NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

30-015-31813

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 10/5/00	
Company: POGO PRODUCING CO.		Connection: 10-14-00 CONFIDENTIAL			
Pool: N Shugart Morrow		Formation: MORROW		Unit	
Completion Date: 9-24-00	Total Depth: 11,950	Plug Back TD: 11773	Elevation: 3634	Farm or Lease Name: SHUGART 6 Fed Com	
Csg. Size: 5.5 / Wt.: 20 / d: 4.778 / Set At:		Perforations: From 11716 To 11763		Well No.: 1	
Tbg. Size: 2.875 / Wt.: 6.5 / d: 2.441 / Set At: 11546		Perforations: From To		Unit: H / Sec.: 6 / Twp.: 18S / Rge.:	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: SINGLE		Packer Set At		County: EDDY	
Producing Thru: TUBING	Reservoir Temp.°F: 164 @ 11738	Mean Annual Temp.°F: 60	Baro. Press. - P_a: 13.2	State: NM	

L	H	G_g	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
11738	11738	0.672					4.026	FLANGE

	FLOW DATA					TUBING DATA		CASING DATA		
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	Duration of Flow
SI						3246	83			1
1.	4.026	2.250	650	1.21	169	3161	84			1
2.	4.026	2.250	661	4.00	151	3010	86			1
3.	4.026	2.250	669	23.04	69	2457	88			1
4.	4.026	2.250	668	37.21	72	2115	90			1
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.	25.64	27.01	663.2	0.9092	1.2199	1.0351	834
2.	25.64	51.93	674.2	0.9225	1.2199	1.0404	1559
3.	25.64	125.26	682.2	0.9915	1.2199	1.0726	4170
4.	25.64	159.19	681.2	0.9887	1.2199	1.0708	5272
5.							

NO.	P_r	Temp.°R	T_r	Z
1	0.99	629	1.65	0.932
2.	1.01	610	1.60	0.923
3.	1.02	529	1.39	0.867
4.	1.02	532	1.40	0.870
5				

Gas Liquid Hydrocarbon Ratio 54.889 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 52.2 Deg.

Specific Gravity Separator Gas	0.672	XXXXXXXXX
Specific Gravity Flowing Fluid	XXXX	0.672
Critical Pressure	669 P.S.I.A	669 P.S.I.A
Critical Temperature	381 R	381 R

P_c 3539.7 P_c^2 12529

NO.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1.		3428	11754	775
2.		3273	10716	1813
3.		2731	7456	5073
4.		2401	5763	6766
5.				

(1) $\frac{P_c^2}{P_c^2 - P_w^2}$ = 1.8517 (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 1.6931

$AOF = Q\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 8925

Absolute Open Flow 8925 Mcfd @ 15.025 Angle of Slope θ 49.5 Slope, n 0.855

Remarks: Bottomhole pressures were recorded using gauge #P-79.

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	ARC Pressure Data, Inc.	Rod Dodson	

GAS WELL BACK-PRESSURE CURVE

POGO PRODUCING CO.
SHUGGART 6 #1
EDDY COUNTY,NM
10/5/00

n = 0.855 θ = 49.5 ° AOF = 8925 Mcf/day