

CORE ANALYSIS REPORT

FOR

IMPERIAL OIL COMPANY  
GILES NO. 1-35 WELL  
EDWARDS COUNTY, KANSAS

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

December 17, 1979

REPLY TO  
SUITE 133  
400 SOUTH VERMONT  
OKLAHOMA CITY, OKLA.  
73108

Imperial Oil Company  
720 Fourth Financial Center  
Wichita, Kansas 67202

Attn: Mr. Ernie Morrison

Subject: Core Analysis Data  
Giles No. 1-35 Well  
Edwards County, Kansas  
CLI File 3402-9929

Gentlemen:

Cores taken in the subject well in the Kinderhook formation were received at the Oklahoma City laboratory for special analytical testing described on the procedure page.

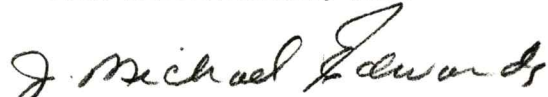
The accompanying Coregraph presents the Surface Core-Gamma Log and binomially averaged core analysis data in graphical form to aid correlation with downhole electrical surveys.

Tabular presentation of the measured physical properties may be found on page one of this report. Data averages reflecting zone changes are presented on page two.

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

Very truly yours,

CORE LABORATORIES, INC.

  
J. Michael Edwards for  
Dale E. Boyle, District Manager

DEB:JME:lg

6 cc - Addressee

Imperial Oil Company  
Giles No. 1-35 Well  
CLI File 3402-9929

#### Procedure Page

#### Handling and Analytical Procedures

Diamond coring equipment and water base mud were used to obtain 3.5 inch diameter cores between 4549 and 4575 feet.

The cores were preserved at the well site in plastic bags by client representative.

Cores were transported to Oklahoma City via motor freight.

A Core-Gamma Log was recorded for downhole E-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--measured without Klinkenberg correction.

Cores have been shipped to Halliburton Services in Duncan, Oklahoma.

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

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IMPERIAL OIL COMPANY  
 GILES NO. 1-35 WELL  
 EDWARDS COUNTY, KANSAS

