CORE ANALYSIS REPORT

FOR

PENNZOIL

SILAS ASH NO. 17 WELL CENTERPOINT-FLINT RUN FIELD DODDRIDGE COUNTY, WEST VIRGINIA

0 2000

or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions

#### CORE LABORATORIES, INC.

131 WIL

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

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

File 3602-533 December 12, 1979

Att: Mr. Steven S. Holsclaw

Re: Core Analysis Report Silas Ash Well No. 17

Pocono Big Injun Sand Formation Centerpoint-Flint Run Field Doddridge County, West Virginia

Gentlemen:

A diamond core from this well between the depths of 1939 feet and 1961 feet (excluding the 1953'-1955' interval) has been received in our Michigan laboratory. The following analyses have been performed in accordance with your letter of instructions:

- 1. Full diameter analysis of porosity and vertical permeability every foot.
- 2. Full diameter analysis of horizontal permeability every foot (maximum and  $90^{\circ}$  to maximum).
- 3. Conventional plug type analysis of horizontal permeability every foot corresponding with the "maximum" full diameter orientation.
- 4. Grain density every foot.
- 5. Gamma-Correlation log over entire core interval.

Results of these analyses are herein submitted in tabular and graphical form with a graph of the Surface-Gamma log and porosity-permeability histogram presentations.

This core is being returned to your office 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.

Malu Manual

Mabre Maness District Manager

er encl.

PENNZOIL SILAS ASH NO. 17 WELL CENTERPOINT-FLINT RUN FIELD DODDRIDGE COUNTY. WEST VIRGINI DATE: FORMATION: DRLG. FLUID:

LOCATIONS

12-3-79

POCONO BIG INJUN SS

FILE NO: ENGINEER: 3602-533 MCCLURE

ELEVATION:

