

19-31-40W

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
OKLAHOMA CITY, OKLAHOMA

October 30, 1985

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

J. M. Huber Corporation
Suite 232
7120 I-40 West
Amarillo, Texas 79106

Attn: Mr. Tony Kolodziej

Subject: Core Analysis Data
E. Smith No. 19-6 Well
Morton County, Kansas
CLI File 3402-12531

Gentlemen:

Cores taken in the subject well in the Morrow 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 page one of this report.

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

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

Very truly yours,

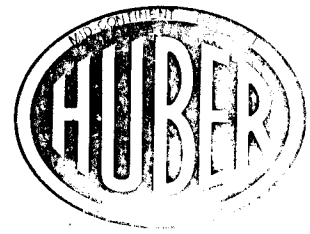
CORE LABORATORIES, INC.

J. Michael Edwards

J. Michael Edwards
District Manager

JME:jk

6 cc - Addressee



CORE ANALYSIS REPORT

FOR

J. M. HUBER CORPORATION
E. SMITH NO. 19-6 WELL
MORTON COUNTY, KANSAS

CB
2113

J. M. Huber Corporation
E. Smith No. 19-6 Well
CLI File 3402-12531

Procedure Page

Handling and Analytical Procedures

Diamond coring equipment and water base mud were used to obtain 4.0 inch diameter cores between 5,020.0 and 5,083.0 feet.

The cores were preserved at the well site 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 low temperature extraction.

Porosity was determined by Boyle's law method.

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

Cores were slabbed for future geological study.

Cores and slabs were shipped to:

