NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Jalmat** Formation **Yates** County **Lea**

Initial _____ Annual _____ Special **X** Date of Test **12-19-56**

Company **Late Oil Company** Lease **J. K. Rector** Well No. **1**

Unit **G** Sec. **31** Twp. **21 S** Rge. **36 E** Purchaser **El Paso Natural Gas Company**

Casing **5½** Wt. **23** I.D. **4.670** Set at **3190** Perf. _____ To _____

Tubing **None** Wt. _____ I.D. _____ Set at _____ Perf. _____ To _____

Gas Pay: From **3220** To **3731** L **3190** xG **.680** -GL **2169** Bar.Press. **13.2**

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

Date of Completion: **5-15-53** Packer **None** Reservoir Temp. _____

OBSERVED DATA

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

	Flow Data					Tubing Data		Casing Data		
No.	(Prover) ~~(Choke)~~ Size	(Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	Duration of Flow Hr.
SI								620		72
1.	2	.250	594		62			594		45 min.
2.	2	.500	578		67			578		45 min.
3.	2	.750	527		68			527		45 min.
4.	2	1.000	420		68			420,		2;30
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.	1.4030		607.2	.9981	.9393	1.072	855
2.	5.5233		591.2	.9933	.9393	1.066	3,247
3.	12.2023		540.2	.9924	.9393	1.062	6,526
4.	22.0662		433.2	.9924	.9393	1.048	9,338
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl. Specific Gravity Separator Gas _____

Gravity of Liquid Hydrocarbons _____ deg. Specific Gravity Flowing Fluid _____

P_c **1.080** $(1-e^{-s})$ **.139** P_c **633.2** P_c^2 **400.9**

No.	P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w X	$\frac{P_w}{P_c}$ X
1.	607.2	368.7	.92	.85	.11	368.8	32.1	607.3	.959097
2.	591.2	349.5	3.51	12.32	1.71	351.2	49.7	592.6	.935812
3.	540.2	291.8	7.05	49.70	6.91	298.7	102.2	546.5	.863076
4.	433.2	187.7	10.09	101.81	14.15	201.9	199.00	449.3	.709570
5.									

Absolute Potential: **16000** MCFPD; n **.755**

COMPANY **Late Oil Company**

ADDRESS **Box 670, San Angelo, Texas**

AGENT and TITLE _____ **F. M. Late - Partner**

WITNESSED _____

COMPANY _____

REMARKS

Tests run by Mr. Prew and Mr. Mikel of El Paso Natural Gas Company. Calculated by Mr. Edward Mabe of El Paso Natural Gas Company except 2 columns marked X.

ELVIS A. U... 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.