Submit in duplicate to appropriate district office
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					Lease or Unit Name: Lou Wortman			
Type Test: [X] Initial [ ] Annual [ ] Special					Test Date: 5-24-99		Well No.: 14	
Completion Date	Total Depth: 7540		Plug Back TD: 7140		Elevation		Unit Ltr. - Sec. - TWP - Rge.: A - 11 - 22 - 37	
Csg. Size: 7"	Wt.: 23#	d: 6.366	Set At: 7516	Perforations: From: 6556	To: 7054		County: Lea	
Tbg. Size: 2 3/8	Wt.: 4.7#	d: 1.995	Set At: 6475	Perforations: From:	To:		Pool	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: Single			Packer Set At: 6475				Formation: Abo	
Producing Thru: Tbg	Reservoir Temp. °F: 138.8	Mean Annual Temp. °F: 60°	Baro. Press - P_a: 13.2				Connection: Air	
L: 6475	H: 6475	Gg: .702	% CO_2: .143	% N_2: 2.472	% H_2S: 0	Prover: 0	Meter Run: 2.067	Taps: F/G

FLOW DATA / TUBING DATA / CASING DATA

NO.	Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Tubing Press. p.s.i.g.	Tubing Temp. °F	Casing Press. p.s.i.g.	Casing Temp. °F	Duration of Flow
SI					847	N/A	PKR	N/A	
1.	2.067 X .750	100	3"	64°	835				60 min
2.	2.067 X .750	100	6"	64°	819				60 min
3.	2.067 X .750	100	34"	64°	788				60 min
4.	2.067 X 1.000	100	70"	64°	680				60 min
5.									

RATE OF FLOW CALCULATIONS

NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor F_t	Gravity Factor F_g	Super Compress. Factor, F_{pv}	Rate of Flow Q, Mcfd
1.	2.709	18.42	113.2	.9962	1.194	1.061	62
2.	2.709	26.06	113.2	.9962	1.194	1.061	89
3.	2.709	62.03	113.2	.9962	1.194	1.061	212
4.	4.946	89.01	113.2	.9962	1.194	1.061	555
5.							

NO.	P_r	Temp. °R	T_r	Z
1.	.78	524	1.36	.889
2.	.78	524	1.36	.889
3.	.78	524	1.36	.889
4.	.78	524	1.36	.889
5.				

Gas Liquid Hydrocarbon Ratio: N/A Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: N/A Deg.
Specific Gravity Separator Gas: .702 XXXXXXXXX
Specific Gravity Flowing Fluid: N/A XXXXX
Critical Pressure: 669 P.S.I.A. P.S.I.A.
Critical Temperature: 385 R R

P_c 860.2 P_c^2 435.8

NO.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1.	719.4	848.2	719.4	20.5
2.	692.6	832.2	692.6	47.4
3.	641.9	801.2	641.9	98.0
4.	480.5	693.2	480.5	259.4
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.852$

