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See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator MARATHON OIL COMPANY					Lease or Unit Name WALTER LYNCH				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 11-17-94		Well No. 8		
Completion Date 9-29-94		Total Depth 7750		Plug Back TD 7080		Elevation GL: 3368		Unit Ltr. - Sec. - TWP - Rge. 1 22S 37E	
Csg. Size 7"	Wt. 23#	d 6.366	Set At 7550	Perforations: From: 5460 To: 5939			County LEA		
Tbg. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 5414	Perforations: From: To:			Pool Blinebry Oil & Gas		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple single					Packer Set At 5414		Formation BLINEBERRY		
Producing Thru TBG		Reservoir Temp. °F 118		Mean Annual Temp. °F 60		Baro. Press - P 13.2		Connection PIPELINE	
L 5700	H 5700	Gg .677	% CO ₂ .63	% N ₂ 1.85	% H ₂ S Prover	Meter Run 4.026		Taps FLG.	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							295				
1.	4.026	X	1.750	39.69	3.24	72	282		PKR.		1 hr.
2.	4.026	X	1.750	39.69	5.76	78	275				1 hr.
3.	4.026	X	1.750	43.56	8.41	80	262				1 hr.
4.	4.026	X	1.750	43.56	12.96	80	250				1 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	14.93	13.10	52.89	.9887	1.215	1.007	237
2.	14.93	17.45	52.89	.9831	1.215	1.007	313
3.	14.93	21.85	56.76	.9813	1.215	1.008	392
4.	14.93	27.12	56.76	.9813	1.215	1.008	487
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio DRY GAS			Mcf/bbl.
1.	.08	532	1.40	.986	A.P. I. Gravity of Liquid Hydrocarbons DRY			Deg
2.	.08	538	1.42	.986	Specific Gravity Separator Gas .377			XXXXXXXXXX
3.	.09	540	1.43	.984	Specific Gravity Flowing Fluid DRY			XXXXXX
4.	.09	540	1.43	.984	Critical Pressure 668			P.S.I.A. P.S.I.A.
5.					Critical Temperature 379			R R

P_c 308.2		P_c^2 95.0		
NO.	P_i^2	P_w	P_w^2	$P_c^2 - P_w^2$
1.	87.1	297.1	88.3	6.7
2.	83.1	291.7	85.1	9.9
3.	75.7	280.9	78.9	16.1
4.	69.3	272.3	74.2	20.8
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{4.564}{}$

2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{2.683}{}$

AOF = Q

$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{1,306}{}$

$$1) \frac{P_c^2}{P_c^2 - P_w^2} = 4.564 \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.683$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1,306$$

Absolute Open Flow **1,306** Mcfd @ 15.025 Angle of Slope θ **57°** Slope, n **.65031**

Remarks: **NO FLUID MADE DURING TEST**

Approved By Division _____ Conducted By: _____ Calculated By: _____ Checked By: _____
PRO WELL TESTER RA KS BM

