NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Jalmat** Formation **Yates - Seven Rivers** County **Lea**

Initial ____ Annual ____ Special **X** Date of Test **May 9, 1958**

Company **Amerada Petroleum Corporation** Lease **Cagle "C"** Well No. **1**

Unit **D** Sec. **3** Twp. **26** Rge. **37** Purchaser **El Paso Natural Gas Company**

Casing **5-1/2** Wt. **15.5** I.D. ____ Set at **3314** Perf. **2680** To **3195**

Tubing **2-3/8** Wt. **4.7** I.D. ____ Set at **2604** Perf. ____ To ____

Gas Pay: From **2680** To **3195** L **2604** xG **0.655** -GL **1706** Bar.Press. ____

Producing Thru: Casing ____ Tubing **X** Type Well **Single**
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: **5-20-56** Packer **2592** Reservoir Temp. ____

OBSERVED DATA

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

No.	Flow Data ~~(Prover)~~ (Line) Size	~~(Choke)~~ (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						612				72
1.	4	1.000	569	2.56	83	602				24
2.	4	1.000	567	13.69	80	587				24
3.	4	1.000	564	17.64	83	583				24
4.	4	1.000	563	27.56	80	566				24
5.										

FLOW CALCULATIONS

No.	Coefficient (Fig.) (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.	6.135	38.60		.9786	.9571	1.053	234
2.	6.135	89.11		.9813	.9571	1.053	541
3.	6.135	100.89		.9786	.9571	1.053	611
4.	6.135	126.00		.9741	.9571	1.052	758
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **Dry** cf/bbl. Specific Gravity Separator Gas **0.655**

Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____

P_c **9.936** $(1-e^{-s})$ **.111** P_c **625.2** P_c^2 **390.9**

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.	615.2	378.5	2.38	5.43	0.60	378.1	11.8	616	.9883
2.	600.2	360.2	5.38	28.94	3.21	363.4	27.5	603	.9648
3.	596.2	355.5	6.07	36.84	4.09	359.6	31.3	600	.9597
4.	579.2	335.5	7.53	56.70	6.29	341.8	49.1	585	.9387
5.									

Absolute Potential: **7600** MCFPD; n **.9989819**

COMPANY **Amerada Petroleum Corporation**

ADDRESS **Drawer D - Monument, New Mexico**

AGENT and TITLE **M.G. Kidd District Engineer** M.G. Kidd

WITNESSED **Earl G. Smith**

COMPANY **El Paso Natural Gas 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.