

CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page No **3**

CORE ANALYSIS RESULTS

Company **THE ATLANTIC REFINING COMPANY** Formation **UPPER & LOWER TOCITO** File **RP-3-922**
 Well **NAVAJO NO.29** Core Type **DIAMOND CONV.** Date Report **2-11-59**
 Field **HORSESHOE GALLUP** Drilling Fluid **OIL EMULSION MUD** Analysts **CLIFFORD**
 County **SAN JUAN** State **NEW MEX.** Elev **5554 GR.** Location **SEC 31 31N 16W**

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY		POROSITY PERCENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		hor	vert		OIL	TOTAL WATER	
85	1305-06	0.80	0.67	12.5	9.6	60.8	
86	06-07	1.0	0.16	11.3	12.4	67.3	
87	07-08	0.34	0.27	10.8	11.1	63.9	
88	08-09	0.65	0.25	11.1	7.2	63.1	
89	09-10	0.12	0.04	11.7	6.0	75.2	
90	1310-11	0.04	0.01	10.1	6.9	87.1	

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page No. 2**CORE ANALYSIS RESULTS**

Company **THE ATLANTIC REFINING COMPANY** Formation **UPPER & LOWER TOCITO** File **RP-3-922**
Well **NAVAJO NO.29** Core Type **DIAMOND CONV.** Date Report **2-11-59**
Field **HORSESHOE GALLUP** Drilling Fluid **OIL EMULSION MUD** Analysts **CLIFFORD**
County **SAN JUAN** State **NEW MEX.** Elev. **5554 GR** Location **SEC 31 31N 16W**

Lithological Abbreviations

SAND TO SHALE - SH LINE LM	CO. UNITE. CO. CHERT CH GYPSUM GYP	ANHYDRITE ANHY CONGLOMERATE CONG FOSSILIFEROUS FOSS	SANDY SHY SHALY SHY LIMY LMY	FINE FN MEDIUM MED COARSE CSE	CRYSTALLINE - CLN GRAIN - GRN GRANULAR - GRNL	BROWN - BRN GRAY - GRV VUGGY - VUGV	FRACTURED FRAC LAMINATION - LAM STYLOLITIC STY	SLIGHTLY - SL/ VERY - V/ WITH W/
----------------------------------	--	---	------------------------------------	-------------------------------------	---	---	--	--

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		hor	vert		Oil	TOTAL WATER	
43	1263-64	0.08	0.06	11.2	4.5	76.8	
44	64-65	0.06	0.05	13.8	4.6	75.9	
45	65-66	0.06	0.02	9.4	5.3	73.4	
46	66-67	0.03	0.02	10.1	5.0	79.2	
47	67-68	0.04	0.02	9.5	5.3	84.2	
48	68-69	0.08	0.03	10.3	6.8	79.6	
49	69-70	0.11	0.04	9.2	5.4	90.2	
50	70-71	0.11	0.03	9.4	5.3	89.4	
51	71-72	0.06	0.02	9.2	5.4	89.1	UPPER TOCITO
52	72-73	0.41	0.07	10.8	4.6	85.2	LOWER TOCITO
53	73-74	0.09	0.08	10.4	6.7	82.7	
54	74-75	0.07	0.04	10.5	4.8	81.9	
55	75-76	0.21	0.09	10.4	6.7	86.5	
56	76-77	0.20	0.06	10.4	6.7	86.5	
57	77-78	0.36	0.10	11.5	7.8	85.2	
58	78-79	0.06	0.05	11.1	4.5	79.3	
59	79-80	0.12	0.10	8.3	6.0	79.5	
60	80-81	0.33	0.09	11.5	4.3	80.0	
61	81-82	0.04	0.04	8.3	6.5	81.9	
62	82-83	0.10	0.02	9.5	5.3	80.0	
63	83-84	0.38	0.07	10.1	6.9	81.2	
64	84-85	0.17	0.03	11.2	6.3	85.7	
65	85-86	0.19	0.09	9.3	9.7	74.2	
66	86-87	0.22	0.06	5.1	0.0	60.8	
67	87-88	0.47	0.09	11.2	6.3	89.3	
68	88-89	0.12	0.10	10.4	6.7	84.6	
69	89-90	0.04	0.02	2.7	0.0	70.4	
70	90-91	0.16	0.06	8.6	8.1	84.9	
71	91-92	0.15	0.13	9.9	5.1	86.9	
72	92-93	1.0	0.11	8.0	6.3	78.8	
73	93-94	0.07	0.05	6.8	0.0	67.6	
74	94-95	0.52	0.10	10.0	7.0	80.0	
75	95-96	0.26	0.13	6.4	7.8	78.1	
76	96-97	0.04	0.03	6.9	10.1	79.7	
77	97-98	0.80	0.34	15.3	13.1	30.1	
78	98-99	1.0	0.19	16.6	7.8	30.1	
79	1299-00	4.2	1.0	21.6	13.0	32.4	
80	1300-01	63	2.5	19.0	20.5	38.4	
81	01-02	0.17	0.04	6.7	10.4	71.6	
82	02-03	0.35	0.02	7.5	9.3	58.7	
83	03-04	0.45	0.16	12.1	14.9	57.9	
84	1304-05	0.62	0.13	11.2	14.3	39.3	

