NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

1957 OCT 4 PM 2:54

ARTESIA OFFICE OCC

1957 OCT 7 AM 8:07

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Monument** Formation **McKee** County **Lea**

Initial ____ Annual **X** Special ____ Date of Test **2-4/13-57**

Company **Amerada Petroleum Corporation** Lease **State "F"** Well No. **5**

Unit **N** Sec. **36** Twp. **19-S** Rge. **36-E** Purchaser **Permian Basin Pipeline Company**

Casing **5-1/2"** Wt. **17.0#** I.D. **4.892"** Set at **9978'** Perf. **9834'** To **9890'**

Tubing **2-3/8"** Wt. **4.7#** I.D. **1.995** Set at **9794'** Perf. ____ To ____

Gas Pay: From **9834** To **9890** L **9794** xG **1)0.751 3)0.763 / 2)0.751** -GL **1)7355 3)7473 / 2)7355** Bar.Press. **13.2**

Producing Thru: Casing ____ Tubing **X** Type Well **4)0.752 4)7361 Single Completion**

Date of Completion: **7-25-56** Packer **Packer @ 9790** Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. ____

OBSERVED DATA

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

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						2553.3				72 SIP
1.	4"	2"	487.5	3.3	93	2405.8				24
2.	4"	2"	487.2	21.9	66	2179.9				24
3.	4"	2"	488.4	32.0	59	2066.1				24
4.	4"	2"	487.7	50.0	52	1893.3				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.	29.92	40.64	500.7	0.9697	0.9393	1.057	1117
2.	29.92	104.71	500.5	0.9943	0.9393	1.070	3131
3.	29.92	126.69	501.6	1.0010	0.9393	1.078	3820
4.	29.92	158.26	500.9	1.0078	0.9393	1.075	4872
5.							

1. 35,091
2. 35,136
3. 29,780
4. 34,288

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.

Gravity of Liquid Hydrocarbons **64** deg.

F_c **9.936** $(1-e^{-s})$ **1)0.397 2)0.397 3)0.402 4)0.398**

Specific Gravity Separator Gas **0.680**

Specific Gravity Flowing Fluid *****

P_c **2566.3** P_c^2 **6,586,000**

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	$\frac{P_w}{P_c}$
1.	2419.0	5852	11.10	123.2	49	5901	685	2429	0.9466
2.	2193.1	4810	31.11	967.8	384	5194	1392	2279	0.8882
3.	2079.3	4323	37.96	1441	579	4902	1684	2214	0.8628
4.	1906.5	3634	48.41	2344	933	4567	2019	2137	0.8328
5.									

Absolute Potential: **15,892** MCFPD; n = **1.0**

COMPANY **Amerada Petroleum Corporation**

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

AGENT and TITLE **O.C. McBryde - District Engineer** O C McBryde

WITNESSED ____

COMPANY ____

REMARKS

* **0.751 0.763**
0.751 0.752

As this is a retest and the slope through the points is greater than one; a value of one for the slope was assumed and a line with this slope was drawn through the point of highest

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.