

07/17/98

10:36

316 269 6871

CHESAPEAKE CORP --- J O FARMER INC

002

15-051-23140

CORE ANALYSIS REPORT

FOR

SUN EXPL. & PROD. COMPANY
HADLEY 'A' NO. 7 WELL
ELLIS COUNTY, KANSAS

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

OKLAHOMA CITY, OKLAHOMA

November 15, 1982

REPLY TO
SUITE 133
400 SOUTH VERMONT
OKLAHOMA CITY, OK
73108

Sun Exploration & Production Company
4500 S. Garnett Road
P. O. Box 35567
Tulsa, Oklahoma 74135

Attn: Mr. Tyler Deines

Subject: Core Analysis Data
Hadley 'A' No. 7 Well
Ellis County, Kansas
CLI File 3402-11437

Gentlemen:

Cores taken in the subject well in the Arbuckle formation were received at the Oklahoma City laboratory for special analytical testing described on the Procedure Page.

The accompanying Coregraph presents the Surface Core-Gamma log and binomially averaged core analysis data in graphical form to aid correlation with downhole electrical surveys.

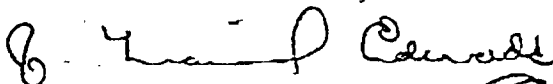
Tabular presentation of the measured physical properties may be found on pages one and two of this report.

Histograms of porosity and permeability in addition to a graph of permeability versus porosity may be found on pages three and four.

It is a pleasure to have this opportunity of serving you.

Very truly yours,

CORE LABORATORIES, INC.



J. Michael Edwards
District Manager



Sun Exploration & Production Company
Hadley 'A' No. 7 Well
CLI File 3402-11437

Procedure Page

Handling and Analytical Procedures

Diamond coring equipment and water base mud were used to obtain 4.0 inch diameter cores between 3,321.0 and 3,366.0 feet.

The cores were preserved at the well site in saran and aluminum foil in a CO2 atmosphere by CLI personnel.

The cores were transported to Oklahoma City by CLI personnel.

A Core-Gamma Log was recorded for downhole electric log correlation.

Core analysis was made in the intervals requested on right cylinder full diameter samples.

Fluid removal was accomplished using vacuum retorts.

Porosity was determined by density balance method.

Air permeability in two horizontal directions and vertical direction was measured without Klinkenberg correction.

Temporary storage of cores in Oklahoma City laboratory for a period of thirty days without additional charge.

