

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

3F
122 Well
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Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 2-15-77	
Company Yates Petroleum Corp.		Connection Transwestern Pipelin Company	
Pool Eagle Creek Permian Perm Undesignated		Formation Wolfcamp Upper Penn	
Completion Date 3-5-76		Total Depth 8443 KB	
Plug Back TD 6774 KB		Elevation	
Farm or Lease Name Morley "EW"		Well No. 1	
Csg. Size 4 1/2"	Wt. 11.6	Set At 4.000	Perforations: From 6561 To 6645 KB
Thq. Size 2-3/8"	Wt. 4.7	Set At 1.995	Perforations: From To
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single		Packer Set At 6514 KB	
Producing Thru tubing		Baro. Press. - P _a 13.2	
Reservoir Temp. °F 122		Mean Annual Temp. °F 62	
County Eddy		State New Mexico	
L 6590	H 6590	G _g 0.6775	% CO ₂ 0.72
% N ₂ 0.96		% H ₂ S Nil	
Prover 2"		Meter Run Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							1865	66			months
1.	2.067 x = 750			300	14	72	1776	67			1 hour
2.				302	26	72	1757	67			1 hour
3.				304	48	72	1700	67			1 hour
4.				305	94	72	1604	68			1 hour
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.709	66.22	313.2	.9887	1.220	1.0309	223
2.	2.709	90.53	315.2	.9887	1.220	1.0309	305
3.	2.709	123.39	317.2	.9887	1.220	1.0314	416
4.	2.709	172.95	318.2	.9887	1.220	1.0314	583
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1.	.467	532	1.400	.941	516.6 Mcf/bbl.	62 Deg.	.672	XXXXXX	671.5 P.S.I.A.	380 R
2.	.470	532	1.400	.941			XXXXX			
3.	.473	532	1.400	.940						
4.	.474	532	1.400	.940						
5.										

P _c 2299.2 P _c ² 5287					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.8423$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.8042$	
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1635$			
1			4790	397				
2			4697	590				
3			4397	890				
4			3911	1376				
5								

Absolute Open Flow		1635 Mcfd @ 15.025		Angle of Slope @ 52.55 deg.		Slope, n = 7660	
Remarks: Pressures by DWT. Calculation worksheet C122D attached.							
Approved By Commission:		Conducted By: Don Weaver		Calculated By: Eddie Mahfood		Checked By:	