Aspen Drilling Co.
#1 Baumann
C NW SE
Sec. 32-T23S-R15W
Pawnee County, Kansas

by: Jerry Honas
Geologist - Trainee

PRELIMINARY CORE DESCRIPTION
by visual examination

Core #1 1975 - 2025
Cored 52 ft. - Recovered 52 ft.

1975.0 - 1983.5	Dolomite, light to medium gray, fine to medium grain. This interval includes shale stringers of 1-2 inches thick scattered throughout. Current bedding is also common near the top of this interval. No porosity.
1983.5 - 1984.0	Dolomite, medium gray, fine grain, with anhydrite nodules, no porosity.
1984.0 - 1985.5	Dolomite, medium gray, dense, no porosity.
1985.5 - 1988.5	Shale (Calcareous) medium gray, containing nodules of anhydrite, no porosity.
1988.5 - 1991.5	Dolomite, medium to dark gray, dense, with large amount of dark gray dense shale. No porosity.
1991.5 - 1992.5	Dolomite, light to medium gray, fine grain, no porosity.
1992.5 - 1993.0	Shale, medium to dark gray.
1993.0 - 1993.5	Dolomite, medium gray, fine grain, no porosity.
1993.5 - 1994.0	Shale, medium gray.
1994.0 - 1994.5	Dolomite, medium gray, fine grain, no porosity.
1994.5 - 1999.5	Dolomite, dark gray, fine grain, dense, with anhydrite nodules throughout, no porosity.
1999.5 - 2007.5	Dolomite, gray, medium grain, with a black mineral scattered throughout (anhydrite ?), fair to good intergranular to pinpoint porosity.

2007.5 - 2010.5	Dolomite, medium to dark gray, dense at the base of this interval, grading into medium grain towards the top. Anhydrite nodules become increasingly smaller towards the top of this interval, where fair intergranular to pinpoint porosity becomes more dominate.
2010.5 - 2015.0	Dolomite, light greenish gray, fine grain, no porosity.
2015.0 - 2018.8	Shale, medium gray.
2018.8 - 2024.6	Shale, gray to mottled greenish-red.
2024.6 - 2025.0	Dolomite, medium gray, interbedded in red to green shale, no porosity.
2025.0 - 2026.5	Shale, gray to green.
2026.5 - 2027.0	Anhydrite, interbedded into a green dense dolomite, no porosity.

Baumann #1
C NW SE Sec. 32-T23S-R15W
Pawnee County, Kansas

Elevation: DF 2029
KB 2032

PRELININARY CORE DESCRIPTION
Core #1 1975 - 2027
Cored 52 ft - Recovered 52 ft.

by: R.O. Dougherty

1975 - 1975.5	Shale, light gray, thinly bedded.
1975.5 - 1977.5	Dolomite, white, very fine grain with anhydrite nodules and thin shale interbeds.
1977.5 - 1978.5	Shale, dark gray, dolomitic.
1978.5 - 1986.5	Dolomite, light gray to gray, very fine grain, carbonaceous in part, scattered inclusions of anhydrite nodules plus scattered anhydrite crystals and dark mineral crystals.
1986.5 - 1987	Anhydrite, dolomitic in part.
1987 - 1997	Shale, dark gray, thinly bedded, a few thin beds of dolomite, some anhydrite nodules and dolomite nodules.
1997 - 2000	Shale, dark gray to black, anhydritic with large anhydrite crystals and nodules.
2000 - 2007.5	Dolomite, brown, very fine grain to fine grain, with crystal inclusions of both selenite and a dark glossy mineral. Some dark carbonaceous material and phosphate (?) nodules.
2007.5 - 2010	Shale, gray, slightly dolomitic.
2010 - 2012	Dolomite, light brown, fine crystalline fossiliferous, with crystals as above mottled with crystalline anhydrite nodules.
2012 - 2025	Shale, light to dark gray, dolomitic in part.
2025 - 2026.5	Dolomitic Marl, light gray, earthy fossiliferous.
2026.5 - 2027	Top of Winfield at 2026.5 ft. Dolomite, white, earthy, dense, with anhydrite nodules.

Core #2 2027 - 2070
Cored 43 ft. - Recovered 41 ft.

(Thought to have lost 1.5 ft. off bottom of core and .5 ft. around 2050 ft.)

2027 -2037.5	Limestone with chert and anhydrite nodules.
~~2037.5~~ 2031.5 - 2044.5	Dolomite, gray, shaley.
2044.5 - 2067.5	Limestone, interbedded dark gray and gray with chert and anhydrite nodules and some thin interbeds of black shale.
2067.5 - 2068	Shale, dark gray to black.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

December 19, 1973

REPLY TO
8 N. W. 42ND ST.
OKLAHOMA CITY, OKLA.
73118

Aspen Drilling Company
Box 1783
Great Bend, Kansas 67530

Attn: Mr. John Volosin

Subject: Core Analysis Data
Froetschner No. 1 Well
Wildcat Field
Pawnee County, Kansas
CLI File 3402-7924

Gentlemen:

Sections of the Herington-Krider and Winfield formations were diamond cored in the Froetschner No. 1 Well utilizing a water base mud. A representative of Aspen Drilling Company used plastic bags to preserve the intervals selected for analysis at the well-site to prevent or minimize additional fluid change. The cores were all shipped via bus to the Oklahoma City laboratory where the accompanying Core-Gamma Surface Log was recorded to aid correlation with downhole electrical surveys.

Conventional analysis was performed on those intervals selected for analysis, as per instructions from the client. The resulting data are presented on pages one and two of this report.

Samples analyzed from 2053 to 2084 feet would indicate gas production could be expected from the interval where sufficient permeability exists.

Samples analyzed between 2099 to 2130 feet and 2140 to 2143 feet indicates possible gas production could be expected from the intervals.

Average core data are presented on the core summary pages. All samples used in the averaging have a measured permeability of 0.1 millidarcys or greater.

We appreciate this opportunity to be of service.

Very truly yours,

CORE LABORATORIES, INC.

Dale E. Boyle, Manager
Core Analysis Services

DEB:CLM:es
6 cc - Addressee
3 cc - Northern Natural Gas Company
Attn: Mr. Chet Jameson
5155 East 51st Street
Tulsa, Oklahoma 74100

CORE ANALYSIS RESULTS

Company ASPEN DRILLING COMPANY | Formation AS NOTED | File 3402-7924
Well FROETSCHNER NO. 1 | Core Type DIAMOND | Date Report 10-23-73
Field WILDCAT | Drilling Fluid WATER BASE MUD | Analysts MAYS
County PAWNEE State KANSAS Elev. Location NE SW NW SEC. 18-21S-17W

Lithological Abbreviations

SAND-SD SHALE-SH LIME-LM	DOLOMITE-DOL CHERT-CH GYPSUM-GYP	ANHYDRITE-ANHY CONGLOMERATE-CONG FOSSILIFEROUS-FOSS	SANDY-SDY SHALY-SHY LIMY-LMY	FINE-FN MEDIUM-MED COARSE-CSE	CRYSTALLINE-XLN GRAIN-GRN GRANULAR-GRNL	BROWN-BRN GRAY-GY VUGGY-VGY	FRACTURED-FRAC LAMINATION-LAM STYLOLITIC-STY	SLIGHTLY-SL/ VERY-V/ WITH-W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		PERM. Ka	PERM. 90°		OIL	TOTAL WATER	
	CONVENTIONAL ANALYSIS						HERINGTON-KRIDER FORMATION
	2050-53						Shale
1	2053-54	<0.1		7.3	0.0	89.3	Dol, slty
2	2054-55	<0.1		6.9	0.0	82.8	Dol, slty, s/shy
3	2055-56	<0.1		4.8	0.0	87.0	Dol, slty
4	2056-57	<0.1		7.2	0.0	80.9	Dol, slty
5	2057-58	<0.1		15.8	0.0	77.9	Dol, s/slty, s/shy
6	2058-59	<0.1		16.4	0.0	67.4	Dol, s/slty, s/shy, cht
7	2059-60	<0.1		10.8	0.0	85.9	Dol, slty, shy
8	2060-61	<0.1		13.6	0.0	88.8	Dol, slty
9	2061-62	<0.1		15.0	0.0	87.3	Dol, s/slty, s/shy
10	2062-63	0.1		15.6	3.9	75.5	Dol, s/slty, s/shy, anh
11	2063-64	3.7		22.1	0.0	57.8	Dol, s/shy, anh
	2064-66						Shale, dol, anh
12	2066-67	<0.1		13.9	0.0	74.9	Dol, slty
	2067-68						Shale
13	2068-69	<0.1		12.4	0.0	91.3	Dol, slty, shy
14	2069-70	<0.1		13.0	0.0	82.6	Dol, slty, shy
15	2070-71	<0.1		15.4	0.0	86.5	Dol, slty, shy
16	2071-72	<0.1		14.1	0.0	80.8	Dol, slty, shy
17	2072-73	0.4		17.7	0.0	79.4	Dol, slty, s/shy, s/anh
18	2073-74	0.6		18.7	0.0	77.0	Dol, s/shy
19-X	2074-75	3.9		19.9	0.0	54.8	Dol, s/anh
20	2075-76	10		20.7	0.0	44.4	Dol, s/shy, s/anh
21	2076-77	4.7		19.3	0.0	38.1	Dol, s/anh
22	2077-78	3.8		24.5	0.0	23.1	Dol, s/anh
23	2078-79	1.5		18.7	0.0	35.4	Dol, s/slty, s/anh
24	2079-80	0.5		17.6	0.0	31.4	Dol, s/slty
25	2080-81	16		24.7	0.0	34.9	Dol
26	2081-82	4.7		20.9	0.0	26.2	Dol, s/anh
27	2082-83	9.4		19.6	0.0	26.0	Dol, s/slty
28	2083-84	1.5		17.9	0.0	45.3	Dol, s/slty
	2084-86						Lost Core
	2086-96						Drilled
X = Sample Analyzed by Halliburton							
	2096-99						WINFIELD FORMATION
							Shale
29	2099-00	<0.1		16.3	0.0	96.2	Slt, dol
30	2100-01	<0.1		20.0	0.0	75.8	Dol, slty, shy

