

RE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

Page No. 1

LA-2011

Company UNION OIL COMPANY OF CALIFORNIA File WP-3-3106
 Well MIDWAY STATE NO. 1-12 Date 12-8-68
 Field WILDCAT Elevation _____
 County LEA State NEW MEXICO Drlg. Fluid WATER BASE MUD
 Location 2310 FN & WL SEC 12-T17S-R36E

Lithological Abbreviations

SAND-SS DOLOMITE-DOL ANHYDRITE-ANHY SANDY-SOY FINE-FN CRYSTALLINE-XLN BROWN-BRN FRACTURED-FRAC SLIGHTLY-SL/
 SHALE-SH CHERT-CHT CONGLOMERATE-CONG SHALY-SHY MEDIUM-MED GRAIN-GN GRAY-GRY LAMINATED-LAM VERY-V/
 LIME-LM GYPSUM-GYP FOSSILIFEROUS-FO LIMY-LMY COARSE-CRSE GRANULAR-GNR YUGGY-VGY STYLOLITIC-STYC WITH-V//

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	RESIDUAL SATURATION PERCENT PORE		DESCRIPTION
		MAX	90°		OIL	WATER	

WHOLE-CORE ANALYSIS

CORE NO. 1 11444-11499

1	11444.0-45.4	2.1	1.3	5.9	11.4	45.3	DOL, VGY
2	45.4-47.1	4.0	1.8	8.6	9.6	52.2	DOL, VGY
3	47.1-48.6	3.0	2.6	7.2	16.0	44.8	DOL, SL/VGY
4	48.6-50.1	4.1	3.4	8.9	14.0	48.0	DOL, SL/VGY
5	50.1-51.7	22	17	7.1	14.0	33.3	DOL, VGY
6	51.7-53.4	14	5.9	8.3	15.6	41.7	DOL, VGY
7	53.4-55.0	11	6.5	5.9	15.0	31.4	DOL, VGY
8	55.0-56.4	2.4	<0.1	6.4	11.4	52.0	DOL, FRAC
9	56.4-58.2	0.8	0.2	4.4	11.4	50.8	DOL, VGY
10	58.2-59.5	2.1	1.8	3.4	8.7	33.5	DOL, VGY
11	59.5-61.0	0.7	0.3	3.0	6.3	43.8	DOL, VGY
12	61.0-62.5	<0.1	<0.1	0.5	0.0	80.0	LM
13	62.5-64.0	2.2	0.6	2.9	9.3	54.2	DOL, SL/VGY
14	64.0-65.2	21	17	7.7	8.6	30.5	DOL, SL/VGY
15	65.2-66.3	14	13	5.2	9.5	36.9	DOL, SL/VGY
16	66.3-67.8	<0.1	<0.1	0.7	0.0	91.2	DOL, SL/VGY
17	67.8-69.5	35	29	6.8	8.0	48.2	FOL, VGY
18	69.5-71.0	119	53	3.0	10.7	68.0	DOL, FRAC, VGY
19	71.0-72.5	11	11	8.3	11.9	45.1	DOL, VGY
20	72.5-74.0	61	23	9.5	10.8	50.8	DOL, VGY
21	74.0-75.3	2.3	0.8	3.4	10.7	62.8	DOL, FRAC, SL/VGY
22	75.3-77.0	113	0.2	3.1	14.5	58.3	DOL, FRAC, VGY
23	77.0-78.5	0.8	<0.1	2.8	11.6	53.4	DOL, VGY, SL/FRAC
24	78.5-80.3	156	127	5.4	9.2	40.2	DOL, VGY
25	80.3-82.0	420	165	3.3	13.2	54.8	DOL, SL, VGY
26	82.0-83.9	0.2	0.2	2.2	1.0	77.8	DOL, FRAC, SL/VGY
27	83.9-85.5	0.2	0.2	3.0	11.9	61.0	DOL, VGY
28	85.5-87.2	333	145	7.5	6.8	42.8	DOL, VGY
29	87.2-88.5	4.6	1.3	6.1	9.6	41.0	DOL, VGY
30	88.5-90.0	4.7	<0.1	3.9	12.2	40.0	DOL, VGY
31	90.0-91.6	20	13	4.2	14.3	42.3	DOL, VGY
32	91.6-93.0	0.8	0.4	4.6	6.7	46.0	DOL, VGY

