

Vitrinite reflectance data of cuttings (2440' - 8680') and of core (7895' - 7905', and 7935' - 7943.5') from the Amoco Production Company Becharof No. 1 well.

Received 27 September 1990

Total of 18 pages in report

Alaska Geologic Materials Center Data Report No. 166

File Name: 90016001
 Channel Name: Point 9
 Description: 90016001 #1 Amoco Becharof 2,440- 710 Alaska ker VI 90

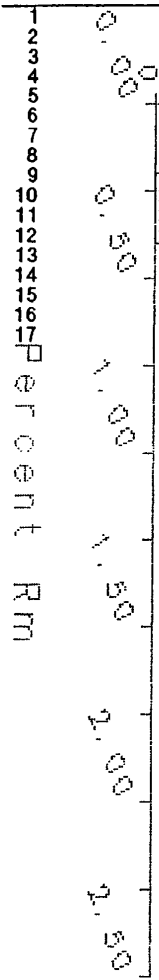
Min: 0.24
 Max: 0.36
 Mean: 0.32
 StDev: 0.03



90016001
 #1 Amoco Becharof
 SD: 0.03

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
-----	-------	-------	-------	-------	-------	-------	-------

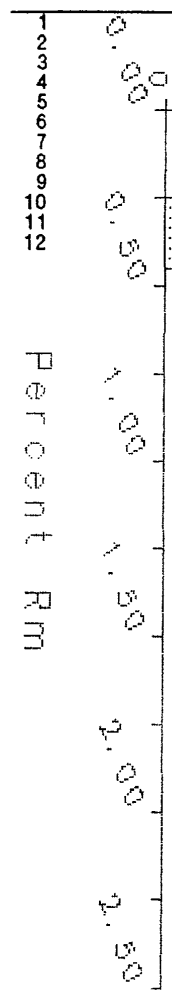
1				0.30			
2				0.36			
3			12	0.30			
4		4	30	0.29			
5				0.31			
6				0.31			
7				0.24			
8				0.33			
9				0.32			
10				0.28			
11				0.34			
12				0.35			
13				0.29			
14				0.36			
15				0.36			
16				0.31			
17				0.32			



File Name: 90016002
 Channel Name: Point 9
 Description: 90016002 #1 Amoco Becharof 2,980- 3,250 Alaska ker VI90

Min: 0.30
 Max: 0.45
 Mean: 0.37
 StDev: 0.05

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.45			
2				0.30			
3				0.35			
4		4	12	0.36			
5				0.40			
6				0.43			
7				0.39			
8				0.30			
9				0.43			
10				0.38			
11				0.32			
12				0.37			



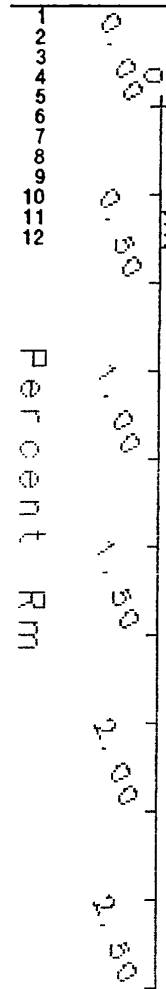
00016002
 #1 Amoco Becharof
 0.37 SD: 0.05

File Name: 90016003
 Channel Name: Point 9
 Description: 90016003 #1 Amoco Becharof 3,250- 3,550 Alaska ker

Min: 0.31
 Max: 0.39
 Mean: 0.36
 StDev: 0.03

00016003
 #1 Amoco Becharof
 0.36 SD: 0.03

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.33			
2				0.31			
3				0.35			
4				0.38			
5				0.37			
6				0.39			
7				0.38			
8				0.35			
9				0.35			
10				0.39			
11				0.39			
12				0.38			

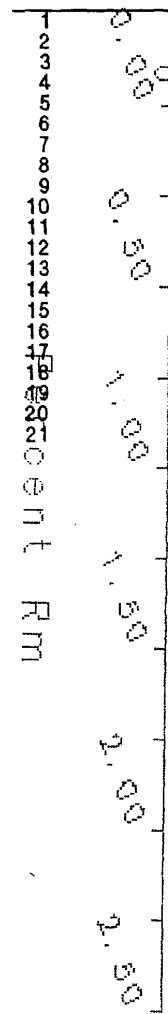


File Name: 90016004
 Channel Name: Point 9
 Description: 90016004 #1 Amoco Becharof 4,360- 630 Alaska ker VI