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS Ka	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
31	2101-02	<0.1	15.6	0.0	84.8	Dol, slty, s/shy
32	2102-03	<0.1	16.4	0.0	94.0	Dol, v/slty, shy
33	2103-04	0.5	27.6	0.0	74.2	Dol, s/slty
34	2104-05	0.6	22.1	0.0	70.0	Dol, s/slty
35-X	2105-06	5.1	12.7	0.0	74.1	Dol, s/slty, v/cht
36	2106-07	0.3	12.3	0.0	82.2	Dol, s/slty, cht
37	2107-08	0.6	19.2	0.0	64.4	Dol, s/slty, cht, vert frac
38	2108-09	1.0	18.4	0.0	78.4	Dol, s/slty, cht, vert frac
39	2109-10	1.0	20.4	0.0	75.8	Dol, s/slty, s/cht
40-X	2110-11	1.1	25.2	0.0	89.1	Dol, s/slty
41	2111-12	0.2	19.5	0.0	80.1	Dol, s/slty
42-X	2112-13	3.1	30.5	0.0	81.4	Dol, s/slty, anh
43	2113-14	0.7	26.6	0.0	80.8	Dol, s/slty
44	2114-15	2.7	25.6	0.4	82.1	Dol, s/slty
45	2115-16	0.6	25.3	0.0	65.4	Dol, s/slty
46	2116-17	0.4	19.6	0.0	73.6	Dol, s/slty
47	2117-18	1.0	21.7	0.0	79.2	Dol, slty, anh
48	2118-19	0.9	22.7	0.0	70.7	Dol, s/slty, anh
49	2119-20	0.3	19.5	0.0	66.5	Dol, s/slty, s/shy
50	2120-21	<0.1	16.3	0.0	63.8	Dol, s/slty
51	2121-22	<0.1	31.1	0.0	89.0	Lm, ool
52	2122-23	<0.1	33.3	0.0	83.7	Lm, ool
53	2123-24	1.2	18.9	0.0	72.2	Lm, dol, s/slty
54	2124-25	1.7	20.2	0.0	70.9	Lm, dol, s/slty
55	2125-26	1.1	16.9	0.0	72.4	Lm, dol, s/slty
56	2126-27	1.2	19.6	0.0	72.7	Dol, lmy, s/slty
57	2127-28	3.6	16.8	0.0	82.8	Dol, lmy, s/slty
58	2128-29	1.2	16.9	0.0	70.4	Dol, lmy, s/slty
59	2129-30	1.1	19.0	0.0	74.6	Dol, lmy, s/slty, anh
	2130-38					Lost Core
	2138-40					Drilled
60	2140-41	1.4	19.5	0.0	89.0	Dol, lmy, slty, s/anh
61-X	2141-42	0.3	18.2	0.0	76.4	Dol, lmy, slty, s/anh
62	2142-43	<0.1	11.6	0.0	85.0	Dol, lmy, slty, s/anh
	2143-49.33					Dol, v/slty
	2149.33-50					Lost Core

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

Well FROETSCHNER NO. 1

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: WINFIELD--2140 to 2143 feet

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	3	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	82
FEET OF CORE INCLUDED IN AVERAGES	2	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYS	0.8	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	1.6	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	18.8	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	0.0	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

FORMATION NAME AND DEPTH INTERVAL:

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	
FEET OF CORE INCLUDED IN AVERAGES		AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYS		OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET		ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT		ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: HERINGTON-KRIDER--2053 to 2084 feet

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	31	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	36.8
FEET OF CORE INCLUDED IN AVERAGES	14	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYS	4.3	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	60	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	19.8	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	0.0	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

FORMATION NAME AND DEPTH INTERVAL: WINFIELD--2099 to 2130 feet

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	31	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	75
FEET OF CORE INCLUDED IN AVERAGES	24	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYS	1.3	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	31	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	20.7	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	0.0	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY	ASPEN DRILLING COMPANY	FIELD	WILDCAT	FILE	3402-7924
WELL	FROETSCHNER NO. 1	COUNTY	PAWNEE	DATE	10-23-73
LOCATION	NE SW NW SEC. 18-T21S-R17W	STATE	KANSAS	ELEV.	

CORE-GAMMA CORRELATION

VERTICAL SCALE 5" = 100'

CORE-GAMMA SURFACE LOG
(PATENT APPLIED FOR)

GAMMA RAY
RADIATION INCREASE →

COREGRAPH

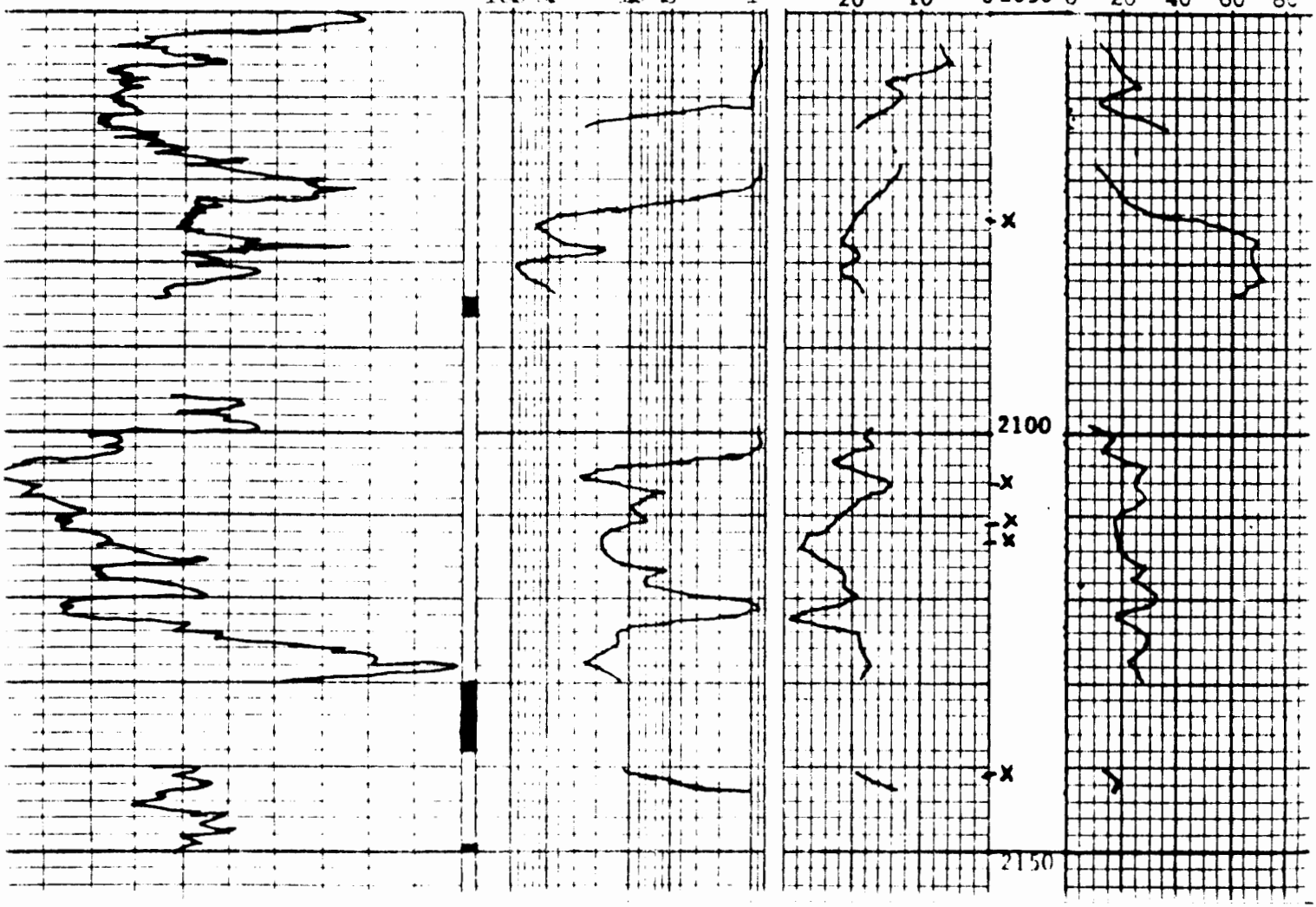
BINOMIAL AVERAGED DATA PLOT

TOTAL WATER
PERCENT TOTAL WATER
80 60 40 20

PERMEABILITY — MILLIDARCYS
100 50 10 5 1

POROSITY — PERCENT
20 10 0 20 50 0

OIL SATURATION — PERCENT PORE SPACE
0 20 40 60 80



CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY ASPEN DRILLING COMPANY FIELD CARPENTER FILE CP-1-7831

WELL BAUMANN NO. 1 COUNTY PAWNEE DATE 7-2-73

LOCATION C NW SE SEC. 32-23S-15W STATE KANSAS ELEV. 2029' DF 2032' KB

CORE-GAMMA CORRELATION

VERTICAL SCALE: 5" = 100'

CORE-GAMMA SURFACE LOG
(PATENT APPLIED FOR)

