

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

Form C-122

cfr
File

RECEIVED

Type Test [x] Initial [] Annual [] Special					Test Date 1/15/88			
Company Yates Petroleum Corporation					Connection Yates Petroleum Corporation		MAY 04 '88	
Pool Und. Springer Basin					Formation Morrow		Unit O. C. D.	
Completion Date 12/1/82					Total Depth 8100.0'		Plug Back TD 8023.0'	
Elevation 3436.9'					Farm or Lease Name Long Arroyo OD Com		Well No. 2	
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 8100.0'	Perforations: From 7755.0' To 7772.0'		Unit Sec Twp Rge L 14 14S 27E		
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 7697.0'	Perforations: From 0.0' To 0.0'				
Type Well Single					Packer Set At 7697.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 140 @ 7685'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico
L 7697.0'	H 7697.0'	Gg .644	%CO2 .56	%N2 .51	%H2S 0.00	Prover 0.000"	Meter Run 2.000"	Taps Flange
FLOW DATA					TUBING DATA		CASING DATA	
NO	Prover Orifice Size X Size	Press. psig	Diff. hw	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F
SI	0.000 X 0.000	0	0.0	36	1660	0	0	0
1.	2.067 X 1.375	740	13.9	36	1519	62	0	0
2.	2.067 X 1.375	660	24.9	36	1462	62	0	0
3.	2.067 X 1.375	630	37.0	36	1426	62	0	0
4.	2.067 X 1.375	540	45.0	36	1400	62	0	0
5.	0.000 X 0.000	0	0.0	0	0	0	0	0
RATE OF FLOW CALCULATIONS								
NO	Coefficient (24 HOUR)	√hwPm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd	
1.	10.204	102.32	753.20	1.024	1.246	1.091	1453	
2.	10.204	129.47	673.20	1.024	1.246	1.080	1821	
3.	10.204	154.27	643.20	1.024	1.246	1.076	2161	
4.	10.204	157.78	553.20	1.024	1.246	1.064	2186	
5.	0.000	0.00	0.00	0.000	0.000	0.000	0	
NO	Pr	Temp. °R	Tr	Z	Gas Liquid Hydrocarbon Ratio 161.190 Mcf/bbl.			
1.	1.12	496	1.35	.840	A.P.I. Gravity of Liquid Hydrocarbons 52.300 Deg.			
2.	1.00	496	1.35	.857	Specific Gravity Separator Gas .644 xxxxxxxxxxxxxxx			
3.	.96	496	1.35	.864	Specific Gravity Flowing Fluid xxxxxx .663			
4.	.82	496	1.35	.883	Critical Pressure 672.0 PSIA 671.4 PSIA			
5.	0.00	0	0.00	0.000	Critical Temperature 368.2°R 374.4°R			
Pc 1673.2 Pc2 2799.6								
NO	Pt2	Pw	Pw2	Pc2-Pw2 (1)	$\frac{Pc2}{Pc2-Pw2} = \frac{4.0050}{(2)} \left[\frac{Pc2}{Pc2-Pw2} \right]^n = 2.8473$			
1.	2347.6	1547.1	2393.5	406.0				
2.	2176.2	1499.6	2248.7	550.9				
3.	2071.3	1474.4	2173.8	625.8				
4.	1997.1	1449.9	2102.3	697.3				
5.	0.0	0.0	0.0	0.0	AOF = $Q \left[\frac{Pc2}{Pc2-Pw2} \right]^n = 6224 \text{ Mcfd}$			
Absolute Open Flow 6224 Mcfd @ 15.025					Angle of Slope, θ 37		Slope, n .754	
Remarks:								

Approved By:	Conducted By: David Weaver	Calculated By: Andrea Carpenter	Checked By:
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

Adopted 9-1-65

DATE 5/2/88

COMPANY Yates Petroleum Corporation LEASE Long Arroyo OD Com WELL NO. 2

LOCATION: Unit L Section 14 Township 14S Range 27E

L 7697.0 H 7697.0 L/H 1.000 G .663 %CO₂ .56 %N₂ .51 %H₂S 0.00

d 1.995 Fr .017777 GH 5102.4 Pcr 671.4 Tcr 374.4

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.453	1.821	2.161	2.186	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	600.0	600.0	600.0	600.0	0.0
4 T=(Tw+Ts)/2	561.0	561.0	561.0	561.0	0.0
5 Z(Est.)	.789	.793	.795	.797	0.000
6 TZ	442.6	444.8	446.2	447.4	0.0
7 GH/TZ	11.528	11.471	11.435	11.405	0.000
8 e ^s (Table XIV)	1.541	1.537	1.535	1.534	0.000
9 1-e ^{-s} (Table XIV)	.351	.350	.349	.348	0.000
10 Pt	1532.2	1475.2	1439.2	1413.2	0.0
11 Pt ² /1000	2347.6	2176.2	2071.3	1997.1	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	7.869	7.908	7.932	7.953	0.000
14 FcQm	11.436	14.397	17.143	17.386	0.000
15 L/H(FcQm) ²	130.792	207.280	293.885	302.273	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	45.904	72.460	102.482	105.185	0.000
17 Pw ² =Pt ² +Fw	2393.5	2248.7	2173.8	2102.3	0.0
18 Ps ² =e ^s Pw ²	3687.9	3457.3	3337.7	3224.3	0.0
19 Ps	1920.4	1859.4	1826.9	1795.6	0.0
20 P=(Pt+Ps)/2	1726.3	1667.3	1633.1	1604.4	0.0
21 Pr=(P/Pcr)	2.57	2.48	2.43	2.39	0.00
22 Tr=(T/Tcr)	1.50	1.50	1.50	1.50	0.00
23 Z(Table XI)	.789	.793	.795	.797	0.000

Company	Yates Petroleum Corporation
Well	Long Arroyo OD Com No. 2
Location	L, 14-14S-27E
County	Chaves
Date	5/2/88

$P_c^2 - P_w^2$, THOUSANDS

