

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1239128  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1239128



Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Anadarko E & P Onshore LLC
Well Name	PATTERSON D 3
Doc ID	1239128

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
3	2816-2820	150000# SAND FRAC for all intervals combined	2816-2820
3	2752-2754		2752-2754
3	2728-2730		2728-2730
3	2678-2680		2678-2680
3	2632-2635		2632-2635
3	2582-2584		2582-2584
	CIBP @ 2866' 1 SK Cement on top		2866



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

Form G-2  
(Rev: 8/98)

Type Test  Open Flow  
 Deliverability

(See Instructions of Reverse Side)

Test Date: **12/15/14** API No. 15- **1518921432**

Company <b>ANADARKO E &amp; P Onshore LLC</b>		Lease <b>PATTERSON</b>		Well Number <b>D-3</b>	
County <b>STEVENS</b>	Location <b>1250' FNL 1440' FWL</b>	Section <b>28</b>	TWP <b>33 S</b>	RNGE (E/W) <b>37 W</b>	Acres Attributed <b>640</b>
Field <b>CHASE</b>		Reservoir <b>CHASE</b>	Gas Gathering Connection <b>Anadarko Gathering</b>		
Completion Date <b>11/24/14</b>		Plug Back Total Depth <b>2866</b>		Packer Set at <b>NA</b>	
Casing Size <b>5.5</b>	Weight <b>14</b>	Interenal Diameter <b>4.95</b>	Set at <b>3151</b>	Perforations <b></b>	To <b></b>
Tubing Size <b>2.375</b>	Weight <b>4.7</b>	Interenal Diameter <b>1.995</b>	Set at <b>2821</b>	Perforations <b>2582</b>	To <b>2820</b>
Type Completion (Describe) <b>Single</b>		Type Fluid Production <b>WATER</b>	Pump Unit or Traveling Plunger? <b>PUMPING UNIT</b>	Yes / No <b>PUMP</b>	
Producing Thru (Annulus / Casing) <b>CSG</b>		% Carbon Dioxide <b>0.065</b>	% Nitrogen <b>18.0617</b>	Gas Gravity - G <sub>g</sub> <b>0.717</b>	
Vertical Depth (H) <b>2701</b>	Pressure Taps <b>Flange</b>		(Meter Run) <b>X</b>	(PROVER) <b></b>	Size <b>3</b>
Pressure Buildup:	Shut in <b>12/12/14</b>	10:00 AM	(AM)(PM)	Taken <b>12/15/14</b>	10:00 AM (AM)(PM)
Well on Line:	Started <b>12/15/14</b>	10:00 AM	(AM)(PM)	Taken <b>12/16/14</b>	10:00 AM (AM)(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>t</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>t</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						15.5	29.9	PUMP		72	
Flow	1.000	-6.5	18	39	39	10	24.4	PUMP		24	WTR 29.2

**FLOW STREAM ATTRIBUTES**

Plate Coefficient (F <sub>b</sub> ) (F <sub>p</sub> ) Mcfd	Circle One: Meter or Prover Pressure psia	Pressure Extension Sqrt ((Pm)(Hw))	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcf/d)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
4.912	7.9	11.925	1.181	1.021	1.000	71	0	0.000

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


(P<sub>c</sub>)<sup>2</sup>= 0.894 (P<sub>w</sub>)<sup>2</sup>= 0.595 P<sub>d</sub>=          % (P<sub>c</sub>-14.4)+14.4=          (P<sub>w</sub>)<sup>2</sup>=0.207 (P<sub>d</sub>)<sup>2</sup>=         

(P <sub>c</sub> ) <sup>2</sup> -(P <sub>d</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> -(P <sub>w</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>a</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> -P <sub>d</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. (P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup> ) and divide by:	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG( )	Antilog	Open Flow Deliverability Equals R x Antilog Mcfd
0.687	0.299	2.298	0.361	0.850	0.307	2.027	144

**Open Flow** **144 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 23rd day of September 2014

Witness (if any)

  
For Company

For Commission

Checked by

I declare under penalty or perjury under the laws of the state of Kansas that I am autl  
exempt status under Rule K.A.R. 82-3-304 on behalf of the operator \_\_\_\_\_  
and that the foregoing information and statements contained on this application form are true and correct to  
the best of my knowledge and belief based upon gas production records and records of equipment installa-  
tion and/or of type completion or upon use of the gas well herin named.

I hereby request a permanent exemption form open flow testing for the \_\_\_\_\_  
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 vacuume at the present time; KCC approval Docket No. \_\_\_\_\_
- is incapable of producing at a daily rate in excess of 150 mcf/D

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

**Instructions** All active gas wells must have at least on original G-2 form on file with the conservation division. If a gas well meets 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 obtain a testing exemption.

At some point during the succeeding calender year, wellhead shut-in pressure shall be 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 yearley in the same manner.

The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than thirty (30) days after the taking of the pressure reading. The form must be signed and dated on the front side as though it was a verified report of test results.