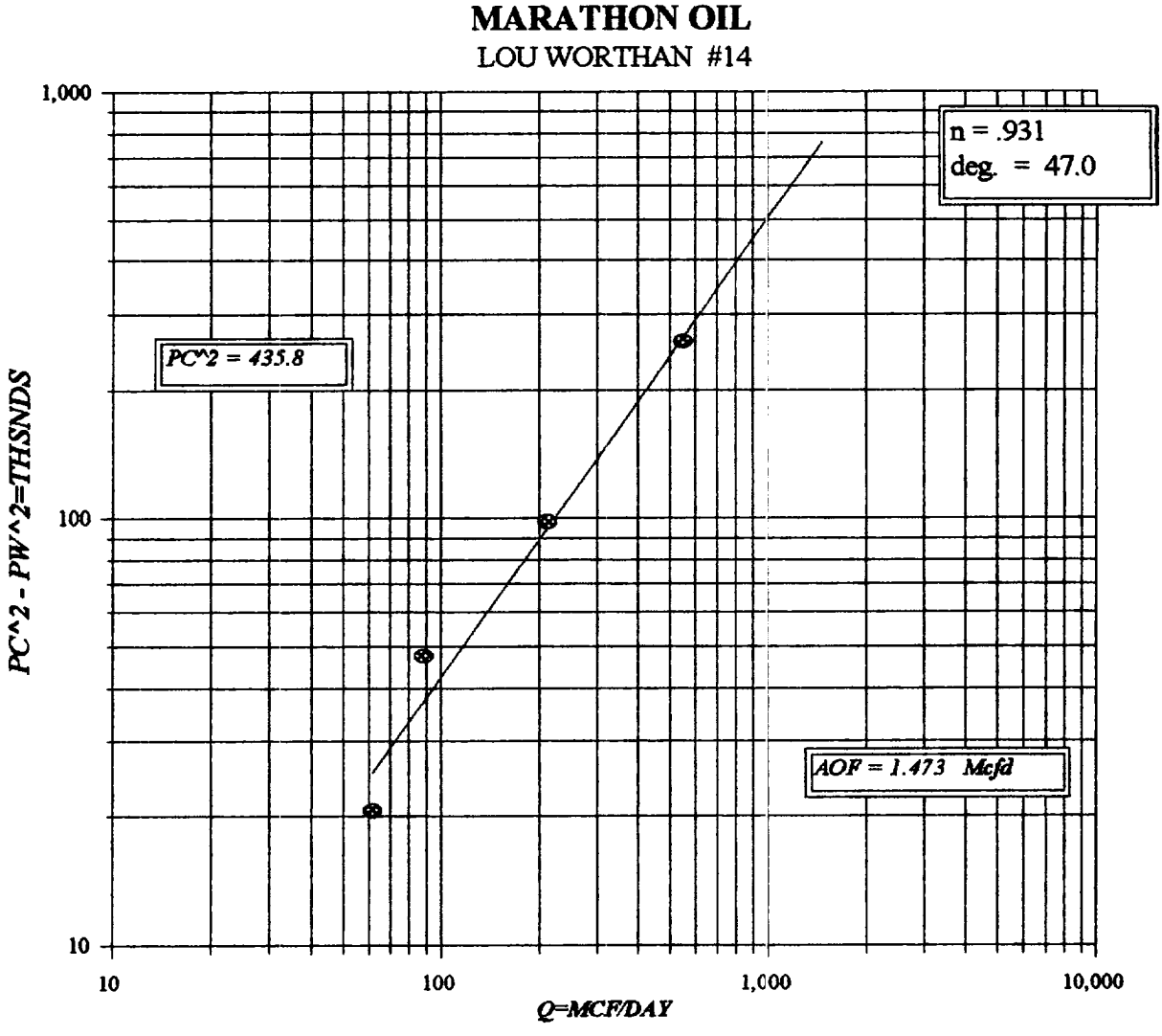
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.653$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.473$

Absolute Open Flow: 1.473 Mcfd @ 15.025 | Angle of Slope θ: 47.0 | Slope, n: .931

Remarks: *No liquid made during test.

Approved By Division	Conducted By:	Calculated By:	Checked By:
	Pro Well Testing	M.B.	B.M.


MARATHON OIL
LOU WORTHAN #14
1,000
100
10
10
100
1,000
10,000
PC^2 - PW^2=THSNDS
Q=MCF/DAY
n = .931
deg. = 47.0
PC^2 = 435.8
AOF = 1.473 Mcfd

COMPANY :MARATHON OIL LEASE :LOU NORTHAN WELL NO. : 14

UNIT : SECTION : TOWNSHIP :

L :	6475	H :	6475	L/H :	1	G/GMIX :	
%CO2 :	0.143	%N2 :	2.472	H2S :		DATE :	5/24/99
d :	1.995	Fr :	0.018231	GH :	0.0	RANGE :	

VOL 1 :	62	PSIA 1 :	848.2	RESV.TEMP	138.8
VOL 2 :	89	PSIA 2 :	832.2		
VOL 3 :	212	PSIA 3 :	801.2	SHUT-IN PR=	860.2
VOL 4 :	555	PSIA 4 :	693.2		