J. M. Huber Corporation
Suite 232
7120 I-40 West
Amarillo, Texas 79106
Attn: Mr. Tony Kolodziej

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PAGE 1

J.M. HUBER CORPORATION
SMITH NO. 19-6 WELL
ORTON COUNTY, KANSAS

DATE : 24-OCT-85
FORMATION : MORROW
DRLG. FLUID: WATER BASE
LOCATION : SEC. 19 T31S

FILE NO. : 3402-12531
API NO. :
LABORATORY: OKLAHOMA CITY

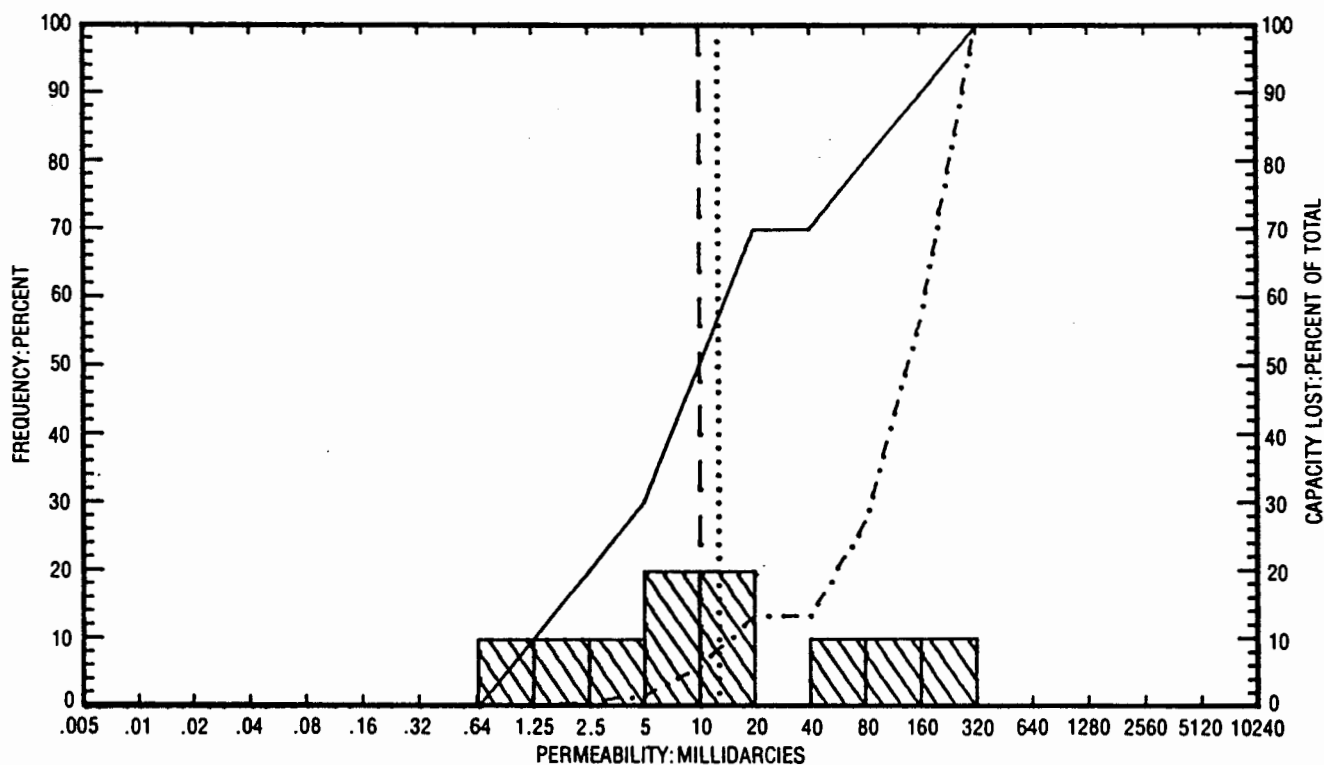
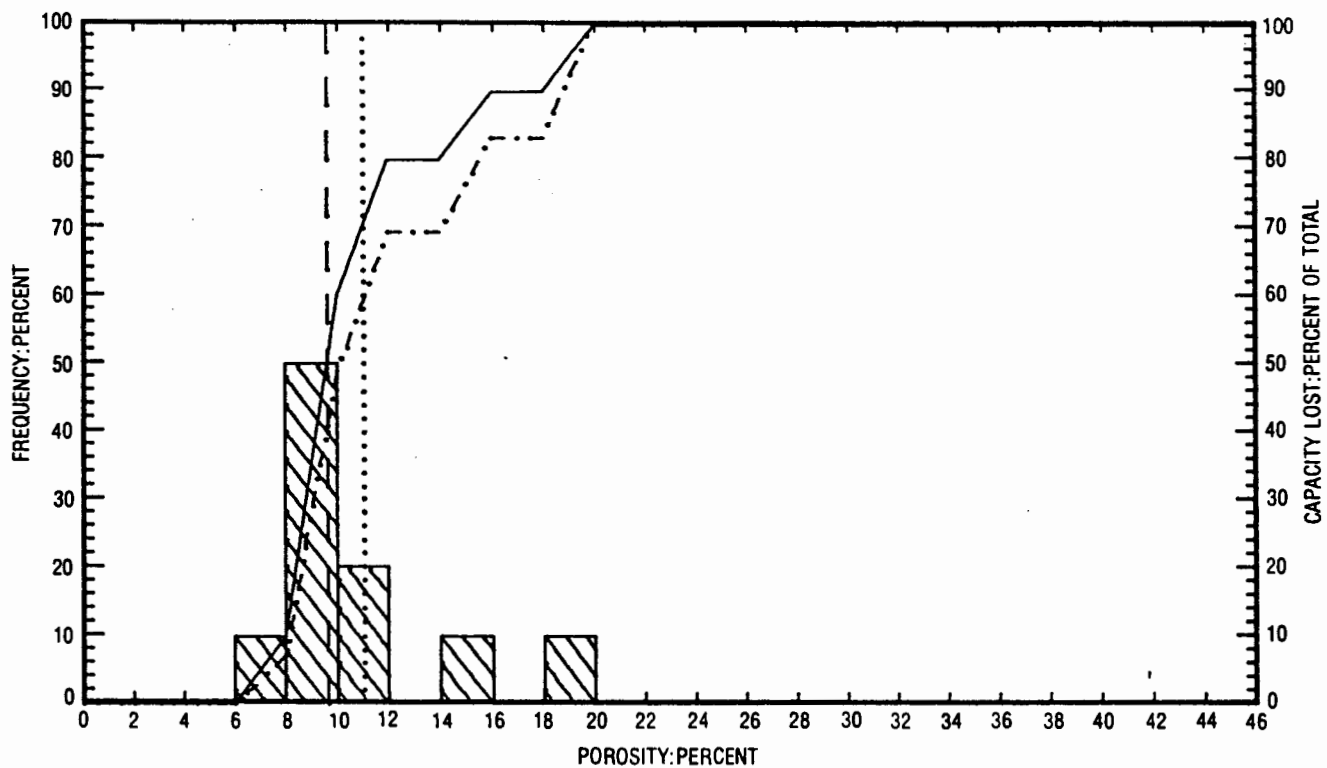
FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	HE POR	OIL% POR	WTR% POR	GRAIN DEN M	DESCRIPTION
N/A 5020-5062* SHALE BLACK								
1	5062.0-63.0	28.	1.6	8.3	5.0	80.0	2.67	SST GRY VF SH SHLAM
2	5063.0-64.0	13.	9.8	9.2	1.9	76.2	2.71	SST GRY VF SH SHLAM
3	5064.0-65.0	18.	6.9	9.6	7.1	64.7	2.66	SST GRY VF SH SHLAM
4	5065.0-66.0	126.	56.	9.0	4.3	92.7	2.68	SST GRY VF SH SHLAM
5	5066.0-67.0	19.	0.76	10.7	10.9	63.6	2.69	SST GRY VF SH SHLAM
6	5067.0-68.0	29.	4.9	7.7	2.1	92.5	2.66	SST GRY VF SH SHLAM
7	5068.0-69.0	202.	176.	15.3	19.7	36.1	2.65	SST BUFF CSE PP
8	5069.0-70.0	124.	121.	18.4	21.1	36.0	2.68	SST BUFF CSE PP
9	5070.0-71.0	19.	15.	9.9	22.7	27.7	2.70	SST BUFF CSE PP
10	5071.0-72.0	36.	15.	11.9	25.4	32.0	2.68	SST BUFF CSE PP

N/A 5072-5083 SHALE BLACK

* 6' PIPE STAMP CORR.

