

P.O. BOX 595 PHONE (505) 325-8071 FARMINGTON, NEW MEXICO 87401		WELL LOGGING	
LEASE & WELL NO. <u>2-10-1</u> TWP. <u>RNG</u>		DATE LOGGED <u>5-25-1</u> TO <u>5-10-1</u>	
LOCATION <u>2-10-1</u> COUNTY <u>SAN JUAN</u> STATE <u>N.M.</u>		LOGGERS <u>WELLS</u> DEPT. <u>5-25-1</u>	
SPUD <u>COMPLETE</u> TO <u>ELEV</u> GL <u>KB</u>		WELL NO. <u>2-10-1</u> DATE LOGGED <u>5-25-1</u>	
COMPANY <u>WELLS</u> LOGGERS <u>WELLS</u>		WELL NO. <u>2-10-1</u> DATE LOGGED <u>5-25-1</u>	
DRILLING RATE 1000 FT. PER DAY 1000 FT. PER DAY LITHOLOGY 1000 FT. PER DAY 1000 FT. PER DAY		METHANE GAS 1000 FT. PER DAY 1000 FT. PER DAY ETHANE GAS 1000 FT. PER DAY 1000 FT. PER DAY	
PROPANE GAS 1000 FT. PER DAY 1000 FT. PER DAY BUTANE GAS 1000 FT. PER DAY 1000 FT. PER DAY		PENTANE GAS 1000 FT. PER DAY 1000 FT. PER DAY LITHOLOGY & REMARKS 1000 FT. PER DAY 1000 FT. PER DAY	
MUD GAS TOTAL 1000 FT. PER DAY 1000 FT. PER DAY MUD DATA 1000 FT. PER DAY 1000 FT. PER DAY			

AUG 25 1961
OIL CON. COAL.
D.S.L. 3

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

MESA PETROLEUM COMPANY

S. BLANCO FEDERAL 25-5
LYERBROOK-GALLUP
SAN JUAN COUNTY, NEW MEXICO



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE 1

MESA PETROLEUM COMPANY
 S. BLANCO FEDERAL 25-5
 LYBROOK-GALLUP
 SAN JUAN COUNTY, NEW MEXICO

DATE : 8-17-81
 FORMATION : GALLUP
 DRLG. FLUID: WATER BASE MUD
 LOCATION : NW SW SEC 25 T24N-R8W

FILE NO : RP-3-3122
 ANALYSTS : GG-DG
 ELEVATION: 6875 KB

CONVENTIONAL ANALYSIS WITH BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM K _a MAXIMUM	POR. He	FLUID SATS.		GRAIN		DESCRIPTION
				OIL	WTR	DEN		
1	5312.0-13.0		1.1	35.7	55.7	2.60	SD	GRY FGN SH LAM
2	5313.0-14.0	<0.01	1.7	27.1	59.3	2.59	SD	GRY FGN SH LAM
3	5314.0-15.0		5.8	24.1	63.8		SD	GRY FGN SH LAM
4	5315.0-16.0		6.0	2.2	90.0	2.69	SD	GRY FGN SL/SH
5	5316.0-17.0		1.2	46.4	48.2	2.58	SD	GRY FGN V/SH LAM
6	5317.0-18.0		1.5	31.7	55.0	2.60	SD	GRY FGN V/SH LAM
7	5318.0-19.0		2.6	34.2	58.9	2.60	SD	GRY FGN V/SH LAM
8	5319.0-20.0	17.	1.3	49.2	42.6	2.61	SD	GRY FGN V/SH LAM
9	5320.0-21.0		6.6	31.8	53.0		SD	GRY FGN V/SH LAM
10	5321.0-22.0	0.25	2.8	38.5	47.7	2.60	SD	GRY FGN V/SH LAM
11	5322.0-23.0	<0.01	0.6	45.9	48.6	2.61	SD	GRY FGN V/SH LAM
12	5323.0-24.0		1.3	41.3	52.4	2.59	SD	GRY FGN V/SH LAM
13	5324.0-25.0		1.9	48.1	50.0	2.61	SD	GRY FGN V/SH LAM
14	5325.0-26.0	0.79	1.5	19.0	74.6	2.62	SD	GRY FGN V/SH LAM
15	5326.0-27.0		1.7	48.5	42.4	2.57	SD	GRY FGN V/SH LAM
16	5327.0-28.0	0.25	2.3	47.2	44.4	2.59	SD	GRY FGN V/SH LAM
17	5328.0-29.0	<0.01	3.0	25.9	48.1	2.72	SD	GRY FGN SH LAM
18	5329.0-30.0		3.5	35.7	28.6	2.67	SD	GRY FGN SH LAM
19	5330.0-31.0	0.01	3.4	41.7	33.3	2.67	SD	GRY FGN SH LAM
20	5331.0-32.0	0.01	3.3	38.1	38.1	2.67	SD	GRY FGN SH LAM
21	5332.0-33.0	0.34	3.7	45.2	33.3	2.66	SD	GRY SH LAM
22	5333.0-34.0	0.30	2.8	42.2	35.6	2.65	SD	GRY FGN SH LAM
23	5334.0-35.0	0.06	2.9	32.6	32.6	2.66	SD	GRY FGN SH LAM
24	5335.0-36.0	0.05	2.3	27.3	45.5	2.67	SD	GRY FGN SH LAM
25	5336.0-37.0		3.4	18.4	44.7	2.67	SD	GRY FGN SH LAM
26	5337.0-38.0	1.20	4.4	22.0	51.2	2.67	SD	GRY FGN SH LAM
27	5338.0-39.0		4.3	28.6	42.9		SD	GRY FGN SH LAM
28	5339.0-40.0		4.5	25.9	50.0	2.66	SD	GRY FGN SH LAM

These analyses, opinions 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 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 representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or and in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

PAGE 2

DALLAS, TEXAS

MESA PETROLEUM COMPANY
 S. BLANCO FEDERAL 25-5

DATE : 8-17-81
 FORMATION : GALLUP

FILE NO : RP-3-3122
 ANALYSTS : GG-DS

CONVENTIONAL ANALYSIS WITH BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM Ka MAXIMUM	FOR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION
29	5340.0-41.0	0.05	6.1	40.3	29.0	2.66	SD GRY FGN SH LAM
30	5341.0-42.0	0.04	6.0	42.4	18.2	2.66	SD GRY FGN SH LAM
31	5342.0-43.0	0.06	2.5	30.6	12.9	2.70	SD GRY FGN SH LAM
32	5343.0-44.0	0.15	8.0	25.0	11.9	2.67	SD GRY FGN SH LAM
33	5344.0-45.0	0.08	6.9	26.0	16.4	2.67	SD GRY FGN SH LAM
34	5345.0-46.0	0.05	7.2	37.6	21.2	2.66	SD GRY FGN SH LAM
35	5346.0-47.0	0.06	6.9	20.7	6.9	2.66	SD GRY FGN SH LAM
36	5347.0-48.0	0.07	6.9	25.4	31.7	2.66	SD GRY FGN SH LAM
37	5348.0-49.0	0.61	7.2	43.9	17.1	2.67	SD GRY FGN SH LAM
38	5349.0-50.0	0.01	6.8	45.5	39.4	2.67	SD GRY FGN SH LAM
39	5350.0-51.0	<0.01	5.7	59.0	26.2	2.66	SD GRY FGN SH LAM
40	5351.0-52.0	<0.01	1.2	31.0	34.5	2.67	SD GRY FGN SH LAM
41	5352.0-53.0	<0.01	2.2	33.3	26.7	2.67	SD GRY FGN SH LAM
42	5353.0-54.0	0.11	3.3	26.5	55.9	2.68	SD GRY FGN SH LAM
43	5354.0-55.0	0.03	3.0	27.9	58.1	2.67	SD GRY FGN SH LAM
44	5355.0-56.0	0.09	3.3	23.7	50.0	2.68	SD GRY FGN SH LAM
45	5356.0-57.0	<0.01	3.7	30.0	57.5	2.67	SD GRY FGN SH LAM
46	5357.0-58.0	0.01	3.5	25.0	50.0	2.67	SD GRY FGN SH LAM
47	5358.0-59.0	0.01	3.2	23.1	53.8	2.68	SD GRY FGN SH LAM
48	5359.0-60.0	0.01	3.1	33.3	19.0	2.66	SD GRY FGN SH LAM
49	5360.0-61.0	0.25	2.8	25.0	52.8	2.65	SD GRY FGN SH LAM
50	5361.0-62.0	0.04	1.8	25.0	53.6	2.65	SD GRY FGN SH LAM
51	5362.0-63.0	0.01	2.9	30.0	47.5	2.65	SD GRY FGN SH LAM
52	5363.0-64.0	0.01	2.8	22.5	52.5	2.68	SD GRY FGN SH LAM
53	5364.0-65.0	2.80	2.9	29.0	49.4	2.66	SD GRY FGN SH LAM
54	5365.0-66.0	0.04	2.7	23.1	59.0	2.65	SD GRY FGN SH LAM
55	5366.0-67.0	0.02	2.2	27.3	51.5	2.65	SD GRY FGN SH LAM
56	5367.0-68.0	<0.01	2.7	24.3	62.2	2.65	SD GRY FGN SH LAM
57	5368.0-69.0	0.01	2.7	30.4	54.3	2.65	SD GRY FGN SH LAM
58	5369.0-70.0	0.01	2.2	32.6	53.5	2.65	SD GRY FGN SH LAM

