BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners:	Mark Sievers, Chairman Ward Loyd Thomas E. Wright

In the Matter of Establishing Rules for Horizontal Wells Drilled in the Mississippi Formation in the State of Kansas	)))	Docket No. 12-CONS-117-CEXC CONSERVATION DIVISION

PREFILED TESTIMONY

OF

DUSTIN ELMORE

SANDRIDGE EXPLORATION AND PRODUCTION, LLC

NOVEMBER 7, 2011

Q. Please state your name.

A. Dustin Elmore.

Q. What is your business address?

A. My business address is SandRidge Operating, Inc., 123 Robert S. Kerr Avenue, Oklahoma City, Oklahoma 73102.

Q. By whom are you employed and in what capacity?

A. I am employed by SandRidge Operating, Inc. as an Operations Engineer. My primary responsibilities are to design, coordinate, and provide engineering support for completion, workover, and production operations in SandRidge's horizontal Mississippi wells in northern Oklahoma and southern Kansas.

Q. What is your educational background?

A. I graduated from Oklahoma State University in 2009 with a Bachelor of Science degree in Mechanical Engineering.

Q. Would you please describe for the Commission your work experience since you received your degree in Mechanical Engineering in 2009?

A. After graduation, I went to work for ONEOK as an engineer in their Gathering and Processing Department. In that position, I completed the new hire training program and designed and managed construction projects on ONEOK's assets in North Dakota. In December 2009, I left ONEOK and went to work for SandRidge Energy, Inc. ("SandRidge"). While at SandRidge, I first worked as a Project Engineer in the Midstream Department. Then, in November 2010, I transferred to the Eastern Division Operations Department. Since that time, I have been working as an Operations Engineer with responsibilities in horizontal Mississippian lime plan in northern Oklahoma and southern Kansas. In that job, my responsibilities are to design, coordinate and provide

engineering support for well completion, workover, and production operations.

Q. Have you previously testified before the Kansas Corporation Commission?

A. No, I have not.

Q. What is the purpose of your testimony in this docket?

A. In this docket, the Staff of the State Corporation Commission of the State of Kansas ("Staff") has filed an Application to establish and adopt rules governing the drilling, completion, operation, and production of horizontal wells drilled in the Mississippi formation in Kansas. Specifically, the Application filed by Staff seeks the adoption of rules governing the approval of intents to drill horizontal Mississippi wells, establishing a standard oil allowable and gas allowable for those wells, eliminating the gas well testing requirements for those wells, modifying the rules for flaring gas in connection with those wells, and permitting the use of high volume pumps in those wells. I am testifying in support of some of those rules proposed by Staff. Specifically, I am testifying in support of the rules relating to gas well testing, flaring, and high volume pumps.

Q. Is SandRidge in favor of the other proposed rules that are the subject of Staff's Application, but which are not addressed in your prefiled testimony?

A. Yes, SandRidge fully supports all of the proposed rules governing horizontal Mississippian wells that are contained in the Application filed by Staff. SandRidge has been an active participant in the horizontal well workgroup that was convened by Staff, and SandRidge has provided input to Staff in connection with the meetings that ultimately resulted in the Application filed by Staff in this docket. SandRidge has a substantial amount of experience drilling, completing and producing horizontal wells in the Mississippi formation in northern Oklahoma and southern Kansas, and has used that experience when providing information and advice to Staff with regard to the rules that

are presently before the Commission. As of November 7, 2011, SandRidge has 155 producing horizontal Mississippian wells in northern Oklahoma and southern Kansas.

Q. Have you reviewed the Application filed by Staff in this docket and the prefiled testimony of Douglas C. Louis?

A. Yes, I have.

Q. Would you briefly summarize the proposed new rule relating to well testing of horizontal gas wells drilling in the Mississippi formation?

A. Yes, Staff has proposed that all horizontal wells drilled in the Mississippi formation that are classified as gas wells be exempted from the testing requirements of K.A.R. §§ 82-3-303 and 82-3-304. KAR § 82-3-304 requires that gas wells be tested both initially, i.e., within 60 days of first gas sales, and annually. Wells that are not tested must be shut-in. KAR § 82-3-303 specifies the procedures for conducting those gas well tests. Although KAR § 82-3-304(d) does provide that certain wells are exempt from these testing requirements, none of those exemptions are available for a typical horizontal Mississippi well.

Q. What is your understanding of the rationale for the changes to the current rules on well testing requested by Staff?

A. I understand that there are two reasons for the changes proposed by Staff:

First, because of the production characteristics of a typical horizontal Mississippi well, it is not possible to perform the tests that are required by the current regulations. Most horizontal Mississippi wells produce high volumes of water. As a result, artificial lift is required to initiate production after the well is shut-in. By artificial lift, I mean gas lift and electric submersible pumps. There are other forms of artificial lift that can be used, but those are the two forms that SandRidge currently has in operation. The test

procedures mandated by KAR § 83-3-303 the well to be shut-in for 72-hours and, thereafter, to flow the well into the pipeline for 24 to 72 hours. Then, that flow rate, along with other factors, is used to determine the wells productive capability. Because most horizontal Mississippi gas wells generally will not flow without artificial lift, the operators will not physically be able to perform the tests that that are now required for those wells.

