

NEW MEXICO OIL CONSERVATION COMMISSION

OFFICE 000

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

1957 FEB 11 AM 9:49

Pool Eumont Formation Queen County Lea
Initial x Annual Special x Date of Test 11-9-56
Company Sinclair Oil & Gas Company Lease M. S. Barryman Well No. 1
Unit 0 Sec. 11 Twp. 21S Rge. 36E Purchaser Permian Basin Pipe Line
Casing 7" Wt. 21.4 I.D. 6.336 Set at 3713 Perf. 3518 To 3618
Tubing 2 1/2" Wt. 6.54 I.D. 2.141 Set at 3506 Perf. To
Gas Pay: From 3518 To 3618 L 3506 xG .670 -GL 2319 Bar. Press. 13.2
Producing Thru: Casing Tubing Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 3-8-56 Packer Reservoir Temp. 130

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)Type Taps Pipe

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1001.6	60			72
1.	1	.75				1000.4	60			21
2.	"	"	494.9	19.1	102	895.4	60			21
3.	"	"	493.0	32.9	84	852.0	60			21
4.	"	"	490.2	45.0	78	813.7	60			21
5.										

* Fisher Controller shut in after well was put in for first flow rate.

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.							
2.	3.515	99.28	508.1	.9618	.9163	1.039	330
3.	"	129.0	506.2	.9777	.9163	1.045	438
4.	"	150.5	503.4	.9831	.9163	1.047	515
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.Gravity of Liquid Hydrocarbons deg.F_c 5.866 (1-e^{-s}) .119Specific Gravity Separator Gas Specific Gravity Flowing Fluid P_c 1014.8 P_c 1029.8

No.	P _w 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	P _w P _c
1.									
2.	908.6	825.6	1.936	3.748	.5585	826.2	203.6	909.0	.90
3.	865.2	748.6	2.596	6.600	.9831	749.6	280.2	865.8	.85
4.	826.9	683.8	3.021	9.126	1.360	685.2	344.6	827.8	.82
5.									

Absolute Potential: 1292MCFPD; n .84COMPANY SINCLAIR OIL & GAS COMPANYADDRESS 520 EAST BROADWAY, HOUSTON, NEW MEXICOAGENT and TITLE Richard L. Harned Gas Analyst.WITNESSED R. L. WestCOMPANY Permian Basin Pipeline Company

Only able to obtain three data points due to the Fisher Controller shutting well in just after it had been turned on for the first rate of flow. Good point alignment on the three data points obtained.

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 .