Min: 0.39
 Max: 0.54
 Mean: 0.45
 StDev: 0.04

90016004
 #1 Amoco Becharof
 0.45 SD: 0.04

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.42			
2				0.52			
3				0.47			
4				0.39			
5				0.47			
6				0.46			
7				0.40			
8				0.47			
9				0.44			
10				0.45			
11				0.51			
12				0.45			
13				0.41			
14				0.42			
15				0.51			
16				0.46			
17				0.40			
18				0.54			
19				0.45			
20				0.41			
21				0.48			



File Name: 90016005
 Channel Name: Point 9 Frequency
 Description: 90016005 #1 Amoco Becharof 4,900- 5,170 Alaska ker 37190

Min: 0.38
 Max: 0.50
 Mean: 0.45
 StDev: 0.03

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.44			
2				0.43			
3			1	0.48			
4		4	2	0.40			
5				0.45			
6				0.41			
7				0.38			
8				0.47			
9				0.48			
10				0.39			
11				0.39			
12				0.40			
13				0.48			
14				0.38			
15				0.44			
16				0.44			
17				0.43			
18				0.46			
19				0.41			
20				0.45			
21				0.50			
22				0.46			
23				0.48			
24				0.44			
25				0.45			
26				0.48			
27				0.48			
28				0.47			
29				0.46			
30				0.50			
31				0.46			
32				0.46			
33				0.46			



0.0016005
 #1 Amoco Becharof
 0.45 SD: 0.03

File Name: 90016006
 Channel Name: Point 9
 Description: 90016006 #1 Amoco Becharof 5,170- 5,440 Alaska keC VI90

Min: 0.40
 Max: 0.54
 Mean: 0.47
 StDev: 0.04



n: 30
 00160006 #1 Amoco Becharof
 0.47 SD: 0.04

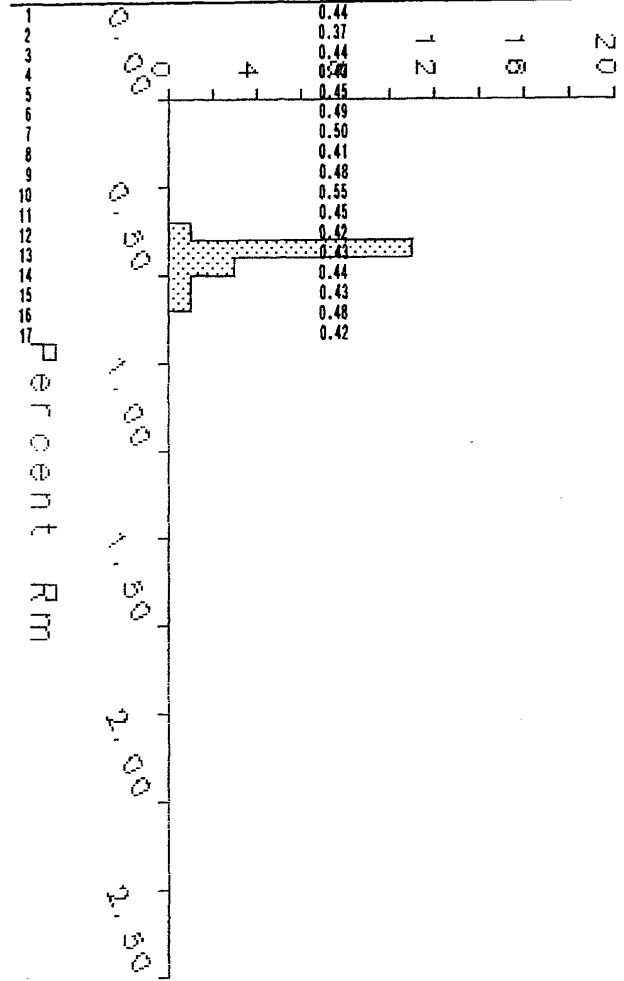
Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.44			
2				0.43			
3				0.45			
4		4	12	0.44			
5			16	0.48			
6				0.53			
7				0.47			
8				0.52			
9				0.40			
10				0.45			
11				0.46			
12	0.50			0.52			
13				0.47			
14	0.50			0.46			
15				0.51			
16				0.51			
17				0.48			
18				0.50			
19	1.00			0.52			
20				0.49			
21				0.43			
22				0.51			
23	1.00			0.54			
24				0.45			
25				0.47			
26				0.46			
27	1.50			0.40			
28				0.41			
29				0.53			
30				0.44			
31				0.46			

