

CORE ANALYSIS REPORT

FOR

A. SCOTT RITCHIE
KEISWETTER NO. 1-A WELL
GRAHAM COUNTY, KANSAS

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

August 24, 1984

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

A. Scott Ritchie
Suite 950, 125 North Market
Wichita, Kansas 67202

Attn: Mr. Galen Babcock

Subject: Core Analysis Data
Keiswetter No. 1-A Well
Graham County, Kansas
CLI File 3402-12128

Gentlemen:

Cores taken in the subject well in the Lansing Lime 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.

Core analysis data from the cored interval between 3,358.0 and 3,360.0, 3,368.0 and 3,376.0 feet indicate good matrix permeability and porosity development. It is thought this Lansing zone is oil productive with possible water cuts.

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
(ja)
J. Michael Edwards
District Manager

JME:ja

10 cc - Addressee

A. Scott Ritchie
Keiswetter No. 1-A Well
CLI File 3402-12128

Procedure Page

Handling and Analytical Procedures

Diamond coring equipment and water base mud were used to obtain 3.0 inch diameter cores between 3,350.0 and 3,383.4, 3,423.0 and 3,453.0 feet.

The cores were preserved at the well site in plastic bags 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 was measured without Klinkenberg correction.

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

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

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A. SCOT RITCHIE
KEISWETTER NO. 1-A WELL
GRAHAM COUNTY, KANSAS

DATE: 8-22-84
FORMATION: LANSING LIME
DRLG. FLUID: WATER BASE MUD
LOCATION: SEC. 12-6S-22W

FILE NO: 3402-12128
ANALYST: EDWARDS
LABORATORY: OKLAHOMA CITY

FULL DIAMETER ANALYSIS

SMP. NO.	DEPTH FEET	PERM. TO AIR MD. 90 DEG.	POROSITY PERCENT	FLUID OIL	SATS. WATER	GRAIN DEN.	DESCRIPTION
1	3350.0-56.0						SH
2	3356.0-57.0	0.36	4.4	11.5	81.6	2.70	LM, FOSS, FEW PP VGS, SHY
3	3357.0-58.0	8.81	5.4	9.2	70.6	2.80	DOL, FOSS, FEW VGS, LMY, VF
4	3358.0-59.0	86	11.9	29.7	37.5	2.72	LM, FOSS, VGY, CALC
5	3359.0-60.0	73	13.0	34.9	32.8	2.72	LM, FOSS, VGY, CALC
6	3360.0-61.0	0.44	9.7	5.7	81.6	2.81	DOL, FOSS, FEW VGS, CALC
7	3361.0-62.0	0.20	7.0	7.9	78.1	2.75	LM, FOSS, FEW VGS, DOL, CALC, SH LAMS
8	3362.0-63.0	0.11	4.3	9.6	72.0	2.77	LM, FOSS, FEW PP VGS, DOL, PYR, SH LAMS
9	3363.0-67.0						LM, DSE, STY
10	3367.0-68.0	0.09	10.0	5.1	79.1	2.77	LM, FOSS, FEW VGS, DOL, SH LAMS
11	3368.0-69.0	14	9.0	12.7	74.1	2.75	LM, FOSS, FEW VGS, DOL, SH LAMS
12	3369.0-70.0	24	11.0	16.2	46.0	2.70	LM, FOSS, VGY, CALC
13	3370.0-71.0	13	8.4	17.0	43.0	2.71	LM, FOSS, VGY, CALC
14	3371.0-72.0	10	6.7	13.1	53.3	2.70	LM, FOSS, FEW VGS, CALC, SH LAMS
15	3372.0-73.0	*	12.4	27.2	38.7	2.71	LM, FOSS, VGY, CALC
16	3373.0-74.0	*	16.7	26.3	45.2	2.71	LM, FOSS, VGY, CALC
17	3374.0-75.0	*	13.5	31.6	38.9	2.71	LM, FOSS, VGY, CALC
18	3375.0-76.0	*	14.6	30.0	38.4	2.71	LM, FOSS, VGY, CALC
19	3376.0-77.0	*	6.9	10.0	55.0	2.73	LM, FOSS, FEW VGS, CALC, SL/DOL, STY
20	3377.0-78.0	33	3.0	11.2	73.2	2.72	LM, FOSS, FEW VGS, CALC, SL/DOL, STY

