

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Lane (Strawn Gas) Formation Strawn County Lea

Initial X Annual _____ Special _____ Date of Test 12/18/61

Company Sunray Mid-Continent Oil Company Lease N. M. State "F" Well No. 1

Unit F Sec. 1 Twp. 108 Rge. 33E Purchaser Warren Petroleum

Casing 5 1/2 Wt. 17.20 I.D. 4.892 Set at 10910' Perf. 10614' To 10826'

Tubing 2 3/8 Wt. 4.7 I.D. 1.995 Set at 10555' Perf. 10551' To 10554'

Gas Pay: 10618 To 10826 L _____ xG _____ -GL _____ Bar. Press. 13.2

Producing Thru: Casing _____ Tubing X Type Well Single

Date of Completion: 11-24-61 Packer 10550 Single-Bradenhead-G. G. or G.O. Dual _____ Reservoir Temp. _____

OBSERVED DATA

Tested Through (2573) (2573) (Meter)										Type Taps <u>Flange</u>
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	3"	0	-	-		2573	814P			72 1/2
1.	3"	2"	12.5	8	68	1100 (BHP 2448)	psig	-	-	4 1/2 hrs
2.	3"	2"	15	26	58	1250 (BHP 2096)		-	-	4 hrs
3.	3"	2"	18	72	55	550 (BHP 1100)		-	-	4 hrs
4.	3"	2"	18	63	54	450 (BHP 928)		-	-	2 hrs
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.	27.52	(2.828)(507)	25.7	.9924	.8771	1.000	313.45
2.	27.52	(5.099)(53.10)	29.2	1.0019	.8771	1.000	654.77
3.	27.52	(8.485)(5.586)	31.2	1.0048	.8771	1.000	1149.61
4.	27.52	(7.937)(5.586)	31.2	1.0058	.8771	1.000	1076.38
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio. 7980 cf/bbl.

Gravity of Liquid Hydrocarbons 51.2 deg.

F_c _____ (1-e^{-S})

Specific Gravity Separator Gas 782

Specific Gravity Flowing Fluid .7745

P_c 2586.2 P_c² 6688.4 thda

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.	2161.2					6057.5	630.90		0.95167
2.	2109.2					4448.7	2239.7		0.81556
3.	1113.2					1239.2	5449.2		0.43044
4.	941.20					885.86	5802.5		0.36393
5.									

Absolute Potential: 1140 MCFPD; n 0.51266

COMPANY Sunray Mid-Continent Oil Company

ADDRESS P. O. Box 128 Hobbs, New Mexico

AGENT and TITLE R. E. Statton *R. E. Statton*

WITNESSED O. T. Owen

COMPANY Sunray Mid-Continent Oil Company

REMARKS

Point 3 not stabilized.

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 .