

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalnet Formation Yates County Lea
Initial _____ Annual _____ Special xx Date of Test 5-6-5-10 1957
Company Skelly Oil Company Lease Mexico "E" Well No. 1
Unit 1 Sec. 36 Twp. 23 Rge. 36 Purchaser El Paso Natural Gas Company
Casing 7" Wt. 23.0 # I.D. _____ Set at 3400' Perf. _____ To _____
Tubing 2" Wt. 4.74 I.D. _____ Set at 3426' Perf. _____ To _____
Gas Pay: From 2885' To 3040' L 2900 xG 0.655 -GL 1900 Bar. Press. 15.2
Producing Thru: Casing xx Tubing _____ Type Well G. O. Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 9-1-1948 Packer 3126 Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)

Type Taps _____

No.	Flow Data				Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.
SI								<u>360</u>	<u>72</u>
1.	<u>4</u>	<u>1.000</u>	<u>805</u>	<u>20.70</u>	<u>92</u>			<u>806</u>	<u>24</u>
2.	<u>4</u>	<u>1.000</u>	<u>778</u>	<u>33.64</u>	<u>91</u>			<u>780</u>	<u>24</u>
3.	<u>4</u>	<u>1.000</u>	<u>750</u>	<u>50.11</u>	<u>88</u>			<u>753</u>	<u>24</u>
4.	<u>4</u>	<u>1.000</u>	<u>716</u>	<u>75.69</u>	<u>83</u>			<u>720</u>	<u>24</u>
5.									

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>6.135</u>	<u>130.13</u>		<u>0.9706</u>	<u>0.9571</u>	<u>1.072</u>	<u>795</u>
2.	<u>6.135</u>	<u>163.13</u>		<u>0.9715</u>	<u>0.9571</u>	<u>1.069</u>	<u>994</u>
3.	<u>6.135</u>	<u>196.12</u>		<u>0.9741</u>	<u>0.9571</u>	<u>1.070</u>	<u>1,201</u>
4.	<u>6.135</u>	<u>234.90</u>		<u>0.9741</u>	<u>0.9571</u>	<u>1.064</u>	<u>1,430</u>
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 0.740 (1-e^{-s}) 0.123

Specific Gravity Separator Gas 0.655
Specific Gravity Flowing Fluid _____
P_c 872.2 P_c² 762.5

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.	<u>810.2</u>	<u>656.1</u>	<u>0.59</u>	<u>0.35</u>	<u>0.043</u>	<u>657.1</u>	<u>91.4</u>		
2.	<u>792.2</u>	<u>629.2</u>	<u>0.74</u>	<u>0.55</u>	<u>0.068</u>	<u>629.3</u>	<u>153.2</u>		
3.	<u>766.2</u>	<u>587.1</u>	<u>0.89</u>	<u>0.79</u>	<u>0.097</u>	<u>587.2</u>	<u>175.3</u>		
4.	<u>733.2</u>	<u>537.6</u>	<u>1.06</u>	<u>1.12</u>	<u>0.138</u>	<u>537.7</u>	<u>244.8</u>		
5.									

Absolute Potential: 3,250 MCFPD; n 0.479COMPANY Skelly Oil CompanyADDRESS Box 38, Hobbs, New Mexico

AGENT and TITLE _____

WITNESSED _____

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 .