These analyses, opinions 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 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 representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or and in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

PAGE 3

DALLAS, TEXAS

MESA PETROLEUM COMPANY
 S. BLANCO FEDERAL 25-5

DATE : 8-17-81
 FORMATION : GALLUP

FILE NO : RP-3-3122
 ANALYSTS : GG-DS

CONVENTIONAL ANALYSIS WITH BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM K _a MAXIMUM	POR. He	FLUID SATS.		GRAIN DEN		DESCRIPTION
				OIL	WTR			
59	5370.0-71.0	0.01	3.2	31.4	56.9	2.69		SD GRY FGN SH LAM
	5371.0-45.0							DRILLED
60	5445.0-46.0	0.01	2.1	76.7	18.6	2.65		SD GRY FGN SH LAM
61	5446.0-47.0		2.5	61.1	35.2	2.66		SD GRY FGN SH LAM
62	5447.0-48.0	<0.01	2.2	70.3	21.6	2.67		SD GRY FGN SH LAM
63	5448.0-49.0	0.87	2.6	60.5	30.2	2.63		SD GRY FGN SH LAM
64	5449.0-50.0		2.9	60.4	31.3	2.62		SD GRY FGN V/SH LAM
65	5450.0-51.0	0.62	2.4	63.5	29.4	2.57		SD GRY FGN V/SH LAM
66	5451.0-52.0	4.00	2.8	35.7	14.3	2.72		SD GRY FGN SH LAM
67	5452.0-53.0		7.5	60.6	30.7			SD GRY FGN V/SH LAM
68	5453.0-54.0	0.75	2.5	61.4	30.0	2.64		SD GRY FGN SH
69	5454.0-55.0	<0.01	3.6	62.5	18.8	2.75		SD GRY FGN SH
70	5455.0-56.0	0.01	3.4	30.8	43.6	2.67		SD GRY FGN-SH
71	5456.0-57.0	0.02	4.7	34.5	32.7	2.67		SD GRY FGN SH
72	5457.0-58.0	0.14	7.7	38.1	24.7	2.62		SD GRY FGN SH
73	5458.0-59.0	0.08	7.8	36.2	18.1	2.61		SD GRY FGN SH
74	5459.0-60.0	0.13	10.4	37.1	16.9	2.62		SD GRY FGN SH
75	5460.0-61.0	0.07	3.2	39.5	16.3	2.66		SD WHT SALT & PEPPER FGN
76	5461.0-62.0	0.36	4.6	25.9	7.4	2.66		SD WHT SALT & PEPPER FGN
77	5462.0-63.0	0.07	3.3	25.0	14.0	2.60		SD WHT SALT & PEPPER FGN
78	5463.0-64.0	0.33	9.8	37.2	16.8	2.61		SD BRN FGN SH
79	5464.0-65.0	0.19	9.7	44.4	20.3	2.66		SD GRY FGN SH
80	5465.0-66.0	0.12	2.8	19.4	16.7	2.63		SD WHT SALT & PEPPER FGN
81	5466.0-67.0	0.09	5.8	32.9	28.6	2.63		SD GRY FGN SH
	5467.0-05.0							DRILLED
82	5505.0-06.0	0.03	6.9	51.6	21.1	2.63		SD BRN FGN SH
83	5506.0-07.0	0.03	6.5	45.3	29.3	2.63		SD BRN FGN SH
84	5507.0-08.0	0.04	5.8	28.1	35.1	2.65		SD BRN FGN SH
85	5508.0-09.0	0.12	4.4	19.4	29.0	2.67		SD GRY FGN SH
86	5509.0-10.0	0.03	4.1	11.7	16.7	2.68		SD GRY FGN SH

These analyses, opinions 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 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 representations, 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.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE 4

MESA PETROLEUM COMPANY
S. BLANCO FEDERAL 25-5.

DATE : 8-17-81
FORMATION : GALLUP

FILE NO : RP-3-3122
ANALYSTS : GG-DS

CONVENTIONAL ANALYSIS WITH BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM Ka MAXIMUM	POR. He	FLUID SATS.		GRAIN DEN	DESCRIPTION
				OIL	WTR		
87	5510.0-11.0	0.04	5.5	30.4	50.0	2.68	SD GRY FGN SH
88	5511.0-12.0	0.01	4.1	18.6	34.9	2.67	SD GRY FGN SH
89	5512.0-13.0	0.01	3.3	27.6	51.7	2.68	SD GRY FGN SH
90	5513.0-14.0	0.59	3.0	21.2	39.4	2.60	SD GRY FGN SH
91	5514.0-15.0	0.13	5.4	38.6	43.9	2.66	SD GRY FGN SH
92	5515.0-16.0	0.14	5.7	31.7	36.7	2.66	SD GRY FGN SH
93	5516.0-17.0	0.03	4.8	45.2	26.7	2.66	SD GRY FGN SH
94	5517.0-18.0	0.03	7.1	37.5	35.7	2.66	SD GRY FGN SH
95	5518.0-19.0	0.13	5.9	33.3	29.3	2.65	SD BRN FGN SH
96	5519.0-20.0	0.13	10.8	41.7	11.8	2.62	SD BRN FGN SH
97	5520.0-21.0	0.08	11.0	38.8	14.0	2.63	SD BRN FGN SH
98	5521.0-22.0	0.12	10.7	42.3	11.3	2.63	SD BRN FGN SH
99	5522.0-23.0	0.07	10.4	42.0	16.0	2.63	SD BRN FGN SH
100	5523.0-24.0	0.12	9.9	43.1	14.7	2.63	SD GRY FGN SH
101	5524.0-25.0	0.12	8.6	48.0	19.0	2.63	SD BRN FGN SH
102	5525.0-26.0	0.04	8.8	31.0	40.4	2.67	SD BRN FGN SH
103	5526.0-27.0	0.03	7.1	41.0	30.8	2.65	SD BRN FGN SH
104	5527.0-28.0	0.03	7.6	43.6	12.8	2.65	SD BRN FGN SH
105	5528.0-29.0	0.01	4.4	42.0	28.0	2.68	SD BRN FGN SH
106	5529.0-30.0	0.06	6.3	49.2	29.6	2.67	SD GRY FGN SH
107	5530.0-31.0	0.04	5.4	38.8	32.7	2.67	SD GRY FGN SH
108	5531.0-32.0	0.03	6.8	44.4	27.8	2.66	SD GRY FGN SH
109	5532.0-33.0	<0.01	3.7	45.0	31.4	2.69	SD GRY FGN SH
110	5533.0-34.0	0.03	6.2	16.7	47.6	2.66	SD GRY FGN SH
111	5534.0-35.0	0.19	6.5	41.2	35.3	2.66	SD GRY FGN SH
112	5535.0-36.0	0.08	6.0	40.4	42.1	2.66	SD GRY FGN SH
113	5536.0-37.0	0.04	5.0	36.4	45.5	2.66	SD GRY FGN SH
114	5537.0-38.0	0.05	4.6	32.6	48.8	2.68	SD GRY FGN SH
115	5538.0-39.0	0.06	5.0	29.8	42.6	2.67	SD GRY FGN SH
116	5539.0-40.0	0.03	5.4	27.9	46.5	2.68	SD GRY FGN SH

These analyses, opinions 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 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 representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or and in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

