

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 8-13 to 8-17-56
Company Tidewater Oil Company Lease State "I" Unit Well No. 3
Unit N Sec. 16 Twp. 20S Rge. 37E Purchaser EPNG Co.
Casing 5-1/2" Wt. 15.5 I.D. 4.95 Set at 3550 Perf. 3374 To 3492
Tubing 2" Wt. 4.7 I.D. 1.995 Set at 3360 Perf. _____ To _____
Gas Pay: From 3360 To 3492 L 3360 xG 0.670 -GL 2251 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 1-11-56 Packer None Reservoir Temp. 93° F.

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. $\sqrt{h_w}$	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1026		1039		72
1.	1"	1.5	577	8.75	62	920		990		24
2.	1"	1.5	565	7.00	68	950		996		24
3.	1"	1.5	572	5.30	70	973		1006		24
4.	1"	1.5	571	3.00	79	997		1018		24
5.										

Orifice plate too small to get 30% draw down

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	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	212.54	24.3	0.9981	0.9463	1.064	2288
2.	13.99	168.29	24.0	0.9924	0.9463	1.062	2348
3.	13.99	128.19	24.2	0.9905	0.9463	1.060	1782
4.	13.99	72.50	24.2	0.9822	0.9463	1.057	997
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
 P_c _____ $(1-e^{-s})$ _____

Specific Gravity Separator Gas 0.670
Specific Gravity Flowing Fluid _____
 P_c 1052.2 P_c^2 1107.1

No.	P_t (psia)	P_c^2	$F_c Q$	$(F_c Q)^2$	$(F_c Q)^2$ $(1-e^{-s})$	P_w^2	$P_c^2 - P_w^2$	Cal. P_w	P_w P_c
1.	933.2	870.9	—	—	—	1006.4	100.7	1005	95.5
2.	963.2	927.8	—	—	—	1018.5	88.6	1009	95.7
3.	986.2	972.6	—	—	—	1038.8	68.3	1018	96.6
4.	1010.2	1020.5	—	—	—	1063.4	43.7	1031	97.9
5.									

Absolute Potential: 33,000 MCFPD; n 1.0

COMPANY Tidewater Oil Company
ADDRESS Box 547 Hobbs, New Mexico
AGENT and TITLE E. W. Hogue, Acting Area Superintendent
WITNESSED E. G. Smith
COMPANY El Paso Natural Gas Company

REMARKS

ELVIS A. UTZ
P.E. 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 .