

RECEIVED

Multipoint and One Point Back Pressure Test For Gas Well

Type Test X Initial Annual Special				Test Date 1/9/89		JAN 16 '89	
Company ARCO Oil And Gas Company				Connection		O. C. D.	
Pool North Shugart				Formation Morrow		Unit ARTESIA, OFFICE	
Completion Date 1/7/89		Total Depth 12,068		Plug Back TD 11,965		Elevation 3,686	
Farm or Lease Name Paton "B" Federal				Well No. 1			
Csg. Size 5.500	Wt. 17.00	d 4.892	Set At 12,065	Perforations From: 11,697 To: 11,766			
Tbg. Size 2.375	Wt. 4.60	d 1.995	Set At 11,791	Perforations From: Open To: Ended		Unit Sec. Twp. Rge. N 9 18S 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 155		Mean Annual Temp. F 62		Baro. Press. - Pa 13.2	
L		H		Prover		State New Mexico	
Gg 0.666		%CO2 0.500		%N2 0.390		%H2S 0.000	
Meter Run 4.026		Taps Flange					
Flow Data				Tubing Data		Casing Data	
No.	Prover Line Size	Orifice Size	Pressure psig	Diff. hw	Temp. F	Pressure psig	Temp. F
SI	4	1.25				2,950	
1	4	1.25	597.4	3.2	83	2,862	62
2	4	1.25	597.4	10.9	101	2,762	65
3	4	1.25	597.4	23.0	101	2,625	67
4	4	1.25	601.2	45.6	95	2,312	67
5							
Rate Flow Calculations							
No.	Coeff. (24 Hour)	(hwPm) ^{1.5}	Pressure Pm	Flowing Temperature Factor Ft	Gravity Factor Fg	Super Compressibility Fpv	Rate of Flow Q, MCFD
1	9.53	44.48	610.6	0.9786	1.2254	1.0630	423.8
2	9.26	81.54	610.6	0.9628	1.2254	1.0503	755.0
3	9.26	118.61	610.6	0.9628	1.2254	1.0503	1,098.0
4	9.33	167.31	614.4	0.9680	1.2254	1.0528	1,560.9
5							
No.	Pr	Temp. R	Tr	Z	Gas Liquid Hydrocarbon Ratio 30.8		MCF/Bbl.
1	543			0.8849	API Gravity of Liquid Hydrocarbon 58.7 @ 60 F		Deg.
2	561			0.9065	Specific Gravity Separator Gas 0.666		
3	561			0.9065	Specific Gravity Flowing Fluid		
4	555			0.9022	Critical Pressure 665.9 psia		psia
5					Critical Temperature 378.3 R		R
Pc	4,383	Pc ²	19,212				
No.	Pc ²	Pw	Pw ²	Pc ² -Pw ²			
1	4,218	17,793	1,419	(1) $\frac{Pc^2}{Pc^2-Pw^2} = 3.1687$	(2) $\frac{Pc^2}{Pc^2-Pw^2} = 2.5160$		
2	4,093	16,754	2,458				
3	3,923	15,391	3,821				
4	3,626	13,149	6,063				
5							
Absolute Open Flow 3,927.1 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: James Cogburn	

chf.
File
(6)

Post IO-2
3-3-89
comp & BIK