PAGE 5

DALLAS, TEXAS

MESA PETROLEUM COMPANY
 S. BLANCO FEDERAL 25-5

DATE : 8-17-81
 FORMATION : GALLUP

FILE NO : RP-3-3122
 ANALYSTS : GG-DS

CONVENTIONAL ANALYSIS WITH BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM K _a MAXIMUM	POR. He	FLUID SATS.		GRAIN DEN		DESCRIPTION
				OIL	WTR			
117	5540.0-41.0	<0.01	4.2	32.4	43.2	2.69	SD GRY	FGN SH
118	5541.0-42.0	<0.01	3.5	17.9	59.0	2.69	SD GRY	FGN SH
119	5542.0-43.0	0.01	4.4	31.1	51.1	2.67	SD GRY	FGN SH
120	5543.0-44.0	0.04	8.7	39.8	22.6	2.66	SD BRN	FGN SH
121	5544.0-45.0	0.04	8.8	44.8	23.9	2.65	SD BRN	FGN SH
122	5545.0-46.0	0.01	2.9	24.1	44.8	2.69	SD GRY	FGN SH
123	5546.0-47.0	0.01	3.9	38.9	27.8	2.67	SD GRY	FGN SH
124	5547.0-48.0	0.06	10.0	37.4	18.3	2.64	SD GRY	FGN SH
125	5548.0-49.0	0.03	8.2	39.0	29.3	2.66	SD GRY	FGN SH
126	5549.0-50.0	0.03	7.2	46.5	30.2	2.63	SD GRY	FGN SH
127	5550.0-51.0	0.04	8.7	43.2	18.9	2.64	SD GRY	FGN SH
128	5551.0-52.0	0.05	7.8	43.8	23.8	2.65	SD GRY	FGN SH
129	5552.0-53.0	0.01	5.5	51.8	42.9	2.67	SD GRY	FGN SH
130	5553.0-54.0	0.03	8.2	42.0	24.1	2.65	SD GRY	FGN SH
131	5554.0-55.0	0.03	6.9	36.8	35.1	2.65	SD GRY	FGN SH
132	5555.0-56.0	0.04	8.8	40.0	19.2	2.64	SD GRY	FGN SH
133	5556.0-57.0	0.05	9.9	36.1	13.9	2.63	SD GRY	FGN SH
134	5557.0-58.0	0.04	9.4	47.8	20.0	2.64	SD GRY	FGN SH
135	5558.0-59.0	0.11	9.0	47.9	20.2	2.63	SD GRY	FGN SH
136	5559.0-60.0	0.02	7.3	43.8	30.1	2.65	SD GRY	FGN SH
137	5560.0-61.0	0.05	8.3	49.3	10.7	2.64	SD GRY	FGN SH
138	5561.0-62.0	0.04	8.4	42.3	18.6	2.64	SD GRY	FGN SH
139	5562.0-63.0	0.03	7.1	46.6	24.7	2.64	SD GRY	FGN SH
140	5563.0-64.0	0.03	6.7	43.8	18.0	2.64	SD GRY	FGN SH
141	5564.0-65.0	0.02	6.5	52.8	25.0	2.64	SD GRY	FGN SH
142	5565.0-66.0	1.80	6.1	32.1	14.3	2.64	SD GRY	FGN SH

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

MESA PETROLEUM COMPANY
S. BLANCO FEDERAL 25-S

DATE : 8-17-81
FORMATION : GALLUP

FILE NO. : RP-3-3121
ANALYSTS : GG-DS

*** CORE SUMMARY AND CALCULATED RECOVERABLE OIL ***

DEPTH INTERVAL: 5339.0 TO 5371.0

FEET OF CORE ANALYZED : 32.0 FEET OF CORE INCLUDED IN AVERAGES: 11.0

--- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED ---
PERMEABILITY HORIZONTAL RANGE (MD.) : 0.00 TO 50. (UNCORRECTED FOR SLIPPAGE)
HELIUM POROSITY RANGE (%) : 3.0 TO 100.0
OIL SATURATION RANGE (%) : 10.0 TO 61.0
WATER SATURATION RANGE (%) : 10.0 TO 50.0
SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGE PERMEABILITY (MILLIDARCIES)	:		AVERAGE TOTAL WATER SATURATION	:	25.5
ARITHMETIC PERMEABILITY	:	0.11	(PERCENT OF PORE SPACE)	:	
GEOMETRIC PERMEABILITY	:	0.05		:	
HARMONIC PERMEABILITY	:	0.03	AVERAGE CONNATE WATER SATURATION	:	25.5
			(PERCENT OF PORE SPACE)	:	
PRODUCTIVE CAPACITY (MILLIDARCY-FEET)	:			:	
ARITHMETIC CAPACITY	:	1.2	OIL GRAVITY (API)	:	28.0
GEOMETRIC CAPACITY	:	0.55		:	
HARMONIC CAPACITY	:	0.29	ORIGINAL FORMATION VOLUME FACTOR	:	1.10
			(BBLs SATURATED OIL/STOCK-TANK BBL)	:	
AVERAGE POROSITY (PERCENT)	:	5.9		:	
			ORIGINAL STOCK-TANK OIL IN PLACE	:	311.
AVERAGE RESIDUAL OIL SATURATION	:	34.2	(BARRELS PER ACRE-FOOT)	:	
(PERCENT OF PORE SPACE)	:			:	

INTERPRETATION OF DATA

5312.0 TO 5339.0 NONPRODUCTIVE.
5339.0 TO 5371.0 OIL PRODUCTIVE WHERE PERMEABLE.

(C) CALCULATED (E) ESTIMATED (M) MEASURED (*) REFER TO ATTACHED LETTER.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

MESA PETROLEUM COMPANY
S. BLANCO FEDERAL 25-5

DATE : 8-17-81
FORMATION : GALLUP

FILE NO. : RP-3-3120
ANALYSTS : GG-DG

*** CORE SUMMARY AND CALCULATED RECOVERABLE OIL ***

DEPTH INTERVAL: 5456.0 TO 5467.0

FEET OF CORE ANALYZED : 11.0 FEET OF CORE INCLUDED IN AVERAGES: 9.0

--- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED ---
PERMEABILITY HORIZONTAL RANGE (MD.) : 0.00 TO 50. (UNCORRECTED FOR SLIPPAGE)
HELIUM POROSITY RANGE (%) : 3.0 TO 100.0
OIL SATURATION RANGE (%) : 10.0 TO 61.0
WATER SATURATION RANGE (%) : 10.0 TO 50.0
SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGE PERMEABILITY (MILLIDARCIES)	:		AVERAGE TOTAL WATER SATURATION	:	20.6
ARITHMETIC PERMEABILITY	:	0.12	(PERCENT OF PORE SPACE)	:	
GEOMETRIC PERMEABILITY	:	0.10		:	
HARMONIC PERMEABILITY	:	0.07	AVERAGE CONNATE WATER SATURATION	:	20.6
			(PERCENT OF PORE SPACE)	:	
PRODUCTIVE CAPACITY (MILLIDARCY-FEET)	:			:	
ARITHMETIC CAPACITY	:	1.1	OIL GRAVITY (API)	:	28.0
GEOMETRIC CAPACITY	:	0.88		:	
HARMONIC CAPACITY	:	0.65	ORIGINAL FORMATION VOLUME FACTOR	:	1.10
			(BBLs SATURATED OIL/STOCK-TANK BBL)	:	
AVERAGE POROSITY (PERCENT)	:	6.9		:	
			ORIGINAL STOCK-TANK OIL IN PLACE	:	388.
AVERAGE RESIDUAL OIL SATURATION	:	37.2	(BARRELS PER ACRE-FOOT)	:	
(PERCENT OF PORE SPACE)	:			:	

INTERPRETATION OF DATA

5445.0 TO 5456.0 NONPRODUCTIVE.
5456.0 TO 5467.0 OIL PRODUCTIVE WHERE PERMEABLE.

(C) CALCULATED (E) ESTIMATED (N) MEASURED (*) REFER TO ATTACHED LETTER.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

MESA PETROLEUM COMPANY
S. BLANCO FEDERAL 25-5

DATE : 8-17-81
FORMATION : GALLUP

FILE NO. : RP-3-3122
ANALYSTS : GG-DS

*** CORE SUMMARY AND CALCULATED RECOVERABLE OIL ***

DEPTH INTERVAL: 5505.0 TO 5566.0

FEET OF CORE ANALYZED : 61.0 FEET OF CORE INCLUDED IN AVERAGES: 55.0

--- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED ---
PERMEABILITY HORIZONTAL RANGE (MD.) : 0.00 TO 50. (UNCORRECTED FOR SLIPPAGE)
HELIUM POROSITY RANGE (%) : 3.0 TO 100.0
OIL SATURATION RANGE (%) : 10.0 TO 61.0
WATER SATURATION RANGE (%) : 10.0 TO 50.0
SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGE PERMEABILITY (MILLIDARCIES)	:	0.10	AVERAGE TOTAL WATER SATURATION	:	26.0
ARITHMETIC PERMEABILITY	:	0.05	(PERCENT OF PORE SPACE)		
GEOMETRIC PERMEABILITY	:	0.04	AVERAGE CONNATE WATER SATURATION	:	26.0
HARMONIC PERMEABILITY	:		(PERCENT OF PORE SPACE)		
PRODUCTIVE CAPACITY (MILLIDARCY-FEET)	:		OIL GRAVITY (API)	:	28.0
ARITHMETIC CAPACITY	:	5.3	ORIGINAL FORMATION VOLUME FACTOR	:	1.10
GEOMETRIC CAPACITY	:	2.7	(BBL'S SATURATED OIL/STOCK-TANK BBL)		
HARMONIC CAPACITY	:	1.9	ORIGINAL STOCK-TANK OIL IN PLACE	:	367.
AVERAGE POROSITY (PERCENT)	:	7.0	(BARRELS PER ACRE-FOOT)		
AVERAGE RESIDUAL OIL SATURATION	:	39.9			
(PERCENT OF PORE SPACE)					

INTERPRETATION OF DATA

5505.0 TO 5566.0 OIL PRODUCTIVE WHERE PERMEABLE.

(C) CALCULATED (E) ESTIMATED (M) MEASURED (*) REFER TO ATTACHED LETTER.

