

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

Form C-122 *dist File*

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11/19/1993			
Company Yates Petroleum Corp				Connection Transwestern Pipeline Co					
Pool Atoka-Morrow				Formation Red Lake				Unit	
Completion Date 10/11/1993		Total Depth 10100		Plug Back TD 10013		Elevation 3475		Farm or Lease Name Beauregard ANM State Com	
Csg. Size 4.500	Wt. 11.600	d 4.000	Set At 10095	Perforations: From 9633 To 9638		Well No. 1			
Tbg. Size 2.375	Wt. 4.700	d 1.995	Set At 9558	Perforations: From 9633 To 9638		Unit L	Sec. 14	Twp. 18S	Rge. 27E
Type Well Single				Packer Set At 9558		County Eddy			
Producing Thru Tubing		Resv. Temp. °F 155 @ 9500		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 9558	H 9558	Gg 0.641	%CO ₂ 0.819	%N ₂ 0.402	%H ₂ S 0.000	Prover 0.000	Meter Run 2.000	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration	
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	720	0			0
1	2.067	x	1.000	440	3.0	59	650	62			24
2	2.067	x	1.000	392	8.0	56	580	62			24
3	2.067	x	1.000	440	15.0	54	510	62			24
4	2.067	x	1.000	440	21.0	55	440	62			24
5		X									

NO.	Coefficient (24 Hour)	$\sqrt{hwP_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super. Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	4.946	36.9	453.2	1.0010	1.249	1.044	238
2	4.946	57.0	405.5	1.0039	1.249	1.040	368
3	4.946	82.4	453.2	1.0058	1.249	1.046	536
4	4.946	97.6	453.2	1.0048	1.249	1.046	633
5							

NO.	Pr	Temp °R	Tr	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature	Mcf/bbl	Deg.
1	0.67	519	1.41	0.917	90	55.800	0.641	XXXXXXXXXX	673	367	672	378
2	0.60	516	1.41	0.924			XXXXXXXXXX					
3	0.67	514	1.40	0.914								
4	0.67	515	1.40	0.915								
5												

NO.	P _i	P _w	P _w ²	P _c ² - P _w ²
1	439.8	664.5	441.6	96.0
2	351.9	596.8	356.1	181.5
3	273.7	531.8	282.8	254.8
4	205.4	467.2	218.3	319.3
5				

P_c 733.2 P_c² 537.6

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.110$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.843$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 988$

Absolute Open Flow 988 Mcfd @ 15.025 Angle of Slope θ 39 Slope, n 0.819

Remarks:

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

DATE 11/19/1993

COMPANY Yates Petroleum Corp LEASE Beauregard ANM State Com WELL NO. 1

LOCATION: Unit L Section 14 Township 18S Range 27E

L 9558 H 9558 L/H 1.000 G 0.673 %CO₂ 0.819 %N₂ 0.402 %H₂S 0.000

d 1.995 Fr 0.017777 GH 6436.4 P_{cr} 672.3 T_{cr} 377.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.238	0.368	0.536	0.633	
2 Tw(W.H.°R)	522	522	522	522	
3 Ts(B.H.°R)	615	615	615	615	
4 T = (Tw+Ts) / 2	568.2	568.2	568.2	568.2	
5 Z (Est.)	0.892	0.903	0.913	0.924	
6 TZ	506.8	512.8	518.8	524.9	
7 GH / TZ	12.700	12.551	12.406	12.263	
8 e ^{As} (Table XIV)	1.610	1.601	1.592	1.584	
9 1-e ^{As} (Table XIV)	0.379	0.375	0.372	0.369	
10 Pt	663.2	593.2	523.2	453.2	
11 Pt ² / 1000	439.8	351.9	273.7	205.4	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	9.009	9.116	9.223	9.331	
14 FcQm	2.15	3.36	4.94	5.91	
15 L / H(FcQm) ²	4.6	11.3	24.4	34.9	
16 Fw = L / H(FcQm) ² (1-e ^{As})	1.75	4.23	9.09	12.87	
17 Pw ² = Pt ² +Fw	441.6	356.1	282.8	218.3	
18 Ps ² = e ^{As} Pw ²	710.8	570.1	450.4	345.7	
19 Ps	843.1	755.0	671.1	588.0	
20 P = (Pt+Ps) / 2	753.2	674.1	597.1	520.6	
21 Pr = (P / P _{cr})	1.12	1.00	0.89	0.77	
22 Tr = (T / T _{cr})	1.50	1.50	1.50	1.50	
23 Z (Table XI)	0.892	0.903	0.913	0.924	