*	IND	ICA	TES	PLUG	PERM
280	W 1 4 PM	A L P	(5,3)		20 34 14

#### S INDICATES PRESERVED SAMPLE

	PERM.		1D•	PCROSITY		GR.		
DEPTH	MAXIMUM	90 DEG	VERT.	GEX. FLD.	OIL WTR.	DEN.	DESCRIPTION	
ලැබ දැන අනුලු කිරීම සිත්ව ඇති සිත්ව දැන් සිත්ව දැන්	\$100 COM COM THE SEAS (COM COM COM COM COM COM COM COM COM COM	3 E3			(a) (b) (a) (c) (c) (c) (c) (c) (c) (d) (d)		(4) (4) W W W (4) (4) (4) (4) (4) (4) (4) (4) (4) (4)	) (ess 200 (ess (ess dep.
		<b></b>		Thorast was a said a basis fi	D 499a		•	
	·	F	ULL DIAME	TER ANALYSI	15			
1939.0-40.0	2 • 0	0.2	0.2	6.7		2.73	<b>55</b>	
1940.0-41.0	0.4	0.2	<0.1	5.9		2.65	55	
1941.0-42.0	0.2	5.0	<0.1	5.4		2.69	55	
1942.0-43.0	0.3	0.6	6.2	8.2		2.65	<b>55</b>	
1943.0-44.0	6.2	5.7	1.5		•	2.68	<b>55</b>	
1944.0-45.0	126.0	66.0	44.0	19.4	*		SSIFRAC	
1945.0-46.0	6.5	6.1	0.3	14.7		2.66	<b>\$</b> 5	
1946.0-47.0	25.0	24.0	1.3	18.5		2.65		
1947.0-48.0	*	156.0		25.0				
1948.0-49.0	130.0	112.0	19.0	22.1	M			
1949.0-50.0	- 37.0	36.0	1. • 7	19.5	23/0			
1950.0-51.0	31.0	27.0	S • 0	17.6	18.0			
1951 • 0 - 52 • 0	21.0	14.0	2.3	26.2	- '			
1952.0-53.0	17.0	16.0	7.8	16.1	^ 0	80.5	<b>S</b> S	
1953.0-1955.0	CORE LOS	ST IN SHI	PMENT -	- Darchapai	a shale			
				& throw &	ent of the			
1955.0-56.0	0.5	0.4	<0.1	9.9	12-64	2.68	SS	
1956.0~57.0	0.4	0.3	0.2	8.7		2.67	<b>55</b>	
1957.0-58.0		2.0	<0.1	9.7		2.69	\$5	
	0.4	0.3	0.4	11.9		2.69	\$\$	
				11.3		2.69	55	
1960.0-61.0	0.2	0.2	<0.1	9.8		2.69	SS	
	1939.0-40.0 1940.0-41.0 1941.0-42.0 1942.0-43.0 1943.0-44.0 1944.0-45.0 1945.0-46.0 1946.0-47.0 1947.0-48.0 1948.0-49.0 1949.0-50.0 1950.0-51.0 1951.0-52.0 1953.0-1955.0 1953.0-59.0 1957.0-58.0 1959.0-60.0	DEPTH MAXIMUM  1939.0-40.0 1940.0-41.0 1941.0-42.0 1942.0-43.0 1942.0-43.0 1943.0-44.0 1945.0-46.0 1945.0-46.0 1946.0-47.0 1947.0-48.0 1948.0-49.0 1949.0-50.0 1950.0-51.0 1950.0-52.0 1952.0-53.0  1953.0-1955.0 CORE LOS 1958.0-59.0 1959.0-60.0 0.5	DEPTH MAXIMUM 90 DEG  1939.0-40.0	FULL DIAME  1939.0-40.0 1940.0-41.0 1941.0-42.0 1941.0-42.0 1942.0-43.0 1943.0-44.0 6.2 1944.0-45.0 1944.0-45.0 1945.0-46.0 1945.0-46.0 1946.0-47.0 1947.0-48.0 1948.0-49.0 1949.0-50.0 1949.0-50.0 1951.0-52.0 1951.0-52.0 1953.0-1955.0 CORE LOST IN SHIPMENT  1958.0-59.0 1959.0-60.0 0.5 0.4 0.3 0.4 1959.0-60.0 0.5 0.6	DEPTH         MAXIMUM 90 DEG         VERT.         GEX. FLD.           FULL DIAMETER ANALYSI           1939.0-40.0         0.2         0.2         0.2         6.7           1940.0-41.0         0.4         0.2         <0.1	DEPTH         MAXIMUM         90 DEG         VERT.         GEX. FLD.         OIL         WTR.           FULL DIAMETER ANALYSIS           1939.0-40.0         0.2         0.2         0.2         6.7           1940.0-41.0         0.4         0.2         <0.1	DEPTH         MAXIMUM         90 DEG         VERT.         GEX. FLD.         OIL         WTR.         DEN.           FULL DIAMETER ANALYSIS           1939.0-40.0         0.2         0.2         0.2         6.7         2.73           1940.0-41.0         0.4         0.2         0.1         5.9         2.65           1941.0-42.0         0.2         0.2         0.2         3.2         2.65           1942.0-43.0         0.9         0.6         0.2         8.2         2.65           1943.0-44.0         6.2         5.7         1.5         12.2         2.68           1943.0-44.0         6.2         5.7         1.5         12.2         2.68           1945.0-45.0         126.0         66.0         44.0         19.4         2.67           1945.0-46.0         6.5         6.1         0.3         14.7         2.66           1947.0-48.0         *         156.0         26.0         2.65           1948.0-49.0         130.0         112.0         19.0         22.1           1949.0-50.0         37.0         36.0         1.7         19.5           1951.0-52.0         21.0         14.0         2.3         16.2<	### DEPTH   MAXINUM 90 DEG   VERT.   GEX. FLD.   OIL   WTR.   DEN.   DESCRIPTION      1939.0-40.0

PENINZOIL SILAS ASH NO. 17 WELL CENTERPOINT-FLINT RUN FIELD DODDRIDGE COUNTY, WEST VIRGINI DATE: FORMATION: 12-3-79

POCONO BIG INJUN SS

FILE NOS ENGINEER: ELEVATION:

