

OIL CONSERVATION DIVISION

P.O. Box 2083
Santa Fe, New Mexico 87504-2083

4

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator <u>Santa Fe Energy</u>					Lease or Unit Name <u>Roaring Springs</u>				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date <u>5/2/98</u>				
Completion Date <u>4/22/98</u>		Total Depth <u>9622'</u>		Plug Back TD <u>9555'</u>		Elevation		Unit Loc. - Sec. - Twp. - Rge. <u>P 14-21-23</u>	
Log. Size <u>7"</u>		Wt. <u>26#</u>		Set At <u>9150</u>		Perforations: From: <u>9504</u> To: <u>9532</u>		County <u>Eddy</u>	
Log. Size <u>2 3/8</u>		Wt. <u>4.7</u>		Set At <u>9622</u>		Perforations: From: To:		Pool <u>Ind. Basin Morrow</u>	
Type Well - Single - Bradenhead - G.C. or G.C. Multiple <u>Single</u>					Packer Set At <u>9443</u>				
Producing Thru <u>tbq</u>		Reservoir Temp. °F <u>600</u>		Mean Annual Temp. °F <u>600</u>		Baro. Press. - P. <u>13.2</u>		Connection <u>sales</u>	
L <u>9622</u>	il <u>9622</u>	Gg <u>.587</u>	% CO ₂ <u>.760</u>	% N ₂ <u>.269</u>	% H ₂ S <u>0</u>	Prover <u>0</u>	Meas. Run <u>2.900</u>	Taps <u>6lg</u>	

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						879		ipkr		24 hrs
1.	2.900 X .500	70	6"	740	838	740	ipkr			45 min
2.	2.900 X .500	100	18"	760	798	750	ipkr			45 min
3.	2.900 X .500	140	65"	760	684	750	ipkr			45 min
4.	2.900 X .500	300	76"	740	560	750	ipkr			45 min
5.										

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	h _w P _m	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mcfd
1.	1.184	22.34	83.2	.9868	1.305	1.038	35
2.	1.184	45.13	113.2	.9850	1.305	1.038	71
3.	1.184	99.78	153.2	.9850	1.305	1.038	157
4.	1.184	154.28	313.2	.9868	1.305	1.038	244
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	N/A	Mcft/bbl
1.	.79	534	1.54	.928	A.P. I. Gravity of Liquid Hydrocarbons	N/A	Deg.
2.	.79	536	1.54	.923	Specific Gravity Separator Gas	.587	XXXXXXXXXX
3.	.79	536	1.54	.928	Specific Gravity Flowing Fluid	N/A	XXXXXX
4.	.79	534	1.54	.928	Critical Pressure	675	P.S.I.A.
5.					Critical Temperature	346	R

P _c <u>892.2</u>		P _w <u>796.0</u>	
NO.	P _c ²	P _w	P _w ²
1.	724.5	851.2	724.6
2.	658.0	811.3	658.2
3.	486.1	697.7	486.8
4.	328.6	574.8	330.4
5.			

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.70$

2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.70$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 417$

Absolute Open Flow 417 Mcfd @ 15.025

Angle of Slope θ 45°

Slope, n 1.000

Remarks: *No fluid made during test

Approved By Division	Conducted By: <u>Pro well testing</u>	Calculated By: <u>VB</u>	Checked By: <u>3M</u>
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ROSWELL OFFICE