DATE: 12/18/79  
 FORMATION: KINDERHOOK  
 DRLG. FLUID: WATER BASE MUD  
 LOCATION: C NE SW SEC 35-26S-16W

FILE NO: 3402-9929  
 ENGINEER: BOYLE  
 ELEVATION: 2076' KB

\* INDICATES PLUG PERM

| SMP.<br>NO.         | DEPTH       | PERM. TO AIR MD.<br>MAXIMUM 90 DEG | POROSITY<br>PERCENT | FLUID SATS.<br>OIL WTR. | GR.<br>DEN. | DESCRIPTION                 |
|---------------------|-------------|------------------------------------|---------------------|-------------------------|-------------|-----------------------------|
| WHOLE CORE ANALYSIS |             |                                    |                     |                         |             |                             |
| + 1                 | 4549.0-50.0 | 2.2                                | 1.2                 | 10.2                    | 12.3        | 49.8 2.64 SD,SLTY           |
| 2                   | 4550.0-51.0 | 0.2                                | 0.2                 | 12.6                    | 8.2         | 60.9 2.65 SD,SLTY           |
| 3                   | 4551.0-52.0 | 0.2                                | 0.2                 | 10.4                    | 11.1        | 45.4 2.65 SD,SLTY           |
| 4                   | 4552.0-53.0 | 1.3                                | 0.8                 | 10.3                    | 12.1        | 42.9 2.65 SD,SLTY           |
| 5                   | 4553.0-54.0 | 2.0                                | 1.2                 | 10.5                    | 11.6        | 40.0 2.65 SD,SLTY           |
| 6                   | 4554.0-55.0 | 1.1                                | 0.7                 | 14.0                    | 9.2         | 53.7 2.66 SD,SLTY           |
| 7                   | 4555.0-56.0 | 1.8                                | 1.4                 | 19.7                    | 9.8         | 56.4 2.66 SD,SLTY,SH LAMS   |
| 8                   | 4556.0-57.0 | 0.2                                | 0.2                 | 9.7                     | 10.6        | 54.1 2.65 SD,SLTY,SH LAMS   |
| 9                   | 4557.0-58.0 | 1.0                                | 1.0                 | 10.2                    | 12.7        | 41.7 2.64 SD,SLTY           |
| 10                  | 4558.0-59.0 | 1.2                                | 0.2                 | 12.4                    | 12.7        | 42.4 2.64 SD,SLTY           |
| 11                  | 4559.0-60.0 | 0.8                                | 0.6                 | 10.0                    | 10.5        | 45.8 2.64 SD,SLTY           |
| 12                  | 4560.0-61.0 | 3.4                                | 2.6                 | 13.7                    | 11.3        | 43.6 2.65 SD,SLTY           |
| 13                  | 4561.0-62.0 | 2.0                                | 1.6                 | 12.2                    | 10.1        | 48.0 2.64 SD,SLTY,SL/SHY,VF |
| 14                  | 4562.0-63.0 | 0.9                                | 0.8                 | 10.5                    | 11.6        | 42.9 2.64 SD,SLTY,SL/SHY    |
| 15                  | 4563.0-64.0 | 2.0                                | 1.6                 | 11.5                    | 10.3        | 42.2 2.65 SD,SLTY           |
| 16                  | 4564.0-65.0 | *                                  | <0.1                | 8.9                     | 11.1        | 46.4 2.64 SD,SLTY           |
| 17                  | 4565.0-66.0 | *                                  | 0.2                 | 3.5                     | 2.4         | 49.6 2.64 SD,SLTY           |
| 18                  | 4566.0-67.0 | 1.3                                | 1.3                 | 16.0                    | 6.4         | 61.5 2.64 SD,SLTY           |
| 19                  | 4567.0-68.0 | 0.3                                | 0.3                 | 15.5                    | 5.3         | 66.7 2.65 SD,SLTY           |
| 20                  | 4568.0-69.0 | 0.1                                | <0.1                | 14.3                    | 3.8         | 69.2 2.65 SD,SLTY           |
| 21                  | 4569.0-70.0 | <0.1                               | <0.1                | 14.3                    | 4.1         | 71.7 2.66 SD,SLTY           |
| 22                  | 4570.0-71.0 | 0.2                                | 0.2                 | 14.7                    | 5.0         | 70.8 2.65 SD,SLTY           |
| 23                  | 4571.0-72.0 | 0.2                                | 0.1                 | 14.3                    | 5.0         | 67.1 2.65 SD,SLTY           |
| 24                  | 4572.0-73.0 | 0.3                                | 0.3                 | 14.2                    | 5.8         | 63.2 2.64 SD,SLTY           |
| 25                  | 4573.0-74.0 | 0.2                                | 0.1                 | 14.7                    | 1.9         | 65.0 2.65 SD,SLTY           |
| 26                  | 4574.0-75.0 | <0.1                               | <0.1                | 12.2                    | 1.4         | 72.4 2.66 SD,SLTY           |

+ DENOTES HORIZONTAL CRACKS

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## CORE LABORATORIES, INC.

*Petroleum Reservoir Engineering*

DALLAS, TEXAS

CORE SUMMARY

Company IMPERIAL OIL COMPANY  
Well GILES NO. 1-35  
Page 2 of 2 File 3402-9929

| <u>DEPTH</u><br><u>FEET</u> | <u>HORIZONTAL PERMEABILITY, Md.</u> |                   | <u>POROSITY</u><br><u>PER CENT</u> | <u>SATURATION</u> |              | <u>GRAIN</u><br><u>DENSITY</u> |
|-----------------------------|-------------------------------------|-------------------|------------------------------------|-------------------|--------------|--------------------------------|
|                             | <u>MAXIMUM</u>                      | <u>90 DEGREES</u> |                                    | <u>OIL</u>        | <u>WATER</u> |                                |
| 4549-65                     | 1.4                                 | 0.9               | 11.7                               | 11.0              | 47.3         | 2.65                           |
| 4565-75                     | 0.3                                 | 0.3               | 13.4                               | 4.1               | 65.7         | 2.65                           |



CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY IMPERIAL OIL COMPANY

FIELD \_\_\_\_\_

FILE 3402-9929

WELL GILES NO. 1-35

COUNTY EDWARDS

DATE 12/17/79

LOCATION C NE SW SEC 35-26S-16W

STATE KANSAS

ELEV. 2076' KB

## CORE-GAMMA CORRELATION

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 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 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'

TOTAL WATER 0000  
PERCENT PORE SPACE

80 60 40 20 0

GAMMA RAY  
RADIATION INCREASE  
→

PERMEABILITY \_\_\_\_\_  
MILLIDARCS

100.0 10.0 1.0 0.1

POROSITY \_\_\_\_\_  
PERCENT

30 20 10

OIL SATURATION XXXX  
PERCENT PORE SPACE

0 0 20 40 60 80

