

NEW MEXICO OIL CONSERVATION COMMISSION

1957 MAY 14 AM 11:23

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalnet Formation Yates-7 Rivers County Lea
Initial _____ Annual _____ Special X Date of Test 2-11/2-15-1957
Company Leonard Oil Co. Lease Lanehart Well No. 4
Unit B Sec. 21 Twp. 25 Rge. 37 Purchaser EPHO
Casing 7" Wt. 20.0 I.D. _____ Set at 2956 Perf. _____ To _____
Tubing 2" Wt. 4.7 I.D. _____ Set at 3100 Perf. _____ To _____
Gas Pay: From 3091 To 3101 L 3100 xG 0.655 -GL 2062 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 12-21-1937 Packer 3014 Reservoir Temp. _____

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Pressure) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						535				72
1.	4	1.750	234	15.2	63	160				24
2.	4	1.750	225	20.3	57	168				24
3.	4	1.750	214	22.3	58	168				24
4.	4	1.750	224	24.8	62	174				24
5.										

FLOW CALCULATIONS

No.	Coefficient <u>Flange</u> (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	19.27	53.62		.9971	.9198	1.025	1,156
2.	19.27	51.85		1.0029	.9198	1.025	1,596
3.	19.27	97.94		1.0019	.9198	1.024	1,839
4.	19.27	113.22		.9981	.9198	1.024	2,130
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 9.934 (1-e^{-S}) 0.132
Specific Gravity Separator Gas 0.453
Specific Gravity Flowing Fluid _____
P_c 518.2 P_c 300.5

No.	P _{max} 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.	473.2	223.9	10.90	118.8	15.68	239.6	60.9	409.5	.86
2.	421.2	177.4	15.86	251.5	33.30	210.6	89.9	400.9	.76
3.	381.2	145.3	18.27	333.8	44.04	189.4	111.1	395.2	.69
4.	327.2	107.1	21.17	448.2	59.16	166.3	134.2	309.8	.59
5.									

Absolute Potential: 3.950 MCFPD; n .761

COMPANY Leonard Oil Co.
ADDRESS Box 708, Roswell, N.M.
AGENT and TITLE Fowler Hix, Production Supt.
WITNESSED H.H. Kirby
COMPANY EPHO

REMARKS

ELVIS A. DIZ
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 .