NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC
1963 JUL 19 AM 11:47

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Penrose County Lea

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

Company Shell Oil Company Lease State "C" Well No. 1

Unit A Sec. 24 Twp. 19S Rge. 36E Purchaser El Paso Natural Gas Company

Casing 7" Wt. 24.0# I.D. 6.336 Set at 3844 Perf. 3505 To 3705

Tubing 2 1/2" Wt. 6.5# I.D. 2.441 Set at 3465 Perf. ____ To ____

Gas Pay: From 3505 To 3705 L 3465 xG .682 -GL 2363 Bar.Press. 13.2

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

Date of Completion: 5-16-57 Packer 3465 Reservoir Temp. ____

OBSERVED DATA

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

No.	Flow Data (Line) Size	Flow Data (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						847		Packer		72
1.	4	1.000	577	9.61	103	843				24
2.	4	1.000	618	12.25	103	841				24
3.	4	1.000	617	20.25	97	835				24
4.	4	1.000	618	29.16	90	827				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	75.31	590.2	.9610	.9380	1.051	437.7
2.	6.135	87.93	631.2	.9610	.9380	1.056	513.4
3.	6.135	112.97	630.2	.9662	.9380	1.059	665.3
4.	6.135	135.67	631.2	.9723	.9380	1.061	808.3
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl. Specific Gravity Separator Gas .682
Gravity of Liquid Hydrocarbons None deg. Specific Gravity Flowing Fluid None
F_c 5.866 $(1-e^{-s})$ .150 P_c 860.2 P_c^2 739.9

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.	856.2	733.1	2.567	6.589	.9833	734.1	5.8	856.8	99.6
2.	854.2	729.6	3.012	9.072	1.361	731.0	8.9	855.0	99.4
3.	848.2	719.4	3.903	15.233	2.285	721.7	18.2	849.5	98.7
4.	840.2	705.9	4.724	22.316	3.347	709.2	30.7	842.1	97.9
5.									

Absolute Potential: 4,800 MCFPD; n .500
COMPANY Shell Oil Company
ADDRESS P. O. Box 1858, Roswell, New Mexico
AGENT and TITLE A. L. Ellard - Gas Tester A. L. Ellard
WITNESSED R. A. Mikel
COMPANY El Paso Natural Gas Company

REMARKS

Slope less than .500, a slope of .500 drawn through lowest 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.