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 **2-5-64**

Company **Sinclair Oil & Gas Co.** Lease **Federal Kelly A** Well No. **1**

Unit **P** Sec. **19** Twp. **9S** Rge. **38E** Purchaser **Sinclair Oil & Gas Co.**

Casing **5½** Wt. **17#** I.D. ____ Set at **5039** Perf. **4916 4955** To **4947 4989**

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 **.805** -GL **3957** 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. **112 Deg.**

OBSERVED DATA

Tested Through ~~(Prover)(Choke)(Orifice)~~ (Meter) Type Taps **Flg.**

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						1193				72
1.	3	1.250	391.8	11.5	74	609				24
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.	9.781	68.25	405.0	.9868	.8635	1.065	605.8
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **Negligiable** cf/bbl. Specific Gravity Separator Gas **.805**
Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____
P_c **9.936** $(1-e^{-s})$ **.238** P_c **1206.2** P_c^2 **1454.9**

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	622.2	387	6.019	36.23	8.623	395.8	1059.1	629.1	52.16
2.									
3.									
4.									
5.									

Absolute Potential: **832.4** MCFPD; n **Previous nSlope Used (1.000)**
COMPANY **Sinclair Oil & Gas Co.**
ADDRESS **Mr. Fred Rogers Box 1470 Midland Texas**
AGENT and TITLE **R/ Fawcett Inst. Tech.** **Checked By W.R. Lord Eng. Int.**
WITNESSED **None**
COMPANY ____

REMARKS

Neg. Amount of Fluid Was Produced During 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.