

Core Laboratories

**ANADARKO PETROLEUM
BOEKHAUS TRUST A-1
HUGOTON FIELD
MORTON COUNTY, KANSAS**

CORE LABORATORIES FILE NO. 57151-18100

DEPTH : 2160.0 - 2222.9 FT

CORE PHOTOGRAPHS

ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2160-2168

Core Lab File No. 57151-18100



1FT

2FT

ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2168-2176

Core Lab File No. 57151-18100



ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2176-2184

Core Lab File No. 57151-18100



1 FT

2 FT

ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2184-2192

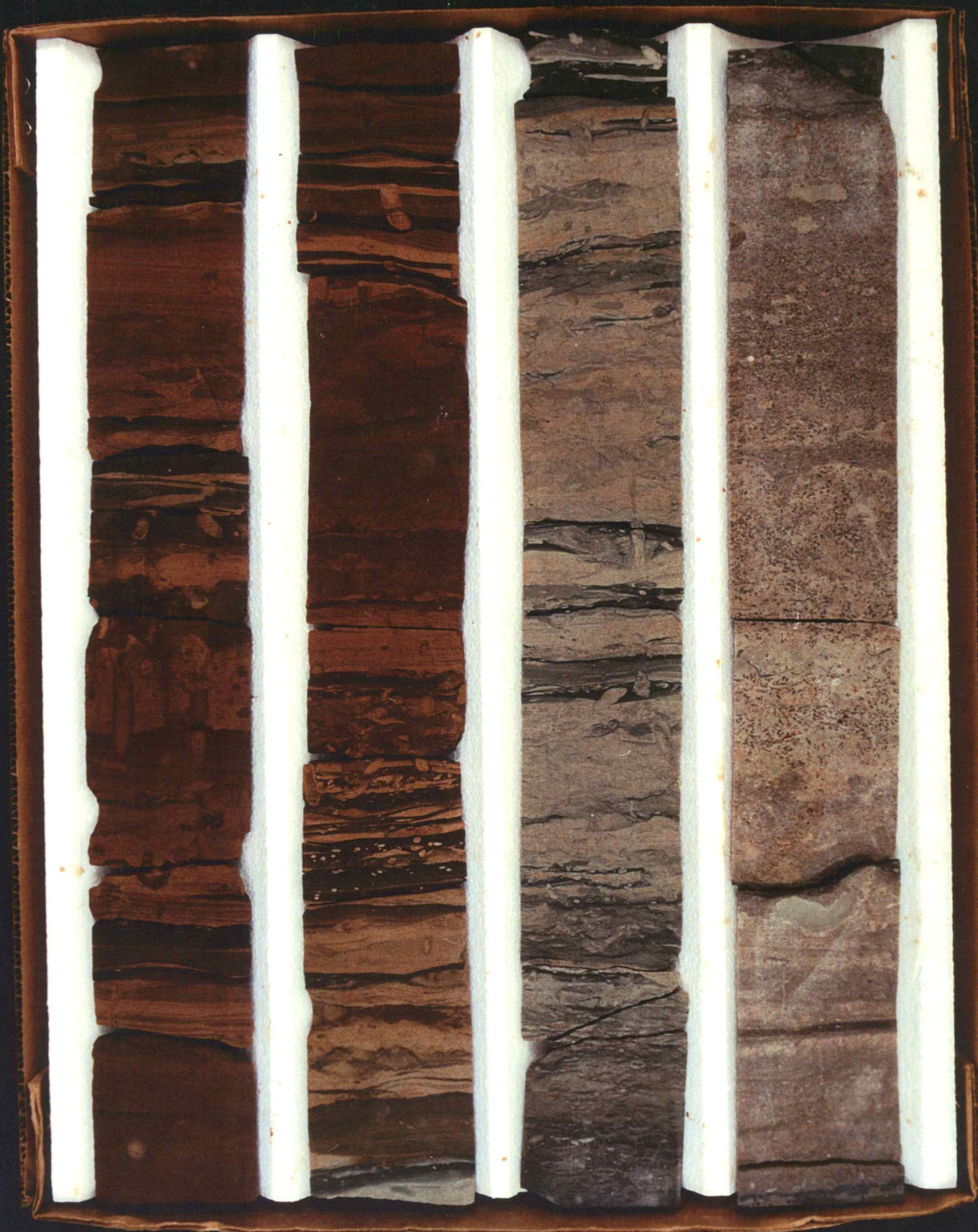
