NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

1956 OCT 30 AM 10:51

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Eumont** Formation **Queen** County **Lea**

Initial ____ Annual ____ Special ____ Date of Test **10/3, 4, 1956**

Company **Phillips Petroleum Co.** Lease **Land Office** Well No. **1**

Unit **NE/4** Sec. **19** Twp. **19S** Rge. **37E** Purchaser **Permian Basin Pipeline Co.**

Casing **7"** Wt. **24#** I.D. **2.336"** Set at **3787'** Perf. **2700'** To **3690'**

Tubing **2-7/8"** Wt. **6.5#** I.D. **2.441"** Set at **3707** Perf. **3892'** To **3896'**

Gas Pay: From **2700'** To **3690** L **2700** xG **0.680** -GL **1836** Bar.Press. **13.2**

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

Date of Completion: **2-8-55** Packer **3860'** Reservoir Temp. **90 deg F.**

OBSERVED DATA

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

No.	Flow Data (Prover) ~~(Choke)~~ Size	Flow Data (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								1025.1		71-3/4
1.	2"	3/32"	816.0		81			816.0		3
2.	2"	1/8"	618.1		81			618.1		3
3.	2"	3/16	403.9		72			403.9		3
4.	2"	7/32"	362.2		68			362.2		3
5.	4"	1.00"	477.7	8.5	8.9			488.5		21-3/4

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure (prover) psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	0.1820		829.2	0.9804	0.9393	1.067	148
2.	0.3618		631.3	0.9804	0.9393	1.054	209
3.	0.7851		417.1	0.9887	0.9393	1.038	316
4.	1.0834		375.4	0.9924	0.9393	1.035	392
5.	6.375	64.60		0.9813	0.9393	1.040	395

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **151,000** cf/bbl.
Gravity of Liquid Hydrocarbons **-** deg.
F_c **0.880** $(1-e^{-s})$ **0.119**

Specific Gravity Separator Gas **-**
Specific Gravity Flowing Fluid **.67**
P_c **1038.3** P_c^2 **1078.1**

No.	P_w / Pt (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.	829.2	687.6	0.1285	0.0165	0.0020	687.6	390.5	829.2	.80
2.	631.3	398.5	0.1839	0.0338	0.0040	398.5	679.5	631.3	.61
3.	417.1	174.0	0.2781	0.0773	0.0092	174.0	904.1	417.1	.40
4.	375.8	140.9	0.3450	0.1190	0.0142	140.9	937.2	375.4	.36
5.	501.7	251.7	0.3476	0.1208	0.0144	251.7	826.4	501.7	.48

Absolute Potential: **360** MCFPD; n **0.88**

COMPANY **Phillips Petroleum Co.**

ADDRESS **Box 2105 Hobbs, N.M.**

AGENT and TITLE **W. A. Robert, District Production Supt.**

WITNESSED ____

COMPANY ____

REMARKS

Poor point alignment and point spread, too much pulldown, but due to this being a retest, an average slope was drawn through the data points to be submitted to the Commission.

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.