Litton
Core Lab

CORE ANALYSIS REPORT

for

Murfin Drilling Company

Statton #2

WELL FILE

SEC 12 - 30S - 25W

No. 2-12 Statton Well
Minneola Field
Clark County, Kansas
File Number: 57121-8080

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CORE LABORATORIES

Company : Murfin Drilling Company
Well : No. 2-12 Statton
Location : Sec. 12 T30N R25W
Co,State : Clark County, Kansas

Field : Minneola Field
Formation : Morrow Sand
Coring Fluid : Chem Gel
Elevation : 2570 KB

File No.: 57121-8080
Date : 3-Oct-1987
API No. :
Analysts: FD MW DS

C O R E A N A L Y S I S R E S U L T S

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION (PORE VOLUME) OIL %	SATURATION (PORE VOLUME) WATER %	GRAIN DENSITY gm/cc	DESCRIPTION
			Core No.1 Morrow Sand Formation (5307.0-5327.0)				
* 1	5307.0- 08.0	0.10	1.6	0.0	51.8	2.71	Ls gry v fn xln shly
2	5308.0- 09.0	<.01	0.2	0.0	14.7	2.70	Ls gry v fn xln sh lams VF
3	5309.0- 10.0	0.01	0.7	0.0	16.3	2.71	Ls gry v fn xln sh lams VF
	5310.0- 11.0						Rubble - No Analysis
4	5311.0- 12.0	<.01	2.5	0.0	84.0	2.73	Sh grn-gry v fn sndy glauc
5	5312.0- 13.0	<.01	0.5	0.0	16.1	2.71	Ls gry v fn xln shly
6	5313.0- 14.0	<.01	0.2	0.0	17.7	2.71	Ls gry v fn xln calc
7	5314.0- 15.0	<.01	0.1	15.3	51.9	2.70	Ls gry v fn xln calc
8	5315.0- 16.0	12.9	17.6	9.4	42.4	2.65	Sst wht fn v limy
9	5316.0- 17.0	17.8	17.2	8.0	45.2	2.66	Sst wht fn v limy
10	5317.0- 18.0	91.3	21.6	10.3	58.5	2.66	Sst wht fn v limy
11	5318.0- 19.0	38.3	21.1	12.2	47.0	2.66	Sst wht fn
12	5319.0- 20.0	34.5	23.2	12.9	50.8	2.66	Sst wht fn
13	5320.0- 21.0	63.9	21.0	11.8	48.0	2.66	Sst wht fn
14	5321.0- 22.0	37.5	20.1	12.4	44.7	2.65	Sst wht fn
15	5322.0- 23.0	41.9	19.7	13.1	30.3	2.66	Sst wht fn
16	5323.0- 24.0	63.4	20.3	16.1	41.0	2.65	Sst wht fn
17	5324.0- 25.0	199.	20.1	18.5	38.9	2.65	Sst wht fn
18	5325.0- 26.0	143.	20.3	15.7	43.9	2.65	Sst wht fn
19	5326.0- 27.0	188.	19.6	10.1	43.3	2.65	Sst wht fn
	5327.0- 28.0	—		12.54	44.5		Core Loss

avg 90

CORE LABORATORIES

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C O R E A N A L Y S I S R E S U L T S

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION (PORE VOLUME) OIL %	SATURATION (PORE VOLUME) WATER %	GRAIN DENSITY gm/cc	DESCRIPTION

* Denotes Fractured Perm Sample

VF Indicates Vertical Fracture

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TABLE I

SUMMARY OF CORE DATA

ZONE AND CUTOFF DATA

ZONE:
- Identification --------- NOT SPECIFIED
- Top Depth ---------- 5300.0 ft
- Bottom Depth ---------- 5330.0 ft
- Number of Samples -------- 19

DATA TYPE:
- Porosity ---------- (HELIUM)
- Permeability ------- (HORIZONTAL) Kair

CUTOFFS:

Porosity (Minimum) -------	0.0 %
Porosity (Maximum) -------	50.0 %
Permeability (Minimum) ---	0.0000 md
Permeability (Maximum) ---	100000. md
Water Saturation (Maximum)	100.0 %
Oil Saturation (Minimum) -	0.0 %
Grain Density (Minimum) --	2.00 gm/cc
Grain Density (Maximum) --	3.00 gm/cc
Lithology Excluded -------	NONE

