

RWD  
09-17-99  
Form G-2  
(Rev. 8/98)

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

(See Instructions on Reverse Side)

#1

Type Test:

- Open Flow  
 Deliverability

Test Date:

API No. 15 - 199-000140001

Company <b>Mull Drilling Company, Inc.</b>			Lease <b>Sexson</b>			Well Number <b>1</b>		
County <b>Wallace</b>	Location <b>NW NE SW</b>	Section <b>19</b>	TWP <b>13S</b>	RNG (EW) <b>42W</b>	Acres Attributed			
Field <b>Sexson</b>		Reservoir <b>Morrow</b>		Gas Gathering Connection <b>High Plains Gas Gathering, Inc.</b>				
Completion Date <b>8-12-98</b>		Plug Back Total Depth <b>5015</b>			Packer Set at			
Casing Size <b>2.875</b>	Weight <b>6.5</b>	Internal Diameter <b>2.441</b>	Set at <b>5062</b>	Perforations <b>5006</b>	To <b>5014</b>			
Tubing Size	Weight	Internal Diameter	Set at	Perforations	To			
Type Completion (Describe) <b>Gas</b>			Type Fluid Production <b>None</b>		-Pump Unit or Traveling Plunger? <b>No</b> Yes / No			
Producing Thru (Annulus / Tubing) <b>Producing thru Casing</b>			% Carbon Dioxide		% Nitrogen		Gas Gravity - G <sub>s</sub> <b>.868</b>	
Vertical Depth(H) <b>5010</b>			Pressure Taps			(Meter Run) (Prover) Size <b>3.068</b>		
Pressure Buildup: Shut in <b>8-2</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM)			Taken <b>8-5</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM)					
Well on Line: Started <b>8-5</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM)			Taken <b>8-6</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM)					

### OBSERVED SURFACE DATA

Duration of Shut-in **72** Hours

Static / Dynamic Property	Orifice Size inches	Circle one: Meter or Prover Pressure psig	Pressure Differential in (h) Inches H <sub>2</sub> O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						<b>250</b>					
Flow	<b>1"</b>	<b>95.5</b>	<b>4.4</b>	<b>72</b>		<b>210</b>				<b>24</b>	<b>1</b>

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>s</sub> ) (F <sub>p</sub> ) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_w \times H_w}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
<b>4.912</b>	<b>109.900</b>	<b>21.990</b>	<b>1.073</b>	<b>.989</b>	<b>1.017</b>	<b>117</b>		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_c)^2 = 69.907$       $(P_w)^2 = 50.355$       $P_c = 72.03\%$       $(P_c - 14.4) + 14.4 = 14.4$       $(P_w)^2 = 0.207$   
 $(P_w)^2 = .207$

$(P_c)^2 - (P_w)^2$ or $(P_c)^2 - (P_w)^2$	$(P_c)^2 - (P_w)^2$	Choose formula 1 or 2: 1. $P_c^2 - P_w^2$ 2. $P_c^2 - P_w^2$ divided by: $P_c^2 - P_w^2$	LOG of formula 1. or 2. and divide by: $P_c^2 - P_w^2$	Backpressure Curve Slope = "n" Assigned Standard Slope	n x LOG [ ]	Antilog	Open Flow Deliverability Equals R x Antilog Mcfd
<b>69.70</b>	<b>19.552</b>	<b>3.565</b>	<b>.552</b>	<b>.654</b>	<b>.361</b>	<b>2.296</b>	<b>268</b>

Open Flow **268** Mcfd @ 14.65 psia     Deliverability     Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 16<sup>th</sup> day of September, 19 99.

\_\_\_\_\_  
Witness (if any)

\_\_\_\_\_  
For Company

\_\_\_\_\_  
For Commission

\_\_\_\_\_  
Checked by

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

#7

Type Test:

- Open Flow  
 Deliverability

Test Date: \_\_\_\_\_ API No. 15 - 199 - 000140001

Company <b>Mull Drilling Company, Inc.</b>		Lease <b>Sexson</b>		Well Number <b>1</b>	
County <b>Wallace</b>	Location <b>NW NE SW</b>	Section <b>19</b>	TWP <b>13S</b>	RNG (EW) <b>42W</b>	Acres Attributed
Field <b>Sexson</b>		Reservoir <b>Morrow</b>		Gas Gathering Connection <b>High Plains Gas Gathering, Inc.</b>	
Completion Date <b>8-12-98</b>		Plug Back Total Depth <b>5015</b>		Packer Set at	
Casing Size <b>2.875</b>	Weight <b>6.5</b>	Internal Diameter <b>2.441</b>	Set at <b>5062</b>	Perforations <b>5006</b>	To <b>5014</b>
Tubing Size	Weight	Internal Diameter	Set at	Perforations	To