GAMMA RAY
RADIATION INCREASE →

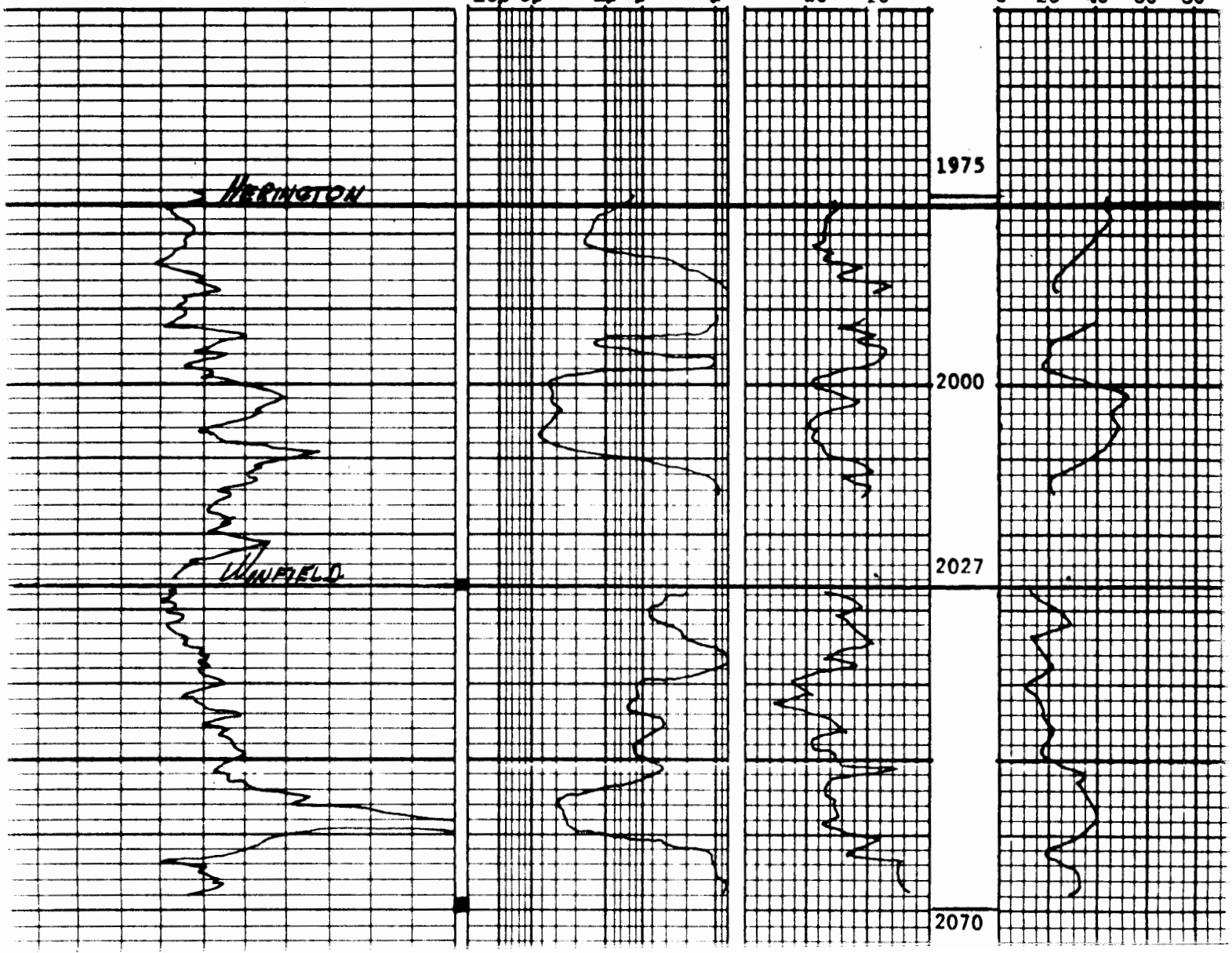
COREGRAPH

TOTAL WATER
PERCENT TOTAL WATER
80 60 40 20

PERMEABILITY
MILLIDARCYS
100 50 10 5 1

POROSITY
PERCENT
20 10

OIL SATURATION
PERCENT PORE SPACE
0 20 40 60 80



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

December 5, 1973

REPLY TO
8 N. W. 42ND ST.
OKLAHOMA CITY, OKLA.
73118

Aspen Drilling Company
P. O. Box 783
Great Bend, Kansas

Attn: Mr. John Volosin

Subject: Core Analysis Data
Baumann No. 1 Well
Carpenter Field
Pawnee County, Kansas
CLI File CP-1-7831

Gentlemen:

A portion of the Chase group was diamond cored from 1975 to 2070 feet in the subject well. The recovered interval was preserved in plastic bags at the well-site and shipped to the Oklahoma City laboratory where the accompanying Core-Gamma Surface Log was recorded to aid correlation with downhole electrical surveys.

Full diameter samples were analyzed from the intervals of interest using low temperature extraction technique, Boyle's law porosity and grain volume measurement, and permeability to gas (air) determination in two horizontal directions. The resultant data are presented in tabular form on pages one and two of this report. A graphical presentation of the binomially averaged data is found on the Coregraph.

One inch diameter plugs were taken in the zones of interest for mercury injection and calcimetry tests and for permeability comparison purpose. The results are presented on pages three through fourteen.

Calcimetry was used to determine the percentage of limestone, dolomite and insoluble residue using acid digestion vs time rate.

Mercury injection technique was used to obtain wetting phase saturation at various pressures and to obtain calculated permeability values as suggested by Purcell's method. Height above the water table has been projected from pressure data and estimated reservoir characteristics for comparative purpose.

Conclusions:

1. Herington formation, from 1975 to 1986 feet, is a silty, slightly anhydritic dolomite with low matrix permeability. These same rock types could have gas productive significance at an estimated 175 to 225 feet above the water table.

2. Krider formation, from 1999 to 2010 feet, is a limestone--dolomite carbonate (slightly silty and anhydritic) indicative of gas productivity. These same rock types could have gas productive significance at an estimated 50 to 75 feet above the water table.

3. Upper Winfield limestone--silty, slightly anhydritic, slightly cherty, and chalky in part from 2027 to 2051 feet is thought to be water productive at this well. These same rock types would need to be at an estimated 280 to 350 feet above the water table to have gas productive significance.

4. Lower Winfield limestone, from 2051 to 2060 feet, may have some gas productivity at this well. These rock types could be expected to have gas productive significance at an estimated 150 feet above the water table.

The cores have been slabbed, photographed (color prints) and shipped to your office in Great Bend.

We appreciate this opportunity of serving you and trust these data will aid the evaluation of the cored zones in the proximity of this well.

Very truly yours,

CORE LABORATORIES, INC.

Dale E. Boyle, Manager
Core Analysis Services

DEB:es
3 cc - Addressee
1 cc - Mr. Bob Dougherty
P. O. Box 1065
Great Bend, Kansas 67530
1 cc - Northern Natural Gas Company
Attn: Mr. Chet H. Jameson
5155 East 51st Street
Tulsa, Oklahoma 74100

CORE ANALYSIS RESULTS

Company ASPEN DRILLING COMPANY | Formation CHASE GROUP | File CP-1-7831
Well BAUMANN NO. 1 | Core Type DIAMOND | Date Report 12-5-73
Field CARPENTER | Drilling Fluid WATER BASE MUD | Analysts MAYS
County PAWNEE State KANSAS Elev. Location C NW SE SEC. 32-23S-15W

Lithological Abbreviations

SAND-SD, SHALE-SH, LIME-LM, DOLOMITE-DOL, CHERT-CH, GYPSUM-GYP, ANHYDRITE-ANHY, CONGLOMERATE-CONG, FOSSILIFEROUS-FOSS, SANDY-SDY, SHALY-SHY, LIMY-LMY, FINE-FN, MEDIUM-MED, COARSE-CSE, CRYSTALLINE-XLN, GRAIN-GRN, GRANULAR-GRNL, BROWN-BRN, GRAY-GY, VUGGY-VGY, FRACTURED-FRAC, LAMINATION-LAM, STYLOLITIC-STY, SLIGHTLY-SL/, VERY-V/, WITH-W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		BULK DENS.	GRAIN DENS.	COMMENTS
		PERM. MAX.	PERM. 90°		OIL	TOTAL WATER			
	WHOLE-CORE ANALYSIS								
1	1975-76	0.7	0.7	15.6	0.0	60.2	2.51	2.78	Dol,slty
2	76-77	0.7	0.7	14.4	0.0	54.1	2.55	2.81	Dol,slty
3	77-78	2.3	2.0	16.2	0.0	55.9	2.54	2.83	Dol,sl/shy,slty
4	78-79	55.4	1.3	16.3	0.0	56.1	2.50	2.80	Dol,slty,vert frac
5	79-80	1.1	1.0	17.0	0.0	60.4	2.50	2.80	Dol,sl/shy,slty
6	80-81		2.2*	16.5	0.0	64.4	2.50	2.80	Dol,sl/shy,slty
7	81-82		2.1*	18.4	0.0	60.8	2.48	2.81	Dol,sl/shy,slty
8	82-83	0.3	0.3	15.8	0.0	75.2	2.47	2.75	Dol,slty
9	83-84	0.6	0.5	16.6	0.0	64.0	2.48	2.77	Dol,slty
10	84-85	0.1	0.1	10.7	0.0	84.3	2.64	2.83	Dol,anhy,slty
11	85-86	0.2	0.1	14.9	0.0	68.7	2.53	2.79	Dol,slty
12	86-87	<0.1	<0.1	6.0	0.0	83.7	2.72	2.82	Dol,anhy,slty
13	87-88	0.6	<0.1	8.6	0.0	72.1	2.64	2.80	Dol,slty,vert frac
	88-91								Dol,shy,anhy
14	91-92		0.1*	10.7	0.0	52.3	2.56	2.74	Slt,shy
15	92-93	0.1	0.1	14.1	0.0	82.9	2.48	2.72	Slt,shy,ch
16	93-94	<0.1	<0.1	9.1	0.0	73.3	2.56	2.72	Slt,shy,anhy
17	94-95	4.3	3.0	11.3	0.0	81.4	2.60	2.80	Slt,dol,shy
18	95-96	<0.1	<0.1	6.8	0.0	76.9	2.59	2.71	Slt,shy,anhy
19	96-97	<0.1	<0.1	7.9	0.0	75.9	2.56	2.70	Slt,lmy,shy,anhy
20	97-98	<0.1	<0.1	10.9	0.0	84.2	2.55	2.74	Lm,slty,shy
21	98-99	0.1	<0.1	14.3	0.0	79.8	2.53	2.79	Dol,shy,sl/anhy
22	99-00	5.7	5.7	19.3	0.0	61.4	2.45	2.80	Dol
23	2000-01	3.8	2.6	18.0	0.0	44.6	2.51	2.84	Dol,sl/anhy
24	01-02	3.3	3.1	14.7	0.0	48.3	2.58	2.85	Dol,sl/anhy
25	02-03	5.3	4.1	11.9	0.0	53.8	2.58	2.79	Dol
26	03-04	2.7	2.1	14.6	0.0	54.6	2.56	2.82	Dol
27	04-05	3.3	3.2	18.4	0.0	58.3	2.48	2.81	Dol
28	05-06	4.4	4.1	19.3	0.0	55.1	2.45	2.80	Dol
29	06-07	3.4	3.2	18.4	0.0	45.8	2.48	2.81	Dol
30	07-08		5.8*	18.9	0.0	58.2	2.46	2.80	Dol,vert frac
31	08-09	1.6	1.6	16.9	0.0	55.3	2.50	2.80	Dol
32	09-10	2.1	2.0	16.4	0.0	59.5	2.49	2.79	Dol,lmy,sl/anhy
33	10-11	0.5	0.5	11.2	0.0	67.7	2.60	2.80	Dol,lmy,anhy
34	11-12	<0.1	<0.1	9.0	0.0	74.6	2.59	2.75	Lm,slty
35	12-13	0.2	0.2	14.0	0.0	82.9	2.48	2.72	Slt,shy,sl/lmy
36	13-14	<0.1	<0.1	9.8	0.0	80.2	2.53	2.70	Slt,shy,sl/lmy
37	14-15	<0.1	<0.1	10.4	0.0	78.6	2.50	2.68	Slt,shy,sl/lmy
	15-25								Sh
38	2025-26		<0.1*	8.2	0.0	73.3	2.60	2.74	Dol,ch,sl/anhy

