

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalnet Formation Yates-7 Rivers County Lea
Initial _____ Annual _____ Special X Date of Test 1-28-57
Company Leonard Oil Co. Lease Baton Well No. 1
Unit L Sec. 20 Twp. 25 Rge. 37 Purchaser EPMO
Casing 7" Wt. 24.0 I.D. _____ Set at 2716 Perf. _____ To _____
Tubing 2 1/2" Wt. 6.5 I.D. _____ Set at 2730 Perf. _____ To _____
Gas Pay: From 2716 To 2755 L 2730 xG 0.670 -GL 1829 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 9-9-1936 Packer None Reservoir Temp. _____

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(<u>Flange</u>) (Line) Size	(<u>Flange</u>) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>370</u>				<u>72</u>
1.	<u>4</u>	<u>1.000</u>	<u>256</u>	<u>7.8</u>	<u>50</u>	<u>320</u>				<u>24</u>
2.	<u>4</u>	<u>1.000</u>	<u>260</u>	<u>12.96</u>	<u>48</u>	<u>303</u>				<u>24</u>
3.	<u>4</u>	<u>1.000</u>	<u>265</u>	<u>17.6</u>	<u>53</u>	<u>287</u>				<u>24</u>
4.	<u>4</u>	<u>1.000</u>	<u>260</u>	<u>23.0</u>	<u>63</u>	<u>275</u>				<u>24</u>
5.										

FLOW CALCULATIONS

No.	Coefficient Flange (24-Hour)	$\sqrt{h_w P_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>6.135</u>	<u>45.92</u>		<u>1.0098</u>	<u>.9463</u>	<u>1.030</u>	<u>278</u>
2.	<u>6.135</u>	<u>59.48</u>		<u>1.0117</u>	<u>.9463</u>	<u>1.033</u>	<u>361</u>
3.	<u>6.135</u>	<u>70.03</u>		<u>1.0068</u>	<u>.9463</u>	<u>1.031</u>	<u>423</u>
4.	<u>6.135</u>	<u>79.31</u>		<u>.9971</u>	<u>.9463</u>	<u>1.029</u>	<u>473</u>
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 5.866 (1-e^{-s}) 0.118

Specific Gravity Separator Gas .470
Specific Gravity Flowing Fluid _____
P_c 383.2 P_c 146.8

No.	P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w / P _c
1.	<u>333.2</u>	<u>111.0</u>	<u>1.63</u>	<u>2.66</u>	<u>0.31</u>	<u>111.3</u>	<u>35.5</u>	<u>333.6</u>	<u>0.86</u>
2.	<u>316.2</u>	<u>100.0</u>	<u>2.12</u>	<u>4.49</u>	<u>0.53</u>	<u>100.5</u>	<u>46.3</u>	<u>317.0</u>	<u>0.82</u>
3.	<u>300.2</u>	<u>90.1</u>	<u>2.48</u>	<u>6.15</u>	<u>0.73</u>	<u>90.8</u>	<u>56.0</u>	<u>301.3</u>	<u>0.78</u>
4.	<u>288.2</u>	<u>83.1</u>	<u>2.77</u>	<u>7.67</u>	<u>0.91</u>	<u>84.0</u>	<u>62.8</u>	<u>289.8</u>	<u>0.74</u>
5.									

Absolute Potential: 1.000 MCFPD; n .904

COMPANY Leonard Oil Co.

ADDRESS Boswell, N.M., Box 708

AGENT and TITLE Fowler Hix, Production Supt.

WITNESSED Earl G. Smith

COMPANY EPMO

REMARKS

LIVIS A. UTZ
GAS ENGINEER

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 .

Leonard Oil Co.

Notes #1

1-20-25-37 Lea Co., N.M.

2-1-1957

