ste. 311 - 215 Carlingview Dr.
ATTN: Rexdale, Ontario M9W 5X8
PROJECT: Prinic-Demuth-Soil Mr. J. Hill

SAMPLE NO. :	PPM U
79PR 28204	0.5
28205	1.0
28206	4.0
28207	1.5
28208	2.5
28209	1.0
28210	0.5
28211	37
28212	0.5
28213	2.0
28214	4.0
28215	1.0
28216	6.0
28216	0.5
28218	0.5
28220	1.5
28221	1.0
28222	3.0
28223	5.0
28224	1.0
28225	48
28226	5.0
28227	2.5
28228	42
28229	4.5
28230	0.5
28231	0.5
28232	11.5
28233	8.5
28234	0.5
28235	1.0
28236	0.5
28237	1.0
28238	1.0
28239	1.0
28240	0.5
28241	0.5
28242	1.0
28243	0.5
PR 28244	1.0

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
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ATTN: Mr. J. Hill

PROJECT: Prinic-Demuth-Soil

SAMPLE NO. :	PPM U
79PR 28245	0.5
28246	36
28247	1.0
28248	4.0
28249	3.0
28250	1.5
28251	1.0
28252	2.5
28253	2.0
28254	1.5
28255	2.0
28256	2.0
28257	6.0
28258	2.0
28259	1.5
28260	2.0
28261	3.0
28262	6.0
28263	1.0
28264	48
28265	8.0
28266	1.0
28267	44
28268	1.5
28269	1.5
28270	1.0
28271	1.0
28301	2.0
28302	1.5
28303	3.0
28304	1.0
28305	0.5
28306	2.0
28307	7.0
28308	1.0
28309	0.5
28310	1.0
28311	1.5
28312	2.0
9PR 28313	1.5

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
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ANALYSED Sept. 19/79

ATTN: PROJECT: Prinic-Demuth-Soil Mr. J. Hill

SAMPLE NO. :	PPM U
79PR 28314	1.5
28315	2.5
28316	1.0
28317	47
28318	1.5
28319	2.5
28320	1.5
28321	1.0
28322	1.0
28323	1.5
28324	18.5
28325	5.0
28326	3.0
28327	5.5
28328	2.0
28329	3.0
28330	2.5
28331	3.0
28332	3.0
28333	2.0
28334	2.0
28335	1.0
28336	1.5
28337	1.0
28338	1.0
28339	1.5
28340	2.0
28341	1.0
28342	4.0
28343	3.5
28344	4.0
28345	0.5
28346	13.5
28347	25
28348	1.0
28349	0.5
28350	0.5
28351	0.5
28352	8.5
79PR 28353	2.0

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hank Biehle

212 BROOKSBANK AVE.
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ATTN: PROJECT: Prinic-Demuth-Soil Mr. J. Hill

SAMPLE NO. :	PPM U
79PR 28354	0.5
28355	<0.5
28356	1.5
28357	<0.5
28358	<0.5
28359	3.0
28360	1.5
28361	1.5
28362	1.5
28363	4.0
28364	0.5
28365	<0.5
28366	1.0
28367	0.5
28368	1.5
28369	1.5
28370	0.5
28371	1.5
28372	1.5
28373	36
28374	1.5
28375	1.5
28376	0.5
28377	1.0
28378	1.5
28379	0.5
28380	2.0
28381	43
28382	0.5
28400	0.5
28401	0.5
28402	1.0
28403	5.5
28404	1.0
28405	2.0
28406	0.5
28407	1.0
28408	0.5
28409	0.5
79PR 28410	1.5

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
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INVOICE NO. 32707

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ANALYSED Sept. 19/79

ATTN: PROJECT: Prinic-Demuth-Soil Mr. J. Hill

SAMPLE NO. :	PPM U
79PR 28411	0.5
28412	14.5
28413	1.0
28414	1.5
28415	1.0
28416	1.0
28417	1.5
28418	0.5
28419	0.5
28420	1.5
28421	4.5
28422	41
28423	1.5
28424	1.5
28425	0.5
28426	45
28427	1.0
28428	1.0
28429	1.0
28430	3.0
28431	0.5
28432	0.5
28433	0.5
28434	0.5
28435	0.5
28436	0.5
28437	3.0
28438	1.5
28439	2.0
28440	0.5
28441	0.5
28442	2.5
28443	0.5
28444	40
28445	2.5
28446	0.5
28447	3.0
28448	1.5
28449	1.0
79PR 28450	0.5

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
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Minerals Division
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Rexdale, Ontario M9W 5X8

ATTN: PROJECT: Prinic-Demuth-Soil Mr. J. Hill

SAMPLE NO. :	PPM U
79PR 28451	1.0
28452	39
28453	1.5
28454	2.0
28455	3.5
28456	2.0
28457	3.0
28458	1.0
28459	1.0
28460	2.0
28461	1.0
28462	1.0
28463	2.0
28464	1.0
28465	4.0
28466	1.0
28467	1.0
28468	2.0
28469	1.0
28501	2.0
28502	0.5
28503	1.0
28504	1.0
28505	1.0
28506	0.5
28507	1.0
28508	0.5
28509	0.5
28510	0.5
28511	1.5
28512	1.5
28513	35
28514	1.5
28515	2.5
28516	2.0
28517	1.0
28518	2.0
28519	1.5
28520	1.5
79PR 28521	2.0

