

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

Form O-122

RECEIVED

Type Test [x] Initial [] Annual [] Special					Test Date 2/26/88		APR 22 '88	
Company Yates Petroleum Corporation					Connection Transwestern Pipeline Company		O.C.D.	
Pool Pecos Slope ACO					Formation Abo		Unit ARTESIAN OFFICE	
Completion Date 7/8/83		Total Depth 4210.0'		Plug Back TD 4131.0'		Elevation 3765.5'		Farm or Lease Name Thorpe MI Federal
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4210.0'	Perforations: From 3688.0' To 3857.0'		Well No. 10		
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3558.0'	Perforations: From 0.0' To 0.0'		Unit Sec Twp Rge D 14 7S 25E		
Type Well Single					Packer Set At 3558.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 92 @ 3555'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico
L 3558.0'	H 3558.0'	Gg .645	%CO2 .03	%N2 6.25	%H2S 0.00	Proven 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	50	872	0	0	0	0 hrs.
1.	2.067 X .750	120	30.8	50	522	62	0	0	24 hrs.
2.	2.067 X .750	120	34.8	50	481	62	0	0	24 hrs.
3.	2.067 X .750	120	40.1	50	464	62	0	0	24 hrs.
4.	2.067 X .750	120	47.0	50	350	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	64.05	133.20	1.010	1.245	1.011	220
2.	2.709	68.08	133.20	1.010	1.245	1.011	234
3.	2.709	73.08	133.20	1.010	1.245	1.011	252
4.	2.709	79.12	133.20	1.010	1.245	1.011	272
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.	.20	510	1.44	.979	A.P.I. Gravity of Liquid Hydrocarbons	0.000 Deg.
2.	.20	510	1.44	.979	Specific Gravity Separator Gas	.645
3.	.20	510	1.44	.979	Specific Gravity Flowing Fluid	.645
4.	.20	510	1.44	.979	Critical Pressure	660.1 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	353.3°R

Pc	885.2	Pc ²	783.6	Gas Liquid Hydrocarbon Ratio Dry Mcf/bbl.				
NO	Pt ²	Pw	Pw ²	Pc ² -Pw ²	(1)	Pc ²	=	1.2034
1.	286.4	535.8	287.0	496.5		Pc ²	=	1.1562
2.	244.2	494.9	244.9	538.7				
3.	227.7	478.0	228.5	555.1				
4.	131.9	364.5	132.9	650.7				
5.	0.0	0.0	0.0	0.0				

$$ROF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 315 \text{ Mcfd}$$

Absolute Open Flow 315 Mcfd @ 15.025 Angle of Slope, 0 38 Slope, n .784
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 4/21/88

COMPANY Yates Petroleum Corporation LEASE Thorpe MI Federal WELL NO. 10

LOCATION: Unit D Section 14 Township 7S Range 25E

L 3558.0 H 3558.0 L/H 1.000 G .645 %O2 .03 %N2 6.25 %H2S 0.00

d 1.995 Fr .017777 GH 2294.9 Pcr 660.1 Tcr 353.3

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.220	.234	.252	.272	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	552.0	552.0	552.0	552.0	0.0
4 T=(Tw+Ts)/2	537.0	537.0	537.0	537.0	0.0
5 Z(Est.)	.922	.928	.930	.947	0.000
6 TZ	494.9	498.1	499.4	508.4	0.0
7 GH/TZ	4.637	4.608	4.595	4.514	0.000
8 e ^s (Table XIV)	1.190	1.189	1.188	1.184	0.000
9 1-e ^{-s} (Table XIV)	.160	.159	.158	.156	0.000
10 Pt	535.2	494.2	477.2	363.2	0.0
11 Pt ² /1000	286.4	244.2	227.7	131.9	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.800	8.856	8.880	9.039	0.000
14 FcQm	1.940	2.075	2.234	2.462	0.000
15 L/H(FcQm) ²	3.764	4.308	4.990	6.060	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.601	.683	.790	.944	0.000
17 Pw ² =Pt ² +Fw	287.0	244.9	228.5	132.9	0.0
18 Ps ² =e ^s Pw ²	341.5	291.1	271.5	157.4	0.0
19 Ps	584.4	539.5	521.0	396.7	0.0
20 P=(Pt+Ps)/2	559.8	516.9	499.1	379.9	0.0
21 Pr=(P/Pcr)	.85	.78	.76	.58	0.00
22 Tr=(T/Tcr)	1.52	1.52	1.52	1.52	0.00
23 Z(Table XI)	.922	.928	.930	.947	0.000

Company	Yates Petroleum Corporation
Well	Thorpe MI Federal No. 10
Location	D, 14-7S-25E
County	Chaves
Date	4/21/88