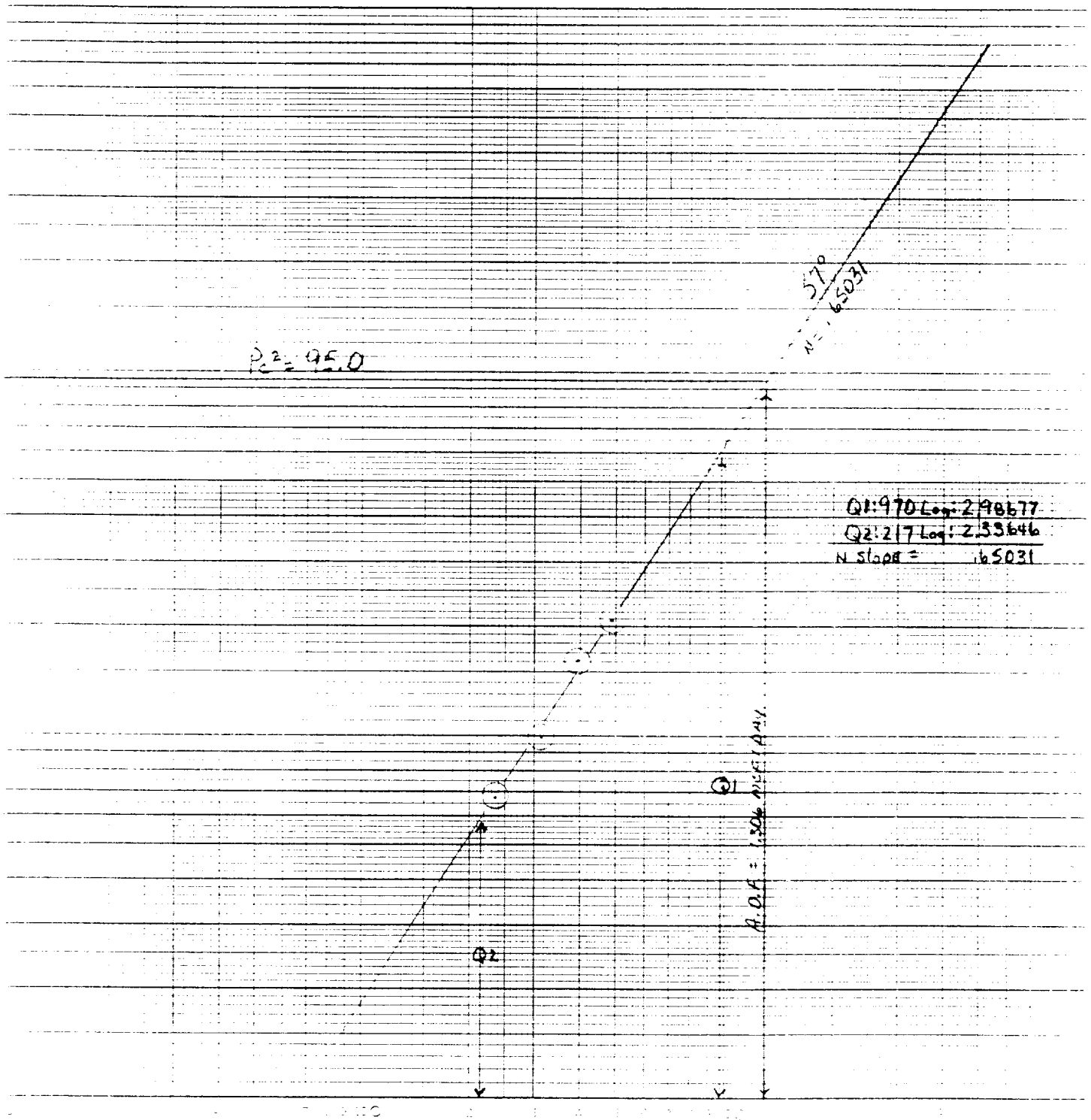
DATE: 11/21/94

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MARATHON OIL COMPANY
 WALTER LYNCH, WELL # 8
 1-22S-37E
 Lea County, New Mexico
 11-17-94



$P_2 = 95.0$

57°
 $N = 1.65031$

$Q1: 970 \text{ Log: } 2.98677$
 $Q2: 217 \text{ Log: } 2.33646$
 $N \text{ slope} = 1.65031$

$P.O.A. = 1.504 \text{ PSI/144\"/>$

Q MCF/DAY

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Laboratory Services, Inc.

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pro Well Testing & Wireline
Attention: Mr. Ray Ables
P. O. Box 791
Hobbs, New Mexico 88241

SAMPLE
IDENTIFICATION: Walter Lynch #8
COMPANY: Marathon Oil Co.
LEASE: Lea County New Mexico
PLANT:

SAMPLE DATA: DATE SAMPLED: 11-17-94 1:20PM GAS (XX) LIQUID ()
ANALYSIS DATE: 11-17-94 SAMPLED BY: Ray Ables Pro Well
PRESSURE - PSIG 44.00 ANALYSIS BY: Rolland Perry
SAMPLE TEMP. °F 80.00
ATMOS. TEMP. °F 63.00
REMARKS: Sampled At The Meter Run

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)		
Nitrogen (N2)	1.85	
Carbon Dioxide (CO2)	0.63	
Methane (C1)	82.53	
Ethane (C2)	9.64	2.572
Propane (C3)	3.77	1.036
I-Butane (IC4)	0.34	0.111
N-Butane (NC4)	0.80	0.252
I-Pentane (IC5)	0.13	0.047
N-Pentane (NC5)	0.12	0.043
Hexane Plus (C6)	0.19	0.078
	100.00	4.139
BTU/CU.FT. - DRY	1155	MOLECULAR WT. 19.6013
AT 14.650 DRY	1152	
AT 14.650 WET	1132	
AT 14.73 DRY	1158	
AT 14.73 WET	1138	
SPECIFIC GRAVITY - CALCULATED	0.677	
MEASURED		