File Name: 90016007
 Channel Name: Point 9
 Description: 90016007 #1 Amoco Becharof 5,440-770 Alaska ker VI90

Frequency

Min: 0.37
 Max: 0.55
 Mean: 0.45
 StDev: 0.04

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
-----	-------	-------	-------	-------	-------	-------	-------



90016007 #1 Amoco Becharof
 Mn: 0.45 SD: 0.04

File Name: 90016008
 Channel Name: Point 9
 Description: 90016008 #1 Amoco Becharof 5,980- 6,250 Alaska

Min: 0.40
 Max: 0.57
 Mean: 0.48
 StDev: 0.04

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.48			
2				0.51			
3				0.49			
4				0.42			
5				0.50			
6				0.50			
7				0.50			
8				0.50			
9				0.50			
10				0.40			
11				0.54			
12				0.46			
13				0.43			
14				0.48			
15				0.46			
16				0.40			
17				0.44			
18				0.51			
19				0.51			
20				0.46			
21				0.49			
22				0.46			
23				0.52			
24				0.47			
25				0.46			
26				0.40			
27				0.41			
28				0.54			
29				0.43			
30				0.57			
31				0.45			
32				0.52			
33				0.47			
34				0.46			
35				0.54			
36				0.50			
37				0.51			

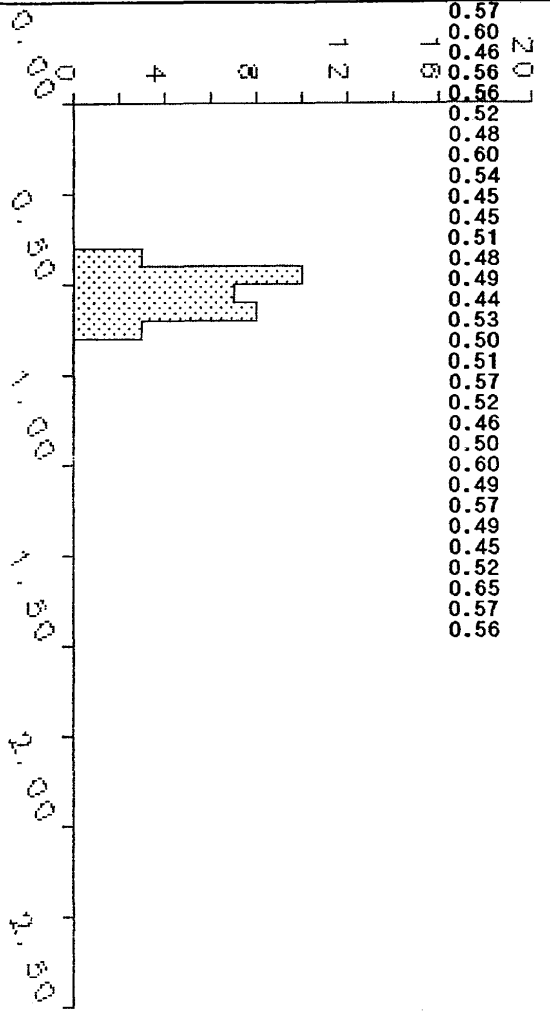


#1 Amoco Becharof
 0.48 SD: 0.04

File Name: 90016009
 Channel Name: Point 9
 Description: 90016009 #1 Amoco Becharof 6,250-6,520 Alaska ker