CHARACTERISTICS REMAINING AFTER CUTOFFS

ZONE:

Number of Samples -----	19
Thickness Represented -	19.0 ft

POROSITY:

Storage Capacity ------	247.5 ϕ-ft
Arithmetic Average ----	13.0 %
Minimum ----------	0.1 %
Maximum ----------	23.2 %
Median ----------	19.6 %
Standard Deviation ----	±9.7 %

GRAIN DENSITY:

Arithmetic Average ----	2.68 gm/cc
Minimum ----------	2.65 gm/cc
Maximum ----------	2.73 gm/cc
Median ----------	2.66 gm/cc
Standard Deviation ----	±0.03 gm/cc

PERMEABILITY:

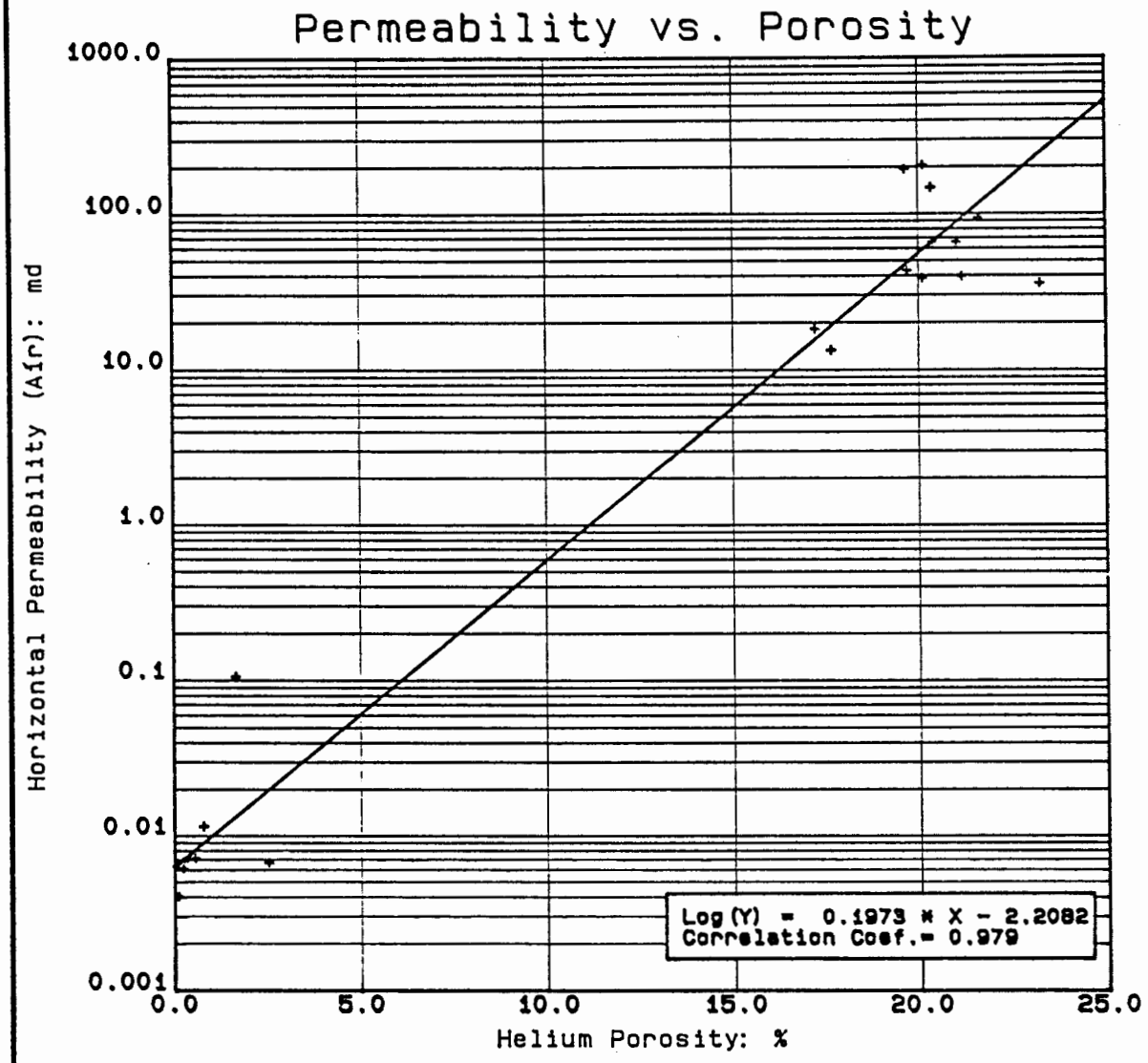
Flow Capacity ---------	931.5 md-ft
Arithmetic Average ----	49.0 md
Geometric Average -----	2.30 md
Harmonic Average ------	0.02 md
Minimum ----------	0.00 md
Maximum ----------	199. md
Median ----------	34.5 md
Standard Dev. (Geom) --	$K \cdot 10^{\pm 1.907}$ md

