

15-077-20268-0000

# KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow  
 Deliverability

Test Date: 11/20/2011

API No. 15 - 077-20,268-0000

Company <b>Hayes Oil &amp; Gas LLC</b>		Lease <b>Werner B</b>		Well Number <b>1</b>	
County <b>Harper</b>	Location <b>NE/NW</b>	Section <b>18</b>	TWP <b>32S</b>	RNG (E/W) <b>9W</b>	Acres Attributed
Field <b>Sharon</b>		Reservoir <b>Mississippi</b>	Gas Gathering Connection <b>Pioneer Exploration, LC</b>		
Completion Date <b>6/27/1974</b>		Plug Back Total Depth <b>4350</b>	Packer Set at <b>NA</b>		
Casing Size <b>5 1/2</b>	Weight <b>14</b>	Internal Diameter <b>5.047</b>	Set at <b>4334</b>	Perforations <b>open hole</b>	To <b>4334' - 4350'</b>
Tubing Size <b>2 3/8</b>	Weight <b>3.75</b>	Internal Diameter <b>2.067</b>	Set at <b>4337</b>	Perforations	To
Type Completion (Describe) <b>Single (Gas)</b>		Type Fluid Production	Pump Unit or Traveling Plunger? <input checked="" type="checkbox"/> / No pumping unit		
Producing Thru (Annulus / Tubing) <b>Annulus</b>		% Carbon Dioxide	% Nitrogen	Gas Gravity - G <sub>g</sub>	
Vertical Depth(H)		Pressure Taps		(Meter Run) (Prover) Size	

Pressure Buildup: Shut in 11/20 20 11 at \_\_\_\_\_ (AM) (PM) Taken 11/21 20 11 at \_\_\_\_\_ (AM) (PM)  
Well on Line: Started \_\_\_\_\_ 20 \_\_\_\_\_ at \_\_\_\_\_ (AM) (PM) Taken \_\_\_\_\_ 20 \_\_\_\_\_ at \_\_\_\_\_ (AM) (PM)

**OBSERVED SURFACE DATA**

Duration of Shut-In \_\_\_\_\_ Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Motor or Prover Pressure psig (Pm)	Pressure Differential in 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						169.6	184.0			24	
Flow											

**FLOW STREAM ATTRIBUTES**

Plate Coefficient (F <sub>b</sub> ) (F <sub>p</sub> ) Mctd	Circle one: Motor or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mctd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>c</sub>)<sup>2</sup> = \_\_\_\_\_ : (P<sub>w</sub>)<sup>2</sup> = \_\_\_\_\_ : P<sub>g</sub> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>g</sub>)<sup>2</sup> = 0.207 : (P<sub>g</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>g</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>g</sub> <sup>2</sup> divided by: P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1, or 2, and divide by: $\left[ \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} \right]$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG $\left[ \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mctd)

Open Flow Mctd @ 14.65 psia Deliverability Mctd @ 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 16th day of December, 20 11.

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**DEC 23 2011**

Witness (if any)

For Commission

*[Signature]*  
For Company

Checked by

**KCC WICHITA**

I declare under penalty of perjury under the laws of the state of Kansas that I am authorized to request exempt status under Rule K.A.R. 82-3-304 on behalf of the operator Hayes Oil and Gas LLC and that the foregoing pressure information and statements contained on this application form are true and correct to the best of my knowledge and belief based upon available production summaries and lease records of equipment installation and/or upon type of completion or upon use being made of the gas well herein named.

I hereby request a one-year exemption from open flow testing for the Werner B gas well on the grounds that said well:

(Check one)

- is a coalbed methane producer
- is cycled on plunger lift due to water
- is a source of natural gas for injection into an oil reservoir undergoing ER
- is on vacuum at the present time; KCC approval Docket No. \_\_\_\_\_
- is not capable of producing at a daily rate in excess of 250 mcf/D

I further agree to supply to the best of my ability any and all supporting documents deemed by Commission staff as necessary to corroborate this claim for exemption from testing.

