

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea
Initial _____ Annual _____ Special X Date of Test 12-2/12-6-57
Company El Paso Natural Gas Co. Lease Harrison Well No. 2
Unit D Sec. 27 Twp. 25 Rge. 37 Purchaser EPNG
Casing 7 Wt. 20.0 I.D. _____ Set at 3537 Perf. 2880 To 3040
Tubing 2 1/2 Wt. 4.7 I.D. _____ Set at 3100 Perf. _____ To _____
Gas Pay: From 2880 To 3100 L 2860 xG .660 -GL _____ Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Date of Completion: 1-10-56 Packer None Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (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 _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>509</u>		<u>515</u>		<u>72</u>
1.	<u>4</u>	<u>1.250</u>	<u>240</u>	<u>18.92</u>	<u>110</u>	<u>502</u>		<u>504</u>		<u>24</u>
2.	<u>4</u>	<u>1.250</u>	<u>248</u>	<u>36.0</u>	<u>112</u>	<u>498</u>		<u>500</u>		<u>24</u>
3.	<u>4</u>	<u>1.250</u>	<u>247</u>	<u>51.84</u>	<u>106</u>	<u>498</u>		<u>495</u>		<u>24</u>
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient <u>Flange</u> (24-Hour)	$\sqrt{h_w P_t}$	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>9.643</u>	<u>69.19</u>		<u>.9551</u>	<u>.9535</u>	<u>1.018</u>	<u>619</u>
2.	<u>9.643</u>	<u>96.93</u>		<u>.9534</u>	<u>.9535</u>	<u>1.018</u>	<u>865</u>
3.	<u>9.643</u>	<u>116.10</u>		<u>.9585</u>	<u>.9535</u>	<u>1.020</u>	<u>1038</u>
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c Measured (1-e^{-s}) _____
Specific Gravity Separator Gas .660
Specific Gravity Flowing Fluid _____
P_c 528.2 P_c² 278.9

No.	$\frac{P_w}{P_t}$ P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	$\frac{(F_c Q)^2}{(1-e^{-s})}$	P _w ²	P _c ² -P _w ²	Cal. P _w	$\frac{P_w}{P_c}$
1.	<u>515.2</u>	<u>265.4</u>	<u>13.5</u>			<u>267.5</u>	<u>11.4</u>	<u>517.2</u>	<u>.98</u>
2.	<u>511.2</u>	<u>261.3</u>	<u>17.6</u>			<u>263.4</u>	<u>15.5</u>	<u>513.2</u>	<u>.97</u>
3.	<u>511.2</u>	<u>261.3</u>	<u>17.6</u>			<u>258.3</u>	<u>20.6</u>	<u>508.2</u>	<u>.96</u>
4.									
5.									

Absolute Potential: 5,445 MCFPD; n .771
COMPANY EL PASO NATURAL GAS COMPANY
ADDRESS Box 1384 - Jal, New Mexico
AGENT and TITLE R. T. Wright R. T. Wright
WITNESSED Herbert H. Kirby Herbert H. Kirby
COMPANY EL PASO NATURAL GAS COMPANY

REMARKS

2nd test: Unable to obtain 4 points. No point alignment. Average Jalmat
Slope of .771 drawn thru point corresponding to highest rate of flow.

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 .