Core Lab File No. 87181-18100



ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2192-2200

Core Lab File No. 57151-18100



ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2200-2208

Core Lab File No. 57151-18100



1 FT

2 FT

ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2208-2216

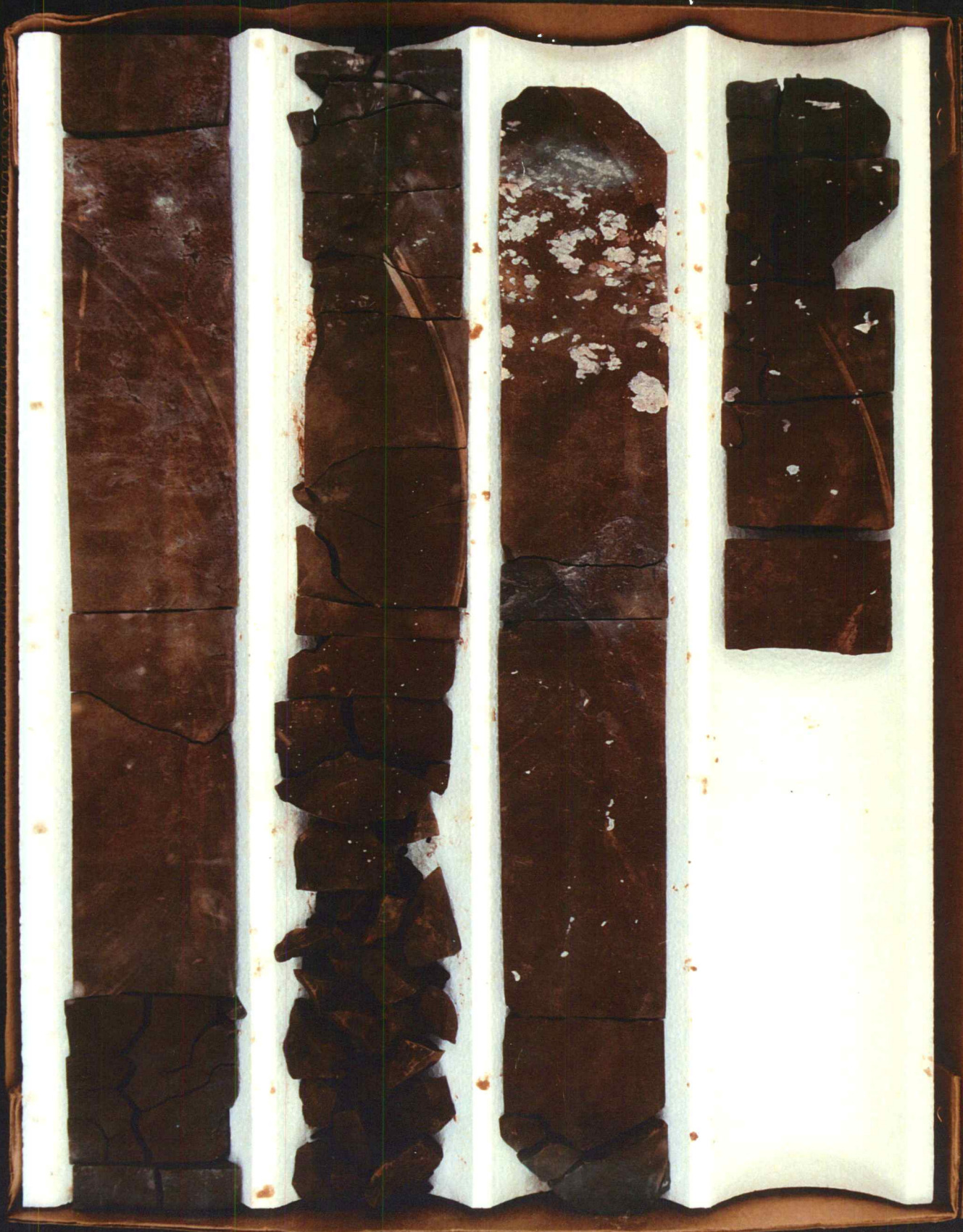
Core Lab File No. 57151-18100



ANADARKO PETROLEUM
Boekhaus Trust A-1
Hugoton Field
Morton County, Kansas

DEPTH:
2216-2222.9

Core Lab File No. 87181-18100



Company : ANADARKO PETROLEUM CORPORATION
 Well : Boekhaus Trust A-1
 Field : Hugoton Field
 County : Morton County, Kansas