SUN EXPL. & PROD. COMPANY
HADLEY 'A' NO. 7 WELL
THREE EAST RIVER ROAD FIELD
ELLIS COUNTY, KANSAS

DATE: 11-12-82
FORMATION: ARBUCKLE
DRLG. FLUID: WATER BASE MUD
LOCATION: SEC. 12-11S-18W

FILE NO: 3402-11437
ANALYST: EDWARDS
LABORATORY: OKLAHOMA CITY

CORE + 10 = LOG

FULL DIAMETER ANALYSIS

SMP. NO.	DEPTH FEET	PERM. TO AIR MD.			POROSITY PERCENT	FLUID OIL	SATS. WATER	GRAIN DEN.	DESCRIPTION
		MAXIMUM	90 DEG. VERTICAL						
	3321.0-35.0								
1	3335.0-36.0	*	102	3.60	14.9	8.8	75.0	2.93	SH
2	3336.0-37.0	*	69	2.80	14.9	9.7	82.3	2.85	DOL, PP VGS, PYR, SHY
3	3337.0-38.0	*	0.03	0.01	4.8	20.0	66.8	2.83	DOL, PP VGS
4	3338.0-39.0	*	0.07	0.01	8.6	19.1	74.3	2.82	DOL, FEW VGS, OOL, VF
5	3339.0-40.0	*	0.02	0.01	8.5	20.7	67.8	2.82	DOL, FEW VGS, OOL, VF
6	3340.0-41.0	*	0.02	0.01	9.0	20.8	66.8	2.84	DOL, VGY, VF
7	3341.0-42.0	52	43	15	17.3	40.1	48.6	2.85	DOL, VGY, CHRT, FISS, VF
8	3342.0-43.0	544	476	5.30	5.1	34.1	53.8	2.87	DOL, VGY, FISS, SH LAMS, VF
9	3343.0-44.0	17	15	7.60	17.6	36.7	54.7	2.83	DOL, VGY, PYR, FISS, VF
10	3344.0-45.0	*	17	9.50	21.4	39.1	54.0	2.84	DOL, VGY, FISS, SH LAMS
	3345.0-3347.5	TOO BROKEN FOR ANALYSIS							
	3347.5-3349.0	LOST CORE							
	3349.0-49.5								
11	3349.5-50.0	*	299	64	18.8	26.9	62.3	2.82	SH
12	3350.0-51.0	153	126	115	27.7	31.0	48.7	2.82	DOL, VGY
13	3351.0-52.0	74	59	8.10	23.5	26.2	55.7	2.82	DOL, VGY
14	3352.0-53.0	*	427	113	27.7	27.7	61.3	2.82	DOL, VGY
15	3353.0-54.0	*	2.10	0.52	14.8	20.3	72.4	2.83	DOL, PP VGS, SH LAMS
16	3354.0-55.0	*	7.70	1.80	17.7	18.4	75.6	2.84	DOL, VGY, SH LAMS
17	3355.0-56.0	*	0.02	0.01	6.9	11.0	79.6	2.83	DOL, VGY, OOL
18	3356.0-57.0	112	83	79	11.4	11.0	82.2	2.82	DOL, VGY, OOL
								2.84	DOL, VGY, CHRT, FISS, VF

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 representation as to the productivity, proper operation, or profitability of any well or reservoir.

07/17/98 10:38

2316 269 6871

CHESAPEAKE CORP *** J O FARMER INC

0005

SUN EXPL. & PROD. COMPANY
HADLEY 'A' NO. 7 WELL

DATE: 11-12-82
FORMATION: ARBUCKLE

FILE NO: 3402-11437
ANALYST: EDWARDS

FULL DIAMETER ANALYSIS

SMP. NO.	DEPTH FEET	PERM. TO AIR MD.		POROSITY PERCENT	FLUID SATS.		GRAIN DEN.	DESCRIPTION	
		MAXIMUM	90 DEG. VERTICAL		OIL	WATER			
19	3357.0-58.0	*	0.48	0.02	10.0	9.7	86.1	2.83	DOL, FEW VGS, CHRT, FISS, SH LAMS
	3358.0-3360.0	LOST CORE							
20	3360.0-61.0	*	0.01	0.01	6.7	9.2	78.1	2.82	DOL, PP VGS, FISS
21	3361.0-62.0	2.10	1.00	<0.01	6.0	21.0	69.7	2.83	DOL, VGY, FISS
22	3362.0-63.0	19	1.30	8.60	12.3	18.9	75.6	2.84	DOL, VGY, SH LAMS, VF
23	3363.0-64.0	*	3.90	1.30	18.0	20.1	73.7	2.83	DOL, VGY, SH LAMS
24	3364.0-65.0	*	1.30	0.18	14.9	12.4	81.6	2.85	DOL, VGY, FISS
	3365.0-3366.0	TOO BROKEN FOR ANALYSIS							

