

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

Form C-122

RECEIVED

45F
File

Type Test [X] Initial [] Annual [] Special						Test Date 2/26/88		APR 22 '88	
Company Yates Petroleum Corporation						Connection Transwestern Pipeline Company		O. C. O.	
Pool Pecos Slope <i>A00</i>						Formation Abo		Unit ARTESIA OFFICE	
Completion Date 12/8/82		Total Depth 4100.0'		Plug Back TD 3993.0'		Elevation 3579.5'		Farm or Lease Name Federal HY	
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4083.0'	Perforations: From 3747.0' To 3887.0'		Well No. 5			
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3682.0'	Perforations: From 0.0' To 0.0'		Unit Sec F 34		Twp 7S	Rge 25E
Type Well Single						Packer Set At 33682.0'		County Chaves	
Producing Thru Tubing		Resu. Temp. °F 104 @ 3682'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia		State New Mexico	
L 3682.0'	H 3682.0'	Gg .651	%CO2 .04	%N2 5.98	%H2S 0.00	Prover 0.000"	Meter Run 2.000"	Taps Flange	

FLOW DATA										
NO	Prover Orifice		Press. psig	Diff. hw	Temp. °F	TUBING DATA		CASING DATA		Duration of Flow
	Size	X Size				Press. psig	Temp. °F	Press. psig	Temp. °F	
SI	0.000	X 0.000	0	0.0	50	861	0	0	0	0 hrs.
1.	2.067	X 1.125	110	25.5	50	638	62	0	0	24 hrs.
2.	2.067	X 1.125	110	29.4	50	587	62	0	0	24 hrs.
3.	2.067	X 1.125	105	37.6	50	568	62	0	0	24 hrs.
4.	2.067	X 1.125	105	45.0	50	525	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)	hw/Pm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	6.397	56.05	123.20	1.010	1.239	1.010	453
2.	6.397	60.18	123.20	1.010	1.239	1.010	487
3.	6.397	66.67	118.20	1.010	1.239	1.009	539
4.	6.397	72.93	118.20	1.010	1.239	1.009	589
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.	.19	510	1.43	.980	A.P.I. Gravity of Liquid Hydrocarbons	0.000 Deg.
2.	.19	510	1.43	.980	Specific Gravity Separator Gas	.651
3.	.18	510	1.43	.981	Specific Gravity Flowing Fluid	xxxxxx
4.	.18	510	1.43	.981	Critical Pressure	660.4 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	356.0°R

Pc	874.2	Pc2	764.2
NO	Pt2	Pw	Pw2
1.	424.1	653.2	426.7
2.	360.2	602.7	363.3
3.	337.8	584.4	341.5
4.	289.7	542.4	294.2
5.	0.0	0.0	0.0

$$\frac{Pc2}{Pc2-Pw2} = \frac{1.6209}{(2)} \left[\frac{Pc2}{Pc2-Pw2} \right]^n = 1.4644$$

$$AOF = 0 \left[\frac{Pc2}{Pc2-Pw2} \right]^n = 863 \text{ Mcfd}$$

Absolute Open Flow	863 Mcfd @ 15.025	Angle of Slope, 0	38	Slope, n .790
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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 Federal HY WELL NO. 5

LOCATION: Unit F Section 4 Township 7S Range 25E

L 3682.0 H 3682.0 L/H 1.000 G .651 %O₂ .04 %N₂ 5.98 %H₂S 0.00

d 1.995 Fr .017777 GH 2397.0 Pcr 660.4 Tcr 356.0

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.453	.487	.539	.589	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(B.H.°R)	564.0	564.0	564.0	564.0	0.0
4 T=(Tw+Ts)/2	543.0	543.0	543.0	543.0	0.0
5 Z(Est.)	.906	.913	.916	.922	0.000
6 TZ	492.0	495.9	497.3	500.5	0.0
7 GH/TZ	4.872	4.834	4.820	4.789	0.000
8 e ^s (Table XIV)	1.200	1.199	1.198	1.197	0.000
9 1-e ^{-s} (Table XIV)	.167	.166	.165	.164	0.000
10 Pt	651.2	600.2	581.2	538.2	0.0
11 Pt ² /1000	424.1	360.2	337.8	289.7	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.747	8.815	8.843	8.900	0.000
14 FcQm	3.964	4.289	4.764	5.246	0.000
15 L/H(FcQm) ²	15.711	18.396	22.695	27.515	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	2.623	3.050	3.752	4.522	0.000
17 Pw ² =Pt ² +Fw	426.7	363.3	341.5	294.2	0.0
18 Ps ² =e ^s Pw ²	512.2	435.5	409.2	352.0	0.0
19 Ps	715.7	659.9	639.7	593.3	0.0
20 P=(Pt+Ps)/2	683.4	630.1	610.4	565.8	0.0
21 Pr=(P/Pcr)	1.03	.95	.92	.86	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.906	.913	.916	.922	0.000

Company	Yates Petroleum Corporation
Well	Federal HY No. 5
Location	F, 4-7S-25E
County	Chaves
Date	4/21/88

$P_c^2 - P_w^2$, THOUSANDS

