

Tally #850

CORE ANALYSIS RESULTS

Company EXXON COMPANY, U.S.A. Formation \_\_\_\_\_ File 2107-32C  
Well CONSOLIDATED TOMOKA 23-3 Core Type DIAMOND Date Report 12-12-76  
Field LEHIGH PARK Drilling Fluid WATER BASE MUD Analysts CAMPBELL  
County LEE State FLORIDA Elev. \_\_\_\_\_ Location \_\_\_\_\_

Lithological Abbreviations

SAND - SD SHALE - SH LIME - LM	DOLOMITE - DOL CHERT - CH GYPSUM - GYP	ANHYDRITE - ANHY CONGLOMERATE - CONG FOSSILIFEROUS - FOSS	SANDY - SDY SHALY - SHY LIMY - LMY	FINE - FN MEDIUM - MED COARSE - CSE	CRYSTALLINE - XLN GRAIN - GRN GRANULAR - GRNL	BROWN - BRN GRAY - GY VUGGY - VGY	FRACTURED - FRAC LAMINATION - LAM STYLOLITIC - STY	SLIGHTLY VERY - V/ WITH - W/
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS Ka	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		PROB. PROD.	SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER		

CORE NO. 1 INTERVAL 12306' - 12320' CUT 14' RECOVERED 11' (11851-11362 T.V.D.)  
12306-12317 \*

CORE NO. 2 INTERVAL 12320' - 12355' CUT 35' RECOVERED 18' (11362-11390 T.V.D.)  
12320-33 \* LM GRY  
1 33-34 <0.01 0.8 0.0 74.7 (6) LM GRY NO ODR NO FLU  
2 34-35 <0.01 1.0 0.0 62.3 (6) LM GRY NO ODR NO FLU  
3 35-36 <0.01 1.9 27.4 43.8 (6) LM GRY NO ODR NO FLU  
4 36-37 <0.01 2.9 0.0 89.9 (6) LM GRY NO ODR NO FLU  
5 37-38 <0.01 1.7 0.0 84.7 (6) LM GRY NO ODR NO FLU  
12338-55 LOST CORE

CORE NO. 3 INTERVAL 12355' - 12379' CUT 24' RECOVERED 20' (11390-11413 T.V.D.)  
12355-59 \* *12355(c) = 12351(d)*

6	59-60	<0.01	2.9	25.4	65.3	(6)	LM GRY NO ODR NO FLU
7	60-61	0.12	2.5	0.0	84.9	(6)	LM GRY NO ODR NO FLU
8	61-62	<0.01	1.6	0.0	69.3	(6)	LM GRY NO ODR NO FLU
9	62-63	0.14	2.5	0.0	86.6	(6)	LM GRY NO ODR NO FLU
10	63-64	0.13	3.6	3.0	60.3	(6)	DOL GRY LMY FT ODR DULL GOLD FT
11	64-65	<0.01	4.8	2.2	53.6	(6)	DOL BRN FA ODR DULL GOLD FLU
12	65-66	2.0	10.3	11.8	43.2	OIL	DOL BRN GD ODR DULL GOLD FLU
13	66-67	0.88	8.4	6.1	36.7	OIL(6)	DOL BRN FT ODR DULL GOLD FLU
14	67-68	0.23	7.8	1.4	79.0	OIL(6)	DOL BRN FT ODR NO FLU
15	68-69	0.02	7.1	1.5	59.6	(6)	DOL BRN FT ODR DULL GOLD FLU
16	69-70	2.4	11.3	16.1	32.1	OIL	DOL BRN FA ODR DULL GOLD FLU
17	70-71	2.3	14.0	17.4	25.1	OIL	DOL BRN FA ODR DULL GOLD FLU
(18)	71-72	12.0	15.1	19.1	26.1	OIL	DOL BRN GD ODR DULL GOLD FLU
19	72-73	5.6	15.6	4.4	63.9	OIL	DOL BRN FT ODR DULL GOLD FLU
20	73-74	0.22	9.0	5.8	67.4	OIL(6)	DOL BRN NO ODR NO FLU
	74-75 = 12371					*	ANHYDRITE
	12375-79						LOST CORE