Date: 12/16/2011

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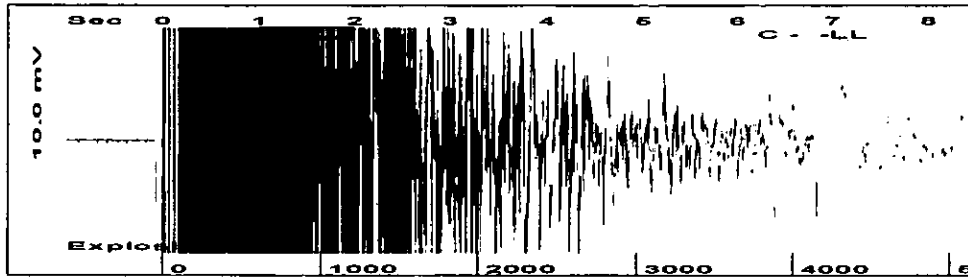
Signature: *Shayne R. Hayes*  
Title: *Production Superintendent*

**Instructions:** If a gas well meets one of the eligibility criteria set out in KCC regulation K.A.R. 82-3-304, the operator may complete the statement provided above in order to claim exempt status for the gas well.

At some point during the current calendar year, wellhead shut-in pressure shall have been measured after a minimum of 24 hours shut-in/buildup time and shall be reported on the front side of this form under **OBSERVED SURFACE DATA**. Shut-in pressure shall thereafter be reported yearly in the same manner for so long as the gas well continues to meet the eligibility criterion or until the claim of eligibility for exemption **IS** denied.

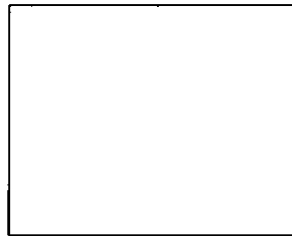
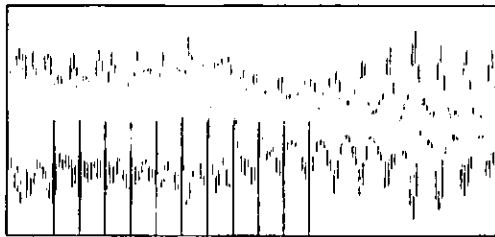
The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than December 31 of the year for which it's intended to acquire exempt status for the subject well. The form must be signed and dated on the front side as though it was a verified report of annual test results.

Group MyWells Well WARN\_B1 (acquired on: 11/21/11 15:46:10)



Filter Type High Pass Automatic Collar Count Yes Time 6.859 sec  
 Manual Acoustic Velocity 1197.69 ft/s Manual JTS/sec 19.2308 Joints 133.845 Jts  
 Depth 4167.93 ft

[ 1.0 to 2.0 (Sec) ]



Analysis Method: Automatic

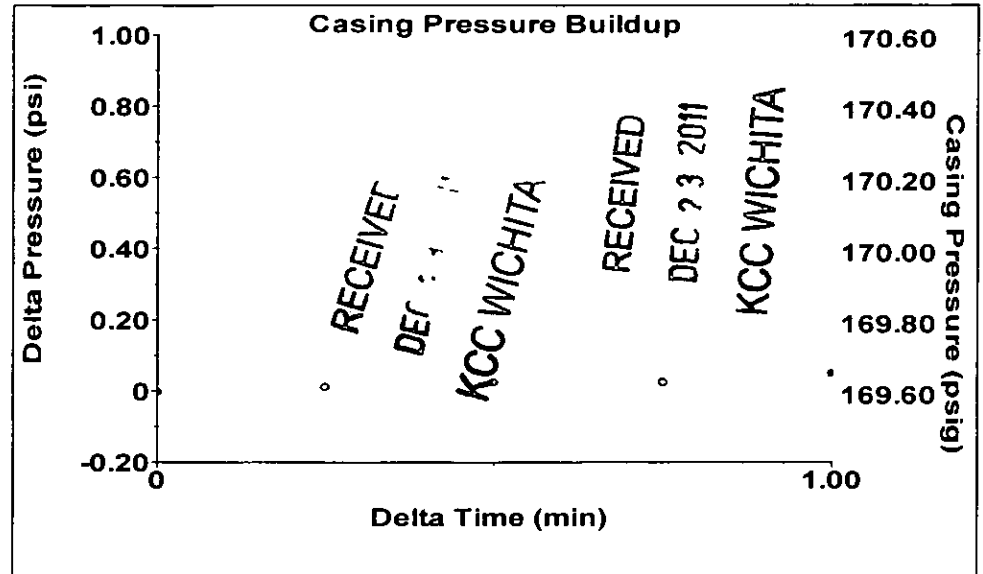
Group: MyWells Well: WARN\_B1 (acquired on: 11/21/11 15:46:10)

