NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea

Initial ____ Annual ____ Special X Date of Test 7-23 to 7-27-56

Company Tidewater Oil Company Lease State "J" Well No. 3

Unit F Sec. 17 Twp. 19S Rge. 37E Purchaser EPNG Co.

Casing 7 Wt. 24 I.D. 6.336 Set at 3902 Perf. 3588 To 3642

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 4015 Perf. — To —

Gas Pay: From 3588 To 3642 L *3588 xG 0.680 -GL 2440 Bar.Press. 13.2

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

Date of Completion: Dualed 8-17-53 Packer 3795 Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. 93 F.

OBSERVED DATA

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

No.	Flow Data (~~Prover~~) (Line) Size	Flow Data (~~Choke~~) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. $\sqrt{h_w}$	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								996		72
1.	4"	1.5	600	2.4	79	—	—	878	—	24
2.	4"	1.5	627	3.6	80	—	—	779	—	24
3.	4"	1.5	661	4.1	84	—	—	713	—	24
4.	4"	1.5	707	3.9	86	—	—	*709	—	24
5.										

*Unable to get 30% draw down because of high line pressure.

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure $\sqrt{psia}$	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	13.99	59.48	24.8	0.9822	.9393	1.062	813
2.	13.99	91.07	25.3	0.9813	0.9393	1.065	1250
3.	13.99	106.44	26.0	0.9777	0.9393	1.069	1462
4.	13.99	104.65	26.8	0.9759	0.9393	1.072	1439
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Drg Gas cf/bbl.

Gravity of Liquid Hydrocarbons — deg.

F_c 0.740 $(1-e^{-s})$ 0.155

Specific Gravity Separator Gas 0.680

Specific Gravity Flowing Fluid —

P_c 1009.2 P_c^2 1018.5

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	$\frac{P_w}{P_c}$
1.	891.2	794.2	0.60	0.36	0.05	794.2	224.3	891	88.5
2.	792.2	627.5	0.93	0.86	0.13	627.5	391.0	792	78.6
3.	726.2	527.4	1.08	1.16	0.18	527.5	490.7	727	72.1
4.	722.2	521.6	1.06	1.12	0.17	521.7	496.8	723	71.7
5.									

Absolute Potential: 2,525 MCFPD; n 0.750

COMPANY Tidewater Oil Company

ADDRESS Box 547 Hobbs, New Mexico

AGENT and TITLE E. W. Hogue, Acting Area Superintendent

WITNESSED Edward Mabe

COMPANY EPNG Co.

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.