

## NEW MEXICO OIL CONSERVATION COMMISSION

RECORDS OFFICE OCC

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Emmont Formation SR-Q County Lea  
Initial \_\_\_\_\_ Annual X Special \_\_\_\_\_ Date of Test 9-3-56  
Company Amerada Petroleum Corporation Lease Anderson Well No. 4  
Unit K Sec. 8 Twp. 20-S Rge. 37-E Purchaser Permian Basin P.L. Company  
Casing 9-5/8" Wt. 36.0# I.D. 8.921" Set at 2530' Perf. \_\_\_\_\_ To \_\_\_\_\_  
Casing 7" Wt. 23.0# I.D. 6.366" Set at 3710' Perf. \_\_\_\_\_ To \_\_\_\_\_  
Gas Pay: From 2530' To 3419' L 2530' xG 0.675 -GL 1708' Bar.Press. 13.2  
Producing Thru: Casing X Tubing \_\_\_\_\_ Type Well Bradenhead ✓  
Date of Completion: 7-15-54 Packer \_\_\_\_\_ Reservoir Temp. 80 Degrees

## OBSERVED DATA

Tested Through (Pressure) (Gauge) (Meter)Type Taps Pipe

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.	4"	2"	443.2	16.7	79			978.8		72 Hrs.
2.	4"	2"	459.8	26.8	56			866.5		23-1/2 hrs.
3.	4"	2"	457.5	37.5	59			805.3		23-3/4 hrs.
4.	4"	2"	482.0	44.1	60			751.2		24 Hrs.
5.								712.7		24 Hrs.

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	29.92	89.20	476.4	0.9822	0.9427	1.042	2575
2.	29.92	112.60	473.0	1.0039	0.9427	1.049	3345
3.	29.92	132.90	470.7	1.0010	0.9427	1.049	3936
4.	29.92	147.80	495.2	1.0000	0.9427	1.050	4377
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> \_\_\_\_\_ (1-e<sup>-s</sup>)

Specific Gravity Separator Gas -  
Specific Gravity Flowing Fluid -  
P<sub>c</sub> 992.0 P<sub>c</sub> 984.1

CO<sub>2</sub> 2.62%, N<sub>2</sub> 1.28%

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.	879.7	773.9					210.2		.89
2.	818.5	669.9	No Friction				314.2		.83
3.	764.4	584.3					399.8		.77
4.	725.9	506.9					457.2		.73
5.									

Absolute Potential: 7.542 MCFPD; n 0.69COMPANY Amerada Petroleum Corporation  
ADDRESS Drawer D, Monument, New MexicoAGENT and TITLE W.G. Abbott, District Engineer

WITNESSED

COMPANY Permian Basin Pipe Line Company

## REMARKS

This is a retest, due to obtaining only three rates and the point alignment was not acceptable.

ELVIS A. UTZ  
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  $P_t$ .