*lost 6'*

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DALLAS, TEXAS

File 2107-32C Page No. 2  
Well CONSOLIDATED TOMOKA 23-3

## CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS Ka	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		PROB. PROD.	SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER		
CORE NO. 4		INTERVAL <sup>12379 (c) = 11377 (c)</sup> 12379' - 12440'		CUT 61'		RECOVERED 61' (11413-11457 T.V.D.)	
21	12379-80	12.	19.3	15.0	46.9	OIL	LM YEL BRN FA ODR DULL GOLD FLU
22	80-81	3.7	18.6	8.0	58.6	OIL	LM YEL BRN FA ODR DULL GOLD FLU
23	81-82	18.	19.7	15.4	40.0	OIL	LM YEL BRN FA ODR DULL GOLD FLU
24	82-83	31.	20.6	17.2	43.1	OIL	LM YEL BRN FA ODR DULL GOLD FLU
25	83-84	19.	20.6	3.4	74.1	OIL	LM YEL BRN FT ODR DULL GOLD FLU
26	84-85	73.	8.4	7.5	21.5	OIL	LM YEL BRN FA ODR DULL GOLD FLU
(27)	85-86	32.	16.5	13.9	50.2	OIL	LM YEL BRN FA ODR DULL GOLD FLU
28	86-87	15.	13.4	14.9	39.8	OIL	LM YEL BRN FA ODR DULL GOLD FLU
29	87-88	333.	19.3	9.7	55.8	OIL	LM YEL BRN FT ODR DULL GOLD FLU
30	88-89	168.	21.5	12.1	50.0	OIL	LM YEL BRN FT ODR DULL GOLD FLU
31	89-90	199.	12.1	10.3	36.6	OIL	LM YEL BRN FT ODR DULL GOLD FLU
32	90-91	347.	20.3	9.2	64.6	OIL	LM YEL BRN FT ODR DULL GOLD FLU
33	91-92	260.	15.6	12.5	47.6	OIL	LM YEL BRN FA ODR DULL GOLD FLU
(34)	92-93	337.	19.6	12.7	54.6	OIL	LM YEL BRN FA ODR DULL GOLD FLU
35	93-94	156.	22.7	10.9	57.7	OIL	LM YEL BRN FA ODR DULL GOLD FLU
36	94-95	151.	21.3	8.7	54.0	OIL	LM YEL BRN FT ODR DULL GOLD FLU
(37)	95-96	151.	23.6	7.8	59.1	OIL	LM YEL BRN FT ODR DULL GOLD FLU
38	96-97	278.	18.1	12.4	53.5	OIL	LM YEL BRN FA ODR DULL GOLD FLU
39	97-98	163.	20.4	10.8	50.9	OIL	LM YEL BRN FA ODR DULL GOLD FLU
40	98-99	35.	19.3	2.4	61.6	OIL	LM YEL BRN FT ODR DULL GOLD FLU
41	99-00	<sup>12397</sup> 32. <del>dw</del>	16.1	0.6	78.2	WATER	LM YEL ERN NO ODR MIN FLU
42	12400-01	33.	10.0	0.5	73.4	WATER	LM YEL BRN NO ODR MIN FLU
43	01-02	16.	13.6	0.0	86.1	WATER	LM YEL BRN NO ODR MIN FLU
44	02-03	19.	14.5	0.0	82.0	WATER	LM YEL BRN NO ODR MIN FLU
45	03-04	2.6	14.9	0.0	88.7	WATER	LM YEL BRN NO ODR MIN FLU
46	04-05	1.8	13.4	0.0	81.3	WATER	LM YEL BRN NO ODR MIN FLU
47	05-06	0.37 <sup>12403</sup> <del>35cc</del>	9.4	0.0	83.4	WATER(6)	LM YEL BRN NO ODR MIN FLU
48	06-07	2.5	16.2	0.0	75.7	WATER	LM YEL BRN NO ODR MIN FLU
49	07-08	4.9	15.2	0.0	81.2	WATER	LM YEL BRN NO ODR MIN FLU
50	08-09	0.14	16.3	0.5	79.3	WATER(6)	LM YEL BRN NO ODR MIN FLU
51	09-10	3.9	18.7	0.0	81.8	WATER	LM YEL BRN NO ODR MIN FLU
52	10-11	32.	18.6	0.0	83.8	WATER	LM YEL BRN NO ODR NO FLU
53	11-12	106.	20.9	0.0	88.4	WATER	LM YEL BRN NO ODR NO FLU
54	12-13	94.	21.4	0.0	87.2	WATER	LM YEL BRN NO ODR NO FLU
55	13-14	9.3	18.9	0.0	89.2	WATER	LM YEL BRN NO ODR NO FLU
56	14-15	140.	20.3	0.0	94.5	WATER	LM YEL BRN NO ODR NO FLU
57	12415-16	41.	17.2	0.0	89.3	WATER	LM YEL BRN NO ODR NO FLU

