

CORE LABORATORIES, INC.



Reservoir / Petrographic  
Geology / Services

October 25, 1985

Michael Minder  
Alaska Oil and Gas Conservation Commission  
3001 Porcupine Drive  
Anchorage, Alaska 99501-3192

Dear Mr. Minder,

Enclosed are four scanning electron microscopy photomicrographs of one sample from the Toolik Federal No. 2 well (5530-5600 feet) and one sample from the Toolik Federal No. 3 Well (2850-3300 feet), as well as labeled X-ray diffraction peaks for the seven samples analysed by XRD. Most of the samples originally borrowed from the library were not analyzed because of their paucity of magnetic material.

Again, thank you for the use of the library; we hope that this study will be a significant contribution. If you have any further questions, please feel free to contact me.

Sincerely,

CORE LABORATORIES, INC.

*Susan P. Grier* <sup>7/11/85</sup>

Susan P. Grier  
Petrologist

RECEIVED

NOV 05 1985

Alaska Oil & Gas Cons. Commission  
Anchorage

Toolik Federal No. 2 Well

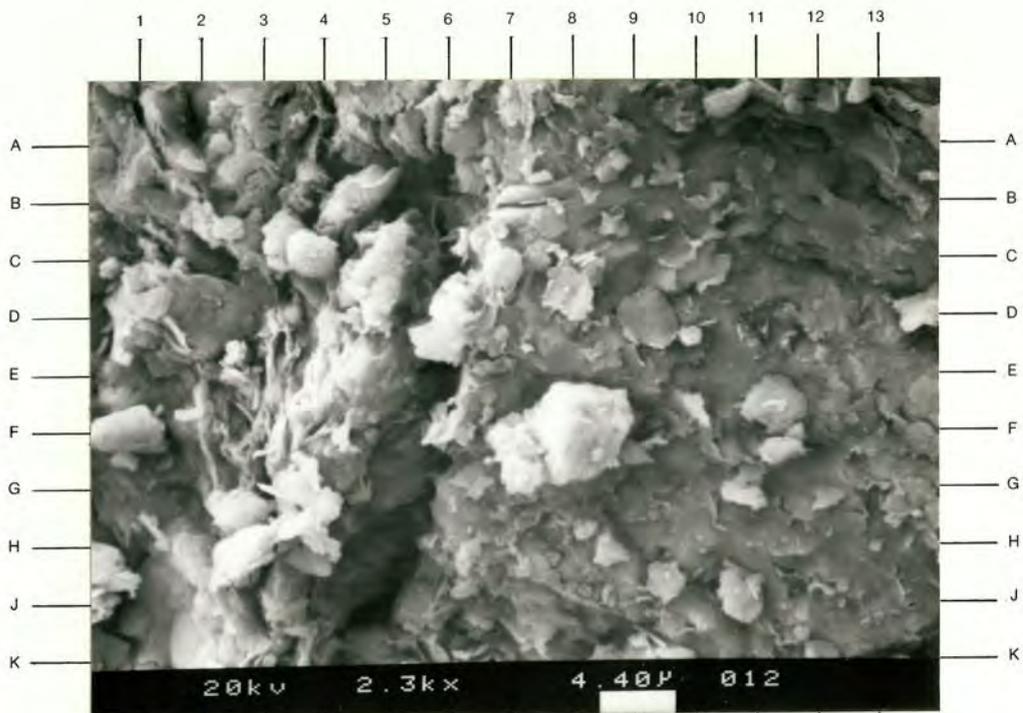
Depth: 5530-5600 Feet

Plate 1A

An anhedral grain of magnetite (F8) is shown here. This sample is probably detrital in origin.

Plate 1B

This photomicrograph displays a moderately crystalline, cubic magnetite crystal (E-F5). The euhedral crystal morphology suggests that the magnetite may be authigenic.