CL File No : 57151-18100

Date : 02-Nov-1994

Analyst : MJK/MRL

CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Kinf md	Porosity %	Grain Den. g/cm3	Description
1	2160.30		0.78 *	9.2 #	2.69	Sh rd slty calc
2	2162.30		1.36 *	9.1 #	2.71	Sh rd slty calc
3	2164.35		<.001 *	17.3 #	2.75	Sstst rd gry sh slily calc
4	2166.25		.01 *	9.4 #	2.73	Sh rd slty calc
5	2168.50		1.63 *	7.1 #	2.75	Sh rd slty slily calc
6	2170.35	800	0.010	7.9	2.72	Sstst rd gry sh lam calc
7	2174.40	800	0.004	11.0	2.74	Sh rd
8	2176.80		<.001	14.1 #	2.82	Dol lt gry wh micro xln slily lmy
9	2178.00	800	0.081	15.3	2.72	Sst rd gry vf gr sh lam slty
10	2178.45	800	0.434	13.6	2.72	Sst rd gry vf gr sh lam slty
11	2178.70	800	0.038	13.7	2.74	Sst rd gry vf gr sh lam slty
12	2179.00	800	0.164	12.9	2.73	Sst rd gry vf gr sh lam slty
13	2179.50		.40 *	7.3 #	2.70	Sst rd gry vf gr v sh lam slty
14	2179.70	800	1.876	22.9	2.65	Sst lt gry wh vf gr slty
15	2180.00	800	2.179	19.3	2.69	Sst lt gry wh vf gr slty
16	2180.35	800	0.094	15.0	2.73	Sst rd vf gr v sh slty slily calc
17	2180.65	800	0.058	16.1	2.76	Sst rd vf gr v sh slty slily calc
18	2181.00	800	2.123	17.9	2.62	Sst lt gry wh vf gr slily sh lam slty
19	2181.35	800	11.853	21.8	2.66	Sst lt gry wh vf gr slily sh lam slty
20	2181.70	800	18.808	19.5	2.68	Sst lt gry wh vf gr slily sh lam slty
21	2182.00	800	5.378	17.6	2.70	Sst lt gry wh vf gr slily sh lam slty
22	2182.35	800	0.716	14.9	2.72	Sst rd gry vf gr slily sh lam slty
23	2182.65	800	3.747	19.5	2.68	Sst lt gry wh vf gr slty
24	2183.10	800	3.775	21.6	2.67	Sst lt gry wh vf gr slily sh lam slty
25	2183.35	800	4.087	20.9	2.67	Sst lt gry wh vf gr slily sh lam slty

Company : ANADARKO PETROLEUM CORPORATION
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CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Kinf md	Porosity %	Grain Den. g/cm3	Description
26	2183.70	800	0.283	14.5	2.70	Sst rd gry vf gr v sh slty
27	2184.00	800	0.336	16.5	2.69	Sst rd gry vf gr sh lam slty
28	2184.35	800	0.355	14.8	2.72	Sst rd gry vf gr sh lam slty
29	2184.65	800	0.594	20.3	2.67	Sst rd gry vf gr sh lam slty
30	2185.00		5.71 *	8.9 #	2.68	Sh rd slty
31	2185.35		.11 *	8.6 #	2.68	Sh rd slty
32	2185.70	800	0.116	16.0	2.69	Sh rd slty slily sdy
33	2186.00	800	0.073	14.3	2.73	Sh rd slty slily sdy
34	2186.35	800	2.402	17.6	2.71	Sst rd gry vf gr sl lam slty
35	2186.65	800	1.527	16.4	2.78	Sst rd gry vf gr sl lam slty
36	2187.00	800	1.740	15.8	2.71	Sst rd gry vf gr sl lam slty
37	2187.35	800	9.331	19.4	2.69	Sst rd gry vf gr sl lam slty
38	2187.65	800	1.805	15.6	2.71	Sst rd gry vf gr sl lam slty
39	2188.00	800	0.039	14.6	2.70	Sh rd slty slily sdy
40	2188.25	800	0.742	15.7	2.71	Sh rd slty slily sdy lam
41	2188.65	800	0.130	17.3	2.70	Sst rd gry vf gr v sh lam slty
42	2189.00	800	8.403	18.6	2.70	Sst rd gry vf gr v sh lam slty
43	2189.35	800	0.113	14.2	2.74	Sst rd vf gr v sh lam slty
44	2189.65	800	0.232	12.8	2.74	Sst rd vf gr v sh lam slty
45	2190.00	800	1.028	20.5	2.68	Sst rd brn vf gr sh lam slty
46	2190.35	800	6.115	21.8	2.68	Sst rd brn vf gr sh lam slty
47	2190.65	800	7.606	23.0	2.66	Sst rd brn vf gr sh lam slty
48	2191.00	800	10.296	21.1	2.67	Sst rd brn vf gr sh lam slty
49	2191.35	800	19.466	23.6	2.66	Sst rd brn vf gr slily sh lam slty
50	2191.65	800	12.651	23.7	2.66	Sst rd brn vf gr slily sh lam slty

