NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea

Initial X Annual ____ Special ____ Date of Test 4-3/12/57

Company Amerada Petroleum Corporation Lease Amerada-Gulf State M"T" Unit Well No. 1

Unit M Sec. 5 Twp. 19-S Rge. 37-E Purchaser Permian Basin P.L. Co.

Casing 5-1/2" Wt. 15.5# I.D. 4.976" Set at 3970' Perf. 3604' To 3800'

Tubing 2-3/8" Wt. 4.7# I.D. 1.995 Set at 3814' Perf. ____ To ____

Gas Pay: From 3604 To 3800 L 3814 xG 0.680 -GL 2594 Bar.Press. 13.2

Producing Thru: Casing ____ Tubing X Type Well Single

Date of Completion: 12-14-57 Packer X Reservoir Temp. ____

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

OBSERVED DATA

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

No.	Flow Data: ~~(Prover)~~ (Line) Size	Flow Data: ~~(Choke)~~ (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						956.2				70-1/4 hrs.
1.	4"	1.75"	427.7	2.4	42	915.5				23-1/2
2.	4"	1.75"	425.5	4.7	97	879.3				23-3/4
3.	4"	1.75"	425.4	9.3	95	817.9				24-1/4
4.	4"	1.75"	426.7	22.0	56	617.7				23-3/4
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.	21.69	35.76	440.9	1.0178	0.9393	1.057	784
2.	21.69	45.41	438.7	0.9662	0.9393	1.040	930
3.	21.69	63.87	438.6	0.9680	0.9393	1.040	1402
4.	21.69	98.38	439.9	1.0039	0.9393	1.052	2117
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____

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

F_c 9.936 $(1-e^{-s})$ 0.163 P_c 969.4 P_c^2 939.7

No.	P_w / P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	P_w / P_c
1.	928.7	862.5	7.790	60.68	9.891	872.4	67.3	934.0	.96
2.	892.5	796.6	9.240	85.38	13.920	810.5	129.3	900.3	.93
3.	831.1	690.7	13.93	194.00	31.620	722.3	217.4	849.9	.88
4.	630.9	398.0	21.03	442.30	72.090	470.1	469.6	685.6	.71
5.									

Absolute Potential: 3050 MCFPD; n .546

COMPANY Amerada Petroleum Corporation

ADDRESS Monument, New Mexico

AGENT and TITLE W.G. Abbett - District Engineer W.G. Abbett

WITNESSED R.L. West

COMPANY Permian Basin P.L. Co.

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.