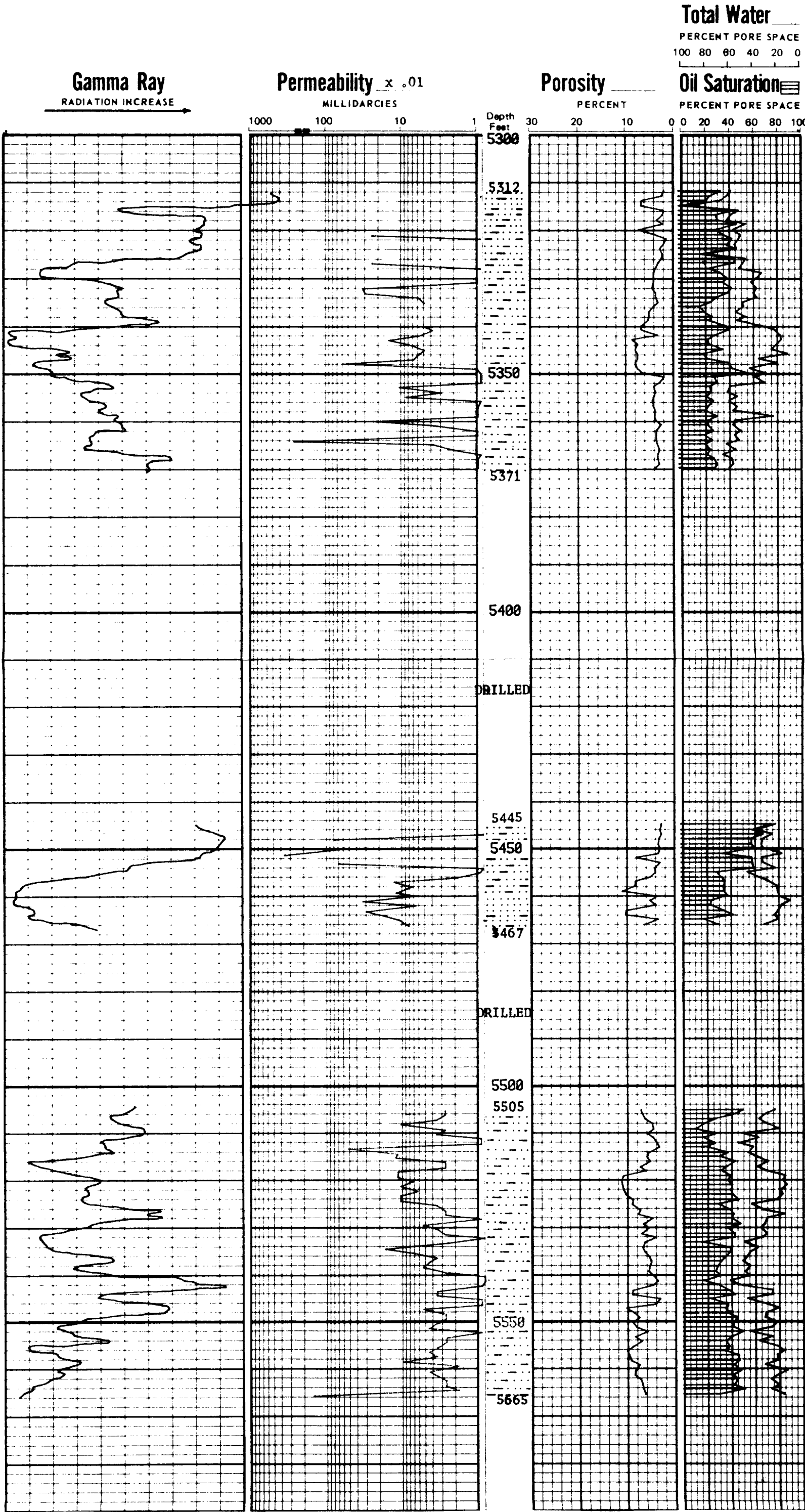


COMPANY	MESA PETROLEUM COMPANY	FILE NO.	RP-3-3122
WELL	S. BLANCO FEDERAL 25-5	DATE	8-17-81
FIELD	LYBROOK-GALLUP	FORMATION	GALLUP
COUNTY	SAN JUAN	STATE	NEW MEX.
		DRLG. FLD.	WATER BASE MUD
LOCATION	NW 3W SEC 25 T24N-R8W	CORES	

CORRELATION COREGRAPH

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 or omissions excepted); but Core Laboratories, Inc., and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or land in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'



PERMEABILITY VS POROSITY

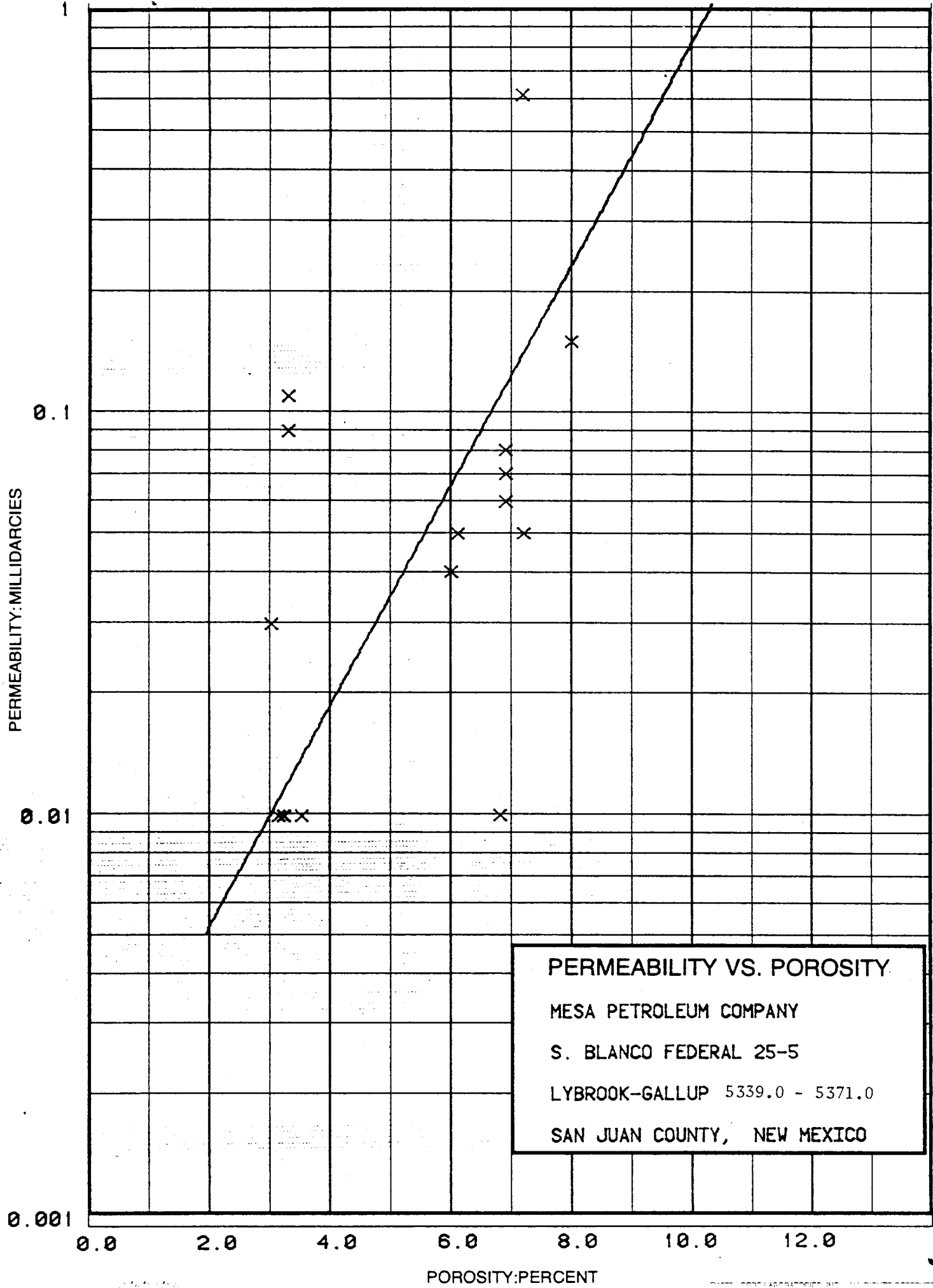
COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
 FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

AIR PERMEABILITY : MD - HORIZONTAL (UNCORRECTED FOR SLIPPAGE)
 POROSITY : PERCENT (HELIUM)

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY MINIMUM MAXIMUM	POROSITY MIN. MAX.	POROSITY AVERAGE	PERMEABILITY AVERAGES ARITHMETIC HARMONIC GEOMETRIC
5339.0 - 5371.0	1 (X)	0.005 50.0	3.0 15.0	5.3	0.07 0.04

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

RANGE EQUATION OF THE LINE
 1 FERM = ANTILOG((0.2701)(POROSITY) + -2.8056)



STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
 FIELD : LYERBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.005 TO 50.
 POROSITY : PERCENT (HELIUM) RANGE USED 3.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 5339.0 - 5371.0 INTERVAL LENGTH : 32.0
 FEET ANALYZED IN ZONE : 32.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY	PERMEABILITY AVERAGES		
AVERAGE	ARITHMETIC	HARMONIC	GEOMETRIC
5.3	0.09	0.02	0.04

COMPANY: MESA PETROLEUM COMPANY
FIELD : LYBROOK-GALLUP
WELL : S. BLANCO FEDERAL 25-5
COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
2.0 - 4.0	7.0	3.2	0.023	0.039	43.7	43.7
6.0 - 8.0	8.0	6.8	0.062	0.121	50.0	93.7
8.0 - 10.0	1.0	8.0	0.150	0.150	6.2	100.0

TOTAL NUMBER OF FEET = 16.0

These analyses, opinions 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 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 representations, 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.

