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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

BASS ENTERPRISES PRODUCTION CO

MEADOW SPRINGS 9-31
WILDCAT
LARIMER COUNTY, COLORADO



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

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BASS ENTERPRISES PRODUCTION CO DATE : 13-MAR-85
MEADOW SPRINGS 9-31 FORMATION : J. SAND

FILE NO. : 3806-7669
ANALYSTS : MH:JS

*** CORE SUMMARY AVERAGES FOR 1 ZONE ***

DEPTH INTERVAL: 7869.0 TO 7902.0

FEET OF CORE ANALYZED : 18.0 FEET OF CORE INCLUDED IN AVERAGES: 18.0

-- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED --

PERMEABILITY HORIZONTAL RANGE (MD.)	:	0.00 TO 10.	(UNCORRECTED FOR SLIPPAGE)
HELIUM POROSITY RANGE (%)	:	2.0 TO 100.0	
OIL SATURATION RANGE (%)	:	0.0 TO 25.0	
WATER SATURATION RANGE (%)	:	35.0 TO 90.0	

SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGES FOR DEPTH INTERVAL: 7869.0 TO 7902.0

AVERAGE PERMEABILITY (MILLIDARCIES)		PRODUCTIVE CAPACITY (MILLIDARCY-FEET)	
ARITHMETIC PERMEABILITY	:	ARITHMETIC CAPACITY	:
GEOMETRIC PERMEABILITY	:	GEOMETRIC CAPACITY	:
HARMONIC PERMEABILITY	:	HARMONIC CAPACITY	:

AVERAGE POROSITY (PERCENT)	:	8.3	AVERAGE TOTAL WATER SATURATION	:	68.6
(PERCENT OF PORE SPACE)			(PERCENT OF PORE SPACE)		

AVERAGE RESIDUAL OILSATURATION	:	4.8
(PERCENT OF PORE SPACE)		

INTERPRETATION OF DATA

7869.0-7902.0 WATER PRODUCTIVE WHERE PERMEABLE

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BASS ENTERPRISES PRODUCTION CO DATE ON : 13-MAR-85 OFF: 13-MAR-85 FILE NO : 3806-7669
MEADOW SPRINGS 9-31 FORMATION : J. SAND LABORATORY: AURORA
WILDCAT DRUG FLUID: LSLD ANALYSTS : MH:JS
LARIMER COUNTY, COLORADO LOCATION : SEC 9-T11N-R68W ELEVATION : 6070 KB

CONVENTIONAL CORE ANALYSIS--ROYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH FEET	PERM MD MAX K _a	PERM MD VERT K _a	H _e FOR	OIL% PORE	WTR% PORE	GRAIN DEN	DESCRIPTION
1	7865.0-69.0 7869.0-70.0	0.04	0.02	7.2	20.1	62.8	2.62	SHALY SAND - NO ANALYSIS SD LT GRY TAN VFG-FG ARG
2	7870.0-71.0 7871.0-81.0 7881.0-84.0	<0.01	<0.01	3.8	20.0	61.9	2.66	SD LT GRY-TAN VFG-FG SHALE - NO ANALYSIS ARGILLACEOUS SILTSTONE - NO ANALYSIS
3	7884.0-85.0	<0.01	<0.01	5.5	0.0	61.4	2.64	SD LT GRY-TAN VFG-FG
4	7885.0-86.0	0.02	*0.11	5.4	0.0	73.8	2.64	SD LT GRY-TAN VFG-FG
5	7886.0-87.0	*7.9	*0.90	2.4	0.0	66.5	2.63	SD LT GRY-TAN VFG-FG ARG
6	7887.0-88.0	0.22	0.13	6.9	4.9	54.5	2.66	SD LT GRY-TAN VFG-FG
7	7888.0-89.0	0.06	<0.01	4.3	0.0	74.0	2.63	SD LT GRY-TAN VFG-FG ARG
8	7889.0-90.0	0.14	0.01	4.5	0.0	55.8	2.63	SD LT GRY-TAN VFG-FG ARG
9	7890.0-91.0	0.05	<0.01	7.0	16.7	51.9	2.63	SD LT GRY-TAN VFG-FG ARG
10	7891.0-92.0 7892.0-94.0	0.06	<0.01	9.1	19.5	37.7	2.64	SD LT GRY-TAN VFG-FG LOST CORE
11	7894.0-95.0	0.03	1.2	9.2	7.3	50.6	2.64	SD LT GRY-WH VFG-FG ARG
12	7895.0-96.0	0.10	0.05	11.5	7.8	67.5	2.63	SD LT GRY-WH VFG-FG ARG
13	7896.0-97.0	0.20	0.04	14.3	0.0	69.6	2.63	SD LT GRY-WH VFG-FG ARG
14	7897.0-98.0	0.12	0.14	13.7	1.4	76.0	2.63	SD LT GRY-WH VFG-FG ARG
15	7898.0-99.0	0.20	0.12	12.8	0.0	79.4	2.63	SD LT GRY-WH VFG-FG ARG
16	7899.0- 0.0	0.07	0.02	5.4	0.0	77.4	2.58	SD GRY VFG-FG ARG CARR
17	7900.0- 1.0	0.57	0.04	12.2	0.0	86.8	2.52	SD GRY VFG-FG ARG CARR
18	7901.0- 2.0 7902.0-47.0	0.04	0.03	14.6	0.0	86.5	2.63	SD GRY VFG-FG ARG SHALE - NO ANALYSIS