Tony Kaleding
1-10-86



PERMEABILITY AND POROSITY HISTOGRAMS

Page 2

J.M. HUBER CORPORATION
E. SMITH NO. 19-6 WELL

MORTON COUNTY, KANSAS

LEGEND

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

1000.

100.

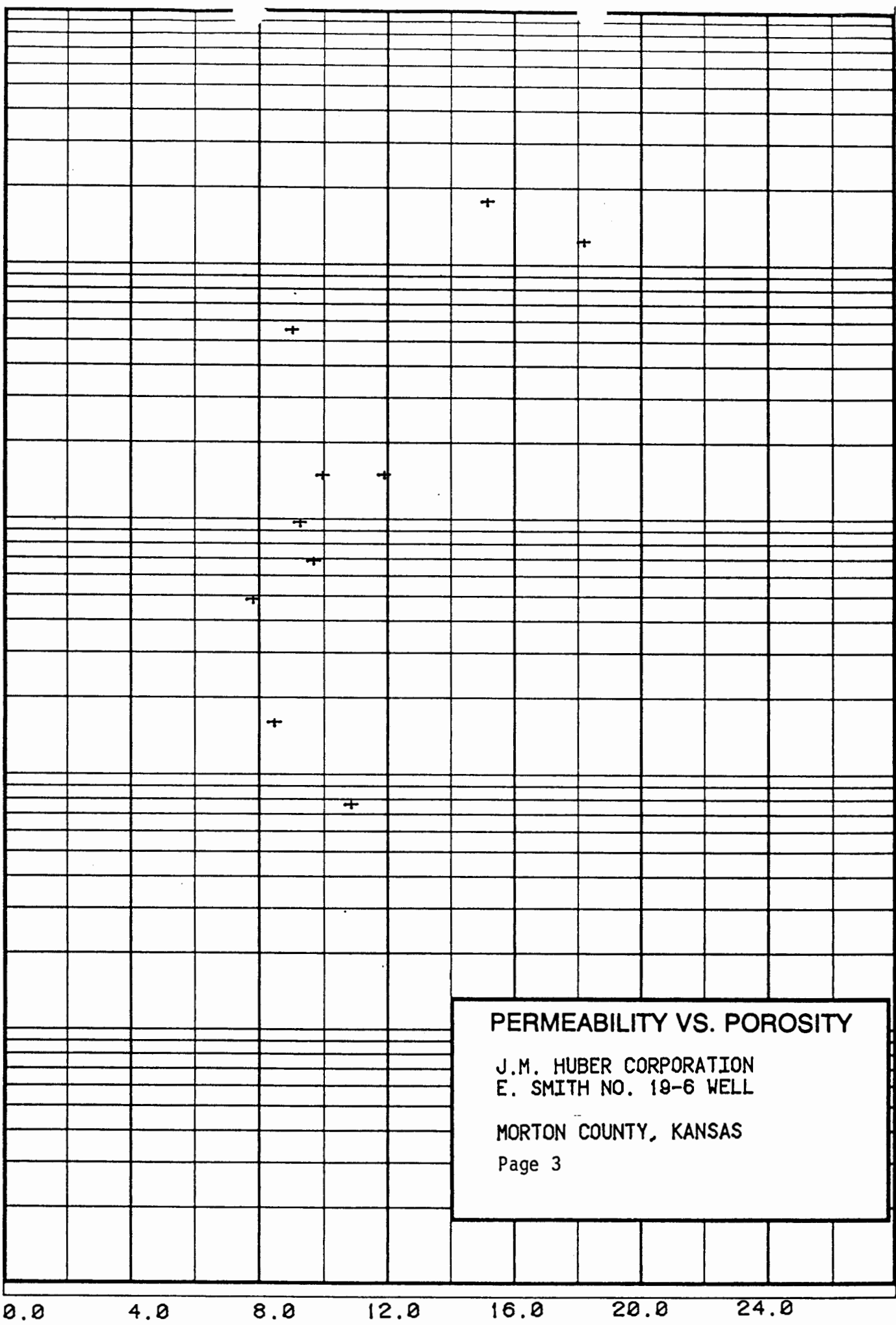
PERMEABILITY: MILLIDARCIES

10.

1.

0.1

0.01



PERMEABILITY VS. POROSITY

J.M. HUBER CORPORATION
E. SMITH NO. 19-6 WELL

MORTON COUNTY, KANSAS