

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

Form C-122

*clst
File*

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 01/01/1992			
Company Yates Petroleum Corp				Connection Transwestern Pipeline					
Pool Abo				Formation Pecos Slope				Unit	
Completion Date 07/23/1990		Total Depth 4100		Plug Back TD 4050		Elevation 3738		Farm or Lease Name Hewitt IM Federal	
Csg Size 4.500	Wt 9.500	d 4.090	Set At 4100	Perforations From 3694 To 3894		Well No. 3			
Tbg Size 2.375	Wt 4.700	d 1.995	Set At 3861	Perforations From 3694 To 3894		Unit L	Sec. 21	Twp. 6S	Rge. 25E
Type Well Single				Packer Set At 3861		County Chaves			
Producing Thru Tubing		Resv. Temp. °F 101 @ 3850		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 3861	H 3861	Gg 0.647	%CO ₂ 0.015	%N ₂ 4.715	%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	of Flow
SI	0.000	x	0.000	0	0.0	0	880	0			0
1	2.067	x	1.375	330	1.0	58	750	62			24
2	2.067	x	1.375	330	3.0	55	610	62			24
3	2.067	x	1.375	330	4.0	45	470	62			24
4	2.067	x	1.375	330	6.0	44	330	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	10.200	18.5	343.2	1.0019	1.244	1.031	243
2	10.200	32.1	343.2	1.0048	1.244	1.032	422
3	10.200	37.1	343.2	1.0148	1.244	1.034	493
4	10.200	45.4	343.2	1.0158	1.244	1.034	605
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	0.52	518	1.45	0.941	Specific Gravity Separator Gas	0.647	XXXXXXXXXX
2	0.52	515	1.44	0.939	Specific Gravity Flowing Fluid	XXXXXXXXXX	0.647
3	0.52	505	1.41	0.935	Critical Pressure	663	P.S.I.A. 663
4	0.52	504	1.41	0.935	Critical Temperature	358	°R 358
5							

P _c 893.2	P _c 797.8	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.960$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.715$	
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	
1	582.5	763.7	583.2	214.6	
2	388.4	625.1	390.7	407.1	
3	233.5	486.6	236.8	561.0	
4	117.8	350.5	122.9	675.0	
5					

Absolute Open Flow		724	Mcfd @ 15.025	Angle of Slope θ	39	Slope, n	0.802
Remarks:							

Approved By Commission:	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

DATE 01/01/1992

COMPANY Yates Petroleum Corp LEASE Hewitt IM Federal WELL NO. 3

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

L 3861 H 3861 L / H 1.000 G 0.647 %CO₂ 0.015 %N₂ 4.715 %H₂S 0.000

d 1.995 Fr 0.017777 GH 2496.5 Pcr 662.5 Tcr 358.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.243	0.422	0.493	0.605	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	561	561	561	561	
4 T = (Tw+Ts) / 2	541.2	541.2	541.2	541.2	
5 Z (Est.)	0.886	0.905	0.926	0.946	
6 TZ	479.4	490.0	500.9	512.1	
7 GH / TZ	5.207	5.095	4.984	4.875	
8 e ^s (Table XIV)	1.216	1.211	1.205	1.201	
9 1-e ^s (Table XIV)	0.177	0.174	0.170	0.167	
10 Pt	763.2	623.2	483.2	343.2	
11 Pt ² / 1000	582.5	388.4	233.5	117.8	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.523	8.710	8.905	9.104	
14 FcQm	2.07	3.68	4.39	5.51	
15 L / H(FcQm) ²	4.3	13.5	19.3	30.3	
16 Fw = L / H(FcQm) ² (1-e ^s)	0.76	2.35	3.29	5.06	
17 Pw ² = Pt ² +Fw	583.2	390.7	236.8	122.9	
18 Ps ² = e ^s Pw ²	709.0	473.0	285.4	147.5	
19 Ps	842.0	687.7	534.3	384.0	
20 P = (Pt+Ps) / 2	802.6	655.5	508.7	363.6	
21 Pr = (P / Pcr)	1.21	0.99	0.77	0.55	
22 Tr = (T / Tcr)	1.51	1.51	1.51	1.51	
23 Z (Table XI)	0.886	0.905	0.926	0.946	

Company-
Well
Location

Yates Petroleum Corp
Hewitt (M Federal) #3
L 21-6S-25E

County
Date

Chaves
01-01-1992

