

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

Form C-122

*CISF
File*

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 01/03/93			
Company Yates Petroleum Corporation				Connection Transwestern Pipeline Co.					
Pool Abo				Formation Pecos Slope				Unit	
Completion Date 12/13/1992		Total Depth 4050		Plug Back TD 3982		Elevation 3924		Farm or Lease Name Thompson AHD	
Csg. Size 4.500	Wt. 10.500	d 4.052	Set At 4050	Perforations: From 3519 To 3549		Well No. 1			
Tbg. Size 2.375	Wt. 4.700	d 1.995	Set At 3421	Perforations: From 3519 To 3549		Unit G	Sec. 10	Twp. 5S	Rge 24E
Type Well Single				Packer Set At 3421		County Chaves			
Producing Thru Tubing		Resv. Temp. °F 106 @ 3534		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 3421	H 3421	Gg 0.651	%CO ₂ 0.000	%N ₂ 5.781	%H ₂ S 0.001	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	415	0			0
1.	2.067	x	1.250	305	25.0	45	380	62			24
2.	2.067	x	1.250	288	43.4	48	355	62			24
3.	2.067	x	1.250	305	67.0	46	330	62			24
4.	2.067	x	1.250	305	88.0	45	305	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.	8.120	89.2	318.2	1.0148	1.239	1.031	939
2.	8.120	114.3	301.1	1.0117	1.239	1.029	1198
3.	8.120	146.0	318.2	1.0137	1.239	1.031	1536
4.	8.120	167.3	318.2	1.0148	1.239	1.031	1762
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.	0.48	505	1.42	0.941	Specific Gravity Separator Gas	0.651	XXXXXXXXXX
2.	0.46	508	1.42	0.945	Specific Gravity Flowing Fluid	XXXXXXXXXX	0.651
3.	0.48	506	1.42	0.941	Critical Pressure	661	P.S.I.A. 661 P.S.I.A.
4.	0.48	505	1.42	0.941	Critical Temperature	357	°R 357 °R
5.							

Pc	428.2	Pc²	183.4
NO.	Pt²	Pw	Pw²
1.	154.6	406.9	165.6
2.	135.6	391.8	153.5
3.	117.8	383.8	147.3
4.	101.3	374.5	140.2
5.			

(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 5.088$

AOF = Q $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 4843$

(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 3.154$

Absolute Open Flow	4843	Mcf/d @ 15.025	Angle of Slope θ	35	Slope, n	0.706
Remarks						

Approved By Commission:	Conducted By Mike Allen	Calculated By Andrea Carpenter	Checked By
-------------------------	----------------------------	-----------------------------------	------------

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

DATE 01/03/93

COMPANY Yates Petroleum Corporation LEASE Thompson AHD WELL NO. 1

LOCATION: Unit G Section 10 Township 5S Range 24E

L 3421 H 3421 L/H 1.000 G 0.651 %CO₂ 0.000 %N₂ 5.781 %H₂S 0.001

d 1.995 Fr 0.017777 GH 2227.1 Pcr 660.5 Tcr 356.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.939	1.198	1.536	1.762	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	566	566	566	566	
4 T = (Tw+Ts) / 2	543.7	543.7	543.7	543.7	
5 Z (Est.)	0.940	0.943	0.946	0.948	
6 TZ	511.2	512.8	514.1	515.4	
7 GH / TZ	4.356	4.343	4.332	4.321	
8 e ^{^s} (Table XIV)	1.177	1.177	1.176	1.176	
9 1-e ^{^s} (Table XIV)	0.151	0.150	0.150	0.150	
10 Pt	393.2	368.2	343.2	318.2	
11 Pt ² / 1000	154.6	135.6	117.8	101.3	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	9.088	9.116	9.139	9.162	
14 FcQm	8.54	10.92	14.03	16.14	
15 L / H(FcQm) ²	72.9	119.2	197.0	260.7	
16 Fw = L / H(FcQm) ² (1-e ^{^s})	10.98	17.91	29.53	38.99	
17 Pw ² = Pt ² +Fw	165.6	153.5	147.3	140.2	
18 Ps ² = e ^{^s} Pw ²	195.0	180.6	173.3	164.9	
19 Ps	441.6	425.0	416.3	406.1	
20 P = (Pt+Ps) / 2	417.4	396.6	379.8	362.1	
21 Pr = (P / Pcr)	0.63	0.60	0.57	0.55	
22 Tr = (T / Tcr)	1.52	1.52	1.52	1.52	
23 Z (Table XI)	0.940	0.943	0.946	0.948	

Company Yates Petroleum Corporation
Well Thompson AHD #1
Location G 10-5S-24E

County Chaves
Date 01-03-93

Q, Mcfd

10²

10¹

10²

10³

AOF = 4843

10⁴

P_i²-P_w²

