Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1960 APR 14 AM 7:52

Pool **Jalmat** Formation **Yates** County **Lea**

Initial ___ Annual ___ Special **X** Date of Test **10-5/10-6-59**

Company **Leonard Oil Company** Lease **Lanehart** Well No. **1-A**

Unit **G** Sec. **21** Twp. **25** Rge. **37** Purchaser **None**

Casing **7** Wt. **20** I.D. ___ Set at **2755** Perf. ___ To ___
5½ Liner **2704-3103**

Tubing **2** Wt. ___ I.D. ___ Set at **2910** Perf. ___ To ___
(Assumed)

Gas Pay: From **3094** To **3110** L **2910** xG **.650** -GL **1891** Bar.Press. **13.2**

Producing Thru: Casing ___ Tubing **X** Type Well **Single**
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: **9-30-55** Packer **2910** Reservoir Temp. ___

OBSERVED DATA

Tested Through ~~(Prover)~~ (Choke) ~~(Meter)~~   Type Taps ___

No.	Flow Data (Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Temp. °F.	Casing Data Press. psig	Temp. °F.	Duration of Flow Hr.
SI						420				72
1.	2	.250	349		64	349				3
2.	2	.375	325		63	325				3
3.	2	.500	272		65	272				3
4.	2	.625	223		61	223				3
5.	2	.375	328		63	328				21

FLOW CALCULATIONS

No.	Coefficient (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.	1.3309		362.2	.9962	.9608	1.036	478.0
2.	3.0300		338.2	.9971	.9608	1.033	1014
3.	5.4315		285.2	.9952	.9608	1.027	1520
4.	8.5417		236.2	.9990	.9608	1.023	1980
5.	3.0300		341.2	.9971	.9608	1.033	1023

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ***** cf/bbl.
Gravity of Liquid Hydrocarbons ___ deg.
F_c **9.936** $(1-e^{-s})$ **.122**

Specific Gravity Separator Gas ___
Specific Gravity Flowing Fluid ___
P_c **433.2** P_c^2 **187.7**

No.	P_w 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	$\frac{P_w}{P_c}$
1.	362.2	131.2	4.750	22.56	2.752	133.9	53.8	365.9	.84
2.	338.2	114.4	10.07	101.4	12.37	126.8	60.9	356.1	.82
3.	285.2	81.3	15.10	228.0	27.82	109.1	78.6	330.3	.76
4.	236.2	55.8	19.67	386.9	47.20	103.0	84.7	320.9	.74
5.	341.2	116.4	10.16	103.2	12.59	129.0	58.7	359.2	.82

Absolute Potential: **4,575** MCFPD; n **1.000**

COMPANY **Leonard Oil Company**
ADDRESS **Box 708, Roswell, New Mexico**
AGENT and TITLE **Fowler Hix - General Manager**
WITNESSED **H. H. Kerby**
COMPANY **El Paso Natural Gas Company**

REMARKS

* The well produced a slight amount of fluid - unable to measure. If well is tied into system, a complete test will be conducted

Fair point alignment, but slope greater than 1.000 slope of 1.000 drawn thru point corresponding with highest rate of flow.

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.