NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **SALMAT** Formation **YATES** County **LEA**

Initial **X** Annual ____ Special **X** Date of Test **12-18-57**

Company **SINCLAIR OIL & GAS COMPANY** Lease **W. F. Hanagan** Well No. **4**

Unit **K** Sec. **12** Twp. **25S** Rge. **36E** Purchaser **El Paso Natural Gas Company**

Casing **7** Wt. **20#** I.D. **6.456** Set at **2917** Perf. **2892** To **2914**

Tubing **2"** Wt. **4.7** I.D. **1.995** Set at **2890** Perf. **Open** To ____

Gas Pay: From **2892** To **2914** L **2892** xG **.713** -GL **2062** Bar.Press. **13.2**

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

Date of Completion: **12-10-53** Packer **None** Reservoir Temp. **108**

OBSERVED DATA

Tested Through (Prover) (~~Choke~~) (Meter) Type Taps **2" Critical Flow Prover**

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						240	60	-		72
1.	2"	1/16	161		50	161	60	-		3
2.	2"	3/32	142		52	142	60	-		3
3.	2"	1/8	127		55	127	60	-		3
4.	2"	3/16	68		58	68	60	-		3
5.	2"	7/32	58		64	58	60	-		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.	.0827		174.2	1.0098	.9193	1.021	14
2.	.1820		155.2	1.0078	.9193	1.018	27
3.	.3418		140.2	1.0048	.9193	1.015	45
4.	.7851		81.2	1.0019	.9193	1.013	59
5.	1.0834		71.2	.9962	.9193	1.000	72

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio - cf/bbl. Specific Gravity Separator Gas .713
Gravity of Liquid Hydrocarbons - deg. Specific Gravity Flowing Fluid -
F_c 9.936 $(1-e^{-s})$ .132 P_c 253.2 P_c^2 64.11

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.	174.2	30.35	.139	.019	.003	30.35	33.76	174.2	.688
2.	155.2	24.09	.268	.072	.010	74.10	40.01	155.2	.613
3.	140.2	19.66	.447	.200	.026	19.69	44.42	140.3	.554
4.	81.2	6.59	.586	.343	.045	6.64	57.47	81.5	.322
5.	71.2	5.07	.705	.497	.066	5.14	58.97	71.7	.283

Absolute Potential: 77 MCFPD; n 1.000

COMPANY SINCLAIR OIL & GAS COMPANY
ADDRESS 520 East Broadway - Hobbs, New Mexico
AGENT and TITLE R. L. Harned - Gas Analyst
WITNESSED ____
COMPANY ____

REMARKS

This is a marginal well which is produced into El Paso's low pressure gathering system which has a line working pressure of 12#

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.