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File 2107-32C Page No. 3  
Well CONSOLIDATED TOMOKA 23-3

### CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS Ka	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		PROB. PROD.	SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER		
58	12416-17	0.02	11.9	0.0	95.1	(6)	LM GRY NO ODR NO FLU
59	17-18	0.14	11.3	0.7	83.7	WATER(6)	LM GRY NO ODR NO FLU
60	18-19	0.02	12.4	0.0	87.6	(6)	LM GRY NO ODR NO FLU
61	19-20	<0.01	0.7	14.3	57.4	(6)	LM GRY NO ODR NO FLU
62	20-21	<0.01	0.7	15.3	61.4	(6)	LM GRY NO ODR MIN FLU
63	21-22	0.15	6.5	39.3	50.4	(6)	LM GRY NO ODR MIN FLU
64	22-23	0.09	13.7	6.3	83.6	WATER(6)	LM GRY NO ODR MIN FLU
65	23-24	1.9	19.6	0.5	84.5	WATER	LM YEL BRN NO ODR MIN FLU
66	24-25	4.4	19.5	2.3	84.5	WATER	LM YEL BRN NO ODR MIN FLU
67	25-26	19.0	11.5	0.8	65.9	WATER	LM YEL BRN NO ODR MIN FLU
68	26-27	37.0	20.0	0.0	80.9	WATER	LM YEL BRN NO ODR MIN FLU
69	27-28	266.0	20.0	0.0	81.1	WATER	LM YEL BRN NO ODR MIN FLU
70	28-29	106.	19.9	0.0	79.5	WATER	LM YEL BRN NO ODR MIN FLU
71	29-30	168.	21.2	0.0	78.9	WATER	LM YEL BRN NO ODR NO FLU
72	30-31	319.	20.7	0.0	82.2	WATER	LM YEL BRN NO ODR NO FLU
73	31-32	121.	21.4	0.0	79.7	WATER	LM YEL BRN NO ODR NO FLU
74	32-33	147.	20.0	0.0	84.5	WATER	LM YEL BRN NO ODR NO FLU
75	33-34	121.	19.5	0.0	91.7	WATER	LM YEL BRN NO ODR NO FLU
76	34-35	121.	20.7	0.0	85.1	WATER	LM YEL BRN NO ODR NO FLU
77	35-36	121.	19.8	0.0	89.2	WATER	LM YEL BRN NO ODR NO FLU
78	36-37	16.	20.0	0.0	89.9	WATER	LM YEL BRN NO ODR NO FLU
79	37-38	66.	20.1	0.0	90.1	WATER	LM YEL BRN NO ODR NO FLU
80	38-39	12.	19.3	0.0	92.1	WATER	LM YEL BRN NO ODR NO FLU
81	12439-40	27.	20.3	0.0	93.7	WATER	LM YEL BRN NO ODR NO FLU

(6) LOW PERMEABILITY  
\* NO ANALYSIS BY CLIENT

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DALLAS, TEXAS

Page 4 of 4 File 2107-32C  
Well Consolidated Tomoka 23-3

**CORE SUMMARY AND CALCULATED RECOVERABLE OIL**

**FORMATION NAME AND DEPTH INTERVAL:** Sunniland Lime 12365-12399

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	30	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	51.9
FEET OF CORE INCLUDED IN AVERAGES	29	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c) 51
AVERAGE PERMEABILITY: MILLIDARCYS	96.8	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	2807	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	13.1	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	10.4	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is \_\_\_\_\_ barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is \_\_\_\_\_ barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. *(Please refer to footnotes for further discussion of recovery estimates.)*

**FORMATION NAME AND DEPTH INTERVAL:**

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	
FEET OF CORE INCLUDED IN AVERAGES		AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYS		OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET		ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT		ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is \_\_\_\_\_ barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is \_\_\_\_\_ barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. *(Please refer to footnotes for further discussion of recovery estimates.)*

(c) Calculated    (e) Estimated    (m) Measured    (\*) Refer to attached letter.

*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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