

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 <i>Enerstar Resources</i>					Lease or Unit Name <i>Raines</i>						
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date <i>4-10-97</i>						
Completion Date <i>3/17/97</i>		Total Depth <i>815</i>		Plug Back TD <i>802</i>		Elevation <i>3227</i>		Well No. <i>1</i>			
Csg. Size <i>4 1/2</i>		WL <i>13.5</i>	d <i>3.920</i>	Set At <i>815'</i>	Perforations: From: <i>702</i> To: <i>751</i>				Unit Ltr. - Sec. - TWP - Rge. <i>B-27-30-28</i>		
Tbg. Size <i>2 2/8</i>		WL <i>4.7</i>	d <i>1.995</i>	Set At <i>680'</i>	Perforations: From: To:				County <i>Eddy</i>		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple <i>Single</i>					Packer Set At <i>N/A</i>					Formation <i>Vates</i>	
Producing Thru Tbg		Reservoir Temp. °F <i>80.8</i>		Mean Annual Temp. °F <i>60°</i>		Baro. Press - P _a <i>13.2</i>		Connection <i>Sales</i>			
L <i>680</i>	H <i>680</i>	Gg <i>.805</i>	% CO ₂ <i>.55</i>	% N ₂ <i>3.35</i>	% H ₂ S <i>0</i>	Prover <i>0</i>		Meter Run <i>4.026</i>	Taps <i>F/G</i>		

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											
1.	4.026	X	1.500	33	.5	62°	250		N/A		60 min.
2.	4.026	X	1.500	33.7	1.5	64°	198.2				60min
3.	4.026	X	1.500	34.1	7.8	68°	195.2				60 min
4.	4.026	X	1.500	34.1	7.8	68°	185.2				60 min
5.	4.026	X	1.500	33.6	26	68°	163.2				60 min

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 _{sp}	Rate of Flow Q, Mcfd
1.	10.84	4.80	46.2	.9981	1.115	1.083	62
2.	10.84	8.39	46.9	.9962	1.115	1.083	109
3.	10.84	19.27	47.3	.9924	1.115	1.078	249
4.	10.84	34.99	46.8	.9924	1.115	1.078	452

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl
1.	.79	522	1.25	.853	N/A	
2.	.79	524	1.25	.853	N/A	
3.	.79	528	1.27	.861	N/A	
4.	.79	528	1.27	.861	N/A	

P _c <i>263.2</i> P _w <i>69.3</i>					1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.651$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^a = 1.651$
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^a = 746$	
1.	39.3	198.2	39.3	30.0		
2.	38.1	195.3	38.1	31.1		
3.	34.3	185.8	34.5	34.8		
4.	26.6	165.3	27.3	42.0		

Absolute Open Flow <i>746</i> Mcfd @ 15.025	Angle of Slope θ <i>45°</i>	Slope, n <i>1.000</i>
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Remarks: ** No fluid made during test*

Approved By Division	Conducted By: <i>Pro Well Testers</i>	Calculated By: <i>MB</i>	Checked By: <i>BM</i>
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