

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 5-10-85	
Company Conoco, Inc.				Connection None		660' FSL & 1040' FEL	
Pool Mesa Queen				Formation Queen		Unit P	
Completion Date 5-2-85		Total Depth 3450'		Plug Back TD 3417'		Elevation 4373' GL	
Farm or Lease Name Mesa Queen State						Well No. 1	
Csg. Size 4 1/2"	Wt. 9.5#	d 4.090	Set At 3450'	Perforations: From 3344' To 3356'		Unit P	
Tbg. Size 2 3/8"	Wt. 4.6#	d 1.995	Set At 3312'	Perforations: From Open To Ended		Sec. 7 Twp. 16S Rge. 32E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 3312'		County Lea	
Producing Thru Tubing		Reservoir Temp. °F 90 @ 3350'		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
State New Mexico		L 3350'		H 3350'		Gg 0.868	% CO ₂ 0.198
				% N ₂ 48.909		% H ₂ S ~	
				Prover ~		Meter Run 2.067"	
						Taps Flange	

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.	
SI							206	70		
1.	2.067" X 0.750"			100	4	74	192	70		
2.	2.067" X 0.750"			100	7.5	80	187	70		
3.	2.067" X 0.750"			101	16	86	177	74		
4.	2.067" X 0.750"			105	31	86	162	75		
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	2.709	21.279	113.2	0.9868	1.073	1.007	61
2	2.709	29.138	113.2	0.9813	1.073	1.006	84
3	2.709	42.746	114.2	0.9759	1.073	1.006	122
4	2.709	60.533	118.2	0.9759	1.073	1.006	173
5.							

NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.20	534	1.70	0.987	None		0.868		580	314
2	0.20	540	1.72	0.988						
3	0.20	546	1.74	0.988						
4	0.20	546	1.74	0.988						
5.										

NO.	P _c	P _c ²	P _w	P _w ²	P _c ² - P _w ²
1	218.4	47.7	227.2	204.9	42.0
2			220.2	198.6	39.4
3			209.2	188.8	35.6
4			196.2	177.1	31.4
5			242.2	(518.4)	

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{47.7}{42.0} = 2.926$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{47.7}{42.0} = 2.917$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 504.6$$

Absolute Open Flow	505	Mcfd @ 15.025	Angle of Slope	45.1°	Slope, n	0.997
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Remarks: *** BHP's were measured @ 3300' and extrapolated to 3350'. Well produced 0 bbls. of fluid during test.**

Approved By Commission:	Conducted By: Don Bennett T.C. Aduddell	Calculated By: Torr C. Aduddell	Checked By:
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WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_c or P_w)

Form C-122F
Adopted 9-1-65

FROM KNOWN BOTTOM HOLE PRESSURE (P_f or P_s)

COMPANY Conoco, Inc. LEASE Mesa Queen State 7 WELL NO. 1 DATE 5-10-85

LOCATION: Unit P Section 7 Township 16S Range 32E

L 3350' H 3350' L/H 1000 G 0.868 % CO₂ 0.198 % N₂ 48.909 % H₂S ~

GH 2908 P_{cr} 580 T_{cr} 314

TABLE IX & X

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SI BHP

LINE		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	3rd
1	T _w (W.H. °R)	530	530	530	530	530	530	530	530	530	530	534
2	T _s (B.H. °R)	550	550	550	550	550	550	550	550	550	550	550
3	T = $\frac{(T_w + T_s)}{2}$	540	540	540	540	540	540	540	540	540	540	542
4	Z (Est.)	0.975	0.976	0.977	0.978	0.977	0.978	0.977	0.978	0.977	0.978	0.980
5	TZ	526.5	527.0	527.6	528.1	527.6	528.1	527.6	528.1	527.6	528.1	531.1
6	GH/TZ	5.523	5.518	5.512	5.506	5.512	5.506	5.512	5.506	5.512	5.506	5.475
7	e ^s (Table XIV)	1.230	1.230	1.230	1.229	1.230	1.229	1.230	1.229	1.230	1.229	1.228
8	P _f or P _s	242.2	242.2	227.2	227.2	227.2	227.2	220.2	220.2	220.2	220.2	209.2
9	P _f ² or P _s ²	58.661	58.661	51.620	51.620	51.620	51.620	48.488	48.488	48.488	48.488	43.765
10	P _c ² = P _f ² /e ^s or P _w ² = P _s ² /e ^s	47.686	47.697	41.981	41.989	41.981	41.989	39.434	39.442	39.442	39.442	35.642
11	P _c or P _w	218.4	218.4	204.9	204.9	204.9	204.9	198.6	198.6	198.6	198.6	188.8
12	P _w = $\frac{P_w + P_s}{2}$ or $\frac{P_c + P_f}{2}$	230.3	230.3	216.0	216.1	216.0	216.1	209.4	209.4	209.4	209.4	199.0
13	P _r = (P/P _{cr})	0.40	0.40	0.37	0.37	0.37	0.37	0.36	0.36	0.36	0.36	0.34
14	T _r = (T/T _{cr})	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.73
15	Z (Table XI)	0.976	0.976	0.978	0.978	0.978	0.978	0.978	0.978	0.978	0.978	0.980

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_c or P_w)

Form C-122F
Adopted 9-1-65

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COMPANY Conoco, Inc. LEASE Mesa Queen State 7 WELL NO. 1 DATE 5-10-85

