

SF, File
122 file
USG
Form C-122
Revised 9-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 10-7-77		DEC 22 1977	
Company Southland Royalty Company				Connection None			
Pool Undesignated <i>Morrow</i>				Formation Morrow		Unit O.C.C. ARTESIA OFFICE	
Completion Date 10-4-77		Total Depth 11200.		Plug Back TD 10980		Elevation 3492	
Csg. Size 4.500		Wt. 11.6		Set At 11200		Perforations: From 10935 To 10942	
Trq. Size 2.375		Wt. 4.7		Set At 10884		Perforations: From 0 To 0	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 10884		County Eddy	
Producing Thru TBG		Reservoir Temp. °F 198 @ 10939		Mean Annual Temp. °F 60.0		Baro. Press. - P _a 13.2	
L 10939		H 10939		G _g 0.690		% CO ₂ 0	
				% N ₂ 0		% H ₂ S 0	
				Prover 0		Meter Run 2.1	
						Taps Pipe	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
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
SI							1990	66			72.0
1.	2.07 x 0.750			420	14.4	76	1900	65	0	0	1.0
2.	2.07 x 0.750			430	38.4	58	1680	64	0	0	1.0
3.	2.07 x 0.750			430	56.0	49	1150	63	0	0	1.0
4.	2.07 x 0.750			458	82.2	48	450	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 F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.94	78.98	433.2	0.9850	1.2039	1.0457	288
2	2.94	130.46	443.2	1.0019	1.2039	1.0537	488
3	2.94	157.54	443.2	1.0107	1.2039	1.0568	596
4	2.94	196.81	471.2	1.0117	1.2039	1.0611	741
5		195.13	463.2			1.0599	

NO.	P _r	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	0.65	536	1.39	0.914	0	0	0.690	XXXXXX	668	387
2	0.66	518	1.34	0.901						
3	0.66	509	1.32	0.895						
4	0.71	508	1.31	0.888						
5	0.69			0.890						

NO.	P _r	P _w	P _r ²	P _w ²	P _r ² - P _w ²
1	3660	1909	3643	343	
2	2867	1692	2862	1124	
3	1353	1167	1362	2624	
4	215	484	235	3752	
5					

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 1.0624$

ACF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 764$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.0309$

Absolute Open Flow	764	Mcfd @ 15.025	Angle of Slope	63.3	Slope, n	0.503
--------------------	-----	---------------	----------------	------	----------	-------

Remarks:			
Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	BJ Well Testing		D. P. Craig