NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Eumont** Formation **Queens** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **10-13-60**

Company **Sinclair Oil & Gas Co.** Lease **State #157 "D"** Well No. **7**

Unit **N** Sec. **12** Twp. **22S** Rge. **36E** Purchaser **none**

Casing **5 1/2** Wt. **17#** I.D. _____ Set at **3843** Perf. **3142** To **3540**

Tubing **2"** Wt. **4.7#** I.D. **1.995** Set at **3120** Perf. _____ To _____

Gas Pay: From **3142** To **3540** L **3120** xG **.705** -GL _____ Bar.Press. **13.2**

Producing Thru: Casing _____ Tubing **X** Type Well **Single**
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: **10-7-60** Packer **none** Reservoir Temp. _____

OBSERVED DATA

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

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						695		695		72
1.	4"	1.625	247#	12.2	60	637	75	648		3
2.	"	"	265#	22.0	61	590	75	615		3
3.	"	"	290#	32.5	59	546	74	583		3
4.	"	"	295#	41.0	60	506	73	556		3
5.	"	"	300#c	49.0	67	403	73	494		24

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.	16.51	56.342	260.2	1.000	.9225	1.030	884
2.	"	78.232	278.1	.9990	"	1.032	1229
3.	"	99.267	303.2	1.0010	"	~~1.038~~ 1.037	~~1571~~ 1570
4.	"	112.412	308.2	1.000	"	1.036	1774
5.	"	123.886	313.2	.9933	"	1.036	1942

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **0** cf/bbl. Specific Gravity Separator Gas **.705**

Gravity of Liquid Hydrocarbons **0** deg. Specific Gravity Flowing Fluid _____

F_c _____ $(1-e^{-s})$ _____ P_c **708.2** P_c^2 **501.5**

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.	**668.2**					**437.2**	**64.3**		**93.4**
2.	**628.2**					**394.6**	**106.9**		**88.7**
3.	**596.2**					**355.5**	**146.0**		**84.2**
4.	**569.2**					**324.0**	**177.5**		**80.4**
5.	**507.2**					**257.3**	**244.2**		**71.6**

Absolute Potential: **2,986** MCFPD; n **.598359**

COMPANY **Sinclair Oil & Gas Co.**

ADDRESS **Box 1470 Midland, Texas**

AGENT and TITLE **Gas Analyst 2101 Ike St. Monahans, Texas**

WITNESSED _____

COMPANY _____

REMARKS

Well produced no fluid during test. Gas Sample shipped to research Lab, Seminole, Okla. for analysis. H_2S content 220 Grains per 100 cu ft.

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.