

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Undesignated Formation San Andres County Lea
Initial _____ Annual _____ Special X Date of Test July 31, 1962
Company Lone Star Producing Company Lease State King Well No. 1
Unit N Sec. 16 Twp. 9-S Rge. 35-E Purchaser Sinclair Oil & Gas Company
Casing 9-5/8" Wt. 36# I.D. 8.921 Set at 4342' To 4815'
7" liner Wt. 23# I.D. 6.366 Set at 4241'-5552' Perf. 4740' To 4815'
Tubing 2.375 Wt. 4.7# I.D. 1.995 Set at 4736' Perf. 4798' To 4802'
Gas Pay: From 4740' To 4815' L 4798 xG .800 -GL 3838 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Date of Completion: Nov. 18, 1952 Packer 4736' Hanging Reservoir Temp. 122°
Unset

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						915		915		72
1.	3	1.750	350	3	88	833	75	852		3
2.	3	1.750	365	7.2	86	758	76	793		3
3.	3	1.750	355	11	80	687	70	738		3
4.	3	1.750	350	14	72	622	69	694		3
5.	3	1.750	350	12	84	555	72	651		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.	20.15	33.01	363.2	.9741	.8660	1.051	589.7
2.	20.15	52.18	378.2	.9759	.8660	1.053	935.7
3.	20.15	63.64	368.2	.9813	.8660	1.053	1,148
4.	20.15	71.31	363.2	.9822	.8660	1.055	1,289
5.	20.15	66.02	363.2	.9777	.8660	1.053	1,186

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Trace of/bbl.
Gravity of Liquid Hydrocarbons --- deg.
P_c P_w Measured (1-e⁻⁸) ---

Specific Gravity Separator Gas .800
Specific Gravity Flowing Fluid ---
P_c 928.2 P_c 881.6

No.	P _w P _t (psia)	P _c ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ⁻⁸)	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w P _c
1.	865.2					748.6	115.6		93.2
2.	806.2					650.0	211.6		88.8
3.	751.2					564.3	297.3		80.9
4.	707.2					500.1	361.5		76.2
5.	664.2					441.2	420.4		71.56

Absolute Potential: 1,928 MCFPD: .678COMPANY Lone Star Producing CompanyADDRESS Box 4815, Midland, Texas

AGENT and TITLE

WITNESSED

COMPANY Sinclair Oil & Gas Company

Petroleum 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} = Supercompressibility 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 .

