

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea
Initial Annual Special X Date of Test 8-25/8-31-60
Company Jal Oil Co., Inc. Lease Watkins Well No. 2
Unit H Sec. 35 Twp. 24 Rge. 36 Purchaser El Paso Natural Gas Co.
Casing 5 1/2 Wt. 15.5 I.D. Set at 2982 Perf. 2682 To 2798
Tubing 2" Wt. 4.7 I.D. Set at 2670 Perf. GL To Bar.Press. 13.2
Gas Pay: From 2682 To 2798 L 2670 xG 0.666 -GL
Producing Thru: Casing Tubing X Type Well single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 7-11-58 Packer none Reservoir Temp.

OBSERVED DATA

Tested Through (300000) (600000) (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>982</u>		<u>1018</u>		<u>72</u>
1.	<u>4</u>	<u>1.000</u>	<u>105</u>	<u>6.25</u>	<u>81</u>	<u>855</u>		<u>905</u>		<u>24</u>
2.	<u>4</u>	<u>1.000</u>	<u>80</u>	<u>10.89</u>	<u>78</u>	<u>735</u>		<u>821</u>		<u>24</u>
3.	<u>4</u>	<u>1.000</u>	<u>121</u>	<u>9.61</u>	<u>75</u>	<u>659</u>		<u>750</u>		<u>24</u>
4.	<u>4</u>	<u>1.000</u>	<u>123</u>	<u>17.64</u>	<u>74</u>	<u>459</u>		<u>564</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>27.18</u>		<u>.9804</u>	<u>.9513</u>	<u>1.010</u>	<u>156.9</u>
2.		<u>31.86</u>		<u>.9831</u>	<u>.9513</u>	<u>nil</u>	<u>182.2</u>
3.		<u>35.91</u>		<u>.9859</u>	<u>.9513</u>	<u>1.012</u>	<u>209.1</u>
4.		<u>49.02</u>		<u>.9868</u>	<u>.9513</u>	<u>1.012</u>	<u>285.6</u>
5.							

PRESSURE CALCULATIONS

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

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 1031.2 P_c² 1063.4

No.	P _w (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>868.2</u>	<u>753.8</u>				<u>918.2</u>	<u>145.2</u>		
2.	<u>748.2</u>	<u>559.8</u>				<u>834.2</u>	<u>229.2</u>		
3.	<u>672.2</u>	<u>451.8</u>				<u>763.2</u>	<u>300.2</u>		
4.	<u>472.2</u>	<u>223.0</u>				<u>577.2</u>	<u>486.2</u>		
5.									

Absolute Potential: 470 MCFPD; n .615

COMPANY Jal Oil Company, Inc.
ADDRESS Drawer Z, Jal, New Mexico

AGENT and TITLE J.B. Murray Ladell Ellis, Prod. Supt.

WITNESSED J.B. Murray
COMPANY El Paso Natural Gas Co.

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 .