

OIL CONSERVATION DIVISION

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator SANTA FE ENERGY					Lease or Unit Name ROARING SPRINGS 13				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 3-25-97		Well No. 4		
Completion Date		Total Depth 9647		Plug Back TD 9621		Elevation		Unit Ltr. Sec. TWP - Rge. 13-21S-23E	
Csg. Size 7"	Wt. 26#	d 6.276	Set At 9621	Perforations: From: 9544 To: 9556			County EDDY		
Tbg. Size 2-3/8	Wt. 4.7	d 1.995	Set At 9254	Perforations: From: To:			Pool E Ind. Basin Mor		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple single					Packer Set At 9254		Formation MORROW		
Producing Thru tbq		Reservoir Temp. °F 172.6		Mean Annual Temp. °F 60°		Baro. Press - P _a 13.2		Connection AKR	
L 9214	H 9214	Gg .586	% CO ₂ .80	% N ₂ .16	% H ₂ S	Prover -0-	Meter Run 4.026	Taps flg	

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						1925		PKR		
1.	4.026	X 1.750	100	9	64°	1680	77°	"		60 min
2.	4.026	X 1.750	100	12	68°	1090	80°	"		60 min
3.	4.026	X 1.750	100	25	68°	860	80°	"		60 min
4.	4.026	X 1.750	100	35	64°	635	80°	"		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 F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	14.93	31.9	113.2	.9962	1.306	1.009	625
2.	14.93	36.8	113.2	.9924	1.306	1.009	718
3.	14.93	53.1	113.2	.9924	1.306	1.009	1036
4.	14.93	62.9	113.2	.9962	1.306	1.009	1232
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	N/A	Mcf/bbl
1.	.16	524	1.51	.983	A.P. I Gravity of Liquid Hydrocarbons	N/A	Deg.
2.	.16	528	1.52	.983	Specific Gravity Separator Gas	.586	XXXXXXXXXX
3.	.16	528	1.52	.983	Specific Gravity Flowing Fluid	N/A	XXXXXX
4.	.16	524	1.51	.983	Critical Pressure	675	PSIA
5.					Critical Temperature	346	R

P_c 2012.5 - P_c² 4050.1

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		1753.1	3073.3	976.8
2.		1624.9	2640.3	1409.8
3.		1187.4	1409.9	2640.2
4.		1031.7	1064.4	2985.7
5.				

$$1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.35 \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.20$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.478$$

Absolute Open Flow **1.478** Mcfd @ 15.025 Angle of Slope Θ **57.9** Slope, n **.6295**

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

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