

CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page No. 1**CORE ANALYSIS RESULTS**

Company	EL PASO NATURAL GAS COMPANY	Formation	GRANEROS	File	RP-3-1190
Well	PILAN # 5	Core Type	DIAMOND CONV.	Date Report	5/24/60
Field	WILDCAT	Drilling Fluid	OIL EMULSION MUD	Analysts	ENGLISH
County	SAN JUAN	State	N. MEXICO	Elev.	6264 DF
		Location	Sec 5 T27N R8W		

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 - LMV	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 - SL/ VERY - V/ WITH - W/
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS		
				OIL	TOTAL WATER			
1	6738-39	<0.01	4.5	4.4	77.8	Vertical Fracture		
2	39-40	<0.01	4.0	5.0	82.5	■ ■		
3	40-41	<0.01	4.0	5.0	82.5	■ ■		

6738-6741 This interval is essentially non-productive .

CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

CORE ANALYSIS RESULTS

Company **EL PASO NATURAL GAS COMPANY** Formation **GRANEROS** File **RP-3-1190**
 Well **FILAN # 5** Core Type **DIAMOND CONV.** Date Report **5/25/60**
 Field **WILDCAT** Drilling Fluid **OIL EMULSION MUD** Analysts **ENGLISH**
 County **SAN JUAN** State **N. MEXICO** Elev. **6264 DF** Location **Sec 5 T27N R8W**

Lithological Abbreviations

SAND - SD SHALE - SH LIME - LM	DOLOMITE - DOL CHERT - CN GYPSUM - GYP	ANHYDRITE - ANHY CONGLOMERATE - CONG FOSSILIFEROUS - FOSS	SANDY - SOY 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 - SL/ VERY - V/ WITH - W/
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
4	6759-60	<0.01	2.4	0.0	95.8	Vertical Fracture
5	60-61	0.01	2.3	0.0	91.3	" "
6	61-62	<0.01	3.4	0.0	85.4	" "

6759-6762 High saturations of total water show this interval to be essentially non-productive. Further testing should be done to evaluate the fracture system.

CORE LABORATORIES, INC.
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DALLAS, TEXAS

Page No. **3**

CORE # 4 (6791-6825)
Rec. 43 ft.

CORE ANALYSIS RESULTS

Company **EL PASO NATURAL GAS COMPANY** Formation **DAKOTA** File **RP-3-1190**
Well **FILAN # 5** Core Type **DIAMOND CONV.** Date Report **5/20/60**
Field **WILDCAT** Drilling Fluid **OIL EMULSION MUD** Analysts **ENGLISH**
County **SAN JUAN** State **N. MEXICO** Elev. **6264 DF** Location **Sec 5 T27N R5W**

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 - SL/ VERY - V/ WITH - W/
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
7	6792-93	<0.01	7.0	12.8	35.7	
8	93-94	<0.01	5.8	15.5	25.8	
9	94-95	<0.01	4.3	16.3	37.2	
10	95-96	<0.01	3.1	16.1	77.4	
11	96-97	0.01	2.7	25.9	44.4	
12	97-98	<0.01	2.6	26.9	53.8	Vertical Fracture
13	98-99	<0.01	3.9	12.8	74.4	" "
14	99-6800	<0.01	2.8	25.0	64.3	" "
15	6800-01	<0.01	3.4	20.6	64.7	" "
16	01-02	<0.01	2.8	25.0	64.2	" "
17	02-03	<0.01	2.5	20.0	63.9	" "
18	03-04	<0.01	2.5	0.0	80.0	" "
19	04-05	<0.01	3.5	0.0	88.6	" "
20	05-06	<0.01	3.4	0.0	85.4	" "
21	06-07	<0.01	3.8	0.0	81.7	" "
22	07-08	<0.01	3.8	0.0	86.9	" "
23	08-09	<0.01	3.7	0.0	89.2	" "
24	09-10	<0.01	3.7	0.0	94.6	" "
25	10-11	<0.01	3.8	0.0	92.2	" "
26	11-12	<0.01	3.8	0.0	86.8	" "
27	12-13	<0.01	1.9	0.0	89.5	" "

6792-98 This interval has low porosity (3.8% average) and very low permeability (<0.01 md./ft. average) . The saturations (residual oil 18.9% average and total water 45.7% average) show this interval to be capable of producing a very rich gas . The vertical fracture system should increase the effective permeability .