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hank Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
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CERTIFICATE NO. 50418

INVOICE NO. 32707

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ANALYSED Sept. 19/79

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Minerals Division
Ste. 311 - 215 Carlingview Dr.
Rexdale, Ontario M9W 5X8

ATTN: Mr. J. Hill
PROJECT: Prinic-Demuth-Soil

SAMPLE NO. :	PPM U
79PR 28522	1.5
28523	2.0
28524	2.0
28525	2.5
28526	1.0
28527	1.0
28528	42
28529	3.0
28530	5.0
28531	3.5
28532	2.5
28533	3.0
28534	1.0
28535	0.5
28536	0.5
28537	0.5
28538	1.0
28539	5.0
28540	1.0
28541	1.5
28542	2.0
28543	2.5
28544	2.5
28545	1.5
28546	1.0
28547	25
28548	0.5
28549	0.5
28550	0.5
28551	0.5
28552	0.5
28553	<0.5
28554	0.5
28555	0.5
28556	1.5
28557	0.5
28558	0.5
28559	0.5
28560	3.0
79PR 28561	1.5

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hank Bichler

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
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AREA CODE: 604
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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 50419

INVOICE NO. 32707

RECEIVED Sept. 1/79

ANALYSED Sept. 19/79

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
Ste. 311 - 215 Carlingview Dr.
Rexdale, Ontario M9W 5X8

ATTN: PROJECT: Prinic-Demuth-Soil Mr. J. Hill

SAMPLE NO. :	PPM U
79PR 28562	0.5
28563	35
28564	0.5
28565	1.0
28566	0.5
28567	0.5
28568	1.0
28569	0.5
28570	0.5
28571	1.0
28572	1.5
28573	1.0
28574	1.0
28575	2.0
28576	2.0
28577	0.5
28601	1.0
28602	1.0
28603	0.5
28604	1.0
28605	0.5
28606	1.0
28607	0.5
28608	2.5
28609	16.5
28610	28
28611	1.0
28612	35
28613	1.5
28614	2.5
28615	11.0
28616	0.5
28617	1.0
28618	0.5
28619	1.5
28620	1.0
28621	0.5
28622	0.5
28623	1.0
79PR 28624	1.0

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648 984-0221
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Rexdale, Ontario M9W 5X8

INVOICE NO. 32707

RECEIVED Sept. 1/79

ANALYSED Sept. 19/79

ATTN: PROJECT: Prinic-Demuth-Soil Mr. J. Hill

SAMPLE NO. :	PPM U
79PR 28625	1.5
28626	1.5
28627	2.0
28628	1.5
28629	3.5
28630	27
28631	3.5
28632	35
28633	19.5
79PR 28634	39

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

APPENDIX II

ROCK SAMPLES - U and Th Contents and U/Th Ratios By Rock Type

* Sample locations may be found by referring to Plan 1,2.

UNIT 1 - BIOTITE DIORITE GNEISS

SAMPLE NO.	ppm U	ppm Th	U/Th
79PR28901	3.5	10	.35
921	2.0	5	.40
923	4.0	16	.25
927	2.5	3	.83
941	4.5	15	.30
945	2.0	9	.22
967	4.0	14	.29
982	<0.5	5	<.10
983	2.5	-	-
984	3.0	-	-
MEAN	2.7	9	.34

UNIT 2 - LEUCOCRATIC BIOTITE QUARTZ MONZONITE

Sample No.	ppm U	ppm Th	U/Th
79PR28905	1.0	14	.14
964	1.5	17	.09
965	4.0	19	.21
966	4.0	39	.10
987	3.5	26	.13
MEAN	2.8	23	.13

APPENDIX II

ROCK SAMPLES - U and Th Contents and U/Th Ratios By Rock Type

* Sample locations may be found by referring to Plan 1,2.

UNIT 3 - MEGACRYSTIC BIOTITE QUARTZ MONZONITE

SAMPLE NO.	ppm U	ppm Th	U/Th
79PR28902	6.5	41	.16
903	2.5	13	.19
904	2.5	11	.23
906	3.0	17	.18
922	2.0	12	.17
924	2.5	11	.23
925	4.0	15	.27
926	2.5	15	.17
961	1.5	6	.25
962	2.5	11	.23
963	3.5	16	.22
985	4.0	-	-
988	2.0	20	.10
989	1.0	16	.06
990	2.0	18	.11
991	0.5	26	.02
MEAN	2.7	16.5	.17

UNIT 4 - APLITE

SAMPLE NO.	ppm U	ppm Th	U/Th
79PR28981	2.5	-	-

APPENDIX III

LABORATORY PROCEDURES

1. Soil Samples

Samples are sorted and dried at 50°c for approximately 2 hours. The dried material is passed through a -80 mesh (177 micron) screen; fine material is retained for analysis and coarser material discarded.

