NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tubb Formation Tubb County Lea

Initial X Annual ____ Special ____ Date of Test 9-19-27-57

Company Gulf Oil Corporation Lease Leonard "B" Well No. 4

Unit A Sec. 16 Twp. 21S Rge. 37E Purchaser Permian Basin Pl. Co.

Casing 7" Wt. 23# I.D. 6.366 Set at 6645 Perf. 6185 To 6290

Tubing 2" Wt. 4.7# I.D. 1.995 Set at 6312 Perf. ____ To ____

Gas Pay: From 6185 To 6290 L 6185 xG Mix* -GL * Bar.Press. 13.2

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

Date of Completion: 3-30-56 Packer 5991' Reservoir Temp. ____

OBSERVED DATA

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

No.	Flow Data (~~Prover~~) (Line) Size	(~~Choke~~) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						1475.2				72
1.	4	2.00	600.4	3.4	52	1362.8				24
2.	4	2.00	598.3	8.2	53	1269.2				24
3.	4	2.00	604.1	14.2	58	1144.7				24
4.	4	2.00	602.4	21.1	66	911.6				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.	29.92	45.67	613.6	1.0078	.9258	1.083	1381
2.	29.92	71.39	611.5	1.0068	.9258	1.083	2156
3.	29.92	93.63	617.3	1.0019	.9258	1.080	2806
4.	29.92	114.0	615.6	.9943	.9258	1.075	3375
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio * cf/bbl.
Gravity of Liquid Hydrocarbons 70.5 deg.
F_c 9.936 $(1-e^{-s})$ *

Specific Gravity Separator Gas .700
Specific Gravity Flowing Fluid ____
P_c 1488.4 P_c^2 2215.3

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.	1376.0	1893.4	13.72	188.2	52.13	1945.5	269.8	1395.0	.94
2.	1282.4	1644.5	21.42	458.8	128.0	1787.5	447.8	1339.7	.89
3.	1157.9	1340.7	27.86	777.3	207.5	1548.2	667.1	1244.2	.84
4.	924.8	855.3	33.53	1124.3	294.6	1149.9	1065.4	1072.3	.72
5.									

Absolute Potential: 7300 MCFPD; n 0.78
COMPANY Gulf Oil Corporation
ADDRESS Box 2167, Hobbs, N.M.
AGENT and TITLE A. L. Smith
WITNESSED ____
COMPANY ____

*	GOR	GMix	$1-e^{-s}$	GL
1.	37,446	.763	.277	4719
2.	78,252	.733	.268	4534
3.	77,151	.731	.267	4521
4.	169,683	.714	.262	4416

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.

Gulf Oil Corporation
Harry Leonard "E" No. 4
A-16-21S-37E, Lea Co.
Tubb Gas Pool
9-19, 27-57
AP = 7300 MCF