Min: 0.44
 Max: 0.65
 Mean: 0.52
 StDev: 0.05

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.57			
2				0.60			
3				0.46			
4				0.56			
5				0.56			
6				0.52			
7				0.48			
8				0.60			
9				0.54			
10				0.45			
11				0.45			
12				0.51			
13				0.48			
14				0.49			
15				0.44			
16				0.53			
17				0.50			
18				0.51			
19				0.57			
20				0.52			
21				0.46			
22				0.50			
23				0.60			
24				0.49			
25				0.57			
26				0.49			
27				0.45			
28				0.52			
29				0.65			
30				0.57			
31				0.56			



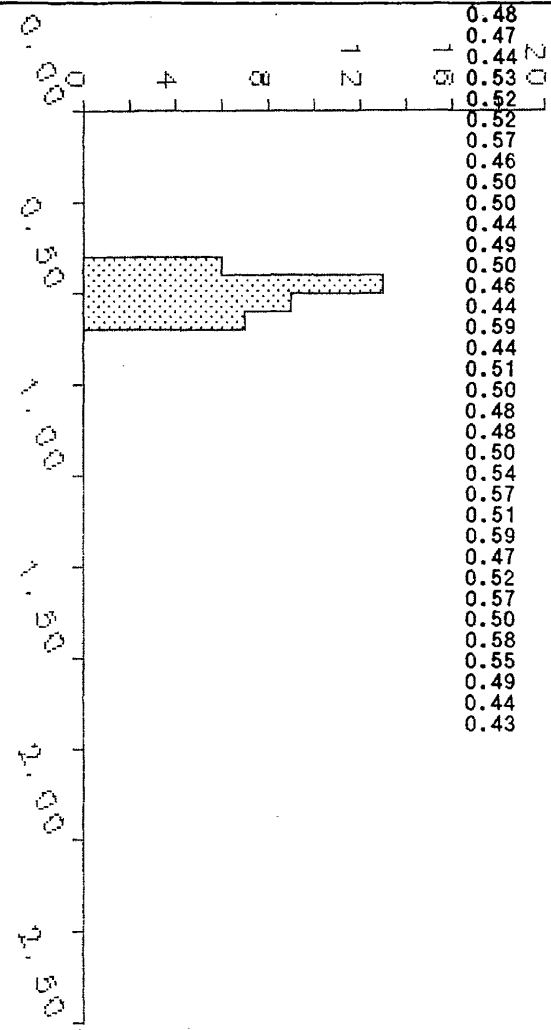
0.016009
 #1 Amoco Becharof
 0.52 SD: 0.05

File Name: 90016010
 Channel Name: Point 9
 Description: 90016010 #1 Amoco Becharof 6,520- 790 Alaska ker

