

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

Form C-122

2155
file

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 01/13/1994	
Company Yates Petroleum Corp				Connection Transwestern Pipeline		JAN 06 '95	
Pool Abo				Formation Pecos Slope		Unit O. G. D.	
Completion Date 01/08/1994		Total Depth 4300		Plug Back TD 4250		Elevation 3819	
Csg. Size 4.500		Wt 10.500		Set At 4300		Perforations From 3958 To 3978	
Tbg. Size 2.375		Wt 4.700		Set At 3848		Perforations From 3958 To 3978	
Type Well Single				Packer Set At 3848		Farm or Lease Name South Alkali LK Federal	
Producing Thru Tubing		Resv. Temp. °F 101 @ 3775		Mean Temp. °F 62		Baro. Press. - Pa 13.2	
L 3848		H 3848		Gg 0.636		%CO ₂ 0.070	
				%N ₂ 5.010		%H ₂ S 0.000	
				Prover 0.000		Meter Run 3.000	
						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
Sl.	0.000	X	0.000	0	0.0	0	500	0			0
1	3.068	X	1.375	250	6.0	55	430	62			24
2	3.068	X	1.375	237	14.2	54	370	62			24
3	3.068	X	1.375	250	24.0	56	310	62			24
4	3.068	X	1.375	250	32.0	53	250	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.	9.249	39.7	263.2	1.0048	1.254	1.023	474
2.	9.249	59.7	250.3	1.0058	1.254	1.022	711
3.	9.249	79.5	263.2	1.0039	1.254	1.023	947
4.	9.249	91.8	263.2	1.0068	1.254	1.023	1097
5							

NO	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl
1	0.40	515	1.45	0.955	0	
2	0.38	514	1.45	0.957	0.000	
3	0.40	516	1.46	0.956	0.636	xxxxxxxxxx
4	0.40	513	1.45	0.955	0.636	0.636
5						

NO	Pc	Pw	Pw'	Pc' - Pw'	(1) $\frac{Pc'}{Pc' - Pw'}$	(2) $\left[\frac{Pc'}{Pc' - Pw'} \right]^n$
1	196.4	446.6	199.4	63.9	1.796	1.621
2	146.8	392.0	153.7	109.7		
3	104.5	341.6	116.7	146.7		
4	69.3	293.0	85.9	177.5		
5						

Absolute Open Flow		1534		Mcf/d @ 15.025		Angle of Slope		0 40		Slope, n		0.825	
Remarks													

Approved By Commission:	Conducted By Paul Hanes	Calculated By Andrea Carpenter	Checked By
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 01/13/1994

COMPANY Yates Petroleum Corp LEASE South Alkali LK Federal WELL NO. 5

LOCATION: Unit D Section 1 Township 6S Range 25E

L 3848 H 3848 L/H 1.000 G 0.636 %CO₂ 0.070 %N₂ 5.010 %H₂S 0.000

d 1.995 Fr 0.017777 GH 2447.3 Pcr 662.7 Tcr 353.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.474	0.711	0.947	1.097	
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.)	0.935	0.943	0.951	0.959	
6 TZ	505.8	510.2	514.5	518.8	
7 GH / TZ	4.838	4.797	4.757	4.718	
8 e ^Λ s(Table XIV)	1.199	1.197	1.195	1.194	
9 1-e ^Λ -s(Table XIV)	0.166	0.165	0.163	0.162	
10 Pt	443.2	383.2	323.2	263.2	
11 Pt ² / 1000	196.4	146.8	104.5	69.3	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.992	9.070	9.146	9.222	
14 FcQm	4.26	6.45	8.66	10.11	
15 L / H(FcQm) ²	18.2	41.6	75.0	102.3	
16 Fw = L / H(FcQm) ² (1-e ^Λ -s)	3.01	6.85	12.24	16.58	
17 Pw ² = Pt ² +Fw	199.4	153.7	116.7	85.9	
18 Ps ² = e ^Λ sPw ²	239.1	184.0	139.5	102.5	
19 Ps	489.0	428.9	373.5	320.1	
20 P = (Pt+Ps) / 2	466.1	406.1	348.3	291.7	
21 Pr = (P / Pcr)	0.70	0.61	0.53	0.44	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.935	0.943	0.951	0.959	

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