NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

1957 FEB 11 AM 10:04

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 **N** 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 **2465** Bar.Press. **13.2**

Producing Thru: Casing ____ Tubing **X** Type Well **Single**
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: **7/22/54** Packer **3064.48** 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	--	72-1/4 hr. S.I.
1.	4"	2.00"	451.1	2.5	92	813.3	92	"	--	24 hr.
2.	4"	2.00"	459.7	11.4	79	702.5	79	"	--	24 hr.
3.	4"	2.00"	453.6	16.2	82	640.5	82	"	--	24 hr.
4.	4"	2.00"	460.2	19.4	83	584.1	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	0.9449	1.041	973
2.	29.92	73.42	472.9	0.9822	0.9449	1.046	2133
3.	29.92	86.96	466.8	0.9795	0.9449	1.045	2516
4.	29.92	95.83	473.4	0.9786	0.9449	1.046	2773
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **Dry Gas** cf/bbl.
Gravity of Liquid Hydrocarbons **--** deg.
P_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	P_w / P_c
1.	826.5	683.1	5.708	32.58	5.08	688.2	126.3	829.6	91.92
2.	715.7	512.2	12.512	156.55	24.42	536.6	277.9	732.5	81.16
3.	653.7	427.3	14.759	217.83	33.98	461.3	353.2	679.2	75.26
4.	597.3	356.8	16.266	264.58	41.27	398.1	416.4	631.0	69.92
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** Thomas O. Webb
WITNESSED **Mr. K. L. West**
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.

OIL CONSERVATION COMMISSION GAS ENGINEER

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.