* DENOTES PLUG PERM

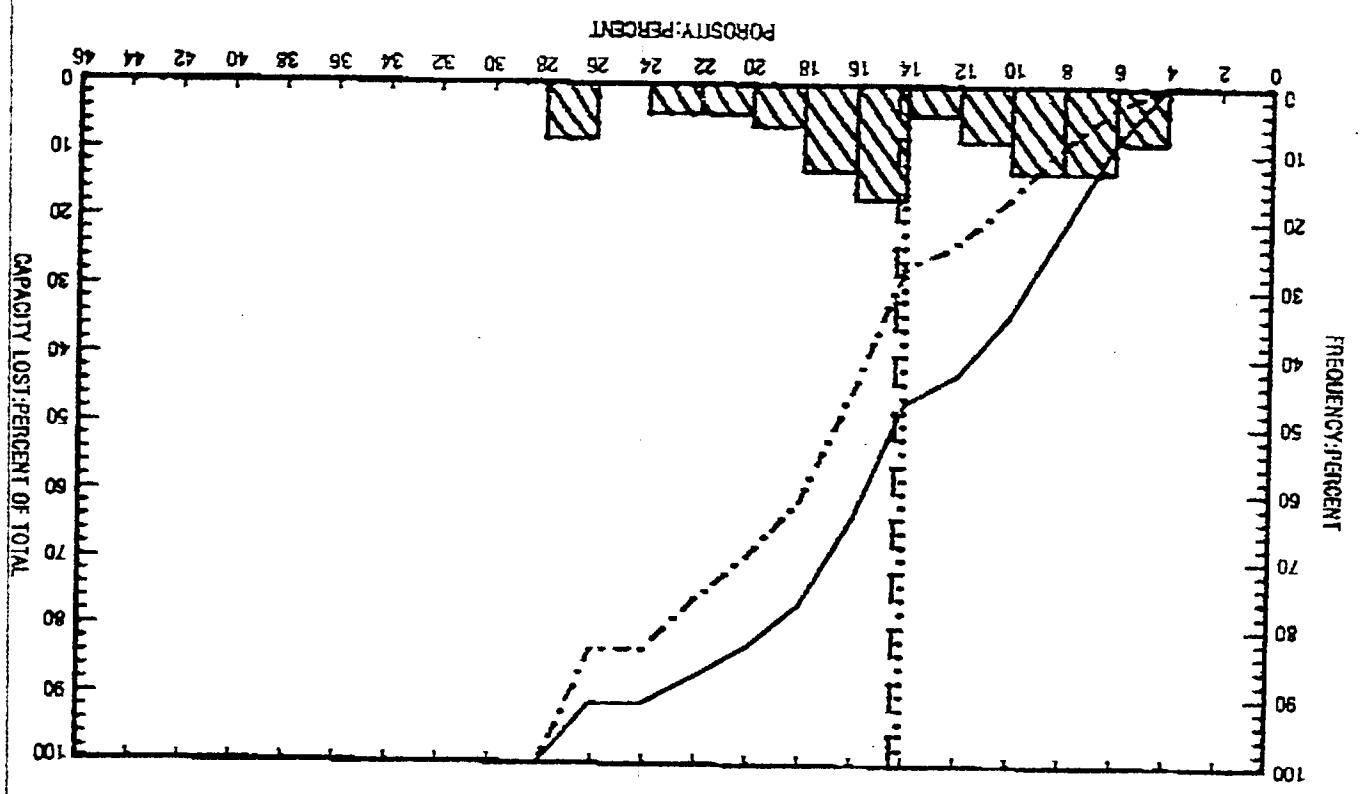
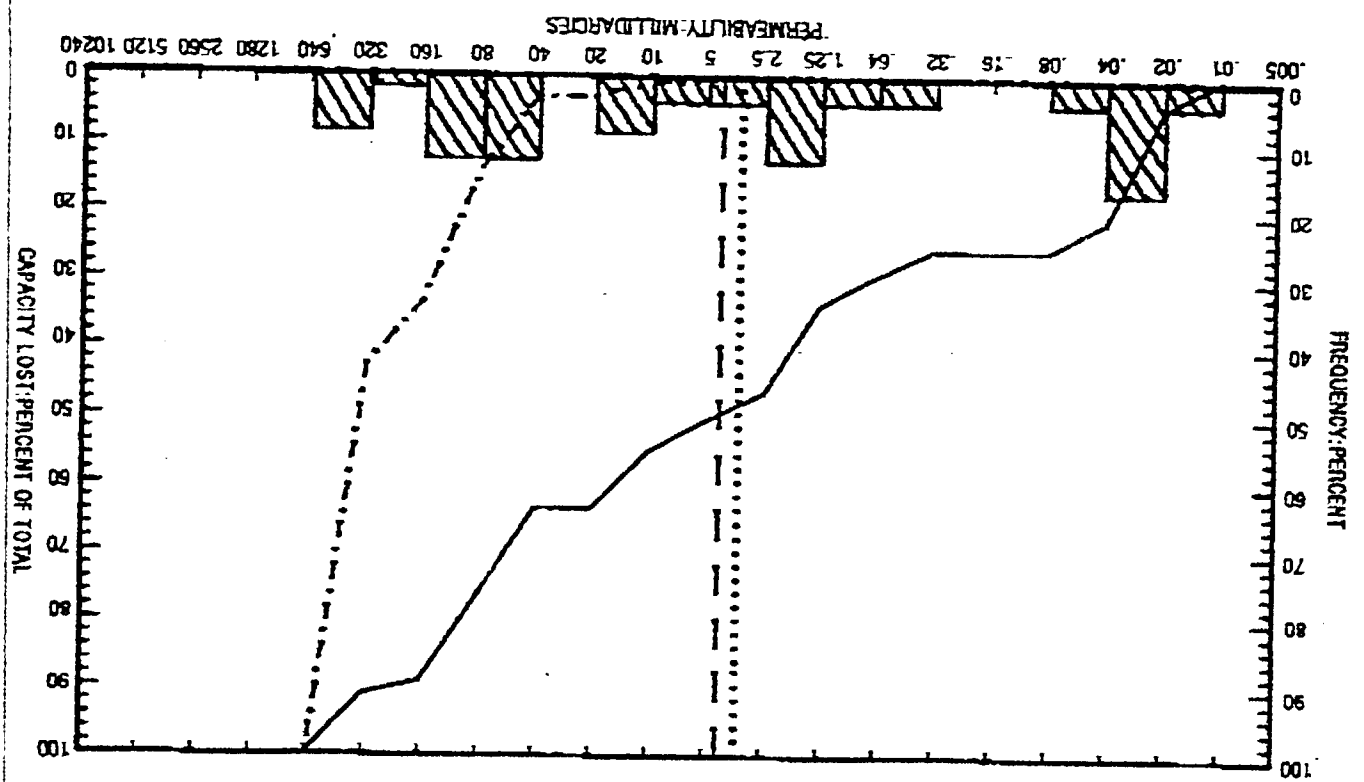
07/17/98 10:39 316 269 6871 CHESAPEAKE CORP J O FARMER INC 006

