

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

Form C-122

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 03/29/93			
Company Yates Petroleum Corporation				Connection Yates Petroleum Corporation					
Pool Permo Penn				Formation Eagle Creek				Unit	
Completion Date 03/29/93		Total Depth 8150		Plug Back TD 7545		Elevation 3530		Farm or Lease Name Federal CB Com	
Csg. Size 4.500	Wt. 10.500	d 4.052	Set At 8190	Perforations: From 6439 To 6534				Well No. 3	
Tbg. Size 2.375	Wt. 4.700	d 1.995	Set At 6372	Perforations: From 6439 To 6534				Unit Sec. Twp. Rge. N 15 17S 25E	
Type Well Single				Packer Set At 6372				County Eddy	
Producing Thru Tubing		Resv. Temp. °F 126 @ 6487		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 6372	H 6372	Gg 0.621	%CO ₂ 0.340	%N ₂ 0.400	%H ₂ S 0.000	Prover 0.000	Meter Run 2.000	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration	
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	of Flow
Sl.	0.000	X	0.000	0	0.0	0	950	0			0
1.	2.067	X	0.625	300	10.0	64	850	62			24
2.	2.067	X	0.625	280	27.1	60	667	62			24
3.	2.067	X	0.625	300	46.0	65	483	62			24
4.	2.067	X	0.625	300	59.0	67	300	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.	1.866	56.0	313.2	0.9962	1.269	1.028	136
2.	1.866	89.2	293.7	1.0000	1.269	1.027	217
3.	1.866	120.0	313.2	0.9952	1.269	1.027	291
4.	1.866	135.9	313.2	0.9933	1.269	1.027	328
5.							

NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
					0	
					A.P.I. Gravity of Liquid Hydrocarbons	0.000 Deg.
1.	0.47	524	1.45	0.947	Specific Gravity Separator Gas	0.621 xxxxxxxxxxxx
2.	0.44	520	1.44	0.949	Specific Gravity Flowing Fluid	xxxxxxxxxxxxx 0.621
3.	0.47	525	1.45	0.947	Critical Pressure	672 P.S.I.A. 672 P.S.I.A.
4.	0.47	527	1.46	0.948	Critical Temperature	361 °R 361 °R
5.						

Pc	Pc ²	Pw	Pw ²	Pc ² - Pw ²	(1) $\frac{Pc^2}{Pc^2 - Pw^2} =$	(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n =$
	963.2		927.8		1.365	1.198
1.	745.1	863.4	745.5	182.3		
2.	462.7	680.9	463.6	464.1		
3.	246.2	498.0	248.0	679.8		
4.	98.1	316.9	100.4	827.3		
5.						

Absolute Open Flow		348	Mcf/d @ 15.025	Angle of Slope θ	30	Slope n	0.582
Remarks:							
Approved By Commission		Conducted By Ed Perry		Calculated By Andrea Carpenter		Checked By:	

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 03/29/93

COMPANY Yates Petroleum Corporation LEASE Federal CB Com WELL NO. 3

LOCATION: Unit N Section 15 Township 17S Range 25E

L 6372 H 6372 L / H 1.000 G 0.621 %CO₂ 0.340 %N₂ 0.400 %H₂S 0.000
d 1.995 Fr 0.017777 GH 3957.0 Pcr 672.1 Tcr 361.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.136	0.217	0.291	0.328	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	586	586	586	586	
4 T = (Tw+Ts) / 2	553.7	553.7	553.7	553.7	
5 Z (Est.)	0.878	0.902	0.927	0.953	
6 TZ	486.0	499.2	513.2	527.7	
7 GH / TZ	8.142	7.927	7.711	7.499	
8 e ^s (Table XIV)	1.357	1.346	1.335	1.325	
9 1-e ^{-s} (Table XIV)	0.263	0.257	0.251	0.245	
10 Pt	863.2	680.2	496.2	313.2	
11 Pt ² / 1000	745.1	462.7	246.2	98.1	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.640	8.873	9.122	9.380	
14 FcQm	1.17	1.92	2.65	3.08	
15 L / H(FcQm) ²	1.4	3.7	7.0	9.5	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	0.36	0.95	1.77	2.33	
17 Pw ² = Pt ² +Fw	745.5	463.6	248.0	100.4	
18 Ps ² = e ^s Pw ²	1011.4	624.1	331.1	133.0	
19 Ps	1005.7	790.0	575.4	364.7	
20 P = (Pt+Ps) / 2	934.5	735.1	535.8	339.0	
21 Pr = (P / Pcr)	1.39	1.09	0.80	0.50	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.878	0.902	0.927	0.953	