HETEROGENEITY (Permeability):

Dykstra-Parsons Var. --	0.768
Lorenz Coefficient ----	0.456

AVERAGE SATURATIONS (Pore Volume):

Oil ----------	12.3 %
Water ----------	45.0 %



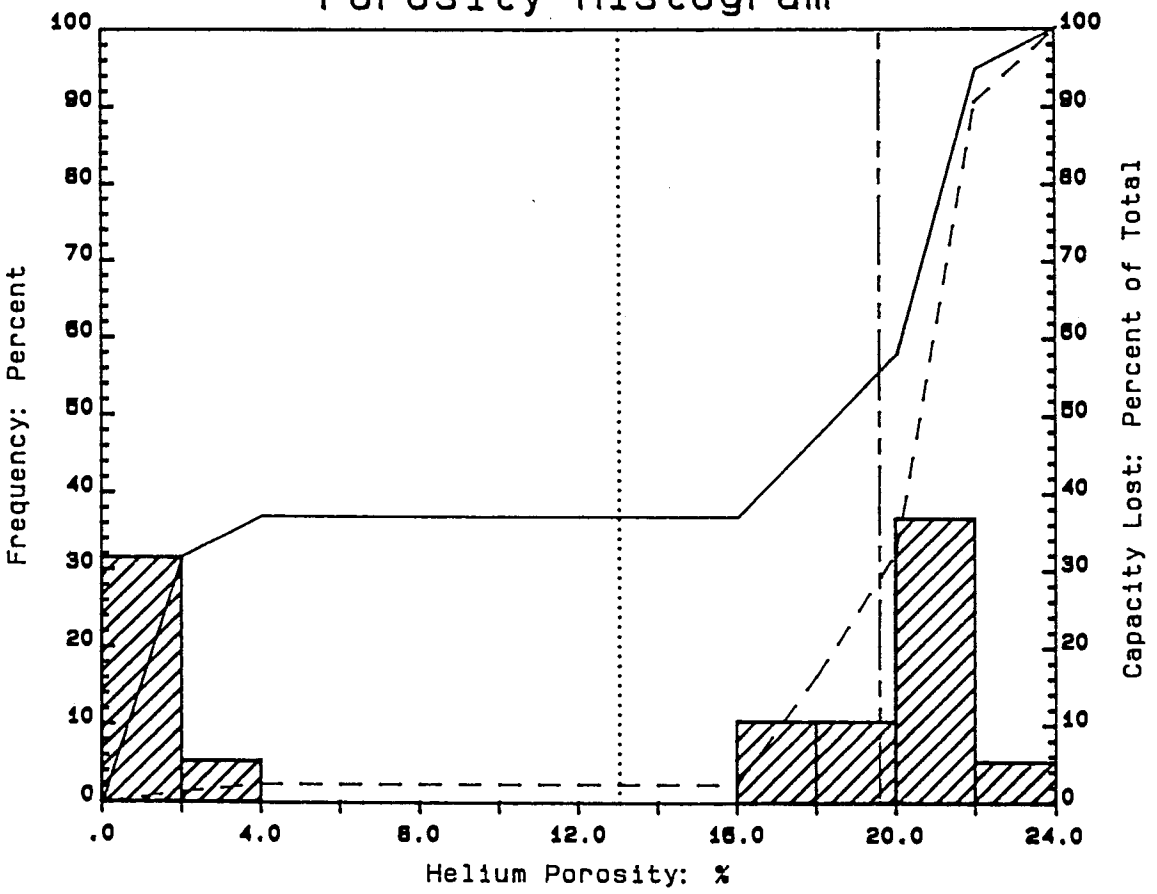
Murfin Drilling Company
No. 2-12 Statton
Minneola Field

