

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Sawyer Formation San Andres County Lea
Initial _____ Annual X Special _____ Date of Test 1-14-65
Company Bogle & Kemper Oil Co. Lease Union Federal Well No. 2
Unit P Sec. 31 Twp. 9 S Rge. 38 E Purchaser S.O.&G.
Casing 4 1/2 Wt. 9.5 I.D. 4.009 Set at 5008 Perf. 4927 To 4937
Tubing 2 3/8 Wt. 4.7 I.D. 1.995 Set at 4944 Perf. 4931 To 4935
Gas Pay: From 4931 To 4935 L 4931 xG .805 -GL 3969 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X7 Type Well single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 2-22-60 Packer 4868 Reservoir Temp. _____

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Orifice)~~ (Meter) Type Taps flange

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						736				72 SI
1.	3	1.000	463	6.85	74	452				24
2.										
3.										
4.										
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.	6.182	57.11	476.2	.9868	.8635	1.077	324
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio neg. cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
P_c 9.936 (1-e^{-S}) .239
Specific Gravity Separator Gas .805
Specific Gravity Flowing Fluid _____
P_c 736 P_c 541.7

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.	465.2	216.4	3.219	10.36	2.476	218.9	322.8	467.9	
2.									
3.									
4.									
5.									

Absolute Potential: 543.7 MCFPD; n 1.000
COMPANY Sinclair Oil & Gas Co.
ADDRESS Box 308; Tatum, N. Mex.
AGENT and TITLE R. Fawcett, Inst. Tech.
WITNESSED _____
COMPANY _____

REMARKS

used previous n slope
A. P. calculated

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 .