

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT, ONE POINT BACK PRESSURE TEST FOR GAS WELL

1-87
1-File
Form C-122
1-122 Revised 9-1-65

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 4-23-79			
Company Harvey E. Yates Company				Connection			
Pool South Carlsbad (Morrow)				Formation Morrow		Unit ARTESIAN OFFICE	
Completion Date 4-12-79		Total Depth 12350		Fluid Back TD 12200		Production 3164 KB 3148.6 GL	
Csg. Size 5 1/2		WT 20#		Set At 12350		Perforations: 11924 To 11928	
Tbg. Size 2 7/8		WT 6.5#		Set At 11,908'		Perforations: 12040 To 12043	
						From 12161 To 12165	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11908		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 205 @ 11900		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 12045		H 12045		G _g 0.579		% CO ₂ 1.34	
						% N ₂ 0.29	
						% H ₂ S NONE	
						Prover Meter Run X	
						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	Press. p.s.i.g.	Temp. °F	
SI	113 1/2 hours										
1.	4" X 1.25"			780	6"	120	2460	70	Pkr.	-	60 Min.
2.	4" X 1.25"			780	15"	120	1360	70	Pkr.	-	60 Min.
3.	4" X 1.25"			740	34"	124	1760	70	Pkr.	-	60 Min.
4.	4" X 1.25"			740	70"	120	1767	70	Pkr.	-	60 Min.
5.											

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, Mscf
1	6.031	68.987	793.2	0.9469	1.314	1.139	589.6
2	6.031	109.078	793.2	0.9469	1.314	1.139	932.3
3	6.031	160.027	753.2	0.9436	1.314	1.035	1238.5
4	6.031	229.617	753.2	0.9469	1.314	1.037	1786.8
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	NONE	Mcf/bbl.
1	1.180	580	1.676	0.926	A.P.I. Gravity of Liquid Hydrocarbons	NONE	Deg.
2	1.180	580	1.676	0.926	Specific Gravity Separator Gas	0.579	X X X X X X X X
3	1.121	584	1.688	0.933	Specific Gravity Flowing Fluid	X X X X X	
4	1.121	520	1.676	0.930	Critical Pressure	672	P.S.I.A.
5					Critical Temperature	346	R

P _f	5082	P _f ²	25827
NO.	P _s	P _s ²	P _s ² - P _f ²
1	6116.7	4698.2	22703
2	1885.7	4670.2	21811
3	3144.2	4329.2	18742
4	3169.1	3961.2	15691
5			

$$(1) \frac{P_c^2}{P_s^2 - P_w^2} = 2.54805$$

$$(2) \left[\frac{P_c^2}{P_s^2 - P_w^2} \right]^n = 2.54805$$

$$\left[\frac{P_c^2}{P_s^2 - P_w^2} \right]^n = 4552.85$$

Absolute Open Flow	4552.85	Mcf @ 15.025	Angle of Slope	45.0°	Slope, n	1.00000
--------------------	---------	--------------	----------------	-------	----------	---------

Remarks: BHP measured with Amerada RPG-3 gauge serial No. 12468N 0-6000 Psi.

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Tefteller, Inc.	D. A. Warren, Jr.	