LUIS A. UTZ
GAS ENGINEER

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool **Eunont** Formation **Seven Rivers** County **Lea**

Initial _____ Annual **X** Special _____ Date of Test **8-1-56**

Company **Drilling & Exploration Co., Inc.** Lease **State Madura** Well No. **4**

Unit **I** Sec. **12** Twp. **21S** Rge. **35E** Purchaser **Permian Basin Pipeline Co**

Casing **5.5"** Wt. **15.5#** I.D. **4.950"** Set at **3910** Perf. **3358** To **3644**

Tubing **2.375"** Wt. **4.7#** I.D. **1.995"** Set at **3780** Perf. _____ To _____

Gas Pay: From **3358** To **3644** L **3358** x(mix **.696** -GL **2337** Bar.Press. **13.2**

Producing Thru: Casing **X** Tubing _____ Type Well **G.O. Dual**

Date of Completion: **5-20-54** Packer **3780** Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. **94°**

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								920.0		71.75 hrs SI
1.	4"	2.00	475.3	8.3	86			829.7		23.75 hrs
2.	4"	2.00	482.2	13.2	72			786.5		24 hrs
3.	4"	2.00	489.3	21.0	62			727.7		24 hrs
4.	4"	2.00	473.9	32.1	65			653.7		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	63.68	488.5	0.9759	0.9393	1.049	1832
2.	29.92	80.87	495.4	0.9887	0.9393	1.055	2371
3.	29.92	102.73	502.5	0.9981	0.9393	1.060	3055
4.	29.92	123.04	487.1	0.9952	0.9393	1.057	3697
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **148,368** cf/bbl.   Specific Gravity Separator Gas **.680**

Gravity of Liquid Hydrocarbons **70.0** deg.   Specific Gravity Flowing Fluid **.696**

F_c **1.793** $(1-e^{-s})$ **.149** P_c **933.2** P_c^2 **870.8**

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	$\frac{P_w}{P_c}$
1.	842.9	710.3	3.283	10.79	1.61	712.1	158.7	843.9	.90
2.	777.7	639.3	4.251	18.07	2.69	642.2	228.6	801.4	.86
3.	740.9	548.9	5.478	30.01	4.47	553.4	317.4	743.9	.80
4.	666.9	444.8	6.629	43.94	6.55	451.4	419.4	671.9	.72
5.									

Absolute Potential: **6250** MCFPD; n **0.72**

COMPANY **Drilling & Exploration Company, Inc.**
ADDRESS **Box 2075, Hobbs, New Mexico**
AGENT and TITLE _____ **Division Production Superintendent**
WITNESSED **R. L. West**
COMPANY **Permian Basin Pipeline Company**

REMARKS

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.