

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Bagley Lower Penn. Gas Formation Pennsylvanian County Lea  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 2-20-59  
Company Amerada Petroleum Corporation Lease J. T. Caudle Well No. 7 T  
Unit C Sec. 3 Twp. 12 Rge. 33 Purchaser El Paso  
Casing 5-1/2" Wt. 17 I.D. 4.892 Set at 9952' Perf. 9758 To 9813  
Tubing 2-3/8" Wt. 4.7 I.D. 1.995 Set at 9813' Perf. 9803 To 9813  
Gas Pay: From 9758 To 9813 L 9758 xG .790 -GL 7709 Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well G.G Dual  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 12-16-56 Packer 8673' Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Packer) (Gauge) (Meter) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Packer) (Line) Size	(Gauge) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1327-1231-1194				24-48-72
1.	4"	2.000	631	19.80	87	848				24
2.										
3.										
4.										
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.	25.58	112.93		.9750	.9072	1.069	2,731
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 37.700 cf/bbl.  
Gravity of Liquid Hydrocarbons 70° deg.  
F<sub>c</sub> 9.936 (1-e<sup>-s</sup>) .412  
Specific Gravity Separator Gas .729  
Specific Gravity Flowing Fluid .790  
P<sub>c</sub> 1340.2 P<sub>c</sub> 1796.1

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.	861.2	741.7	27.135	736.36	303.36	1164.56	631.54	1079.14	80.5
2.									
3.									
4.									
5.									

Absolute Potential: 5840 MCF MCFPD; n 0.727

COMPANY Amerada Petroleum Corporation

ADDRESS Drawer "D" - Monument, New Mexico

AGENT and TITLE R. E. Brudala District Engineer

WITNESSED \_\_\_\_\_

COMPANY \_\_\_\_\_

## REMARKS

4 point back pressure test could not be run because well now has tendency to load up with fluid and has to be swabbed in after shut-in. This potential was calculated from a one point minimum contract test run by El Paso on 2-20-59 using a slope of .727 which was previously obtained on this well.

## 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.
- $F_{pv}$  = Supercompressibility 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  $P_t$ .