Min: 0.43
 Max: 0.59
 Mean: 0.50
 StDev: 0.05

0.0016010 #1 Amoco Becharof
 Mean: 0.50
 SD: 0.05

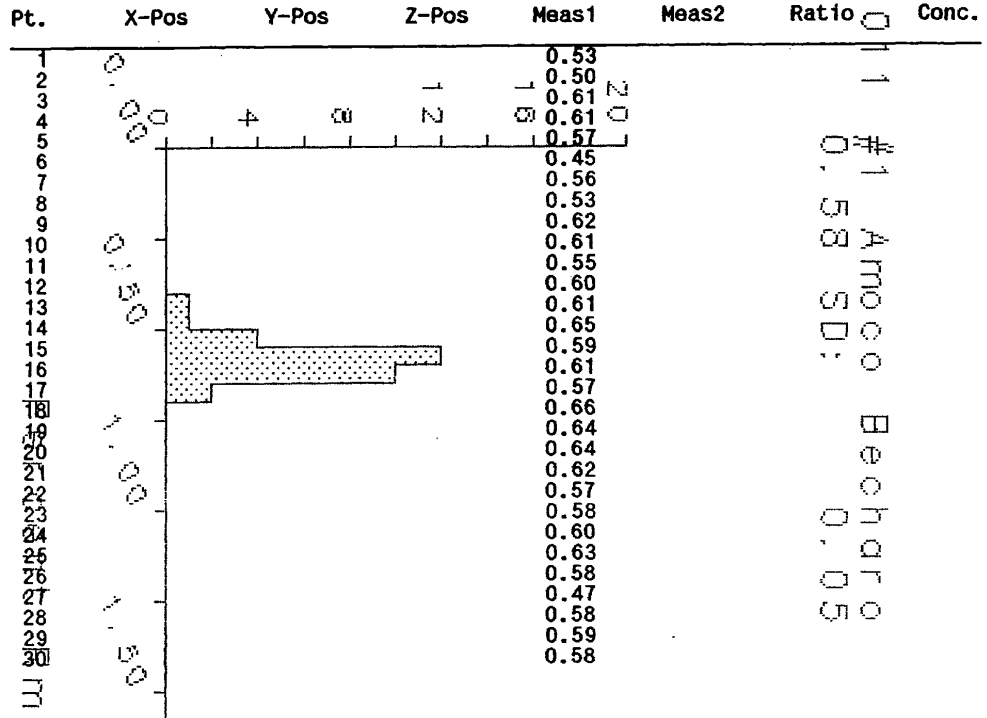
Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.48			
2				0.47			
3				0.44			
4				0.53			
5				0.52			
6				0.52			
7				0.57			
8				0.46			
9				0.50			
10				0.50			
11				0.44			
12				0.49			
13				0.50			
14				0.46			
15				0.44			
16				0.59			
17				0.44			
18				0.51			
19				0.50			
20				0.48			
21				0.48			
22				0.50			
23				0.54			
24				0.57			
25				0.51			
26				0.59			
27				0.47			
28				0.52			
29				0.57			
30				0.50			
31				0.58			
32				0.55			
33				0.49			
34				0.44			
35				0.43			



File Name: 90016011
 Channel Name: Point 9
 Description: 90016011 #1 Amoco Becharof 7,060- 330 Alaska ker

Min: 0.45
 Max: 0.66
 Mean: 0.58
 StDev: 0.05

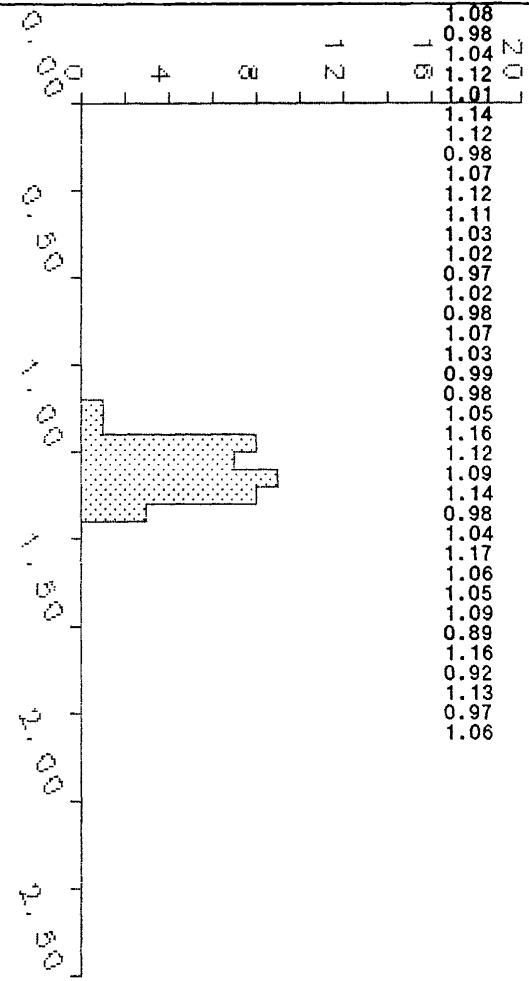
00016011
 n: 30
 #1 Amoco Becharof
 0.58 SD: 0.05



File Name: 90016012
 Channel Name: Point 9
 Description: 90016012 #1 Amoco Becharof 7,330- 600 Alaska ker V90

Min: 0.89
 Max: 1.17
 Mean: 1.05
 StDev: 0.07

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				1.08			
2				0.98			
3				1.04			
4				1.12			
5				1.01			
6				1.14			
7				1.12			
8				0.98			
9				1.07			
10				1.12			
11				1.11			
12				1.03			
13				1.02			
14				0.97			
15				1.02			
16				0.98			
17				1.07			
18				1.03			
19				0.99			
20				0.98			
21				1.05			
22				1.16			
23				1.12			
24				1.09			
25				1.14			
26				0.98			
27				1.04			
28				1.17			
29				1.06			
30				1.05			
31				1.09			
32				0.89			
33				1.16			
34				0.92			
35				1.13			
36				0.97			
37				1.06			