Company : ANADARKO PETROLEUM CORPORATION
 Well : Boekhaus Trust A-1
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CL File No : 57151-18100
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CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Kinf md	Porosity %	Grain Den. g/cm3	Description
51	2192.05	800	1.131	20.8	2.65	Sst rd brn vf gr slily sh lam slty
52	2192.35	800	28.095	24.1	2.67	Sst rd brn vf gr slily sh lam slty
53	2192.65	800	26.558	22.5	2.66	Sst rd brn vf gr slily sh lam slty
54	2193.00	800	3.940	20.6	2.67	Sst rd brn vf gr slily sh lam slty
55	2193.35	800	19.502	22.7	2.68	Sst rd brn vf gr slily sh lam slty
56	2193.85		.08 *	4.1 #	2.66	Sst rd brn vf gr slily sh lam slty
57	2194.00	800	25.589	23.6	2.66	Sst rd brn vf gr slily sh lam slty
58	2194.35		25.5 *	4.8 #	2.67	Sst rd brn vf gr slily sh lam slty
59	2194.65	800	6.718	16.9	2.61	Sst rd brn vf gr slily sh lam slty
60	2195.00		19.4 *	4.1 #	2.66	Sst rd brn vf gr slily sh lam slty
61	2195.35	800	1.889	18.7	2.67	Sst rd brn vf gr slily sh lam slty
62	2195.65	800	22.086	22.8	2.67	Sst lt rd brn vf gr slily sh lam slty
63	2196.00	800	2.107	16.2	2.66	Sst gry vf gr sh lam slty
64	2198.35	800	0.001	3.9	2.83	Dol gry vf xln foss
65	2200.35	800	0.010	7.6	2.87	Dol gry vf xln foss
66	2202.35	800	0.003	5.8	2.82	Dol gry vf xln foss
67	2204.35	800	0.013	7.7	2.83	Dol gry vf xln foss
68	2206.35	800	0.005	7.5	2.78	Dol gry vf xln foss
69	2208.35	800	0.011	9.4	2.77	Dol lt gry micro xln slily lmy
70	2210.45	800	0.037	9.2	2.73	Sh rd slty calc
71	2212.35	800	0.033	8.3	2.75	Sh rd gry slty calc
72	2214.35	800	0.602	6.4	2.74	Sh rd gry slty v calc
73	2216.35	800	0.003	9.1	2.73	Sh rd gry
74	2218.35	800	0.001	6.5	2.71	Sh rd gry v calc

Company : ANADARKO PETROLEUM CORPORATION
 Well : Boekhaus Trust A-1
 Field : Hugoton Field
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CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Kinf md	Porosity %	Grain Den. g/cm3	Description
75	2220.35	800	0.001	4.9	2.80	Sh rd anhy calc
76	2222.35	800	0.124	7.2	2.70	Sh rd anhy calc

gular sample. Ambient porosity reported.
 ability measured using Profile Permeameter.

