

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

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 8-5-81		RECEIVED	
Company Southland Royalty Company ✓					Connection To the Air		AUG 26 1981	
Pool North Turkey Track <i>Morrow</i>					Formation Morrow		Unit O. C. D.	
Completion Date 7-25-81					Total Depth 11,408		Plug Back TD 11,165	
					Elevation 3517' GR		Farm or Lease Name Empire Federal 21-A	
Csg. Size 4.5	Wt. 13.5#	d 3.920	Set At 11,408'	Perforations: From 11,070 To 11,139		Well No. 1		
Tbg. Size 2.375	Wt. 4.7#	d 1.995	Set At 10,938	Perforations: From 0. To 0.		Unit Sec. Twp. Rge. S21 T18S R29		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Gas-Single					Packer Set At 10,938'		County Eddy County	
Producing Thru TBG		Reservoir Temp. °F 185. @ 11109.		Mean Annual Temp. °F 60.0		Baro. Press. - P _a 13.2		State New Mexico
L 11,104	H 11,104	Gg 0.652	% CO ₂ 0.00	% N ₂ 0.63	% H ₂ S 0.00	Prover 0.0	Meter Run 2.0	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							2950.	98.			84.0
1.	2.00 x 1.000			318.	3.0	105.	2610.	88.	0.	0.	1.0
2.	2.00 x 1.000			330.	6.0	85.	2440.	88.	0.	0.	1.0
3.	2.00 x 1.000			327.	20.0	97.	2150.	87.	0.	0.	1.0
4.	2.00 x 1.000			274.	31.0	81.	1890.	88.	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 Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	4.97	31.52	331.2	0.9594	1.2384	1.0254	191.
2	4.97	45.38	343.2	0.9768	1.2384	1.0306	281.
3	4.97	82.49	340.2	0.9662	1.2384	1.0276	504.
4	4.97	94.36	287.2	0.9804	1.2384	1.0263	585.
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.	0.50	565.	1.51	0.951	A.P.I. Gravity of Liquid Hydrocarbons 59.0 Deg.
2.	0.51	545.	1.46	0.941	Specific Gravity Separator Gas 0.652 X X X X X X X X
3.	0.51	557.	1.49	0.947	Specific Gravity Flowing Fluid X X X X X 0.652
4.	0.43	541.	1.45	0.949	Critical Pressure 669. P.S.I.A. 669. P.S.I.A.
5.					Critical Temperature 373. R 373. R

P _c 2912.7 P _c ² 8484.				
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1	6881.	2588.	6696.	1788.
2	6018.	2419.	5851.	2632.
3	4679.	2135.	4558.	3926.
4	3622.	1878.	3527.	4957.
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.7114$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.7114$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1001.$

Absolute Open Flow 1001. Mcfd @ 15.025	Angle of Slope 45.0	Slope, n 1.000
Remarks:		

Approved By Commission:	Conducted By: Don Bennett	Calculated By: Ray Nokes	Checked By: Ray Nokes
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