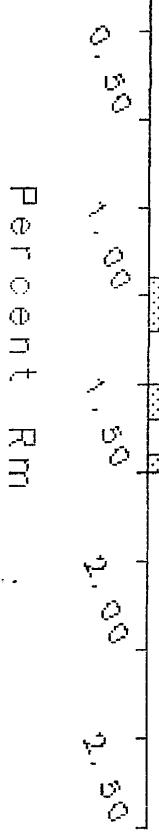


File Name: 90016013
 Channel Name: Point 9
 Description: 90016013 #1 Amoco Becharof 7,600- 870 Alaska ker V30

Min: 0.97
 Max: 1.47
 Mean: 1.16
 StDev: 0.19

90016013 #1 Amoco Becharof
 Mean: 1.16
 SD: 0.19

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				1.47			
2				0.97			
3				1.04			
4				1.08			
5				1.31			
6				0.99			
7				1.29			



File Name: 90016014
 Channel Name: Point 9
 Description: 90016014 #1 Amoco Becharof 8,140- 410 Alaska ker V190

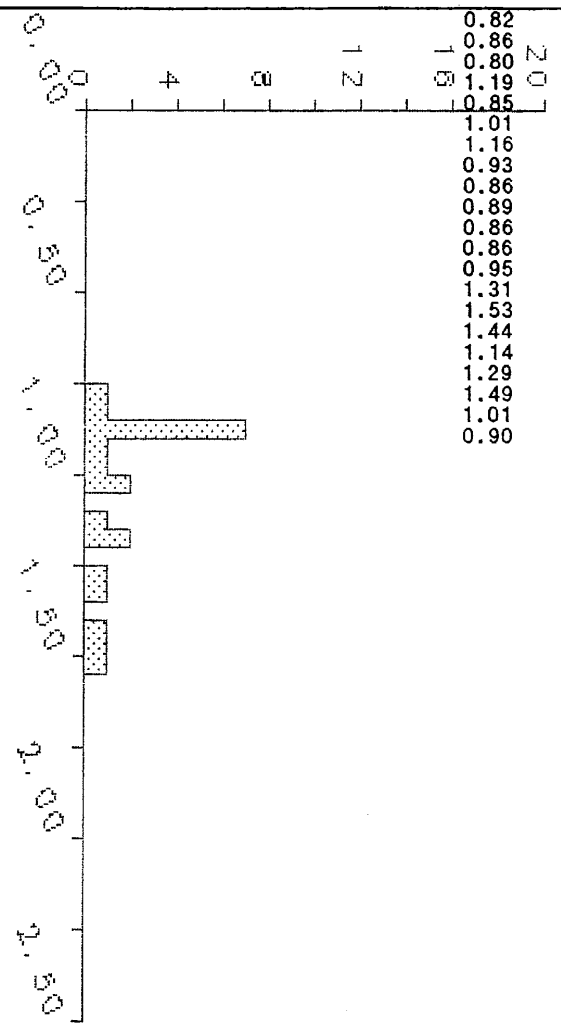
Min: 0.80
 Max: 1.53
 Mean: 1.05
 StDev: 0.24

90016014 #1 Amoco Becharof
 n: 20
 Mean: 1.05 SD: 0.24

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
-----	-------	-------	-------	-------	-------	-------	-------

1				0.82			
2				0.86			
3			12	0.80			
4		4	3	1.19			
5				0.85			
6				1.01			
7				1.16			
8				0.93			
9				0.86			
10				0.89			
11				0.86			
12				0.86			
13				0.95			
14				1.31			
15				1.53			
16				1.44			
17				1.14			
18				1.29			
19				1.49			
20				1.01			
				0.90			

Percent Rm



File Name: 90016015
 Channel Name: Point 9
 Description: 90016015 #1 Amoco Becharof 8,410-680 Alaska ker VI90

