NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

1957 FEB 11 AM 10:01

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Eumont** Formation **Seven Rivers-Queen** County **Lea**

Initial ____ Annual **x** Special ____ Date of Test **9-3-56**

Company **Amerada Pet. Corp.** Lease **Laughlin** Well No. **1**

Unit **D** Sec. **9** Twp. **20S** Rge. **37E** Purchaser **Permian Basin P.L. Co.**

Casing **6-5/8"** Wt. **20.0#** I.D. **6.049"** Set at **3800'** Perf. **3344'** To **3486'**

Tubing **3-1/2"** Wt. **9.3#** I.D. **2.992"** Set at **3825'** Perf. **3822'** To **3825'**

Gas Pay: From **3344'** To **3486'** L **3344'** xG **0.675** -GL **2257'** 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: **2-10-54** Packer **3758'** Reservoir Temp. **80°**

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								988.3		71½ hrs.
1.	4"	1.25"	455.9	7.6	82			840.7		23-3/4 hrs.
2.	4"	1.25"	461.2	13.7	64			778.2		23-3/4 "
3.	4"	1.25"	463.9	20.2	66			728.2		24 "
4.	4"	1.25"	473.5	27.9	67			675.4		24 "
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	59.71		0.9795	0.9427	1.041	588
2.	10.24	80.62		0.9962	0.9427	1.049	813
3.	10.24	98.17		0.9943	0.9427	1.047	987
4.	10.24	116.50		0.9933	0.9427	1.048	1171
5.							

PRESSURE CALCULATIONS

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

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

F_c **1.399** $(1-e^{-s})$ **0.144** P_c **1001.5** P_c^2 **1003.0**

CO_2 **2.09%** N_2 **1.39%**

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.	853.9	729.1	0.8226	0.6767	0.0974	729.2	273.8	853.9	.85
2.	791.4	626.3	1.137	1.293	0.1862	626.5	376.5	791.5	.79
3.	741.4	549.7	1.381	1.907	0.2746	550.0	453.0	741.6	.74
4.	688.6	474.2	1.638	2.683	0.3864	474.6	528.4	688.9	.69
5.									

Absolute Potential: **2220** MCFPD; n **1 (Limited)**

COMPANY **Amerada Pet. Corp.**

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

AGENT and TITLE **W.G. Abbett - Dist. Engineer** W G Abbett

WITNESSED **R.L. West**

COMPANY **Permian Basin P.L. Co.**

REMARKS

Slope (n) is in excess of 1.0 but, due to this being a retest, the test will be submitted with a slope of 1.0 down through the data point corresponding to the highest rate of flow.

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.