

c/sf
FileMULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL
MAR-5 '90

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 1-2-90		O.C.D.							
Company Great Western Drilling Company		Connection No		ARTESIA, OFFICE							
Fluid Pecos Slope Abo		Formation Abo		Unit							
Completion Date 10-17-89		Total Depth 4150		Plug Back TD 4,093							
Elevation GL 3820		Farm or Lease Name Quail Federal		Well No. 3							
Casing Size 5 1/2		Wt. 17 & 20#		Set At 4150.69							
Perforations: From 3674 To 3860		Well No. 3		Unit H 23 6S 25E							
Type Well - Single - Dradhead - G.G. or G.O. Multiple Single		Packer Set At None		County Chaves							
Producing Thru Tbg.		Reservoir Temp. °F 97		Mean Annual Temp. °F 60							
Baro. Press. - P _g 13.2		State NM		Prover 2"							
L 3767		H 3767		G _g .646							
% CO ₂ 0		% N ₂ 4.90		% H ₂ S --							
Meter Run		Taps		Prover 2"							
FLOW DATA											
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	Duration of Flow
SI							611		600		72 hrs.
1.	2 x 1/8			587		56	587		600		1 hr.
2.	2 x 3/16			489		54	489		515		1 1/4 hr.
3.	2 x 7/32			416		53	416		430		1 hr.
4.	2 x 1/4			354		52	354		380		1 hr.
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 _{sp}	Rate of Flow Q, Mc/d				
1.	.2648		600.2	1.004	1.244	1.062	211				
2.	.6082		502.2	1.006	1.244	1.051	402				
3.	.8393		429.2	1.007	1.244	1.044	471				
4.	1.087		367.2	1.008	1.244	1.037	519				
5.											
NO.	R	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio <u>Dry Gas</u> Mcf/bbl.						
1.	.90	516	1.42	.887	A.P.I. Gravity of Liquid Hydrocarbons <u>Dry</u> Deg.						
2.	.75	514	1.42	.905	Specific Gravity Separator Gas <u>.646</u> X X X X X X X X						
3.	.64	513	1.42	.918	Specific Gravity Flowing Fluid <u>X X X X X</u>						
4.	.55	512	1.41	.930	Critical Pressure <u>* 663</u> P.S.I.A. P.S.I.A.						
5.					Critical Temperature <u>* 361</u> R R						
*** P _c 608.2 P _w 369.9											
NO.	P _i ²	P _w	P _e ²	P _e ² - P _w ²	(1) $\frac{P_e^2}{P_e^2 - P_w^2} = 17.046$ (2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 4.117$						
1	***	590.1	348.2	21.7	AOF = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = .869$ Post ID-2 8-3-90 Comp & AK						
2	***	490.6	240.7	129.2							
3	***	419.8	176.2	193.7							
4	***	354.3	125.5	244.4							
5											
Absolute Open Flow <u>869</u> Mc/d @ 15.025 Angle of Slope <u>63.5</u> Slope, n <u>.499</u>											
Remarks: * = corrected to 4.90% N ₂ . No fluid produced.											
** = BHP instrument set @ this depth											
*** = P _c & P _w were obtained with Amerada RPG-3 instrument & calculated to surface											
Approved By Division			Conducted By: John West Engineering			Calculated By: JBM			Checked By: JBM		