

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Sabota Formation Sabota County San Juan  
Initial 1 Annual          Special          Date of Test 8-4-64  
Company THE AMERICAN PETROLEUM CORP. Lease L. G. Kelly - Sabota Well No. 4  
Unit 1 Sec. 3 Twp. 20N Rge. 12E Purchaser           
Casing 4-1/2 Wt. 10.5 I.D. 4.022 Set at 6000 Perf. 6404-70 To 6724-6734  
Tubing 2-3/8 Wt. 4.7 I.D. 1.995 Set at 6630 Perf. 6632 To 6630  
Gas Pay: From 6404 To 6734 L 6632 xG .700 -GL 6630 Bar.Press. 12  
Producing Thru: Casing          Tubing 1 Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 7-27-64 Packer None Reservoir Temp.         

## OBSERVED DATA

Tested Through (Pressure) (Choke) (None) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. $h_w$	Temp. $^{\circ}F$	Press. psig	Temp. $^{\circ}F$	Press. psig	Temp. $^{\circ}F$	
SI	10 days					1023		1023		
1.	2 inch	.730	234			234	60° ext.	634	60° ext.	3 Hr.
2.										
3.										
4.										
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wP_f}}$	Pressure psia	Flow Temp. Factor $F_t$	Gravity Factor $F_g$	Compress. Factor $F_{pv}$	Rate of Flow Q-MCFPD @ 15.025 psia
1.	11.3620		234	1.000	.9828	1.027	2774
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio          cf/bbl.  
Gravity of Liquid Hydrocarbons          deg.  
 $F_c$           ( $1-e^{-s}$ )

Specific Gravity Separator Gas           
Specific Gravity Flowing Fluid           
 $P_c$  1023  $P_c^2$  3,744,225

No.	$P_w$ $P_t$ (psia)	$P_t^2$	$F_c Q$	$(F_c Q)^2$	$(F_c Q)^2$ $(1-e^{-s})$	$P_w^2$	$P_c^2 - P_w^2$	Cal. $P_w$	$P_w$ $P_c$
1.						408,436	3,335,789		
2.									
3.									
4.									
5.									

Absolute Potential: 3000 MCFPD; n .75

COMPANY THE AMERICAN PETROLEUM CORPORATION  
ADDRESS San Juan, New Mexico  
AGENT and TITLE F. L. Sabota, District Engineer  
WITNESSED By: [Signature]  
COMPANY         

REMARKS



## 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  $P_t$ .