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Petroleum Reservoir Engineering
DALLAS, TEXAS

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FILE NO: 3402-12128
ANALYST: EDWARDS

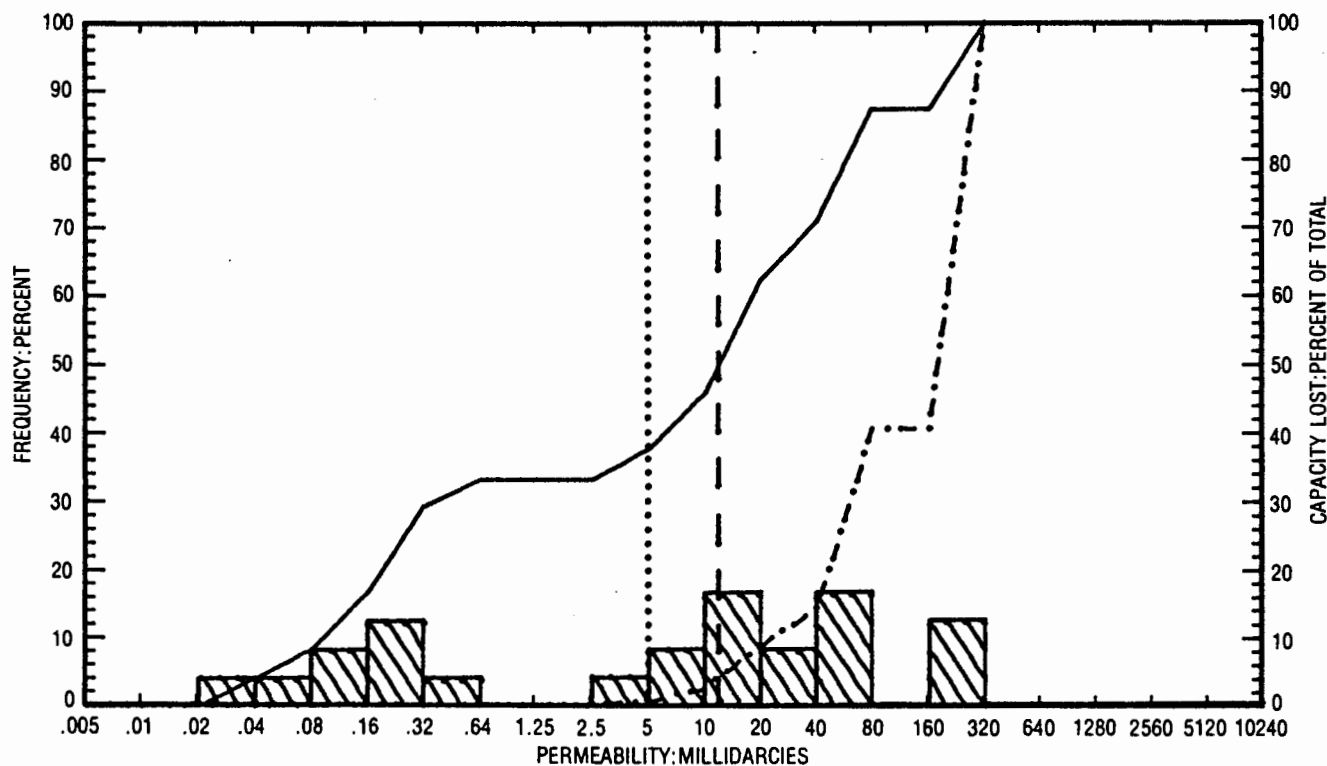
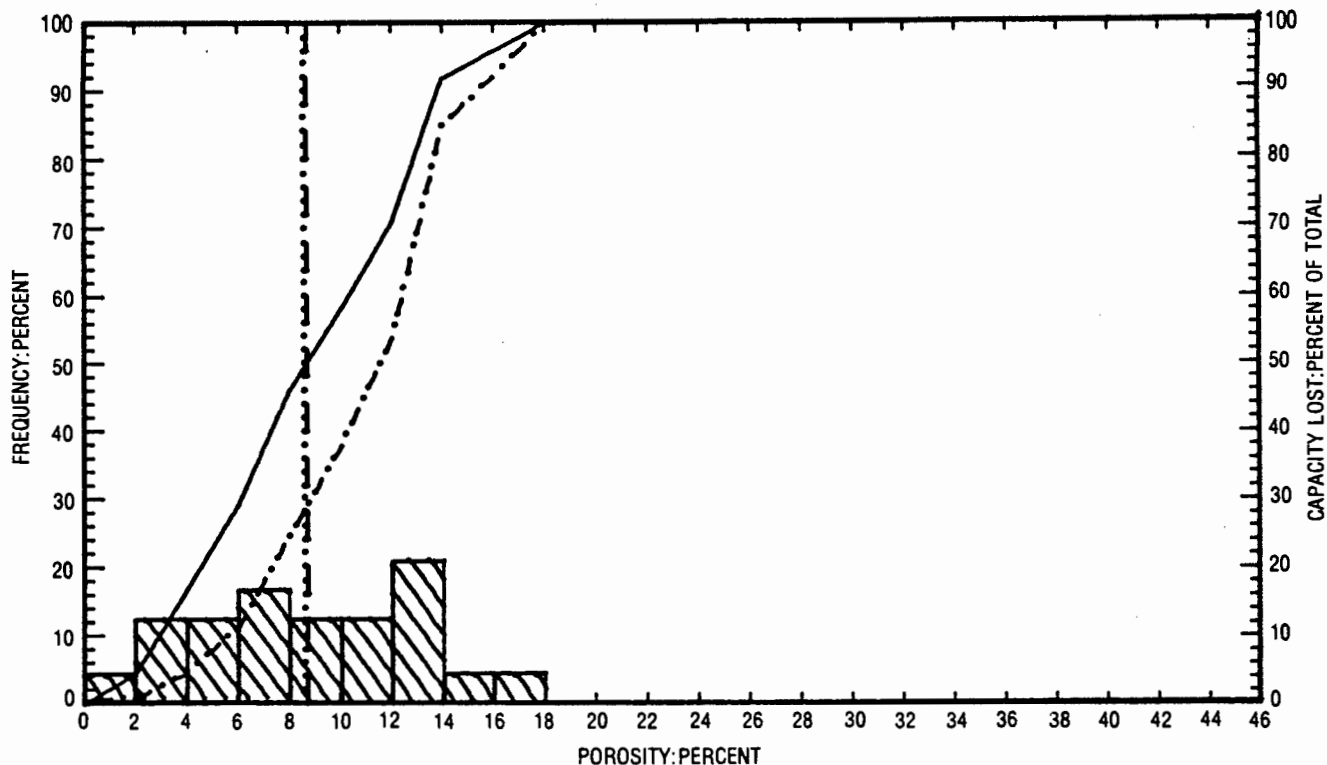
DATE: 8-22-84
FORMATION: LANSING LIME

