

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

Form C-122
Revised 9-1-65
RECEIVED

JUL 24 1980

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 7/4/80			
Company Southland Royalty Company				Connection Northern Natural Gas				O. C. D. ARTESIA, OFFICE	
Pool Undesignated				Formation Morrow				Unit	
Completion Date 7/4/80		Total Depth 11,758'		Plug Back TD 11,645'		Elevation 3,420' Gr.		Farm or Lease Name Empire, Fed 34 Com	
Csg. Size 4 1/2"	Wt. 13.5 #	d 3.92	Set At 11,758'	Perforations: From 11,400 To 11,458		Well No. 1			
Tbg. Size 2 3/8	Wt. 4.7 #	d 1.995	Set At 11,311'	Perforations: From To		Unit Sec. Twp. Rge. G 34 T-18-S R-29-E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple single				Packer Set At 11,311'		County Eddy County, NM			
Producing Thru Tubing		Reservoir Temp. °F 190 @ 11429		Mean Annual Temp. °F 60.0		Baro. Press. - P _a 13.2		State New Mexico	
L 11429	H 11429	G _g 0.632	% CO ₂ 0.06	% N ₂ 0	% H ₂ S 0	Prover 0	Meter Run 2.1	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		v					3560	80.			24.0
1.	2.07 X 1.250			300.	16.0	72.	3470.	82.	0.	0.	1.0
2.	2.07 X 1.250			290.	44.0	72.	3400	85.	0.	0.	1.0
3.	2.07 X 1.250			295.	57.0	48.	3360	85.	0.	0.	1.0
4.	2.07 X 1.250			440.	73.0	61.	3235	85.	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	8.12	70.79	313.2	0.9887	1.2579	1.0291	736.
2	8.12	115.50	303.2	0.9887	1.2579	1.0281	1199.
3	8.12	132.54	308.2	1.0117	1.2579	1.0329	1415.
4	8.12	181.89	453.2	0.9990	1.2579	1.0444	1938.
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.47	532.	1.44	0.944	0.	
2	0.45	532.	1.44	0.946	A.P.I. Gravity of Liquid Hydrocarbons 60.0	Deq.
3	0.46	508.	1.38	0.937	Specific Gravity Separator Gas 0.632	XXXXXXX
4	0.68	521.	1.41	0.917	Specific Gravity Flowing Fluid XXXXX	0.632
5					Critical Pressure 671. P.S.I.A.	671. P.S.I.A.
					Critical Temperature 369. R	369. R

NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²
1	12133.	3457.	11952.	632.
2	11650.	3388.	11475.	1108.
3	11378.	3350.	11226.	1358.
4	10551.	3235.	10468.	2115.
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 5.9492$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.1645$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 8073.$

Posted 10-2-80

Absolute Open Flow	8073.	Mcf/d @ 15.025	Angle of Slope θ	51.3	Slope, n	0.800
Remarks:						

Approved By Commission:	Conducted By: B.J. Well Service	Calculated By: Ray F. Nokes	Checked By: Don R. Craig
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