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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queens County Lea

Initial X Annual ____ Special ____ Date of Test June 5, 1957

Company Phillips Petroleum Company Lease Quaper Well No. 1

Unit P Sec. 19 Twp. 20S Rge. ~~17E~~ 37E Purchaser Permian Basin Pipeline Co.

Casing 7 Wt. 24 I.D. 6.366 Set at 3652 Perf. 3412' To 3486'

Tubing 2-7/8" Wt. 6.5 I.D. 2.441 Set at 3630 Perf. - To -

Gas Pay: From 3412 To 3486 L 3412 xG .670 -GL 2286 Bar.Press. 13.2

Producing Thru: Casing Annulus X Tubing ____ Type Well G. O. Dual

Date of Completion: re: 6-2-57 Packer 3630' Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. -

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								933	80	72
1.	4"	2"	7.37	-	50	-	-	864	75	2
2.	4"	2"	18.46	-	42	-	-	844	75	2
3.	4"	2"	23.33	-	38	-	-	835	75	2
4.	4"	2"	35.88	-	34	-	-	817	77	2
5.	4"	2"	32.42	-	36	-	-	824	76	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.	86.594	-	20.57	1.0098	.9463	1.000	1401 *
2.	86.594	-	29.66	1.0178	.9463	1.000	2474
3.	86.594	-	36.53	1.0219	.9463	1.000	3058
4.	86.594	-	49.06	1.0260	.9463	1.000	4124
5.	86.594	-	45.62	1.0239	.9463	1.000	3827

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio no liquid cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
F_c .865 $(1-e^{-s})$ .146

Specific Gravity Separator Gas .670
Specific Gravity Flowing Fluid -
P_c 946.2 P_c^2 895.3

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.	877.2	769.5	1.212	1.469	.214	769.7	125.6	877.3	.927
2.	857.2	734.8	2.140	4.580	.669	735.5	159.8	857.4	.906
3.	848.2	719.4	2.645	6.996	1.021	720.4	174.9	848.8	.897
4.	830.2	689.2	3.567	12.723	1.858	691.1	204.2	831.3	.879
5.	837.2	700.9	3.310	10.956	1.600	702.5	192.8	838.1	.886

Absolute Potential: 18,000 ** MCFPD; n 1.000

COMPANY Phillips Petroleum Company
ADDRESS Box 2105, Hobbs, New Mexico
AGENT and TITLE W. C. Rodgers, District Superintendent
WITNESSED G. A. Sheldon
COMPANY Phillips Petroleum Company

REMARKS

* Volume taken from Table No. 7, NMOCC Manual for GOR Determination as upstream pressure was below critical range.

**Adjusted potential for N = 1.000 curve, unadjusted potential = 94,000 MCFD.

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.