2. Rock Samples

The entire sample is crushed. If necessary (>250 gm), the sample is split on a Jones splitter, the reject being retained for a short period. The split fraction is pulverized such that 90% passes a 200 mesh (74 micron) sieve.

3. Geochem Procedures

A). Uranium (Fluorometric)

A 1 gram sample of -80 mesh soil or -200 mesh rock is digested with hot $HClO_4$ - HNO_3 to strong fumes of $HClO_4$ for approximately 2 hours. The digest is cooled, diluted to volume and mixed.

An aliquot is extracted into methyl isobutyl ketone (MIBK) with the aid of an alumnium nitrate-tetrapropyl ammonium hydroxide salting solution. The uranium in the MIBK is determined by evaporating a portion of the MIBK in a platinum dish and fusing

with a mixture of Na_2CO_3 - K_2CO_3 - NaF. The fluorescence of the fused flux is measured to determine the uranium content.

Detection limit is 0.5 ppm.

B). Thorium (Neutron Activation)

A 1 gram sample of -80 mesh soil or -200 mesh rock material is weighed into a polyethelene vial and heat sealed. Samples, along with standards, are then irradiated for sufficient periods to receive a neutron dose of 1 - 3 X $10^{15}/CM^2$. Following irradiation, samples are cooled for at least one week and Thorium is determined by the measurement of its characteristic Gamma Ray using a semiconductor (Ge (Li)) detector.

Detection limit is 1 ppm.

APPENDIX IV

COMMENTS BY C.F. GLEESON AND R.H. WALLIS

C.F. GLEESON October 19, 1979

DEMUTH

Geol: Megacrystic QMNZ underlies central part of property. Flanked by QMNZ and to the southeast Diorite has been mapped.

Anom. (3.5 - 6.5 ppm U) rocks most abundant in QMNZ. Largest area on south flank of anomalous stream.

Soils: Good soil anom. in valley flat at N-E corner of claims (12 - 58 ppm). Soil pit showed anom. values in all horiz. down to 12".

Sporatic anom. soils (75 ppm U) flank either side of anom. creek.

Scint anom. (>23 cps.) trends E-W in valley created by anom. stream. Center of anom. (28 cps.) lies within anomalous rock area.

Most areas in QMNZ that have > 3.5 ppm U show increase in radiometrics. (i.e.> 23 cps).

In S-E corner of claims a N-W trending soil anom. (5.5-28 ppm) occurs in area underlain by diorite. South of here several 1 station anomalies 48, 72 and 140 ppm U also occur. - No assoc. scint anom. 1 rock sample contains 4.5 ppm U here.

Conclusions: Highest U values in soils in Trout Creek valley at mouth of anom. creek.

Megacrystic QMNZ contains > 3.5 ppm U flanking either side of upper part of orig. anom. creek. Increase in radioactivity and sporatic soil anomalies also occur here. Similar correlation between anom. QMNZ and scint anom. in S-W part of claims.

In S-E part of claims, soil anomalies occur over diorite where up to 4.5 ppm U found in rock.

No obvious drill target. - The area needs more prospecting if we think intergranitic veins are worth looking for.

R. H. WALLIS

September 10, 1979

DEMUTH Claims (moderately accessible for drilling)

Extremely heterogeneous claim group.

(1) Coarse grained, more or less foliated, K spar megacrystic hornblende-biotite quartz monzonite? foliation prepost K spar megacrysts?

(2) Medium to coarse grained hornblende-biotite diorite, quartz diorite, poorly to well foliated.

(3) Medium to coarse grained, non-foliated, biotite quartz monzonite, with pink K feldspar.

(4) Large, dark, biotite-hornblende diorite xenoliths.

(5) Large, quartz-2 feldspar-biotite pegmatites

(6) Very fine grained, leucocratic, quartz-2 feldspar - biotite aplites - up to 50 cps., the hottest rock on the property.

All rocks cut by numerous close spaced fractures.

APPENDIX V

References:

1. Little, H.W.(1961): Geology - Kettle River (West Half), British Columbia; G.S.C. Map 15-1961.

STATEMENT OF EXPENDITURES

CLAIMS DEMUTH 1 (20 Units)

RECORD NUMBERS 354

			Pro-rated Costs
Salaries and Benefits			$1556.92
Travel and Accommodation			219.42
Drafting and reproduction			118.12
Consultant			56.80
Camp costs and supplies			471.50
Rental of equipment			531.78
Administration @ 10%			295.46
SUB TOTAL			3250.00
Linecutting 8.7 km @ $218	$1,890.00[2]		
Geochemical analyses	1,009.84[3]		
PAC	-		2899.84
TOTAL		$	6149.84

Notes

1) Pro-rated on basis of 10 man-days worked on claims conducting geological/geochemical/geophysical surveys out of a total of 798 man-days spent on these surveys during Project Prinic (see attached breakdown on following sheet)

2) Linecutting completed by Futura DevelopmentsReg'd.,Penticton, B.C.

