

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

Form O-122

c/sf
File

Type Test [x] Initial [] Annual [] Special						Test Date 3/4/88			
Company Yates Petroleum Corporation						Connection Transwestern Pipeline Company			
Pool Pecos Slope ABO						Formation Abo		Unit	
Completion Date 2/28/83		Total Depth 4122.0'		Plug Back TD 4071.0'		Elevation 4008.0'		Farm or Lease Name Langley RJ Federal	
Csg Size 4.500"	Wt. 9.500#	d 4.090"	Set At 4122.0'	Perforations: From 3723.0' To 3890.0'		Well No. 4			
Tbg Size 2.375"	Wt. 4.700#	d 1.995"	Set At 3676.0'	Perforations: From 0.0' To 0.0'		Unit Sec Twp Rge G 9 6S 25E			
Type Well Single						Packer Set At 3676.0'		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 104 @ 3676'		Mean Temp. °F 62.0		Baro. Press. - Pa 13.2 psia.		State New Mexico	
L 3676.0'	H 3676.0'	Gg .647	%CO2 .06	%N2 5.20	%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	43	1006	0	0	0	0 hrs.
1.	2.067 X 1.000	140	10.9	43	623	62	0	0	24 hrs.
2.	2.067 X 1.000	140	13.7	43	491	62	0	0	24 hrs.
3.	2.067 X 1.000	130	18.3	43	429	62	0	0	24 hrs.
4.	2.067 X 1.000	130	23.0	43	215	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)	1/hwPm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg	Super Compress. Fact. Fpv	Rate of Flow Q, Mcfd
1.	4.947	40.86	153.20	1.017	1.243	1.014	259
2.	4.947	45.81	153.20	1.017	1.243	1.014	290
3.	4.947	51.19	143.20	1.017	1.243	1.013	324
4.	4.947	57.39	143.20	1.017	1.243	1.013	363
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	Mcfd/bbl.
1.	.23	503	1.41	.973	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	.23	503	1.41	.973	Specific Gravity Separator Gas	.647	xxxxxxxxxxxxxx
3.	.22	503	1.41	.975	Specific Gravity Flowing Fluid	xxxxxx	.647
4.	.22	503	1.41	.975	Critical Pressure	661.9 PSIA	661.9 PSIA
5.	0.00	0	0.00	0.000	Critical Temperature	356.9°R	356.9°R

Pc 1019.2		Pc2 1038.8	
NO	Pt2	Pw	Pw2
1.	404.8	636.9	405.6
2.	254.2	505.3	255.3
3.	195.5	443.8	196.9
4.	52.1	232.1	53.9
5.	0.0	0.0	0.0

$\frac{Pc2}{Pc2-Pw2} = \frac{1.0581}{(2)} \left[\frac{Pc2}{Pc2-Pw2} \right]^n = \frac{1.0444}{}$	
$AOF = Q \left[\frac{Pc2}{Pc2-Pw2} \right]^n = 380 \text{ Mcfd}$	

Absolute Open Flow	380 Mcfd @ 15.025	Angle of Slope, θ	38	Slope, n	.769
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 4/26/88

COMPANY Yates Petroleum Corporation LEASE Langley RJ Federal WELL NO. 4

LOCATION: Unit G Section 9 Township 6S Range 25E

L 3676.0 H 3676.0 L/H 1.000 G .647 %O2 .06 %N2 5.20 %H2S 0.00

d 1.995 Fr .017777 GH 2378.4 Pcr 661.9 Tcr 356.9

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.259	.290	.324	.363	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.)	.908	.926	.935	.967	0.000
6 TZ	492.9	503.1	507.9	525.3	0.0
7 GH/TZ	4.825	4.728	4.683	4.528	0.000
8 e ^s (Table XIV)	1.198	1.194	1.192	1.185	0.000
9 1-e ^{-s} (Table XIV)	.165	.162	.161	.156	0.000
10 Pt	636.2	504.2	442.2	228.2	0.0
11 Pt ² /1000	404.8	254.2	195.5	52.1	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.766	8.943	9.029	9.338	0.000
14 FcQm	2.271	2.597	2.927	3.394	0.000
15 L/H(FcQm) ²	5.157	6.746	8.570	11.520	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	.853	1.096	1.380	1.799	0.000
17 Pw ² =Pt ² +Fw	405.6	255.3	196.9	53.9	0.0
18 Ps ² =e ^s Pw ²	486.0	304.8	234.7	63.8	0.0
19 Ps	697.1	552.1	484.5	252.7	0.0
20 P=(Pt+Ps)/2	666.7	528.2	463.3	240.4	0.0
21 Pr=(P/Pcr)	1.01	.80	.70	.36	0.00
22 Tr=(T/Tcr)	1.52	1.52	1.52	1.52	0.00
23 Z(Table XI)	.908	.926	.935	.967	0.000

Company	Yates Petroleum Corporation
Well	Langley RJ Federal No. 4
Location	G, 9-6S-25E
County	Chaves
Date	4/26/88