<b>Production</b>			<b>Casing Pressure</b>
Current	Potential		169.6 psi (g)
Oil 0.75	0.9 BBL/D		Casing Pressure Buildup
Water 70	81.2 BBL/D		0.0 psi
Gas 41	47.5 Mscf/D		1.00 min
			Gas/Liquid Interface Pressure
IPR Method	Vogel		191.2 psi (g)
PBHP/SBHP	0.31		Liquid Level
Production Efficiency	86.2		Main Depth to Liquid Level
			4167.93 ft
Oil 25 deg.API			Formation Depth
Water 1.16 Sp.Gr.H2O			4350 ft
Gas 0.74 Sp.Gr.AIR			
Acoustic Velocity	1215.32 ft/s		



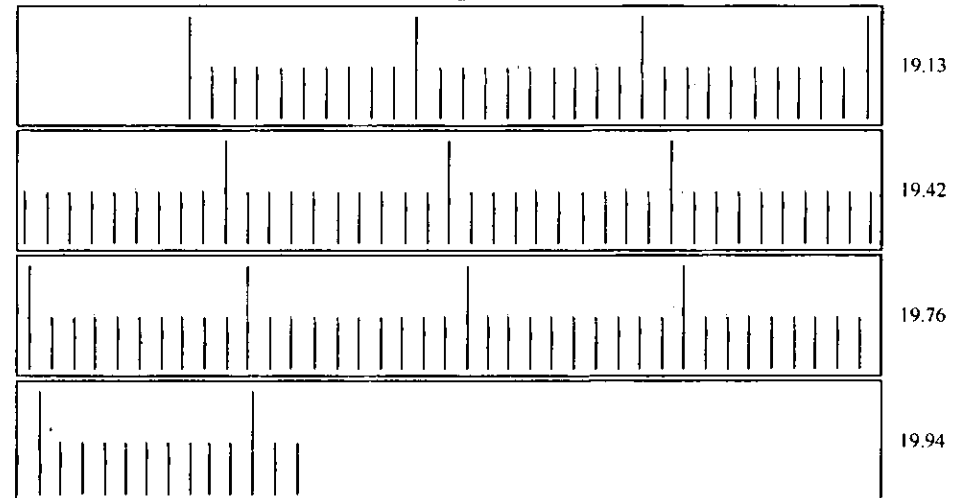
<b>Producing</b>	
Annular Gas Flow	2 Mscf/D
% Liquid	92 %
Pump Intake Pressure	236.5 psi (g)
Producing BHP	262.6 psi (g)
Static BHP	885.3 psi (g)

Group: MyWells Well WARN\_B1 (acquired on: 11/21/11 15:46:10)



Change in Pressure 0.05 psi PT4212 Range 0 - 1500 psi  
 Change in Time 1.00 min

Group: MyWells Well: WARN\_B1 (acquired on: 11/21/11 15:46:10)



Acoustic Velocity	1215.32 ft/s	Joints counted	122
Joints Per Second	19.5138 jts/sec	Joints to liquid level	133.845
Depth to liquid level	4167.93 ft	Filter Width	17.2308
Automatic Collar Count	Yes	Time to 1st Collar	0.4 6.652

**Hayes Oil and Gas L.L.C**

P.O. Box 108

Attica, KS. 67009

Conservation Division

Finney State Office Building

130 S. Market Rm. 2078

Wichita, KS. 67009-0108

**R.E. Tests for Thompson A Lease and Werner Lease**

Dear Mr. Hemmen:

Please find the enclosed tests for the Thompson A lease (Barber Co.) and the Werner (Harper Co). The test for the Thompson B lease will be sent shortly.

Please let apologize for the delay. The fluid levels and shut-ins were done back in the 11<sup>th</sup> month, but because of an error on my part they were not sent in.

Sincerely,



Shayne G. Hayes

Production Superintendent

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