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-S
FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.010 - 0.020	5.0	0.010	0.010	4.0	31.2	31.2
0.020 - 0.039	1.0	0.030	0.030	3.0	6.2	37.5
0.039 - 0.078	5.0	0.053	0.054	6.6	31.2	68.7
0.078 - 0.156	4.0	0.104	0.108	5.4	25.0	93.7
0.312 - 0.625	1.0	0.610	0.610	7.2	6.2	100.0

TOTAL NUMBER OF FEET = 16.0

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE 4

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY
 FIELD : LYBROOK-GALLUP

WELL : S. BLANCO FEDERAL 25-5
 COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

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
0.0	0.0	0.0	16.0	100.0	5.3	6.2
2.0	0.0	0.0	16.0	100.0	5.3	6.2
4.0	7.0	26.7	9.0	73.3	6.9	
6.0	7.0	26.7	9.0	73.3	6.9	
8.0	15.0	90.5	1.0	9.5	8.0	
10.0	16.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 84.6

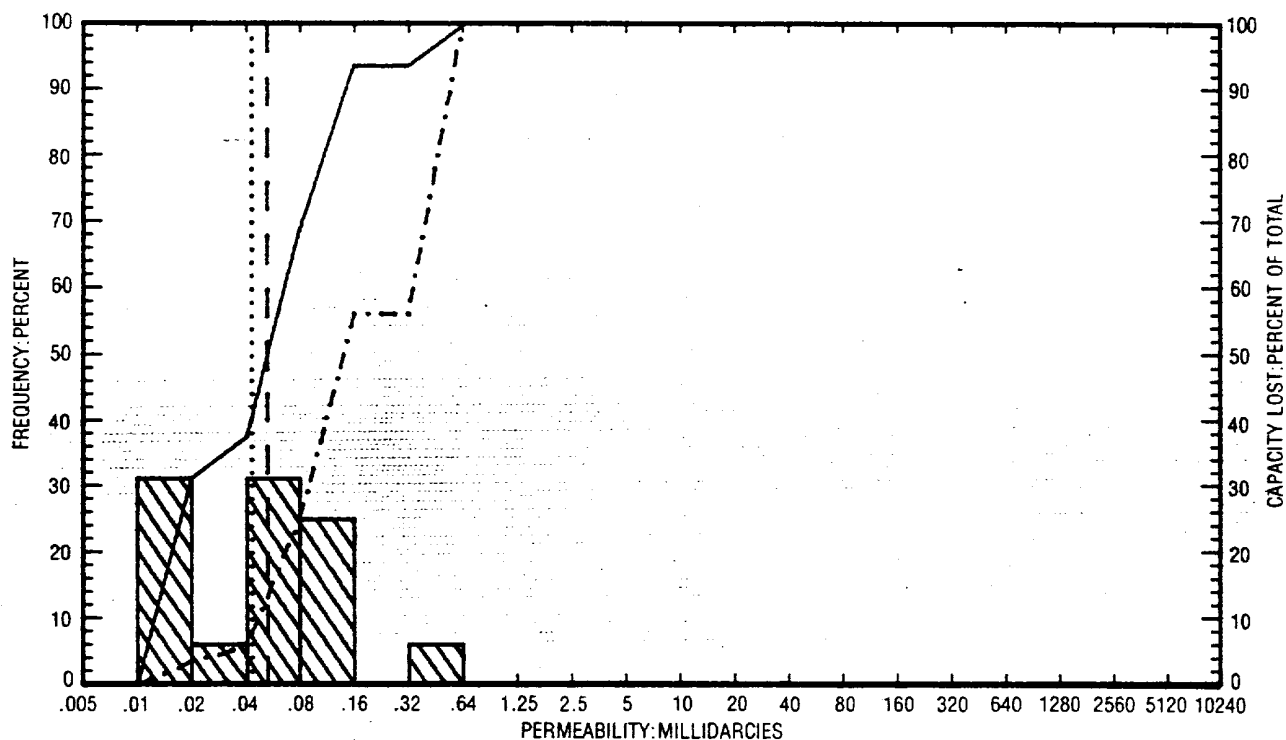
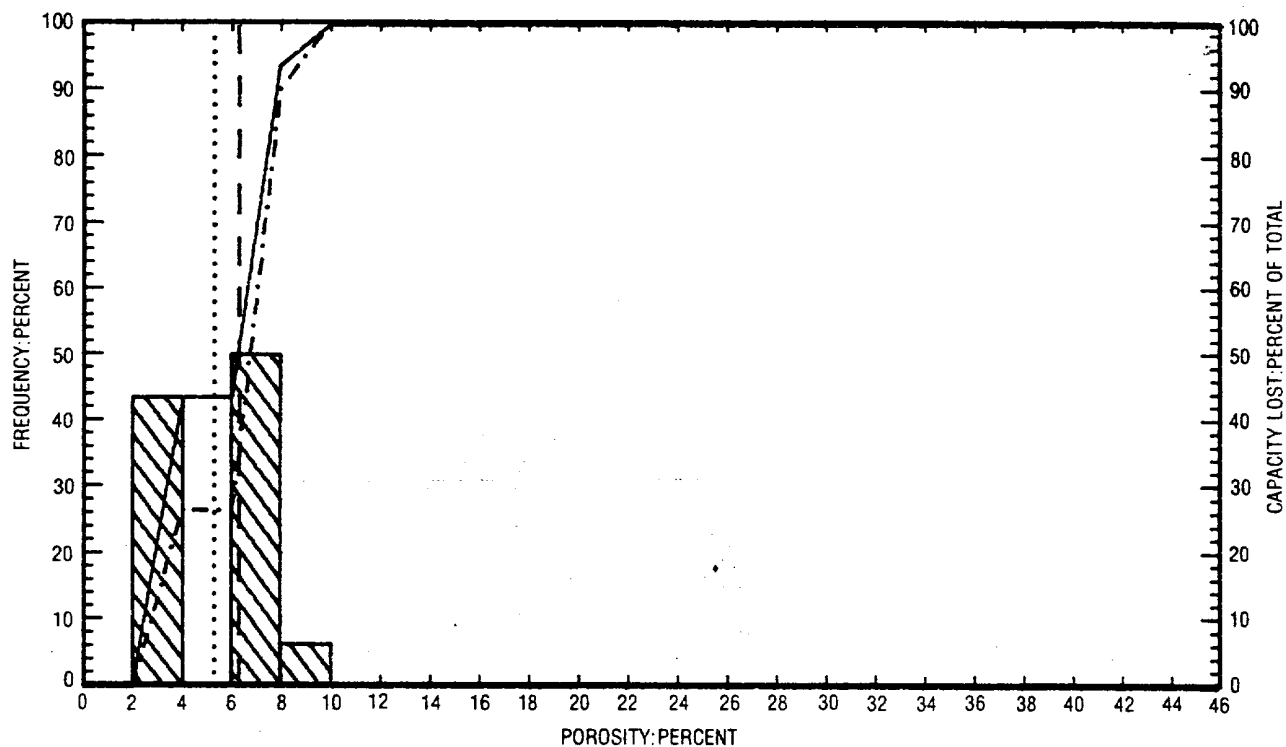
STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

MILLIDARCY-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	16.0	100.0	0.04	0.05
0.010	0.0	0.0	16.0	100.0	0.04	0.05
0.020	5.0	3.6	11.0	96.4	0.08	0.07
0.039	6.0	5.8	10.0	94.2	0.09	0.08
0.078	11.0	25.2	5.0	74.8	0.15	
0.156	15.0	56.1	1.0	43.9	0.61	
0.312	15.0	56.1	1.0	43.9	0.61	
1.	16.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 1.39



PERMEABILITY AND POROSITY HISTOGRAMS

MESA PETROLEUM COMPANY
S. BLANCO FEDERAL 25-5
LYBROOK-GALLUP 5339.0 - 5371.0
SAN JUAN COUNTY, NEW MEXICO

LEGEND

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

PERMEABILITY VS POROSITY

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

AIR PERMEABILITY : MD - HORIZONTAL (UNCORRECTED FOR SLIPPAGE)
POROSITY : PERCENT (HELIUM)