A. SCOT RITCHIE
KEISWETTER NO. 1-A WELL

FULL DIAMETER ANALYSIS

SMP. NO.	DEPTH FEET	PERM. TO AIR MD. MAXIMUM 90 DEG.	POROSITY PERCENT	FLUID SATS. OIL WATER	GRAIN DEN.	DESCRIPTION
19	3378.0-79.0	0.47	0.30	17.6 66.1	2.73	LM, FOSS, FEW PP VGS, CALC, SL/DOL, STY
	3379.0-83.4					LM, DSE, STY
	3383.4-3390.0					LOST CORE
	3390.0-3423.0					DRILLED
20	3423.0-44.0					SH
21	3444.0-45.0	0.69	0.23	14.5 58.6	2.71	LM, FOSS, FEW PP VGS, STY
22	3445.0-46.0	181	170	13.2 64.4	2.71	LM, FOSS, VGY, CALC
23	3446.0-47.0	232	162	11.6 60.7	2.71	LM, FOSS, VGY, CALC
24	3447.0-48.0	21	16	13.9 46.8	2.71	LM, FOSS, VGY, CALC
	3448.0-49.0	0.05	0.02	26.0 65.7	2.72	LM, FOSS, DSE, STY, CALC
	3449.0-53.0					LM, DSE, STY
	3453.0-3456.0					LOST CORE

* DENOTES PLUG PERM
+ DENOTES HORIZONTAL CRACKS



PERMEABILITY AND POROSITY HISTOGRAMS

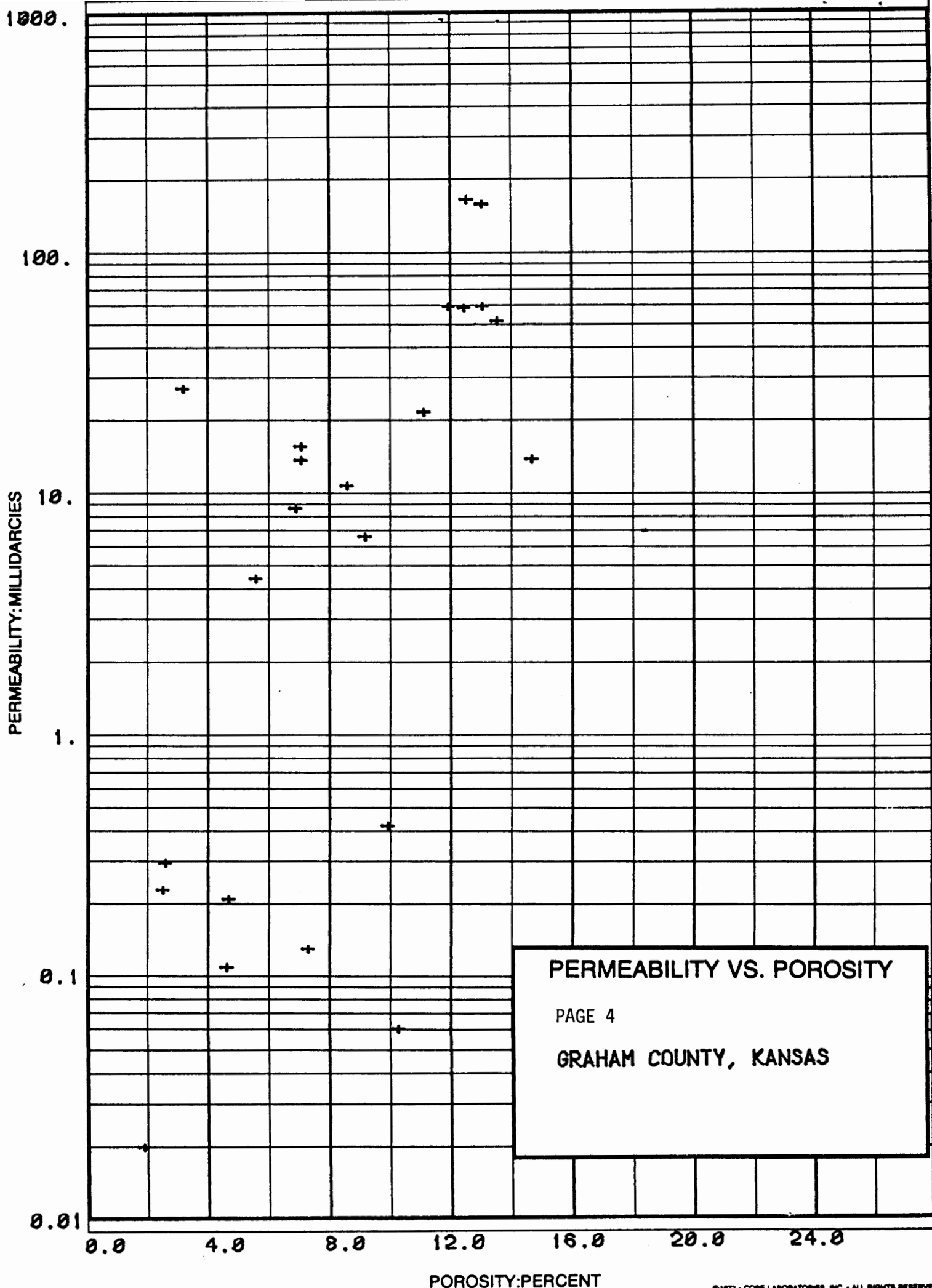
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A. SCOT RITCHIE
KEISWETTER NO. 1-A WELL

