

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

Form C-122
Revised 9-1-65

CONFIDENTIAL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 7/9/00	
Company Pogo Producing Co.			Connection 7-14-00		
Pool N Shugart Morrow			Formation Morrow		Unit P 6-18-31
Completion Date		Total Depth		Plug Back TD 11738	Elevation
Csg. Size 3.5	Wt. 9.4	d	Set At	Perforations: From 11674 To 11692	
Tbg. Size 2.875	Wt. 6.4	d 2.441	Set At 9454	Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 9455	County Eddy
Producing Thru Tubing		Reservoir Temp. °F 168 @ 11683		Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2
L 11683	H 11683	G _g 0.702	% CO ₂	% N ₂	% H ₂ S
			Prover	Meter Run 4.026	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.	
SI										
1.	4.026	2.50		485	13	76				
2.	4.026	2.50		487	18	78				
3.	4.026	2.50		483	24	74				
4.	4.026	2.50		490	35	57				
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.	32.64	80.48	498.2	0.9850	1.1935	1.0553	3263
2.	32.64	94.89	498.2	0.9831	1.1935	1.0547	3837
3.	32.64	109.13	496.2	0.9868	1.1935	1.0558	4432
4.	32.64	132.71	503.2	1.0029	1.1935	1.0642	5518
5.							

NO	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 50.251 Mcf/bbl.
1.	0.75	536	1.37	0.898	A.P.I. Gravity of Liquid Hydrocarbons 52.7 Deg.
2.	0.75	538	1.38	0.899	Specific Gravity Separator Gas 0.702 XXXXXXXXXX
3.	0.74	534	1.37	0.897	Specific Gravity Flowing Fluid XXXX 0.755
4.	0.75	517	1.32	0.883	Critical Pressure 667 P.S.I.A. 665 P.S.I.A.
5.					Critical Temperature 390 R 407 R

P _c 3317.1 P _c ² 11003				$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 3.9495 \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.9873$ $AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 10966$
NO.	P _r ²	P _w	P _w ²	
1.		3273	10712	
2.		3195	10210	
3.		3103	9631	
4.		2867	8217	

Absolute Open Flow 10966 Mcfd @ 15.025	Angle of Slope θ 63.4	Slope, n 0.500
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Remarks: Bottomhole pressures were measured using electronic pressure gauge #V-63. Due to the risk of damage to the Morrow formation using a 24 hour shut-in period, the AOF calculation was performed using a one hour shut-in period.

Approved By Commission:	Conducted By: ARC Pressure Data, Inc.	Calculated By: Rod Dodson	Checked By:
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GAS WELL BACK-PRESSURE CURVE

POGO PRODUCING CO.
NESTE '6' #1
EDDY COUNTY, NM
7/9/00

$n = 0.5$

$\theta = 63.4^\circ$

AOF = 10966 Mcf/day

