

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering
DALLAS, TEXAS

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CORE ANALYSIS RESULTS

Compa	,	UHAL GAS COMPA	YY	ormati	ion	DAKOTA		File	RP-	3-1045
Well		9-5 # 32-29	(ore T	vpe.	DIAMOND CONV	•	Date Report_	7/30	0/59
Field_	BLANCO MESA	VERDE DAKOTA	VILLUAT I	Drilling	Fluid	OIL EMULSION	MUD	Analysts.	ENGI	
County		State N. MEXICO	Elev. 65				5W	Titalysts		
			Lith	ologic	al Abbrevia	tions				
SAND-SD Shale-sh Lime-um	DOLOMITE DOL CHERT-CH GYPSUM-GYP	ANHYDRITE ANHY CONGLOMERATE CONG FOSSILIFEROUS FOSS	SANDY - SD SHALY - SH - IMY - LMY		FINE - FN MEDIUM - MED COARSE - CSE	CRYSTALLINE - XLN GRAIN - GRN GRANULAR - GRNL	BROWN - BRN GRAY - GY VUGGY - VGY	FRACTURED - LAMINATION STYLOLITIC -	- LAM	SLIGHTLY-SL/ VERY-V/ WITH-W/
SAMPLE	DEPTH	PERMEABILITY	POROSITY		JAL SATURATION					
NUMBER	FEET	MILLIDARCYS	PER CENT	OIL	TOTAL WATER			AND REMARKS	·	
1	7780-81	<0.01	5.0	4.0	94.0	Vertical	Fractu	ıre		
2	81-82	<0.01	0.6	0.0	66.6	Vertical	Fractu	re		.*
3	82-83	<0.01	1.4	0.0	5 7.1	Vertical	Fractu	re		
4	83-84	<0.01	1.3	0.0	61.5	Vertical	Fractu	re		
5	84-85	<0.01	1.2	0.0	83.5	Vertical	Fractu	re		
6	85 – 86	0.01	2.5	8.1	24.0	Vertical	Fractu	re		
7	86-87	0.01	6.0	3.3	20.0	Vertical	Fractu	re		
8	87–8 8	0.01	4.8	0.0	8.3	Vertical	Fractu	re		
9	8 8-89	0.04	ó.5	3.1	12.3	Vertical			-	
10	89 -9 0	<0.01	3.5	0.0	17.2	Vertical				
11	90-91	0.01	3.1	0.0	21.6	Vertical				

7780-7785 Low porosity (1.9% average) and high total water saturations (72.5% average) show this interval to have no commercial value. Other properties are: saturation of residual oil 0.8% average; and permeability <0.01 md./ft. average.

7785-7791 This interval has low porosity (4.4% average) and low permeability (0.01 md./ft. average). The saturations (residual oil 2.4% average and total water 17.2% average) show the interval to be capable of producing gas. The vertical fractures should increase the effective permeability. The productive capacity (0.09 md. ft.) is low and a formation treatment will be required to establish and maintain commercial rates of production.

These analyses, opinons 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 productivity and make no warranty or representations, as to the productivity, proper operations.

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Company EL PASO NATURAL GAS COMPANY

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RP-3-1045

File

Vertical Fracture

CORE ANALYSIS RESULTS

Formation

3.5

<0.01

DAKOTA

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Well .	SAN JUAN 2	9-5 # 32-29		ore Type_		DIAMOND CONV	• D.	ite Report	7/31	/59
Field	BLANCO MESA	VERDE DAKOTA	WILDCATD	rilling Fl	uid	OIL EMULSION		nalysts	ENGL	
County.	RIO ARRIBA	_State_NEW_MEXI	co _{Elev} 65	31 DF	Location_	SEC29 29N	5W			
			Litho	logical A	Abbrevia	tions				
SAND ME SHALE-SH LIME-LM	COLOMITE DOL CHERT CH GYPSUM GYP	ANHYORITE ANHY CONGLOMERATE CONG FOSSILIFEROUS FOSS	SANDY - SDY SHALY - SHY LIMY - LMY			CRYSTALLINE-XLN BROWN-BR GRAIN-GRN GRAY-GY GRANULAR-GRNL WUGGY-VG		LAMINATION - LAM		SLIGHTLY-BL/ VERY-V/ WITH-W/
SAMPLE	DEPTH PERMEABILITY		POROSITY PER CENT PORE			SAMPL	E DESCRIPTION	- ··		
NUMBER	F E E T	MILLIDARCYS	PER CENT	OIL .	TOTAL WATER		ANI	REMARKS		
12	7791-92	0.01	2.5	0.0	32.0	Vertical	Fractur	8		
13	92-93	<0.01	1.4	0.0	57.1	Vertical		-		
14	93-94	<0.01	1.0	0.0	40.0	Vertical	Fractur	9		
15	94-95	<0.01	3.7	0.0	10.8	Vertical	Fractur	9		
16	9 5–96	0.02	3 .5	0.0	25.6	Vertical	Fractur	9		
17	96-97	0.02	4.7	0.0	21.3	Vertical	Fractur	9		
18	97 -98	0.02	3 .2	0.0	18.7	Vertical	Fracture	9		

0.0

7791-7792 This one-foot interval has low porosity (2.5%) and low permeability (0.01 md.). The saturations (residual oil 0.0% and total water 32.0%) show the interval to be capable of producing gas. The productive capacity (0.01 md.ft.) is low and a formation treatment would be required. There is evidence of a fracture system, which should increase the effective permeability.

40.0

7792-7794 The porosity of this interval (1.2% average) is low. The high saturation of total water (48.5% average) and low permeability (<0.01 md./ft. average) show this interval to have no commercial value. The saturation of residual oil is 0.0% average. Further testing should be done to evaluate the fracture system.

7794-7799 Although the porosity (3.7% average) and the permeability (0.01 md./ft. average) are low, the saturations (residual oil 0.0% average and total water 23.3% average) show the interval to be capable of producing gas. The productive capacity (0.08 md. ft.) is low and a formation treatment to increase permeability will be required. There is evidence of a fracture system, which should increase the effective permeability.