

APR -6 1987

Form C-122
Revised 10-1-78

457
File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS.

Type Test 4POINT ☒ Initial ☐ Annual ☐ Special		Test Date 3-9-87		ARTESIA OFFICE							
Company SANTA FE ENERGY		Connection TO AIR									
Pool E. Carlsbad Wolfcamp		Formation WOLF CAMP		Unit							
Completion Date 3-4-87		Total Depth 10705		Plug Back TD 10558							
Elevation		From or Lease Name CHASE STATE 2									
Coq. Size 5.500	Wt. 23#	d 4.670	Set At 10699	Perforations: From 9579 To 9693							
Thg. Size 2.375	Wt. 4.7	d 1.995	Set At 9470	Perforations: From OPEN To ENDED							
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At 9470							
Producing Thru TUBING		Reservoir Temp. °F 221# 9636		Mean Annual Temp. °F 60°							
Base. Press. - P _g 13.2		State NEW MEXICO									
L 9636	H 9635	G _g .7234	% CO ₂ .066	% N ₂ .514	% H ₂ S 0						
Prover 0		Meter Run 3.068		Taps FLG							
FLOW DATA			TUBING DATA		BHP DATA						
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
51							3984	65	5418	221	123 HR
1.	3.068		1.000	405	3.5	85	3410	64	4879	221	60 MIN
2.	3.068		1.000	410	6.0	85	3022	64	4514	221	60 MIN
3.	3.068		1.000	415	15.0	78	2645	63	4049	221	60 MIN
4.	3.068		1.000	415	23.0	75	2250	62	3581	221	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, Mcd				
1	4.789	38.26	418.2	0.9768	1.1757	1.0455	220				
2	4.789	50.39	423.2	0.9768	1.1757	1.0460	290				
3	4.789	80.14	428.2	0.9831	1.1757	1.0492	465				
4	4.789	99.24	428.2	0.9859	1.1757	1.0503	579				
5											
NO.	R _g	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio 10.483 Mcd/bbl.						
					A.P.I. Gravity of Liquid Hydrocarbons 63.7 Deg.						
1	0.63	545	1.38	0.915	Specific Gravity Separator Gas 0.723			XXXXXX.XXX			
2	0.64	545	1.38	0.914	Specific Gravity Flowing Fluid XXXXX			0.940			
3	0.64	538	1.36	0.908	Critical Pressure 666 P.S.I.A.			655 P.S.I.A.			
4	0.64	535	1.35	0.907	Critical Temperature 396 R			463 R			
5											
P _c 3958 P _w ² 15665											
NO.	P _c	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.5477$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.5362$						
1	11718	3469	12035	3631	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 889.4$ Post ID-2 4-24-87 Camp & BK						
2	9212	3145	9892	5773							
3	7066	2744	7527	8139							
4	5122	2355	5544	10121							
5											
Absolute Open Flow 889		Mcd @ 15.025		Angle of Slope 45.5		Slope, n 0.983					
Remarks: BOTTOM HOLE PRESSURE TAKEN WITH AMERADA INSTRUMENTS											
Approved By Division			Conducted By: BENNETT & CATHEY			Calculated By: RICHARD TOWNLEY			Checked By:		