

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

Form C-122

dsf
File

RECEIVED

Type Test [x] Initial [] Annual [] Special						Test Date 2/20/90		NOV 14 1991	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Company				O. C. D. ARTESIA OFFICE	
Pool Fusselman				Formation Diablo				Unit	
Completion Date 1/24/90		Total Depth 6650.0'		Plug Back TD 6588.0'		Elevation 3839.5'		Farm or Lease Name Pathfinder AFT St.	
Csg Size 5.500"	Wt. 14.000#	d 5.012"	Set At 6650.0'	Perforations: From 6386.0' To 6415.0'				Well No. 3	
Tbg Size 2.875"	Wt. 6.500#	d 2.441"	Set At 6360.0'	Perforations: From 0.0' To 0.0'				Unit Sec Twp Rge K 21 10S 27E	
Type Well Single						Packer Set At 6360.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 151 @ 6190'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico	
L 6360.0'	H 6360.0'	Gg .756	%CO2 2.39	%N2 1.99	%H2S 0.00	Prover 0.000"	Meter Run 2.000"	Taps Flange	

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow
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	44	2468	0	0	0	0 hrs.
1.	2.067 X .500	530	12.0	43	1731	62	0	0	24 hrs.
2.	2.067 X .500	530	13.7	41	1408	62	0	0	24 hrs.
3.	2.067 X .500	520	21.7	44	1224	62	0	0	24 hrs.
4.	2.067 X .500	520	30.0	45	700	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.	1.189	80.74	543.20	1.017	1.150	1.081	121
2.	1.189	86.27	543.20	1.019	1.150	1.082	130
3.	1.189	107.57	533.20	1.016	1.150	1.079	161
4.	1.189	126.48	533.20	1.015	1.150	1.078	189
5.	0.000	0.00	0.00	0.000	0.000	0.000	0

NO	Pr	Temp. °R	Tr	Z	Gas Liquid Hydrocarbon Ratio 15.800 Mcf/bbl.	
1.	.81	503	1.26	.856	A.P.I. Gravity of Liquid Hydrocarbons 34.000 Deg.	
2.	.81	501	1.26	.854	Specific Gravity Separator Gas .756 xxxxxxxxxxxxxxx	
3.	.79	504	1.27	.860	Specific Gravity Flowing Fluid xxxxxx .969	
4.	.79	505	1.27	.861	Critical Pressure 673.5 PSIA 666.1 PSIA	
5.	0.00	0	0.00	0.000	Critical Temperature 397.9°R 468.1°R	

Pc 2481.2 Pc² 6156.4			
NO	Pt²	Pw	Pw²
1.	3042.2	1744.2	3042.3
2.	2019.8	1421.2	2019.9
3.	1530.7	1237.3	1530.8
4.	508.7	713.4	508.9
5.	0.0	0.0	0.0

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.0829}{1.0609} \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0609$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 201 \text{ Mcfd}$$

Absolute Open Flow 201 Mcfd @ 15.025 Angle of Slope, θ 37 Slope, n .742

Remarks:

Approved By:	Conducted By: Paul Hanes	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 10/30/91

COMPANY Yates Petroleum Corporation LEASE Pathfinder AFT St. WELL NO. 3

LOCATION: Unit K Section 21 Township 10S Range 27E

L 6360.0 H 6360.0 L/H 1.000 G .969 %CO₂ 2.39 %N₂ 1.99 %H₂S 0.00

d 2.441 Fr .010495 GH 6161.3 Pcr 666.1 Tcr 468.1

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.121	.130	.161	.189	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	611.0	611.0	611.0	611.0	0.0
4 T=(Tw+Ts)/2	566.5	566.5	566.5	566.5	0.0
5 Z(Est.)	.550	.530	.540	.727	0.000
6 TZ	311.6	300.2	305.9	412.1	0.0
7 GH/TZ	19.774	20.527	20.141	14.951	0.000
8 e ^s (Table XIV)	2.099	2.159	2.128	1.752	0.000
9 1-e ^{-s} (Table XIV)	.524	.537	.530	.429	0.000
10 Pt	1744.2	1421.2	1237.2	713.2	0.0
11 Pt ² /1000	3042.2	2019.8	1530.7	508.7	0.0
12 Fr(Table XV)	.010495	.010495	.010495	.010495	0.000000
13 Fc=FrTZ	3.269	3.150	3.211	4.325	0.000
14 FcQm	.397	.410	.517	.818	0.000
15 L/H(FcQm) ²	.157	.168	.268	.669	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.082	.090	.142	.287	0.000
17 Pw ² =Pt ² +Fw	3042.3	2019.9	1530.8	508.9	0.0
18 Ps ² =e ^s Pw ²	6387.0	4361.5	3257.6	891.5	0.0
19 Ps	2527.3	2088.4	1804.9	944.2	0.0
20 P=(Pt+Ps)/2	2135.7	1754.8	1521.1	828.7	0.0
21 Pr=(P/Pcr)	3.21	2.63	2.28	1.24	0.00
22 Tr=(T/Tcr)	1.21	1.21	1.21	1.21	0.00
23 Z(Table XI)	.550	.530	.540	.727	0.000

Company	Yates Petroleum Corporation
Well	Pathfinder AFT St. No. 3
Location	K, 21-10S-27E
County	Chaves
Date	10/30/91

