

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea
Initial X Annual - Special - Date of Test 9-15-58
Company Magnolia Petroleum Company Lease State "C" Well No. 2
Unit 0 Sec. 16 Twp. 23S Rge. 36E Purchaser None
Casing 5 1/2" Wt. 17# I.D. 4.892 Set at 3391 Perf. 3064 To 3172
Tubing 2 Wt. 4.70 I.D. 1.995 Set at 3165 Perf. 3165 To 3172
Gas Pay: From 3064 To 3172 L 3064 xG .705 -GL 2160 Bar.Press. 13.2
Producing Thru: Casing - Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 8-31-58 Packer 3023 Reservoir Temp 91° F

OBSERVED DATA

Tested Through (Pressure) (Stroke) (Meter)Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Choke) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI	Line & Orifice					391	75	-	-	66 hr. S.I.
1.	4 x 1.750	13/64	43.4	3.60	75	317	75	-	-	3
2.	" "	1/4	42.0	4.75	78	247	78	-	-	3
3.	" "	5/16	42.0	6.50	73	181	73	-	-	3
4.	" "	3/8	42.4	9.50	72	157	72	-	-	3
5.	" "	"	41.9	9.50	74	151	74	-	-	20.5

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.	19.27	14.275	56.6	.9859	.9225	1.003	250.95
2.	19.27	16.19	55.2	.9831	.9225	1.003	283.81
3.	19.27	18.94	55.2	.9877	.9225	1.003	333.53
4.	19.27	22.98	55.6	.9837	.9225	1.003	405.14
5.	19.27	22.88	55.1	.9868	.9225	1.003	402.46

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio - cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
°C 9.936 (1-e^{-S}) 0.138

Specific Gravity Separator Gas -
Specific Gravity Flowing Fluid .705
P_c 404.2 P_c² 163.378

No.	P _{st} (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.	330.2	109.032	2.493	6.217	.858	109.890	53.488	331.5	.820
2.	260.2	67.704	2.820	7.952	1.097	68.801	94.577	262.3	.649
3.	194.2	37.714	3.314	10.983	1.516	39.230	124.148	198.1	.490
4.	170.2	28.968	4.025	16.201	2.236	31.204	132.174	176.6	.437
5.	164.2	26.962	3.999	15.992	2.207	29.169	134.209	170.8	.423

Absolute Potential: 494 MCFPD; n 1.00COMPANY Magnolia Petroleum CompanyADDRESS Box 2406, Hobbs, New MexicoAGENT and TITLE George J. Fuller, Gas EngineerWITNESSED -COMPANY -

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 .