

CLAY POG

PENIZOIL COMPANY
 O.D. STOCKLEY NO. 1661
 GRANNY'S CREEK FIELD
 CLAY COUNTY, WEST VIRGINIA

CORE LABORATORIES, INC.
 Petroleum Research Department
 21111 13th St., N.W.
 Denver, Colorado

DATE: 0-20-79
 FORMATION: BIG LIME
 DRG. FLUID: FRESH WATER GET
 LOCATION:

FILE NO: 3602717
 ENGINEER: MTT/MS
 ELEVATION:

INDICATES PLUG PERM. INDICATES PRESERVED SAMPLE

SMP NO.	DEPTH	PERM. TO AIR	90 DEG. VERT.	POROSITY	FLUID SAT.	GR. DEN.	DESCRIPTION
		MAXIMUM		EXH. FLU.	OIL WTR.	DEH.	
1	1930.5-31.0	<0.1	<0.1	0.4		2.72	LM
2	1931.0-32.0	<0.1	<0.1	0.3		2.74	LM
3	1932.0-33.0	<0.1	<0.1	0.5		2.73	LM
4	1933.0-34.0	1.2	<0.1	0.4		2.73	LM
5	1934.0-35.0	1.7	<0.1	0.7		2.73	LM
6	1935.0-36.0	<0.1	<0.1	0.8		2.73	LM
7	1936.0-37.0	<0.1	<0.1	0.5		2.76	LM
8	1937.0-38.0	<0.1	<0.1	0.1		2.72	LM
9	1938.0-39.0	<0.1	<0.1	0.1		2.72	LM
10	1939.0-40.0	<0.1	<0.1	0.1		2.71	LM
11	1940.0-41.0	<0.1	<0.1	4.0		2.75	SS/LM
12	1941.0-42.0	<0.1	<0.1	8.9		2.79	SS/LM
13	1942.0-43.0	<0.1	<0.1	7.5		2.79	SS/LM
14	1943.0-43.5	<0.1	<0.1	1.8		2.81	SS/LM
15	1943.5-45.0	NO ANALYSIS	SHALE	2.1		2.75	SS/LM
16	1945.0-46.0	0.2	<0.1	4.5		2.71	SS/LM
17	1946.0-47.0	0.2	<0.1	9.4		2.71	SS
18	1947.0-48.0	0.2	<0.1	0.7		2.71	SS
19	1948.0-49.0	0.2	<0.1	4.7		2.71	SS

1. The analysis, systems or methods used in this report were developed and described in the report entitled "Methods of Soil Analysis" published by the American Society of Civil Engineers, New York, N.Y., 1953, and in the report entitled "Methods of Soil Analysis" published by the American Society of Civil Engineers, New York, N.Y., 1968.

