

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

Form C-122

*clst
File*

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/01/1988	
Company Yates Petroleum Corp				Connection Yates Petroleum Corp			
Pool Ordovician				Formation Four Ranch			
Completion Date 11/15/1988		Total Depth 6232		Plug Back TD 6190		Elevation 3813	
Farm or Lease Name Ibis UX State Com				Well No. 3			
Csg Size 5.500	Wt 15.500	d 4.950	Set At 6232	Perforations: From 5910 To 5972		Unit Sec Twp Rge G 25 9S 26E	
Tbg Size 2.875	Wt 6.500	d 2.441	Set At 5833	Perforations: From 5910 To 5972		Unit Sec Twp Rge G 25 9S 26E	
Type Well Single				Packer Set At 5841		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 140 @ 5810		Mean Temp. °F 62		Baro. Press. - Pa 24.0	
State New Mexico				State New Mexico			
L 5833	H 5833	Gg 0.645	%CO ₂ 0.690	%N ₂ 3.530	%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	650	0			0
1	2.067	x	1.375	535	27.0	45	595	62			24
2	2.067	x	1.375	535	42.0	50	575	62			24
3	2.067	x	1.375	500	54.2	47	555	62			24
4	2.067	x	1.375	535	75.0	48	535	62			24
5		x									

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{hwPm}$	Pressure Pm	Flow Temp Factor Ft	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	10.200	122.9	559.0	1.0148	1.245	1.058	1674
2	10.200	153.2	559.0	1.0098	1.245	1.055	2074
3	10.200	168.4	523.6	1.0127	1.245	1.053	2281
4	10.200	204.8	559.0	1.0117	1.245	1.056	2779
5							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	0	Mcft/bbl
					A.P.I. Gravity of Liquid Hydrocarbons	0.000	Deg
1	0.84	505	1.40	0.894	Specific Gravity Separator Gas	0.645	xxxxxxxxxx
2	0.84	510	1.42	0.898	Specific Gravity Flowing Fluid	xxxxxxxxxx	0.645
3	0.78	507	1.41	0.902	Critical Pressure	668	P.S.I.A
4	0.84	508	1.41	0.896	Critical Temperature	360	°R
5							

Pc	674.0	Pc²	454.3
NO.	Pt²	Pw	Pw²
1	383.2	634.6	402.7
2	358.8	623.5	388.8
3	335.2	609.6	371.6
4	312.5	605.5	366.6
5			

(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 6.939$		(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 6.410$	
AOF = Q $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 13292$			

Absolute Open Flow	13292	Mcfd @ 15.025	Angle of Slope	0 44	Slope, n	0.959
Remarks						
Approved By Commission:		Conducted By: Don Mayberry		Calculated By: Andrea Carpenter		Checked By:

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

DATE 12/01/1988

COMPANY Yates Petroleum Corp LEASE Ibis UX State Com WELL NO. 3

LOCATION: Unit G Section 25 Township 9S Range 26E

L 5833 H 5833 L/H 1.000 G 0.645 %CO₂ 0.690 %N₂ 3.530 %H₂S 0.000

d 2.441 Fr 0.010495 GH 3762.3 Pcr 667.5 Tcr 359.8

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.674	2.074	2.281	2.779	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	600	600	600	600	
4 T = (Tw+Ts) / 2	560.7	560.7	560.7	560.7	
5 Z (Est.)	0.914	0.916	0.918	0.920	
6 TZ	512.5	513.6	514.8	515.7	
7 GH / TZ	7.341	7.325	7.308	7.296	
8 e ^s (Table XIV)	1.317	1.316	1.315	1.315	
9 1-e ^{-s} (Table XIV)	0.241	0.240	0.240	0.239	
10 Pt	619.0	599.0	579.0	559.0	
11 Pt ² / 1000	383.2	358.8	335.2	312.5	
12 Fr (Table XV)	0.010495	0.010495	0.010495	0.010495	
13 Fc = FrTZ	5.379	5.390	5.403	5.412	
14 FcQm	9.01	11.18	12.32	15.04	
15 L / H(FcQm) ²	81.1	125.0	151.8	226.2	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	19.52	30.01	36.39	54.13	
17 Pw ² = Pt ² +Fw	402.7	388.8	371.6	366.6	
18 Ps ² = e ^s Pw ²	530.3	511.7	488.8	482.0	
19 Ps	728.2	715.4	699.1	694.3	
20 P = (Pt+Ps) / 2	673.6	657.2	639.1	626.6	
21 Pr = (P / Pcr)	1.01	0.98	0.96	0.94	
22 Tr = (T / Tcr)	1.56	1.56	1.56	1.56	
23 Z (Table XI)	0.914	0.916	0.918	0.920	

