

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Field Eugont Formation Yates - Queens County Lea

Initial Annual X Special Date of Test 6-11 to 6-15-56

Company Sunray Mid-Continent Oil Co. Lease A. Cooper Well No. 3

Unit D Sec. 7 Twp. 20 Rge. 37 Purchaser El Paso Natural Gas Co.

Casing 5" Wt. 15# I.D. 4.408 Set at 3620 Perf. 2950 To 3433

Tubing 2" Wt. 4.7# I.D. 1.995 Set at 3500 ± Perf. 3500 ± To

Gas P. 2950 To 3433 L N/A xG 0.665 -GL N/A Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single

Re- Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 6-20-54 Packer No Reservoir Temp.

OBSERVED DATA

Tested Through (Prover) XXXXXXXXXX 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.	
SI								
1.	4	1.500	574	15.21		964		72
2.	4	1.500	572	33.64		900		24
3.	4	1.500	568	49.76		843		24
4.	4	1.500	603	63.20		798		24
5.						752		24

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.	13.99	94.4	913.2	1.002	.9498	1.103	1386.57
2.	13.99	140.1	856.2	1.001	.9498	1.098	2046.44
3.	13.99	171.3	811.2	.998	.9498	1.091	2478.78
4.	13.99	198.9	765.2	.994	.9498	1.087	2856.11
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c (1-e^{-s})

Specific Gravity Separator Gas

Specific Gravity Flowing Fluid

F_c 977.2 P_c 954.92

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.	927.2					859.00	95.22		
2.	889.2					790.63	161.24		
3.	864.2					746.84	208.08		
4.	839.2					704.25	250.66		
5.									

Absolute Potential: 7140 MCFPD; n 0.725

COMPANY Sunray Mid-Continent Oil Co.

ADDRESS 201 Midland Nat'l Bank Bldg., Midland, Texas

AGENT and TITLE Robert E. Statton, Engr.

WITNESSED

COMPANY

REMARKS

Test was performed by El Paso Natural Gas Co.

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 .