These analyses and 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.

CA 20

CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page No. 1

CORE ANALYSIS RESULTS

Company **THE ATLANTIC REFINING COMPANY** Formation **UPPER & LOWER TOCITO** File **RP-3-922**
 Well **NAVAJO NO.29** Core Type **DIAMOND CONV.** Date Report **2-11-59**
 Field **HORSESHOE GALLUP** Drilling Fluid **OIL EMULSION MUD** Analysts **CLIFFORD**
 County **SAN JUAN** State **NEW MEX.** Elev. **5554 GR** Location **SEC 31 31N 16W**

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		hor	vert		OIL	TOTAL WATER	
1	1221-22	0.06	0.02	2.6	7.7	50.0	
2	22-23	0.06	0.02	6.3	11.1	73.0	
3	23-24	0.08	0.02	8.7	33.3	51.7	
4	24-25	0.06	0.04	11.0	19.1	69.1	
5	25-26	0.06	0.03	7.2	11.1	79.2	
6	26-27	1.6	1.1	8.1	14.8	59.3	
7	27-28	0.96	0.04	13.2	21.2	75.8	
8	28-29	0.60	0.02	10.6	13.2	79.2	
9	29-30	0.54	0.09	9.2	13.0	75.0	
10	30-31	0.35	0.04	11.3	24.8	63.7	
11	31-32	0.06	0.04	11.3	12.4	65.5	
12	32-33	443	269	20.2	14.9	32.2	
13	33-34	258	111	20.6	18.0	36.9	
14	34-35	0.16	0.13	17.4	7.5	49.4	
15	35-36	0.17	0.07	9.2	16.3	51.1	
16	36-37	0.26	0.09	8.8	15.9	59.1	
17	37-38	87	44	16.6	25.3	28.3	
18	38-39	0.70	0.41	20.7	12.1	21.7	
19	39-40	100	49	17.8	14.6	37.6	
20	40-41	4.8	4.5	16.7	16.8	44.3	
21	41-42	155	39	18.8	13.8	41.5	
22	42-43	212	12	25.1	12.4	35.9	
23	43-44	279	171	24.8	11.7	34.7	
24	44-45	49	26	21.4	19.6	31.3	
25	45-46	58	35	14.3	18.9	52.4	
26	46-47	17	3.9	18.3	6.0	42.6	
27	47-48	0.70	0.26	13.5	8.9	68.1	
28	48-49	134	77	25.6	12.9	30.9	
29	49-50	372	1.0	17.0	11.2	21.8	
30	50-51	0.43	0.14	7.7	9.1	53.2	
31	51-52	19	4.4	19.0	13.2	29.5	
32	52-53	11	1.0	11.9	23.5	35.3	
33	53-54	0.70	0.41	15.8	12.7	51.3	
34	54-55	0.55	0.26	12.6	19.8	31.0	
35	55-56	0.43	0.09	8.3	15.7	39.8	
36	56-57	0.26	0.20	14.0	17.9	48.6	
37	57-58	0.13	0.06	6.4	7.8	67.2	
38	58-59	0.17	0.06	10.7	4.7	68.2	
39	59-60	0.25	0.02	11.5	4.3	81.7	
40	60-61	0.14	0.05	10.6	6.6	75.5	
41	61-62	0.11	0.07	10.8	6.5	72.2	
42	1262-63	0.07	0.03	11.0	6.4	76.4	

