

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool West Crossroads Formation San Andres County Lea
 Initial _____ Annual _____ Special X Date of Test Nov. 28-Dec. 4 '60
 Company Lone Star Prod. Co. Lease State King Well No. 1
 Unit II Sec. 16 Twp. 9S Rge. 35E Purchaser Sinclair Oil & Gas Co.
 Casing 9 7/8 Wt. 42.41-55.5 I.D. 4 3/4 Set at 4835 Perf. 4740 To 4815
 Tubing 2.375 Wt. 4.70 I.D. 1.995 Set at 4736 4802 Perf. 4920 To 4924
 Gas Pay: From 4740 To 4815 L 4740 xG .811 -GL 3844 Bar.Press. 13.2
 Producing Thru: Casing _____ Tubing X Type Well Single
 Single-Bradenhead-G. G. or G.O. Dual
 Date of Completion: Nov. 18, 1952 Packer 4736 Reservoir Temp. 122°

OBSERVED DATA

Tested Through (Prover)(Choke)(Meter) Type Taps Fig.

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						1227				72
1.	1	1.500	220	13	52	1009	68	1070	-	24
2.	1	1.500	285	44	63	881	66	968	-	24
3.	1	1.750	310	29	68	722	64	900	-	24
4.										
5.										

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.	14.36	55.06	233.2	1.0078	.8660	1.040	718
2.	14.36	114.55	298.2	.9971	.8660	1.048	1,489
3.	20.15	96.81	323.2	.9924	.8660	1.051	1,762
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 251.714 cf/bbl.
 Gravity of Liquid Hydrocarbons 49 deg.
 P_c 9.936 (1-e^{-s}) .232
 Specific Gravity Separator Gas .6000
 Specific Gravity Flowing Fluid .811
 P_c 1240.2 P_c 1538.1

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	P _w /P _c
1.	1022.2	1044.9	7.134	50.89	11.80	1056.7	481.4	1028.0	82.9
2.	894.2	799.6	14.795	218.89	50.78	850.4	687.7	922.2	74.4
3.	735.2	540.5	17.507	306.50	71.11	611.6	926.5	782.1	63.1
4.									
5.									

Absolute Potential: 2,363 MCFPD; n .579

COMPANY Sinclair Oil & Gas Co.
 ADDRESS Box 1470 Midland Texas Mr. Fred Rogers
 AGENT and TITLE W.R. Lord Gas Analyst Box 2431 Hobbs New Mexico
 WITNESSED A. J. Jensen
 COMPANY Lone Star Producing Company
 REMARKS

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 .