**A**



**B**

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Toolik Federal No. 2 Well

Depth: 2850-3300 Feet

Plate 2A

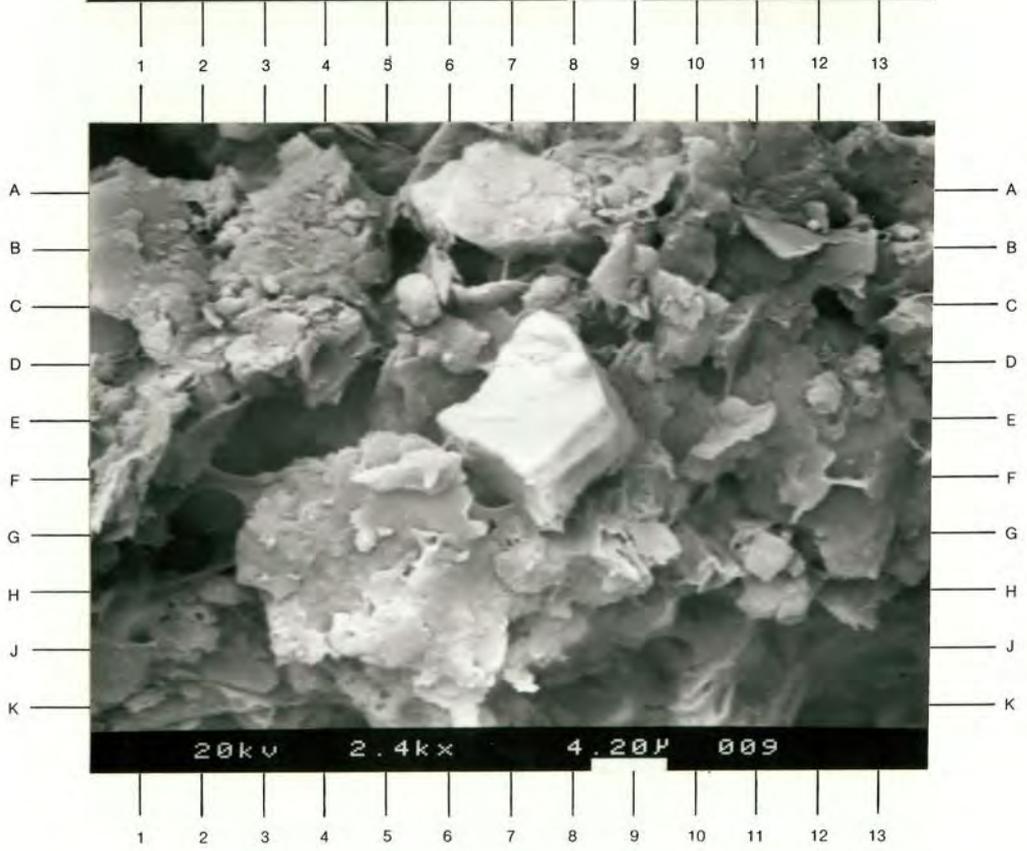
The grains at E7 and D-E9.5 are ulvospinel. The grain at E7 is likely detrital, while that at D-E7.5 may be authigenic.

Plate 2B

This photomicrograph shows a magnified view of an anhedral ulvospinel grain (E7). The grain is probably detrital.



