NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Yates, 7-Rivers, & Queen County Lea

Initial ____ Annual X Special ____ Date of Test 6/9 thru 6/17/56

Company The Ohio Oil Company Lease State McGrail Well No. 1

Unit H Sec. 26 Twp. 19-S Rge. 36-E Purchaser Permian Basin Pipeline Company

Casing 7.0 Wt. 24.0 I.D. 6.336 Set at 3825 Perf. * To ____

Tubing 2.875 Wt. 6.5 I.D. 2.441 Set at 3672.49 Perf. 3668 To 3672

Gas Pay: From 3225 To 3685 L 3668 xG 0.672 -GL 3465 Bar.Press. 13.2

Producing Thru: Casing ____ Tubing X Type Well Single

Date of Completion: 7/22/54 Packer 3064.48 Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. ---

OBSERVED DATA

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

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	4"	2.00"	---	---	---	889.3	82	Packer	---	7½ hr. S.I.
1.	4"	2.00"	451.1	2.5	98	813.3	98	"	---	3 hr.
2.	4"	2.00"	459.7	11.4	79	708.5	79	"	---	3 hr.
3.	4"	2.00"	453.8	16.2	82	660.5	82	"	---	3 hr.
4.	4"	2.00"	460.2	19.4	83	588.2	83	"	---	23-3/4 hr.
5.										24 hr.

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	34.07	464.3	0.9706	0.9487	1.061	973
2.	29.92	73.42	472.9	0.9822	0.9649	1.046	2133
3.	29.92	88.96	466.8	0.9795	0.9649	1.063	2536
4.	29.92	95.83	473.4	0.9786	0.9649	1.046	2773
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.
Gravity of Liquid Hydrocarbons --- deg.
c 5.866 $(1-e^{-s})$ 0.156

Specific Gravity Separator Gas ---
Specific Gravity Flowing Fluid ---
P_c 902.5 P_c^2 814.5

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.	886.5	683.1	5.708	32.58	5.08	688.2	126.3	829.6	91.9%
2.	725.7	522.2	12.512	156.55	24.42	538.8	277.9	732.5	81.1%
3.	653.7	427.3	14.759	217.83	33.96	461.3	353.2	679.2	75.8%
4.	597.3	356.8	16.066	258.12	41.27	398.1	416.4	631.0	69.9%
5.									

Absolute Potential: 4,350 MCFPD; n 0.668788

COMPANY The Ohio Oil Company

ADDRESS Box 2107, Hobbs, New Mexico

AGENT and TITLE Thomas O. Webb, Petroleum Engineer

WITNESSED Mr. R. L. Wood

COMPANY Permian Basin Pipeline Company

REMARKS

* 7" O.D. casing perforated as follows: 3225-3245, 3265-3280, 3290-3310, 3400-3420, 3460-3485, & 3570-3685.

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.