

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

C/SF

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator PENWELL ENERGY				Lease or Unit Name F.H. STATE 28 COM			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 3/17/97		Well No. 1	
Completion Date		Total Depth 11,985		Plug Back TD 11,940		Elevation	
Csg. Size 7"		WL 26#		d 6.276		Set At 10,627	
Tbg. Size 2-3/8		WL 4.7		d 1.995		Set At 10,049	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple DUAL				Packer Set At 10,049		Formation STRAWN	
Producing Thru TBG		Reservoir Temp. °F 181.4		Mean Annual Temp. °F 60°		Baro. Press - P _a 13.2	
L 10,040		H 10,040		G _g .643		% CO ₂ .40	
				% N ₂ .61		% H ₂ S	
				Prover -0-		Meter Run 3.067	
						Taps FLG.	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	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						1652		PKR.		72 hr.
1.	3.068 X	1.875	409	1.1"	74°	1610	57°	"		60 min
2.	3.068 X	1.875	409	4.4"	76°	1578	58°	"		60 min
3.	3.068 X	1.875	422	9.6"	78°	1500	61°	"		60 min
4.	3.068 X	1.875	397	19.4"	78°	1415	63°	"		60 min
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, F _{pv}	Rate of Flow Q, Mcfd
1.	18.29	21.55	422.2	.9868	1,247	1.038	503
2.	18.29	43.10	422.2	.9850	1,247	1.038	1005
3.	18.29	64.63	435.2	.9831	1,247	1.038	1504
4.	18.29	89.20	410.2	.9831	1,247	1.036	2072
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	.627	534	1.45	.929	N/A	
2.	.627	536	1.45	.929	N/A	
3.	.646	538	1.46	.928	.643	XXXXXXXXXX
4.	.609	538	1.46	.932	N/A	N/A
5.						

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1.	1647.5	2714.2	32.1	
2.	1623.3	2635.1	111.2	
3.	1571.4	2469.2	277.1	
4.	1504.9	2264.7	481.6	
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 5.702$

2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.429$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5032.8$

Absolute Open Flow **5032.8** Mcfd @ 15.025

Angle of Slope Θ **62.6**

Slope, n **.51**

Remarks: ***CALCULATED FROM KNOWN BOTTOM HOLE PRESSURES**

Approved By Division	Conducted By: PRO WELL TESTER	Calculated By: MB	Checked By: BM
----------------------	---	-----------------------------	--------------------------