

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea
Initial X Annual _____ Special _____ Date of Test 9/15/65
Company Sinclair Oil & Gas Company Lease W. T. Matkins WN Well No. 4
Unit K Sec. 14 Twp. 23S Rge. 36E Purchaser El Paso Natural Gas Company
Casing 5 1/2" Wt. 15.50# I.D. 4.950 Set at 3589 Perf. 2931 To 3189
Tubing 2 3/8" Wt. 4.7# I.D. 1.990 Set at 3504 Perf. OE To _____
Gas Pay: From 2931 To 3189 L 3060 XG .661 GL 2029 Bar.Press. 13.2
Producing Thru: Casing X Tubing _____ Type Well G. O. Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 8/25/65 Packer 3502 Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (~~Choke~~) (~~Meter~~) Type Taps _____

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								556		72
1.	2"	1.000"	18		98			552		1
2.	2"	1.000"	38		76			546		1
3.	2"	1.000"	82		60			526		1
4.	2"	1.000"	120		58			494		1
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wDf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	22.0662		31.2	.9653	.9527	1.045	662.7
2.	22.0662		51.2	.9850	.9527	1.050	1060
3.	22.0662		95.2	1.0000	.9527	1.058	2118
4.	22.0662		133.2	1.0019	.9527	1.071	2925
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg/
F_c 1.758 1.772 (1-e^{-s}) 130
Specific Gravity Separator Gas .661
Specific Gravity Flowing Fluid .661
P_c 569.2 P_c 324.0

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.	565.2	319.4	1.113	1.239	.161	319.6	4.4	565.3	.993
2.	559.2	312.7	1.863	3.471	.451	313.1	10.9	559.6	.983
3.	539.2	290.7	3.519	12.38	1.61	292.3	31.7	540.6	.948
4.	507.2	257.2	4.994	24.94	3.24	260.4	63.6	510.3	.897
5.									

Absolute Potential: 7800 MCFPD; n 0.57541

COMPANY Sinclair Oil & Gas Company
ADDRESS P.O. Box 1920, Hobbs, New Mexico
AGENT and TITLE W. J. Singleton Senior Engineer
WITNESSED Bobby G. Boas
COMPANY El Paso Natural Gas Company

REMARKS

Orig. & 2 cc: Santa Fe-OCC
cc: RFS, GAC, File

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 .