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CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Pore Volume cc	Porosity %	Kinf md	Kair(est) md	b(He) psi	BETA ft(-1)	ALPHA microns
1	2160.30		0.294 #	9.2 #	.51 *	0.78 *			
2	2162.30		1.933 #	9.1 #	.96 *	1.36 *			
3	2164.35		1.319 #	17.3 #	<.001 *	<.001 *			
4	2166.25		1.536 #	9.4 #	<.01 *	.01 *			
5	2168.50		1.385 #	7.1 #	1.18 *	1.63 *			
6	2170.35	800	1.85	7.9	0.010	0.022	115.09	2.93E+13	9.01E+02
7	2174.40	800	2.42	11.0	0.004	0.008	121.12	5.57E+16	6.38E+05
8	2176.80		1.172 #	14.1 #	<.001	<.001			
9	2178.00	800	3.36	15.3	0.081	0.138	51.96	2.79E+13	7.31E+03
10	2178.45	800	2.86	13.6	0.434	0.542	16.50	2.48E+11	3.49E+02
11	2178.70	800	3.11	13.7	0.038	0.077	78.68	1.41E+13	1.73E+03
12	2179.00	800	2.01	12.9	0.164	0.210	19.49	1.21E+11	6.46E+01
13	2179.50		2.870 #	7.3 #	.24 *	.40 *			
14	2179.70	800	4.54	22.9	1.876	2.641	24.56	4.57E+10	2.78E+02
15	2180.00	800	4.27	19.3	2.179	2.819	17.55	2.68E+10	1.89E+02
16	2180.35	800	3.39	15.0	0.094	0.161	52.70	6.41E+12	1.95E+03
17	2180.65	800	3.51	16.1	0.058	0.112	68.43	4.86E+13	9.20E+03
18	2181.00	800	3.94	17.9	2.123	2.719	16.79	2.22E+10	1.53E+02
19	2181.35	800	4.96	21.8	11.853	13.501	7.51	5.89E+08	2.26E+01
20	2181.70	800	4.34	19.5	18.808	20.815	5.62	2.24E+08	1.36E+01
21	2182.00	800	3.97	17.6	5.378	6.204	8.69	4.68E+09	8.15E+01
22	2182.35	800	3.29	14.9	0.716	0.914	17.73	4.43E+11	1.03E+03
23	2182.65	800	4.41	19.5	3.747	4.712	14.89	5.31E+09	6.44E+01
24	2183.10	800	4.71	21.6	3.775	4.696	14.05	5.23E+09	6.40E+01
25	2183.35	800	4.13	20.9	4.087	4.944	12.03	6.42E+09	8.49E+01

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CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Pore Volume cc	Porosity %	Kinf md	Kair(est) md	b(He) psi	BETA ft(-1)	ALPHA microns
26	2183.70	800	3.11	14.5	0.283	0.359	18.11	1.54E+11	141.5424
27	2184.00	800	3.66	16.5	0.336	0.500	32.88	2.26E+11	2.46E+02
28	2184.35	800	3.25	14.8	0.355	0.501	27.44	1.12E+11	1.29E+02
29	2184.65	800	4.25	20.3	0.594	0.858	28.72	2.71E+11	5.21E+02
30	2185.00		.460 #	8.9 #	4.58 *	5.71 *			
31	2185.35		2.336 #	8.6 #	.05 *	.11 *			
32	2185.70	800	3.45	16.0	0.116	0.200	52.67	2.97E+12	1.11E+03
33	2186.00	800	3.21	14.3	0.073	0.130	58.04	1.28E+13	3.03E+03
34	2186.35	800	3.88	17.6	2.402	3.012	15.04	1.16E+10	9.02E+01
35	2186.65	800	3.66	16.4	1.527	1.870	13.73	6.46E+10	3.19E+02
36	2187.00	800	3.55	15.8	1.740	2.122	13.28	3.03E+10	1.71E+02
37	2187.35	800	4.23	19.4	9.331	10.677	7.89	6.97E+08	2.10E+01
38	2187.65	800	3.27	15.6	1.805	2.113	10.31	3.91E+10	2.29E+02
39	2188.00	800	3.20	14.6	0.039	0.073	69.35	5.73E+13	7.17E+03
40	2188.25	800	3.43	15.7	0.742	0.864	10.53	2.87E+11	6.90E+02
41	2188.65	800	3.84	17.3	0.130	0.227	53.81	5.47E+12	2.30E+03
42	2189.00	800	4.32	18.6	8.403	9.499	7.17	7.15E+08	1.95E+01
43	2189.35	800	3.21	14.2	0.113	0.173	38.84	1.14E+12	4.17E+02
44	2189.65	800	2.83	12.8	0.232	0.293	18.18	7.52E+09	5.64E+00
45	2190.00	800	4.56	20.5	1.028	1.424	24.10	1.62E+11	5.40E+02
46	2190.35	800	4.84	21.8	6.115	7.255	10.45	1.03E+09	2.05E+01
47	2190.65	800	4.97	23.0	7.606	8.959	9.83	8.83E+08	2.17E+01
48	2191.00	800	4.70	21.1	10.296	11.557	6.66	4.71E+08	1.57E+01
49	2191.35	800	4.38	23.6	19.466	21.973	6.76	1.69E+08	1.06E+01
50	2191.65	800	5.04	23.7	12.651	14.632	8.41	3.41E+08	1.40E+01