SUN EXPL. & PROD. COMPANY
HADLEY 'A' NO. 7 WELL
THREE EAST RIVER ROAD FIELD
ELLIS COUNTY, KANSAS

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

PERMEABILITY AND POROSITY HISTOGRAMS

PAGE 3



PERMEABILITY: MILLIDARCIES

100.

10.

1.

0.1

0.01

0.0

5.0

10.0

15.0

20.0

25.0

30.0

PERMEABILITY VS. POROSITY

PAGE 4

THREE EAST RIVER ROAD FIELD
ELLIS COUNTY, KANSAS

CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY SUN EXPL. & PROD. COMPANY

FILE NO. 3402-11437

WELL HADLEY 'A' NO. 7 WELL

DATE 11-12-82

FIELD THREE EAST RIVER ROAD

FORMATION ARBUCKLE

ELEV. _____

COUNTY ELLIS

STATE KANSAS

DRILLING FLUID WATER BASE MUD

CORES _____

SECTION SEC. 12-113-184

CORRELATION COREGRAPH

These analyses, correlations 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., (an expert or consultant 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 sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

Gamma Ray

RADIATION INCREASE →

Permeability

MILLIDARCES

Porosity

PERCENT

Total Water

PERCENT PORE SPACE

100 80 60 40 20

Oil Saturation

PERCENT PORE SPACE

0 20 40 60 80

1000

100

10

1

Depth
Feet

30

20

10

0

20

40

60

80

3350

3400