3602-533 MCCLURE

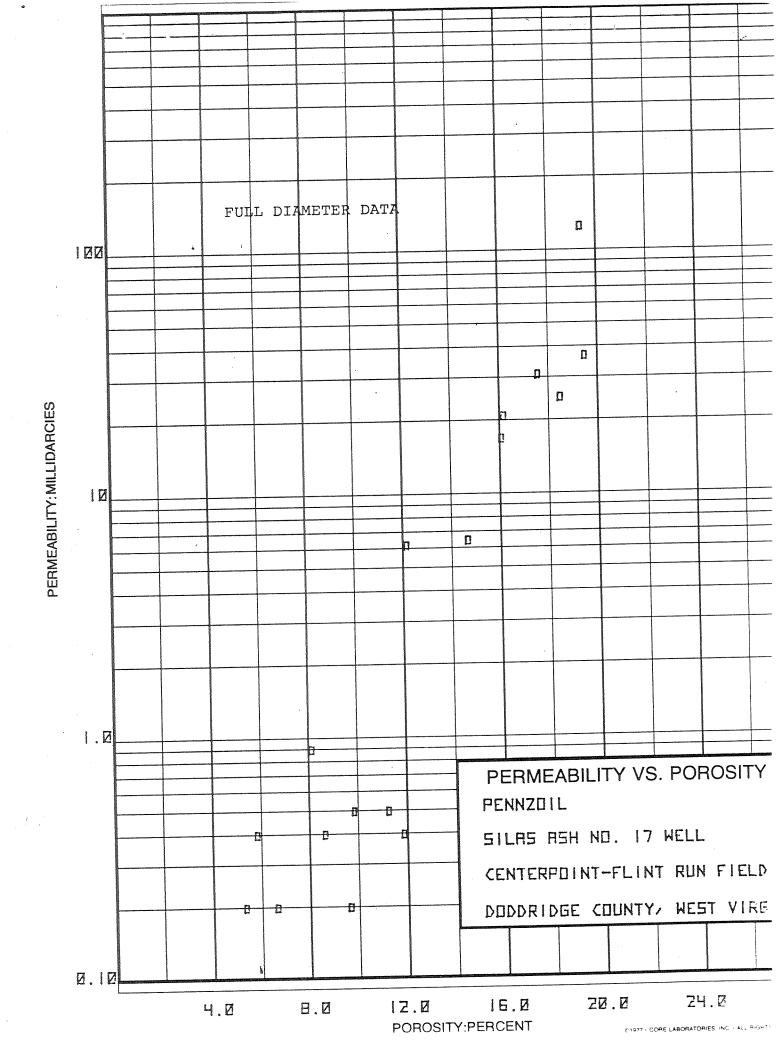
DRLG. FLUID:

LCCATION:

\* INDICATES PLUG PERM

S INDICATES PRESERVED SAMPLE

SMP.	DEPTH	PERMo TO	AIR MD O VERTO	POROSITY GEX. FLD.	FLUID SATSO GIL WTFO	OFNe OFNe	DESCRIPTION
			HOFIZONTAL PLU	JG PEFMEABIL	TTIES.		
1	1939.0-40.0	0.4		6.7			·
2	1940.0-41.0	0.2		5.9			
3	1941.0-42.0	0.3		5.4			
4	1942.0-43.0	0.4		8.2	•		
5	1943.0-44.0	8.3		12.2	1		
6	1944.0-45.0	127.0		19.4	*		
7	1945.0-46.0	12.0		14.7	*		
ė	1946.0-47.0	41.0		18.5			
3	1947.0-48.0	本		26.0			
10	1948.0-49.0	112.0	4	22.1			
11	1949.0-50.0	59.0		19.5			
12	1950.0-51.0	103.0		17.6			
13	1951.0-52.0	13.0		16.2			
14	1952.0-53.0	31.0		16.1	•		
	1953.0-1955.0	CORE LOST	IN SHIPMENT				
15	1955.0~56.0	0.9		9.9			
16	1956.0-57.0	0.7		8.7		*	
17	1957.0-58.0	0.4		9.7			
18	1958.0-59.0	0.9		11.9			
19	1959.0-60.0	1.1		11.3			
20	1960.0-61.0	0.7	•	9.8			