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS° MAX.	90°	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE OIL	TOTAL WATER	BULK DENS.	GRAIN DENS.	COMMENTS
	2026-27								Lost core
39	27-28	0.1	0.1	17.7	0.0	89.3	2.48	2.80	Dol
40	28-29	0.8	0.5	13.1	0.0	83.8	2.48	2.70	Lm,ch,sl/anhy
41	29-30	0.2	0.2	10.6	0.0	84.6	2.49	2.67	Lm,v/chty,sl/shy
42	30-31	0.7	0.6	15.3	0.0	75.2	2.45	2.71	Lm
43	31-32	0.2	0.2	13.2	0.0	64.7	2.48	2.70	Lm
44	32-33	0.2	0.2	12.1	0.0	78.8	2.47	2.67	Lm,ch,sdy
45	33-34	0.3	0.3	10.8	0.0	90.9	2.47	2.65	Lm,ch,sdy
46	34-35	<0.1	<0.1	9.8	0.0	82.3	2.52	2.68	Lm,ch,slty
47	35-36	<0.1	<0.1	14.7	0.0	84.7	2.49	2.75	Lm,slty,sl/anhy
48	36-37	0.1	<0.1	17.3	0.0	85.3	2.47	2.78	Lm,slty,dol
49	37-38	<0.1	<0.1	11.8	0.0	69.7	2.56	2.77	Lm,slty,anhy
50	38-39	<0.1	<0.1	19.7	0.0	88.4	2.40	2.75	Lm,slty,dol
51	39-40	1.1	1.1	22.6	0.0	94.0	2.36	2.76	Lm,slty,sl/anhy
52	40-41	0.3	0.3	20.3	0.0	85.2	2.38	2.73	Lm,slty,sl/shy
53	41-42	0.4	0.3	18.8	0.0	82.0	2.45	2.78	Dol,lmy,slty
54	42-43	1.3	1.2	25.8	0.0	86.9	2.34	2.81	Dol,slty
55	43-44	0.4	0.4	20.1	0.0	80.7	2.42	2.78	Lm,dol,slty
56	44-45	0.4	0.3	16.4	0.0	84.1	2.47	2.76	Lm,dol,sl/anhy
57	45-46	0.2	0.2	14.6	0.0	76.6	2.45	2.70	Lm,slty
58	46-47	0.5	0.3	13.8	0.0	78.5	2.49	2.73	Lm,slty,anhy
59	47-48	1.0	0.9	19.5	0.0	82.2	2.46	2.81	Lm,slty,anhy
60	48-49	0.7	0.6	19.3	0.0	81.3	2.46	2.81	Lm,slty,sl/anhy
61	49-50	0.4	0.3	14.9	0.0	89.4	2.49	2.75	Lm,slty,sl/anhy
62	50-51	0.5	0.4	14.4	0.0	74.5	2.50	2.75	Lm,sl/anhy
63	51-52	0.3	0.3	5.8	0.0	54.1	2.60	2.70	Lm
64	52-53	0.7	0.6	14.8	0.0	76.3	2.46	2.72	Lm
65	53-54	1.4	1.3	16.7	0.0	65.5	2.42	2.71	Lm
66	54-55	3.9	3.6	16.2	0.0	62.2	2.43	2.71	Lm
67	55-56	2.9	2.6	15.5	0.0	62.4	2.43	2.70	Lm
68	56-57	3.1	2.9	15.7	0.0	58.3	2.45	2.72	Lm
69	57-58	1.9	1.9	14.6	0.0	62.4	2.47	2.72	Lm
70	58-59	2.7	2.5	17.1	0.0	61.5	2.46	2.76	Lm,sl/anhy
71	59-60	1.0	1.0	14.1	0.0	69.1	2.48	2.73	Lm
72	60-61	<0.1	<0.1	8.4	0.0	74.0	2.57	2.72	Lm
73	61-62	<0.1	<0.1	10.0	0.0	82.6	2.59	2.76	Lm,anhy
74	62-63	<0.1	<0.1	13.6	0.0	84.4	2.48	2.72	Lm,slty
75	63-64	0.6	0.2	4.1	0.0	65.2	2.64	2.71	Lm,slty
76	64-65	0.2	<0.1	5.0	0.0	72.0	2.63	2.71	Lm
77	65-66	<0.1	<0.1	5.0	0.0	60.6	2.61	2.70	Lm,shy
78	66-67	<0.1	<0.1	4.8	0.0	72.5	2.61	2.69	Lm,shy
79	67-68	<0.1	<0.1	3.7	0.0	71.9	2.62	2.69	Lm,shy
	2068-70								Not received

* DENOTES PLUG PERMEABILITY

File No. CP-1-7831 Page 3
Well BAUMANN NO. 1

Sample Number	3	4	6	7	9	15	19
Depth	1977	1978	1980	1981	1983	1992	1996
Porosity	16.6	18.5	19.0	18.1	16.2	15.5	13.3
Permeability Air	4.4	0.3	2.0	2.2	0.2	<0.1	<0.1
Calc. Mercury Inj.	5.4	0.4	2.4	2.3	0.3	<0.1	0.1
Per Cent Limestone	3.5	3.5	12.4	21.3	36.9	5.8	25.8
Per Cent Dolomite	75.6	72.2	60.0	51.1	34.2	35.6	60.0
Per Cent Other	20.9	24.3	27.6	27.6	28.9	58.6	14.2

Wetting Phase Saturation at Various Pressures

Pressure Atmos.	Pressure Psia	Est. Ft. Above Water Table						
1.0	15		100	100	100	100	100	100	100
1.4	21		100	100	100	100	100	100	100
2.8	41		100	100	100	100	100	100	100
4	59	24	87	100	100	100	100	100	100
5.6	76	31	76	100	100	95	100	100	100
9	132	54	52	100	64	70	100	100	100
12.1	178	73	43	97	52	60	100	100	100
17.3	254	104	35	81	44	51	82	100	100
26	382	156	29	66	38	44	61	100	91
34.7	510	208	26	55	34	40	52	100	85
52	764	312	22	41	29	36	42	95	73
60	880	360	21	37	28	34	39	92	67
70	1029	420	20	34	26	33	36	88	63
80	1176	479	19	31	25	32	34	86	61
100	1470	600	18	27	23	30	32	82	57

Sample Number	23	24	26	29	30	32	34
Depth	2000	2001	2003	2006	2007	2009	2011
Porosity	19.2	15.4	17.4	16.2	20.7	19.3	12.4
Permeability Air	4.7	6.7	8.0	2.3	6.6	1.2	<0.1
Calc. Mercury Inj.	16.6	25.2	17.6	7.0	13.6	2.3	0.1
Per Cent Limestone	30.2	38.0	44.7	19.1	13.5	36.9	64.7
Per Cent Dolomite	55.6	49.8	45.5	40.0	61.1	55.5	26.6
Per Cent Other	14.2	12.2	9.8	40.9	25.4	8.6	9.7

Wetting Phase Saturation at Various Pressures

Pressure Atmos.	Pressure Psia	Est. Ft. Above Water Table						
1.0	15		100	100	100	100	100	100	100
1.4	21		100	97	100	100	100	100	100
2.8	41		83	65	78	100	90	100	100
4	59	24	68	51	64	80	76	97	100
5.6	76	31	58	44	54	66	65	92	100
9	132	54	40	32	38	40	41	82	100
12.1	178	73	32	27	30	31	32	74	100
17.3	254	104	27	23	23	23	24	66	100
26	382	156	21	19	18	18	19	60	76
34.7	510	208	18	17	15	15	17	57	60
52	764	312	14	15	13	13	14	53	43
60	880	260	14	14	12	12	13	52	39
70	1029	420	12	14	11	11	12	51	35
80	1176	479	11	13	10	10	12	49	32
100	1470	600	10	13	9	9	11	48	27

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File No. CP-1-7831 File 5
Well BAUMANN NO. 1

Sample Number	43	47	49	51	53	55	57
Depth	2031	2035	2037	2039	2041	2043	2045
Porosity	13.5	16.6	23.7	24.1	22.1	19.2	17.3
Permeability Air	0.2	0.2	0.8	0.6	0.6	0.8	0.6
Calc. Mercury Inj.	0.4	0.2	1.0	1.0	1.0	1.2	0.8
Per Cent Limestone							
Per Cent Dolomite							
Per Cent Other							

Wetting Phase Saturation at Various Pressures

Pressure Atmos.	Pressure Psia	Est. Ft. Above Water Table						
1.0	15		100	100	100	100	100	100	100
1.4	21		100	100	100	100	100	100	100
2.8	41		100	100	100	100	100	100	100
4	59	24	100	100	100	100	100	100	100
5.6	76	31	100	100	100	100	100	100	100
9	132	54	100	100	99	100	100	100	100
12.1	178	73	100	100	80	82	79	65	82
17.3	254	104	72	93	66	63	64	47	57
26	382	156	42	75	54	49	48	32	39
34.7	510	208	32	58	47	41	41	26	31
52	764	312	23	43	38	32	31	20	25
60	880	360	21	39	35	29	27	18	22
70	1029	420	18	36	32	27	24	16	20
80	1176	479	16	33	30	24	21	14	18
100	1470	600	13	29	27	20	17	11	15

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File No. CP-1-7831 File 6
Well BAUMANN NO. 1