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 operation,

CORE ANALYSIS RESULTS

Company **THE ATLANTIC REFINING COMPANY** Formation **UPPER & LOWER TOCITO** File **RP-3-922**
Well **NAVAJO NO.29** Core Type **DIAMOND CONV.** Date Report **2-11-59**
Field **HORSESHOE GALLUP** Drilling Fluid **OIL EMULSION MUD** Analysts **CLIFFORD**
County **SAN JUAN** State **NEW MEX.** Elev **5554 GR.** Location **SEC 31 31N 16W**

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY		POROSITY PERCENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		hor	vert		OIL	TOTAL WATER	
85	1305-06	0.80	0.67	12.5	9.6	60.8	
86	06-07	1.0	0.16	11.3	12.4	67.3	
87	07-08	0.34	0.27	10.8	11.1	63.9	
88	08-09	0.65	0.25	11.1	7.2	63.1	
89	09-10	0.12	0.04	11.7	6.0	75.2	
90	1310-11	0.04	0.01	10.1	6.9	87.1	

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page No. 2

CORE ANALYSIS RESULTS

Company	THE ATLANTIC REFINING COMPANY	Formation	UPPER & LOWER TOCITO	File	RP-3-922
Well	NAVAJO NO.29	Core Type	DIAMOND CONV.	Date Report	2-11-59
Field	HORSESHOE GALLUP	Drilling Fluid	OIL EMULSION MID	Analysts	CLIFFORD
County	SAN JUAN	State	NEW MEX.	Core	5554 GR
		Location	SEC 31 31N 16W		

Lithological Abbreviations

SAND TO SHALE SH LIME LM	DO UNITE LO CHERT CH GYPSUM GYP	ANHYDRITE ANHY CONGLOMERATE CONG FOSSILIFEROUS FOSS	SANDY SH SHALY SHY LIMY LMY	FINE FM MEDIUM MED COARSE CSE	CRYSTALLINE-ZLN GRAIN GRN GRANULAR GRNL	BROWN-BRN GRAY-GY VUGGY-VGY	FRACTURED FRAC LAMINATION-LAM STYLOLITIC STY	SLIGHTLY-SL/ VERY-V/ WITH-W/
--------------------------------	---------------------------------------	---	-----------------------------------	-------------------------------------	---	-----------------------------------	--	------------------------------------

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		hor	vert		OIL	TOTAL WATER	
43	1263-64	0.08	0.06	11.2	4.5	76.8	
44	64-65	0.06	0.05	13.8	4.6	75.9	
45	65-66	0.06	0.02	9.4	5.3	73.4	
46	66-67	0.03	0.02	10.1	5.0	79.2	
47	67-68	0.04	0.02	9.5	5.3	84.2	
48	68-69	0.08	0.03	10.3	6.8	79.6	
49	69-70	0.11	0.04	9.2	5.4	90.2	
50	70-71	0.11	0.03	9.4	5.3	89.4	
51	71-72	0.06	0.02	9.2	5.4	89.1	UPPER TOCITO
52	72-73	0.41	0.07	10.8	4.6	85.2	LOWER TOCITO
53	73-74	0.09	0.08	10.4	6.7	82.7	
54	74-75	0.07	0.04	10.5	4.8	81.9	
55	75-76	0.21	0.09	10.4	6.7	86.5	
56	76-77	0.20	0.06	10.4	6.7	86.5	
57	77-78	0.36	0.10	11.5	7.8	85.2	
58	78-79	0.06	0.05	11.1	4.5	79.3	
59	79-80	0.12	0.10	8.3	6.0	79.5	
60	80-81	0.33	0.09	11.5	4.3	80.0	
61	81-82	0.04	0.04	8.3	6.5	81.9	
62	82-83	0.10	0.02	9.5	5.3	80.0	
63	83-84	0.38	0.07	10.1	6.9	81.2	
64	84-85	0.17	0.03	11.2	6.3	85.7	
65	85-86	0.19	0.09	9.3	9.7	74.2	
66	86-87	0.22	0.06	5.1	0.0	60.8	
67	87-88	0.47	0.09	11.2	6.3	89.3	
68	88-89	0.12	0.10	10.4	6.7	84.6	
69	89-90	0.04	0.02	2.7	0.0	70.4	
70	90-91	0.16	0.06	8.6	8.1	84.9	
71	91-92	0.15	0.13	9.9	5.1	86.9	
72	92-93	1.0	0.11	8.0	6.3	78.8	
73	93-94	0.07	0.05	6.8	0.0	67.6	
74	94-95	0.52	0.10	10.0	7.0	80.0	
75	95-96	0.26	0.13	6.4	7.8	78.1	
76	96-97	0.04	0.03	6.9	10.1	79.7	
77	97-98	0.80	0.34	15.3	13.1	30.1	
78	98-99	1.0	0.19	16.6	7.8	30.1	
79	1299-00	4.2	1.0	21.6	13.0	32.4	
80	1300-01	63	2.5	19.0	20.5	38.4	
81	01-02	0.17	0.04	6.7	10.4	71.6	
82	02-03	0.35	0.02	7.5	9.3	58.7	
83	03-04	0.45	0.16	12.1	14.9	57.9	
84	1304-05	0.62	0.13	11.2	14.3	39.3	

