

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special			Test Date 4/27/82								
Company Harvey E. Yates Co.			Connection El Paso Natural Gas								
Well Undesignated McDonald			Formation Atoka								
Completion Date 3/23/82		Total Depth 14593		Elog Back TD 12965							
				Elevation 3966.4' KB							
Team or Lease Name McDonald Unit			Well No. #1								
Case Size 5 1/2	Wt. 30-17	d 4.892	Set At 14587	Perforations: From 12740 To 12782							
Trg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 12707	Perforations: Open Ended From To							
Type Well - Single - In-Depth - G.G. or G.O. Multiple Single				Packer Set At 12707							
Producing thru Tbg. 12,782				County Lea County							
Reservoir Temp. °F 17- @ 12782		Mean Annual Temp. °F 60		State New Mexico							
Baro. Press. - P _a 13.2		Prover 3.00"		Meter Run 3.00"							
L 12,782	H 12,782	G _g .739	% CO ₂ 1.848	% N ₂ 8.011	% H ₂ S 0						
FLOW DATA			TUBING DATA		CASING DATA						
NO	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
1	3.00"	15	1.250"	130	6	68	2277		Packer		72.0HRS
2	3.00"	15	1.250"	200	19	68	2031				1.0HR
3	3.00"	15	1.250"	130	25	71	1540				1.0HR
4	3.00"	15	1.250"	130	25	71	1200				1.0HR
5	3.00"	15	1.250"	130	65	70	949				1.0HR
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 _{sc}	Rate of Flow G.P.D.				
1	7.577	29.31	143.2	.9924	1.163	1.015	260				
2	7.577	63.65	213.2	.9924	1.163	1.022	569				
3	7.577	59.83	143.2	.9896	1.163	1.015	533				
4	7.577	96.48	143.2	.9905	1.163	1.015	855				
5											
NO	F ₁	Temp. °R	T _r	Z	Gas-Liquid Hydrocarbon Ratio		18.450 Mcf/mol.				
1	.22	528	1.39	.970	A.P.L. Gravity of Liquid Hydrocarbons		55.3 @ 60 Deg.				
2	.33	528	1.39	.957	Specific Gravity Separator Gas		.739				
3	.22	531	1.40	.971	Specific Gravity Flowing Fluid		X X X X X				
4	.22	530	1.40	.971	Critical Pressure		654 P.S.I.A				
5					Critical Temperature		379 R				
1	2290.2	P _w ²	5245.0								
NO	P ₁ ²	P _w ²	P ₂ ²	P ₁ ² - P ₂ ²	(1) $\frac{P_c^2}{P_2^2 - P_w^2} = 1.322$		(2) $\left[\frac{P_c^2}{P_2^2 - P_w^2} \right]^n = 1.185$				
1		2044.8	4181.2	1063.8							
2		1556.7	2423.3	2821.7							
3		1217.3	1481.8	3763.2							
4		976.8	954.2	4290.8	ACF = Q $\left[\frac{P_c^2}{P_2^2 - P_w^2} \right]^n = 1.013$						
5											
Absolute Open Flow				1,013	Mcf @ 15.025		Angle of Slope		49.75	Slope, n = .847	
Remarks: Made 5BBLS Cond. in 4:0 Hours = 30.0 B/D											
Approved by Operator			Conducted By: Larry Semmes, Inc.			Calculated By: R.E. Easton			Checked by: PE #2208 Joe A. Coleman		

RECEIVED
MAR 15 1983
C.C.D.
HOBBS OFFICE