## PERMEABILITY VS POROSITY

COMPANY: PENNZOIL

WELL

: SILAS ASH NO. 17 WELL

FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

AIR PERMEABILITY : MD -

MAX

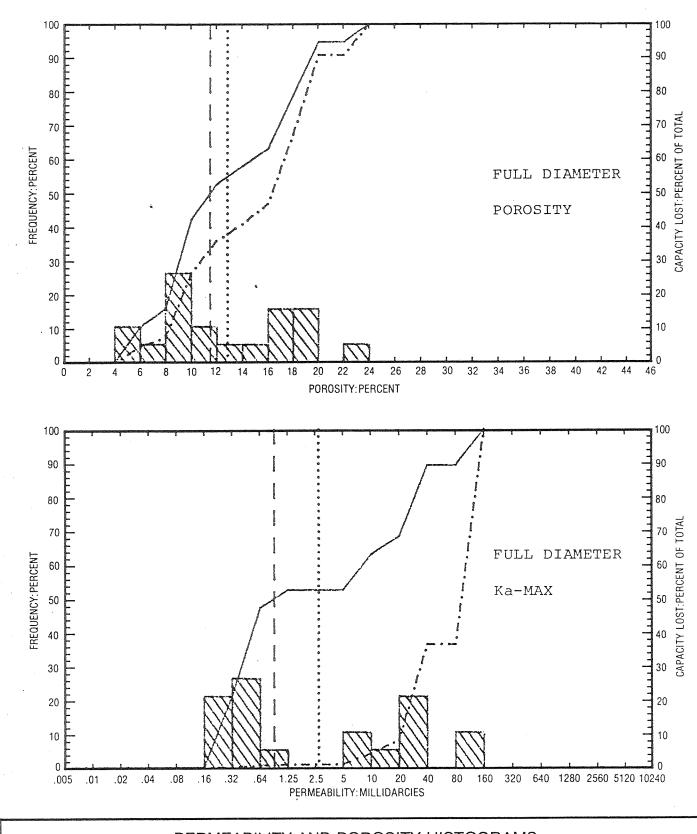
( UNCORRECTED FOR SLIPPAGE )

POROSITY

\* PERCENT

GAS EXPANSION

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY MAXIMUM MINIMUM TO CONTROL OF THE PERMEABILITY	POROSITY MAX. MIN.	POROSITY AVERAGE	ARITHMETIC	LITY AVERAGES HARMONIC GEOMETRIC
1939.0 - 1961.0	1 (0)	1000.0 6.10	46.0 0.0	12.5	16	0.60 2.5



## PERMEABILITY AND POROSITY HISTOGRAMS

PENNZOIL
SILAS ASH NO. 17 WELL
CENTERPOINT-FLINT RUN FIELD
DODDRIDGE COUNTY/ WEST VIRGINI

#### LEGEND

ARITHMETIC MEAN POROSITY GEOMETRIC MEAN PERMEABILITY MEDIAN VALUE CUMULATIVE FREQUENCY CUMULATIVE CAPACITY LOST

9	•		•	• •		
		_	 			-
-	-		 		-	
	_		 	,		

PAGE NO.

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PENNZOIL

: SILAS ASH NO. 17 WELL WELL

FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

AIR PERMEABILITY : MD.

MAX

RANGE USED

0.100 TO 1000

POROSITY

: PERCENT

( GAS EXPANSION )

RANGE USED

0.0

TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS

1939.0 -

1961.0

INTERVAL LENGTH :

22.0

FEET ANALYZED IN ZONE :

20.0

LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY AVERAGE

PERMEABILITY AVERAGES HARMONIC GEOMETRIC APTIMETIC

12.8

21

0.57

2.7

PAGE NO. 2

# STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PENNZOIL

WELL

SILAS ASH NO. 17 WELL

FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

#### GROUPING BY POROSITY RANGES

POROSITY	FEET IN	AVERAGE	AVERAGE	PERM.	FREQUENCY	CUMULATIVE
RANGE	RANGE	POROSITY	(GEOM.)	(ARITH)	(PERCENT)	FREQUENCY (%)
4.0 - 6.0 6.0 - 8.0 8.0 - 10.0 10.0 - 12.0 12.0 - 14.0 14.0 - 16.0 16.0 - 18.0 18.0 - 20.0 22.0 - 24.0	2.0 1.0 5.0 1.0 1.0 3.0	5.7 6.7 9.3 11.6 12.2 14.7 16.6 19.1 22.1	0.283 0.200 0.373 0.447 6.2 6.5 22 49	0.300 0.200 0.440 0.450 6.2 6.5 23 63	10.5 5.3 26.3 10.5 5.3 5.3 15.8 15.8	10.5 15.8 42.1 52.6 57.9 63.2 78.9 94.7

