

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea
Initial _____ Annual _____ Special X Date of Test 4-22 4-26, 1957
Company Phillips Petroleum Company Lease M. C. Woolworth Well No. 4
Unit J Sec. 33 Twp. 24 Rge. 37 Purchaser El Paso Natural Gas Company
Casing 7" Wt. 24 I.D. _____ Set at 3337 Perf. 2850 To 3135
Tubing 2" Wt. 4.7# I.D. _____ Set at 2921 Perf. _____ To _____
Gas Pay: From 2850 To 3135 L 2921 xG .645 -GL 1884 Bar. Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well single
Date of Completion: Re- 2-23-55 Packer 2819 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						700				72
1.	4"	1.250	527	3.61	63	645				24
2.	4"	1.250	535	6.25	67	618				24
3.	4"	1.250	527	10.89	69	588				24
4.	4"	1.250	539	12.96	68	564				24
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	44.15		.9971	.9645	1.055	433
2.	"	58.52		.9933	.9645	1.053	569
3.	"	76.69		.9915	.9645	1.053	746
4.	"	84.58		.9924	.9645	1.053	822
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 9.936 (1-e^{-S}) 0.122
Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 713.2 P_c² 508.7

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-S})	P _w ²	P _t ² -P _w ²	Cal. P _w	P _w /P _c
1.	658.2	433.2	75.5	4.30	18.49	2.26	2.26	435.5	73.2
2.	631.2	398.4	110.3	5.65	31.92	3.89	3.89	402.3	106.4
3.	596.2	355.5	153.2	7.41	54.91	6.70	6.70	362.2	146.5
4.	577.2	333.2	175.5	8.17	66.75	8.14	8.14	341.3	167.4
5.									

Absolute Potential: 1,950 MCFPD; n 0.767

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

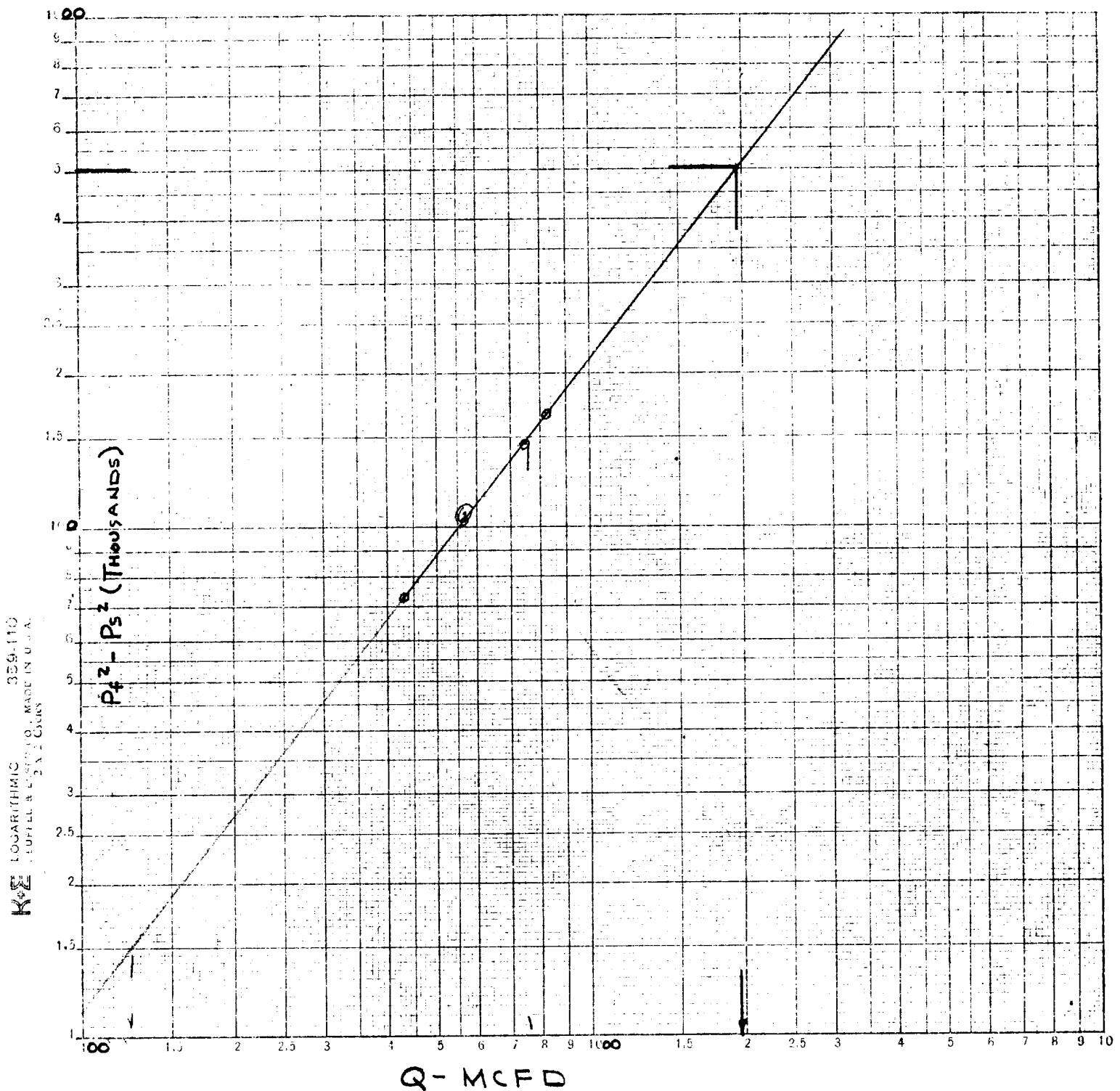
F_t = Flowing temperature correction factor.

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 .

PHILLIPS PETROLEUM CO.



ABSOLUTE OFP - 1950 MCFD

$$Q_2 = 760 = 2.8808136$$

$$Q_1 = 125 = \frac{2.0969100}{7839036}$$

M.C. WOOLWORTH No. 4
OPEN FLOW POTENTIAL TEST
APRIL 20-25, 1957

CURVE No. 2