NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

1958 AUG 4 AM 7 07

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Undesignated** Formation **Atoka-Penn** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **7-14 to 21, 1958**

Company **Shell Oil Company** Lease **Querecho Plains** Well No. **2**

Unit **N** Sec. **27** Twp. **18** Rge. **32** Purchaser **None**

Casing **5 1/2** Wt. **17.00** I.D. **4.892** Set at _____ Perf. **12,723** To **12,838**

Tubing **2** Wt. **4.7** I.D. **1.995** Set at **12,554** Perf. **O.E.** To _____

Gas Pay: From **12,723** To **12,838** L **12,723** xG **Mix .779** -GL **9911** Bar.Press. **13.2**

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

Date of Completion: _____ Packer **12,554** Reservoir Temp. _____

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps **Flge.**

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						3200				120
1.	3	1.500	146	36	34	2050				3
2.	3	1.500	260	60	79	1355				3
3.	3	1.500	266	83	30	790				3
4.	3	2.000	155	39	66	618				24
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.	14.36	75.66	159.2	0.9777	0.9359	1.010	1.004
2.	14.36	127.99	273.2	0.9822	0.9359	1.018	1.719
3.	14.36	152.16	279.2	0.9813	0.9359	1.018	2.043
4.	27.52	80.94	168.2	0.9943	0.9359	1.012	2.097
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **28,315** cf/bbl.
Gravity of Liquid Hydrocarbons **52.7** deg.
F_c **9.936** $(1-e^{-s})$ **0.495**

Specific Gravity Separator Gas **.685**
Specific Gravity Flowing Fluid **.7682**
P_c **3213.2** P_c^2 **10,324.7**

No.	P_w P_t (psia)	P_t^2	$F_c Q$	$(F_c Q)^2$	$\frac{(F_c Q)^2}{(1-e^{-s})}$	P_w^2	$P_c^2 - P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	2063.2	4257	9.976	99.52	49.3	4306.3	6018.4	2075.2	64.6
2.	1388.2	1572	17.080	291.70	144.4	3016.4	8308.3	1420.0	44.2
3.	803.2	645	20.299	412.05	204.0	849.0	9475.7	921.0	28.6
4.	631.2	398	20.836	434.14	214.9	612.9	8711.8	782.9	24.4
5.									

Absolute Potential: **2,250** MCFPD; n **1.000**

COMPANY **Shell Oil Company**

ADDRESS **Box 845, Roswell, New Mexico**

AGENT and TITLE **A. L. Ellerd - Gas Tester**

WITNESSED _____

COMPANY _____

REMARKS

Slope greater than 1.000. Slope of 1.000 was drawn through the point corresponding to the 24 hour rate of flow.

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.