NEW MEXICO OIL CONSERVATION COMMISSION

1957 APR 22 PM 2:53

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County ~~Lea~~

Initial ____ Annual x Special ____ Date of Test ~~2-11 to 2-19-57~~

Company E. G. Rodman Lease Hadfield Well No. 2

Unit P Sec. 21 Twp. 25S Rge. 37E Purchaser El Paso Natural Gas

Casing 5 1/2 Wt. 17 I.D. ____ Set at 3081 Perf. 2990 To 3040

Tubing none Wt. ____ I.D. ____ Set at ____ Perf. ____ To ____

Gas Pay: From 2990 To 3040 L 2990 xG .655 -GL 1958 Bar.Press. ~~13.2~~

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

Date of Completion: 3-30-49 Packer none Reservoir Temp. ____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps ____

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								~~546~~		~~72~~
1.	4	1.000	~~244~~	~~10.9~~	~~65~~			~~457~~		~~24~~
2.	4	1.000	~~227~~	~~21.2~~	~~57~~			~~409~~		~~24~~
3.	4	1.000	~~214~~	~~32.5~~	~~58~~			~~363~~		~~24~~
4.	4	1.000	~~224~~	~~46.2~~	~~57~~			~~300~~		~~24~~
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.	6.135	52.90		~~.9952~~	~~.9571~~	~~1.026~~	~~317~~
2.	6.135	71.26		~~1.0029~~	~~.9571~~	~~1.024~~	~~430~~
3.	6.135	85.88		~~1.0019~~	~~.9571~~	~~1.023~~	~~517~~
4.	6.135	104.68		~~1.0029~~	~~.9571~~	~~1.024~~	~~631~~
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.

Gravity of Liquid Hydrocarbons ____ deg.

F_c .9583 $(1-e^{-s})$ .126

Specific Gravity Separator Gas ____

Specific Gravity Flowing Fluid ____

P_c ~~559.2~~ P_c^2 ~~312.7~~

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.	~~470.2~~	221.1	~~.304~~	~~.092~~	~~.011~~	~~221.2~~	~~91.5~~		~~84.0~~
2.	~~422.2~~	178.3	~~.412~~	~~.170~~	~~.021~~	~~178.3~~	~~134.4~~		~~75.4~~
3.	~~379.2~~	143.8	~~.495~~	~~.245~~	~~.031~~	~~143.8~~	~~168.9~~		~~67.8~~
4.	~~313.2~~	98.1	~~.605~~	~~.366~~	~~.046~~	~~98.1~~	~~214.6~~		~~55.9~~
5.									

Absolute Potential: ~~865~~ MCFPD; n ~~.811~~

COMPANY E. G. Rodman

ADDRESS Box 591

AGENT and TITLE Earl Rodman, Engineer

WITNESSED H. H. Kerby

COMPANY El Paso Natural Gas Company

REMARKS

ELVIS A. UTZ
GAS ENGINEER

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.