6798-6813 High total water saturations and low porosity show this interval to be essentially non-productive . Further testing should be done to evaluate the fracture system .

CORE ANALYSIS RESULTS

Company	EL PASO NATURAL GAS COMPANY	Formation	DAKOTA	File	RP-3-1190
Well	FILAN # 5	Core Type	DIAMOND CONV.	Date Report	5/29/60
Field	WILDCAT	Drilling Fluid	OIL EMULSION MUD	Analysts	ENGLISH
County	SAN JUAN	State	N.MEXICO	Elev	6264 DF
				Location	SEC 5 T27N R8W

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS	
				OIL	TOTAL WATER		
27	6843-44	<0.01	3.7	13.5	81.2	Vertical Fracture	
28	44-45	0.48	3.9	12.8	82.1	"	"
29	45-46	0.01	4.1	12.2	85.5	"	"
30	6848-49	<0.01	1.1	0.0	91.2	"	"
31	6852-53	<0.01	7.4	6.8	40.6	"	"
32	53-54	0.01	7.1	9.9	32.4	"	"
33	54-55	0.01	5.7	8.8	61.4	"	"
34	55-56	0.01	8.9	5.6	28.1	"	"
35	56-57	0.02	8.7	6.9	25.3	"	"
36	57-58	<0.01	5.7	8.8	49.1	"	"
37	58-59	0.02	6.1	11.5	39.4	"	"
38	6865-66	0.03	4.0	12.5	80.0	"	"
39	66-67	0.04	5.2	9.6	67.3	"	"
40	67-68	0.07	11.4	6.1	36.8	"	"
41	68-69	0.61	11.1	4.5	27.1	"	"
42	69-70	0.55	9.2	5.4	35.9	"	"
43	6874-75	0.01	4.6	4.3	89.2		
44	6884-85	0.53	5.0	0.0	52.1	"	"
45	85-86	0.02	3.4	0.0	76.5	"	"
46	86-87	0.03	6.1	0.0	52.4	"	"
47	87-88	0.02	3.3	0.0	54.5		
48	88-89	0.04	5.2	0.0	50.1		
49	89-90	0.02	4.0	0.0	77.6		
50	90-91	0.07	4.0	5.0	65.0	"	"
51	91-92	0.04	3.3	6.1	78.9	"	"
52	92-93	0.05	5.6	8.9	57.2	"	"
53	93-94	0.04	5.2	3.9	46.2	"	"
54	94-95	0.04	5.1	3.9	49.1	"	"
55	95-96	0.02	3.5	0.0	83.0		
56	96-97	0.01	2.8	0.0	78.6		
57	97-98	0.06	4.7	0.0	46.8	"	"
58	98-99	0.04	3.4	5.9	64.9	"	"
59	99-6900	0.04	3.2	15.6	68.8	"	"
60	6900-01	0.05	5.2	3.8	67.4		
61	01-02	0.04	4.1	12.2	43.9	"	"
62	02-03	0.01	4.3	16.3	76.8	"	"
63	03-04	0.01	5.4	9.3	79.7	"	"

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and to whomsoever, and for what use this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. and its employees, and are not a warranty of the profitability of any oil, gas or other mineral well or of the success of any well in which such report is used or relied upon.

CORE ANALYSIS RESULTS

Company	EL PASO NATURAL GAS COMPANY	Formation	DAKOTA	File	RP-3-1190
Well	PILAN # 5	Core Type	DIAMOND CONV.	Date Report	5/29/60
Field	WILDCAT	Drilling Fluid	OIL EMULSION MUD	Analysts	ENGLISH
County	SAN JUAN	State	N.MEXICO	Elev	6264 DF
				Location	SEC 5 T27N R5W

Lithological Abbreviations

SANDY SH SHALE SH LIME LM	COLOMITE DOL CHERT CH GYPSUM GYP	ANHYDRITE ANHY CONGLOMERATE CONC FOSSILIFEROUS FONS	SANDY SBY SHALE SHY CLAY LMY	FINE FN MEDIUM MED COARSE CSE	CRYSTALLINE XEN GRAIN GRN GRANULAR GEN	BROWN BBN GRAY GY VUGGY VGY	FRACTURED FRAC LAMINATION LAM STYLOLITIC STY	SLIGHTLY SL/ VERY V/ WITH W.
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE OIL TOTAL WATER	SAMPLE DESCRIPTION AND REMARKS			

6843-6852 This interval is essentially non-productive .

