

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

Form C-122

clsf
File

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 12/14/1994	
Company Yates Petroleum Corp		Connection Transwestern Pipeline Co	
Pool Abo		Unit Pecos Slope	
Completion Date 10/25/1994	Total Depth 4200	Plug Back TD 4155	Elevation 3759
Farm or Lease Name Thorpe MI Federal			
Csg Size 4 500	Wt 10.500	d 4.052	Set At 4200
Perforations From 3616 To 4029		Well No. 15	
Tbg Size 2 375	Wt 4.700	d 1.995	Set At 3570
Perforations From 3616 To 4029		Unit Sec Twp Rge C 22 7S 25E	
Type Well Single		Packer Set At 3581	County Chaves
Producing Trm Tubing		Resv Temp °F 102	Mean Temp °F 62
Baro Press - Pa 24 0		State New Mexico	
H 3570	Gg 3570	%CO ₂ 0.657	%N ₂ 0.008
%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	
SI	0.000	x	0.000	0	0.0	0	830	0		0
1	2.067	x	1.500	420	9.0	43	750	62		24
2	2.067	x	1.500	420	29.0	41	640	62		24
3	2.067	x	1.500	387	47.0	44	530	62		24
4	2.067	x	1.500	420	73.0	45	420	62		24
5		x								

RATE OF FLOW CALCULATIONS							
NO	Coefficient (24 Hour)	hwFm	Pressure Pm	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress Factor Fpv	Rate of Flow Q, Mcfd
1	12.760	63.2	444.0	1.0168	1.234	1.045	1058
2	12.760	113.5	444.0	1.0188	1.234	1.046	1904
3	12.760	139.1	411.5	1.0158	1.234	1.041	2318
4	12.760	180.0	444.0	1.0148	1.234	1.044	3005
5							

NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl
1	0.67	503	1.41	0.915	0	
2	0.67	501	1.40	0.914	0.000	Deg
3	0.62	504	1.41	0.922	0.657	XXXXXXXXXX
4	0.67	505	1.41	0.917	XXXXXXXXXX	0.657
5						
	Pc 854.0	Pc ² 729.3				
					API Gravity of Liquid Hydrocarbons	
					Specific Gravity Separator Gas	
					Specific Gravity Flowing Fluid	
					Critical Pressure	660 P.S.I.A.
					Critical Temperature	357 °R

NO	Pt'	Pw	Pw'	Pc ² - Pw'	(1) $\frac{Pc^2}{Pc^2 - Pw'}$	(2) $\left[\frac{Pc^2}{Pc^2 - Pw'} \right]^n$
1	599.1	782.7	612.7	116.6	2.994	2.452
2	440.9	696.9	485.7	243.6		
3	306.9	611.9	374.4	354.9		
4	197.1	558.8	312.2	417.1		
5						

Absolute Open Flow	4669	Mcf/d @ 15.025	Angle of Slope (°)	39	Slope n	0.818
--------------------	------	----------------	--------------------	----	---------	-------

Remarks

Approved By Commission: Conducted By: David Weaver Calculated By: Andrea Carpenter Checked By:

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

DATE 12/14/1994

COMPANY Yates Petroleum Corp LEASE Thorpe MI Federal WELL NO. 15

LOCATION: Unit C Section 22 Township 7S Range 25E

L 3570 H 3570 L/H 1.000 G 0.657 %CO₂ 0.008 %N₂ 6.175 %H₂S 0.000

d 1.995 Fr 0.017777 GH 2344.1 Pcr 659.7 Tcr 357.4

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.058	1.904	2.318	3.005	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	562	562	562	562	
4 T = (Tw+Ts) / 2	541.7	541.7	541.7	541.7	
5 Z (Est.)	0.885	0.898	0.912	0.924	
6 TZ	479.4	486.6	494.0	500.3	
7 GH / TZ	4.889	4.817	4.745	4.685	
8 e ^s (Table XIV)	1.201	1.198	1.195	1.192	
9 1-e ^{-s} (Table XIV)	0.167	0.165	0.163	0.161	
10 Pt	774.0	664.0	554.0	444.0	
11 Pt ² / 1000	599.1	440.9	306.9	197.1	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.523	8.651	8.782	8.894	
14 FcQm	9.02	16.47	20.35	26.72	
15 L / H(FcQm) ²	81.3	271.3	414.3	714.2	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	13.62	44.83	67.53	115.08	
17 Pw ² = Pt ² +Fw	612.7	485.7	374.4	312.2	
18 Ps ² = e ^s Pw ²	736.0	581.9	447.4	372.2	
19 Ps	857.9	762.8	668.9	610.1	
20 P = (Pt+Ps) / 2	815.9	713.4	611.4	527.0	
21 Pr = (P / Pcr)	1.24	1.08	0.93	0.80	
22 Tr = (T / Tcr)	1.52	1.52	1.52	1.52	
23 Z (Table XI)	0.885	0.898	0.912	0.924	