These analyses, reports and interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, they are made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but we make no warranty or representation, as to the productivity, proper operations,

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CASE NO. 1596
THE ATLANTIC REFINING CO.
EXHIBIT NO. 8

Page No. 1

CORE ANALYSIS RESULTS

Company **THE ATLANTIC REFINING COMPANY** Formation **UPPER & LOWER TOCITO** File **RP-3-922**
Well **NAVAJO NO.29** Core Type **DIAMOND CONV.** Date Report **2-11-59**
Field **HORSESHOE GALLUP** Drilling Fluid **OIL EMULSION MUD** Analysts **CLIFFORD**
County **SAN JUAN** State **NEW MEX.** Elev. **5554 GR** Location **SEC 31 T1N 16W**

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		hor	vert		OIL	TOTAL WATER	
1	1221-22	0.06	0.02	2.6	7.7	50.0	
2	22-23	0.06	0.02	6.3	11.1	73.0	
3	23-24	0.08	0.02	8.7	33.3	51.7	
4	24-25	0.06	0.04	11.0	19.1	69.1	
5	25-26	0.06	0.03	7.2	11.1	79.2	
6	26-27	1.6	1.1	8.1	14.8	59.3	
7	27-28	0.96	0.04	13.2	21.2	75.8	
8	28-29	0.60	0.02	10.6	13.2	79.2	
9	29-30	0.54	0.09	9.2	13.0	75.0	
10	30-31	0.35	0.04	11.3	24.8	63.7	
11	31-32	0.06	0.04	11.3	12.4	65.5	
12	32-33	443	269	20.2	14.9	32.2	
13	33-34	258	111	20.6	18.0	36.9	
14	34-35	0.16	0.13	17.4	7.5	49.4	
15	35-36	0.17	0.07	9.2	16.3	51.1	
16	36-37	0.26	0.09	8.8	15.9	59.1	
17	37-38	87	44	16.6	25.3	28.3	
18	38-39	0.70	0.41	20.7	12.1	21.7	
19	39-40	100	49	17.8	14.6	37.6	
20	40-41	4.8	4.5	16.7	16.8	44.3	
21	41-42	155	39	18.8	13.8	41.5	
22	42-43	212	12	25.1	12.4	35.9	
23	43-44	279	171	24.8	11.7	34.7	
24	44-45	49	26	21.4	19.6	31.3	
25	45-46	58	35	14.3	18.9	52.4	
26	46-47	17	3.9	18.3	6.0	42.6	
27	47-48	0.70	0.26	13.5	8.9	68.1	
28	48-49	134	77	25.6	12.9	30.9	
29	49-50	372	1.0	17.0	11.2	21.8	
30	50-51	0.43	0.14	7.7	9.1	53.2	
31	51-52	19	4.4	19.0	13.2	29.5	
32	52-53	11	1.0	11.9	23.5	35.3	
33	53-54	0.70	0.41	15.8	12.7	51.3	
34	54-55	0.55	0.26	12.6	19.8	31.0	
35	55-56	0.43	0.09	8.3	15.7	39.8	
36	56-57	0.26	0.20	14.0	17.9	48.6	
37	57-58	0.13	0.06	6.4	7.8	67.2	
38	58-59	0.17	0.06	10.7	4.7	68.2	
39	59-60	0.25	0.02	11.5	4.3	81.7	
40	60-61	0.14	0.05	10.6	6.6	75.5	
41	61-62	0.11	0.07	10.8	6.5	72.2	
42	1262-63	0.07	0.03	11.0	6.4	76.4	

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.