

## NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE Form CC-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

1961 MAY 31 AM 5:44

Pool Jalnat Gas Pool Formation Yates - Seven Rivers County Lea  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 5-18-61  
Company Amerada Petroleum Corporation Lease State JC "T" Well No. 1  
Unit B Sec. 16 Twp. 23-S Rge. 36-E Purchaser Northern Natural Gas Company  
Casing 5.5" Wt. 15.5# I.D. 4.950" Set at 3700' Perf. 3090' To 3110'  
Tubing 2.375" Wt. 4.7# I.D. 1.995" Set at 3282' Perf. 3150' To 3210'  
Gas Pay: From 3150 To 3210 L 3150 xG .670 -GL 2110 Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Date of Completion: 5-5-61 Packer 3125' Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. 87° Calculated

## OBSERVED DATA

Tested Through (Prover) (Choke) (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						440.0				
1.	1"	1.5	102.8	50.0	70	227.0	74	--	--	24
2.	1"	1.5	93.6	35.3	69	271.3	74	--	--	24
3.	1"	1.5	102.7	23.7	68	288.0	74	--	--	24
4.	1"	1.5	97.4	14.0	69	290.5	74	--	--	24
5.										

## 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.	15.26	76.16	116.0	0.9905	0.9463	1.010	1100
2.	15.26	61.40	106.8	0.9915	0.9463	1.010	888
3.	15.26	52.41	115.9	0.9924	0.9463	1.010	759
4.	15.26	39.34	110.6	0.9915	0.9463	1.010	569
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio — cf/bbl.  
Gravity of Liquid Hydrocarbons None deg.  
F<sub>c</sub> 9.936 (1-e<sup>-s</sup>) 0.135  
Specific Gravity Separator Gas .670  
Specific Gravity Flowing Fluid —  
P<sub>c</sub> 453.2 P<sub>c</sub> 205.4  
453.2

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.	240.2	57.70	10.930	119.46	16.127	73.83	131.6	271.7	.588
2.	284.5	80.94	8.8232	77.85	10.510	91.45	113.9	302.4	.697
3.	301.2	90.72	7.5414	56.87	7.677	98.40	107.0	313.7	.683
4.	303.7	92.23	5.6536	31.96	4.315	96.55	108.8	310.7	.676
5.									

Absolute Potential: 1515 MCFPD; n 0.777 1000COMPANY Amerada Petroleum CorporationADDRESS Drawer "D", Monument, New MexicoAGENT and TITLE T. E. Shirley, District EngineerWITNESSED R. L. West, E. E. ShirleyCOMPANY Northern Natural Gas & Amerada Petroleum Corporation

## REMARKS

Fluid Production was not measured due to separator dumping into pit. -NOTE RECOMPLETION DATA-  
Test was conducted in reverse sequence due to considerable water being produced and due to well being logged prior to test.

# Highest shut in pressure recorded. A limited slope of 1.00 was drawn through the highest rate of flow to calculate the potential.

## 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  $P_t$ .