Frequency

Min: 1.25
 Max: 1.77
 Mean: 1.56
 StDev: 0.19

Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				1.30			
2				1.55			
3				1.73			
4		4		0.40	1.2	1.6	
5				1.73			
6				1.43			
7				1.25			
8				1.37			
9				1.76			
10				1.60			
11				1.77			
12				1.73			
13				1.73			



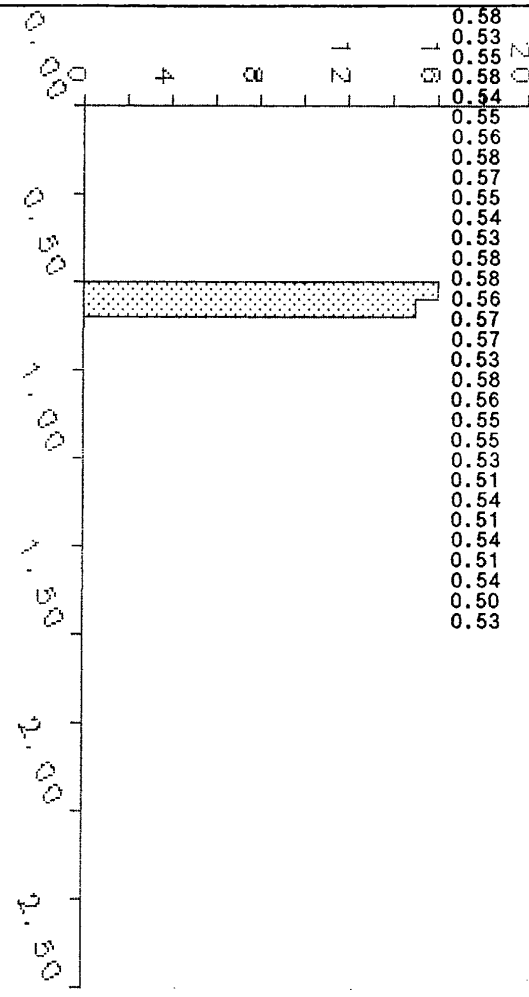
90016015 #1 Amoco Becharof
 MN: 1.56 SD: 0.19

File Name: 90016016
 Channel Name: Point 9
 Description: 90016016 #1 Amoco Becharof 7,895- 905 Alaska CORE V390