COMPANY

AMERADA PETROLEUM CORPORATION

WELL

J.T. CAUDLE NO. 7-T

LOCATION

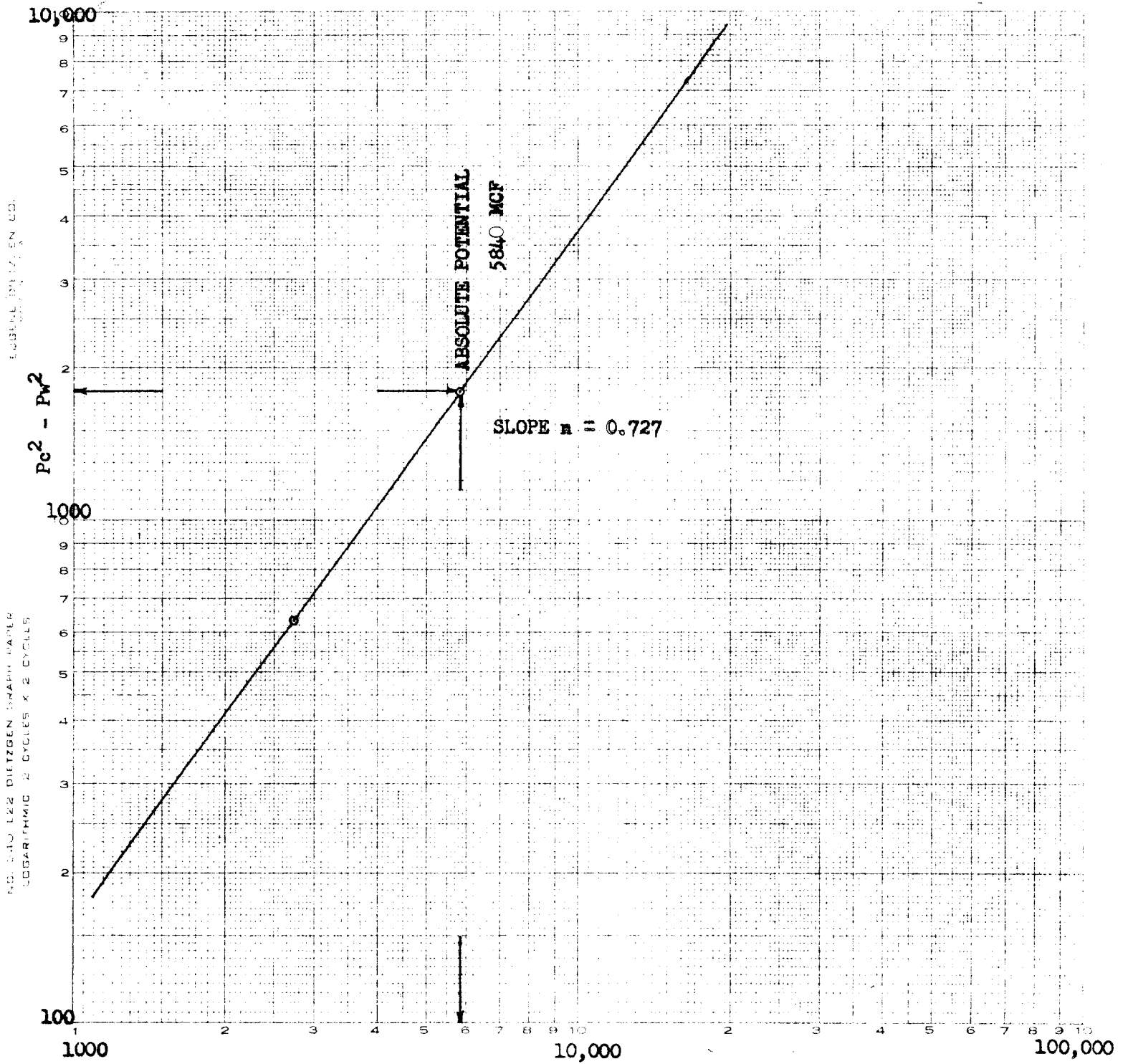
C 3-12-33

COUNTY

LEA

DATE

2-20-59



## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Bagley Upper Penn. Gas Formation Pennsylvanian County Lea  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 2-20-59  
Company Amerada Petroleum Corp. Lease J.T. Caudle Well No. 7 C  
Unit C Sec. 3 Twp. 12 Rge. 33 Purchaser El Paso Nat. Gas Co.  
Casing 5-1/2" Wt. 17 I.D. 4.892 Set at 9952 Perf. 8582-8600 To 8624-8642  
Tubing 2-3/8" Wt. 4.7 I.D. 1.995 Set at 9813 Perf. - To -  
Gas Pay: From 8582 To 8642 L 8582 xG .748 -GL 6419 Bar.Press. 132  
Producing Thru: Casing X Tubing \_\_\_\_\_ Type Well G. G Dual  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 12-19-56 Packer 8673 Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Pressure) (Choke) (Meter) Type Taps Flange

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								<u>1132-1182-1202</u>		<u>24-48-72</u>
1.	<u>4</u>	<u>1.75</u>	<u>631</u>	<u>6.0</u>	<u>90</u>			<u>744</u>		<u>24</u>
2.										
3.										
4.										
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.	<u>19.27</u>	<u>62.17</u>		<u>0.9723</u>	<u>0.9180</u>	<u>1.067</u>	<u>1,141</u>
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 67,535 cf/bbl.  
Gravity of Liquid Hydrocarbons 65° deg.  
F<sub>c</sub> 0.9583 (1-e<sup>-S</sup>) 0.357

Specific Gravity Separator Gas .712  
Specific Gravity Flowing Fluid .748  
P<sub>c</sub> 1225.2 P<sub>c</sub><sup>2</sup> 1501.1

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.	<u>757.2</u>	<u>573.4</u>	<u>1.093</u>	<u>1.194</u>	<u>0.426</u>	<u>573.8</u>	<u>927.3</u>	<u>757.5</u>	<u>61.8</u>
2.									
3.									
4.									
5.									

Absolute Potential: 1847 MCF MCFPD; n 1.0

COMPANY Amerada Petroleum Corporation

ADDRESS Drawer "D" - Monument, New Mexico

AGENT and TITLE R. E. Bruch District Engineer

WITNESSED \_\_\_\_\_

COMPANY \_\_\_\_\_

## REMARKS

4 point back pressure test could not be run because well now has tendency to load up with fluid and has to be swabbed in after shut-in. This potential was calculated from a one point minimum contract test run by El Paso on 2-20-59 using a slope of 1.0 which was previously obtained on the well.

NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

(File the original and 4 copies with the appropriate district office)

CERTIFICATE OF COMPLIANCE AND AUTHORIZATION  
TO TRANSPORT OIL AND NATURAL GAS

Company or Operator Amerada Petroleum Corporation Lease J.T. Gaudin Gas Unit  
Well No. 7 Unit Letter C S 3 T 12-S R 33E Pool Bagley Upper Penn. Gas Zone  
County Lea Kind of Lease (State, Fed. or Patented) Federal  
If well produces oil or condensate, give location of tanks: Unit D S 3 T 12S R 33E  
Authorized Transporter of Oil or Condensate Service Pipe Line Co.

Address Box 337 - Midland, Texas

(Give address to which approved copy of this form is to be sent)

Authorized Transporter of Gas El Paso Nat. Gas Co. Box 1984 - Jal New Mexico - Hi Pressure Gas  
Address Warren Pet. Corp. Box 1589 - Tulsa 2, Oklahoma - Low Pressure Gas.

(Give address to which approved copy of this form is to be sent)

If Gas is not being sold, give reasons and also explain its present disposition:

Reasons for Filing: (Please check proper box) New Well ( )  
Change in Transporter of (Check One): Oil ( ) Dry Gas ( ) C'head ( ) Condensate ( )

Change in Ownership ( ) Other (X)

Remarks: (Give explanation below)

To Show Warren Pet. Corp. as Purchaser of Low Pressure Gas.

NAME CHANGE  
AMERADA PETROLEUM CORP.  
TO AMERADA LESS CORP.  
EFFECTIVE July 1, 1959

The undersigned certifies that the Rules and Regulations of the Oil Conservation Commission have been complied with.

Executed this the 14 day of October 19 58

By W.C. Henderson

Approved 19

Title Foreman

OIL CONSERVATION COMMISSION

Company Amerada Petroleum Corporation

By W.C. Henderson

Address Roswell Star Route

Title

Tatum, New Mexico