

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 1-14-65
Company Sinclair Oil & Gas Co. Lease Federal Kelly Well No. 1
Unit P Sec. 19 Twp. 9 S Rge. 38 E Purchaser S.O.& G.
Casing 5 1/2 Wt. 17 I.D. 4.892 Set at 5039 Perf. 4916 To 4947
Tubing 2 3/8 Wt. 4.7 I.D. 1.995 Set at 4916 Perf. open To _____
Gas Pay: From 4916 To 4989 L 4916 xG .810 -GL 3982 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 2-4-61 Packer 4839 Reservoir Temp. _____

OBSERVED DATA

Tested Through (Barometer) (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.	
SI						<u>1148</u>				<u>72 SI</u>
1.	<u>3</u>	<u>1.250</u>	<u>467</u>	<u>5.12</u>	<u>76</u>	<u>580</u>				<u>24</u>
2.										
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.	<u>9.781</u>	<u>49.58</u>	<u>480.2</u>	<u>.9850</u>	<u>.8607</u>	<u>1.077</u>	<u>442.8</u>
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio neg. cf/bbl. Specific Gravity Separator Gas .810
Gravity of Liquid Hydrocarbons _____ deg. Specific Gravity Flowing Fluid _____
F_c 9.936 (1-e^{-s}) .240 P_c 1148 P_c 1318
1101.2 1343.9

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.	<u>593.2</u>	<u>351.9</u>	<u>4.4</u>	<u>19.36</u>	<u>4.646</u>	<u>356.6</u>	<u>961</u>	<u>597.2</u>	<u>5742</u>
2.									
3.									
4.									
5.									

Absolute Potential: 607 MCFPD; n 1.000
COMPANY Sinclair Oil & Gas Co
ADDRESS Box 308; Tatum, N. Mex.
AGENT and TITLE R. Fawcett, Inst. Tech.
WITNESSED _____
COMPANY _____

REMARKS

Used Previous n slope
A. P. calculated

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 .