TOTAL NUMBER OF FEET = 19.0

PAGE NO. 3

# STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PENNZOIL

WELL

: SILAS ASH NO. 17 WELL

FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

# GROUPING BY PERMEABILITY RANGES

PERMEABILITY	FEET IN	AVERAGE	(ARITH)	AVERAGE	FREQUENCY	CUMULATIVE
RANGE	RANGE	(GEOMe)		POROSITY	(PERCENT)	FREQUENCY (%)
0.156 - 0.313 0.313 - 0.625 0.625 - 1.250 5 - 10 10 - 20 20 - 40 80 - 160	4.0 5.0 1.0 2.0 1.0 4.0	0.200 0.437 0.900 6.3 17 28	0.200 0.440 0.900 6.4 17 29	7.9 9.5 8.2 13.5 16.1 18.0 20.8	21.1 26.3 5.3 10.5 5.3 21.1	21.1 47.4 52.6 63.2 68.4 89.5

TOTAL NUMBER OF FEET = 19.0

PAGE NO.

## STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PENNZOIL

WELL

8 SILAS ASH NO. 17 WELL

FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

#### POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

POROSITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
医多 化苯 医乳 经股 经股 化基 医肠 医	(co) (200 120) (500 els) (60)	क्षेत्र विद्वार पश्चिम क्ष्मक क्षमि प्रदान क्षमा क्षम	CO 600 600 600 600 600 600 600 600 600 60		***	***
0 • 0	O · O	0.0	19.0	100.0	12.8	11.5
2.0	0.0	0.0	19.0	100.0	12.8	11.5
4.0	0.0	0.0	19.0	100.0	12.8	11.5
6.0	2.0	4.6	17.0	95.4	13.7	13.0
8.0	3.0	7.4	16.0	92.5	14.1	14.0
10.0	8.0	26.4	11.0	73.6	16.3	17.0
12.0	10.0	35.9	9.0	64.1	17.4	17.7
14.0	11.0	40.9	8.0	59.1	18.0	18.0
16.0	12.0	46.9	7.0	53.1	18.5	18.3
18.0	15.0	67.4	4.0	32.5	19.9	
50.0	18.0	90.9	1.0	9.1	22.1	
22.0	18.0	90.9	1.0	9.1	22.1	
24.0	19.0	100.0	0.0	$G \bullet G$		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 243.8

FAGE NO. 5

S

## STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PENNZOIL

OIL WELL

SILAS ASH NO. 17 WELL

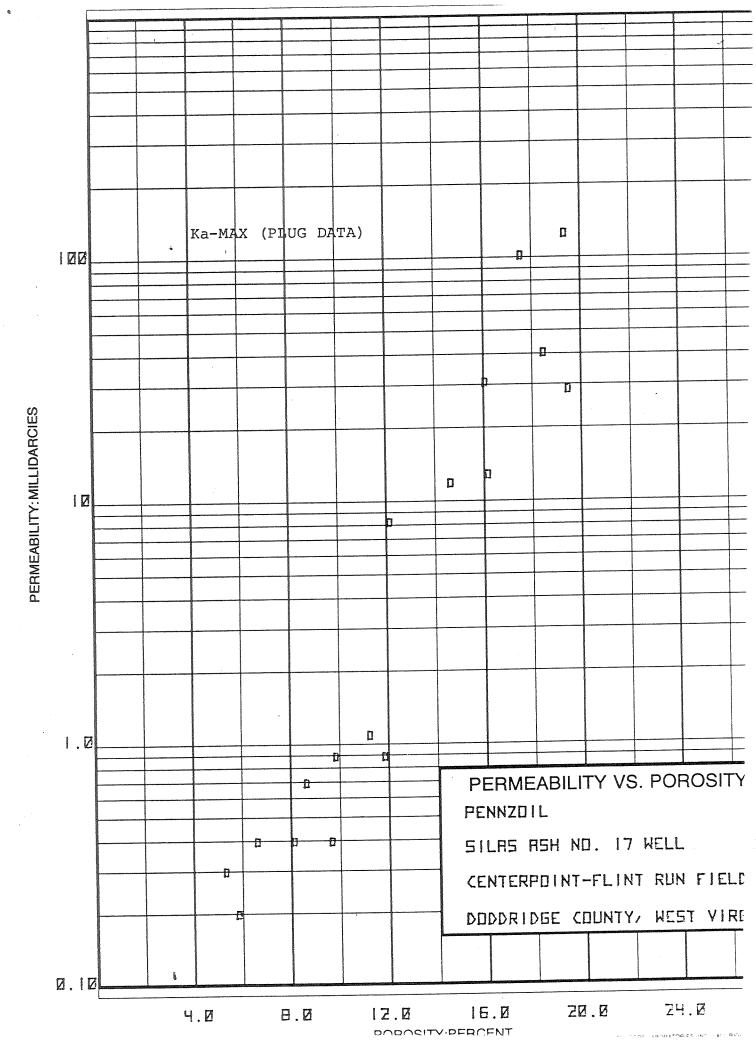
FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

# MILLIADRCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

PERMEABILITY	FEET	CAPACITY	FEET	CAPACITY	GEOM	
CUT OFF	LOST	LOST (%)	REMAINING	REMAINING (%)	MEAN	MEDIAN
the last tag stay the the type she extend the say	(10 CP 80 EN EN EN	क्रक स्थान क्षेत्र क्ष्म क्षम होता क्षम क्षम क्षम			*** **** *** *** *** ***	60 64 60 60 64 60 60 60 60 64 60 60 60 60 60 60 60
0.005	0.0	0.0	19.0	100.0	2.70	0.88
0.010	0.0	0.0	19.0	100.0	2.70	0.88
0.020	0.0	0.0	19.0	100.0	2.70	0.88
0.039	0.0	0.0	19.0	100.0	2.70	0.88
0.078	0.0	0.0	19.0	100.0	2.70	0.88
0.1.56	0.0	C • O	19.0	100.0	2.70	0.88
0.313	4.0	0.2	15.0	99.8	5.40	8.41
0.625	Ģ•€	0.7	10.0	99.3	18.98	23.78
1.250	10.0	1.0	9.0	99.0	26.54	25.94
2.500	10.0	1.0	3.0	99.0	26.64	25.94
5	10.0	2.0	9.0	99.0	25.64	25.94
10	12.0	4.1	7.0	95.9	40.13	36.84
20	13.0	8.3	6.0	91.7	46.31	
40	17.0	36.6	2.0	63.4	127.98	
80	17.0	36.6	8.0	63.4	127.98	
160	19.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 403.60