Morrow Sand (5307-5327 feet)

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- LEGEND -
Morrow Sand

Porosity Histogram



Murfin Drilling Company
No. 2-12 Statton
Minneola Field

Morrow Sand (5307-5327 feet)

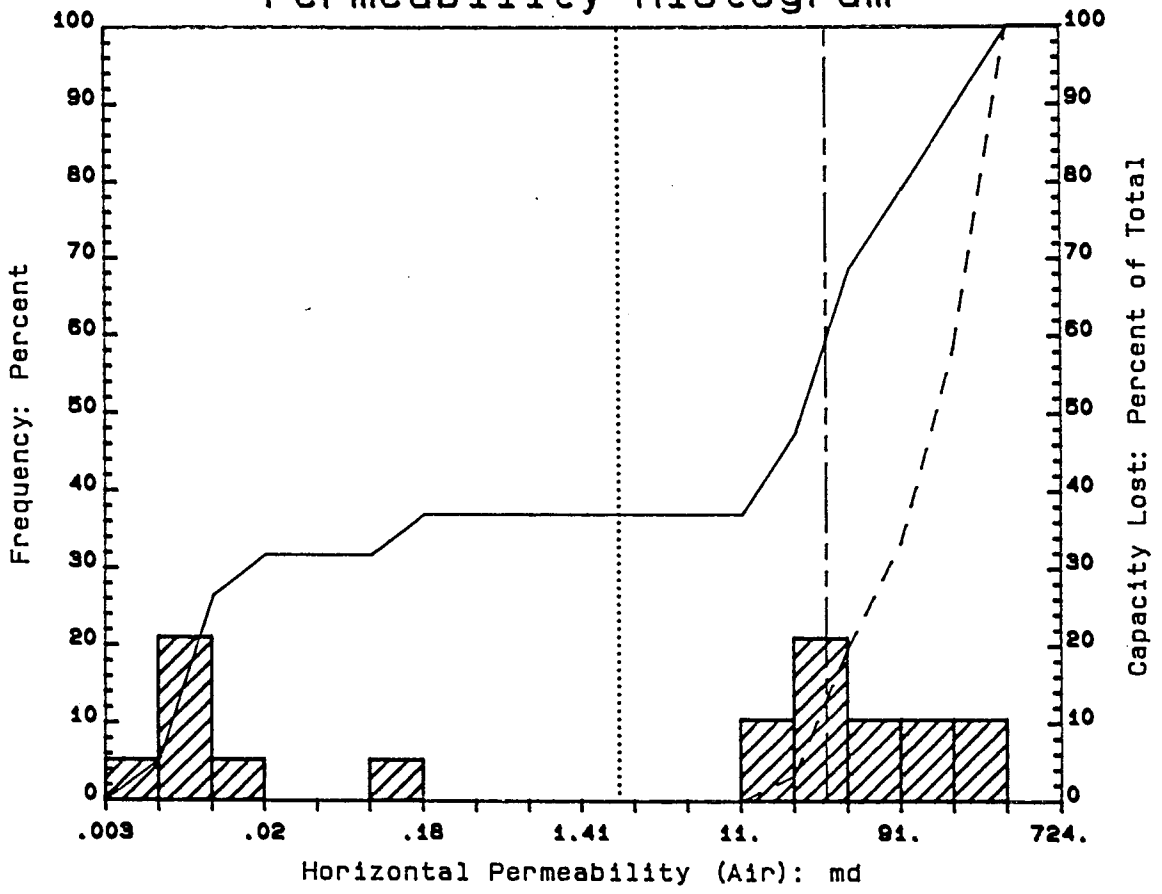
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- LEGEND -

——— - Median Value (18.6)
..... Arith. Average (13.0)
——— Cumulative Frequency
— — - Cumulative Capacity Lost

19 Samples

Permeability Histogram



Murfin Drilling Company
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Morrow Sand (5307-5327 feet)

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- LEGEND -

——— - Median Value (34.8)
..... Geom. Average (2.30)
——— Cumulative Frequency
— — - Cumulative Capacity Lost

19 Samples

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Vertical Scale
5.00 in = 100.0 ft