3) Geochemical analyses completed by Chemex Labs, Vancouver, B.C.

PROJECT PRINIC EXPENDITURES- 1979

Geological, Geochemical/Geophysical Surveys
Excl. linecutting, drilling, staking and geochemical analyses

Salaries and Benefits	$ 124,242
Travel and Accommodation	17,509
Drafting and Reproduction	9,426
Consultant	4,533
Camp Costs and Supplies	37,626
Rental of Equipment	42,436
Administration @ 10%	23,578
TOTAL	$ 259,350[1]

Note:

[1] A total of 798 man-days was spent carrying out geological/geochemical/geophysical surveys during summer 1979 on Project Prinic (refer attached man-day breakdown)

PROJECT PRINIC EXPENDITURES

1979 FIELD WORK (excluding drilling, geochem analyses staking)

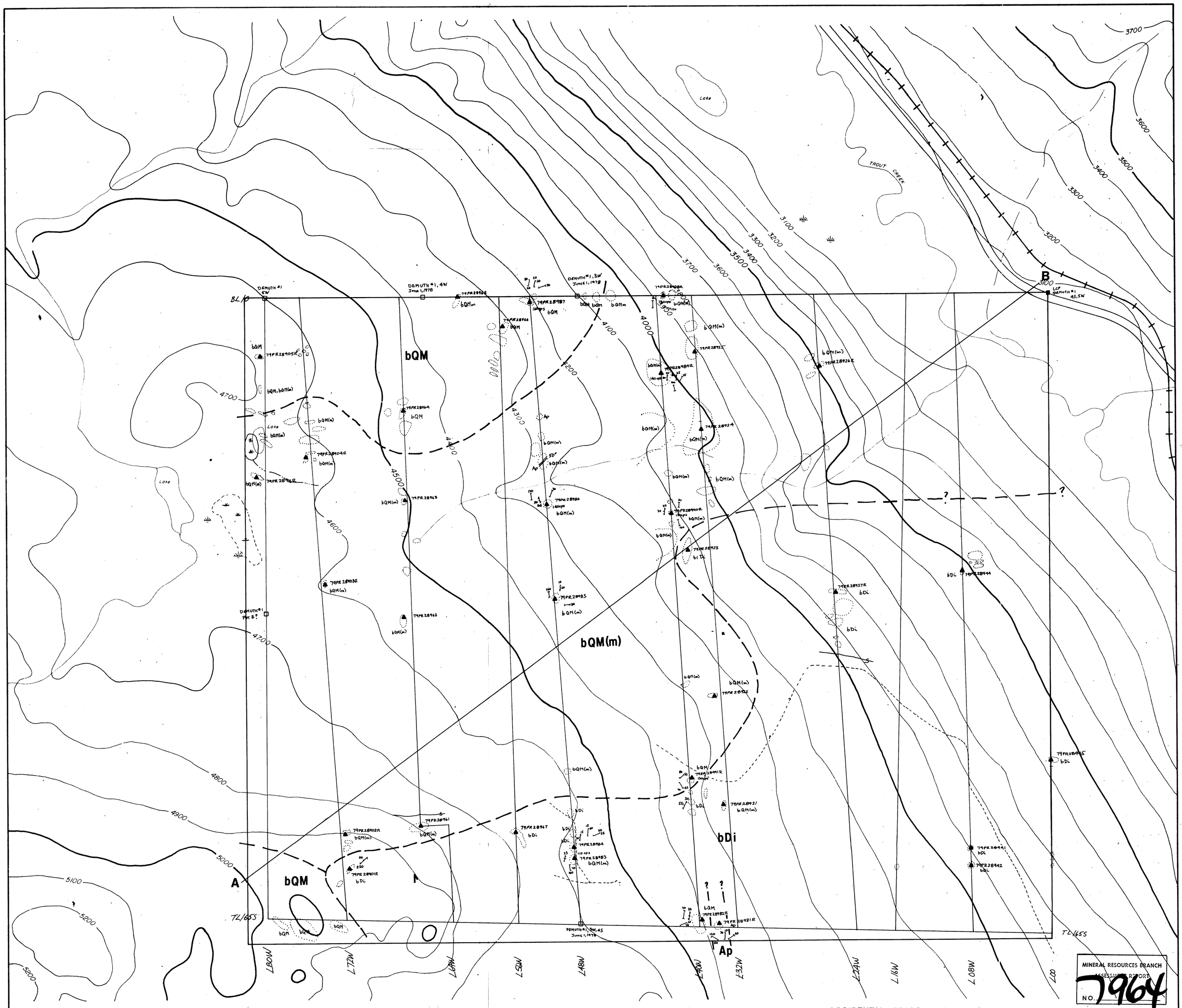
	Claim	No. of Man-Days Work	Pro-rated Survey[1] cost @$325/man-day	No. of miles(km) of linecutting	Linecutting Cost @$350/1.m.(or $218/km)
1)	MAR 1-2	35	$ 11,375	5.5(8.9)	$ 1,925
2)	WAS 1-2	15	4,875	9.1(14.6)	3,185
3)	GLAD 1-4) 5-10)	11	3,575	—	—
4)	SEC 1	20	6,500	8.5(13.7)	2,975
5)	FIN 1-2	10	3,250	-	-
6)	NIC	50	16,250)		
		45	14,625)	28.2(45.4)	9,870
		40	13,000)		
7)	FRED 1-2) 3-5)	20	6,500	14.8(23.8)	5,180
8)	LINK 1-3	144	46,800	33.5(53.9)	11,725
9)	BALD 1-4	55	17,875	36.6(58.9)	12,810
10)	ENEAS 1-5	44	14,300	11.1(17.9)	3,885
11)	TOK 1-4	70	22,750	41.8(67.3)	14,630
12)	DEMUTH 1	10	3,250	5.4(8.7)	1,890
13)	DARK 1-5	32	10,400	32.4(52.1)	16,524
14)	COMA 1-3	2	650	-	-
15)	FOX 1	10	3,250	4.2(6.8)	1,470
16)	MEL 1-2	20	6,500	6.4(10.3)	2,240
17)	SHORT 1	-	-	-	-
18)	SHIN 1-2	-	-	-	-
19)	CLARK 1-6	125	40,625	19.4(31.2)	6,790
20)	DROP 1-2	15	4,875	3.4(5.5)	1,190
21)	STAKE 1-2	25	8,125	5.4(8.7)	1,890
	TOTAL	798	$259,350	233.3(375.4)	$98,179

