

CORE ANALYSIS RESULTS FOR
COTTON PETROLEUM CORPORATION

APACHE NO. 109

F-11-24N-4W
LINDRITH GALLUP WEST FIELD

RIO ARriba COUNTY, NEW MEXICO

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

PAGE NO. 1

COTTON PETROLEUM CORPORATION
 APACHE NO. 109
 LINDRITH GALLUP WEST FIELD
 RIO ARriba COUNTY

FORMATION : CLIFF HOUSE
 DRLG. FLUID: WATER BASE MUD
 LOCATION : SE NW SEC. 11-T24N-R4W
 STATE : NEW MEXICO

DATE : 7-23-78
 FILE NO. : RP-3-2866
 ANALYSTS : ET
 ELEVATION: 6814' KB

CONVENTIONAL CORE ANALYSIS

SAMP. NO.	DEPTH	PERM. TO AIR (MD) HORZ.	VERTICAL	POR. FLD.	FLUID SATS. OIL	WATER	GR. DNS.	DESCRIPTION
1	4575-76	0.05		4.0	0.0	92.5		SD, GY VFG V/SLTY
2	4576-77	0.05		3.9	0.0	94.9		SD, GY VFG V/SLTY
3	4577-78	0.05		3.6	0.0	97.2		SD, GY VFG V/SLTY
4	4578-79	0.04		3.9	0.0	84.6		SD, GY VFG V/SLTY
5	4579-80	0.02		3.8	0.0	97.4		SD, GY VFG CARB SH V/SLTY
6	4580-81	0.15		9.9	0.0	73.7		SD, LT GY TR/CARB MAT CLY FL
7	4581-82	0.51		10.9	0.0	67.9		SD, LT GY FG CLY FL
8	4582-83	1.2		13.0	0.0	72.3		SD, LT GY FG CLY FL
9	4583-84	5.4		11.1	0.0	62.2		SD, LT GY FG CLY FL
10	4584-85	35		14.7	0.0	82.3		SD, LT GY FG CLY FL
11	4585-86	57		16.9	0.0	78.7		SD, LT GY FG CLY FL
12	4586-87	20		16.3	0.0	79.8		SD, LT GY FG CLY FL
13	4587-88	44		15.9	0.0	75.5		SD, LT GY FG CLY FL
14	4588-89	32		14.5	0.0	83.4		SD, LT GY FG CLY FL
15	4589-90	22		16.8	0.0	74.4		SD, LT GY FG CLY FL
16	4590-91	2.6		8.8	0.0	68.2		SD, LT GY FG CLY FL
17	4591-92	3.8		10.9	0.0	67.0		SD, LT GY FG CLY FL
18	4592-93	2.6		13.4	0.0	61.9		SD, LT GY FG CLY FL
19	4593-94	0.96		12.4	0.0	65.3		SD, LT GY FG CLY FL
20	4594-95	0.05		5.4	0.0	88.9		SD, LT GY FG CLY FL
21	4595-96	0.47		10.4	0.0	67.3		SD, LT GY FG CLY FL
22	4596-97	2.4		8.5	0.0	57.6		SD, LT GY FG CLY FL
23	4597-98	33		15.2	0.0	67.1		SD, LT GY FG CLY FL
24	4598-99	4.9		13.5	0.0	59.3		SD, LT GY FG CLY FL
25	4599 -0	53		17.5	0.0	64.6		SD, LT GY FG CLY FL

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CONVENTIONAL CORE ANALYSIS

SAMP. NO.	DEPTH	PERM. TO HORZ.	AIR (MD) VERTICAL	POR. FLD.	FLUID SATS.		GR. DNS.	DESCRIPTION
					OIL	WATER		
26	4600 -1	11		12.4	0.0	66.1		SD, LT GY FG CLY FL
27	4601 -2	18		16.6	0.0	68.7		SD, LT GY FG CLY FL
28	4602 -3	4.3		10.0	0.0	82.0		SD, LT GY FG CLY FL
29	4603 -4	11		14.2	0.0	63.4		SD, LT GY FG CLY FL
30	4604 -5	2.8		13.6	0.0	69.1		SD, LT GY FG CLY FL
31	4605 -6	14		14.8	0.0	64.2		SD, LT GY FG CLY FL
32	4606 -7	11		14.4	0.0	68.8		SD, LT GY FG CLY FL
33	4607 -8	3.8		13.5	0.0	57.8		SD, LT GY FG CLY FL
34	4608 -9	2.1		9.8	0.0	41.8		SD, LT GY FG CLY FL
35	4609-10	19		14.5	0.0	71.0		SD, LT GY FG CLY FL
36	4610-11	3.8		14.0	0.0	57.1		SD, LT GY FG CLY FL
37	4611-12	25		16.5	0.0	60.6		SD, LT GY FG CLY FL
38	4612-13	4.0		8.5	0.0	64.7		SD, LT GY FG CLY FL
	4613-4619							NO ANALYSIS
	4619-4624							LOST CORE

CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY COTTON PETROLEUM CORP. FIELD LINDRITH GALLUP WEST FILE RF-3-2866
WELL APACHE NO. 109 COUNTY RIO ARRIBA DATE JULY 23, 1978
LOCATION SE NW SEC 11 T24N R4W STATE NEW MEXICO ELEV. 6814 KB

CORE-GAMMA CORRELATION

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VERTICAL SCALE: 5" = 100'

CORE-GAMMA SURFACE LOG

(PATENT APPLIED FOR)

GAMMA RAY

RADIATION INCREASE →

COREGRAPH

TOTAL WATER

PERCENT TOTAL WATER

80 60 40 20 0

PERMEABILITY

MILLIDARCS

100 50 10 5 1

POROSITY

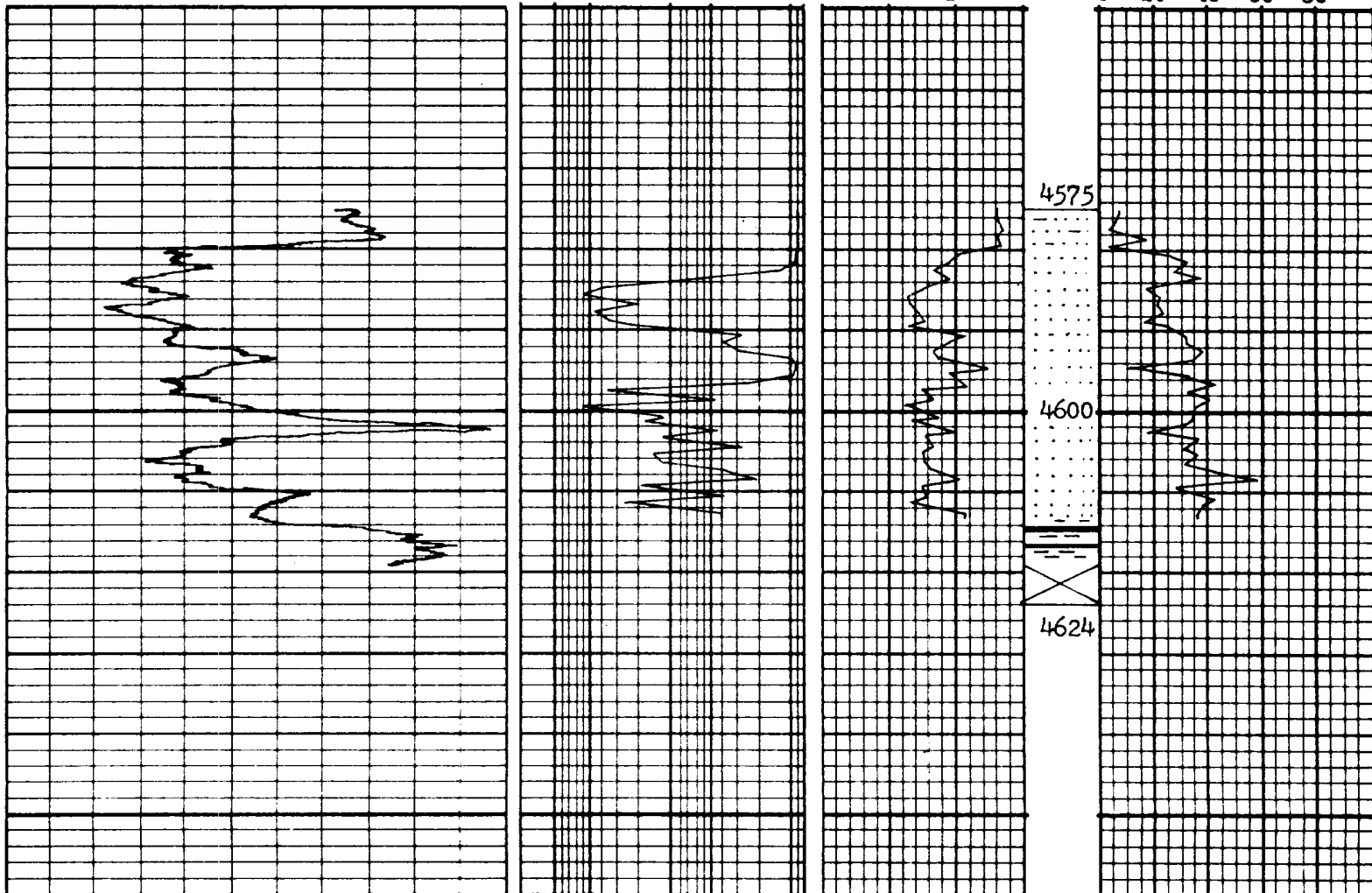
PERCENT

20 10

OIL SATURATION

PERCENT PORE SPACE

0 20 40 60 80



INTERPRETATION OF DATA

4575.0-4613.0 Feet - Essentially water productive where permeable.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

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