

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

Form C-122

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O. C. D.

30-005-61889

Type Test [x] Initial [] Annual [] Special				Test Date 8/8/84	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company	
Pool Pecos Slope <i>Abso</i>				Formation Abo Pool	
Completion Date 4/27/83		Total Depth 4300.0'		Plug Back TD 4226.0'	
Elevation 3682.0'		Farm or Lease Name Caudill "RZ" Com			
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4292.0'	Perforations: From 3883.0' To 4075.0'	
Well No. 4					
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3855.0'	Perforations: From 0.0' To 0.0'	
Unit Sec G 8		Twp 6S		Rge 26E	
Type Well Single				Packer Set At 3855.0'	
County Chaves					
Producing Thru Tubing		Resv. Temp. °F 98 @ 3855'		Mean Temp. °F 62.0	
Baro. Press. - Pa 13.2 psia.		State New Mexico			
L 3855.0'	H 3855.0'	Gg .652	%CO2 .02	%N2 6.31	%H2S 0.00
Prover 0.000"	Meter Run 2.000"	Taps Flange			

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow
NO	Proven 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	70	920	0	0	0	0 hrs.
1.	2.067 X 1.375	185	9.8	50	905	62	0	0	24 hrs.
2.	2.067 X 1.375	180	17.8	70	897	62	0	0	24 hrs.
3.	2.067 X 1.375	170	24.5	70	894	62	0	0	24 hrs.
4.	2.067 X 1.375	150	49.0	70	880	62	0	0	24 hrs.
5.	0.000 X 0.000	0	0.0	0	0	0	0	0	0 hrs.

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	44.07	198.20	1.010	1.238	1.017	572
2.	10.204	58.64	193.20	.991	1.238	1.014	744
3.	10.204	67.00	183.20	.991	1.238	1.013	850
4.	10.204	89.42	163.20	.991	1.238	1.012	1132
5.	0.000	0.00	0.00	0.000	0.000	0.000	0

NO	Pr	Temp. °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcf/bbl.
1.	.30	510	1.43	.967	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.29	530	1.49	.972	Specific Gravity Separator Gas	.652	xxxxxx
3.	.28	530	1.49	.974	Specific Gravity Flowing Fluid	xxxxxx	.652
4.	.25	530	1.49	.977	Critical Pressure	659.7 PSIA	659.7 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	355.5°R	355.5°R

Pc	933.2	Pc ²	870.9		
NO	Pt ²	Pw	Pw ²	Pc ² -Pw ² (1)	$\frac{Pc^2}{Pc^2-Pw^2} = \frac{15.4254}{(2)} \left[\frac{Pc^2}{Pc^2-Pw^2} \right]^n = \frac{8.4533}{}$
1.	843.1	920.5	847.2	23.6	
2.	828.5	914.0	835.5	35.4	
3.	823.0	912.2	832.2	38.7	ROF = Q $\left[\frac{Pc^2}{Pc^2-Pw^2} \right]^n = \frac{9572 \text{ Mcfd}}{}$
4.	797.8	902.3	814.1	56.8	
5.	0.0	0.0	0.0	0.0	

$$ROF = Q \left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 9572 \text{ Mcfd}$$

Absolute Open Flow 9572 Mcfd @ 15.025 Angle of Slope, 0 38 Slope, n .780
Remarks:

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

Adopted 9-1-65

DATE 11/6/84

COMPANY Yates Petroleum Corporation LEASE Caudill "R2" Com WELL NO. 4

LOCATION: Unit G Section 8 Township 6S Range 6E

L 3855.0 H 3855.0 L/H 1.000 G .652 %CO2 .02 %N2 6.31 %H2S 0.00

d 1.995 Fr .017777 GH 2513.5 Pcr 659.7 Tcr 355.5

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.572	.744	.850	1.132	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	558.0	558.0	558.0	558.0	0.0
4 T=(Tw+Ts)/2	540.0	540.0	540.0	540.0	0.0
5 Z(Est.)	.869	.869	.870	.871	0.000
6 TZ	469.0	469.5	469.7	470.5	0.0
7 GH/TZ	5.359	5.353	5.352	5.342	0.000
8 e ^s (Table XIV)	1.222	1.222	1.222	1.222	0.000
9 1-e ^{-s} (Table XIV)	.182	.182	.182	.182	0.000
10 Pt	918.2	910.2	907.2	893.2	0.0
11 Pt ² /1000	843.1	828.5	823.0	797.8	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.345	8.346	8.356	8.364	0.000
14 FcQm	4.773	6.213	7.101	9.471	0.000
15 L/H(FcQm) ²	22.780	38.606	50.422	89.694	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	4.144	7.022	9.161	16.283	0.000
17 Pw ² =Pt ² +Fw	847.2	835.5	832.2	814.1	0.0
18 Ps ² =e ^s Pw ²	1035.6	1021.2	1017.0	994.7	0.0
19 Ps	1017.7	1010.6	1008.4	997.3	0.0
20 P=(Pt+Ps)/2	967.9	960.4	957.8	945.3	0.0
21 Pr=(P/Pcr)	1.47	1.46	1.45	1.43	0.00
22 Tr=(T/Tcr)	1.52	1.52	1.52	1.52	0.00
23 Z(Table XI)	.869	.869	.870	.871	0.000