

NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS A. U.
GAS ENGINEER 84

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Summit Formation Queen County Lea

Initial _____ Annual _____ Special X Date of Test 9-10-56 to 9-14-56

Company El Paso Natural Gas Company Lease Shell State Well No. 7

Unit K Sec. 32 Twp. 20 S Rge. 37 E Purchaser El Paso Natural Gas Company

Casing 5 1/2 Wt. 15.5 I.D. _____ Set at 3314 Perf. _____ To _____

Tubing 2 Wt. 4.7 I.D. _____ Set at 3415 Perf. _____ To _____

Gas Pay: From 3314 To 3420 L _____ xG 0.675 -GL _____ Bar.Press. 13.2

Producing Thru: Casing _____ Tubing X Type Well Single

Date of Completion: 8-31-54 Packer None Reservoir Temp. _____

OBSERVED DATA

Tested Through (BROOKS) (BROOKS) (Meter) Type Taps Flange

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Brooks) (Line) Size	(Brooks) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI						968		72
1.	4"	1.750	573	84.6	66	782 *	939	24
2.	4"	1.750	571	57.8	66	835	943	24
3.	4"	1.750	560	37.2	68	880	947	24
4.	4"	1.750	542	19.4	71	918	953	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.	19.27	222.70		.9943	.9427	1.062	4,272
2.	19.27	183.66		.9943	.9427	1.062	3,523
3.	19.27	146.02		.9924	.9427	1.062	2,796
4.	19.27	103.66		.9896	.9427	1.057	1,970
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

F_c _____ (1-e^{-s})

Specific Gravity Separator Gas _____

Specific Gravity Flowing Fluid _____

P_c 981.2 P_c 962.8

No.	P _w 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.	952.2					906.7	56.1		.81
2.	956.2					914.3	46.5		.86
3.	960.2					922.0	40.8		.91
4.	966.2					933.5	29.3		.95
5.									

Absolute Potential: 73,000 MCFPD; n 1.000COMPANY El Paso Natural Gas CompanyADDRESS P. O. Box 1384, Jal, New MexicoAGENT and TITLE R. T. Wright - Petroleum EngineerWITNESSED Earl G. SmithCOMPANY El Paso Natural Gas Company

REMARKS

* Unable to obtain 30% draw down due to choke size up-stream of meter run. Good point alignment and spread on this test but resulting curve has slope in excess of 1.0. In accordance with Commission instructions, a slope of 1.0 was drawn through the data point corresponding to the high rate of flow. Due to being a retest, the increasing flow rate sequence was used on this test for better point alignment.

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} = Supercompressibility 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 .