*FRACTURED PERMEABILITY PLUG

VF = VERTICAL FRACTURE

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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO WELL : MEADOW SPRINGS 9-31
 FIELD : WILDCAT COUNTY, STATE: LARIMER COUNTY, COLORADO

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.000 TO 10.
 POROSITY : PERCENT (HELIUM) RANGE USED 2.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 7869.0 - 7902.0 INTERVAL LENGTH : 33.0
 FEET ANALYZED IN ZONE : 18.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY	PERMEABILITY AVERAGES		
AVERAGE	ARITHMETIC	HARMONIC	GEOMETRIC
8.3	0.55	0.04	0.09

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WELL : MEADOW SPRINGS 9--31
COUNTY, STATE; LARIMER COUNTY, COLORADO

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY MINIMUM MAXIMUM	POROSITY MIN. MAX.	POROSITY AVERAGE	PERMEABILITY AVERAGES ARITHMETIC HARMONIC GEOMETRIC
7869.0 - 7902.0	1 (+)	0.000 10.0	2.0 15.0	8.3	0.55 0.04 0.09

[illegible]

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1 PERM = ANTILOG(( 0.1720)(POROSITY) + -2.4973)
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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO WELL: MEADOW SPRINGS 9-31
 FIELD : WILDCAT COUNTY, STATE: LARIMER COUNTY, COLORADO

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	3.1	0.267	4.0	11.1
4.0 - 6.0	5.0	5.0	0.040	0.060	38.9
6.0 - 8.0	3.0	7.0	0.076	0.103	55.6
8.0 - 10.0	2.0	9.2	0.042	0.045	66.7
10.0 - 12.0	1.0	11.5	0.100	0.100	72.2
12.0 - 14.0	3.0	12.9	0.239	0.297	88.9
14.0 - 16.0	2.0	14.5	0.089	0.120	100.0
TOTAL NUMBER OF FEET =		18.0			

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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO WELL : MEADOW SPRINGS 9-31
 FIELD : WILDCAT COUNTY, STATE: LARIMER COUNTY, COLORADO

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE (GEOM.)	PERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.005 - 0.010	2.0	0.009	0.009	4.7	11.1	11.1
0.020 - 0.039	2.0	0.024	0.025	7.3	11.1	22.2
0.039 - 0.078	6.0	0.052	0.053	7.9	33.3	55.6
0.078 - 0.156	3.0	0.119	0.120	9.9	16.7	72.2
0.156 - 0.312	3.0	0.206	0.207	11.3	16.7	88.9
0.312 - 0.625	1.0	0.570	0.570	12.2	5.6	94.4
5.- 10.	1.0	7.9	7.9	2.4	5.6	100.0

TOTAL NUMBER OF FEET = 18.0

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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: BASS ENTERPRISES PRODUCTION CO WELL : MEADOW SPRINGS 9-31
 FIELD : WILDCAT COUNTY, STATE: LARIMER COUNTY, COLORADO

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	18.0	100.0	8.3	7.3
2.0	0.0	0.0	18.0	100.0	8.3	7.3
4.0	2.0	4.1	16.0	95.9	9.0	8.0
6.0	7.0	20.9	11.0	79.1	10.8	11.0
8.0	10.0	35.0	8.0	65.0	12.2	12.7
10.0	12.0	47.2	6.0	52.8	13.2	13.3
12.0	13.0	54.9	5.0	45.1	13.5	
14.0	16.0	80.7	2.0	19.3	14.5	
16.0	18.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 149.8

