

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

LEWIS H. ULL
GAS ENGINEER

Form C-122

Revised 12-1-55

HOBBS OFFICE OCC
MULTI-POINT-BACK PRESSURE TEST FOR GAS WELLS
1956 OCT 8 PM 2:18

Pool Amount Formation Yates & Seven Rivers County Lea

Initial _____ Annual X Special _____ Date of Test 8-1-56

Company Drilling & Exploration Co., Inc. Lease State F Well No. 3

Unit K Sec. 19 Twp. 21S Rge. 36E Purchaser Permian Basin Pipeline Co

Casing 5.5" Wt. 15.5# I.D. 4.950" Set at 3929 Perf. 3323 To 3664

Tubing 2.375" Wt. 4.7# I.D. 1.995" Set at 3804 Perf. _____ To _____

Gas Pay: From 3323 To 3664 L 3323 xG mix .699 -GL 2323 Bar.Press. 13.2

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

Date of Completion: 1-11-55 Packer 3804 Reservoir Temp. 93°
Single-Bradenhead-G. G. or G.O. Dual

OBSERVED DATA

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

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								863.2		72 hrs SI
1.	4"	2.00	475.4	15.8	90			771.0		23.5 hrs
2.	4"	2.00	483.2	23.2	69			709.0		24 hrs
3.	4"	2.00	509.3	36.5	70			647.9		24 hrs
4.	4"	2.00	481.8	45.5	71			611.5		24 hrs
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.	29.92	87.86	488.6	0.9723	0.9359	1.046	2502
2.	29.92	107.31	496.4	0.9913	0.9359	1.058	3132
3.	29.92	138.10	522.5	0.9903	0.9359	1.061	4064
4.	29.92	190.07	495.0	0.9896	0.9359	1.055	4387
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 177,936 cf/bbl.
Gravity of Liquid Hydrocarbons 73.3 deg.
F_c 1.793 (1-e^{-s}) 0.148
Specific Gravity Separator Gas .685
Specific Gravity Flowing Fluid .699
P_c 876.4 P_c 768.1

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 _c ² -P _w ²	Cal. P _w	P _w /P _c
1.	784.2	615.0	4.486	20.12	2.98	618.0	150.1	786.1	.90
2.	722.2	521.6	5.652	31.95	4.73	526.3	213.8	725.5	.89
3.	661.1	437.1	7.287	53.10	7.86	443.0	323.1	667.1	.76
4.	624.7	390.3	7.866	61.87	9.16	399.5	368.6	632.1	.72
5.									

Absolute Potential: 7000 MCFPD; n .63
COMPANY Drilling & Exploration Company, Inc.
ADDRESS Box 2075, Hobbs, New Mexico
AGENT and TITLE R. L. West Division Production Superintendent
WITNESSED R. L. West
COMPANY Permian Basin Pipeline 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} = Supercompressibility 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 .