NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Formation McKee County Lea

Initial X Annual ____ Special ____ Date of Test July 25, 26, 1961

Company Gulf Oil Corp. Lease G. C. Matthews Well No. 6

Unit G Sec. 6 Twp. 20S Rge. 37E Purchaser None

Casing 4½" Wt. 9.5 I.D. 4.090 Set at 9920 Perf. 9746 To 9812

Tubing 2.375 Wt. 4.7 I.D. 1.995 Set at 9808 Perf. ____ To ____

Gas Pay: From 9746 To 9812 L 9808 xG .783 -GL 7680 Bar.Press. 13.2

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

Date of Completion: 7-26-61 Packer 9672 Reservoir Temp. ____

OBSERVED DATA

Tested Through (Prover) ~~(Choke)(Orifice)~~ 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						2565				10 minutes *
1.	2	1.50	18.0		42	2499				2.50
2.	2	1.50	26.0		41	2469				2.
3.	2	1.50	33.0		19	2451				3.
4.	2	1.50	65.0		15	2300				3.
5.	2	1.50	33.0		50	2475				24.

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.	54.3653		31.2	1.0178	.8879	1.000	1532
2.	54.3653		39.2	1.0188	.8879	1.000	1928
3.	54.3653		46.2	1.0419	.8879	1.000	2324
4.	54.3653		78.2	1.0463	.8879	1.000	3949
5.	54.3653		46.2	1.0098	.8879	1.000	2253

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 106.2 cf/bbl.
Gravity of Liquid Hydrocarbons 69.4 @ 60 deg.
F_c 9.936 $(1-e^{-s})$ 0.410

Specific Gravity Separator Gas .761
Specific Gravity Flowing Fluid .7043
P_c 2578.2 P_c^2 6647.1

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.	2512.2	6311.1	15.22	231.64	95.0	6406.1	241.0	2531.0	.982
2.	2482.2	6161.3	19.16	367.10	150.5	6311.8	335.3	2512.3	.974
3.	2464.2	6072.3	23.09	533.15	218.6	6290.9	356.2	2508.2	.973
4.	2313.2	5350.9	39.24	1539.78	631.3	5982.2	664.9	2445.9	.949
5.	2488.2	6190.1	22.38	500.86	205.3	6396.4	250.7	2529.1	.981

Absolute Potential: 47,637 MCFPD; n .931

COMPANY Gulf Oil Corp.
ADDRESS Box 2167 Hobbs, N.M.
AGENT and TITLE R. L. Watson Gas Tester
WITNESSED Bob Murray & J. O. Whitling
COMPANY El Paso Natural Gas Co.

REMARKS

Produced 21.21 bbls distillate on 24 hr rate

*Well bore loads up with fluid when shut in.

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.