

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Monument - McKee Formation McKee County Lea
Initial _____ Annual X Special _____ Date of Test 4-3/12/57
Company Amerada Petroleum Corporation Lease _____ State "F" Well No. 5
Unit N Sec. 36 Twp. 19S Rge. 36E Purchaser Permian Basin Pipe Line Co.
Casing 5-1/2" Wt. 17.0# I.D. 4.892 Set at 9978' Perf. 9834' To 9890'
Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 9794' Perf. _____ To _____
Gas Pay: From 9834' To 9890' L 9794' xG (mix) See below GL see below Bar. Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Date of Completion: 7-25-56 Packer 9790' Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

 $\text{CO}_2 = 0.00\%$ $\text{N}_2 = 3.10\%$

OBSERVED DATA

Tested Through (Booster) (Choke) (Meter)

Type Taps _____ Pipe _____

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Booster) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. $^{\circ}\text{F.}$	Press. psig	Temp. $^{\circ}\text{F.}$	Press. psig	Temp. $^{\circ}\text{F.}$	
SI						2605.0				
1.	4"	2.25"	433.2	0.5	88	2499.0				70-1/4 hr.
2.	4"	2.25"	429.2	11.1	68	2284.4				22-3/4
3.	4"	2.25"	431.7	10.8	70	2271.7				24
4.	4"	2.25"	431.5	25.0	54	1976.9				23-3/4
5.										24-1/4

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.	40.53	14.93	446.4	0.9741	0.9645	1.051	598
2.	40.53	70.08	442.4	0.9924	0.9645	1.050	2855
3.	40.53	69.32	444.9	0.9905	0.9645	1.057	2837
4.	40.53	105.40	444.7	1.0058	0.9645	1.042	4318
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

 P_c 9.936 $(1-e^{-S})$ (1).385

(2).377

(3).392

(4).346

Specific Gravity Separator Gas 0.645

Specific Gravity Flowing Fluid _____

 P_c 2628.2 P_c^2 6855.0

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	$\frac{P_w}{P_c}$
1.	2512.2	6311.1	5.942	35.31	13.59	6324.7	530.3	2515.0	.96
2.	2297.6	5279.0	28.37	804.90	303.40	5582.4	1272.6	2362.6	.90
3.	2284.9	5220.8	28.19	794.70	311.50	5532.3	1322.7	2352.0	.90
4.	1990.1	3960.5	42.90	1840.40	636.80	4597.3	2257.7	2144.1	.82
5.									

Absolute Potential: 10,100 MCFPD; n .76COMPANY Amerada Petroleum CorporationADDRESS Monument, New MexicoAGENT and TITLE W.G. Abbott - District EngineerWITNESSED R.L. WestCOMPANY Permian Basin Pipe Line Co.

REMARKS

1st. rate $G_{mix} = .757$ 2nd. " $G_{mix} = .702$ 3rd. " $G_{mix} = .738$ 4th. " $G_{mix} = .631$

G.L. (1) 7414

(2) 6875'

(3) 7228'

(4) 6180'

Retest:

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 .