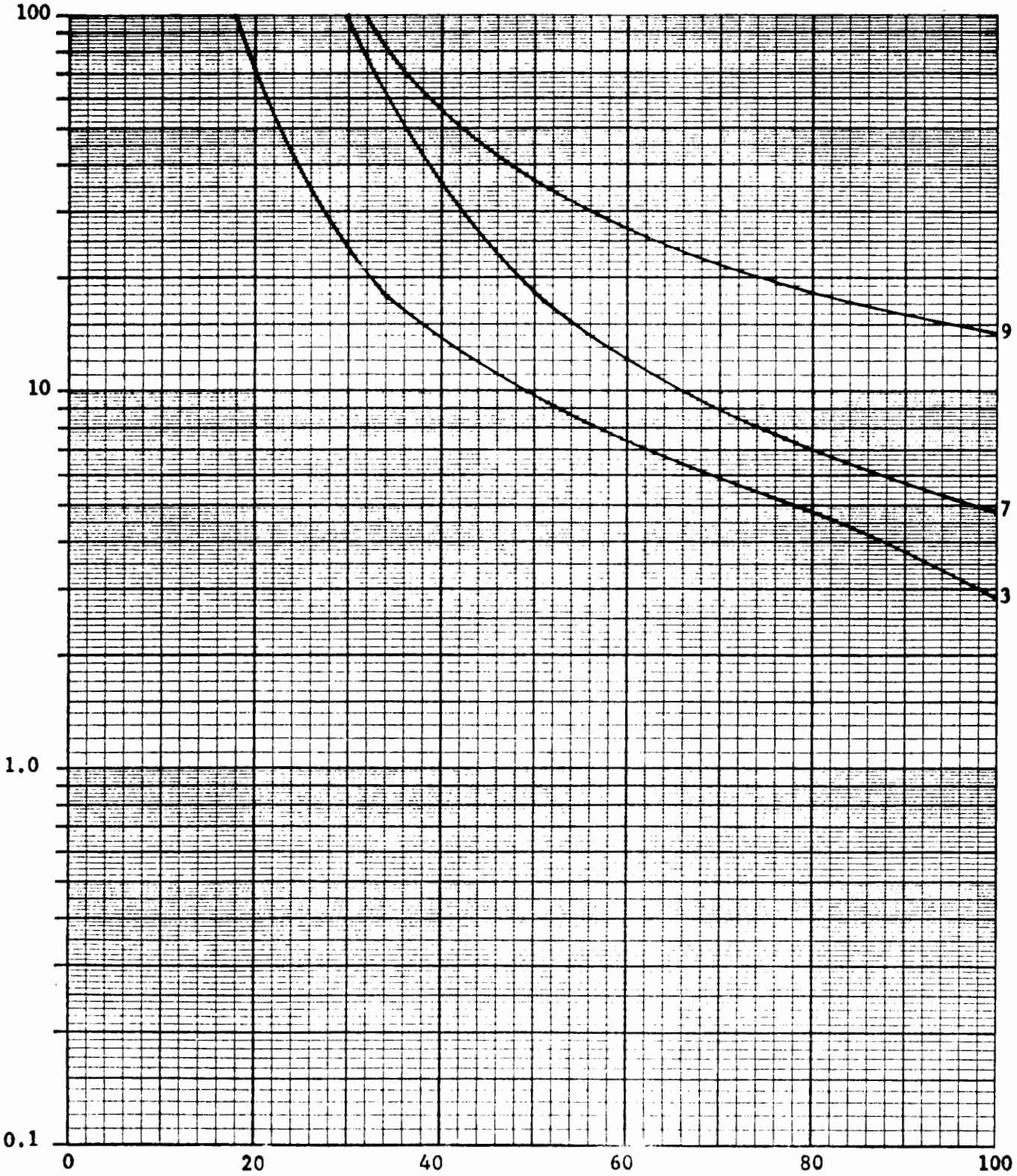
Sample Number	59	61	65	70
Depth	2047	2049	2053	2058
Porosity	10.9	14.0	16.5	15.2
Permeability Air	0.4	0.9	2.1	0.4
Calc. Mercury Inj.	2.1	4.6	6.7	1.2
Per Cent Limestone				
Per Cent Dolomite				
Per Cent Other				

Wetting Phase Saturation at Various Pressures

Pressure Atmos.	Pressure Psia	Est. Ft. Above Water Table				
1.0	15		100	100	100	100
1.4	21		100	100	100	100
2.8	41		100	100	100	100
4	59	24	96	85	83	100
5.6	76	31	85	75	67	100
9	132	54	67	55	44	94
12.1	178	73	58	48	36	59
17.3	254	104	49	40	28	40
26	382	156	39	33	22	30
34.7	510	208	32	29	19	25
52	764	312	25	24	15	21
60	880	360	22	22	14	19
70	1029	420	19	20	13	18
80	1176	479	17	19	12	17
100	1470	600	13	17	10	16

Company ASPEN DRILLING COMPANY
Well BAUMANN NO. 1
Field CARPENTER

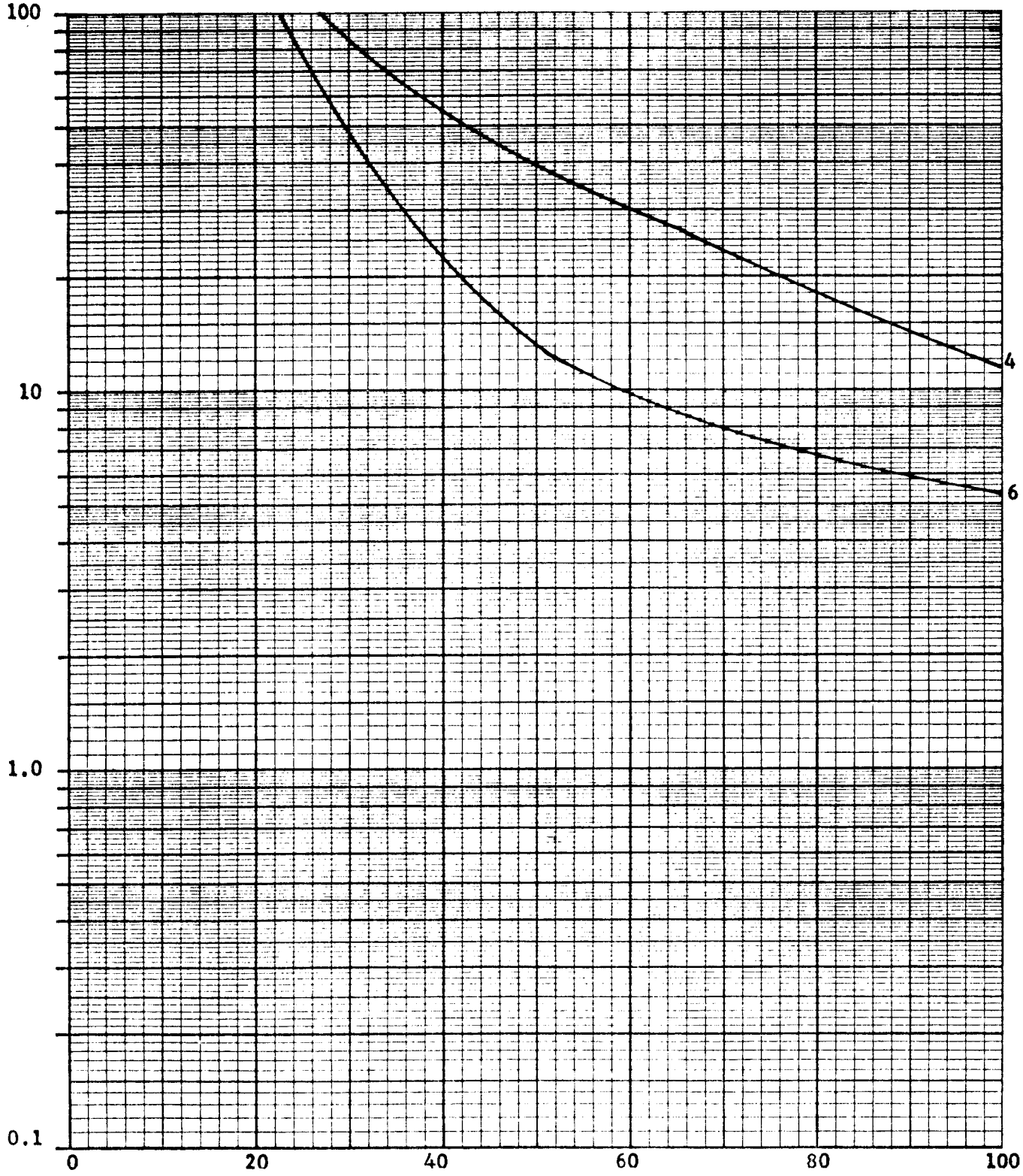
Formation HERINGTON
County PAWNEE
State KANSAS



Capillary Pressure, Atmospheres

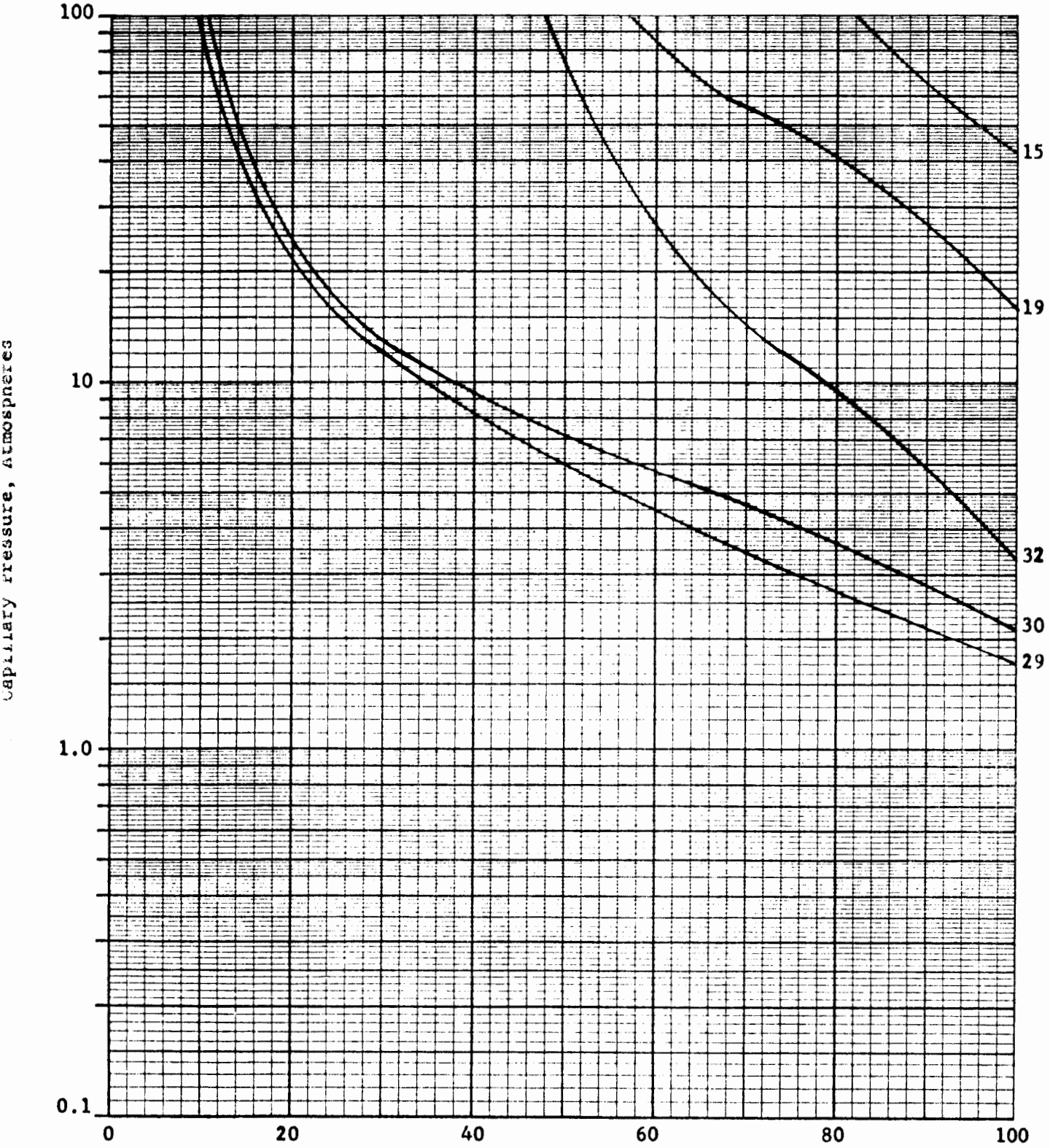
Wetting Phase Saturation, Per Cent Pore Space