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 representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

DALLAS, TEXAS

Company UNION OIL COMPANY OF CALIFORNIA File WP-3-3106
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 Field WILDCAT Elevation _____
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	RESIDUAL SATURATION PERCENT PORE		DESCRIPTION
		MAX	90°		OIL	WATER	
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33	11493.0-94.5	1.2	0.8	3.8	20.5	39.5	DOL, VGY
34	94.5-96.2	374	213	7.2	9.5	46.0	DOL, VGY
35	96.2-98.0	*<0.1	*<0.1	2.6	9.1	84.5	DOL
CORE NO. 2 11500-11541							
36	11500.0-01.6	55	36	4.2	9.1	46.5	DOL, VGY
37	01.6-03.0	*0.2	*0.2	5.4	8.2	50.7	DOL, VGY
38	03.0-04.5	<0.1	<0.1	4.0	5.6	84.0	DOL, SL/VGY, SL/FRAC
39	04.5-06.0	0.2	<0.1	4.3	15.2	68.2	DOL, SL/VGY
40	06.0-07.4	0.7	0.4	4.0	14.2	54.8	DOL, SL/VGY
41	07.4-09.0	1.3	0.9	5.3	8.2	57.2	DOL, VGY
42	09.0-10.5	3.9	1.0	4.7	5.7	47.2	DOL, VGY
43	10.5-11.7	12	2.9	7.0	9.3	46.9	DOL, VGY
44	11.7-13.4	15	<0.1	4.1	25.5	45.2	DOL, FRAC, SL/VGY
45	13.4-15.0	0.1	<0.1	3.5	15.3	57.8	DOL, VGY
46	15.0-16.5	0.9	0.6	2.7	14.3	71.1	DOL, VGY
47	16.5-18.1	0.3	0.3	2.4	16.6	72.5	DOL, SL/VGY, SL/FRAC
48	18.1-19.7	16	3.1	7.7	5.1	56.8	DOL, VGY
49	19.7-20.7	9.4	5.2	9.0	8.4	48.5	DOL, VGY
50	20.7-22.1	1.2	0.8	2.0	11.8	52.8	DOL, SL/FRAC
51	22.1-23.6	3.1	2.6	2.3	27.3	43.1	DOL, SL/FRAC, SL/VGY
52	23.6-25.1	4.9	<0.1	2.3	22.6	47.0	DOL, FRAC
53	25.1-27.0	0.5	<0.1	3.3	9.1	66.2	DOL, FRAC
54	27.0-28.6	0.3	<0.1	2.6	48.5	20.8	DOL, FRAC
55	28.6-30.2	0.6	<0.1	2.8	21.0	43.2	DOL, FRAC
56	30.2-31.4	0.5	<0.1	2.5	25.7	52.8	DOL, FRAC, SL/VGY
57	31.4-32.8	0.1	0.1	2.1	29.2	33.5	DOL, SL/FRAC
58	32.8-34.3	0.1	0.1	3.2	21.3	46.5	DOL
59	34.3-36.0	0.3	0.2	5.5	10.9	25.7	DOL, SL/VGY
60	36.0-37.4	0.1	<0.1	4.1	29.9	12.1	DOL, SL/VGY
61	37.4-38.3	0.6	<0.1	2.1	21.5	58.2	DOL, FRAC, SL/VGY
62	38.3-40.0	0.3	<0.1	2.0	23.2	47.0	DOL, FRAC, SL/VGY
40.0-41.0 LOST CORE							

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CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY UNION OIL CO. OF CALIFORNIA FIELD WILDCAT FILE WP-3-3106

WELL MIDWAY STATE NO. 1-12 COUNTY LEA DATE 12-8-68

LOCATION 2310 FN & WL SEC 12-T17S-R36E STATE NEW MEXICO ELEV.

CORE-GAMMA CORRELATION

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VERTICAL SCALE: 5" = 100'

CORE-GAMMA SURFACE LOG PATENT NO. 2686266

COREGRAPH

GAMMA RAY
RADIATION INCREASE →

TOTAL WATER ———
PERCENT TOTAL WATER
80 60 40 20 0

PERMEABILITY ———
MILLIDARCY

POROSITY ———
PERCENT

OIL SATURATION ———
PERCENT PORE SPACE

100 50 10 5 1 0.5 0.1

20 10

0 20 40 60 80