Author's Qualifications

Eric J. Sacks

Education - Graduated Queen's University,
Kingston, Ontario
M.Sc. in Geology, 1978
- Graduated University of Toronto,
Toronto, Ontario
B.Sc. in Geology, 1977

Work Experience - Employed as field exploration geolgist with Canadian Occidental Petroleum Ltd., Minerals Division, Toronto, Ontario since 1978. Carried out and supervised mineral exploration programs in B.C. and Yukon.



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7964

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT PRINIC

DEMUTH 1 CLAIM

SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA
N.T.S. 82 E 12W
92 H 9E

GEOLOGY

TRUE NORTH 22°

SCALE IN FEET
400 0 400 800 1200

AUGUST 1979

PLAN 1

LEGEND

- **Ap** — APLITE ; dykes, massive
- **bQM** — BIOTITE QUARTZ MONZONITE - medium grained, massive, leucocratic
- **bQM(m)** — BIOTITE QUARTZ MONZONITE - megacrystic - Potassium feldspar megacrysts
- **bDi** — BIOTITE DIORITE GNEISS - fine grained
- Claim Boundary
- Geological Contact (approximate, assumed)
- Road, cart track
- Outcrop outline with rock sample location
- Foliation (inclined, vertical)
- Fracture (inclined, vertical)
- Claim Post (marker post, legal corner post)

bQM

bQM(m)

bQM

bDi

? Ap?

? ?

L80W L72W L64W L56W L48W L40W L32W L24W L16W L08W L0 TYL 65S T/L-65S

TROUT CREEK

Lake

LCP Demuth #1

TRUE NORTH 22°

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT PRINIC

DEMUTH 1 CLAIM

SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA
N.T.S. 82 E 12W
92 H 9E

ROCK GEOCHEMISTRY

SCALE IN FEET
400 0 400 800 1200

AUGUST 1979 PLAN 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7964

LEGEND

ppm Th / ppm U — Sample Number
Threshold 1.9 ppm U
Prob. Anomalous 3.5-4.4 ppm U
Anomalous 4.5 ppm + U
Anomalous Th = 25 ppm + -
3 ppm U Contour
Claim boundary

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT PRINIC

DEMUTH 1 CLAIM

SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA

N.T.S. 82 E 12W

92 H 9E

SOIL GEOCHEMISTRY
URANIUM

SAMPLE LOCATION AND VALUE

SCALE IN FEET

400 0 400 800 1200

AUGUST 1979 PLAN 3

TRUE NORTH 22°

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 7964

LEGEND

ppm U ⊕ Sample No.

