NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea

Initial ____ Annual ____ Special x Date of Test 5-3 to 5-10-63

Company Shell Oil Company Lease State "A" (12) Well No. 2

Unit A Sec. 12 Twp. 21S Rge. 36E Purchaser El Paso Natural Gas Company

Casing 7" Wt. 20.0# I.D. 6.456 Set at 3741 Perf. 3075 To 3555

Tubing 2 1/2" Wt. 6.5# I.D. 2.441 Set at 3735 Perf. ____ To ____

Gas Pay: From 3075 To 3555 L 3075 xG .669 -GL 2057 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: 1-13-53 Packer 3680 Reservoir Temp. ____

*Oil zone temporarily abandoned.

OBSERVED DATA

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

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								646		72
1.	4	1.000	339	4.41	70			513		24
2.	4	1.000	354	7.84	71			496		24
3.	4	1.000	383	20.25	72			473		24
4.	4	1.000	428	44.89	73			435		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.	6.135	39.41	352.2	.9905	.9470	1.033	234.3
2.	6.135	53.66	367.2	.9896	.9470	1.035	319.3
3.	6.135	89.57	396.2	.9887	.9470	1.038	534.0
4.	6.135	140.73	441.2	.9877	.9470	1.043	842.3
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons None deg.
F_c .822 $(1-e^{-s})$ .132

Specific Gravity Separator Gas .669
Specific Gravity Flowing Fluid None
P_c 659.2 P_c^2 434.5

No.	~~Pw~~ Pt (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.	526.2	276.9	.1926	.0371	.0049	276.9	157.6	526.2	79.8
2.	509.2	259.3	.2625	.0689	.0091	253.3	175.2	509.2	77.2
3.	486.2	236.4	.4389	.1926	.0254	236.4	198.1	486.2	73.7
4.	448.2	200.9	.6924	.4794	.0633	201.0	233.5	448.3	68.0
5.									

Absolute Potential: 1,620 MCFPD; n 1.000

COMPANY Shell Oil Company
ADDRESS P. O. Box 1858, Roswell, New Mexico
AGENT and TITLE A. L. Ellard - Gas Tester A. L. Ellard
WITNESSED Jack T. Littlefield
COMPANY El Paso Natural Gas Company

REMARKS

Slope greater than 1.000, a slope of 1.000 drawn through highest rate of flow.

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.