NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

1957 OCT 25 PM 3:10

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea

Initial X Annual Special Date of Test 9-6/13-57

Company Gulf Oil Corporation Lease Leonard J Well No. 1

Unit G Sec. 24 Twp. 21S Rge. 36E Purchaser El Paso Natural Gas Co.

Casing 5½" Wt. 14 I.D. 4.887 Set at 3849 Perf. 3582 To 3650

Tubing 2-3/8" Wt. 4.7 I.D. 1.995 Set at 3820 Perf. To

Gas Pay: From 3582 To 3650 L 3582 xG .700 -GL 2507 Bar.Press. 13.2

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

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 8-6-56 Packer 3720 Reservoir Temp.

OBSERVED DATA

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

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								782		72
1.	4	1.25	544	6.25	100			760		24
2.	4	1.25	527	19.44	93			735		24
3.	4	1.25	508	31.36	87			708		24
4.	4	1.25	543	56.25	85			662		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.	9.643	59.00	557.2	.9636	.9258	1.050	532
2.	9.643	102.25	540.2	.9697	.9258	1.054	933
3.	9.643	127.82	521.2	.9750	.9258	1.053	1172
4.	9.643	176.85	556.2	.9768	.9258	1.057	1689
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c 1.7 12 $(1-e^{-s})$ .158

Specific Gravity Separator Gas

Specific Gravity Flowing Fluid

P_c 795.2 P_c^2 632.2

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.	773.2	597.8	.91	.83	.13	597.9	34.3	773	.97
2.	748.2	559.8	1.60	2.56	.40	560.2	72.0	748	.94
3.	721.2	520.1	2.01	4.04	.64	520.7	111.5	722	.91
4.	675.2	455.9	2.79	7.78	1.23	457.3	174.9	676	.85
5.									

Absolute Potential: 3900 MCFPD; n 0.68

COMPANY Gulf Oil Corporation

ADDRESS Box 2167, Hobbs, N. M.

AGENT and TITLE A. L. Smith

WITNESSED

COMPANY

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.