

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 5-3 to 5-10-63
Company Shell Oil Company Lease State C Well No. 2
Unit H Sec. 24 Twp. 21S Rge. 35E Purchaser El Paso Natural Gas Company
Casing 5 1/2" Wt. 14.0# I.D. 5.012 Set at 3786 Perf. 3354 To 3406
Tubing 2" Wt. 4.7# I.D. 1.995 Set at 3276 Perf. _____ To _____
Gas Pay: From 3306 To 3610 L 3276 xG .670 -GL 2195 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing x Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: May 25, 1957 Packer None Reservoir Temp. _____

OBSERVED DATA

Tested Through (Pressure) (Orifice) (Meter) Type Taps Flg.

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(<u>Pressure</u>) (Line) Size	(<u>Orifice</u>) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						830		830		72
1.	4	1.500	559	7.29	89	812		817		24
2.	4	1.500	560	18.49	81	795		807		24
3.	4	1.500	585	26.01	81	778		795		24
4.	4	1.500	594	33.64	80	762		786		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	64.59	572.2	.9732	.9463	1.055	878.0
2.	13.99	102.95	573.2	.9804	.9463	1.056	1,411
3.	13.99	124.74	598.2	.9804	.9463	1.059	1,714
4.	13.99	142.92	607.2	.9813	.9463	1.059	1,966
5.							

PRESSURE CALCULATIONS

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

Specific Gravity Separator Gas .670
Specific Gravity Flowing Fluid None
P_c 843.2 P_c² 711.0

No.	P_t P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	$\frac{P_w}{P_c}$
1.	825.2	680.9				689.2	21.8	830.2	98.4
2.	808.2	653.2	- Measured -			672.7	38.3	820.2	97.3
3.	791.2	626.0				653.2	57.8	808.2	95.8
4.	775.2	600.9				638.7	72.3	799.2	94.8
5.									

Absolute Potential: 6,500 MCFPD; n .530

COMPANY Shell Oil Company
ADDRESS P. O. Box 1858, Roswell, New Mexico
AGENT and TITLE A. L. Ellard - Gas Tester *A. L. Ellard*
WITNESSED J. B. Murray
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 .

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