NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Wildcat** Formation **Upper Morrow** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **5-1/5-3-61**

Company **El Paso Natural Gas Company** Lease **Mescalero Unit** Well No. **1**

Unit **G** Sec. **7** Twp. **19** Rge. **34** Purchaser **None**

Casing **7** Wt. **32.0** I.D. _____ Set at **14459** Perf. **13160** To **13186**
26.0-29.0 **13201** **13212**

Tubing **2 1/16** Wt. **3.25** I.D. **1.693** Set at **13149** Perf. **13145** To **13148**

Gas Pay: From **13160** To **13212** L **13145** xG **.650 Assumed** GL **14302** Bar.Press. **13.2**
GMix=1.088

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

Date of Completion: **4-23-61** Packer **Dual - 13071** Reservoir Temp. **179°F**
Single - 13300

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. / Choke Sizes psig	~~Casing Data~~ Temp. °F.	Duration of Flow Hr.
SI						4052				168
1.	4.000	1.750	870	11.0	98	3464		8/64		3
2.	4.000	1.750	888	40.0	88	2764		12/64		3
3.	4.000	1.750	898	55.0	88	2297		15/64		3
4.	4.000	1.750	937	72.0	92	1841		20/64		3
5.	4.000	1.750	922	38.0-16 Hrs. / 64.0-8 Hrs.	94	2347		12/64		24

FLOW CALCULATIONS

No.	Coefficient Fig. (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.	19.27	98.56		.9653	.9608	1.073	1889
2.	19.27	189.86		.9741	.9608	1.080	3698
3.	19.27	223.87		.9741	.9608	1.083	4372
4.	19.27	261.56		.9706	.9608	1.083	5090
5.	19.27	(244.65-8 Hrs.) (188.51-16 Hrs.)		.9688	.9608	1.083	4021

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **7224** cf/bbl. Specific Gravity Separator Gas **.650 Assumed**

Gravity of Liquid Hydrocarbons **46.3 @ 60** deg. Specific Gravity Flowing Fluid **.7958**

F_c **13.99** $(1-e^{-s})$ **.626** P_c **4065.2** P_c^2 **16525.8**

No.	P_w / P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	3477.2	12090.9	26.43	698.5	437.3	12528.2	3997.6	3539.5	.8707
2.	2777.2	7712.8	51.73	2676.0	1675.2	9388.0	7137.8	3064.0	.7537
3.	2310.2	5337.0	61.16	3740.5	2341.5	7678.5	8847.3	2771.0	.6816
4.	1854.2	3438.0	71.21	5070.9	3174.4	6612.4	9913.4	2571.4	.6325
5.	2360.2	5570.5	56.25	3164.1	1980.7	7551.2	8974.6	2747.9	.6759

Absolute Potential: **7200** MCFPD; n **0.962**

COMPANY **El Paso Natural Gas Company**

ADDRESS **P. O. Box 1384 - Jal, New Mexico**

AGENT and TITLE Peyton N. Randolph **Peyton N. Randolph - Gas Engineer**

WITNESSED **B. G. Mogg and Herbert H. Kerby**

COMPANY **El Paso Natural Gas Company**

REMARKS

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.