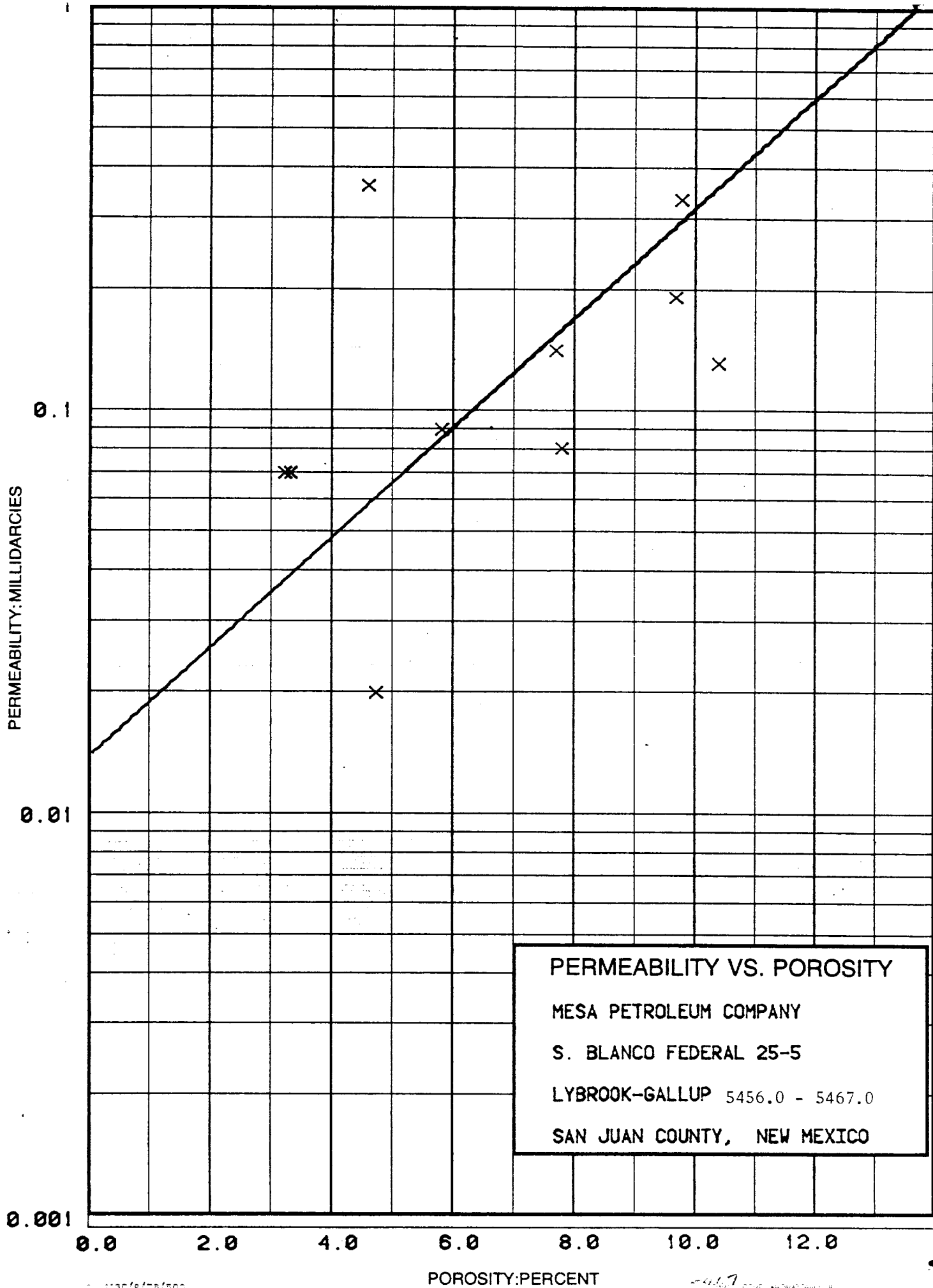
DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY MINIMUM MAXIMUM	POROSITY MIN. MAX.	POROSITY AVERAGE	PERMEABILITY AVERAGES	
					ARITHMETIC	HARMONIC GEOMETRIC
5456.0 - 5467.0	1 (X)	0.005 50.0	3.0 15.0	6.7	0.15	0.08 0.11

EQUATION OF REDUCED LINE RELATING PERMEABILITY(K) TO POROSITY :

$$\begin{aligned}\log(K) &= (\text{SLOPE})(\text{POROSITY}) + \text{LOG OF INTERCEPT} \\ K &= \text{ANTILOG}(\text{SLOPE})(\text{POROSITY}) + \text{LOG OF INTERCEPT}\end{aligned}$$

RANGE EQUATION OF THE LINE

$$1 \quad \text{PERM} = \text{ANTILOG}((0.1342)(\text{POROSITY}) + -1.8532)$$



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE 1

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY
FIELD : LYEROOK-GALLUP

WELL : S. BLANCO FEDERAL 25-5
COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.005 TO 50.
POROSITY : PERCENT (HELIUM) RANGE USED 3.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 5456.0 - 5467.0 INTERVAL LENGTH : 11.0
FEET ANALYZED IN ZONE : 11.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY	PERMEABILITY AVERAGES
AVERAGE	ARITHMETIC HARMONIC GEOMETRIC
-----	-----
6.7	0.15 0.08 0.11

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

PAGE 2

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
 FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.)	(ARITH)	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
2.0 - 4.0	2.0	3.3	0.070	0.070	20.0	20.0
4.0 - 6.0	3.0	5.0	0.087	0.157	30.0	50.0
6.0 - 8.0	2.0	7.8	0.106	0.110	20.0	70.0
8.0 - 10.0	2.0	9.8	0.250	0.260	20.0	90.0
10.0 - 12.0	1.0	10.4	0.130	0.130	10.0	100.0

TOTAL NUMBER OF FEET = 10.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
 FIELD : LYEROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.020 - 0.039	1.0	0.020	4.7	10.0	10.0
0.039 - 0.078	2.0	0.070	3.3	20.0	30.0
0.078 - 0.156	4.0	0.107	7.9	40.0	70.0
0.156 - 0.312	1.0	0.190	9.7	10.0	80.0
0.312 - 0.625	2.0	0.345	7.2	20.0	100.0

TOTAL NUMBER OF FEET = 10.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
 FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

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
0.0	0.0	0.0	10.0	100.0	6.7	6.0
2.0	0.0	0.0	10.0	100.0	6.7	6.0
4.0	2.0	9.7	8.0	90.3	7.6	7.0
6.0	5.0	32.2	5.0	67.8	9.1	8.5
8.0	7.0	55.4	3.0	44.6	10.0	
10.0	9.0	84.5	1.0	15.5	10.4	
12.0	10.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 67.0

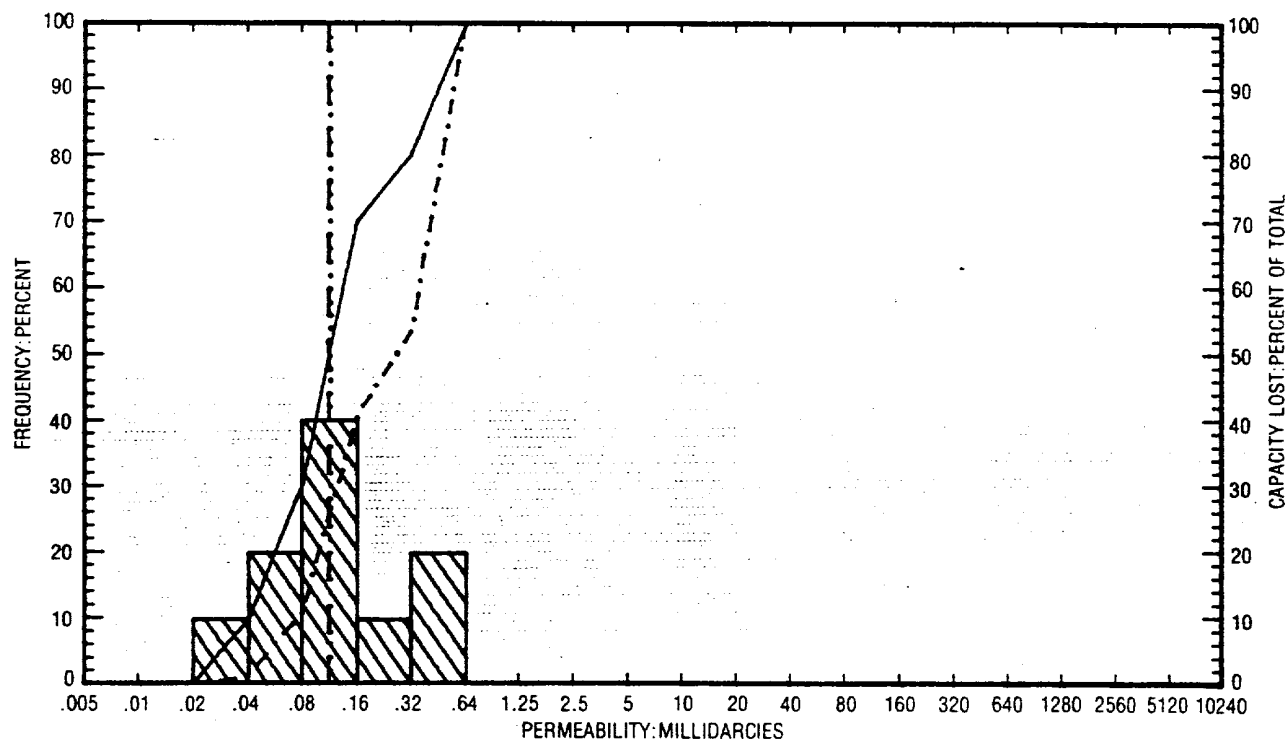
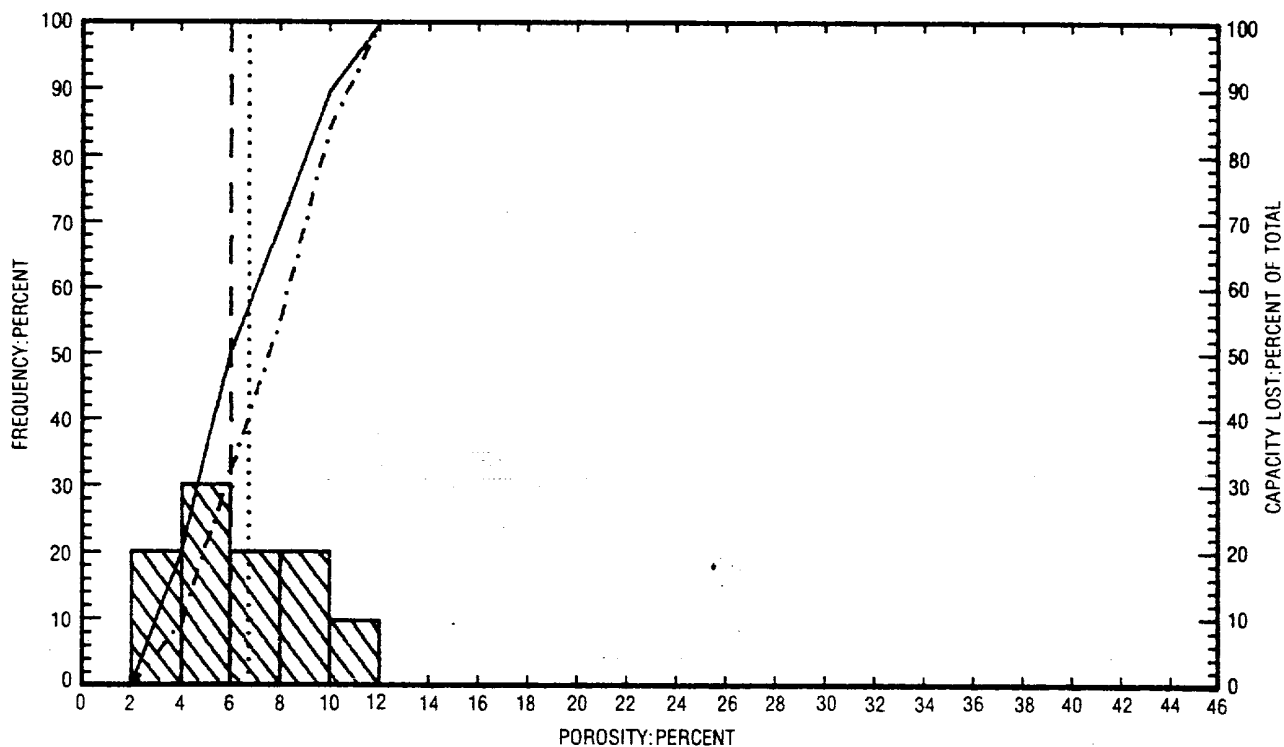
STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY
FIELD : LYBROOK-GALLUP
WELL : S. BLANCO FEDERAL 25-5
COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