LOCATION: Unit P Section 7 Township 16S Range 32E

L 3350 H 3350 L/H 1.000 G 0.868 % CO₂ 0.198 % N₂ 48.909 % H₂S ~

GH 2908 P_{cr} 580 T_{cr} 314

TABLE IX & X

4th

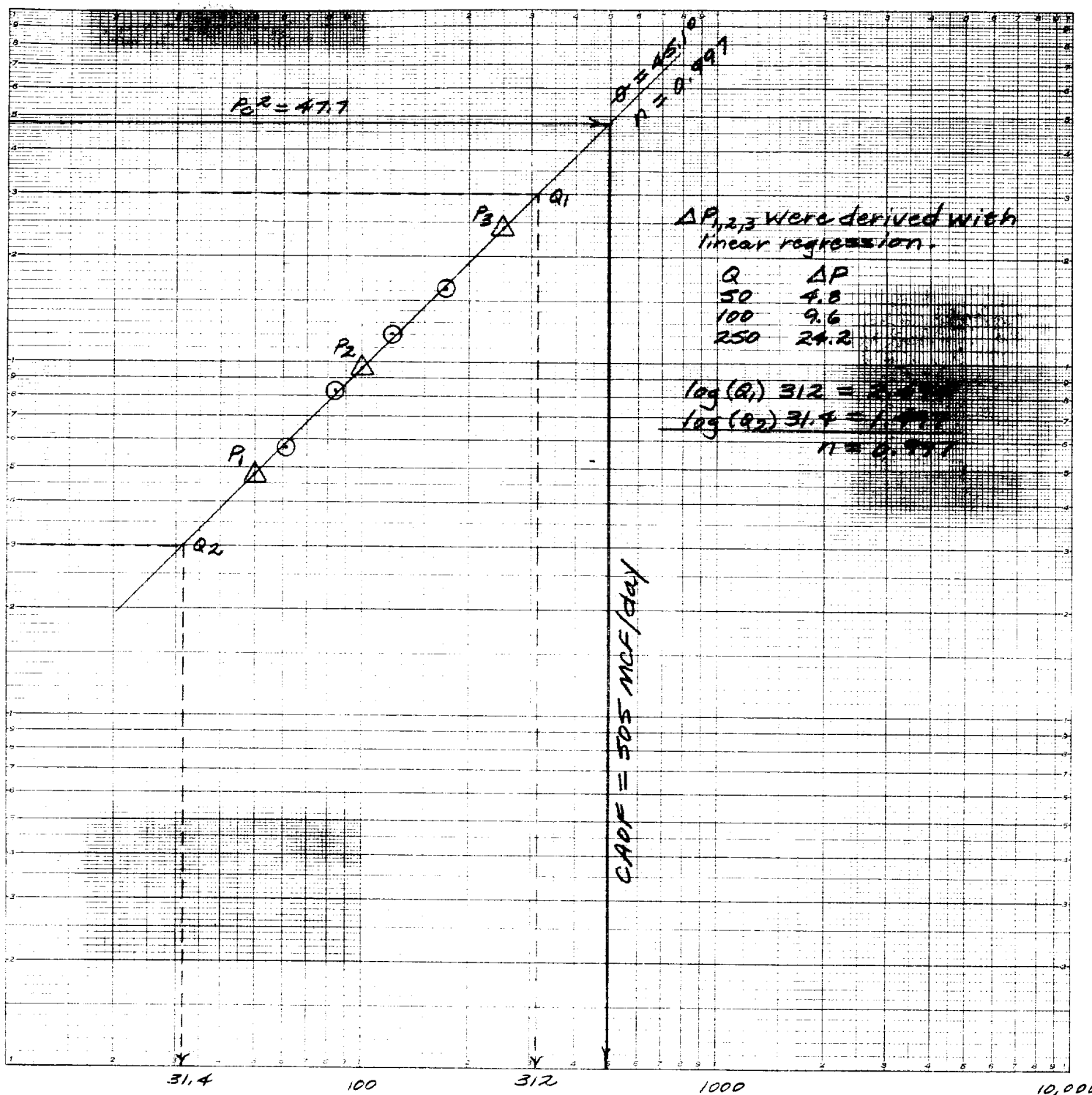
LINE		1st	2nd	3	4	5	6	7	8
1	T _w (W.H. °R)	535	535						
2	T _s (B.H. °R)	550	550						
3	T = $\frac{T_w + T_s}{2}$	543	543						
4	Z (Est.)	0.980	0.981						
5	TZ	531.7	532.2						
6	GH/TZ	5.470	5.464						
7	e ^s (Table XIV)	1.228	1.227						
8	P _f or P _s	196.2	196.2						
9	P _f ² or P _s ²	38.494	38.494						
10	P _c ² = P _f ² /e ^s or P _w ² = P _s ² /e ^s	31.356	31.362						
11	P _c or P _w	177.1	177.1						
12	P = $\frac{P_w + P_s}{2}$ or $\frac{P_c + P_f}{2}$	186.6	186.6						
13	P _r = (P/P _{cr})	0.32	0.32						
14	T _r = (T/T _{cr})	1.73	1.73						
15	Z (Table XI)	0.981	0.981						

RECEIVED

MAY 14 1985

**O.C.D.
HOBBS OFFICE**

SQUARED PRESSURES
 (1000 PSIA)



FLOW RATE (MCF/day)