

NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS L. UTE
GAS ENGINEER

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool El Paso Formation Queen County LeaInitial Annual Special X Date of Test 8-20 to 8-24-56Company El Paso Natural Gas Company Lease Shell State Well No. 10Unit H Sec. 36 Twp. 20 S Rge. 36 E Purchaser El Paso Natural Gas CompanyCasing 5 1/2 Wt. 15.5 I.D. 4.990 Set at 3334 Perf. To Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3969 Perf. To Gas Pay: From 3345 To 3320 L 3969 xG .670 -GL Bar.Press. 13.2Producing Thru: Casing Tubing X Type Well Single

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

Date of Completion: 10-18-54 Packer None Reservoir Temp.

OBSERVED DATA

Tested Through (Standard) (Meter) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						935		935		72
1.	4"	1.900	972	4.9"	61	928		928		24
2.	4"	1.900	960	6.7"	70	917		917		24
3.	4"	1.900	973	7.7"	70	900		901		24
4.	4"	1.900	972	9.6"	70	886		887		24
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wP_f}}$	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	108.84		.9962	.9463	1.064	1,528
2.	13.99	160.38		.9903	.9463	1.060	2,230
3.	13.99	186.39		.9903	.9463	1.060	2,591
4.	13.99	230.20		.9903	.9463	1.060	3,199
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons deg.
F_c Measured (1-e^{-s})

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 958.2 P_c² 937.4

No.	P _w (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	P _w /P _c
1.	911.3					830.9	91.5		.9717
2.	920.2					846.3	72.1		.9602
3.	914.2					835.6	101.6		.9634
4.	900.2					810.4	127.0		.9267
5.									

Absolute Potential: 15,500 MCFPD; n .800COMPANY El Paso Natural Gas CompanyADDRESS P. O. Box 1384, Del. New MexicoAGENT and TITLE R. T. Wright - Petroleum Engineer R. T. WrightWITNESSED Earl G. SmithCOMPANY El Paso Natural Gas Company

REMARKS

Unable to get 30% draw down - maximum capacity of meter run.

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/ds. @ 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 .