Company ASPEN DRILLING COMPANY — Formation HERINGTON
Well BAUMANN NO. 1 — County PAWNEE
Field CARPENTER — State KANSAS



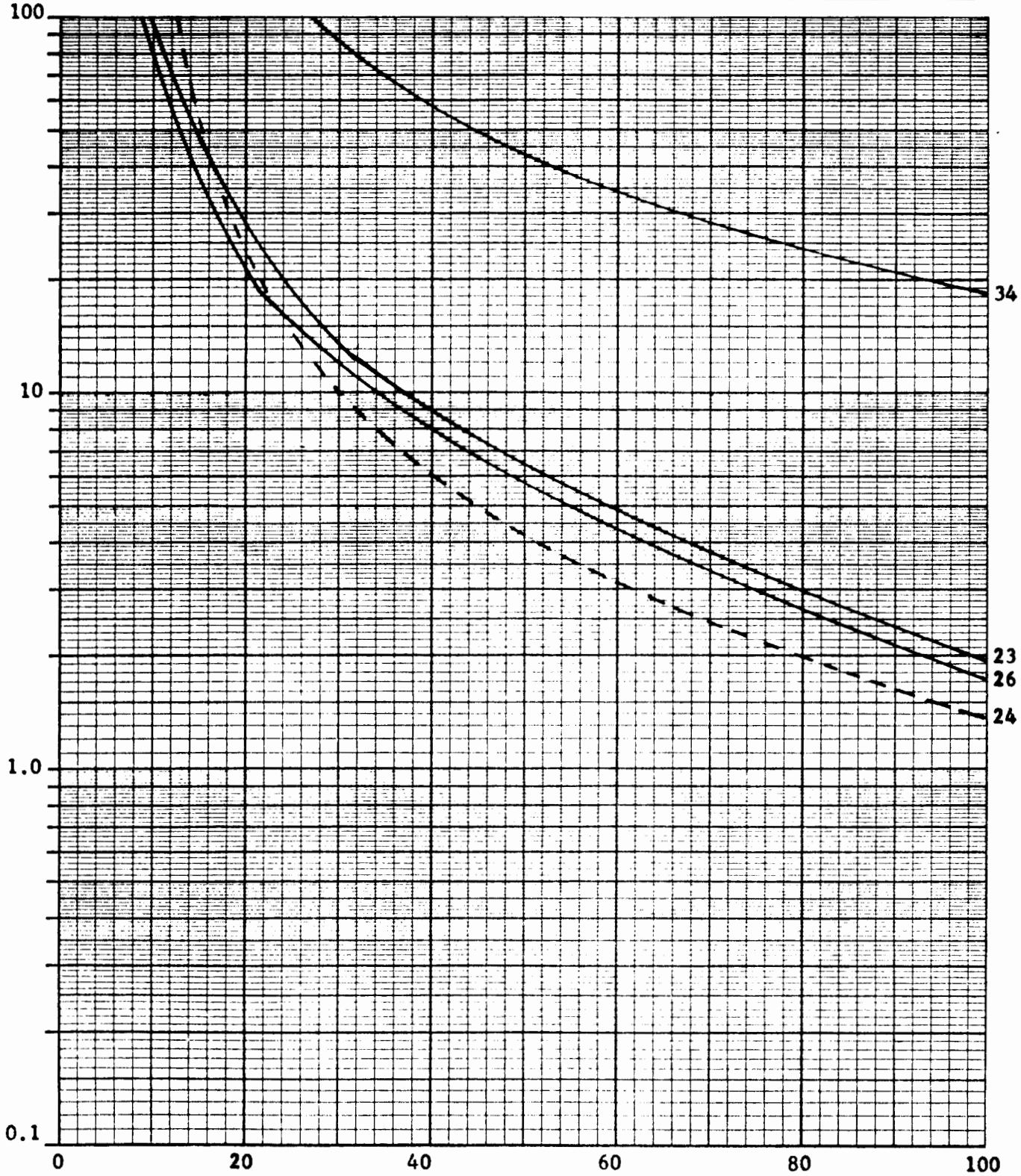
Company ASPEN DRILLING COMPANY
Well BAUMANN NO. 1
Field CARPENTER

Formation KRIDER
County PAWNEE
State KANSAS



Company ASPEN DRILLING COMPANY
Well BAUMANN NO. 1
Field CARPENTER

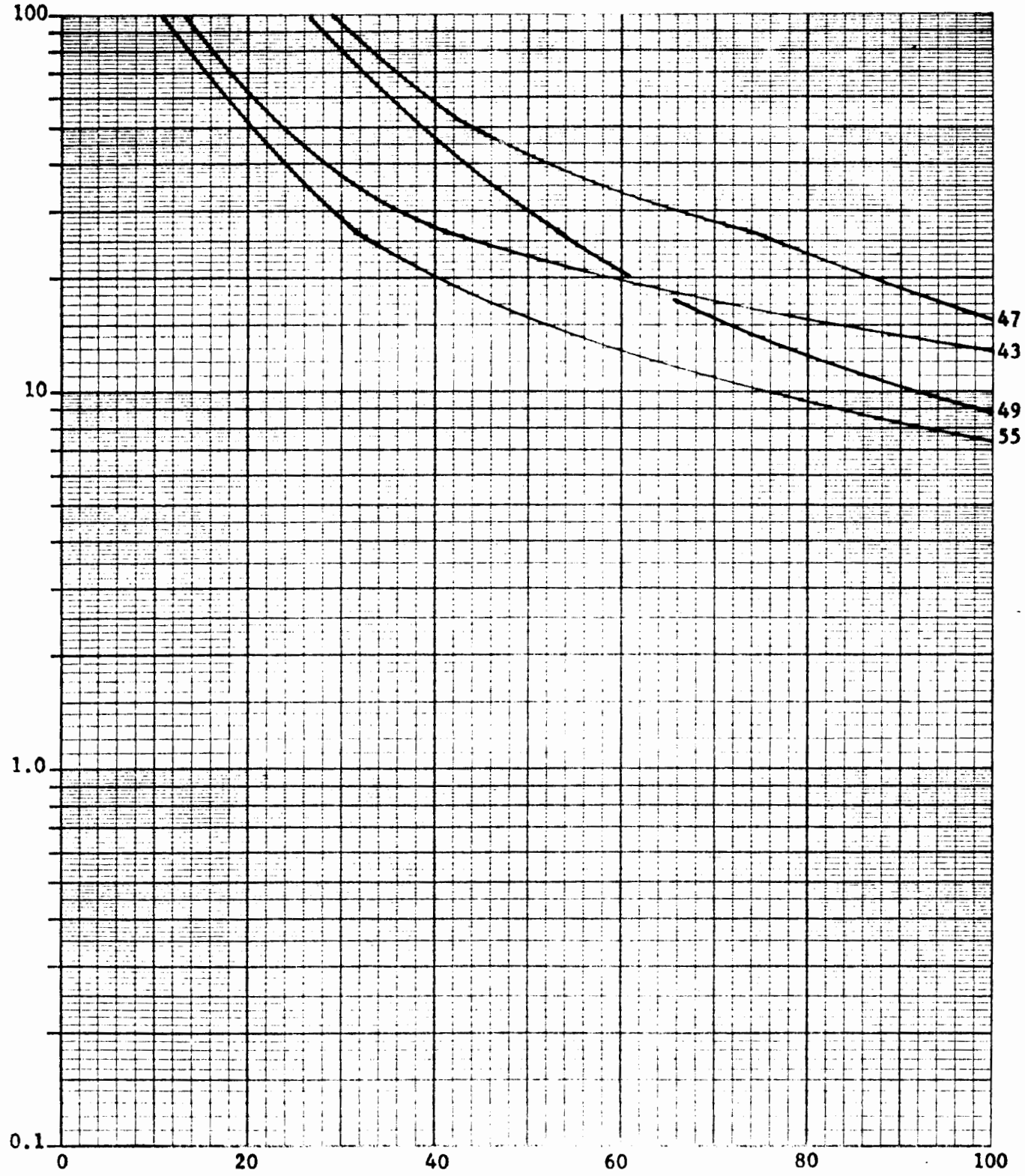
Formation KRIDER
County PAWNEE
State KANSAS



