

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Lumont Formation Yates-Silver River County Lea

Initial Annual X Special Date of Test July 14, 1956

Company Warren Petroleum Corp.-Oil Div. Lease Heasley State Well No. 7

Unit 1 Sec. 5 Twp. 21-S Rge. 36-E Purchaser Permian Basin Pipeline Co.

Casing 5 1/2" Wt. 15.5 I.D. 4.950" Set at 3628' Perf. 2734' To 3590'

Tubing 2 3/8" Wt. 4.7 I.D. 1.995" Set at 3591' Perf. To

Gas Pay: From 2734' To 3590' L 3591' xG 0.670 -GL 2406 Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: September 16, Packer None Reservoir Temp. 84 °F

1953

OBSERVED DATA

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

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						916.8	75	913.3	75	72 hrs. S.I.
1.	4.00	2.00	163.6	7.7	74	799.5	71	827.6	75	24 hrs.
2.	4.00	2.00	167.2	12.9	62	732.2	60	786.8	75	24 hrs.
3.	4.00	2.00	166.8	22.5	65	615.4	62	726.8	75	24 hrs.
4.	4.00	2.00	170.0	23.5	65		62		75	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	60.60	312.7	0.9868	0.9463	1.043	1766
2.	29.92	78.72	715.4	0.9981	0.9463	1.047	2329
3.	29.92	103.92	628.6	0.9952	0.9463	1.045	3062
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c 9.936 (1-e^{-s}) 0.153

Specific Gravity Separator Gas

Specific Gravity Flowing Fluid

P_c 920.0 P_c² 865

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.	820.8					707	153		90.45
2.	800.0					640	225		86.0
3.	740.0					548	317		79.6
4.									
5.									

Absolute Potential: 6500 MCFPD; n 0.79

COMPANY Warren Petroleum Corp.-Oil Div.

ADDRESS Drawer H, Seminole, Texas

AGENT and TITLE C. J. Barrett Ass't Regional Manager

WITNESSED H. E. Barrett

COMPANY Permian Basin Pipeline Company

REMARKS

Fourth Rate of Flow was continuation of third rate of flow; consequently, no wellhead pressures were taken.

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 .