Probably Anomalous >2ppm U

Anomalous >5ppm U

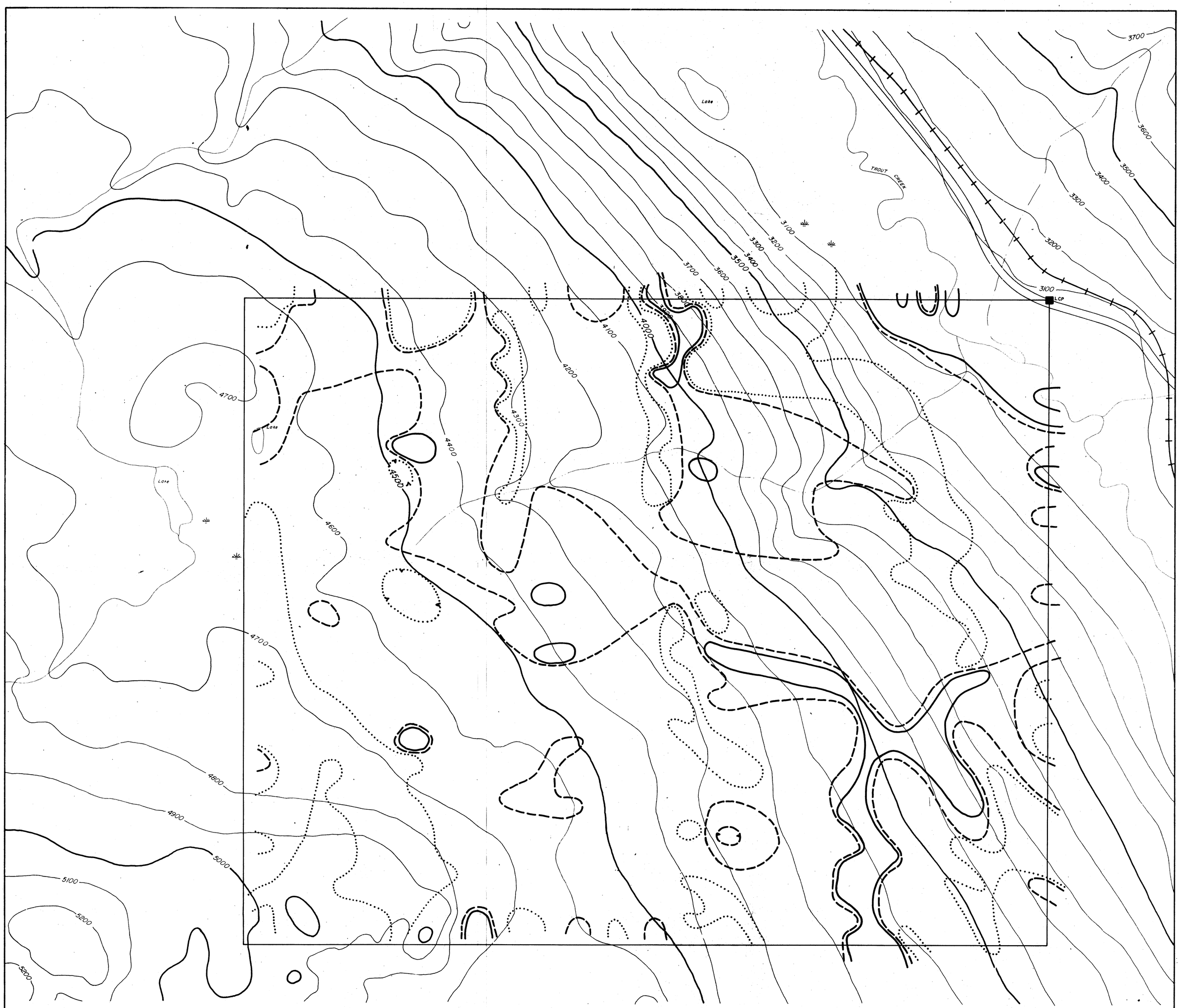
Soil Pit Location

ORGANIC CONTENT

◇ 10-20%

◆ +20%

Claim Boundary



CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT PRINIC

DEMUTH 1 CLAIM

SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA

N.T.S. 82 E 12W
92 H 9E

SOIL GEOCHEMISTRY
URANIUM

CONTOURED VALUES

SCALE IN FEET

400 0 400 800 1200

TRUE NORTH 25° MAG. NORTH

AUGUST 1979 PLAN 3a

LEGEND

U contours in ppm

5.0
2.0
1.0

claim boundary

legal corner post

B/L 0

TROUT CREEK

LAKE

LAKE

3700
3600
3500
3400
3300
3200
3100
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200
5200

T/L 65S

L80W
L72W
L64W
L57W
L48W
L40W
L32W
L24W
L16W
L08W
L00W

T/L 65S

B/L 0

LEGEND

Readings in c.p.s.
Urtec Model UG 130 TC 2 at 10 secs.

Anomalous	+28 c.p.s.
Probably Anomalous	+23 c.p.s.
Threshold	19 c.p.s.
Legal Corner Post	■
Claim Boundary	——

