

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 5-10-82		RECEIVED JUN 30 1982 O.C.D. ARTESIA OFFICE	
Company Yates Petroleum Corporation ✓					Connection Transwestern Pipeline Co.			
Pool Und. Abo					Formation Abo		Unit O.C.D.	
Completion Date 3-8-82			Total Depth 4050'		Plug Back TD 3963'		Elevation 3998' GR	
Farm or Lease Name Redman OY State					Well No. 4			
Co. Size 4-1/2"	Wt. 9.5#	d 4.090	Set At 4027'	Perforations: From 3623' To 3885'		Unit Sec. Twp. Rge. N 35 4S 24E		
Trg. Size 2-3/8"	Wt. 4.7#	d 1.995	Set At 3697'	Perforations: From To		County Chaves		
Type Well - Single - Bradenhead - G.G. or C.O. Multiple Single					Packer Set At -		State New Mexico	
Producing Thru tubing		Reservoir Temp. °F 106° 3754		Mean Annual Temp. °F 62		Buro. Press. - P _g 13.2		
L 3697	H 3697	G _g .679	% CO ₂ 2.97	% N ₂ 6.95	% H ₂ S -	Prover -	Meter Run 2"	Taps Flanged

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	Duration of Flow
51							1050				days
1.	2.067	x	.875	350	7.6	60	943	72			24 hrs
2.	2.067	x	.875	370	13.3	65	905	68			24 hrs
3.	2.067	x	.875	380	17.4	62	779	69			24 hrs
4.	2.067	x	.875	410	25.3	62	640	65			24 hrs
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	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	52.4	363.2	1.000	1.214	1.032	245
2	3.729	71.3	383.2	.9952	1.214	1.033	332
3	3.729	82.6	393.2	.9981	1.214	1.034	400
4	3.729	103.4	423.2	.9981	1.214	1.038	485
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	.54	520	1.46	.939			.679		669	357
2	.57	525	1.47	.937						
3	.59	522	1.46	.935						
4	.63	522	1.46	.928						
5										

NO.	P _r ²	P _w	P _w ²	P _r ² - P _w ²
1	914.6		915.4	215
2	843.6		845.1	285.3
3	628.3		630.4	500.0
4	426.6		429.8	700.6
5				

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 1.613$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.316$

AOIF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 638 \text{ mcfpd}$

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.

Specific Gravity Separator Gas _____

Specific Gravity Flowing Fluid _____

Critical Pressure _____ P.S.I.A.

Critical Temperature _____ R

Absolute Open Flow	638 mcf	Mcf @ 15.025	Angle of Slope	.574
Remarks:				
Approved By Division				
Conducted By: David Weaver		Calculated By: Brent Mulliniks		Checked By: