NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

1957 FEB 11 AM 10:06

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

[illegible] Eumont Formation Queen County Lea

[illegible]tial ____ Annual X Special ____ Date of Test July 23, 1956

[illegible]mpany John M. Kelly Lease Phillips State Well No. 1

Unit P Sec. 12 Twp. 19 Rge. 36 Purchaser El Paso Natural Gas

Casing 5 1/2 Wt. 15 1/2 I.D. 4.978 Set at 3490 Perf. ____ To ____

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3818 Perf. ____ To ____

Gas Pay: From 3660 To 3848 L 3818 xG .695 -GL 2815 Bar.Press. 13.2

Producing Thru: Casing ____ Tubing X Type Well Single

Single-Br[illegible]enhead-G. G. or G.O. Dual

Date of Completion: Feb. 13, 1955 Packer 3650 Reservoir Temp. ____

OBSERVED DATA

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

No.	Flow Data ~~(Prover)~~ (Line) Size	~~(Choke)~~ (Orifice) Size	Press. psig	Diff. (h_w)	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						912				72
1.	4	1.500	807	2.8	73	868				24
2.	4	1.500	817	4.0	78	818				24
3.	4	1.500	778	4.9	76	790				24
4.	4	1.500	741	5.65	76	745				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.	13.99	93.06	820.2	.9877	.9559	1.102	1184
2.	13.99	115.24	830.2	.9880	.9559	1.091	1681
3.	13.99	137.81	791.2	.9880	.9559	1.084	1986
4.	13.99	155.14	754.2	.9880	.9559	1.080	2160
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.

Gravity of Liquid Hydrocarbons ____ deg.

F_c 0.936 $(1-e^{-s})$ 0.165

Specific Gravity Separator Gas ____

Specific Gravity Flowing Fluid ____

P_c 926.2 P_c^2 855.9

No.	P_t Pt (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.	881.2	776.5	11.76	138.3	22.8	790.3	54.6	894.0	.96
2.	851.2	690.9	15.11	228.3	37.8	755.7	122.2	858.6	.94
3.	793.2	628.9	19.14	366.3	60.4	699.8	166.3	830.4	.90
4.	756.2	571.8	21.46	460.6	76.9	647.7	208.2	803.9	.87*
5.									

Absolute Potential: 4,650 MCFPD; n .542

COMPANY John M. Kelly

ADDRESS Box 1671, Roswell, New Mexico

AGENT and TITLE Production Superintendent Kenneth D. McPeters

WITNESSED Edward Mabe

COMPANY El Paso Natural

REMARKS

*Unable to pull well down below 81% of SIP due to high line pressure.

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.