MILLIDARCY-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	10.0	100.0	0.11	0.11
0.010	0.0	0.0	10.0	100.0	0.11	0.11
0.020	0.0	0.0	10.0	100.0	0.11	0.11
0.039	1.0	1.4	9.0	98.6	0.13	0.12
0.078	3.0	10.8	7.0	89.2	0.16	
0.156	7.0	40.5	3.0	59.5	0.28	0.37
0.312	8.0	53.4	2.0	46.6	0.34	
1.	10.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 1.48



PERMEABILITY AND POROSITY HISTOGRAMS

MESA PETROLEUM COMPANY
 S. BLANCO FEDERAL 25-5
 LYBROOK-GALLUP 5456.0 - 5467.0
 SAN JUAN COUNTY, NEW MEXICO

LEGEND

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

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE NO. 1

PERMEABILITY VS POROSITY

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
 FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

AIR PERMEABILITY : MD - HORIZONTAL (UNCORRECTED FOR SLIPPAGE)
 POROSITY : PERCENT (HELIUM)

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY MINIMUM MAXIMUM	POROSITY MIN. MAX.	POROSITY AVERAGE	PERMEABILITY AVERAGES	
					ARITHMETIC	HARMONIC GEOMETRIC
5505.0 - 5566.0	1 (X)	0.005 50.0	3.0 15.0	6.9	0.09	0.03
						0.05

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

RANGE EQUATION OF THE LINE

1 PERM = ANTILOG((0.1736)(POROSITY) + -2.5393)

PERMEABILITY: MILLIDARCIES

0.01

0.1

0.001

0.0

2.0

4.0

6.0

8.0

10.0

12.0

POROSITY: PERCENT

PERMEABILITY VS. POROSITY

MESA PETROLEUM COMPANY

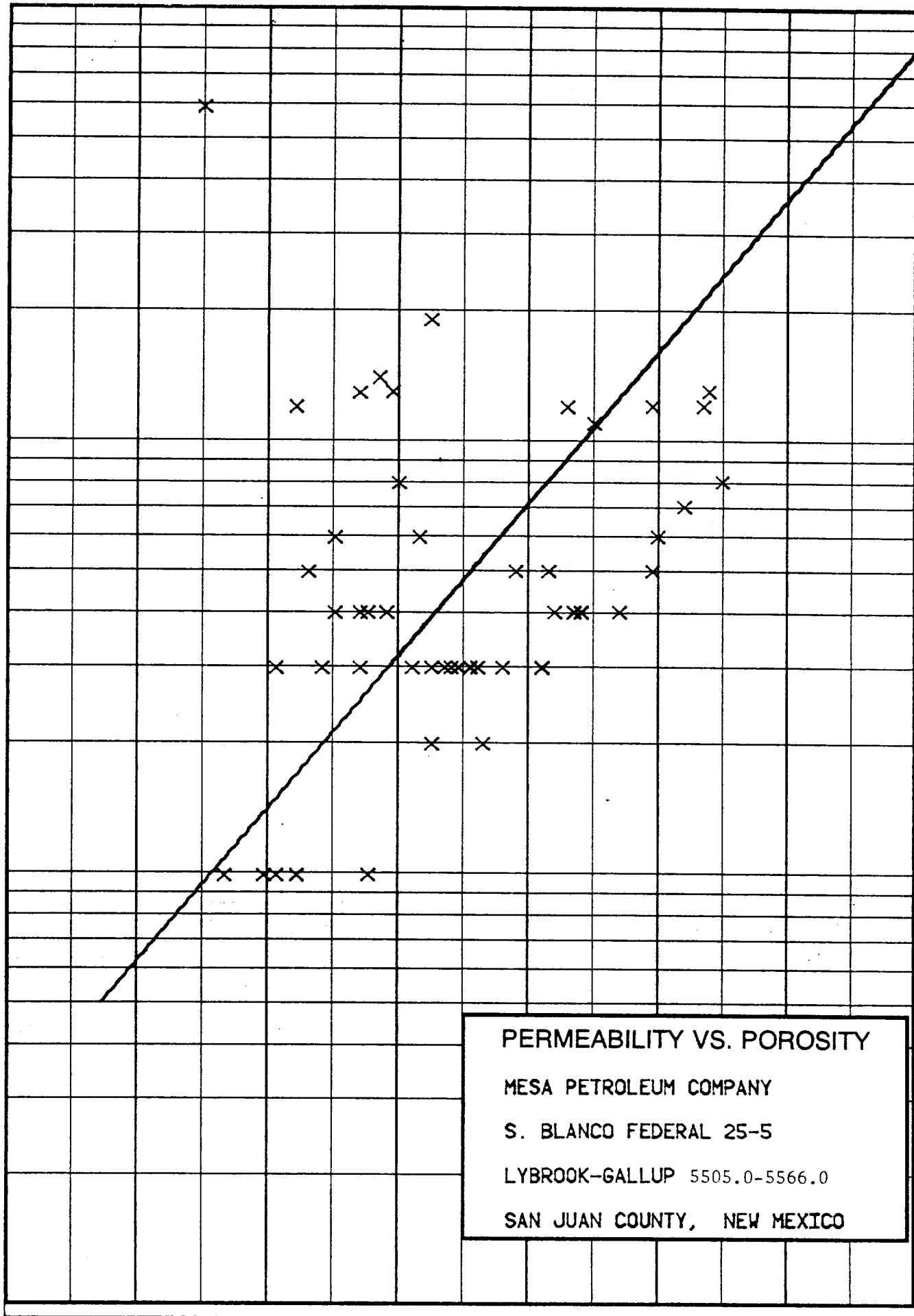
S. BLANCO FEDERAL 25-5

LYBROOK-GALLUP 5505.0-5566.0

SAN JUAN COUNTY, NEW MEXICO

0.0015/ft/sec

1.5E-04/ft/sec



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE 1

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY
 FIELD : LYBROOK-GALLUP
 WELL : S. BLANCO FEDERAL 25-5
 COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.005 TO 50,
 POROSITY : PERCENT (HELIUM) RANGE USED 3.0 TO 44.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 5505.0 - 5566.0 INTERVAL LENGTH : 61.0
 FEET ANALYZED IN ZONE : 61.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY	PERMEABILITY AVERAGES	
AVERAGE	ARITHMETIC	HARMONIC GEOMETRIC
-----	-----	-----
6.9	0.09	0.03 0.05

