NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool ~~Eumont~~ Formation Yates County Lea

Initial ____ Annual ____ Special x Date of Test 4-12 to 19, 1963

Company Shell Oil Company Lease Foote Well No. 2

Unit O Sec. 34 Twp. 19S Rge. 36E Purchaser El Paso Natural Gas Company

Casing 5 1/2" Wt. 14.00 I.D. 5.012 Set at 3702 Perf. 3634 To 3690

Tubing 2 1/2" Wt. 6.50 I.D. 2.441 Set at 3588 Perf. ____ To ____

Gas Pay: From 3634 To 3690 L 3583 xG .691 -GL 2479 Bar.Press. 13.2

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

Date of Completion: 5-21-57 Packer 3588 Reservoir Temp. ____

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps Flge.

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						660		Packer		72
1.	4	1.500	563	6.25	101	636				24
2.	4	1.500	572	7.84	99	623				24
3.	4	1.500	576	9.61	93	613				24
4.	4	1.500	578	12.25	92	600				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.	13.99	60.01	576.2	.9627	.9318	1.051	791.5
2.	13.99	67.75	585.2	.9648	.9318	1.053	896.7
3.	13.99	75.25	589.2	.9697	.9318	1.055	1005 1003.5
4.	13.99	85.16	591.2	.9706	.9318	1.055	1135
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons None deg.
F_c 5.866 $(1-e^{-s})$ .157

Specific Gravity Separator Gas .691
Specific Gravity Flowing Fluid None
P_c 673.2 P_c^2 453.2

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.	649.2	421.5	4.643	21.557	3.384	424.9	28.3	651.8	96.8
2.	636.2	404.7	5.260	27.668	4.344	409.0	44.2	639.3	95.0
3.	625.2	390.9	5.889	34.683	5.445	390.3	56.9	629.5	93.5
4.	613.2	376.0	6.658	44.329	6.960	383.0	70.2	618.9	91.9
5.									

Absolute Potential: 2,950 MCFPD; n .750
COMPANY Shell Oil Company
ADDRESS P. O. Box 1858, Roswell, New Mexico
AGENT and TITLE A. L. Elkerd - Gas Tester
WITNESSED R. A. Mikel
COMPANY El Paso Natural Gas 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.