Min: 0.50
 Max: 0.58
 Mean: 0.55
 StDev: 0.02

0016016 #1 Amoco Becharof
 0.55 SD: 0.02

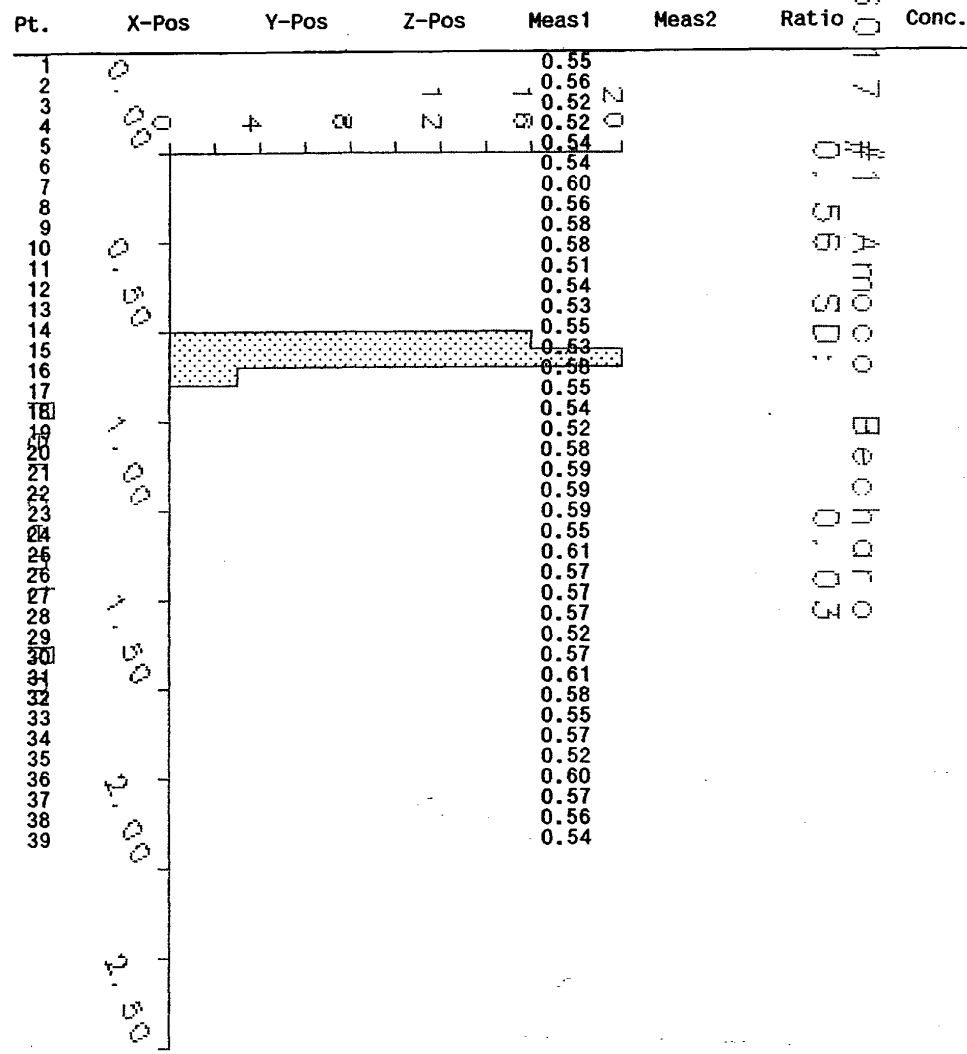
Pt.	X-Pos	Y-Pos	Z-Pos	Meas1	Meas2	Ratio	Conc.
1				0.58			
2				0.53			
3				0.55			
4				0.58			
5				0.54			
6				0.55			
7				0.56			
8				0.58			
9				0.57			
10				0.55			
11				0.54			
12				0.53			
13				0.58			
14				0.58			
15				0.56			
16				0.57			
17				0.57			
18				0.53			
19				0.58			
20				0.56			
21				0.55			
22				0.55			
23				0.53			
24				0.51			
25				0.54			
26				0.51			
27				0.54			
28				0.51			
29				0.54			
30				0.50			
31				0.53			



File Name: 90016017
 Channel Name: Point 9 Frequency
 Description: 90016017 #1 Amoco Becharof 7,935- 43.5 Alaska CORE VI90

Min: 0.51
 Max: 0.61
 Mean: 0.56
 StDev: 0.03

0016017
 #1 Amoco Becharof
 0.56 SD: 0.03





United States Department of the Interior



GEOLOGICAL SURVEY
BOX 25046 M.S. 910
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

IN REPLY REFER TO:

17 September, 1990

John Reeder
P.O. Box 772116
Eagle River, AK
99577-2116

John:

I am returning the prepared samples I borrowed from the state back in January. Enclosed, also, you will find data and histogram sheets for almost all the samples.

Some samples did have organic material I deemed good enough to measure. For the most part, the samples were good and the results are evident, at least individually. Taken on a well-by-well basis several were difficult to make good sense out of from an organic petrology point of view. The shape of the histograms is a good general indicator of consistency of the organics contained within and in the confidence I had while examining the samples. My technique was to measure at least 50 organic grains, while trying to stay within a narrow range. This becomes difficult with increased vitrinite reflectance, and the histogram spread increases. With adequate material and consistent rank (contamination from uphole cavings can introduce diverse groups of organics) the histogram will have some kind of a bell curve shape. Gaps in the histogram, relating to multiple populations of organics, are a problem and dilute the strength of the mean value as a good measure of the thermal maturity. These gaps are more common at the higher ranks, (> 1.5% reflectance), but occur at lower ranks when insufficient material exists or there is contamination in the sample. I admit to certain biases against samples prepared by people other than myself, and these samples were made by several different companies. I feel I lose too much control over the processing of the cuttings and do not have the confidence in other people's dedication to the work.

I hope these data can be of some use to you. If I can help by providing additional information, please let me know.

Thank you for providing the samples, and for your assistance while I was visiting.

Mark Pawlewicz
Mark Pawlewicz