

Multipoint and One Point Back Pressure Test For Gas Well

RECEIVED

Type Test				Test Date							
Initial		Annual		X Special		6/29/89					
Company ARCO Oil And Gas Company				Connection Phillips Petroleum Co.				JUL 28 '89			
Pool North Shugart MORROW				Formation Morrow				Unit O. C. D.			
Completion Date 1/7/89		Total Depth 12,068		Plug Back TD 11,965		Elevation 3,686		Farm or Lease Name Paton 'B' Federal			
Csg. Size 5.500	Wt. 17.00	d 4.892	Set At 12,065	Perforations From: 11,697 To: 11,766		Well No. 1					
Tbg. Size 2.875	Wt. 0.00	d 0.000	Set At 11,791	Perforations From: Open To: Ended		Unit N		Sec. 9	Twp. 18S	Rge. 31E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11,791		County Eddy					
Producing Thru Tubing		Reservoir Temp. F 0		Mean Annual Temp. F 62		Baro. Press. - Pa 13.2		State New Mexico			
L	H	Gg 0.659	%CO2 0.490	%N2 0.250	%H2S 0.000	Prover		Meter Run 4.026		Taps Flange	
Flow Data						Tubing Data		Casing Data		Duration	
No.	Prover Line Size	Orifice Size	Pressure psig	Diff. hw	Temp. F	Pressure psig	Temp. F	Pressure psig	Temp. F	Of Flow hrs.	
SI	4.026	1				2,075				24	
1	4.026	1	462.9	1.7	90	1,978	74			1	
2	4.026	1	462.9	6.3	96	1,870	73			1	
3	4.026	1	462.9	12.3	101	1,732	74			1	
4	4.026	1	462.9	21.2	103	1,575	75			1	
5											
Rate Flow Calculations											
No.	Coeff. (24 Hour)	(hwPm) ^{.5}	Pressure Pm	Flowing Temperature Factor Ft	Gravity Factor Fg	Super Compressibility Fpv	Rate of Flow Q, MCFD				
1	5.93	28.37	476.1	0.9723	1.2318	1.0405	168.3				
2	5.89	54.55	476.1	0.9671	1.2318	1.0389	321.1				
3	5.85	76.37	476.1	0.9628	1.2318	1.0377	446.9				
4	5.84	100.37	476.1	0.9611	1.2318	1.0372	586.0				
5											
No.	Pr	Temp. R	Tr	Z	Gas Liquid Hydrocarbon Ratio	#DIV/0!	MCF/Bbl.				
1		550		0.9237	API Gravity of Liquid Hydrocarbon	0	@	60 F	Deg.		
2		556		0.9265	Specific Gravity Separator Gas	0.659					
3		561		0.9287	Specific Gravity Flowing Fluid						
4		563		0.9296	Critical Pressure	666.4	psia	psia			
5					Critical Temperature	378.2	R	R			
Pc	3,083	Pc ²	9,506								
No.	Pi ²	Pw	Pw ²	Pc ² -Pw ²	(1) $\frac{Pc^2}{Pc^2-Pw^2} = 2.5189$		(2) $\frac{Pc^2}{Pc^2-Pw^2} = 2.0940$				
1		2,949	8,698	808							
2		2,789	7,780	1,726							
3		2,604	6,782	2,724							
4		2,394	5,732	3,774							
5											
				AOF = Q	$\frac{Pc^2}{Pc^2-Pw^2}$	= 1,227.0					
Absolute Open Flow				1,227.0	MCFD @ 15.025	Angle of Slope		51.34	Deg.	Slope, n	0.80
Approved By Division			Conducted By: Larry Henson			Calculated By: Wayne Fletcher			Checked By: Larry Henson		