

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Formation Pictured Cliffs County Rio Arriba
Initial X Annual - Special - Date of Test 8-4-58
Company Magnolia Petroleum Company Lease Duff Federal Well No. 1
Unit M Sec. 27 Twp. 24N Rge. 1 Purchaser Trans Western Pipeline
Casing 5-1/2" Wt. 14 I.D. - Set at 3160 Perf. 3058 To 3070
Tubing 2-3/8" Wt. 4.7 I.D. 1.995 Set at 3069 Perf. - To -
Gas Pay: From 3058 To 3070 L 3069 xG 0.680 -GL 2087 Bar.Press. 12 psi
Producing Thru: Casing - Tubing X Type Well single
Date of Completion: 7-21-58 Packer no Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. 100°F

OBSERVED DATA

Tested Through ~~(Packer)~~ (Choke) ~~(Meter)~~Type Taps -

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Packer) (Choke) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.						592	70	798	70	
2.		3/4"	198		60					3
3.										
4.										
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.							
2.	12.365	-	210	1.000	.9393	1.022	2.493
3.							
4.							
5.							

PRESSURE CALCULATIONS

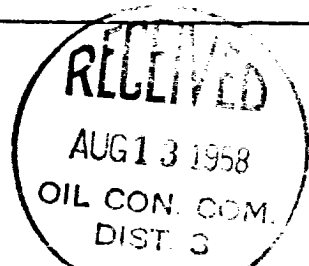
Gas Liquid Hydrocarbon Ratio - cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
P_c - (1-e^{-s})

Specific Gravity Separator Gas -
Specific Gravity Flowing Fluid .680
P_c 810 P_c 656

No.	P _w 501 (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.	501					251	405		
2.									
3.									
4.									
5.									

Absolute Potential: 3.757 MCFPD; n 0.85
COMPANY Magnolia Petroleum Company
ADDRESS P. O. Box 2406, Hobbs, New Mexico
AGENT and TITLE William A. Morgan, Jr. Gas Engineer
WITNESSED -
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 .

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