

DUPLICATE

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS Revised 12-1-55
 1961 MAY 31 PM 1:40

Pool Undesignated Formation San Andres County Lea
 Initial _____ Annual _____ Special X Date of Test May 26, 1961
 Company Leas Star Producing Company Lease State King Well No. 1
 Unit N Sec. 16 Twp. 9-S Rge. 35-E Purchaser Sinclair Oil & Gas Company
 Casing 7" liner 23' 6.366 1241-5532'
9-5/8" Wt. 36' I.D. 8.921 Set at 1312' Perf. 4,740' To 4,815'
 Tubing 2.375 Wt. 4.70 I.D. 1.995 Set at 4,736' Perf. 4,920' To 4,924'
 Gas Pay: From 4,740' To 4,815' L 4,740' xG .795 -GI 2,760 Bar.Press. 13.2
 Producing Thru: Casing _____ Tubing X Type Well Single
 Date of Completion: Nov. 18, 1952 Packer Hanging Basket Reservoir Temp. 122°

OBSERVED DATA

Tested Through (Prover) (Choke) (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						1152		1161		72
1.	3	1.75	350	9	82°	995	78°	1004		3
2.	3	1.75	300	16	82°	899	82°	999		3
3.	3	1.75	300	23.5	89°	785	78°	986		3
4.	3	1.75	135	26	81°	711	78°	861		3
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.	20.15	57.17	361.2	.9795	.8687	1.051/1.051	1,006 1030.2
2.	20.15	70.31	301.2	.9795	.8687	1.057/1.057	1,102 1437.3
3.	20.15	97.34	101.2	.9732	.8687	1.057/1.056	1,709 1751.0
4.	20.15	105.51	121.2	.9777	.8687	1.061/1.061	1,828 1915.8
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Trace cf/bbl.
 Gravity of Liquid Hydrocarbons _____ deg.
 F_c 9.936 (1-e^{-S})
 Specific Gravity Separator Gas .795
 Specific Gravity Flowing Fluid _____
 P_c 1163.2 P_c 1,357.7

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.	1067.2	1138.9	10.95	105.06	21.95	1163.26	101.8	1078.7	79.1
2.	1003.2	1006.4	11.79	204.20	14.55	1058.26	304.7	1004.1	75.6
3.	939.2	882.1	17.41	303.11	69.11	951.20	404.5	976.3	72.7
4.	874.2	764.2	20.86	343.28	82.82	847.04	510.7	989.3	67.8
5.									

Absolute Potential: 4,327 MCFPD; n .710
 COMPANY Leas Star Producing Company
 ADDRESS Box 4015, Midland, Texas
 AGENT and TITLE R. K. Row Engineer (Production)
 WITNESSED R. K. Row
 COMPANY Sinclair Oil & Gas Company

	(1)	(2)	(3)	(4)
REMARKS	10.23	14.28	17.40	19.05
	104.65	203.92	302.76	403.50
	29.70	48.12	71.45	85.64
	1163.6	1054.5	953.5	849.8
	194.1	303.2	404.2	507.9
	1078.7	1026.9	976.5	921.8
	79.258	58.13	82.80	79.11

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 .