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appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-1991

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

30-025-36116

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator BP America Production Company					Lease or Unit Name Sunflower 33 State				
Test Type ☒ Initial ☐ Annual ☐ Special					Test Date 03/25/2004		Well No. 1		
Completion Date 03/25/2004		Total Depth 13240		Plug Back TD 13050		Elevation		Unit Ltr - Sec - TWP - Rge.	
Csg. Size 5.500	Wt. 17.000	d 4.892	Set At 13240	Perforation: From To			County Lea		
Tbg. Size 2.875	Wt. 6.500	d 2.441	Set At 12527	Perforation: From 12949 To 12978			Pool Vacuum Morrow		
Type Well-Single-Bradenhead-G.G. (G.O. Multiple single					Packer Set At 12510		Formation Morrow		
Producing Thru tubing		Reservoir Temp.F 200		Mean Annual Temp.F 60		Baro. Pressure 13.00		Connection Duke Energy	
L 12963	H 12953	Gg .737	% CO ₂	% N ₂	% H ₂ S	Prover	Meter Run Taps flange		

Flow Data					Tubing Data		Casing Data		SIP/Flow Duration (HRS.)
(Prover) No. Line Sizes/Orifice Size	Press. PSIG	Diff. h _w	Temp. F		Press. PSIG	Temp. F	Press. PSIG	Temp. F	
Shut-In Pressure					2150	100			24
1. 3.07 x .09	28.00	1.30	75		1915	90			1
2. 3.07 x .13	35.00	4.70	75		1730	90			1
3. 3.07 x .16	47.00	10.00	75		1610	90			1
4. 3.07 x .20	65.00	18.60	75		1490	90			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.	20.668	7.301	41.0	.9859	1.1648	1.0043	174.0
2.	20.668	15.020	48.0	.9859	1.1648	1.0051	358.3
3.	20.668	24.495	60.0	.9859	1.1648	1.0064	585.1
4.	20.668	38.089	78.0	.9859	1.1648	1.0084	911.6

No.	P _c	TEMP.	T _r	Z
1.	.062	535	1.339	.9915
2.	.072	535	1.339	.9900
3.	.090	535	1.339	.9874
4.	.117	535	1.339	.9835

Gas-Liquid Hydrocarbon Ratio	10.2	Mcf/bbl
API Gravity of Liquid Hydrocarbons	44.6	Log.
Specific Gravity Separator Gas	.737	
Specific Gravity Flowing Fluid	1.032	
Critical Pressure	665 PSIA	851 PSIA
Critical Temperature	399	493 R

$P_C = 2163.0$ $P_C^2 = 4678.6$

No.	P _w	P _w ²	P _c ² - P _w ²
1.	1928.2	3717	960.601
2.	1743.8	3040	1637.763
3.	1625.0	2640	2037.821
4.	1507.9	2273	2404.700

(1) $\frac{P_C^2}{P_C^2 - P_W^2} = 1.946$

AOF = Q $\left[\frac{P_C^2}{P_C^2 - P_W^2} \right]^n = 1773$

Absolute Open Flow	1773	Mcf/d @ 15.025	Angle of Slope -	45.0	Slope, n	1.000
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Remarks					

Approved By Division: <i>Paul Hantz</i>	Conducted By: "Well Testing" Wir	Calculated By: BPT System	Checked By:
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GAS WELL BACK PRESSURE CURVE

WELL TESTER: "Well Testing" Wlr

TEST DATE: 03/25/2004

**BP America Production Company
Sunflower 33 State**

**Lea ,NM
Exponent n: 1.0000**

10000

$P_c^2 - P_w^2$ (10 PSI)²

1000

100

10

100

1000

Q (MCF/DAY)

