NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS A. UTZ
GAS ENGINEER

MAIN OFFICE OCC HOBBS OFFICE OCC
1956 OCT 8 PM 2:19

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea

Initial ____ Annual X (retest) Special ____ Date of Test 8/25 thru 9/3/56

Company The Ohio Oil Company Lease State Monsen Well No. 4

Unit K Sec. 16 Twp. 20S Rge. 37E Purchaser Permian Basin Pipeline Co.

Casing 7" Wt. 24.00 I.D. 6.336 Set at 3701' Perf. * To ____

Tubing 2" Wt. 6.50 I.D. 2.441 Set at 3433' Perf. 3429' To 3433'

Gas Pay: From 3310 To 3540 L 3429 xG 0.670 -GL 2897 Bar.Press. 13.2

Producing Thru: Casing ____ Tubing X Type Well Single Completion

Date of Completion: 6-19-56 Packer 3362' Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. --

OBSERVED DATA

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

No.	Flow Data (~~Prover~~) (Line) Size	(~~Choke~~) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						1083.0	98	Max.	--	72 hr. 0.D.
1.	4.00"	1.75"	468.4	3.2	92	933.7	--	Max.	--	23-3/4 hr.
2.	4.00"	1.75"	466.6	10.2	76	860.6	--	Max.	--	24 hr.
3.	4.00"	1.75"	457.3	21.0	61	760.0	--	Max.	--	24 hr.
4.	4.00"	1.75"	473.7	40.3	66	618.7	--	Max.	--	24 hr.
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.	21.69	49.73	475.6	0.9788	0.9463	1.042	1038
2.	21.69	69.37	471.8	0.9836	0.9463	1.046	1467
3.	21.69	99.42	470.7	0.9850	0.9463	1.052	2145
4.	21.69	140.66	486.9	0.9843	0.9463	1.052	3007
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons -- deg.
F_c 5.866 $(1-e^{-s})$ 0.146

Specific Gravity Separator Gas --
Specific Gravity Flowing Fluid --
P_c 1038.2 P_c^2 1077.9

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.	946.9	896.6	6.054	36.65	5.33	902.0	175.9	949.7	91.5
2.	873.8	763.5	8.605	74.05	10.81	774.3	303.6	879.9	84.8
3.	773.2	597.8	12.983	168.55	25.13	650.9	457.0	788.0	75.9
4.	625.9	389.3	17.639	311.13	45.42	434.7	643.2	659.3	63.5
5.									

Absolute Potential: 4919 MCFPD; n .939857

COMPANY The Ohio Oil Company
ADDRESS Box 2107, Hobbs, New Mexico
AGENT and TITLE Thomas O. Webb - Petroleum Engineer
WITNESSED Mr. E. L. West
COMPANY Permian Basin Pipeline Co.

REMARKS

* 7" O.D. casing perforated as follows: 3310-35', 3350-80', & 3400-3540'.

Well was blown on 8/25/56. Above re-test giving good point alignment, good spread and pulldown.

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.