

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 Special X Date of Test 11/2-11/9-62
Company Southwestern Hydrocarbon Lease Union Federal Well No. 2
Unit P Sec. 31 Twp. 9S Rge. 38E Purchaser Sinclair Oil & Gas Co.
Casing 4 1/2 Wt. 9.5 I.D. 4.009 Set at 5008 Perf. 4927 To 4937
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 4944 Perf. 4931 To 4935
Gas Pay: From 4931 To 4935 L 4931 xG .805 -GL 3969 Bar.Press. 13.2
Producing Thru: Casing X Tubing X Type Well Single
Date of Completion: 2-22-60 Packer 4868 Reservoir Temp. 90

OBSERVED DATA

Tested Through (Prover) (Choke) (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.	
1.						1077				72
2.	2 3/4	1.000	345	7"	68	355				24
3.										
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.							
2.	6.182	50.07	358.2	.9924	.8635	1.057	280.4
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio NEP cf/bbl.
Gravity of Liquid Hydrocarbons 1.000 deg.
P_c 9.936 (1-e^{-S}) .239

Specific Gravity Separator Gas .805
Specific Gravity Flowing Fluid .805
P_c 1090.2 P_c 1188.5

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.									
2.	368.2	135.57	2.786	7.762	1.855	137.426	827.79	398.72	34
3.							1051.1		
4.									
5.									

Absolute Potential: 407 MCFPD; n 1.000

COMPANY Southwestern Hydrocarbon
ADDRESS Midland, Texas
AGENT and TITLE W. R. Lord, Gas Analyst, Sinclair Oil & Gas Company
WITNESSED [Signature]
COMPANY [Signature]

REMARKS

n slope of 1.000 used because well loads up with H₂O and was not possible to keep well-bore clean, in trying to run multi-point test.

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 .