



## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool JALMAT Formation Iates County Lea  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test Sept. 29-Oct. 3, '60  
Company JOSEPH I. O'NEILL, Jr. Lease Federal F Well No. 1  
Unit 0 Sec. 29 Twp. 26S Rge. 37E Purchaser Cabot Carbon Co.  
Casing 5-1/2" Wt. 14# I.D. 5.012 Set at 3115 Perf. 3034 To 3044  
Tubing 2-3/8" Wt. 4.7# I.D. 1.995 Set at 1995 Perf. Open End To \_\_\_\_\_  
Gas Pay: From 3034 To 3044 L 2995 xG .660 -GL 1977 Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Date of Completion: 6/14/59 Packer \_\_\_\_\_ Reservoir Temp. \_\_\_\_\_  
Single-Bradenhead-G. G. or G.O. Dual

## OBSERVED DATA

Tested Through (PERFORATION) (Meter) Type Taps Flange

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(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.	3	1.25	23.8	36.60	60	496.0		507.0		69
2.	3	1.25	14.8	54.76	60	367.2		388.0		2.5
3.	3	1.25	18.8	70.56	60	313.2		339.0		2.0
4.	3	1.25	20.0	75.96	60	222.2		312.0		2.0
5.	3	1.25	4.6	54.76	60	204.2		291.0		2.0
						276.2		378.2		20

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	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.	9.781	36.80	37.0	1.0000	.9535	1.0000	343.0
2.	9.781	39.15	28.0	1.0000	.9535	1.0000	365.0
3.	9.781	47.52	32.0	1.0000	.9535	1.0000	443.0
4.	9.781	49.55	33.2	1.0000	.9535	1.0000	462.0
5.	9.781	34.55	21.8	1.0000	.9535	1.0000	322.0

## PRESSURE CALCULATIONS

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

Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 520.2 P<sub>c</sub><sup>2</sup> 270.6

No.	P <sub>w</sub> <u>xt</u> (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.	401.2					161.0	109.6		.77
2.	372.2					138.5	132.1		.71
3.	325.2					105.7	164.9		.62
4.	304.2					92.5	178.1		.58
5.	391.2					153.0	117.6		.75

Absolute Potential: 638 MCFPD; n .839COMPANY JOSEPH I. O'NEILL, Jr.ADDRESS 410 W. Ohio Midland, TexasAGENT and TITLE J. S. Smith Independent TesterWITNESSED Jack BarrCOMPANY Joseph I. O'Neill, Jr.

REMARKS

Made spray fluid on rates 2,3,4,5, water and emulsion - Estimate 2-3 bbls during test.

## 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  $P_t$ .