

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

Form C-122

*dst
File*

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/09/1994		JAN 18 '95	
Company Yates Petroleum Corp				Connection Transwestern Pipeline Co					
Pool Abo				Formation Pecos Slope				Unit ARTESIA, OFFICE	
Completion Date 12/09/1994		Total Depth 4200		Plug Back TD 4085		Elevation 3659		Farm or Lease Name Crandall UD	
Csg Size 4.500	Wt 10.500	d 4.052	Set At 4200	Perforations: From 3678 To 3829		Well No. 2			
Tbg Size 2.375	Wt 4.700	d 1.995	Set At 3613	Perforations: From 0 To 0		Unit B	Sec. 6	Twp. 7S	Rge 26E
Type Well Single						Packer Set At 3616		County Chaves	
Producing Thru Tubing		Resv. Temp. °F 102 @ 4200		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 3613	H 3613	Gg 0.645	%CO ₂ 0.022	%N ₂ 5.890	%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
SI	0.000	x	0.000	0	0.0	0	390	0			0
1	2.067	x	1.250	140	29.0	44	275	62			24
2	2.067	x	1.250	144	43.1	45	230	62			24
3	2.067	x	1.250	133	52.1	44	185	62			24
4	2.067	x	1.250	143	67.6	42	140	62			24
5		x									

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	66.7	153.2	1.0158	1.246	1.014	695
2	8.120	82.2	156.8	1.0148	1.246	1.015	856
3	8.120	87.2	145.9	1.0158	1.246	1.014	908
4	8.120	102.8	156.5	1.0178	1.246	1.015	1074
5							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl
					0	
					A.P.I. Gravity of Liquid Hydrocarbons	0.000 Deg
1	0.23	504	1.42	0.972	Specific Gravity Separator Gas	0.645
2	0.24	505	1.42	0.971	Specific Gravity Flowing Fluid	0.645
3	0.22	504	1.42	0.973	Critical Pressure	661 P.S.I.A.
4	0.24	502	1.42	0.971	Critical Temperature	354 °R
5						

NO.	Pc	Pw	Pw²	Pc² - Pw²
1	83.1	299.0	89.4	73.2
2	59.1	262.4	68.8	93.7
3	39.3	224.2	50.3	112.3
4	23.5	197.4	39.0	123.6
5				

(1) $\frac{Pc^2}{Pc^2 - Pw^2} = 1.735$

(2) $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1.580$

AOF = Q $\left[\frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1353$

Absolute Open Flow	1353	Mcf/d @ 15.025	Angle of Slope θ	40	Slope, n	0.831
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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 12/09/1994

COMPANY Yates Petroleum Corp LEASE Crandall UD WELL NO. 2

LOCATION: Unit B Section 6 Township 7S Range 26E

L 3613 H 3613 L/H 1.000 G 0.645 %CO₂ 0.022 %N₂ 5.890 %H₂S 0.000

d 1.995 Fr 0.017777 GH 2328.9 Pcr 660.7 Tcr 354.2

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.695	0.856	0.908	1.074	
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.)	0.956	0.962	0.968	0.974	
6 TZ	518.0	521.2	524.5	527.4	
7 GH / TZ	4.496	4.468	4.440	4.416	
8 e ^{As} (Table XIV)	1.184	1.182	1.181	1.180	
9 1-e ^{-s} (Table XIV)	0.155	0.154	0.153	0.153	
10 Pt	288.2	243.2	198.2	153.2	
11 Pt ² / 1000	83.1	59.1	39.3	23.5	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	9.209	9.266	9.325	9.375	
14 FcQm	6.40	7.93	8.47	10.07	
15 L / H(FcQm) ²	40.9	62.9	71.7	101.4	
16 Fw = L / H(FcQm) ² (1-e ^{-s})	6.35	9.70	11.00	15.48	
17 Pw ² = Pt ² +Fw	89.4	68.8	50.3	39.0	
18 Ps ² = e ^{As} Pw ²	105.8	81.4	59.4	46.0	
19 Ps	325.3	285.3	243.7	214.4	
20 P = (Pt+Ps) / 2	306.8	264.3	221.0	183.8	
21 Pr = (P / Pcr)	0.46	0.40	0.33	0.28	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.956	0.962	0.968	0.974	

Company
Well
Location
10^3

Yates Petroleum Corp
Crandall UD #2
B 6-7S-26E

County
Date

Chaves
12-09-1994

Q, Mcfd

10^2

Pc-Pwf

10^1

10^2

10^3

AOF = 1353

10^4