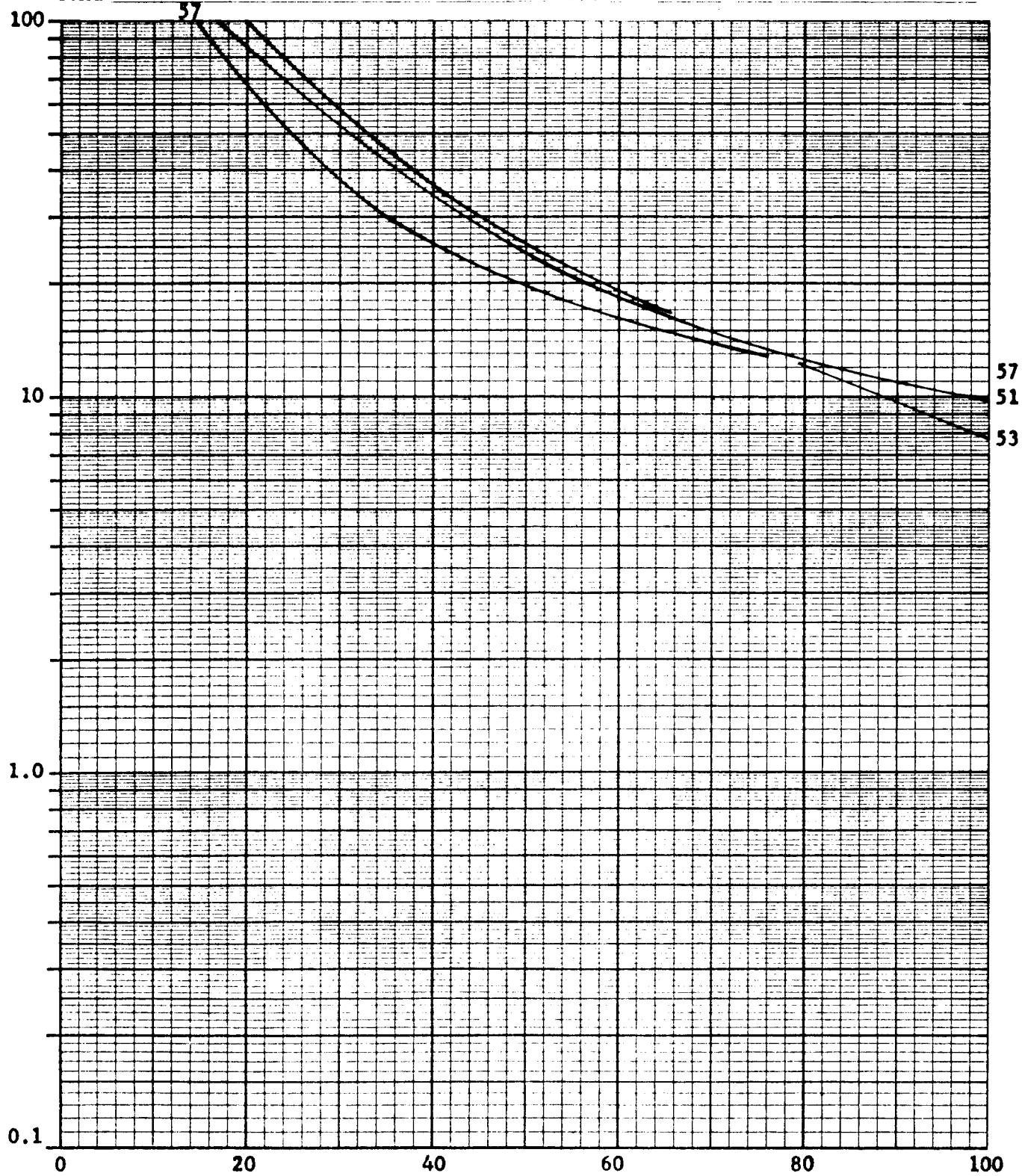
Wetting Phase Saturation, Per Cent Pore Space

Company ASPEN DRILLING COMPANY
Well BAUMANN NO. 1
Field CARPENTER

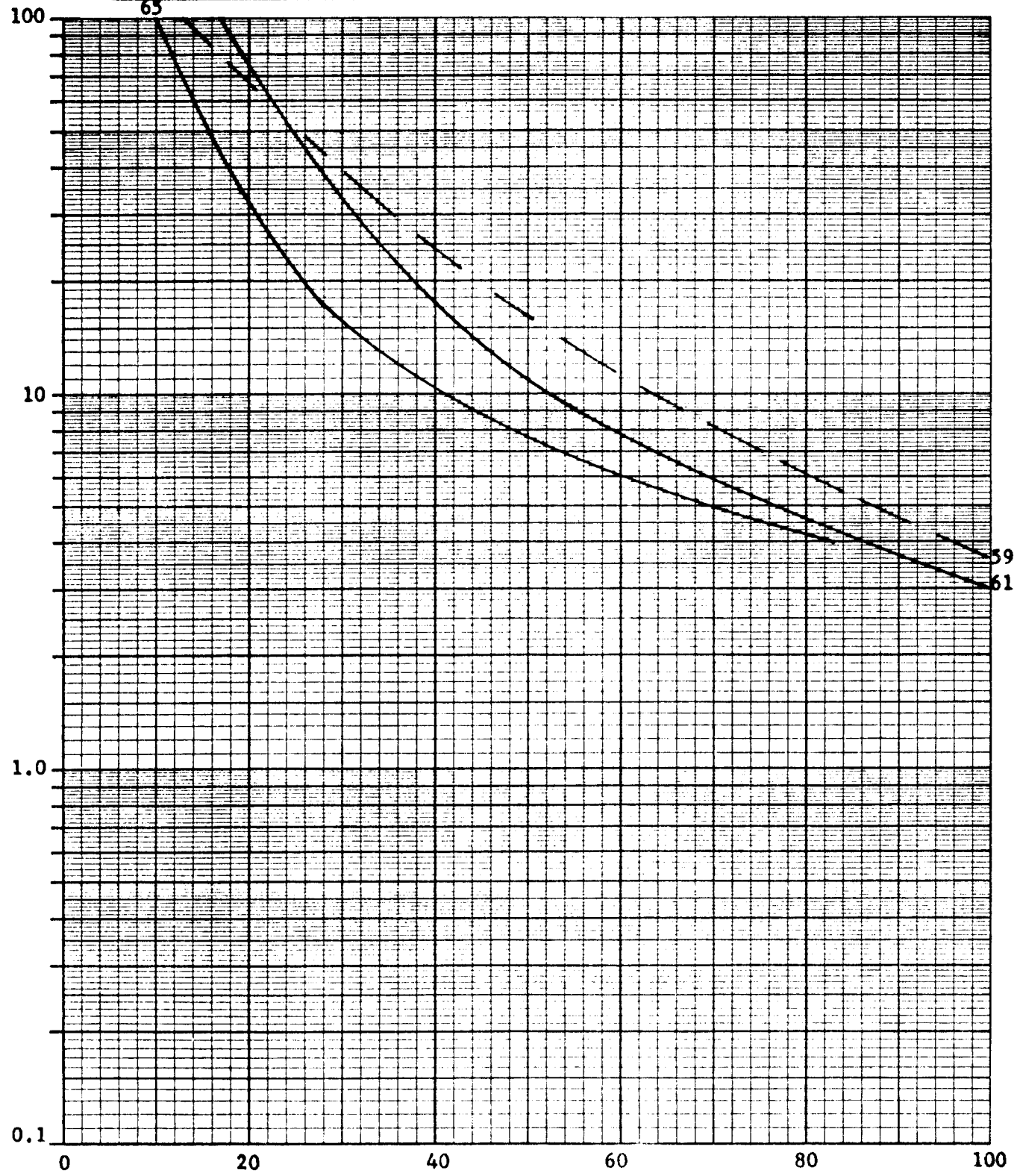
Formation WINFIELD
County PAWNEE
State KANSAS



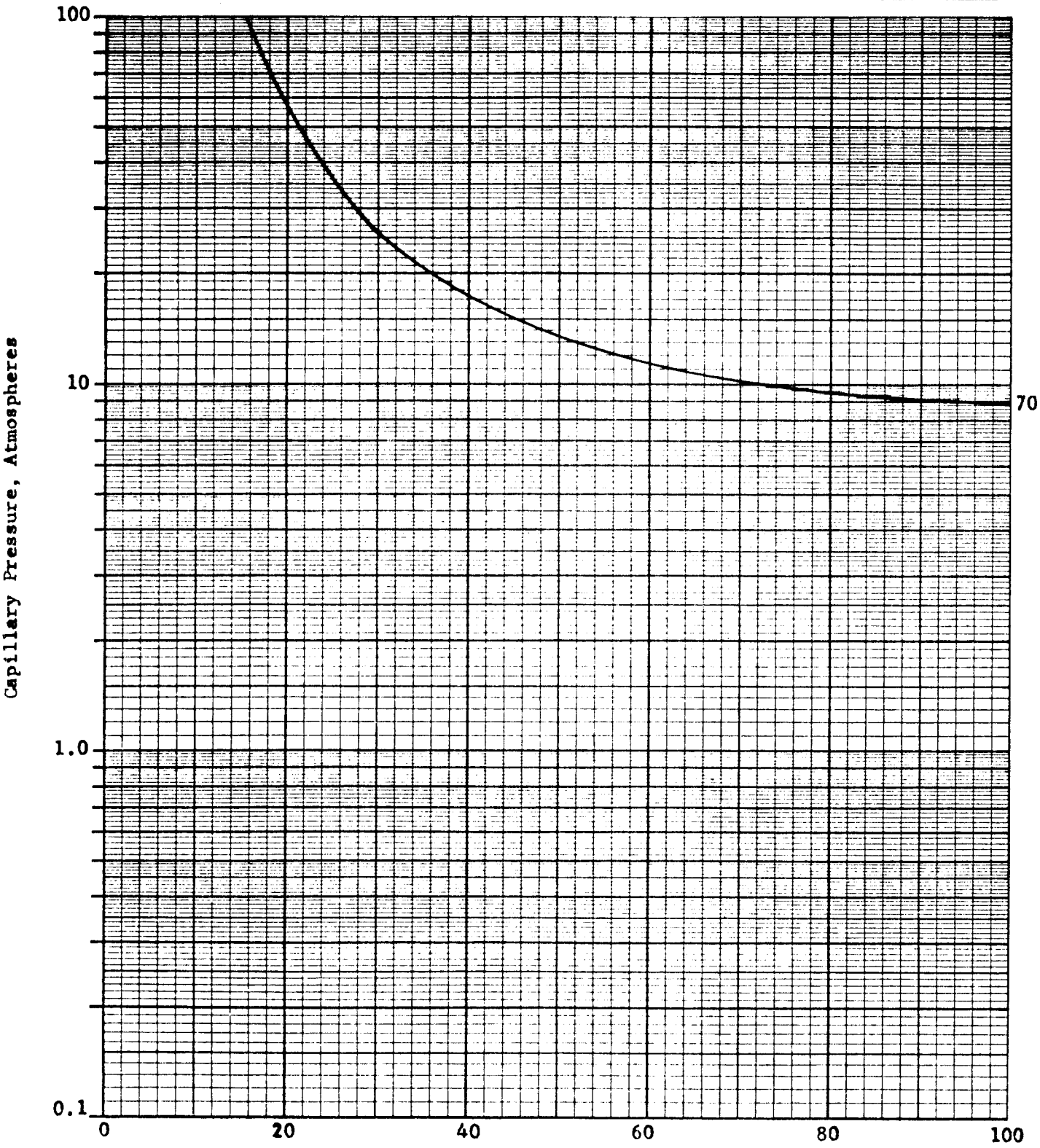
Company ASPEN DRILLING COMPANY Formation WINFIELD
Well BAUMANN NO. 1 County PAWNEE
Field CARPENTER State KANSAS



Company ASPEN DRILLING COMPANY — Formation WINFIELD
Well BAUMANN NO. 1 — County PAWNEE
Field CARPENTER — State KANSAS



Company ASPEN DRILLING COMPANY Formation WINFIELD
Well BAUMANN NO. 1 County PAWNEE
Field CARPENTER State KANSAS



ASPEN DRILLING CO.