GRAHAM COUNTY, KANSAS

LEGEND

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





CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

COMPANY A. SCOT RITCHIE FILE NO. 3402-12120
WELL KEISWETTER NO. 1-A WELL DATE 8-22-84
FIELD _____ FORMATION LANSING LIME ELEV. _____
COUNTY GRAHAM STATE KANSAS DRLG. FLD. WATER BASE MUD CORES _____
LOCATION SEC. 12-63-22W

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 sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

Total Water _____

PERCENT PORE SPACE

100 80 60 40 20 0

Oil Saturation _____

PERCENT PORE SPACE

0 20 40 60 80 100

Gamma Ray

RADIATION INCREASE →

Permeability _____

MILLIDARCIES

1000 100 10 1

Porosity _____

PERCENT

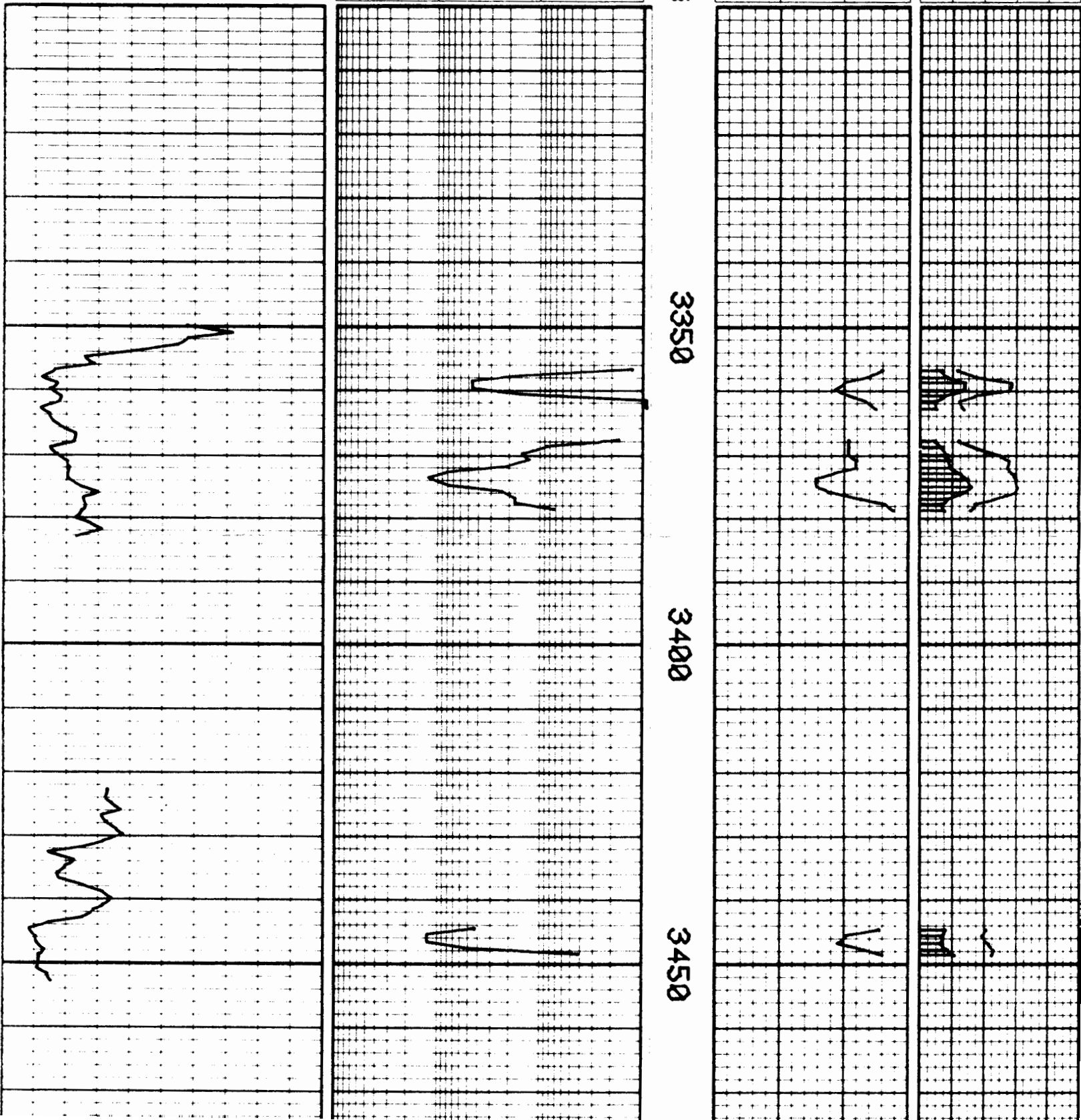
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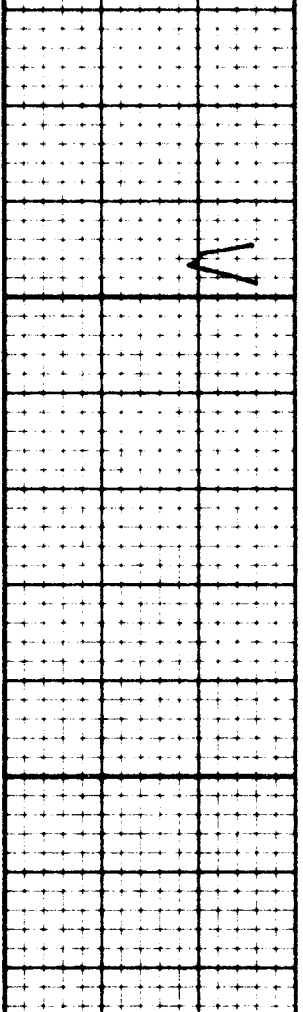
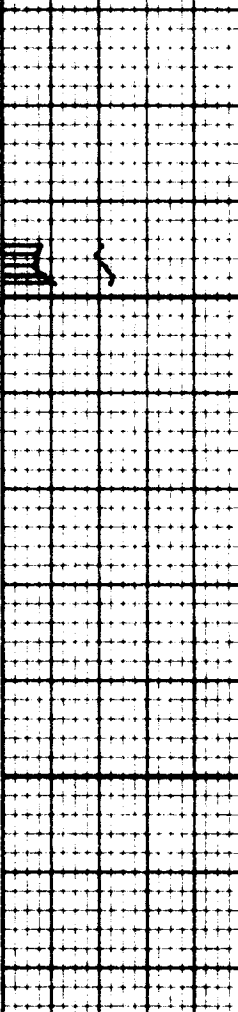
Depth
Feet

3350

3400

3450





3450

3500

