

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

Form O-122

JAN 11 1983

Type Test [X] Initial [] Annual [] Special				Test Date 11/05/82		O. C. D.	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company		ARTESIA, OFFICE	
Pool Pecos Slope - Abo Gas				Formation Abo		Unit	
Completion Date 03/27/82		Total Depth 4050.0'		Plug Back TD 3961.0'		Elevation 3577.0'	
Csg Size 4.500"		Wt. 9.500#		d 4.090"		Set At 3705.0'	
Tbg Size 2.875"		Wt. 6.500#		d 2.441"		Set At 3705.0'	
Perforations: From 3757.0' To 3772.0'		Perforations: From 0.0' To 0.0'		Farm or Lease Name Williamson "LC" Fed		Well No. 3	
Unit Sec A 4		Twp 8S		Rge 25E			
Type Well Single				Packer Set At 3712.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 103 @ 3700'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.	
L 3705.0'		H 3705.0'		Gg .659		%CO2 1.48	
				%N2 7.43		%H2S 0.00	
				Proven 0.000"		Meter Run 2.000"	
				Taps Flange			

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO	Proven Size	Orifice 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	72	1000	0	0	0	0 hrs.
1.	2.067	X .750	145	1.3	72	918	62	0	0	24 hrs.
2.	2.067	X .750	140	3.8	72	815	62	0	0	24 hrs.
3.	2.067	X .750	130	9.0	75	620	62	0	0	24 hrs.
4.	2.067	X .750	130	18.0	72	144	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.	2.709	14.34	158.20	.989	1.232	1.012	48
2.	2.709	24.13	153.20	.989	1.232	1.012	81
3.	2.709	35.90	143.20	.986	1.232	1.011	119
4.	2.709	50.77	143.20	.989	1.232	1.011	169
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.	.24	532	1.50	.977	A.P.I. Gravity of Liquid Hydrocarbons	0.000 Deg.
2.	.23	532	1.50	.977	Specific Gravity Separator Gas .659	xxxxxxxxxxxx
3.	.22	535	1.51	.979	Specific Gravity Flowing Fluid	.659
4.	.22	532	1.50	.979	Critical Pressure	666.0 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	355.0°R

Pc	1013.2	Pc ²	1026.6		
NO	Pt ²	Pw ²	Pw ²	Pc ² -Pw ²	(1) $\frac{Pc^2}{Pc^2-Pw^2} = \frac{1.0241}{}$ (2) $\left[\frac{Pc^2}{Pc^2-Pw^2}\right]^n = \frac{1.0165}{}$
1.	867.1	931.2	867.1	159.4	
2.	685.9	828.2	685.9	340.6	
3.	400.9	633.3	400.9	625.6	
4.	24.7	157.6	24.9	1001.7	
5.	0.0	0.0	0.0	0.0	

$ROF = Q \left[\frac{Pc^2}{Pc^2-Pw^2} \right]^n = \underline{172 \text{ Mcfd}}$

Absolute Open Flow 172 Mcfd @ 15.025 Angle of Slope, 0 35 Slope, n .687
Remarks:

Approved By:	Conducted By: David Weaver	Calculated By: Andie Alderson	Checked By:
--------------	-------------------------------	----------------------------------	-------------

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

Adopted 9-1-65

DATE 11/2/82
11/05/82

COMPANY Yates Petroleum Corporation LEASE Williamson "LC" Fed WELL NO. 3

LOCATION: Unit A Section 4 Township 8S Range 25E

L 3705.0 H 3705.0 L/H 1.000 G .659 %CO₂ 1.48 %N₂ 7.43 %H₂S 0.00

d 2.441 Fr .010495 GH 2441.6 Pcr 666.0 Tcr 355.0

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.048	.081	.119	.169	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	563.0	563.0	563.0	563.0	0.0
4 T=(Tw+Ts)/2	542.5	542.5	542.5	542.5	0.0
5 Z(Est.)	.871	.884	.910	.977	0.000
6 TZ	472.7	479.7	493.7	530.1	0.0
7 GH/TZ	5.165	5.090	4.945	4.606	0.000
8 e ^s (Table XIV)	1.214	1.210	1.204	1.189	0.000
9 1-e ^{-s} (Table XIV)	.176	.174	.169	.159	0.000
10 Pt	931.2	828.2	633.2	157.2	0.0
11 Pt ² /1000	867.1	685.9	400.9	24.7	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	4.961	5.034	5.184	5.563	0.000
14 FcQm	.238	.405	.619	.942	0.000
15 L/H(FcQm) ²	.056	.164	.383	.887	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.010	.029	.065	.141	0.000
17 Pw ² =Pt ² +Fw	867.1	685.9	401.0	24.9	0.0
18 Ps ² =e ^s Pw ²	1052.5	830.2	482.7	29.5	0.0
19 Ps	1025.9	911.2	694.8	171.9	0.0
20 P=(Pt+Ps)/2	978.6	869.7	664.0	164.5	0.0
21 Pr=(P/Pcr)	1.47	1.31	1.00	.25	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.871	.884	.910	.977	0.000

Company	Yates Petroleum Corporation
Well	Williamson "LC" Fed No. 3
Location	R. 4-8S-25E
County	Chaves
Date	11/05/82 11/7/82

Corr-102640