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

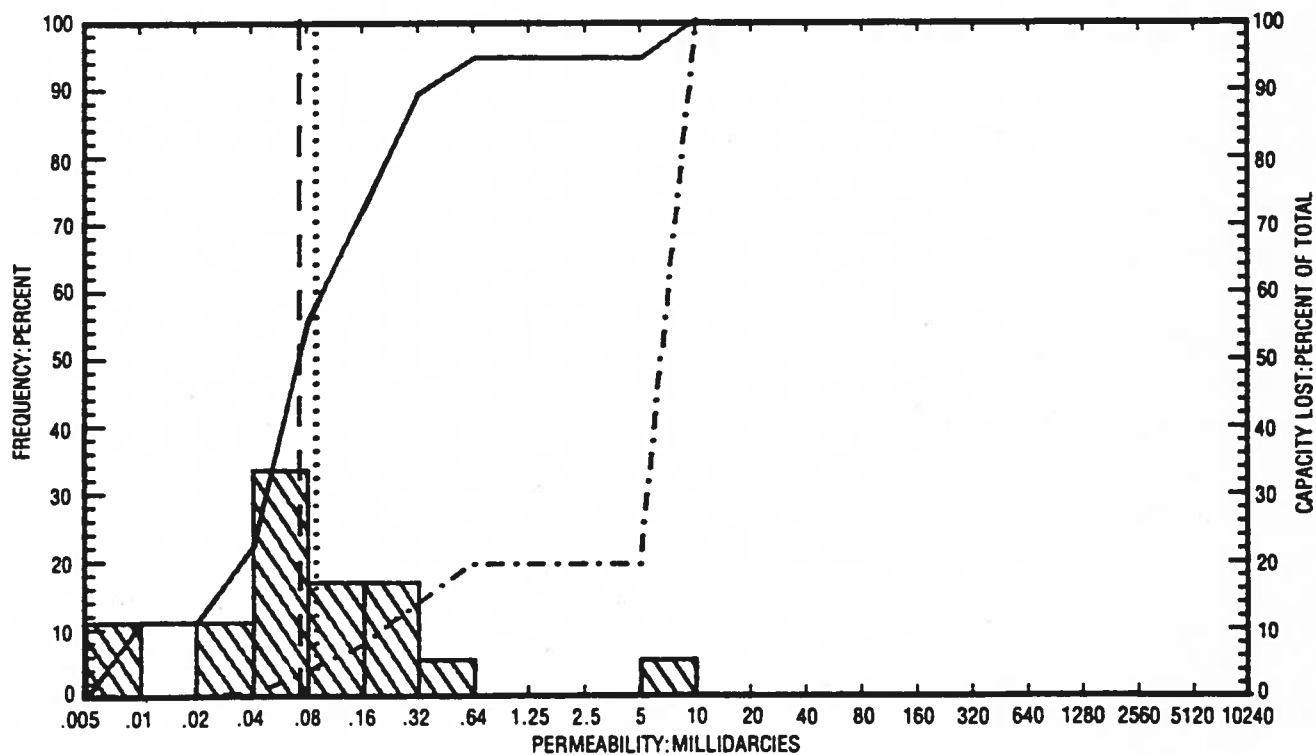
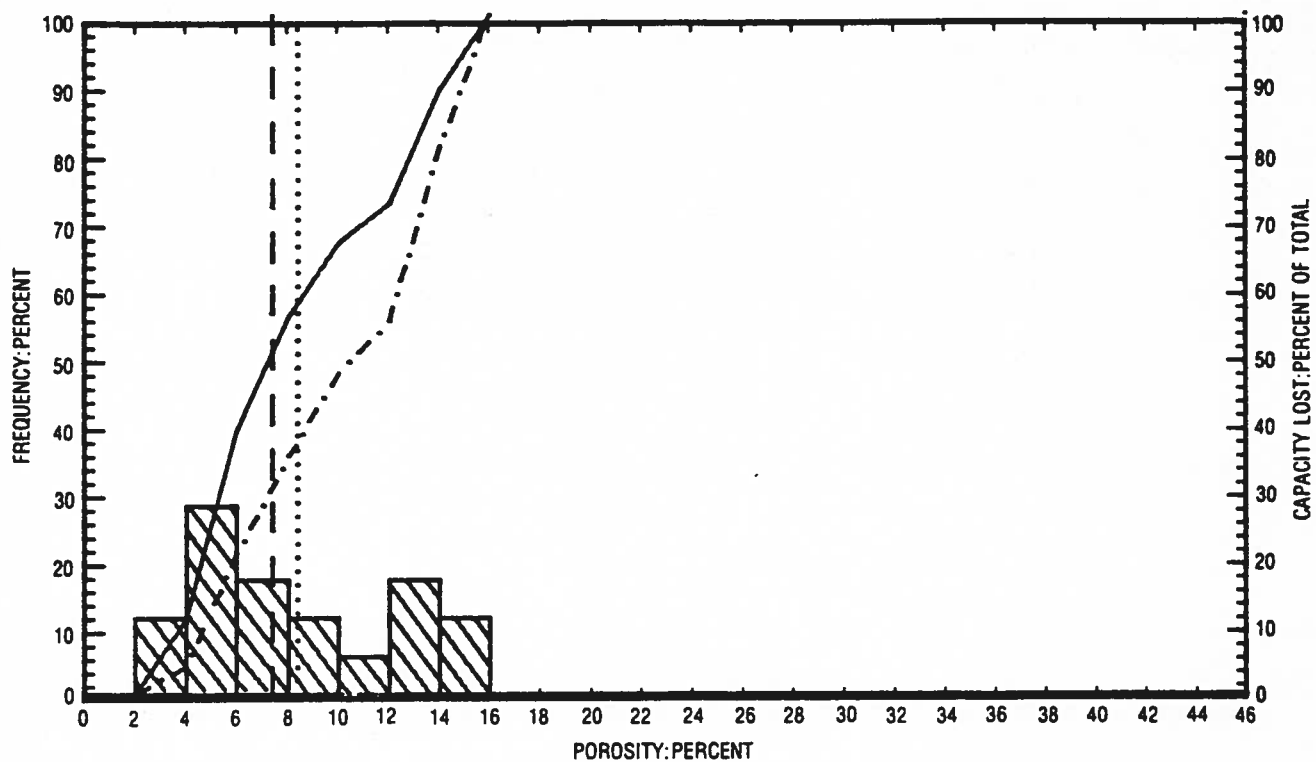
COMPANY: BASS ENTERPRISES PRODUCTION CO
 FIELD : WILDCAT