ANALYSIS REPORT
CORE LABORATORY

CORE LABORATORY
CORE LABORATORIES INC.
Petroleum Reserve, Birmingham
Alabama

PENIZOIL COMPANY
O.P. STOCKLEY, NO. 166

DATE: 8-20-70
FORMATION: BIG LIM

FILE NO: 602-417
ENGINEER: AMT WILDE

SHP NO.	DEPTH	PERM TO AIR MD.	MAXIMUM 90 DEG. VERT.	POROSITY	FLUIDSATS.	GR. DEN.	DESCRIPTION
19	1949.0-50.0	6.2	<0.1	9.1		2.70	SS
20	1950.0-51.0	20.0	9.2	17.2		2.70	SS
21	1951.0-52.0	32.0	32.0	17.1		2.67	SS
22	1952.0-53.0	31.0	10.0	18.3		2.60	SS
23	1953.0-54.0	0.9	5.1	18.5		2.70	SS
24	1954.0-55.0	7.2	5.9	18.9		2.69	SS
25	1955.0-56.0	6.5	6.7	11.6		2.72	SS
26	1956.0-57.0	0.6	<0.1	13.5		2.71	SS
27	1957.0-58.0	<0.1	<0.1	15.4		2.71	SS
28	1958.0-59.0	0.6	<0.1	18.1		2.70	SS
29	1959.0-60.0	7.0	4.8	19.6		2.73	SS
30	1960.0-61.0	9.6	7.6	20.3		2.95	SS
31	1961.0-62.0	7.5	0.8	18.9		2.91	SS
32	1962.0-63.0	3.8	3.5	17.9		2.97	SS
33	1963.0-64.0	9.1	9.0	19.7		2.98	SS
34	1964.0-65.0	5.9	0.4	19.3		2.74	SS
35	1965.0-66.0	5.9	5.2	16.0		2.70	SS
36	1966.0-67.0	5.9	4.3	16.9		2.80	SS
37	1967.0-68.0	5.9	5.1	18.9		2.80	SS
38	1968.0-69.0	4.2	3.9	18.6		2.80	SS
39	1969.0-70.0	7.0	9.5	18.0		2.60	SS
40	1970.0-71.0	7.1	6.7	18.0		2.60	SS
41	1971.0-72.0	5.7	4.9	10.4		2.69	SS
42	1972.0-73.0	5.8	2.1	17.6		2.69	SS
43	1973.0-74.0	3.4	2.0	17.2		2.69	SS
44	1974.0-75.0	<0.1	<0.1	7.0		2.79	SS, PYR
45	1975.0-76.0	<0.1	<0.1	13.1		2.79	SS
46	1976.0-77.0	<0.1	0.1	11.6		2.70	SS
47	1977.0-78.0	<0.1	<0.1	11.9		2.70	SS
48	1978.0-79.0	<0.1	<0.1	18.6		2.80	SS
49	1979.0-80.0	<0.1	<0.1	13.0		2.81	SS
50	1980.0-81.0	<0.1	<0.1				SS

These analyses represent the petroleum and the solid bituminous and lignitic samples of the 500 ft. interval from the 1949.0 to the 1980.0 depth. The data were obtained from the 500 ft. interval from the 1949.0 to the 1980.0 depth. The data were obtained from the 500 ft. interval from the 1949.0 to the 1980.0 depth. The data were obtained from the 500 ft. interval from the 1949.0 to the 1980.0 depth.

15-1309

CORE LABORATORIES, INC.
Petroleum Research and Refining

DATE: 1/5/71
 FOR: PETROLEUM RESEARCH AND REFINING

MEMBER SOCIETY
 OF PETROLEUM ENGINEERS

REPORT NO. 1983-07-2009-70
 DEPT. 1983-07-2009-70
 TITLE: EQUIM SANDSTONE
 ANALYSIS: NO ANALYSIS - SHALES
 SCALE: NO ANALYSIS - SCALE
 UNIT: GMS

NO.	DEPT.	ANALYSIS	SCALE	UNIT	DATE	ANALYST
53	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
54	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
55	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
56	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
57	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
58	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
59	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
60	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
61	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
62	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
63	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
64	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
65	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
66	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
67	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS
68	1983-07-2009-70	NO ANALYSIS - SHALES	NO ANALYSIS - SCALE	GMS	1/5/71	SS

CORE LABORATORIES (INC)
Petroleum Research Building
 Dallas, Texas

PERMEABILITY VS POROSITY

COMPANY: PENIZOIL COMPANY
 FIELD: GRANITE CREEK FIELD

WELL: OLD STOCKLEY NO. 160
 COUNTY: WEST VIRGINIA

AIR PERMEABILITY: MD = 90 UG/CM²
 POROSITY: PERCENT
 CORRECTED FOR SLIPPAGE AND GAS EXPANSION

DEPTH INTERVAL	RANGE SYMBOL	PERMEABILITY MAXIMUM	PERMEABILITY MINIMUM	POROSITY MAX	POROSITY MIN	POROSITY AVERAGE	PERMEABILITY AVERAGES ARITHMETIC HARMONIC GEOMETRIC
1930.5 - 2027.0	(*)	1000.0	0.10	28.0	4.0	17.1	4.9 0.71 2.1

EQUATION OF LINE RELATING PERMEABILITY TO POROSITY:
 $\log K = (\text{SLOPE})(\text{POROSITY}) + \log \text{INTERCEPT}$
 $K = \text{ANTILOG}(\text{SLOPE})(\text{POROSITY}) \times \text{INTERCEPT}$

PERMEABILITY DEVIATION MINIMIZED FOR SELECTED PERMEABILITIES:
 (SOLID LINE)
 PERM = ANTILOG(0.94562)(POROSITY) + (7.28944)

This analysis, Summary of Interpretation, and Recommendations are based on the information furnished to the Laboratory by the client. The Laboratory is not responsible for the accuracy of the data furnished to it. The Laboratory is not responsible for the interpretation of the data or the recommendations made thereon. The Laboratory is not responsible for the use of the data for purposes other than those for which it was furnished.