**A**



**B**

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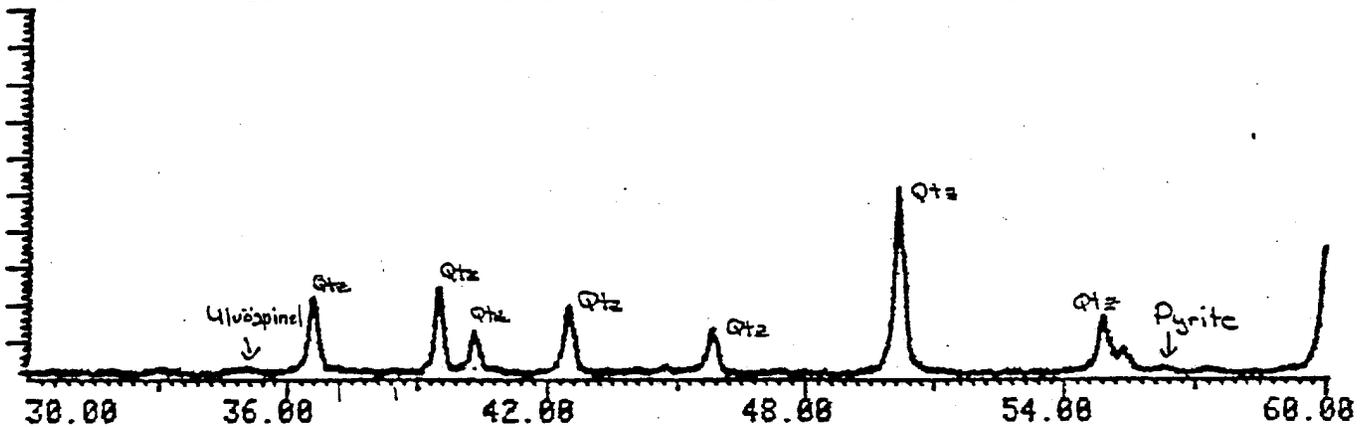
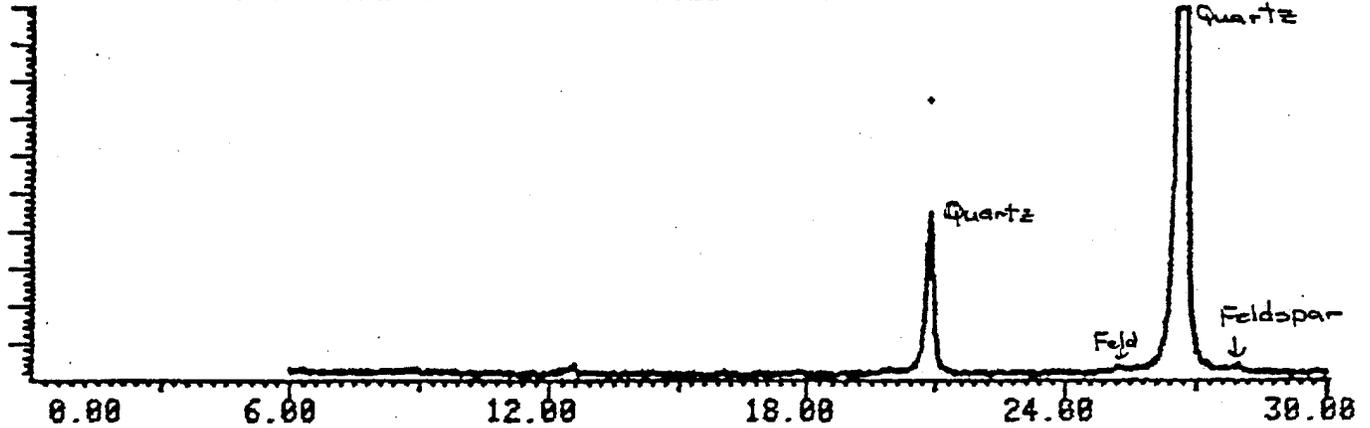
West Sak River State No. 5 Well  
8100 Feet

IDENT : 85130N1  
COUNT TIME = 0.5 SEC.

RANGE = 6.00 -> 60.00 INCR = 0.02  
ESTIMATED TIME OF COMPLETION IS 23:10

INTENSITY VS. TWO-THETA

FULL SCALE = 4000. COUNTS/SEC.