PCR : 669
TCR : 385

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	'IST	'2ND	'IST	''2ND	'IST	'2ND	'IST	'2ND
1 QM	0.062	0.062	0.089	0.089	0.212	0.212	0.555	0.555
2 TW	534	534	534	534	534	534	534	534
3 Ts	598.8	598.8	598.8	598.8	598.8	598.8	598.8	598.8
4 T	566.4	566.4	566.4	566.4	566.4	566.4	566.4	566.4
PR (est)	1.27		1.24		1.20		1.04	
5 Z(est)	0.848	0.848	0.850	0.850	0.854	0.854	0.870	0.870
6 TZ	480.2	480.2	481.5	481.5	484.0	484.0	492.8	492.8
7 GH/TZ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8 eS	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
9 1-e-S	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10 Pt	848.2	848.2	832.2	832.2	801.2	801.2	693.2	693.2
11 Pt2 /1000	719.4	719.4	692.6	692.6	641.9	641.9	480.5	480.5
12 Fr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231
13 Fc=FrTZ	8.755	8.755	8.778	8.778	8.823	8.823	8.984	8.984
14 FcQm	0.54	0.54	0.78	0.78	1.87	1.87	4.99	4.99
15 L/H(FcQm)	0.3	0.3	0.6	0.6	3.5	3.5	24.9	24.9
16 Fw	0	0	0	0	0	0	0	0
17 Pw2	719.4	719.4	692.6	692.6	641.9	641.9	480.5	480.5
18 Ps2	719.4	719.4	692.6	692.6	641.9	641.9	480.5	480.5
19 Ps	848.2	848.2	832.2	832.2	801.2	801.2	693.2	693.2
20 P	848.2	848.2	832.2	832.2	801.2	801.2	693.2	693.2
21 Pr	1.27	1.27	1.24	1.24	1.20	1.20	1.04	1.04
22 Tr	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
23 Z	0.848	0.848	0.850	0.850	0.854	0.854	0.870	0.870

Pc = 860.2 Pc2 = 739.9

Pt2 =	719.4	Pw =	848.2
	692.6		832.2
	641.9		801.2
	480.5		693.2
Pc2-Pw2=	20.5	Pw2 =	719.4
	47.4		692.6
	98.0		641.9
	259.4		480.5

n = 0.931

Pc2/(Pc2-Pw2) = 36.093
15.615
7.549
2.852

[Pc2/Pc2-Pw2]n = 28.182
12.918
6.566
2.653

AOF= Q 1.747
1.150
1.392
1.473

FORM C122-D

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Marathon Oil Company
Attention: Mr. Tom Kacir
P. O. Box 2490
Hobbs, New Mexico 88241

SAMPLE: Station #59-830
IDENTIFICATION: Lou Wortham #14
COMPANY: Marathon Oil Co.
LEASE:
PLANT:

Abo

SAMPLE DATA:
DATE SAMPLED: 5/6/99 2:00 pm
ANALYSIS DATE: 5/6/99
PRESSURE – PSIG 25
SAMPLE TEMP. °F
ATMOS. TEMP. °F 67

GAS (XX) LIQUID ( )
SAMPLED BY: Rolland Perry
ANALYSIS BY: Vickie Walker

REMARKS: H2S = 0

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)	0.000	
Nitrogen	(N2)	2.472	
Carbon Dioxide	(CO2)	0.143	
Methane	(C1)	81.482	
Ethane	(C2)	8.750	2.335
Propane	(C3)	4.088	1.124
I-Butane	(IC4)	0.408	0.133
N-Butane	(NC4)	1.326	0.417
I-Pentane	(IC5)	0.268	0.098
N-Pentane	(NC5)	0.348	0.126
Hexane Plus	(C6+)	0.715	0.293
		100.000	4.526

MOLECULAR WT. 20.8273

BTU/CU.FT. – DRY	1196
AT 14.650 DRY	1192
AT 14.650 WET	1171
AT 14.73 DRY	1199
AT 14.73 WET	1178
SPECIFIC GRAVITY – CALCULATED	0.702
MEASURED	