

SEP-14-1999 TUE 08:01 LOUIS DREYFUS NG FAX NO. 79853509

P. 02
Form C-111
Revised 4-1-91

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator LOUIS DREYFUS				Lease or Unit Name TORO ST. '27'			
Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 9-17-99		Well No. 7	
Completion Date 9-10-99		Total Depth		Plug Back TD		Elevation	
Log Size		WL	d	Sec At	Perforations:		County
					From: 12888 To: 12897		LEA
Log Size		WL	a	Sec At	Perforations:		Pool
2-3/8		4.7	1.995	12850	From: To:		
Type Well - Single - Bradshaw - G.C. or G.C. Multiple Single				Packer Sec At 12850		Formation	
Producing Thru 2bg		Reservoir Temp. °F 202		Mean Annual Temp. °F 60		Water, Press. - P. 13.2	
L 12850		II 12850	G _s .717	% CO ₂ .353	% N ₂ 1.940	% H ₂ S -0-	Prover -0-
						Mass Flow 4.026	Temp 68g

FLOW DATA				TUBING DATA			CASING DATA		Direction of Flow
NO.	Prover Line Size	Orifice Size	Press. psig.	Dist. ft.	Temp. °F	Press. psig.	Temp. °F		
1.	4.026 X 2.000	290	1.5"	86°	3808	4038	PKR	45 mLH	
2.	4.026 X 2.000	290	6"	84°	3406			45 mLH	
3.	4.026 X 2.000	295	12"	84°	2808			45 mLH	
4.	4.026 X 2.000	295	24"	76°	2075			60 mLH	
5.									

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (1/HOUR)	h_p	Pressure P ₁	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{sc}	Rate of Flow Q, Mds
1.	19.87	27.3	303.2	.9759	1.187	1.055	573
2.	19.87	42.6	303.2	.9777	1.187	1.056	1028
3.	19.87	60.8	308.2	.9777	1.187	1.056	1468
4.	19.87	86.0	308.2	.9850	1.187	1.061	2102
5.							

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio	API Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1.	.87	546	1.40	.898	16.510	43.9	.717	N/A	670	389
2.	.87	544	1.39	.895			XXXXXX			
3.	.87	544	1.39	.895			XXXXXX			
4.	.80	536	1.37	.889						
5.										

P ₁ 4057.2		P ₂ 16412.2	
NO.	P ₁ ²	P ₂	P ₁ ² - P ₂ ²
1.	16458.2	14613.6	1798.6
2.	1425.9	11736.6	4675.6
3.	2836.4	8045.4	8366.8
4.	2068.7	4274.5	12132.9
5.			

$$1) \frac{P_1^2}{P_2^2 - P_1^2} = 1.353$$

$$2) \left[\frac{P_1^2}{P_2^2 - P_1^2} \right]^2 = 1.248$$

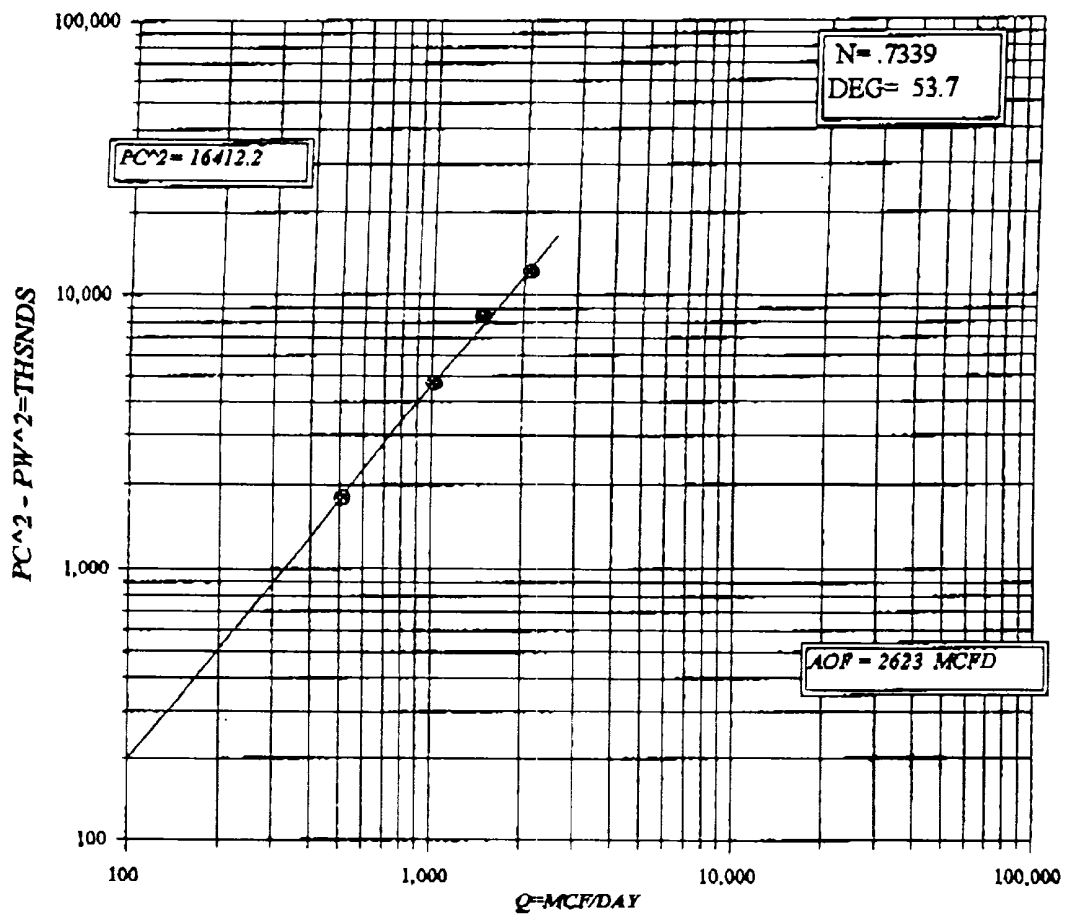
$$AOF = Q \left[\frac{P_1^2}{P_2^2 - P_1^2} \right]^2 = 2.623$$

