

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

Form C-122

CSF
File

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 01/25/1993			
Company Yates Petroleum Corp				Connection Navajo					
Pool Abo				Formation Pecos Slope				Unit	
Completion Date 01/05/93		Total Depth 4250		Plug Back TD 4206		Elevation 3924		Farm or Lease Name Powers OL Federal	
Csg Size 4.500	Wt. 10.500	d 4.052	Set At 4250	Perforations From 3806 To 4029		Well No. 8			
Tbg Size 2.375	Wt. 4.700	d 1.995	Set At 3749	Perforations From 3806 To 4029		Unit J	Sec. 21	Twp. 6S	Rge. 25E
Type Well Single						Packer Set At 3749		County Chaves	
Producing Thru Tubing		Resv. Temp °F 105 @ 4200		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 3749	H 3749	Gg 0.644	%CO ₂ 0.000	%N ₂ 5.131	%H ₂ S 0.001	Prover 0.000	Meter Run 2.000	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp °F	Press. p.s.i.g.	Temp °F	Press. p.s.i.g.		Temp °F
Sl.	0.000	x	0.000	0	0.0	0	175	0			0
1.	2.067	x	1.000	160	4.0	30	170	62			24
2.	2.067	x	1.000	160	9.0	35	167	62			24
3.	2.067	x	1.000	163	15.3	37	163	62			24
4.	2.067	x	1.000	160	22.0	32	160	62			24
5.		x									

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{hwP_m}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	4.946	26.3	173.2	1.0302	1.246	1.018	170
2.	4.946	39.5	173.2	1.0250	1.246	1.018	254
3.	4.946	51.8	176.0	1.0229	1.246	1.018	333
4.	4.946	61.7	173.2	1.0281	1.246	1.018	398
5.							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	0	Mcf/bbl.
1.	0.26	490	1.37	0.964	A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
2.	0.26	495	1.39	0.966	Specific Gravity Separator Gas	0.644	XXXXXXXXXX
3.	0.27	497	1.39	0.965	Specific Gravity Flowing Fluid	XXXXXXXXXX	0.644
4.	0.26	492	1.38	0.965	Critical Pressure	662	P.S.I.A. 662 P.S.I.A.
5.					Critical Temperature	356	°R 356 °R

Pc	188.2	Pc'	35.4
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NO.	Pt'	Pw	Pw'	Pc' - Pw'	(1) $\frac{Pc'}{Pc' - Pw'}$	= 12.490	(2) $\left[\frac{Pc'}{Pc' - Pw'} \right]^n$	= 12.087
1.	33.6	184.3	34.0	1.5				
2.	32.5	182.7	33.4	2.1				
3.	31.0	180.5	32.6	2.8				
4.	30.0	179.5	32.2	3.2				
5.								

Absolute Open Flow				4020	Mcf/d @ 15.025	Angle of Slope	0 45	Slope, n	0.987
Remarks:									

Approved By Commission:	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

DATE 01/25/1993

COMPANY Yates Petroleum Corp LEASE Powers OL Federal WELL NO. 8

LOCATION: Unit J Section 21 Township 6S Range 25E

L 3749 H 3749 L/H 1.000 G 0.644 %CO₂ 0.000 %N₂ 5.131 %H₂S 0.001

d 1.995 Fr 0.017777 GH 2414.4 P_{cr} 661.9 T_{cr} 356.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.170	0.254	0.333	0.398	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	565	565	565	565	
4 T = (Tw+Ts) / 2	543.2	543.2	543.2	543.2	
5 Z (Est.)	0.972	0.973	0.973	0.973	
6 TZ	528.1	528.3	528.5	528.7	
7 GH / TZ	4.572	4.570	4.568	4.567	
8 e ^s (Table XIV)	1.187	1.187	1.187	1.187	
9 1-e ^s (Table XIV)	0.158	0.158	0.157	0.157	
10 Pt	183.2	180.2	176.2	173.2	
11 Pt ² / 1000	33.6	32.5	31.0	30.0	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	9.388	9.391	9.395	9.398	
14 FcQm	1.60	2.38	3.12	3.74	
15 L / H(FcQm) ²	2.6	5.7	9.8	14.0	
16 Fw = L / H(FcQm) ² (1-e ^s)	0.40	0.89	1.54	2.20	
17 Pw ² = Pt ² +Fw	34.0	33.4	32.6	32.2	
18 Ps ² = e ^s Pw ²	40.3	39.6	38.7	38.2	
19 Ps	200.8	199.0	196.7	195.5	
20 P = (Pt+Ps) / 2	192.0	189.6	186.4	184.3	
21 Pr = (P / Pcr)	0.29	0.29	0.28	0.28	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.972	0.973	0.973	0.973	

Company
Well
Location

Yates Petroleum Corp
Powers OL Federal #8
J 21-6S-25E

County
Date

Chaves
01-25-1993

Q, Mcfd

