NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Langlie Mattix Formation Queen County Lea

Initial ____ Annual ____ Special X Date of Test 6-3 to 6-7-57

Company Tidewater Oil Company Lease A. B. Coates "C" Well No. 1 - Cag.

Unit F Sec. 24 Twp. 25S Rge. 37E Purchaser LPNG

Casing 7 Wt. 20 I.D. ____ Set at 2950 Perf. ____ To ____

Tubing 2 Wt. 4.7 I.D. ____ Set at 3267 Perf. ____ To ____

Gas Pay: From 2950 To 3300 L 2950 xG 0.665 -GL 1962 Bar.Press. 13.2

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

Date of Completion: 2-3-51 Packer 4600 Reservoir Temp. ____

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. h_w	Flow Data Temp. $^oF.$	Tubing Data Press. psig	Tubing Data Temp. $^oF.$	Casing Data Press. psig	Casing Data Temp. $^oF.$	Duration of Flow Hr.
SI								477		72
1.	4	0.750	247	4.00	66			411		24
2.	4	0.750	258	9.00	69			386		24
3.	4	0.750	256	15.21	70			366		24
4.	4	0.750	263	26.01	74			344		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.	3.435	32.25	260	.9943	.9498	1.025	107
2.	3.435	49.39	271	.9915	.9498	1.026	165
3.	3.435	63.96	269	.9905	.9498	1.025	212
4.	3.435	84.73	276	.9868	.9498	1.026	280
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.
Gravity of Liquid Hydrocarbons ____ deg.
F_c 0.707 $(1-e^{-s})$ 0.126

Specific Gravity Separator Gas ____
Specific Gravity Flowing Fluid ____
P_c 490.2 P_c^2 24083

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	424.2	179.9	0.076	0.006	0.000	179.9	60.4	13.0	0.027
2.	399.2	159.4	0.120	0.014	0.002	159.4	80.9	12.6	0.026
3.	379.2	143.8	0.150	0.023	0.003	143.8	96.5	12.1	0.025
4.	359.2	127.6	0.200	0.040	0.005	127.6	112.7	11.3	0.023
5.									

Absolute Potential: 590 MCFPD; n 1.000
COMPANY Tidewater Oil Company
ADDRESS Box 547 Hobbs, New Mexico
AGENT and TITLE H. P. Shackelford, Area Supt.
WITNESSED Earl Smith
COMPANY El Paso Natural Gas Co.

REMARKS

2nd test slope greater than 1.000. Good pull down, alignment and spread. Slope of 1.000 was drawn through flow point corresponding to highest rate of flow.

ELVIS A. UTZ
GAS 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.