NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Wildcat** Formation **Queen** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **April 13-14, 1962**

Company **Nolan Brunson, Jr. & E. W. Laughlin** Lease **State 32** Well No. **1**

Unit **A B** Sec. **32** Twp. **18 S** Rge. **39 E** Purchaser **None**

Casing **2 7/8** Wt. **6.50** I.D. **2.441** Set at **4499** Perf. **3934** To **3958**

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

Gas Pay: From **3934** To **3958** L **3934** xG **.800** -GL **3147** Bar.Press. **13.2**

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

Date of Completion: **4/10/62** Packer _____ Reservoir Temp. _____

OBSERVED DATA

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

No.	Flow Data (Prover) (~~Line~~) Size	Flow Data (Choke) (~~Orifice~~) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI								1793		22
1.	2	.875	27		70			1546		1.5
2.	2	.875	42		50			1416		1.5
3.	2	1.125	27		50			1267		1.5
4.	2	1.375	22		57			685		1.5
5.	2	1.375	20		57			237		20

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.	16.7816		40.2	.9905	.8660	1.000	579
2.	16.7816		55.2	1.0098	.8660	1.000	810
3.	28.2569		40.2	1.0098	.8660	1.000	993
4.	43.8286		35.2	1.0029	.8660	1.000	1340
5.	43.8286		33.2	1.0029	.8660	1.000	1264

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio * cf/bbl. Specific Gravity Separator Gas .800
Gravity of Liquid Hydrocarbons _____ deg. Specific Gravity Flowing Fluid ---
P_c 5.866 $(1-e^{-s})$ .194 P_c 1806.2 P_c^2 3262.4

***Recovering load oil**

No.	P_w 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	$\frac{P_w}{P_c}$
1.	1559.2	2431.1	3.396	11.53	2.24	2439.3	829.1	1560	.86
2.	1429.2	2042.6	4.751	22.57	4.38	2047.0	1215.4	1431	.79
3.	1280.2	1638.9	5.825	33.93	6.58	1645.5	1619.9	1283	.71
4.	698.2	487.5	7.860	61.78	11.98	499.5	2762.9	707	.39
5.	250.2	62.6	7.415	54.98	10.67	73.3	3189.1	271	.15

Absolute Potential: **1300** MCFPD; n **.894**

COMPANY **Nolan Brunson, Jr. & E. W. Laughlin**
ADDRESS **Box 1207, Hobbs, New Mexico**
AGENT and TITLE *N. L. Smith* **Independent Gas Tester**
WITNESSED _____
COMPANY _____

OIL REPORTS & GAS SERVICES
BOX 763 HOBBS, NEW MEXICO

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.