Qtz = quartz  
Feld = feldspar

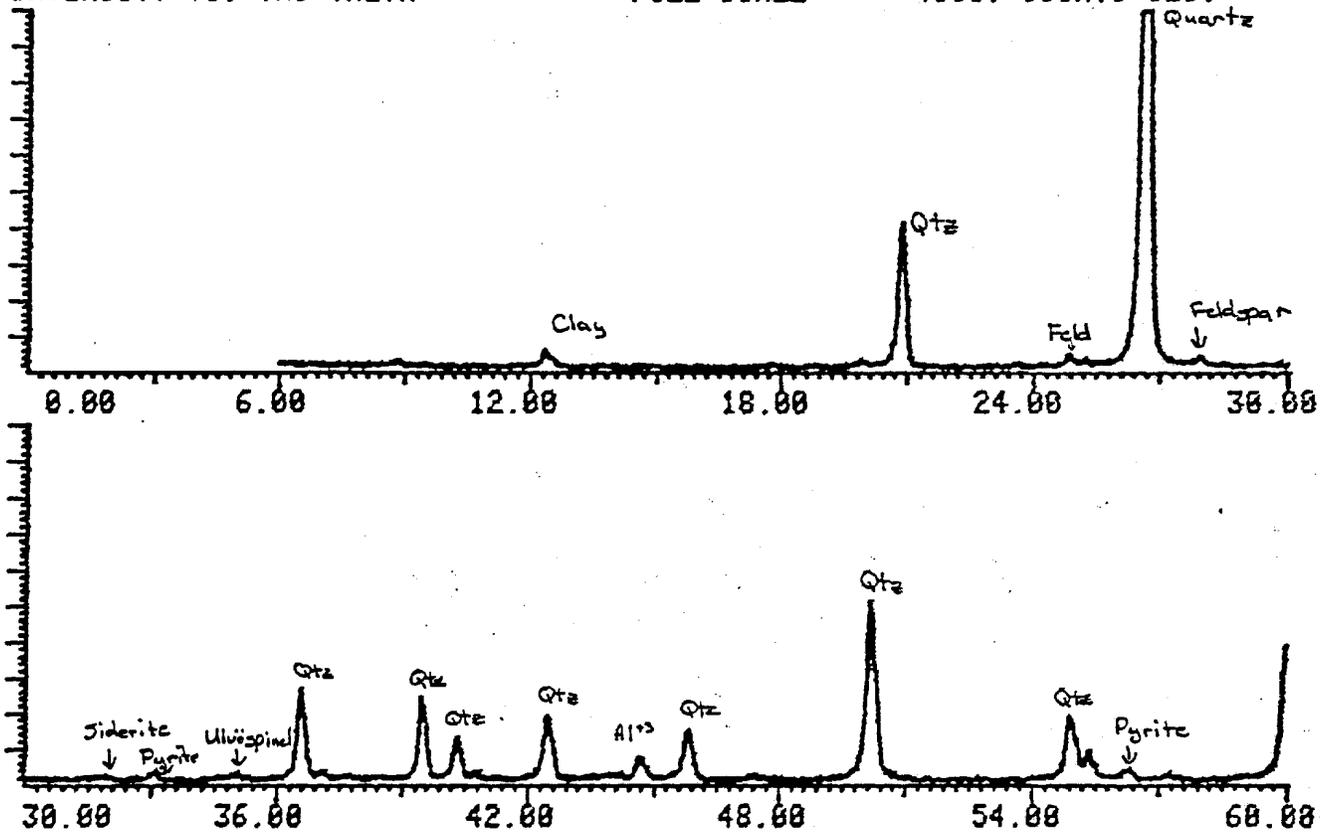
160-190 Feet

IDENT : 85130N2  
COUNT TIME = 0.5 SEC.

RANGE = 6.00 -> 60.00 INCR = 0.02  
ESTIMATED TIME OF COMPLETION IS 23:39

INTENSITY VS. TWO-THETA

FULL SCALE = 4000. COUNTS/SEC.



