NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC HOBBS OFFICE OCC Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1960 JAN 9 1960 JAN 13 AM 10:42

Pool Undesignated Formation Bowers County Lea

Initial ____ Annual ____ Special X Date of Test 5-11-59

Company The Ohio Oil Company Lease State Section 9 Well No. 1

Unit N Sec. 9 Twp. 19-S Rge. 38-E Purchaser ____

Casing 8 5/8" / 6 5/8" Wt. 32 / 24 I.D. 7.987 / 5.921 Set at 2986 / 4002 Perf. 3185 / 3290 To 3200 / 3325

Tubing No Wt. ____ I.D. ____ Set at ____ Perf. ____ To ____

Gas Pay: From 3185 To 3325 L 3185 xG 0.720* -GL 2293 Bar.Press. 13.2

Producing Thru: Casing 8 5/8" Tubing ____ Type Well Single

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 9-27-39 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								1392	-	72
1.	2" (Prover)	0.1250" Orif	662	-	71	-	-	662	71	3
2.	"	0.1875" "	447	-	72	-	-	447	72	3
3.	"	0.218" "	265	-	73	-	-	265	73	3
4.	"	0.250" "	161	-	65	-	-	161	65	3
5.	"	0.1250" "	411	-	81	-	-	411	81	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.	0.3418	-	675.2	0.9896	0.9129	1.083	225.8
2.	0.7851	-	460.2	0.9887	0.9129	1.057	344.7
3.	1.0834	-	278.2	0.9877	0.9129	1.032	280.4
4.	1.4030	-	174.2	0.9952	0.9129	1.020	226.5
5.	0.3418	-	424.2	0.9894	0.9129	1.049	136.1

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.

Gravity of Liquid Hydrocarbons - deg.

F_c 0.2774 $(1-e^{-s})$ 0.146

Specific Gravity Separator Gas -

Specific Gravity Flowing Fluid -

P_c 1405.2 P_c^2 1,974.6

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.	675.2	455.9	0.063	0.004	0.0026	455.9	1518.7	675.2	48.1
2.	460.2	211.8	0.096	0.009	0.0013	211.8	1762.8	460.2	32.7
3.	278.2	77.4	0.078	0.006	0.0009	77.4	1897.2	278.2	19.8
4.	174.2	30.3	0.063	0.004	0.0006	30.3	1944.3	174.2	12.4
5.	424.2	179.9	0.038	0.001	0.0001	179.9	1794.7	424.2	30.2

Absolute Potential: 149.7 MCFPD; n 1.000 (Assumed)

COMPANY The Ohio Oil Company

ADDRESS Box 2107, Hobbs, New Mexico

AGENT and TITLE Ned R. Daniels, Petroleum Engineer Ned R. Daniels /dlj

WITNESSED Test conducted by: Mr. L. D. Southern, El Paso Natural Gas

COMPANY Witnessed by: Ned R. Daniels, The Ohio Oil Company

Note:

REMARKS

The F_c factor was calculated by assuming an 8 5/8" string of c asing from the surface to 3185. The 6 5/8" casing was partially salvaged in 1939 and is set from 2896 to 4002.

* Gravity of gas obtained by taking average of Byers gas gravities of wells which have been tested by El Paso Natural Gas Company.

Since there was no definedpoint alignment on the back pressure test curve, a slope of 1.0000 was assumed and drawn through the 20-hour test point.

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.