COMPANY : MARATHON OIL		LEASE : WALTER LYNCH		WELL NO. : 0		Pc = 308.2		Pc2 = 95.0 *	
UNIT :		SECTION : 1		TOWNSHIP : 22					
L : 5700		H : 5700		L/H : 1		G/GMIX : 1.677		Pc2 = 87.1 PW = 297.1 *	
BOO2 : 0.63		BO2 : 1.85		H2S :		DATE : 11-17-94		83.1 291.7 *	
Q : 2.014		Fr : 0.017785		GH : 3858.9		RANGE : 37		75.7 280.9 *	
								69.3 272.3 *	
VOL 1 : 237		PSIA 1 : 295.2		RESV. TEMP : 119.0		Pc2-PW2 = 6.7		PW2 = 88.3 *	
VOL 2 : 313		PSIA 2 : 288.2				9.9		85.1 *	
VOL 3 : 392		PSIA 3 : 275.2		SHUT-IN PR = 108.2		16.1		78.9 *	
VOL 4 : 487		PSIA 4 : 263.2				20.8		74.2 *	
		POR : 668				n = 0.650			
		TOR : 379							
						Pc2/(Pc2-PW2) = 14.197			
LINE		RATE 1		RATE 2		RATE 3		RATE 4	
								9.582	
								5.906	
								4.564	
1 GM		0.237	0.237	0.313	0.313	0.392	0.392	0.487	0.487
2 TW		534	534	534	534	534	534	534	534
3 Ps		378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0
4 P		356.0	356.0	356.0	356.0	356.0	356.0	356.0	356.0
5 PP (esti)		0.44	0.44	0.43	0.41	0.39	0.39	0.39	0.39
6 P (esti)		0.929	0.926	0.931	0.927	0.933	0.929	0.934	0.931
7 TI		316.8	314.8	317.4	315.3	318.5	316.4	319.5	317.4
8 GH/TZ		7.467	7.497	7.459	7.488	7.442	7.472	7.428	7.459
9 eS		1.323	1.325	1.323	1.324	1.322	1.323	1.321	1.323
10 i-e-S		0.244	0.245	0.244	0.245	0.244	0.244	0.243	0.244
11 Pt		295.2	295.2	288.2	288.2	275.2	275.2	263.2	263.2
12 Pc2 /1000		87.1	87.1	83.1	83.1	75.7	75.7	69.3	69.3
13 Fr		0.017785	0.017785	0.017785	0.017785	0.017785	0.017785	0.017785	0.017785
14 Pc=Fr/TZ		9.191	9.155	9.202	9.165	9.222	9.195	9.240	9.202
15 PcQm		2.18	2.17	2.88	2.87	3.61	3.60	4.50	4.48
16 Lh(PcQm)		4.7	4.7	8.3	8.2	13.1	13.0	20.2	20.1
17 PW		1.158839	1.153728	1.023907	1.014863	1.182302	1.167949	1.422783	1.48996410
18 PW2		88.3	88.3	85.1	85.1	78.9	78.9	74.2	74.2
19 Ps2		116.8	117.0	110.5	112.7	104.3	104.4	98.0	98.1
20 Ps		341.8	342.0	335.5	335.6	323.0	323.1	313.1	313.2
21 P		318.5	318.6	311.8	311.9	299.1	299.2	288.1	288.2
22 P-		0.48	0.48	0.47	0.47	0.45	0.45	0.43	0.43
23 Tr		1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
24 Z		0.926	0.926	0.927	0.927	0.929	0.929	0.931	0.931
								FORM 0122-D	

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Equivalent Diameter Program

Author: Bob Murray

Date: December 26, 1990

L1 = 5414 ft.
D1 = 1.995 in.

L5 = 0 ft.
D5 = 1 in.

Lt = 5700 ft.
C = 0.10797

L2 = 286 ft.
D2 = 6.366 in.

L6 = 0 ft.
D6 = 1 in.

Deff = 2.014 in.

L3 = 0 ft.
D3 = 1 in.

L7 = 0 ft.
D7 = 1 in.

Fr = 0.01734

L4 = 0 ft.
D4 = 1 in.

L8 = 0 ft.
D8 = 1 in.

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