

MULTIPOINT A. ONE POINT BACK PRESSURE TEST FOR GAS WELL

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Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 3-15-77		MAR 31 1977	
Company MESA PETROLEUM CO.		Connection NATURAL GAS PIPE LINE Co of America		O.C.C. ARTEDIA, OFFICE	
Well UNDESIGNATED WHITE CITY Penn		Formation MORROW		Unit	
Completion Date 2-7-77		Total Depth 11486 11443		Plug Back TD 11441 11443	
Casing Size 8.00"		Casing Weight 15.00		Elevation 3344 Gr.	
Well No. 1		Form or Lease Name OGDEN ST.			
Set At 11485 11443		Perforations: From 10985 To 11416		Well No. 1	
Set At 10957		Perforations: From To		Unit Sec. Twp. Rge. F 2 25S 26E	
Type Well - Single - Brodenhead - G.G. or G.O. Multiple		Packer Set At 10957		County EDDY	
Producing Time Tubing		Reservoir Temp. °F 185 2 11201		Mean Annual Temp. °F 60	
Baro. Press. - P _a 13.2		State NEW MEXICO			
G _g 0.572		% CO ₂ 1.02		% N ₂ 0.00	
% H ₂ S 0.00		Prover		Meter Run X	
Taps FLG					

FLOW DATA						TUBING DATA		CASING DATA		Direction 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
1	3.00		1.50	9.1	2.50"	69	3500	70			
2	3.00		1.50	9.3	4.5	69	3000	70			24.00 Hrs.
3	3.00		1.50	9.4	5.5	69	2850	70			24.00 Hrs.
4	3.00		1.50	9.4	8.0	69	2440	70			24.00 Hrs.

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hrs.)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mscf/d
1	11.13		96.01	.9915	1.322	1.013	825 *
2	11.13		99.69	.9915	1.322	1.013	1513 *
3	11.13		101.50	.9915	1.322	1.013	1869 *
4	11.13		101.5	.9915	1.322	1.012	2719 *

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Met/act.
1	114	532	1.53	.975	A.P.I. Gravity of Liquid Hydrocarbons	None Produced
2	114	529	1.53	.976	Specific Gravity Separator Gas	XXXXXXXXXX
3	114	519	2.53	.976	Specific Gravity Flowing Fluid	XXXXXX
4	114	520	2.53	.976	Critical Pressure	672 P.S.I.A.
					Critical Temperature	346 R

NO.	P _r ²	P _w ²	P _w ²	P _r ² - P _w ²	(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 2.02610$	(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.73862$
1	3317.2	1100.1		1339		
2	3074.4	9452		2891		
3	2883.8	8316		4026		
4	2500.2	6251		6092		
AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 4727$						

Complete Gas Flow	4727	Mscf @ 15.025	Angle of Slope	51° 55'	Slope, n	.783
* INCLUDES METER FACTOR 2.449 FOR 1200 psi x 50" H ₂ O Meter						