

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Sawyer Formation San Andres County Lea
Initial _____ Annual X Special _____ Date of Test 10/19-10/26-62
Company Sinclair Oil & Gas Co. Lease State Lea 514 Unit Well No. 1
Unit X Sec. 32 Twp. 9S Rge. 38E Purchaser Sinclair Oil & Gas Co.
Casing 7 5/8 Wt. _____ I.D. _____ Set at 330 Perf. _____ To _____
Tubing 2 1/2 Wt. 6.5 I.D. 2.441 Set at 5000 Perf. 4916 To 4938
Gas Pay: From 4916 To 4938 L 4916 xG .792 -GL 3893 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing _____ Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: _____ Packer none Reservoir Temp. _____

OBSERVED DATA

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

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1097				70
1.	3	1.875	415	5.5	60	789				3
2.	3	1.875	420	12.6	67	710				3
3.	3	1.875	420	15.7	66	681				3
4.	3	1.875	450	19.0	60	628				3
5.	3	1.875	425	8.1	62	828				23

FLOW CALCULATIONS

No.	Coefficient (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.	23.60	48.53	428.2	1.0000	.8715	1.071	1069
2.	23.60	73.88	433.2	.9933	.8715	1.070	1615
3.	23.60	82.47	433.2	.9943	.8715	1.070	1805
4.	23.60	93.81	463.2	1.0000	.8715	1.082	2082
5.	23.60	59.58	438.2	.9981	.8715	1.048	1318

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 146,444/1 cf/bbl.
Gravity of Liquid Hydrocarbons 56 deg.
P_c 5.866 (1-e^{-S}) .235

Specific Gravity Separator Gas .790
Specific Gravity Flowing Fluid _____
P_c 1110.2 P_c 1232.5

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.	802.2	643.5	6.271	39.33	9.243	652.8	579.8	808.0	72.78
2.	723.2	523.0	9.474	89.76	21.094	544.1	688.4	737.6	66.44
3.	694.2	481.9	10.588	112.11	26.346	508.3	724.2	712.9	64.21
4.	641.2	411.1	12.258	150.01	35.252	446.4	786.1	668.1	60.18
5.	841.2	707.6	7.431	59.72	14.046	721.7	510.8	849.5	76.52

Absolute Potential: 3180 MCFPD; n 1.000

COMPANY Southwestern Hydrocarbon

ADDRESS Midland, Texas

AGENT and TITLE Ray Ford, Gas Analyst, Sinclair Oil & Gas Company

WITNESSED W. R. Ford

COMPANY _____

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 .