

OIL CONSERVATION DIVISION

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator <u>Santa Fe Energy</u>					Lease or Unit Name <u>Hackberry 18 Fed</u>				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date <u>12-5-97</u>		Well No. <u>1</u>		
Completion Date <u>10-11-97</u>		Total Depth		Plug Back TD		Elevation		Unit Ltr. - Sec. - TWP - Rge. <u>18 19-S 31-E</u>	
Csg. Size	Wt.	d	Set At	Perforations:		Country			
<u>5 1/2</u>	<u>17/20</u>	<u>4.892</u>	<u>12348</u>	From: <u>12148</u> To: <u>12154</u>		<u>Eddy</u>			
Tbg. Size	Wt.	d	Set At	Perforations:		Pool			
<u>2 3/8</u>	<u>4.7</u>	<u>1.995</u>	<u>12.018</u>	From: To:		<u>Artesia</u>			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple <u>Single</u>					Packer Set At <u>12052</u>		Formation		
Producing Thru <u>TBG</u>		Reservoir Temp. °F <u>179.8</u>		Mean Annual Temp. °F <u>60°</u>		Baro. Press - P _a <u>13.2</u>		Connection <u>Sales</u>	
L <u>12.052</u>	H <u>12.052</u>	Gg <u>.674</u>	% CO ₂ <u>.70</u>	% N ₂ <u>.43</u>	% H ₂ S <u>N/A</u>	Prover <u>0</u>	Meter Run <u>4.026</u>	Taps <u>F/G</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						<u>2840</u>		<u>PKR.</u>		
1.	<u>4.026 X 1.750</u>		<u>344.4</u>	<u>11.4"</u>	<u>75.2°</u>	<u>2695</u>	<u>62°</u>			<u>60 min</u>
2.	<u>4.026 X 1.750</u>		<u>347.6</u>	<u>29.5"</u>	<u>90.8°</u>	<u>2572</u>	<u>62°</u>			<u>60 min</u>
3.	<u>4.026 X 1.750</u>		<u>353.1</u>	<u>55.7"</u>	<u>90.4°</u>	<u>2456</u>	<u>63°</u>			<u>60 min</u>
4.	<u>4.026 X 1.750</u>		<u>362.1</u>	<u>92.0</u>	<u>81.3°</u>	<u>2335</u>	<u>64°</u>			<u>60 min</u>
5.	<u>4.026 X 1.750</u>									

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _L	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mcfd
1.							<u>1245</u>
2.							<u>1979</u>
3.							<u>2765</u>
4.							<u>3601</u>
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.					<u>46.463</u>	
2.					<u>54.0</u>	
3.					<u>.674</u>	<u>XXXXXXXXXX</u>
4.					<u>666</u>	<u>PSIA</u>
5.					<u>378</u>	<u>R</u>

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		<u>2889.6</u>	<u>8349.78</u>	<u>613.0</u>
2.		<u>2785.0</u>	<u>7756.22</u>	<u>1206.6</u>
3.		<u>2690.1</u>	<u>7236.63</u>	<u>1726.2</u>
4.		<u>2574.0</u>	<u>6625.47</u>	<u>2337.3</u>
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = \underline{3.83}$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{10,626.5}$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{2.95}$

Absolute Open Flow <u>10,626.5</u> Mcfd @ 15.025	Angle of Slope θ <u>51.11</u>	Slope, n <u>.806</u>
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Remarks: *Calculated from known bottom hole pressures.
*Well made 8.6 BBLS of 54° API Gravity condensate.

Approved By Division	Conducted By: <u>Pro Well Testing</u>	Calculated By: <u>M.B.</u>	Checked By: <u>B.M.</u>
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