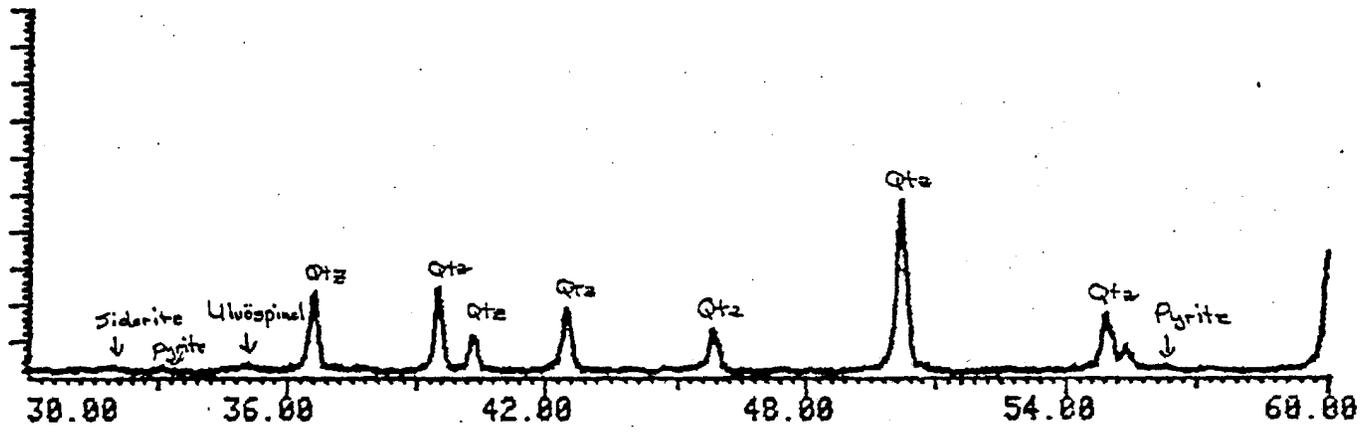
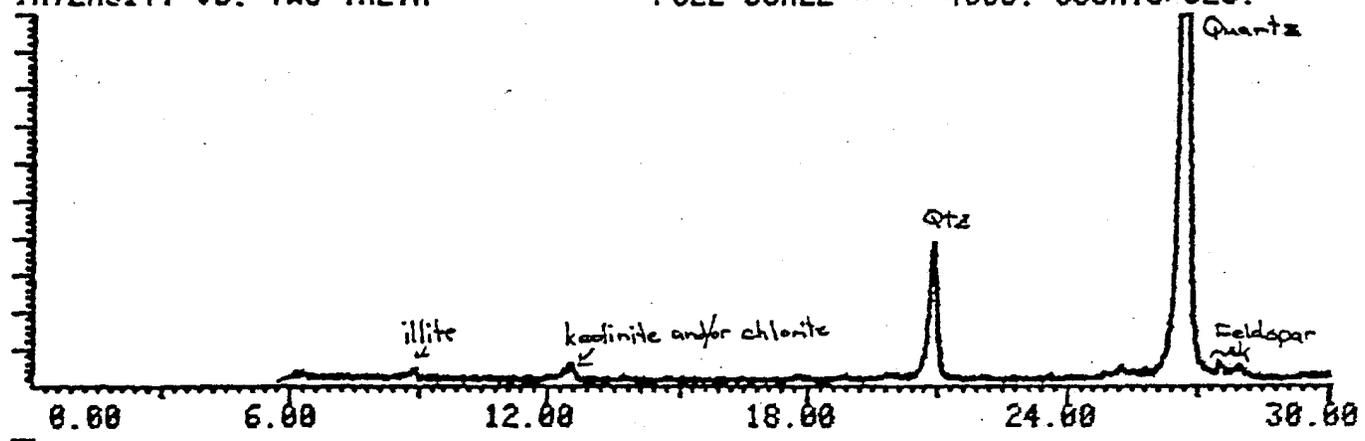
WEST VIRGINIA STATE NO. 3 WCI  
250-340 Feet

IDENT : 85130N3  
COUNT TIME = 8.5 SEC.

RANGE = 6.00 -> 60.00 INCR = 0.02  
ESTIMATED TIME OF COMPLETION IS 24:9

INTENSITY VS. TWO-THETA

FULL SCALE = 4000. COUNTS/SEC.