TRUE NORTH
22°
MAG. NORTH

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT PRINIC

DEMUTH 1 CLAIM

SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA
N.T.S. 82 E 12W
92 H 9E

SCINTILLOMETER SURVEY

LOCATION & VALUE OF SCINTILLOMETER READINGS

SCALE IN FEET

400 0 400 800 1200

AUGUST 1979

PLAN 4

Lake

TROUT CREEK

3700 3600 3500 3400 3300 3200 3100

LCP

4700 4600 4500 4400 4300 4200 4100 4000 3900

Lake

Lake

4700 4800 4900 5000 5100 5200 5200

TRUE NORTH

MAG NORTH

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT PRINIC

DEMUTH 1 CLAIM

SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA
N.T.S. 82 E 12W
92 H 9E

SCINTILLOMETER SURVEY

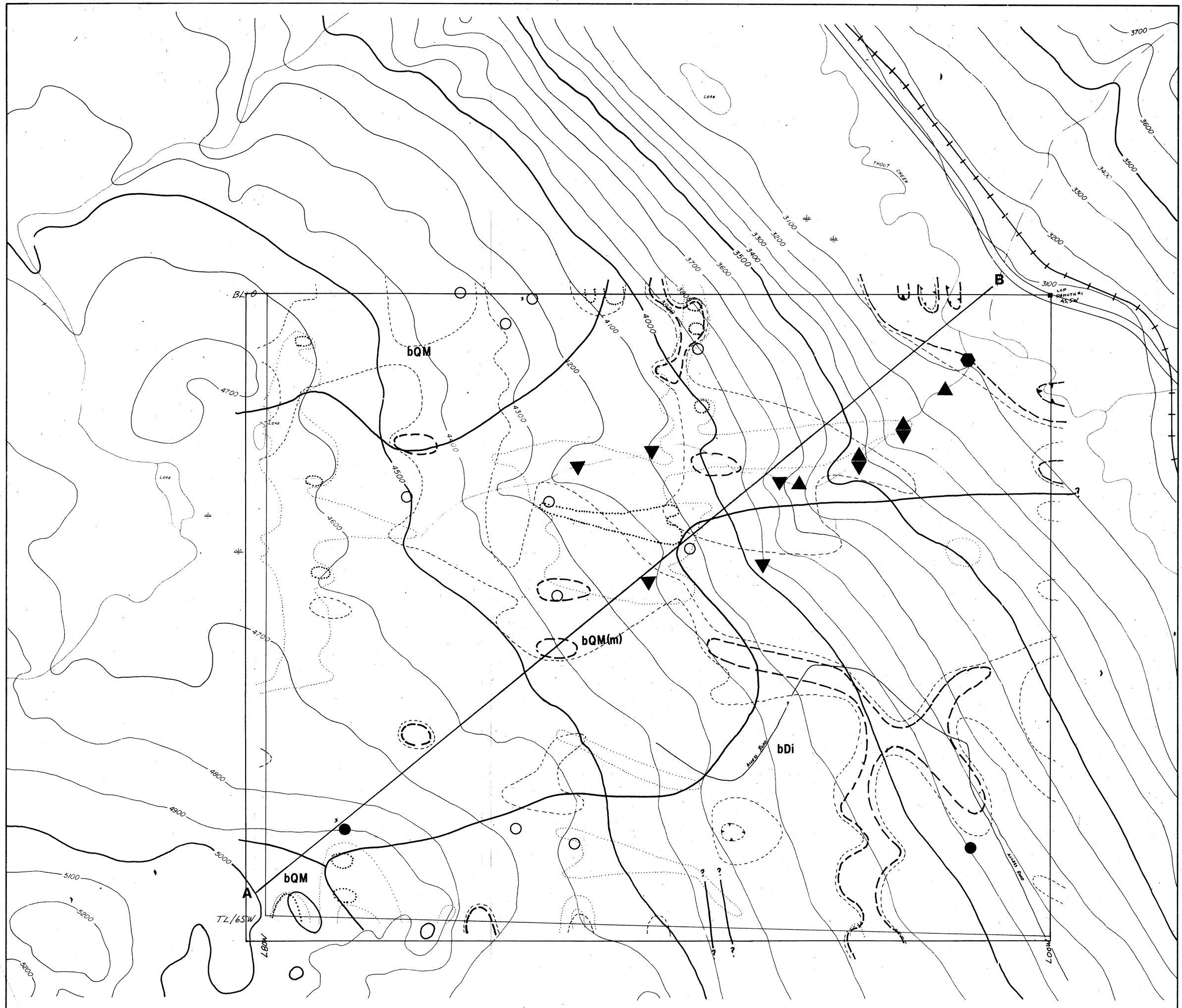
RADIOMETRIC CONTOURS

SCALE IN FEET
400 0 400 800 1200

AUGUST 1979 PLAN 4a

LEGEND
Scintillometer contours in c.p.s.
Uritec Model UG130 TC2 at 10 secs.

28.0
23.0
19.0
Legal Corner Post
Claim Boundary



LEGEND

1979 SURVEY

Geology
Ap - Aplite
bQM(m) - Bi-Qtz Monzonite (megacrystic)
bQM - leucocratic Bi-Qtz Monzonite(massive)
bDi - Bi-Diorite Gneiss

Soil
- Anomalous: +5ppm U
- Prob. Anomalous: +2ppm U

Radiometrics
- Anomalous: +28cps
- Prob. Anomalous: +23cps (UGI30)

