

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

clsr

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Arco Permian						Lease or Unit Name Crooked Canyon 35							
Test Type ☒ Initial ☐ Annual ☐ Special						Test Date 7/27/99			Well No. #1				
Completion Date 7/27/99			Total Depth 8200		Plug Back TD 8160'		Elevation 4425'			Unit Ltr - Sec - TWP - Rge. 35-20S-21E			
Csg. Size 5.500		Wt. 17.000		d 4.960		Set At 8174		Perforation: From 7984 To 8012			County Eddy		
Tbg. Size 2.375		Wt. 4.700		d 1.990		Set At 7877		Perforation: From To			Pool Little Box Canyon Morrow		
Type Well-Single-Bradenhead-G.G. or G.O. Multiple New Well									Packer Set At 7877'			Formation Morrow	
Producing Thru Tubing			Reservoir Temp.F 155			Mean Annual Temp.F 85			Baro. Pressure 13.00			Connection 2 3/8" 8rd	
L 7998		H 7998		Gg .716		% CO ₂ 9.61		% N ₂ 2.50		% H ₂ S		Prover Orifice Me	
												Meter Run 4.026	
												Taps Flange	

Flow Data					Tubing Data		Casing Data		SIP/Flow Duration (HRS.)
No.	(Prover) Line Size x Orifice Size	Press. PSIG	Diff. h _w	Temp. F	Press. PSIG	Temp. F	Press. PSIG	Temp. F	
	Shut-in Pressure				1720	102			25
1.	4.03 x 1.00	30.00	41.00	97	1651	102			1
2.	4.03 x 1.00	30.00	76.00	93	1540	100			1
3.	4.03 x 1.00	90.00	46.00	83	1383	99			1
4.	4.03 x 1.00	90.00	49.00	78	1200	99			1

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.	4.940	41.988	43.0	.9662	1.1818	1.0031	237.6
2.	4.940	57.166	43.0	.9697	1.1818	1.0032	324.7
3.	4.940	68.833	103.0	.9786	1.1818	1.0085	396.6
4.	4.940	71.042	103.0	.9831	1.1818	1.0088	411.3

No.	P _r	TEMP.	T _r	Z
1.	.061	557	1.469	.9939
2.	.061	553	1.459	.9937
3.	.147	543	1.432	.9831
4.	.147	538	1.419	.9826

Gas-Liquid Hydrocarbon Ratio		Mcf/bbl	
API Gravity of Liquid Hydrocarbons		Deg.	
Specific Gravity Separator Gas	.716		
Specific Gravity Flowing Fluid		.716	
Critical Pressure	700 PSIA	700 PSIA	
Critical Temperature	379 R	379 R	

$P_C = 1733.0$ $P_C^2 = 3003.3$

No.	P _w	P _w ²	P _C ² - P _w ²
1.	1664.7	2771	231.976
2.	1554.4	2416	587.151
3.	1398.3	1955	1048.114
4.	1215.8	1478	1525.003

(1) $\frac{P_C^2}{P_C^2 - P_W^2} = \frac{1.969}{1.969 - 1.259} = 1.969$

(2) $\left[\frac{P_C^2}{P_C^2 - P_W^2} \right]^n = \frac{1.259}{1.969 - 1.259} = 1.259$

AOF = Q $\left[\frac{P_C^2}{P_C^2 - P_W^2} \right]^n = \frac{517}{1.969 - 1.259} = 517$

Absolute Open Flow 517		Mcf/d @ 15.025	Angle of Slope - 71.2	Slope, n .339
Remarks Bottom hole pressures during 4-point: S.I. = 2260psia, 1st point = 2171 psia, 2nd point = 2027 psia, 3rd point = 1878 psia, 4th point = 1728 psia.				
Approved By Division:		Conducted By: Guardian	Calculated By: BPT System/Guardian	Checked By: David Luna