6852-6859 This interval has low porosity (6.2% average) and low permeability (0.01 md./ft. average) . The saturations (residual oil 7.3% average and total water 34.5% average) show the interval to be capable of producing a rich gas .

6865-6870 This interval has fair porosity (8.2% average) and low permeability (0.26 md./ft. average) . The saturations (residual oil 7.6% average and total water 49.4% average) show the interval to be capable of producing a rich gas .

6874-6875 This interval is essentially non-productive .

6884-6885 This one-foot interval is interpreted to be gas productive .

6885-6886 This interval is essentially non-productive .

6886-6889 This interval has low porosity (4.9% average) and low permeability (0.03 md./ft. average) . The saturations (residual oil 0.0% average and total water 52.3% average) show the interval to be capable of producing gas .

6889-6892 This interval is essentially non-productive .

6892-6895 This interval has low porosity (5.3% average) and low permeability (0.04 md./ft. average) . The saturations (residual oil 5.5% average and total water 50.8% average) show the interval to be capable of producing gas .

6895-6897 This interval is essentially non-productive .

6897-6898 This one-foot interval is interpreted to be gas-productive

6898-6904 This interval is essentially non-productive .

NOTE ; THERE IS EVIDENCE OF A GOOD FRACTURE SYSTEM THROUGHOUT THE CORED INTERVAL AND THE NEED FOR A FORMATION TREATMENT WILL DEPEND UPON THE EFFECTIVENESS OF THE FRACTURES TO INCREASE THE PERMEABILITY .

CORE ANALYSIS RESULTS

Company	EL PASO NATURAL GAS COMPANY	Formation	DAKOTA	File	RP-3-1190
Well	FILAN # 5	Core Type	DIAMOND CONV.	Date Recd	5/30/60
Field	WILDCAT	Drilling Fluid	OIL EMULSION MUD	Analysis	ENGLISH
County	SAN JUAN	State	N.MEXICO	Elev	6264 DF
				Location	SEC 5 T27N R8W

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY - MILLIDARIES	POROSITY PER CENT	RESIDUAL SATURATION		SAMPLE EXCEPTION AND REMARKS
				PER CENT PORE OIL	TOTAL WATER	
64	6911-12	0.01	5.4	9.3	72.2	Vertical fracture
65	12-13	0.02	6.2	11.3	72.5	
66	13-14	<0.01	4.4	11.4	75.1	
67	14-15	0.01	5.9	11.9	78.0	

6911-6915 This interval is interpreted to be essentially non-productive.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page No. 7

CORE ANALYSIS RESULTS

Company EL PASO NATURAL GAS COMPANY Formation DAKOTA File RP-3-1190
Well FILAN # 5 Core Type DIAMOND CONV. Date Report 5/31/60
Field WILDCAT Drilling Fluid OIL EMULSION MUD Analysts ENGLISH
County SAN JUAN State N. MEXICO Elev. 6264 DF Location SEC 5 T27N R8W

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 - SL/ VERY - V/ WITH - W/
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS		
				OIL	TOTAL WATER			
68	6923-24	0.32	2.5	0.0	80.0			
69	6925-26	0.02	1.7	0.0	94.2	Vertical Fracture		
70	26-27	0.01	2.4	0.0	95.7			
71	6933-34	<0.01	3.0	1.5	66.7	*	*	
72	34-35	0.04	3.4	1.5	82.5	*	*	
73	35-36	0.01	4.3	1.2	79.0	*	*	
74	36-37	0.02	5.1	9.8	27.4	*	*	
75	37-38	0.02	3.2	0.0	43.8	*	*	
76	38-39	0.01	3.2	15.6	75.1	*	*	
77	39-40	0.01	1.2	0.0	83.4	*	*	
78	40-41	<0.01	2.3	21.7	74.0	*	*	

6923-6936 The samples analyzed within this interval have the properties of non-productive ~~sandstone~~ sandstone .

6936-6938 This interval has low porosity (4.1% average) and low permeability (0.02 md./ft. average) . The saturations (residual oil 4.9% average and total water 35.6% average) show the interval to be capable of producing gas . the vertical fractures should increase the effective permeability .

6938-6941 This interval is essentially non-productive .