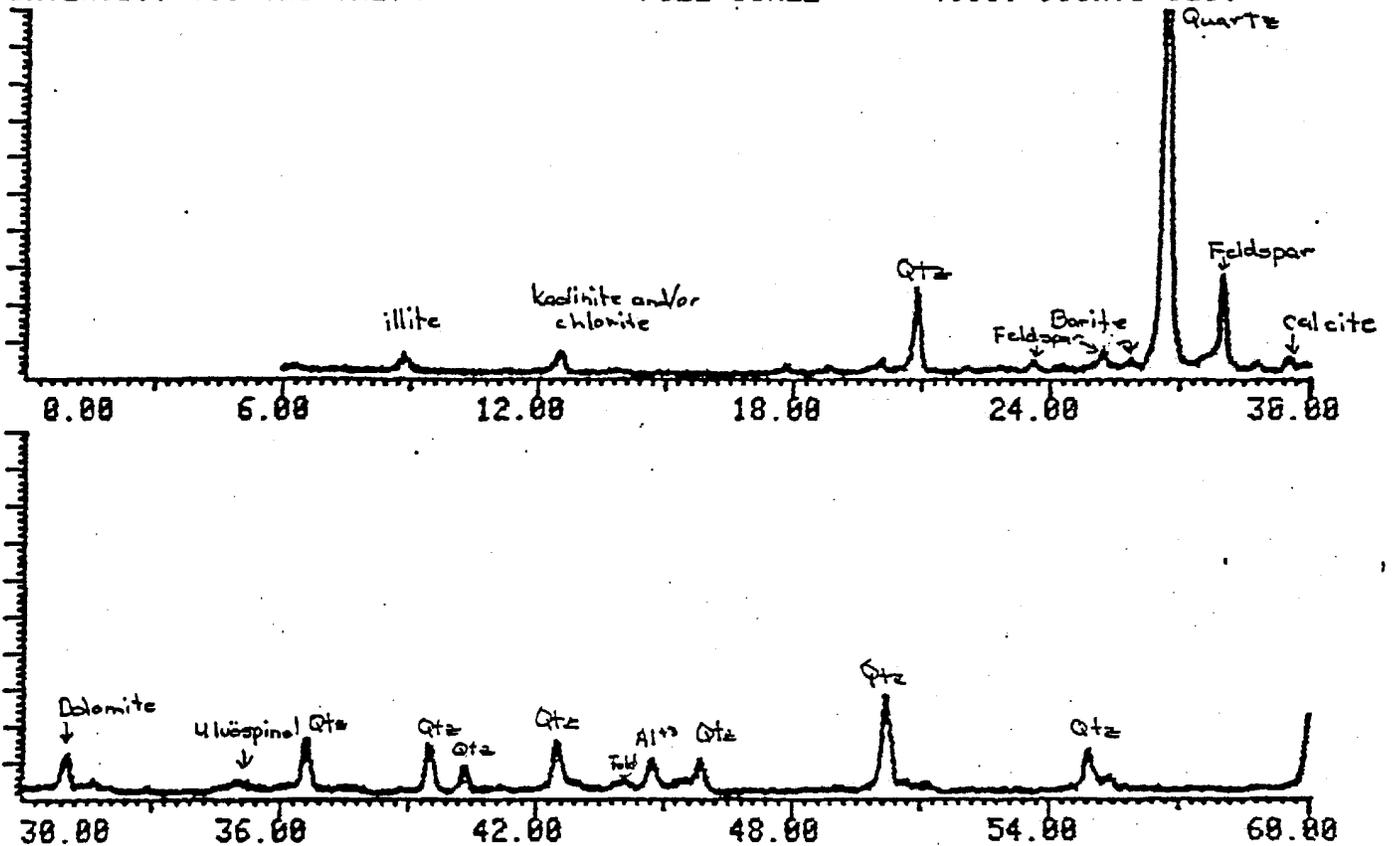
2850-3300 - 111

IDENT : 85130N4  
COUNT TIME = 0.5 SEC.

RANGE = 6.00 -> 60.00 INCR = 0.02  
ESTIMATED TIME OF COMPLETION IS 0:38

INTENSITY VS. TWO-THETA

FULL SCALE = 4000. COUNTS/SEC.