Type Completion (Describe) <b>Gas</b>	Type Fluid Production <b>None</b>	-Pump Unit or Traveling Plunger? <b>Yes / No</b> <b>No</b>	
Producing Thru (Annulus / Tubing) <b>Producing thru Casing</b>	% Carbon Dioxide	% Nitrogen	Gas Gravity - G <sub>s</sub> <b>.868</b>
Vertical Depth(H) <b>5010</b>	Pressure Taps		(Meter Run) (Prover) Size <b>3.068</b>
Pressure Buildup: Shut in <b>8-2</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM) Taken <b>8-5</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM)			
Well on Line: Started <b>8-5</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM) Taken <b>8-8</b> 19 <b>99</b> at <b>10:00</b> <b>(AM)</b> (PM)			

### OBSERVED SURFACE DATA

Duration of Shut-in **72** Hours

Static / Dynamic Property	Orifice Size inches	Circle one: Meter or Prover Pressure psig	Pressure Differential in (h) Inches H <sub>2</sub> O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						<b>250</b>					
Flow	<b>1"</b>	<b>95.5</b>	<b>40.5</b>	<b>78.3</b>		<b>100</b>				<b>72</b>	<b>1</b>

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>d</sub> ) (F <sub>v</sub> ) Mafd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_w \times H_w}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>dv</sub>	Metered Flow R (Mafd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
<b>4.912</b>	<b>109.19</b>	<b>66.715</b>	<b>1.073</b>	<b>.983</b>	<b>1.017</b>	<b>35.2</b>		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_w)^2 = 69.907$       $(P_w)^2 = 13.087$       $P_w = 18.72\%$       $(P_c - 14.4) + 14.4 = 14.4$       $(P_w)^2 = 0.207$   
 $(P_w)^2 = 1.207$

$(P_w)^2 - (P_c)^2$ or $(P_w)^2 - (P_w)^2$	$(P_w)^2 - (P_w)^2$	Choose formula 1 or 2: 1. $P_w^2 - P_c^2$ 2. $P_w^2 - P_w^2$ divided by: $P_w^2 - P_w^2$	LOG of formula 1. or 2. and divide by: $P_w^2 - P_w^2$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog Mafd
<b>69.70</b>	<b>56.820</b>	<b>1.227</b>	<b>.089</b>	<b>.654</b>	<b>.058</b>	<b>1.143</b>	<b>40.2</b>

Open Flow **402** Mafd @ 14.65 psia     Deliverability Mafd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 16<sup>th</sup> day of September, 19 99.

\_\_\_\_\_  
 Witness (if any)  
 \_\_\_\_\_  
 For Commission

\_\_\_\_\_  
 For Company



September 16, 1999

Jim Hemmen  
Kansas Corporation Commission  
State Office Building  
130 S. Market, Room 2078  
Wichita, Kansas 67202

**RE: Sexson #1-19  
NW/4 NE/4 SW/4 Section 19-13S-42W  
Wallace County, Kansas**

Dear Jim:

Attached please find two one point tests for our Sexson #1-19 well in Wallace County. The first test was run using KCC guidelines for flowing tubing pressure. As you can see, this first test resulted in an unrealistically low open flow deliverability. Therefore, we also recorded a later flow with a greater drawdown. I feel this second test is much more representative of the actual productivity of the well. It appears that the Sexson #1-19 experiences fluid loading in the 2 7/8" casing when the well is flowed with a wellhead pressure of 75% to 95% of wellhead shut-in pressure, resulting in an inaccurate test.

Both tests are submitted for your review. Mull Drilling Company requests that the KCC utilize the second test with a calculated open flow of 402 MCFD as the annual state test. If you have any questions or concerns, please give me a call.

Sincerely,

Mark A. Shreve  
President/COO

MAS:tt  
Enclosures  
cc: Nancy

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