

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELL

Pool Jalnet Formation Yates-Seven Rivers County Lea

Initial Annual X Special Date of Test 11-16-56

Company Amerada Petr. Corp. Lease State LM⁷ Well No. 5

Unit A Sec. 36 Twp. 23-S Rge. 36-E Purchaser Permian Basin Pipeline Co.

Casing 5-1/2" Wt. 15.5# I.D. 4.950" Set at 3485' Perf. 2835' To 3420'

Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 3572' Perf. 3569' To 3572'

Gas Pay: From 2835' To 3420' L 2835' xG 0.645 -GL 1829' Bar.Press. 13.2

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

Date of Completion: 2-5-54 Packer 3468' Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. 86°F

OBSERVED DATA

Tested Through (BOREHOLE) (000030) (Meter) Type Taps Pipe

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(BOREHOLE) (Line) Size	(BOREHOLE) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								910.5		72.25
1.	1"	1.25"	476.9	3.4	105			611.8		23.50
2.	1"	1.25"	486.8	4.4	77			618.9		23.75
3.	1"	1.25"	507.2	6.9	60			551.5		23.75
4.	1"	1.25"	478.5	14.1	94			544.1		24.25
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.	10.24	40.82	490.1	0.9592	0.9645	1.034	400
2.	10.24	46.90	500.0	0.9840	"	1.042	475
3.	10.24	59.92	520.4	1.0000	"	1.049	621
4.	10.24	83.26	491.7	0.9688	"	1.037	826
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c 1.758 (1-e^{-S}) 0.118

Specific Gravity Separator Gas

Specific Gravity Flowing Fluid

P_c 923.7 P_c² 853.2

CO₂ - 0.21% N₂ - 1.94%

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.	625.0	390.7	0.7032	0.4945	0.0584	390.8	462.4	625.1	.68
2.	624.1	389.5	0.8351	0.6974	0.0823	389.6	463.6	624.2	.68
3.	564.7	318.9	1.0920	1.1920	0.1407	319.0	534.2	564.8	.61
4.	557.3	310.6	1.4520	2.1080	0.2487	310.8	542.4	557.5	.60
5.									

Absolute Potential: 1299 MCFPD; n 1.0 (limited)

COMPANY Amerada Petroleum Corporation

ADDRESS Drawer D - Monument, New Mexico

AGENT and TITLE W.G. Abbott - District Engineer

WITNESSED R.L. West

COMPANY Permian Basin P.L. Co.

REMARKS

Retest. Poor point alignment. Slope of 1.0 was drawn through the high rate of flow.

ELVIS A. UTE
GAS ENGINEER

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 .