

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED

Type Test ☒ Initial FOUR POINT ☐ Annual ☐ Special		Test Date 10-2-81		660 OCT 15 1981							
Company FRED POOL, HB <i>Operating</i>		Location AIR NEW WELL		1980 FSL O. C. D.							
Pool WILDCAT		Formation PENN.		Unit I ARTESIA, OFFICE							
Comptrol 9-28-81		Total Depth 6447		Plug Back TD 6447							
Elevation 3882 KB		Form or Lease Name BYRON STATE									
Casing Size 4.500		Well No. 1									
WT. 10.5		d 4.052		Set At 6477							
Perforations: From 6204 To 6228											
Trg. Size 2.375		WT. 4.7		d 1.995							
Set At 6130		Perforations: From OPEN To ENDED									
Type Well - Single - Indenthead - G.O. or G.O. Multiple SINGLE		Packer Set At 6130		County CHAVES							
Producing Thru TUBING		Reservoir Temp. °F 121 @ 6216		Mean Annual Temp. °F 60							
Baro. Press. - P _a 13.2		State NEW MEXICO									
L 6216		H 6216		G _g 0.622							
% CO ₂ 0.16		% N ₂ 3.42		% H ₂ S							
Prover		Meter Run 4"		Taps 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	B.H.P. P.S.I.G.	CHOKE	Duration of Flow
SI							1984		2379		72 HRS.
1.	4"	X	1.25	400.	2.0	92	1892	69	2317	6/64	1
2.	4"	X	1.25	405.	7.0	92	1798	69	2255	7/64	1
3.	4"	X	1.25	415.	17.5	96	1718	68	2170	10/64	1
4.	4"	X	1.25	420.	37.5	97	1592	70	2039	12/64	1
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	7.6610	28.75	413.2	.9706	1.2680	1.0281	279.				
2	7.6610	54.11	418.2	.9706	1.0680	1.0287	525.				
3	7.6610	86.57	428.2	.9671	1.0680	1.0287	837.				
4	7.6610	127.46	433.2	.9688	1.0680	1.0287	1234.				
5											
NO.	R _i	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.						
1	.62	552	1.56	.946	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.						
2	.63	552	1.56	.945	Specific Gravity Separator Gas .6220 X X X X X X X X						
3	.64	556	1.57	.945	Specific Gravity Flowing Fluid X X X X X .6220						
4	.65	554	1.57	.945	Critical Pressure 666 P.S.I.A. _____ P.S.I.A.						
5					Critical Temperature 353 R _____ R						
$P_c = 2392.2$ $P_c^2 = 5722.6$											
NO.	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.7873$							
1	2330.2	5429.8	293.0	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.3584$							
2	2268.2	5144.7	578.0								
3	2183.2	4766.4	956.0	AOIP - Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4,144.3$							
4	2052.2	4211.5	1511.0								
5											
Absolute Open Flow 4,144.3 Mcfd @ 15.025				Angle of Slope @ 47.7		Slope, n .9097					
Remarks: BOTTOM HOLE PRESSURE MEASURED WITH AMERADA PRESSURE ELEMENT.											
Approved by Division		Conducted By: DON BENNETT		Calculated By: WOHLFORD & JENKINS		Checked By:					