

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Samont Formation Queen County Lea
Initial X Annual _____ Special _____ Date of Test 12-20-57
Company Sinclair O & G Co. Lease J. H. Williams Well No. #5
Unit F Sec. 34 Twp. 19S Rge. 37E Purchaser None
Casing 5 1/2" Wt. 14 1/2 I.D. _____ Set at 3,899' Perf. 3724' To 3728'
Tubing 2" Wt. 4.7 I.D. 1.995 Set at 3,703 Perf. Open To _____
Gas Pay: From _____ To _____ L 3703 xG .672 -GL 2488 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 12-12-57 Packer Set @ 3,685' Reservoir Temp. ?

OBSERVED DATA

Tested Through (Prover) ~~(Choke)~~ ~~(Meter)~~

Type Taps _____

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						709				
1.	2"	3/16				672	67			72
2.	2"	7/32				658	70	(Packer)		3
3.	2"	1/4				631	70			3
4.	2"	5/16				557	69			3
5.		3/8				487	69			24

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	.7851	---	685.2	.9933	.9463	1.073	543
2.	1.0834	---	671.2	.9905	.9463	1.071	730
3.	1.4030	---	644.2	.9905	.9463	1.067	904
4.	2.1577	---	570.2	.9915	.9463	1.053	1,226
5.	3.0691	---	500.2	.9915	.9463		1,517

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry gas cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
P_c 9.936 (1-e^{-s}) .157

Specific Gravity Separator Gas .672
Specific Gravity Flowing Fluid _____
P_c 722.2 P_c² 521.6

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.	685.2	469	5.395	29.11	4.57	473.9	48.6	688.5	95.3
2.	671.2	451	7.253	52.61	8.26	453.7	62.9	677.3	93.8
3.	644.2	415	8.982	80.68	12.67	427.5	94.1	653.8	90.5
4.	570.2	325	12.182	148.40	23.30	348.4	173.2	590.2	81.7
5.	500.2	250	15.072	227.17	35.67	285.8	235.8	534.6	74.0

Absolute Potential: 2,410 MCFPD; n .55COMPANY Sinclair O & G Co.ADDRESS Box 1470 Midland, TexasAGENT and TITLE Ray Lord Gas Analyst

EMPLOYED _____

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 .