Rock
- Anomalous: +4.4ppm U
- Prob. Anomalous: +3.5ppm U
- ANOMALOUS Th - 25ppm

1978 SURVEY

Waters
- Anomalous: +3ppbU

Sediments
- Anomalous: +50ppm U

Heavy Minerals
- Anomalous: +18ppm U

Claim Boundary

TRUE NORTH
22°
MAG. NORTH

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT PRINIC

DEMUTH 1 CLAIM

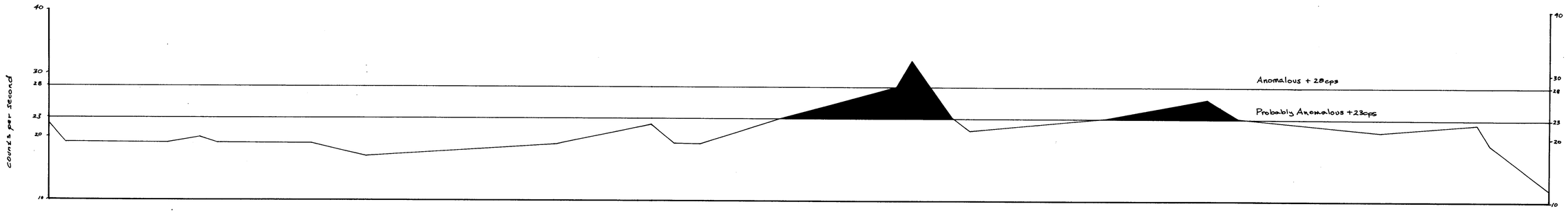
SIMILKAMEEN MINING DIVISION, BRITISH COLUMBIA
N.T.S. 82 E 12W
92 H 9E

COMPILATION OF GEOLOGY, SOIL GEOCHEMICAL AND RADIOMETRIC ANOMALIES

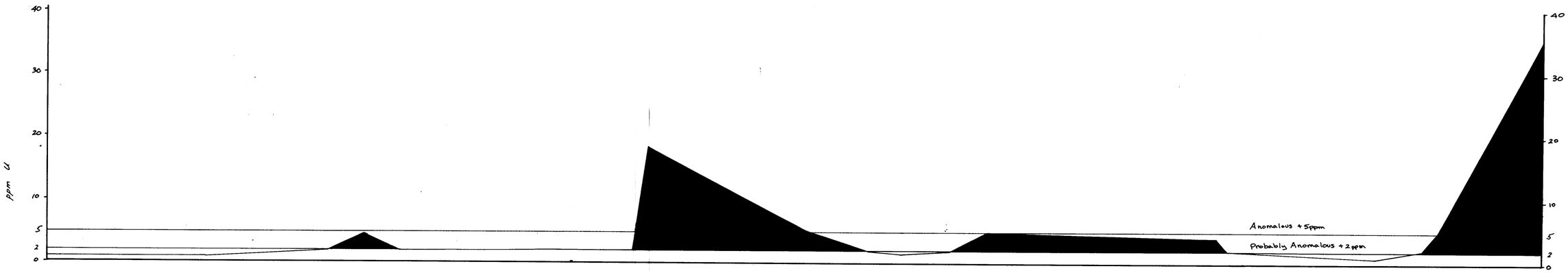
SCALE IN FEET
400 0 400 800 1200

AUGUST 1979

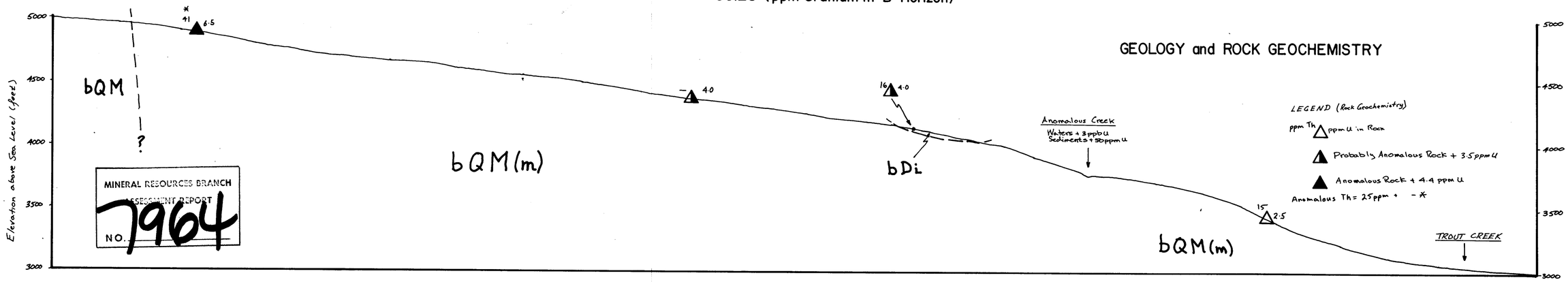
PLAN 5



RADIOMETRICS (counts per second) - URTEC UG-130



SOILS (ppm Uranium in B Horizon)



GEOLOGY and ROCK GEOCHEMISTRY

A

Plan 5a

DEMUTH CLAIM - Schematic Vertical Section A - B (SW to NE) Looking Northwest

Horizontal Scale 1": 400'

B