NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation S.R. County Lea

Initial ______ Annual X Special ______ Date of Test 11-23-56

Company Amerada Petroleum Corporation Lease A.G. Falby Well No. 3

Unit K Sec. 19 Twp. 24-S Rge. 37-E Purchaser Permian Basin Pipeline Co.

Casing 5-1/2" Wt. 15.5# I.D. 4.950" Set at 3341' Perf. 3182' To 3278'

Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 3592' Perf. - To -

Gas Pay: From 3182' To 3278' L 3341' xG 0.660 -GL 2205' Bar.Press. 13.2

Producing Thru: Casing X Tubing ______ Type Well G.O. Dual

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

Date of Completion: 8-4-56 Packer 3295' Reservoir Temp. 86°F

OBSERVED DATA

Tested Through ~~(Prover) (Choke)~~ (Meter) Type Taps Pipe

No.	Flow Data: (Line) Size	Flow Data: (Orifice) Size	Flow Data: Press. psig	Flow Data: Diff. h_w	Flow Data: Temp. °F.	Tubing Data: Press. psig	Tubing Data: Temp. °F.	Casing Data: Press. psig	Casing Data: Temp. °F.	Duration of Flow Hr.
SI								665.1		72-3/4 Hr. SI
1.	4"	1.25								Froze Off
2.	4"	1.25	465.0	9.6	106°			626.2		22
3.	4"	1.25	474.5	15.2	82°			531.0		24
4.	4"	1.25	464.0	26.1	68°			488.9		24-1/4
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.	10.24				0.9535		
2.	10.24	67.76	478.2	0.9585	0.9535	1.034	656
3.	10.24	86.10	487.7	0.9795	0.9535	1.042	858
4.	10.24	116.6	477.2	0.9924	0.9535	1.046	1131
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
F_c 1.793 $(1-e^{-s})$ 0.141

Specific Gravity Separator Gas -
Specific Gravity Flowing Fluid -
P_c 678.3 P_c^2 460.1

CO_2 - 1.98% N_2 - 1.18%

No.	P_w / P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.						460.1			
2.	639.4	408.8	1.176	1.383	0.1950	409.0	51.1	639.5	.94
3.	544.2	296.2	1.538	2.365	0.3335	296.5	163.6	544.5	.80
4.	502.1	252.1	2.028	4.113	0.5799	252.7	207.4	502.7	.74
5.									

Absolute Potential: 1753 MCFPD; n .57

COMPANY Amerada Petroleum Corporation

ADDRESS Drawer D - Monument, New Mexico

AGENT and TITLE W.G. Abbott - District Engineer *W.G. Abbott*

WITNESSED R.L. West

COMPANY Permian Basin Pipe Line CO.

REMARKS

Restet: Only three data points obtained due to first note freezing off. Average slope drawn through the three data points to submitted to the commission.

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.