

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT, BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Jalant Formation Yates County Lee
Initial I Annual Special I Date of Test 9-22-57
Company Sinclair Oil & Gas Company Lease State 157B Well No. 2
Unit F Sec. 7 Twp. 22S Rge. 36E Purchaser El Paso Natural Gas Company
Casing 7 Wt. 24 I.D. 6.336 Set at 3730 Perf. To
Tubing 2-1/2 Wt. 6.5 I.D. 2.441 Set at 3601 Perf. To
Gas Pay: From 3539 To 3638 L 3601 xG .670 -GL 2413 Bar.Press. 13.2
Producing Thru: Casing Tubing I Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 12-24-55 Packer 3473 Reservoir Temp. 108

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(<u>Prover</u>) (Line) Size	(<u>Choke</u>) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						737	60			72
1.	4	1.250	565	9.0	98	707	60			24
2.	4	1.250	564	12.25	85	693	60			24
3.	4	1.250	565	22.56	85	677	60			24
4.	4	1.250	569	32.49	81	650	60			24
5.										

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.	9.643	69.13	578.2	.9653	.9463	1.051	640
2.	9.643	84.07	577.2	.9768	.9463	1.055	790
3.	9.643	109.43	578.2	.9768	.9463	1.051	1026
4.	9.643	137.51	582.2	.9804	.9463	1.056	1299
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio - cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
F_c 5.066 (1-e^{-s}) 0.153
Specific Gravity Separator Gas .670
Specific Gravity Flowing Fluid -
P_c 790.2 P_c² 562.0

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.	720.2	518.7	3.73	14.06	2.13	520.9	41.9	721.7	96.2
2.	708.2	498.7	4.83	21.44	3.28	502.0	60.8	708.8	96.6
3.	690.2	476.4	6.02	36.24	5.54	481.9	80.9	694.2	92.5
4.	663.2	439.8	7.62	58.06	8.83	448.6	114.2	669.8	89.3
5.									

Absolute Potential: 4,000 MCFPD; n 705
COMPANY Sinclair Oil & Gas Company
ADDRESS 320 East Broadway - Hobbs, New Mexico
AGENT and TITLE R. L. Harned - Gas Analyst
WITNESSED Earl Smith
COMPANY El Paso Natural Gas 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} = 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 .