5530-5600

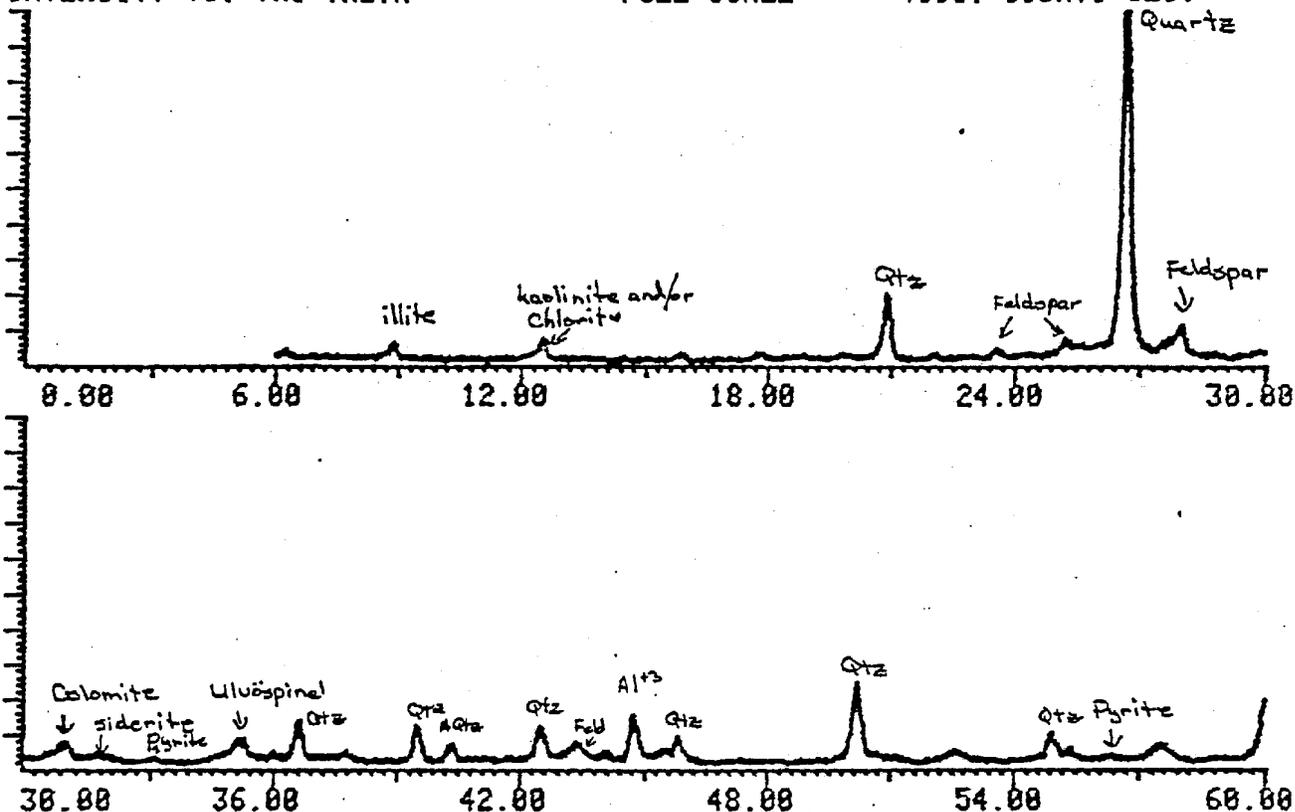
Toolik Federal No.2 Well

IDENT : 85130N5  
COUNT TIME = 8.5 SEC.

RANGE = 6.00 -> 60.00 INCP = 0.02  
ESTIMATED TIME OF COMPLETION IS 1: 8

INTENSITY VS. TWO-THETA

FULL SCALE = 4000. COUNTS/SEC.



