

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT ONE POINT BACK PRESSURE TEST FOR G. VELL

Form C-122

*clst
File*

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/23/1992			
Company Yates Petroleum Corp				Connection Transwestern Pipeline					
Pool Abo				Formation Pecos Slope				Unit	
Completion Date 12/15/1992		Total Depth 4000		Plug Back TD 3948		Elevation 3821		Farm or Lease Name Ric	
Csg. Size 4.500	Wt. 10.500	d 4.052	Set At 4000	Perforations: From 3514 To 3553				Well No. 8	
Tbg. Size 2.375	Wt. 4.700	d 1.995	Set At 3465	Perforations: From 3514 To 3553				Unit K	Sec. 20
Type Well Single				Packer Set At 3465				County Chaves	
Producing Thru Tubing		Resv. Temp. °F 101 @ 3450		Mean Temp. °F 62		Baro. Press. - Pa 13.2		State New Mexico	
L 3465	H 3465	Gg 0.656	%CO ₂ 0.020	%N ₂ 7.460	%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	730	0			0
1.	2.067	x	0.875	510	23.0	48	650	62			24
2.	2.067	x	0.875	510	43.0	45	603	62			24
3.	2.067	x	0.875	468	60.6	47	557	62			24
4.	2.067	x	0.875	510	89.0	48	510	62			24
5.		x									

RATE OF FLOW CALCULATIONS							
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.	3.729	109.7	523.2	1.0117	1.234	1.050	536
2.	3.729	150.0	523.2	1.0148	1.234	1.051	736
3.	3.729	170.7	481.2	1.0127	1.234	1.046	832
4.	3.729	215.8	523.2	1.0117	1.234	1.050	1055
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.	0.80	508	1.44	0.907	Specific Gravity Separator Gas 0.656	XXXXXXXXXX
2.	0.80	505	1.43	0.905	Specific Gravity Flowing Fluid XXXXXXXXXX	0.656
3.	0.73	507	1.43	0.914	Critical Pressure 658	P.S.I.A. 658
4.	0.80	508	1.44	0.907	Critical Temperature 354	°R 354
5.						

Pc	743.2	Pc²	552.3
NO.	P _r	P _w	P _w ²
1.	439.8	665.8	443.3
2.	379.7	621.5	386.3
3.	325.1	577.6	333.6
4.	273.7	536.2	287.5
5.			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.327$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1842$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.502$

Absolute Open Flow 1842	Mcf/d @ 15.025	Angle of Slope θ 37	Slope, n 0.763
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Remarks:

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

DATE 12/23/1992

COMPANY Yates Petroleum Corp LEASE Ric WELL NO. 8

LOCATION: Unit K Section 20 Township 6S Range 25E

L 3465 H 3465 L / H 1.000 G 0.656 %CO₂ 0.020 %N₂ 7.460 %H₂S 0.000

d 1.995 Fr 0.017777 GH 2274.8 Pcr 657.6 Tcr 353.7

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.536	0.736	0.832	1.055	
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.)	0.904	0.910	0.916	0.922	
6 TZ	489.2	492.6	495.9	499.2	
7 GH / TZ	4.650	4.618	4.587	4.557	
8 e ^s (Table XIV)	1.190	1.189	1.188	1.186	
9 1-e ^s (Table XIV)	0.160	0.159	0.158	0.157	
10 Pt	663.2	616.2	570.2	523.2	
11 Pt ² / 1000	439.8	379.7	325.1	273.7	
12 Fr (Table XV)	0.017777	0.017777	0.017777	0.017777	
13 Fc = FrTZ	8.697	8.756	8.815	8.874	
14 FcQm	4.66	6.45	7.34	9.36	
15 L / H(FcQm) ²	21.7	41.6	53.8	87.6	
16 Fw = L / H(FcQm) ² (1-e ^s)	3.48	6.61	8.51	13.76	
17 Pw ² = Pt ² +Fw	443.3	386.3	333.6	287.5	
18 Ps ² = e ^s Pw ²	527.8	459.4	396.3	341.1	
19 Ps	726.5	677.8	629.5	584.0	
20 P = (Pt+Ps) / 2	694.8	647.0	599.8	553.6	
21 Pr = (P / Pcr)	1.06	0.98	0.91	0.84	
22 Tr = (T / Tcr)	1.53	1.53	1.53	1.53	
23 Z (Table XI)	0.904	0.910	0.916	0.922	

