

MINUTE-POINT BACK PRESSURE TEST FOR GAS WELLS  
 1957 DEC 5 PM 2:03  
 Revised 12-1-55

Pool Jalnet Formation Yates County Lea  
 Initial Annual Special X Date of Test 2-25/3-1 1957  
 Company Southern California Pet. Lease Van Zandt Well No. 4  
 Unit 0 Sec. 25 Twp. 24 Rge. 36 Purchaser El Paso Natural Gas Company  
 Casing 5 1/2" Wt. 14.0 I.D. Set at 3003 Perf. Open Hole To   
 Tubing 2 3/8" Wt. 4.7 I.D. Set at 3303 Perf.  To   
 Gas Pay: From 3005 To 3175 L 3303 xG 0.660 -GL 2180 Bar.Press. 13.2  
 Producing Thru: Casing  Tubing X Type Well Single  
 Date of Completion: 8-1-51 Packer 2870 Reservoir Temp. Single-Bradenhead-G. G. or G.O. Dual

OBSERVED DATA

Tested Through ~~1.5000~~ (1.5000) (Meter) Type Taps Flange

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.	
	(Line) Size	(Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.		Press. psig
1.	4	1.250	225	21.16	60	478			72
2.	4	1.250	231	34.22	58	417			24
3.	4	1.250	230	50.41	65	365			24
4.	4	1.250	230	50.41	65	313			24
5.	4	1.250	204	77.44	65	240			24

FLOW CALCULATIONS

No.	Coefficient Flange (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.	9.643	70.96		1.000	.9535	1.024	668
2.	9.643	91.38		1.0019	.9535	1.026	864
3.	9.643	110.67		.9952	.9535	1.024	1,037
4.	9.643	129.63		.9952	.9535	1.021	1,211
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio  cf/bbl.  
 Gravity of Liquid Hydrocarbons 0.936 deg.  
 Specific Gravity Separator Gas 491.2  
 Specific Gravity Flowing Fluid 241.3

No.	P <sub>t</sub> (psia)	$\frac{P_c^2}{P_t}$	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	$\frac{(F_c Q)^2}{(1-e^{-s})}$	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>	$\frac{P_w}{P_c}$
1.	430.2	185.1	6.64	44.09	6.13	191.2	50.1		
2.	378.2	143.8	8.58	73.62	10.23	153.2	88.1		
3.	326.2	106.4	10.30	106.09	14.75	121.2	120.1		
4.	253.2	64.1	12.03	144.72	20.12	84.2	137.1		
5.									

Absolute Potential: 1,550 MCFPD; n .591  
 COMPANY Southern California Petroleum Corporation  
 ADDRESS Box 1071, Midland, Texas  
 AGENT and TITLE Joe A. Coleman, P.E., New Mexico, Cert. No. 2208  
 WITNESSED Well tested by El Paso Natural Gas Company  
 COMPANY Joel-Coleman Engineering 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  $P_t$ .