WELL : MEADOW SPRINGS 9-31
 COUNTY, STATE: LARIMER COUNTY, COLORADO

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	18.0	100.0	0.09	0.07
0.010	2.0	0.2	16.0	99.8	0.11	0.08
0.020	2.0	0.2	16.0	99.8	0.11	0.08
0.039	4.0	0.7	14.0	99.3	0.14	0.10
0.078	10.0	3.9	8.0	96.1	0.30	0.20
0.156	13.0	7.6	5.0	92.4	0.52	
0.312	16.0	13.9	2.0	86.1	2.12	0.62
0.625	17.0	19.7	1.0	80.3	7.90	7.07
1.250	17.0	19.7	1.0	80.3	7.90	7.07
2.500	17.0	19.7	1.0	80.3	7.90	7.07
5.	17.0	19.7	1.0	80.3	7.90	
10.	18.0	100.0	0.0	0.0	7.90	

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 9.84



PERMEABILITY AND POROSITY HISTOGRAMS

BASS ENTERPRISES PRODUCTION CO
MEADOW SPRINGS 9-31
WILDCAT
LARIMER COUNTY, COLORADO

LEGEND

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

**CORE LABORATORIES, INC.***Petroleum Reservoir Engineering*

COMPANY BASS ENTERPRISES PRODUCTION C FILE NO. 3886-7669
 WELL MEADOW SPRINGS 0-31 DATE 13-MAR-85 ENGRS. MM:JS
 FIELD WILDCAT FORMATION "J" SAND ELEV. 6878 KB
 COUNTY LARIMER STATE COLORADO DRLG. FLD. LSLD CORES _____

CoRes Log

CORE and RESISTIVITY EVALUATION

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RESISTIVITY PARAMETERS: $a = 1.88$ $m = 2.88$ $n = 2.88$. Depths 7969.8 to 7982.8 .
 $a =$ _____ $m =$ _____ $n =$ _____ . Depths _____ to _____ .

PERMEABILITY
MILLIDARCIES

CORE ANALYSIS CALCULATED RESISTIVITY

R_o = OHM-METERS AT 100% S_w _____

R_{mp} = OHM-METERS AT CRITICAL S_w _____

DEPTH
FEET

1000 100 10 1.0 0.1 0.01

7850

7900

7950

← ONE OHM-METER REFERENCE FOR $R_w = 0.01$

