

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 6-26-90			
Company MURCHISON				Connection EL PASO NATURAL			
Pool WHITE CITY PENN				Formation ATOKA STRAWN GAS			
Completion Date 6-22-90		Total Depth 12006		Plug Back TD 11365		Elevation 3384 G.L.	
Casing Size 5.000		Wt. 18.0		Set At 12006		Perforations: From 10678 To 10691	
Tubing Size 2.375		Wt. 4.7		Set At 10492		Perforations: From 10978 To 10988	
Type Well - Single - Broadhead - G.C. or G.O. Multiple SINGLE GAS				Packer Set At 10492		Well No. 1	
Producing Thru TUBING		Reservoir Temp. °F 150 @ 10833		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 10833		H 10833		G _g .593		Prover 1 4.0	
				% CO ₂ .56		% H ₂ S .00	
				% N ₂ .67		Meter Run 4.0	
						Taps 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							3926	60			72.0
1.	4.00 X 1.250			396	1.0	104	3890	60	0	0	1.0
2.	4.00 X 1.250			396	4.0	92	3524	60	0	0	1.0
3.	4.00 X 1.250			396	15.2	82	2972	60	0	0	1.0
4.	4.00 X 1.250			396	50.4	87	1512	60	0	0	1.0
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	7.47	20.24	409.6	.9602	1.2986	1.0252	193
2	7.47	40.48	409.6	.9706	1.2986	1.0274	392
3	7.47	78.93	409.6	.9795	1.2986	1.0294	772
4	7.47	143.69	409.6	.9750	1.2986	1.0284	1398
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	.61	564	1.60	.951	0	0	.593	XXXXXX	674	354
2	.61	552	1.56	.947			XXXXX			
3	.61	542	1.53	.944						
4	.61	547	1.55	.946						
5										

NO.	P _c	P _w	P _w ²	P _c ² - P _w ²
1	3939.2	3907	15265	253
2	15517	3541	12540	2977
3		2990	8942	6575
4		1542	2377	13141
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.1809$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1520$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0871$

Absolute Open Flow	1520	Mcfd @ 15.025	Angle of Slope @	63.3	Slope, n	.503
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Remarks: CHOKE SIZES 1/64 2/64 6/64 12/64

Approved By Division	Conducted By:	Calculated By: <i>Monty Randolph</i>	Checked By:
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