

CORE ANALYSIS REPORT

for

PENNZOIL COMPANY

J. B. CASTO NO. 120 WELL

CLAY COUNTY, W. VA.

permit # 1598

CORE LABORATORIES, INC.



P. O. Box 131
Mt. Pleasant, Mich. 48858

Pennzoil Company
P. O. Drawer 1588
Parkersburg, W. Va. 26101

File No: 3602-486
June 19, 1979

Att: Mr. Roger Heldman

Re: Core Analysis Report
Keener Sandstone Formation (1955.5'-1966.5')
Big Injun Sandstone Formation (1966.5'-1994.5')
Squaw Sandstone Formation (2026'-2042.75')
J. B. Casto No. 120 Well
Granny's Creek Field
Clay County, W. Va.

Gentlemen:

Diamond cores from this well between the depths of 1954 feet and 2043 feet have been received in our Michigan laboratory. Results of the following requested analyses are herein submitted:

1. Grain density and whole core porosity.
2. Whole core permeability and 90° whole core permeability on 3' intervals. Plug permeability to be measured in same directions as whole core permeability.
3. Vertical whole core permeability determinations on 2' intervals.
4. Horizontal plug permeability on 1' intervals of the core. All plug samples are to be taken from the center of the core.
5. 90° plug permeability on 1' intervals of the core.
6. Fluid saturations on 1' intervals.

The cores from this well are being returned to your offices via motor freight. The opportunity to be of service on this well is appreciated and please call if you have any questions.

Very truly yours,

CORE LABORATORIES, INC.

A handwritten signature in cursive script, appearing to read "Mabre Maness".

Mabre Maness
District Manager

er
encl.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PENNZOIL COMPANY
J. B. CASTO NO. 120 WELL
GRANNY'S CREEK FIELD
CLAY COUNTY, WEST VIRGINIA

CLAY # 1598

JUNE 6, 1979
FILE NO: 3602-486
ANALYST: REINHEIMER

KEENER, BIG INJUN, SQUAW SANDSTONE FORMATIONS

FULL DIAMETER ANALYSIS

SMP. NO.	DEPTH	GRN. DNS.	POROSITY GEX /	PERMEABILITY DATA					FLUID SATURATIONS		DESCRIPTION
				FULL DIAMETER			PLUG		OIL	WATER	
				0°	90°	VERT.	0°	90°	%P.V.	%P.V.	
1	1954-55	2.77	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	0.0	83.3	LMS
2	1955-56	2.83	2.4				<0.1	<0.1	8.5	80.0	LMS, DOLO, SS
3	1956-57	2.89	5.5			<0.1	<0.1	<0.1	18.4	76.7	LMS, DOLO, SS
4	1957-58	2.75	6.5	<0.1	<0.1		0.2	0.2	17.2	70.9	SS, LMY
5	1958-59	2.69	8.5			<0.1	0.4	0.4	14.0	57.6	SS, LMY
6	1959-60	2.69	7.2				1.0	0.8	13.4	54.9	SS, LMY
7	1960-61	2.70	6.5	0.2	0.1	<0.1	0.2	0.2	31.4	54.1	SS, LMY
8	1961-62	2.71	13.6				0.4	0.4	30.9	53.1	SS, LMY
9	1962-63	2.75	8.8			<0.1	0.2	<0.1	25.4	43.8	SS, LMY
10	1963-64	2.69	6.2	<0.1	<0.1		0.2	0.2	8.1	53.3	SS, LMY
11	1964-65	2.66	7.0			<0.1	<0.1	0.2	8.4	54.7	SS, LMY
12	1965-66	2.67	6.1	1.2	1.0		0.4	0.8	8.3	54.8	SS, LMY
13	1966-67	2.68	4.7			0.1	0.8	0.2	20.4	42.6	SS, LMY
14	1967-68	2.70	5.6				<0.1	<0.1	13.1	68.1	SS, LMY
15	1968-69	2.71	10.4			<0.1	1.2	0.6	17.0	58.2	SS, LMY
16	1969-70	2.71	13.0	0.8	0.9		0.2	2.7	17.7	60.7	SS, LMY
17	1970-71	2.83	14.2			<0.1	0.2	0.2	20.2	63.0	SS, LMY, PYRITE
18	1971-72	2.83	20.6				21	20	6.8	51.1	SS, LMY, PYRITE
19	1972-73	2.73	20.7	*	17		*		13.4	51.7	SS, LMY
20	1973-74	2.70	2.0	<0.1	<0.1	<0.1	<0.1	<0.1	22.1	70.7	SS, LMY

*Only one plug was cut due to condition of core

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

ENNZOIL COMPANY
 . B. CASTO NO. 120 WELL
 RANNY'S CREEK FIELD
 WAY COUNTY, WEST VIRGINIA

JUNE 6, 1979
 FILE NO: 3602-486
 ANALYST: REINHEIMER

KEENER, BIG INJUN, SQUAW SANDSTONE FORMATIONS

FULL DIAMETER ANALYSIS

CMP. NO.	DEPTH	GRN. DNS.	POROSITY GEX	PERMEABILITY DATA					FLUID SATURATIONS		DESCRIPTION
				FULL DIAMETER			PLUG		OIL	WATER	
				0°	90°	VERT.	0°	90°	%P.V.	%P.V.	
1	1974-75	2.71	20.3	*	11		*		14.6	53.7	SS, LMY
2	1975-76	2.76	21.7	*	16		*		13.6	50.2	SS, LMY
3	1976-77	2.68	20.0	8.4	8.7	5.7	11	12	11.0	55.3	
4	1977-78	2.70	18.2				1.4	1.0	12.6	63.2	
5	1978-79	2.68	18.7	2.9	3.3	2.2	2.0	4.1	4.4	66.8	
6	1979-80	2.68	19.1				3.7	3.8	10.6	63.9	
7	1980-81	2.69	19.1			2.7	3.5	3.3	10.4	62.7	
8	1981-82	2.69	19.4	5.8	4.4		3.1	3.7	10.3	59.3	
9	1982-83	2.68	18.9			2.8	4.3	4.9	10.6	61.6	
10	1983-84	2.64	19.2				5.7	6.5	10.5	60.8	
11	1984-85	2.69	18.6	3.0	3.1	1.4	2.2	4.5	6.4	65.8	SS, SL/LMY
12	1985-86	2.68	19.3				4.7	5.7	6.3	64.2	SS, SL/LMY
13	1986-87	2.69	19.4			3.5	4.5	5.5	13.6	65.4	SS, SL/LMY
14	1987-88	2.69	18.8	3.3	3.4		4.5	4.5	12.6	59.7	SS, SL/LMY
15	1988-89	2.72	18.8			2.2	3.3	3.1	13.0	61.2	SS, SL/LMY
16	1989-90	2.70	18.7				2.9	3.9	13.0	60.7	SS, SL/LMY
17	1990-91	2.68	18.3	3.0	2.8	2.4	3.9	4.9	9.0	57.8	SS, SL/LMY
18	1991-92	2.71	17.6				1.2	1.0	13.5	66.7	SS, SL/LMY
19	1992-93	2.75	16.6			0.1	0.8	0.6	14.0	64.0	SS, LMY
20	1993-94	2.75	15.8	0.4	0.5		0.4	0.8	12.0	64.1	SS, LMY

*Only one plug was cut due to condition of core

DISTRIBUTION OF FINAL REPORTS

5 Copies

Mr. Roger Heldman
Pennzoil Company
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Parkersburg, W. Va. 26101