

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

Form C-122

File

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 03/29/93			
Company Yates Petroleum Corporation				Connection Yates Petroleum Corporation			
Pool Permo Penn				Formation Eagle Creek			
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 N	Sec. 15	Twp. 17S
					Rge 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 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	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 F _t	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	0	Mcf/bbl.
					A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg.
1	0.47	524	1.45	0.947	Specific Gravity Separator Gas	0.621	xxxxxxxxxx
2	0.44	520	1.44	0.949	Specific Gravity Flowing Fluid	xxxxxxxxxx	0.621
3	0.47	525	1.45	0.947	Critical Pressure	672	P.S.I.A. 672
4	0.47	527	1.46	0.948	Critical Temperature	361	°R 361
5							

Pc	963.2	Pc'	927.8
NO.	P _r ²	P _w	P _w ²
1	745.1	863.4	745.5
2	462.7	680.9	463.6
3	246.2	498.0	248.0
4	98.1	316.9	100.4
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.365$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 348$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.198$

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	

Company
Well
Location

Yates Petroleum Corporation
Federal CB Com #3
N 15-17S-25E

County
Date

Eddy
03-29-93

Q, Mcfd