Absolute Open Flow **2.623** Mds @ 15.025 Angle of Slope θ **53.7** Slope n **.7339**

Remarks: * WELL MAKE 11 BBLs OF 43.9 API GRAVITY CONDENSATE DURING TEST

Approved By Division	Conducted By: PRO WELL TESTINE	Calculated By: MR	Checked By: RU
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LOUIS DREYFUS TORO ST. "27" #1





O COMPANY : LOUIS DREYFUS LEASE : TORO ST. "27" WELL NO. : 1 Pc = 4051.2 Pc2 = 16412.2 *
 UNIT : SECTION : TOWNSHIP : *
 L : 12850 H : 12850 L/H : 1 G/GMIX : 0.717 Pc2 = ***** Pw = 3822.8 *
 %CO2 : 0.353 %N2 : 1.904 M2S : DATE : 9/11/99 ***** 3425.9 *
 d : 1.995 Fr : 0.018231 GH : 9213.4 RANGE : 7959.2 2836.4 *
 ----- 4113.6 2068.7 *

VOL 1 : 513 PSIA 1 : 3821.2 RESV.TEMP 202.5 Pc2-Pw2= 1798.6 Pw = 14613.6 *
 VOL 2 : 1028 PSIA 2 : 3419.2 4675.6 11736.6 *
 VOL 3 : 1468 PSIA 3 : 2821.2 SHUT-IN PR: 4051.2 8366.8 8045.4 *
 VOL 4 : 2102 PSIA 4 : 2028.2 ***** 4279.3 *
 PCR : 670 n = 0.734 *
 TCR : 389 *

LINE	RATE 1		RATE 2		RATE 3		RATE 4		
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND	
1	0.513	0.513	1.028	1.028	1.468	1.468	2.102	2.102	
	534	534	534	534	534	534	534	534	
3	662.5	662.5	662.5	662.5	662.5	662.5	662.5	662.5	
4	598.2	598.2	598.2	598.2	598.2	598.2	598.2	598.2	
	PR (est)	5.70	5.10	4.21	3.03				
5	Z(est)	0.838	0.901	0.811	0.863	0.782	0.813	0.777	0.775
6	TZ	501.2	539.1	485.1	516.4	467.8	486.6	465.1	463.4
7	GH/TZ	18.384	17.090	18.994	17.841	19.694	18.533	19.812	19.881
8	eS	1.992	1.898	2.039	1.952	2.093	2.034	2.102	2.108
9	l-e-S	0.498	0.473	0.509	0.488	0.522	0.508	0.524	0.526
10	Pt	3821.2	3821.2	3419.2	3419.2	2821.2	2821.2	2028.2	2028.2
11	Pt2 /1000	14601.6	14601.6	11690.9	11690.9	7959.2	7959.2	4113.6	4113.6
12	Fr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231
13	Fc=FrTZ	9.137	9.829	8.843	9.415	8.529	8.872	8.478	8.449
14	FcQm	4.69	5.04	9.09	9.68	12.52	13.02	17.82	17.76
15	L/H(FcQm)	22.0	25.4	82.6	93.7	156.8	169.6	317.6	315.4
16	Fw	10.94408	12.02945	42.10668	45.69564	81.86128	86.22872	166.5188	165.74822
17	Pw2	14612.5	14613.6	11733.0	11736.6	8041.0	8045.4	4280.1	4279.3
18	Ps2	29115.2	27738.5	23919.2	22913.7	16828.7	16364.0	8997.3	9019.1
19	Ps	5395.8	5266.7	4890.7	4786.8	4102.3	4045.2	2999.5	3003.2
20	P	4608.5	4544.0	4155.0	4103.0	3461.7	3433.2	2513.9	2515.7
21	Pr	6.88	6.78	6.20	6.12	5.17	5.12	3.75	3.75
22	Tr	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
23	Z	0.901	0.896	0.863	0.859	0.813	0.812	0.775	0.775

Pc2/(Pc2-Pw2) = 9.125 *
 3.510 *
 1.962 *
 1.353 *
 [Pc2/Pc2-Pw2]n = 5.067 *
 2.513 *
 1.640 *
 1.248 *
 AOF= Q 2.599 *
 2.584 *
 2.407 *
 2.623 *
 FORM C122-D *

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

0

NEW MEXICO G.O.R./G. MIX		
NO. OF BBLs PRODUCED	=	11.0
API GRAVITY @ 60 DEG.	=	43.9
.....		
SPECIFIC GRAVITY OF GAS	=	0.7170
XX		
TOTAL GAS PRODUCED	=	182
G.O.R.	=	16.510
G.MIX	=	0.905