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CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Pore Volume cc	Porosity %	Kinf md	Kair(est) md	b(He) psi	BETA ft(-1)	ALPHA microns
51	2192.05	800	4.35	20.8	1.131	1.548	22.95	1.01E+11	3.69E+02
52	2192.35	800	5.36	24.1	28.095	31.008	5.33	1.26E+08	1.14E+01
53	2192.65	800	4.44	22.5	26.558	28.982	4.71	1.24E+08	1.07E+01
54	2193.00	800	3.38	20.6	3.940	4.721	11.40	1.29E+10	1.65E+02
55	2193.35	800	4.93	22.7	19.502	21.725	5.98	2.46E+08	1.55E+01
56	2193.85		3.718 #	4.1 #	.03 *	.08 *			
57	2194.00	800	4.72	23.6	25.589	28.503	5.89	1.19E+08	9.83E+00
58	2194.35		4.367 #	4.8 #	22.5 *	25.5 *			
59	2194.65	800	3.75	16.9	6.718	7.737	8.45	1.37E+09	2.99E+01
60	2195.00		3.993 #	4.1 #	16.8 *	19.4 *			
61	2195.35	800	2.81	18.7	1.889	2.380	15.63	5.39E+10	3.30E+02
62	2195.65	800	4.82	22.8	22.086	24.381	5.42	1.95E+08	1.40E+01
63	2196.00	800	3.24	16.2	2.107	2.452	9.77	3.54E+10	2.42E+02
64	2198.35	800	0.87	3.9	0.001	0.003	167.64	9.15E+15	3.46E+04
65	2200.35	800	1.66	7.6	0.010	0.015	49.44	1.02E+16	3.14E+05
66	2202.35	800	1.29	5.8	0.003	0.006	107.88	5.96E+16	5.18E+05
67	2204.35	800	1.75	7.7	0.013	0.023	64.24	1.26E+15	5.27E+04
68	2206.35	800	1.65	7.5	0.005	0.012	99.13	2.12E+16	3.77E+05
69	2208.35	800	2.06	9.4	0.011	0.015	29.72	4.63E+16	1.64E+06
70	2210.45	800	1.09	9.2	0.037	0.042	11.01	3.54E+12	4.19E+02
71	2212.35	800	1.85	8.3	0.033	0.057	57.10	0.00E+00	0.00E+00
72	2214.35	800	1.43	6.4	0.602	0.758	16.70	0.00E+00	0.00E+00
73	2216.35	800	2.05	9.1	0.003	0.006	124.01	3.14E+16	2.66E+05
74	2218.35	800	1.44	6.5	0.001	0.003	112.78	2.00E+16	8.89E+04

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CMS - 300 ANALYSIS

Sample Number	Depth ft	NOB Pressure psig	Pore Volume cc	Porosity %	Kinf md	Kair(est) md	b(He) psi	BETA ft(-1)	ALPHA microns
75	2220.35	800	1.09	4.9	0.001	0.002	137.09	1.84E + 17	6.06E + 05
76	2222.35	800	0.91	7.2	0.124	0.182	33.53	0.00E + 00	0.00E + 00

Irregular sample. Ambient porosity reported.

* Permeability measured using Profile Permeameter.