

## NEW MEXICO OIL CONSERVATION COMMISSION

MODES OFFICE GCC

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

REVISED 12-1-55

Pool Jalnet Formation Yates-7 Rivers County Lee  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 1-28/29-1957  
Company Leonard Oil Co. Lease B.M. Justis Well No. 2  
Unit H Sec. 20 Twp. 25 Rge. 37 Purchaser EPNG  
Casing 7" Wt. 24 I.D. \_\_\_\_\_ Set at 2890 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Tubing 2 1/2" Wt. \_\_\_\_\_ I.D. \_\_\_\_\_ Set at 2900 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Gas Pay: From 2890 To 3030 L 2900 xG 0.660 -GL 1914 Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 7-21-37 Packer None Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	( <u>Prover</u> ) (Line) Size	( <u>Choke</u> ) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>421</u>				<u>72</u>
1.	<u>4</u>	<u>1.000</u>	<u>253</u>	<u>22.1</u>	<u>53</u>	<u>365</u>				<u>24</u>
2.	<u>4</u>	<u>1.000</u>	<u>253</u>	<u>32.5</u>	<u>49</u>	<u>345</u>				<u>24</u>
3.	<u>4</u>	<u>1.000</u>	<u>260</u>	<u>41.6</u>	<u>56</u>	<u>325</u>				<u>24</u>
4.	<u>4</u>	<u>1.000</u>	<u>260</u>	<u>56.3</u>	<u>59</u>	<u>300</u>				<u>24</u>
5.										

## FLOW CALCULATIONS

No.	Coefficient Flange (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>6.135</u>	<u>76.66</u>		<u>1.0068</u>	<u>.9535</u>	<u>1.029</u>	<u>464</u>
2.	<u>6.135</u>	<u>92.97</u>		<u>1.0107</u>	<u>.9535</u>	<u>1.030</u>	<u>565</u>
3.	<u>6.135</u>	<u>106.57</u>		<u>1.0039</u>	<u>.9535</u>	<u>1.029</u>	<u>644</u>
4.	<u>6.135</u>	<u>123.92</u>		<u>1.0010</u>	<u>.9535</u>	<u>1.029</u>	<u>767</u>
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 5.866 (1-e<sup>-S</sup>) 0.123

Specific Gravity Separator Gas 0.660  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 434.2 P<sub>c</sub><sup>2</sup> 188.5

No.	$P_t$ P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-S</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.	<u>378.2</u>	<u>143.0</u>	<u>2.72</u>	<u>7.40</u>	<u>0.91</u>	<u>143.9</u>	<u>44.6</u>	<u>379.3</u>	<u>.87</u>
2.	<u>378.2</u>	<u>128.3</u>	<u>3.31</u>	<u>10.96</u>	<u>1.35</u>	<u>129.7</u>	<u>58.8</u>	<u>360.3</u>	<u>.82</u>
3.	<u>378.2</u>	<u>114.4</u>	<u>3.78</u>	<u>14.29</u>	<u>1.78</u>	<u>116.2</u>	<u>72.3</u>	<u>340.9</u>	<u>.77</u>
4.	<u>378.2</u>	<u>98.1</u>	<u>4.38</u>	<u>19.18</u>	<u>2.36</u>	<u>100.5</u>	<u>88.0</u>	<u>317.0</u>	<u>.72</u>
5.									

Absolute Potential: 1.390 MCFPD; n .720  
COMPANY Leonard Oil Co.  
ADDRESS Nowell, N.M. Box 708  
AGENT and TITLE Fowler Hix, Production Supt.  
WITNESSED Earl G. Smith  
COMPANY EPNG

REMARKS

ELMS  
Gas

## INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

## NOMENCLATURE

- $Q$  = Actual rate of flow at end of flow period at W. H. working pressure ( $P_w$ ).  
MCF/da. @ 15.025 psia and 60° F.
- $P_c$  = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.  
psia
- $P_w$  = Static wellhead working pressure as determined at the end of flow period.  
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- $P_t$  = Flowing wellhead pressure (tubing if flowing through tubing, casing if  
flowing through casing.) psia
- $P_f$  = Meter pressure, psia.
- $h_w$  = Differential meter pressure, inches water.
- $F_g$  = Gravity correction factor.
- $F_t$  = Flowing temperature correction factor.
- $F_{pv}$  = Supercompressability factor.
- $n$  = Slope of back pressure curve.

Note: If  $P_w$  cannot be taken because of manner of completion or condition of well, then  $P_w$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_t$ .