2450-2460 FEET

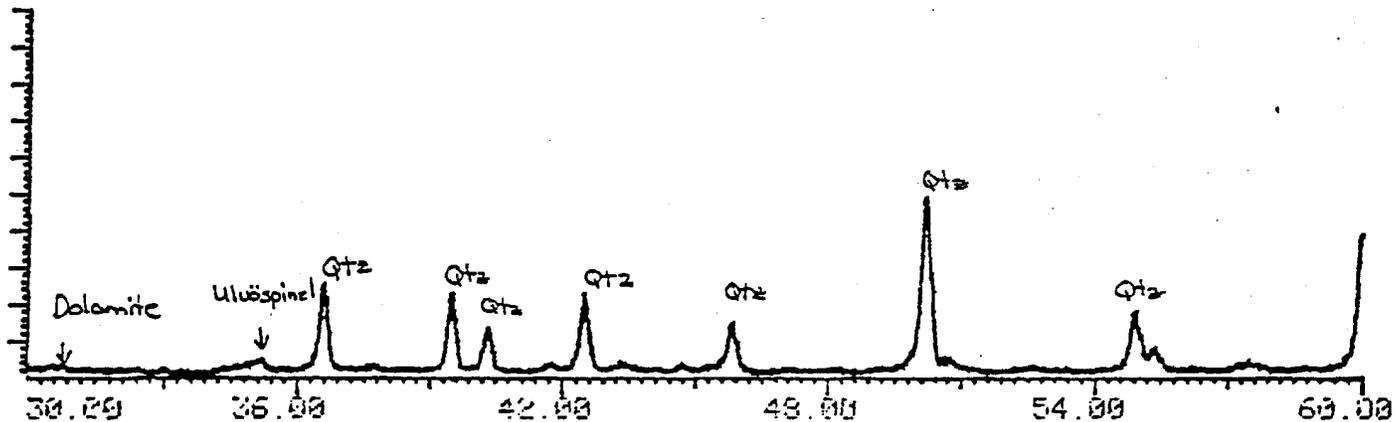
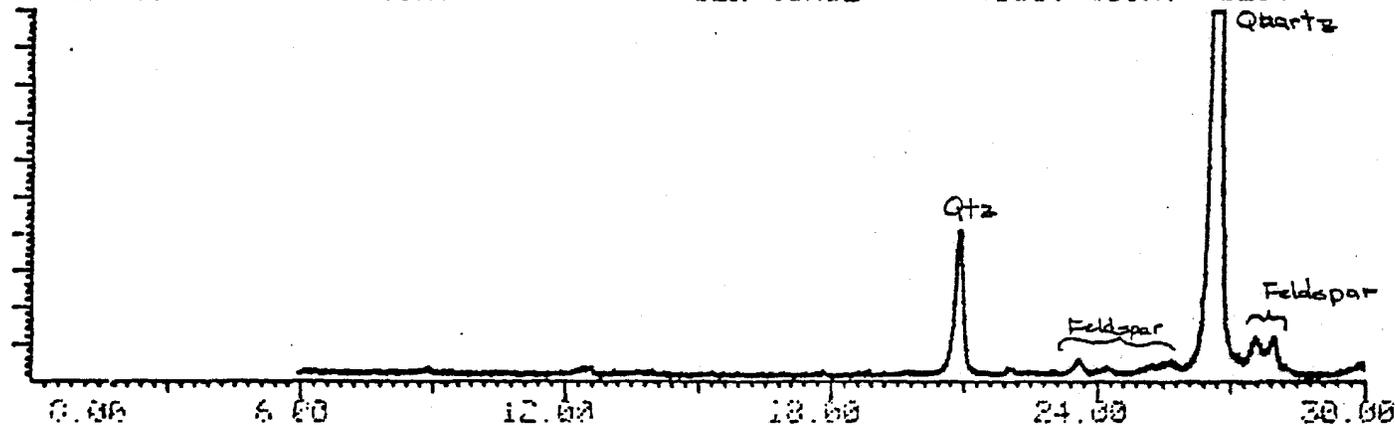
Toolik Federal No. 2 Well

IDENT : 8013006  
COUNT TIME = 0.3 SEC

SAMPLE: 5.20 - 5.50.00 10CS = 0.02  
ESTIMATED TIME OF COMPLETION IS 2:40

INTENSITY VS. TWO-THETA

FULL SCALE = 4000. COUNTS/SEC.



3110-3130 Feet  
Toolik Federal No. 2 Well

IDENT : 8513017  
DATE TIME : 0 8 SEC.

RANGE : 0.00 - 60.00 INCR = 0.10  
ESTIMATED TIME OF COMPLETION IS 9:10

INTENSITY VS. TWO-THETA

FULL SCALE = 4000. COUNTS/SEC.

