

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool _____ Formation Morrow County Lee
Initial X Annual _____ Special _____ Date of Test 7-19/20-62
Company El Paso Natural Gas Company Lease Southern Calif. Federal Well No. 1
Unit H Sec. 29 Twp. 19-S Rge. 32-E Purchaser None
Casing 5 1/2 Wt. 17.0 I.D. _____ Set at 12,833 Perf. 12,448 To 12,462
Tubing 2 1/16 Wt. 3.25 I.D. 1.693 Set at 12,431 Perf. Open To 12,488
Gas Pay: From 12,448 To 12,488 L 12,431 xG MLx .706 -GL 8776 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Gas-Oil Dual
Date of Completion: 7-14-62 Packer 12,396 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

OBSERVED DATA

Tested Through (Pressure) (Choke) (Meter) Type Taps Flange

No.	Flow Data			Tubing Data		Choke Data		Duration of Flow Hr.
	(Line) Size	(Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI								
1.	3"	1.750"	625	7.5	78	3973	8/64	3
2.	3"	1.750"	620	28.0	75	3732	11/64	3
3.	3"	1.750"	620	59.5	76	3412	14/64	3
4.	3"	2.000"	620	62.0	72	3051	17/64	2
5.	3"	2.000"	497	6.0	92	3992	8/64	20

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w P_g}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	20.15	69.18	638.2	.9831	.9888	1.062	63 + 1,397 = 1,460
2.	20.15	137.29	673.2	.9859	.9888	1.066	78 + 2,793 = 2,871
3.	20.15	203.09	693.2	.9870	.9888	1.066	86 + 4,129 = 4,215
4.	27.32	205.51	621.2	.9867	.9888	1.068	105 + 5,738 = 5,843
5.	27.32	55.33	510.2	.9706	.9888	1.041	31 + 1,478 = 1,509

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 48,873 cf/bbl.
Gravity of Liquid Hydrocarbons 52.9 @ 60 deg.
P_c 15.255 * (1-e^{-B}) .453
* Calculated P_c
Assumed
Specific Gravity Separator Gas .650
Specific Gravity Flowing Fluid .7673
P_c 4213.2 P_c 17751.0

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-B})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w /P _c
1.	3986.2	15890.8	22.27	495.9	224.6	16114.4	1636.6	4014.3	.9728
2.	3745.2	14026.5	43.86	1924.4	889.0	14095.5	2037.5	3899.5	.9180
3.	3485.2	11732.0	64.38	4144.5	1872.9	13044.9	4146.1	3086.5	.8755
4.	3264.2	9399.3	89.13	7944.1	3596.7	10588.0	4763.0	3530.0	.8376
5.	4005.2	16041.6	23.02	529.9	240.0	16201.6	1469.4	4035.0	.9577

Absolute Potential: 18,250 MCFPD; n 1.000

COMPANY El Paso Natural Gas Company

ADDRESS P. O. Box 1384 - JAL, NEW MEXICO

AGENT and TITLE John A. Dison-Petroleum Engineer

WITNESSED Earl E. Smith

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} = 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 .