# CORE LABORATORIES, INC. Petroleum Reservoir Engineering

#### PERMEABILITY VS POROSITY

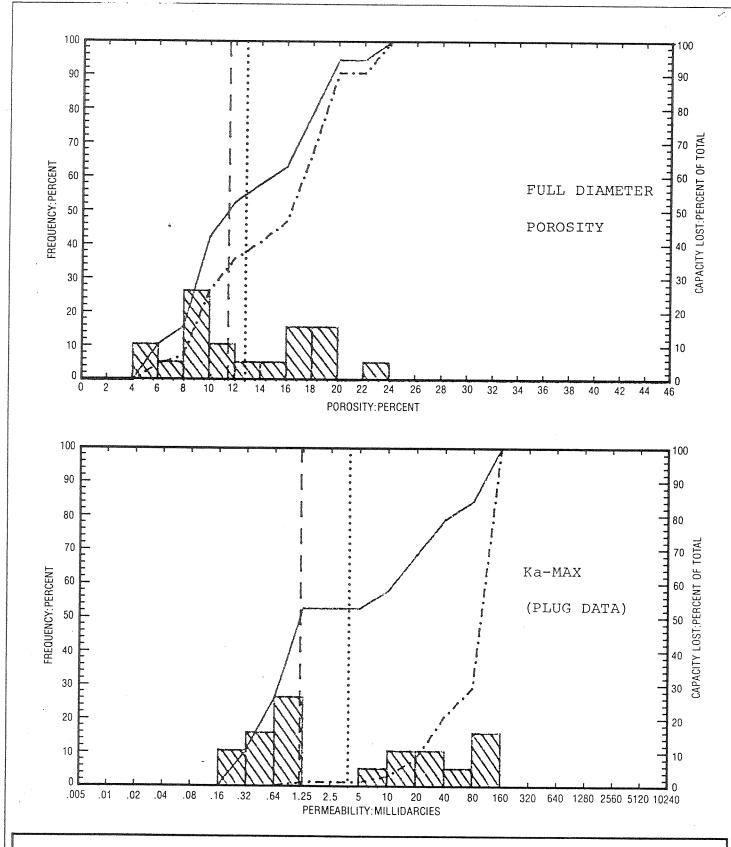
COMPANY: PENNZOIL

WELL : SILAS ASH NO. 17 WELL

FIELD : CENTERPOINT-FLINT RUN FIELD COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

AIR PERMEABILITY: MD - MAX-PLUG DATA( UNCORRECTED FOR SLIPPAGE )
POROSITY: GAS EXPANSION )

DEPTH RANGE & PERMEABILITY POROSITY POROSITY PERMEABILITY AVERAGES INTERVAL SYMBOL MAXIMUM MINIMUM MAX. MIN. AVERAGE ARITHMETIC HARMONIC GEOMETRIC 0.82 1000.0 0.10 46.0 0.0 12.5 22 3.5 1961.0 (0) 1939.0 -1



# PERMEABILITY AND POROSITY HISTOGRAMS

PENNZDIL

SILAS ASH ND. 17 HELL

CENTERPOINT-FLINT RUN FIELD

DUDDRIDGE COUNTY, WEST VIRGINI

#### LEGEND

ARITHMETIC MEAN POROSITY GEOMETRIC MEAN PERMEABILITY MEDIAN VALUE CUMULATIVE FREQUENCY CUMULATIVE CAPACITY LOST

COMPANY: PENNZOIL FIELD : CENTERPOINT-FLINT RUN FIELD

& SILAS ASH NO. 17 WELL WELL

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

AIR PERMEABILITY : MD.

(MAX-PLUG DATA )

RANGE USED

0.100 TO 1000

POROSITY

: PERCENT

( GAS EXPANSION )

RANGE USED

TO 46.0 0.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS

1939.0 - 1961.0

INTERVAL LENGTH &

22.0

FEET ANALYZED IN ZONE :

20.0

LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY AVERAGE

PERMEABILITY AVERAGES ARITHMETIC HARMONIC GEOMETRIC

12.8

25

0.86

3.8

# STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PENNZOIL

SILAS ASH NO. 17 WELL

FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

# GROUPING BY FOROSITY RANGES

POROSITY	FEET IN	AVERAGE	AVERAGE	PERMo	FREQUENCY	CUMULATIVE
PANGE	RANGE	POROSITY	(GEOM.)	(ARITH)	(PERCENT)	FREQUENCY (%)
4.0 - 6.0 6.0 - 8.0 8.0 - 10.0 10.0 - 12.0 12.0 - 14.0 14.0 - 16.0 16.0 - 18.0 18.0 - 20.0 22.0 - 24.0	2.0 1.0 5.0 2.0 1.0 3.0 3.0	5.7 6.7 9.3 11.6 12.2 14.7 16.6 19.1 22.1	0.245 0.400 0.588 0.995 8.3 12 35 53	0.250 0.400 0.620 1.0 8.3 12 49 65	10.5 5.3 26.3 10.5 5.3 5.3 15.6 15.6	10.5 15.8 42.1 52.6 57.9 63.2 78.9 94.7

