

HOODS OFFICE 000

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Emment Formation 1316001, Seven Rivers, Queen County Lea
Initial _____ Annual X Special _____ Date of Test 6/27 thru 7/5/56
Company The Ohio Oil Company Lease W. H. Laughlin Well No. 3
Unit 0 Sec. 9 Twp. 20-S Rge. 37-E Purchaser Permian Basin Pipeline Company
Casing 5" Wt. 18# I.D. 4.276 Set at 3846' Perf. * To _____
Tubing 2.375" Wt. 4.7# I.D. 1.995 Set at 3702 Perf. --- To ---
Gas Pay: From 3104 To 3522 L 3104 xG 0.670 GL 2080 Bar. Press. 13.2
Producing Thru: Casing X Tubing _____ Type Well Gas-Oil Dual
Date of Completion: 1-13-55 Packer 3701 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. ---

OBSERVED DATA

Tested Through <u>Prover</u> <u>Choke</u> <u>Meter</u>						Type Taps		Pipe		
No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	<u>Prover</u> (Line) Size	<u>Choke</u> (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI	4"	2.750"	---	---	---	Packer	---	995.7	---	72-1/4 hr. S.I.
1.	4"	2.750"	461.5	8.0	76	"	---	899.2	---	23-1/4 hr.
2.	4"	2.750"	464.0	11.8	66	"	---	839.7	---	24-1/4 hr.
3.	4"	2.750"	484.4	22.8	68	"	---	719.0	---	24 hr.
4.	4"	2.750"	500.2	27.2	72	"	---	654.2	---	24 hr.
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.	73.11	61.62	474.7	0.9850	0.9463	1.047	4396
2.	73.11	75.04	477.2	0.9943	0.9463	1.051	5425
3.	73.11	106.51	497.6	0.9924	0.9463	1.053	7700
4.	73.11	118.17	513.4	0.9887	0.9463	1.053	8511
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.
Gravity of Liquid Hydrocarbons --- deg.
F_c 3.222 (1-e^{-s}) 0.133
Specific Gravity Separator Gas ---
Specific Gravity Flowing Fluid ---
P_c 1008.9 P_c 1017.9

No.	P _w P _t (psia)	P _c 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.	912.4	832.5	14.164	200.62	26.68	859.2	158.7	926.9	91.9
2.	852.9	727.4	17.479	305.52	40.63	768.0	249.9	876.4	86.9
3.	732.3	536.1	24.869	615.49	81.86	618.0	399.9	786.1	77.9
4.	667.4	445.4	27.422	751.97	100.01	545.4	472.5	738.5	73.2
5.									

Absolute Potential: 13,488 MCFPD; n 0.60
COMPANY The Ohio Oil Company
ADDRESS P. O. Box 2107, Hobbs, New Mexico
AGENT and TITLE T. O. Webb - Petroleum Engineer
WITNESSED Mr. R. L. West
COMPANY Permian Basin Pipeline Company

REMARKS

* 5" O.D. casing perforated as follows:
3104-3120, 3136-3148, 3154-3172, 3194-3210, 3254-3264,
3327-3336, 3346-3362, 3370-3386, 3394-3452, & 3496-3522.

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 .