No. 1 Baumann

C NW SE Section 32-T23S-R15W
Pawnee County, Kansas

CORE DESCRIPTION
(Based on examination of core chips under a binocular microscope)

Core #1 1975-2027 (Rotary Measurements)
1979-2031 (Electric Log Measurements)

Depths based on rotary measurements (Electric Log depth in parentheses)

(1979 1/2)	1975 1/2	Shale; Light green, very fine granular, slightly dolomitic, selenitic with very small selenite crystals.
		Top of Herington 1975 1/2 (1979 1/2 E)
(1980 1/4)	1976 1/4	Dolomite: White to light gray, very fine grain, mostly dense, poor intergranular porosity (looks tight).
(1981 1/2)	1977 1/2	Shale; Dark gray, very fine granular, dolomitic.
(1983 1/2)	1979 1/2	Dolomite: Dark gray, very fine grain, very shaley.
(1985)	1981	Dolomite: Light gray, very fine grain with small black carbonaceous inclusions, slightly anhydritic, poor intergranular porosity (looks tight).
(1986 3/4)	1982 3/4	Dolomite: Gray, very fine grain, thin bedded, slightly carbonaceous, slightly anhydritic, shaley, poor to fair intergranular porosity.
(1988)	1984	Dolomite: Gray, very fine grain, slightly carbonaceous, anhydritic with scattered anhydrite crystals, shaley, poor intergranular porosity.
(1989 1/2)	1985 1/2	Dolomite: Light gray, very fine grain, speckled with carbonaceous material, slightly anhydritic, poor intergranular porosity.
(1990 3/4)	1986 3/4	Shale: Dark gray to black with gray, crystalline anhydrite nodules.

(1992 1/2)	1988 1/2	Shale: Dark gray to black, thin bedded.
(1994 1/2)	1990 1/2	Shale: Dark gray, thin bedded.
(1997)	1993	Interbedded shale & dolomite with anhydrite nodules.
(1998)	1994	Shale: Dark gray, with some dolomite "nodules".
(1999)	1995	Shale: Dark gray with "greasy" luster, appears to be highly organic.
(2001 1/4) 1998	1997 1/4	Dolomite: White to light gray, very fine grain, with "stringers" of black carbonaceous material, poor intergranular and small pinpoint porosity.
(2004)	2000	Shale; Dark gray to black, anhydritic with large anhydrite nodules.
(2005 1/4)	2001 1/4	Dolomite: Brown, very fine to fine grain, with crystal inclusion of dark minerals and selenite, poor to fair intergranular porosity, fair fossil cast and crystal cast porosity.
(2006)	2002	Dolomite: Brown - as above with dark carbonaceous inclusions, poor intergranular porosity, fair pinpoint, crystal and fossil cast porosity.
(2007)	2003	Dolomite: as above, with dark carbonaceous nodules, poor to fair porosity, as above.
(2009)	2005	Dolomite: Gray to brown, very fine to fine grain, carbonaceous, fair porosity as above.
(2010 1/4)	2007 1/4	Dolomite: Brown, as above, crystal inclusions as above, poor visible intergranular and pinpoint porosity.
(2012 1/2)	2008 1/2	Shale: Gray, slightly dolomitic.
(2014 1/4)	2010 1/2	Dolomite with thinly interbedded gray shale. + Anhyd. Nodules. Dolomite: Tan, fine crystalline, psuedo-fossiliferous, crystal inclusions as above. Good intercrystalline and fossil cast porosity.
(2015 1/2) 2017	2011 1/2	Dolomite: Light brown, fine crystalline, psuedo-fossiliferous, crystal inclusions as above and mottled with crystalline anhydrite nodules. Poor to fair intercrystalline and fossil cast porosity.
(2017)	2013	Shale: Dark gray, very fine granular, very dolomitic.

(2019)	2015	Shale: Light gray, sub-waxy, fossiliferous, very dolomitic.
(2021)	2017	Shale: Light gray, smooth, with thin beds of dark gray dolomitic shale.
(2024)	2020	Shale: Gray, as above.
(2027)	2023	Shale: Gray and brown with "greasy" luster, fossiliferous (not dolomitic or calcareous).
(2029 1/4)	2025 1/4	Marl: Light gray, dolomitic, earthy, fossiliferous, mottled with shale.
		Top of Winfield 2026 1/2 (2030 E. Log)
(2030 1/2)	2026 1/2	Dolomite: White, very fine grain, earthy, mostly dense, with dark mineral and selenite crystal inclusions and anhydrite nodules. Poor porosity of any type.

Core #2 2027-2070 (Rotary Measurement)
2031-2074 (Electric Log Measurement)

Cored 43 ft. - Recovered 41 ft.
(Thought to have lost 1 1/2 ft. of shale off bottom & about 1/2 ft. around 2050 ft.)

2027-2028 (2031-2032) (2 chips)

1. Shale; Gray (Top).
2. Limestone: White to light gray, very fine grain, dolomitic, anhydritic in part, mostly dense, poor visible intergranular porosity.

2028-2029 (2032-2033)
Limestone: White to light gray, very fine grain, cherty, anhydritic in part, poor intergranular porosity (looks tight).

2029-2030 (2033-2034)
Limestone: White to light gray, very fine grain, very slightly fossiliferous, clean, no accessories. Poor visible intergranular porosity (looks tight).

2030-2031 (2034-2035)
Limestone: Light gray, very fine grain, as above. Poor visible intergranular porosity (looks tight).

2031-2032 (2035-2036)
Limestone: Light gray, very fine grain, with chert and anhydrite nodules, poor intergranular porosity.

2032-2033 (2036-2037)
Limestone: As above, poor to fair intergranular porosity.

2033-2034 (2037-2038)
Limestone: Light gray, very fine to fine grain, with chert nodules, poor to fair intergranular porosity.

2034-2035 (2038-2039)
Limestone: Light gray, very fine grain, no accessories, poor intergranular porosity.

2035-2036 (2039-2040)
Limestone: Light gray, very fine to fine grain, no accessories, slightly darker color imparts "greasy" luster in part, poor to fair intergranular porosity.

2036-2037 (2040-2041)
Limestone: Light gray, very fine grain, scattered nodules of chert and anhydrite, looks dense, poor scattered intergranular porosity.

2037-2038 (2041-2042)
Dolomite: Light gray, very fine to fine grain, chert and anhydrite nodules, calcareous, looks dense (same texture as limestone above), poor intergranular porosity.

2038-2039 (2042-2043)
Dolomite: Light gray, very fine to fine grain, cherty, slightly anhydritic, slightly calcareous, slight "greasy" luster, poor to fair intergranular porosity.

2039-2040 (2043-2044)
Dolomite: Light gray, very fine to fine grain, fair "greasy" luster, spotted black carbonaceous material, fair intergranular porosity.

2040-2041 (2044-2045)
Dolomite: As above. Fair intergranular porosity.

2041-2042 (2045-2046)
Dolomite: As above. Poor to fair intergranular porosity.

2042-2043 (2046-2047)
Dolomite: As above. Poor to fair intergranular porosity.

2043-2044 (2047-2048)
Dolomite: Light gray, fine grain, anhydrite nodules, "greasy" luster, fair intergranular porosity.

2044-2045 (2048-2049)
Dolomite: As above with anhydrite nodules, "greasy" luster and spotted black carbonaceous material, poor to fair intergranular porosity.

2045-2046 (2049-2050)
Dolomite: Light gray to gray, very fine to fine grain, slightly anhydritic, "greasy" luster, slightly calcareous, poor to fair intergranular porosity.

2046-2047 (2050-2051)
Limestone: Light gray to gray, very fine to fine grain (same texture as dolomite above), anhydrite nodules, spotted black carbonaceous material, fair intergranular porosity.

2047-2048 (2051-2052)
Limestone: As above, slightly dolomitic, poor to fair intergranular porosity.

2048-2049 (2052-2053)
Limestone: Light gray to gray, very fine to fine grain, scattered anhydrite nodules, "greasy" luster in part, "stringers" of black carbonaceous material, slightly fossiliferous, fair intergranular porosity.

2049-2050 (2053-2054)
Limestone: As above, slightly calcareous, scattered dark minerals, anhydritic, slightly fossiliferous, poor to fair intergranular porosity.

2050-2051 (2054-2055)
Limestone: As above, fair intergranular porosity.

2051-2052 (2055-2056)
Limestone: Light gray, medium grain, highly calcitic with (secondary?) calcity crystals, highly fossiliferous, fair intergranular and small pinpoint porosity.

2052-2053 (2056-2057)
Limestone: Light gray, fine to medium grain, slightly calcitic, fossiliferous, fair intergranular and small pinpoint porosity.

2053-2054 (2057-2058)
Limestone: As above.

2054-2055 (2058-2059)
Limestone: As above (slight increase calcite).

2055-2056 (2059-2060)
Limestone: As above (no chip taken).

2056-2057 (2060-2061)
Limestone: As above.

2057-2058 (2061-2062)
Limestone: As above, (slight increase calcite) (slight increase "greasy" carbonaceous material). Fair intergranular, small pinpoint and fossil cast porosity.

2058-2059 (2062-2063)
Limestone: Light gray to tan, very fine to fine grain, slightly fossiliferous slightly calcitic, noticeable amount of a black mineral (possibly siderite and/or of organic origin), vitreous luster. (This material possibly is the cause of the high radioactivity recorded on the gamma-ray.) Fair intergranular porosity.

2059-2060 (2063-2064)
Limestone: Light gray, very fine to fine grain, slightly fossiliferous, black mineral as above - mostly in a styolite. Poor to fair intergranular porosity.

2060-2061 (2064-2065)
Limestone: As above, black mineral as above is absent, poor intergranular and scattered pinpoint porosity.

2061-2062 (2065-2066)
Limestone: Light gray to gray, very fine to fine grain, slightly dolomitic, fairly abundant mottled dark "greasy" luster, poor to fair intergranular porosity.

2062-2063 (2066-2067)
Shale: Dark gray, slightly dolomitic.

2063-2064 (2067-2068)
Limestone: Light gray, very fine grain and dark gray very fine grain, slightly shaley and platy - mostly dense, very poor intergranular porosity (looks very tight).

2064-2065 (2068-2069)
Limestone: Gray, very fine grain, dense - lithographic dolomite, very poor intergranular porosity (looks very tight).

2065-2066 (2069-2070)
Limestone: Dark gray, very fine grain, thin bedded with few bands of black limestone, slightly shaley, poor intergranular porosity (looks tight).

2066-2067 (2070-2071)
Limestone: As above.

2067-2068 (2071-2072)
Limestone: As above.

2068 1/4 (2072 1/4) (Bottom of Core #2)
Shale: Dark gray to black, slightly dolomitic.

Core #2 was cut to 2070 ft. (rotary) (2074 ft. Electric Log). It is believed that the bottom 1 1/2 ft. to 2 ft. was lost in the hole.