TOTAL NUMBER OF FEET = 19.0

COMPANY: PENNZOIL

WELL

SILAS ASH NO. 17 WELL

FIELD : CENTERPOINT-FLINT RUN FIELD

COUNTY, STATE: DODORIDGE COUNTY, WEST VIRGINI

#### GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE		FEET IN AVERAGE RANGE (GEOM.)		E PERM.	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)	
		62 52 64 65 65 65 63 63 63 63 63 63 63 63 63 63 63 63 63						
0.156 =	0.313	Z • 0.	0.245	0.250	5.7	10.5	10.5	
0.313 -	0.625	3.0	0.400	0.400	8.2	15.8	26.3	
0.625 -	1.250	5.0	0.847	0.860	10.3	26.3	52.6	
5 =	10	2.0	٤.3	8.3	12.2	5.3	57.9	
10 -	20	2.0	12	13	15.5	10.5	68.4	
20 -	40	2.0	30	30	17.8	10.5	78.9	
40 -	80	1.0	41	41	18.5	5.3	84.2	
80 -	160	3.0	114	114	19.7	15.8	100.0	

TOTAL NUMBER OF FEET = 19.0

COMPANY: PENNZOIL
FIELD : CENTERPOINT-FLINT RUN FIELD

WELL : SILAS ASH NO. 17 WELL COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

# POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

POROSITY CUT OFF	FEET	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
0.0	0.0	0.0	19.0	100.0	12.8	11.5
2.0	$\mathbf{O} \bullet \mathbf{O}$	0.0	19.0	100.0	12.8	11.5
4.0	0.0	0.0	19.0	100.0	12.8	11.5
6.0	2.0	4.6	17.0	95.4	13.7	13.0
ව වෙ	3.0	7.4	16.0	92.6	14.1	14.0
10.0	8.0	26.4	11.0	73.6	16.3	17.0
12.0	10.0	35.9	9.0	64.1	17.4	17.7
14.0	11.0	40.9	8.0	59.1	18.0	18.0
16.0	12.0	46.9	7.0	53.1	18.5	18.3
18.0	15.0	67.4	4.0	32.6	19.9	
20.0	18.0	90.9	1.0	9.1	22.1	
22.0	18.0	90.9	1.0	9.1	22.1	
24.0	19.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 243.8

COMPANY: PENNZOIL

FIELD : CENTERPOINT-FLINT RUN FIELD

WELL

SILAS ASH NO. 17 WELL

COUNTY, STATE: DODDRIDGE COUNTY, WEST VIRGINI

# MILLIADRCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

PERMEABILITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	GEOM MEAN	MEDIAN
0.005	0 • 0.	0.0	19.0	100.0	3.82	1.17
0.010	0.0	0.0	19.0	100.0	3.82	1.17
0.020	$0 \bullet 0$	0.0	19.0	100.0	3.82	1.17
0.039	$G \circ O$	$0 \circ 0$	19.0	100.0	3,82	1.17
0.078	0.0	0.0	19.0	100.0	3.82	1.17
0.156	0.0	$\mathbf{C} \bullet \mathbf{C}$	19.0	100.0	3.82	1.17
0.313	2.0	0.1	17.0	99.9	5.28	7.07
0.625	5.0	0.4	14.0	99.6	9.19	14.14
1.250	10.0	1.2	9.0	98.8	34.54	33.64
2.500	10.0	1.2	9.0	98.8	34.54	33.64
5	10.0	1.2	9.0	98.8	34.54	33.64
10	11.0	3.0	8.0	97.0	41.27	40.00
50	13.0	8.1	6.0	91.9	61.48	80.00
40	15.0	20.6	4.0	79.4	88.03	100.79
80	16.0	29.1	3.0	70.9	113.57	20 m m m m m
160	19.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET(ARITHMETIC) = 482.30

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Petroleum Reservoir Engineering CORE LABORATORIES, INC FILE 3602-533 CENTERPOINT-FLINT PENNZOIL COMPANY \_ FIELD \_\_ DATE 12-3-79 SILAS ASH NO. 17 DODDRIDGE COUNTY White \_\_ WEST VIRGINIA ELEV. LOCATION\_ STATE CORE-GAMMA CORRELATION VERTICAL SCALE: 5" = 100' TOTAL WATER 0000 Ka- MAX (PLUG DATA) PERCENT PORE SPACE OVERLAY 60 40 20 POROSITYGEX (FULL DIAMETER) PERMEABILITY Ka-MAX (PLUG DATA) OIL SATURATION XXXX **GAMMA RAY** PERCENT PORE SPACE PERCENT MILLIDARCYS RADIATION INCREASE 20 40 60 10 20 100.0 10.0 1.0 0.1 1900 1950