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE 2

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY
 FIELD : LYBROOK-GALLUP

WELL : S. BLANCO FEDERAL 25-5
 COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.)	(ARITH)	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
2.0 - 4.0	3.0	3.4	0.039	0.203	5.3	5.3
4.0 - 6.0	17.0	5.0	0.038	0.054	29.8	35.1
6.0 - 8.0	18.0	6.8	0.045	0.142	31.6	66.7
8.0 - 10.0	14.0	8.8	0.050	0.056	24.6	91.2
10.0 - 12.0	5.0	10.6	0.088	0.092	8.8	100.0

TOTAL NUMBER OF FEET = 57.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL: S. BLANCO FEDERAL 25-5
 FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.010 - 0.020	6.0	0.010	0.010	4.3	10.5	10.5
0.020 - 0.039	18.0	0.029	0.029	6.7	31.6	42.1
0.039 - 0.078	19.0	0.046	0.047	7.7	33.3	75.4
0.078 - 0.156	11.0	0.115	0.116	7.9	19.3	94.7
0.156 - 0.312	1.0	0.190	0.190	6.5	1.8	96.5
0.312 - 0.625	1.0	0.590	0.590	3.0	1.8	98.2
1.250 - 2.500	1.0	1.8	1.8	6.1	1.8	100.0

TOTAL NUMBER OF FEET = 57.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY
 FIELD : LYBROOK-GALLUP

WELL : S. BLANCO FEDERAL 25-5
 COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

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
0.0	0.0	0.0	57.0	100.0	6.9	6.9
2.0	0.0	0.0	57.0	100.0	6.9	6.9
4.0	3.0	2.6	54.0	97.4	7.1	7.1
6.0	20.0	24.2	37.0	75.8	8.1	8.1
8.0	38.0	55.3	19.0	44.7	9.3	
10.0	52.0	86.6	5.0	13.4	10.6	
12.0	57.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 394.8

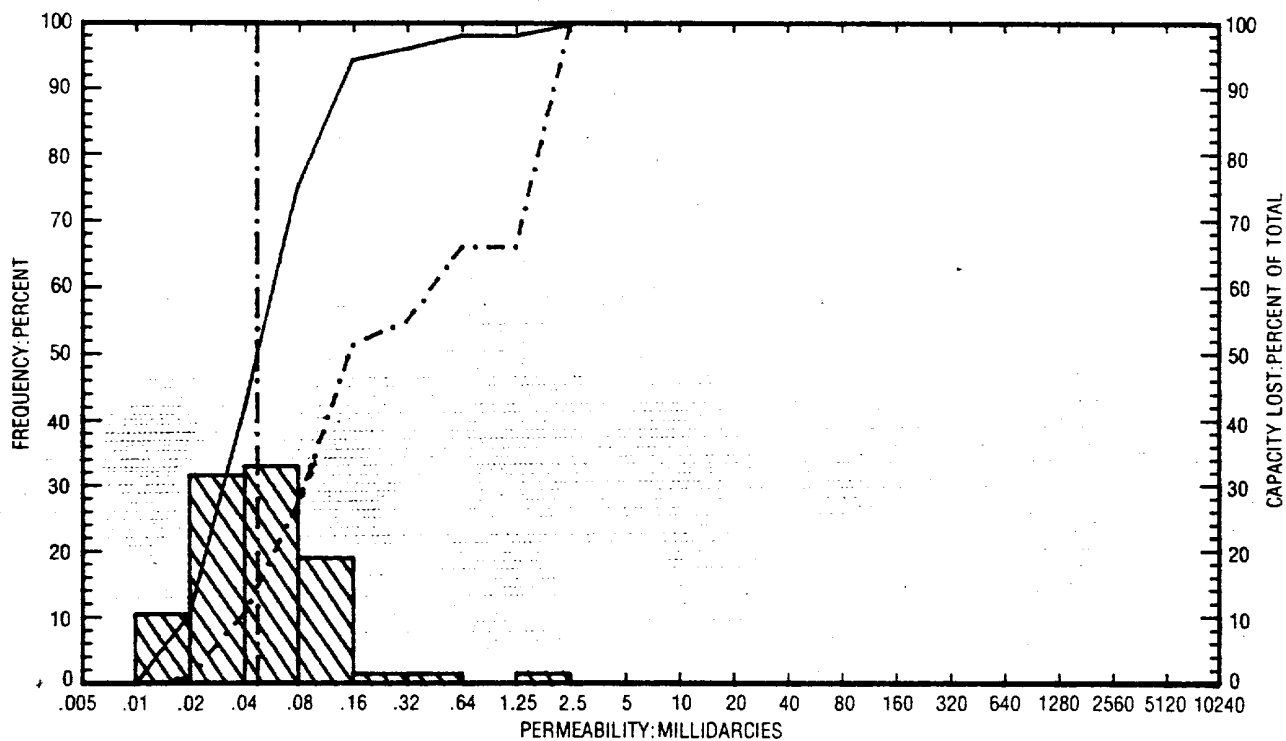
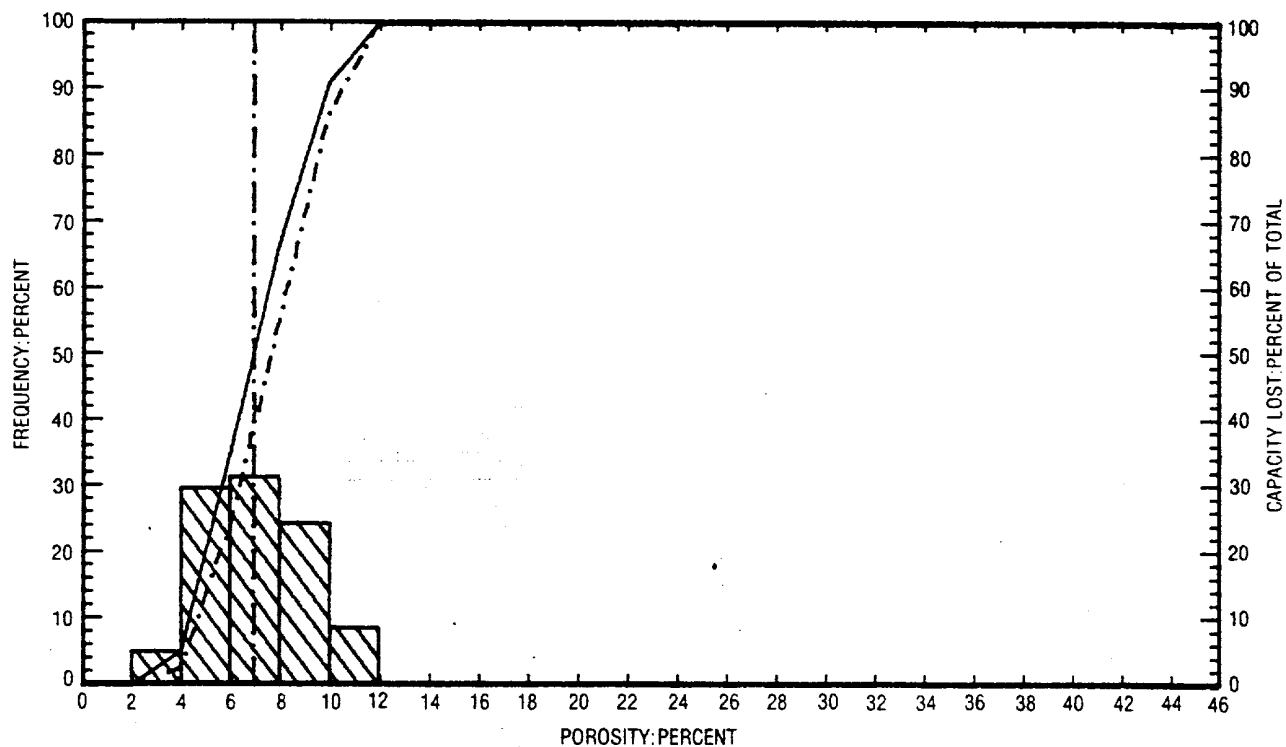
STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MESA PETROLEUM COMPANY WELL : S. BLANCO FEDERAL 25-5
 FIELD : LYBROOK-GALLUP COUNTY, STATE: SAN JUAN COUNTY, NEW MEXICO

MILLIDARCY-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	57.0	100.0	0.05	0.05
0.010	0.0	0.0	57.0	100.0	0.05	0.05
0.020	6.0	1.1	51.0	98.9	0.06	0.05
0.039	24.0	10.9	33.0	89.1	0.08	
0.079	43.0	27.6	14.0	72.4	0.16	
0.156	54.0	51.6	3.0	48.4	0.59	0.44
0.312	55.0	55.2	2.0	44.8	1.03	0.67
0.625	56.0	66.2	1.0	33.8	1.80	
1.250	56.0	66.2	1.0	33.8	1.80	
2.	57.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 5.33



PERMEABILITY AND POROSITY HISTOGRAMS

MESA PETROLEUM COMPANY
S. BLANCO FEDERAL 25-5
LYBROOK-GALLUP 5506.0-5566.0
SAN JUAN COUNTY, NEW MEXICO

LEGEND

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