Second, if the proposed rules relating to the assignment of gas allowable to horizontal Mississippi wells are approved by the Commission, the initial and annual tests are not necessary. The only reason that gas wells are required to be tested is that those test results are used establish the standard daily allowable for those wells. KAR § 82-3-312(a) provides that "[t]he standard daily allowable for a gas well shall be limited to 50 percent of the well's actual open-flow potential." The initial and annual gas well tests are used to determine the well's open-flow potential and, in turn, the well's gas allowable. If those tests are not used to determine the gas allowable for a horizontal Mississippi well, then those tests are no longer necessary.

Q. Has SandRidge had any experience with the gas well testing regulations in Kansas?

A. Yes, with our Schrock #1-1H well in Barber County, Kansas. That was one of the first horizontal Mississippi wells that SandRidge drilled in Kansas. The Schrock #1-1H well , similar to the majority of SandRidge's other horizontal Mississippi wells, would not free flow as a result of the column of dense fluid in the wellbore; therefore, we were unable to perform the initial gas test on that well. As a result, SandRidge was required to file an Application for a special gas allowable for that well and also requested that it be exempted from the testing requirements of KAR § 83-3-304. That Application was filed

on August 18, 2011, in KCC Docket No. 12-CONS-39-CEXC, and an Order was entered granting that Application on October 26, 2011. If the special rules relating to allowable and well testing are not adopted by the Commission, I expect that a substantial number, if not all, of our horizontal Mississippi wells will require a similar Application.

Q. In your opinion, will the rule proposed by Staff relating to well testing cause waste or jeopardize correlative rights?

A. No, it will not.

Q. Next, would you briefly summarize the rule proposed by Staff relating to flaring horizontal Mississippi wells?

A. Yes, Staff has proposed that the current rules for flaring well – KAR § 82-3-208 (casinghead gas) and KAR § 82-3-314(b) (natural gas wells) – be modified to streamline the process for obtaining approval for flaring.

Q: Do horizontal Mississippi wells need to be flared?

A: Yes, in most if not all cases, gas from those wells needs to be flared for a period of time following completion operations to allow the gas to "clean-up" to meet gathering pipeline specifications, and to allow the wells to be tested.

Q. What are the current rules relating to flaring of natural gas?

A. Under the current rules, natural gas can be flared for 7 days without an application or permit if it is being done for well cleanup, during well testing, or to evaluate the wells prior to connection to a pipeline. Flaring gas for any longer period of time requires the filing of an affidavit with the Commission or the filing of an Application seeking approval for the flaring.

Q. What modifications to those rules are being proposed by Staff?

A. Staff has proposed that operators of horizontal Mississippi wells be allowed to flare gas

under the following conditions:

First, prior to flaring any gas, the operator must have the wellsite inspected and approved by the District Office staff.

Second, within 5 days of commencing flaring, the operator is required to file an affidavit on a form prescribed by the Commission. That form is attached to Staff's Application as Exhibit B.

Third, upon filing a satisfactory affidavit, the operator will be authorized to flare gas for a period not to exceed 30 producing days. If that period of time is insufficient, the operator can extend that period for another 30 producing days by making written request prior to the expiration of the original flaring period.

Fourth, any request for flaring beyond 60 producing days will require the operator to file a formal Application with the Commission pursuant to the applicable regulations.

Q. Does the proposed rule retain any of the current requirements relating to flaring gas?

A. Yes, the operator is still required to meter all flared gas and all records relating thereto must be retained by the operator for 2 years. Also, upon request by Staff, those records must be furnished by the operator within 5 days.

Q. Would you please explain to the Commission the procedures that SandRidge employs when it flares gas from these wells?

A. Yes, we have portable flare stack trailers that are brought to location and hooking into the production facility upstream of the gas pipeline hookup. At that point, the gas has already gone through the separation equipment and all liquids have been removed. The flare has an auto-ignition system that ignites the gas leaving the flare stack. The location is also manned during flaring operations.

Q. Do you support the proposed new rules relating to flaring gas?

A. Yes, the new rules will streamline the process for obtaining approval to flare gas from these wells and we know that such flaring will be necessary in nearly all of those wells.

Q. Do the proposed new rules jeopardize public safety?

A. No, all of the safety features of the existing regulations are incorporated in the new rules. Prior to any flaring, the site must be inspected by the District Office and the District Office must approve the flaring. That initial check on those operations will help insure that public safety is not threatened. Moreover, operators also have an incentive to conduct all of their operations in a safe manner.

Q. What change in the rules has been proposed by Staff with regard to high volume pumps?

A. Staff has proposed a rule that will allow the use of high volume pumps in horizontal Mississippi wells without the necessity of filing an Application. Currently, KAR § 82-3-131 provides that "the installation and use of high volume pumps may be permitted by the commission." Then, subsection (b) of that regulation sets for the information that must be contained in such an Application.

Q. What is a "high volume pump"?

A. KAR § 82-3-313(a) defines a high volume pump as a pump "that is capable of producing total fluids in excess of 2,500 barrels per day."

Q. Do you anticipate that horizontal Mississippi wells will use such pumps?

A. Yes, I do. Based upon our experience with these wells to date, almost all of those wells require some form of artificial lift from initial completion. SandRidge currently has 18 horizontal Mississippi wells that are utilizing high volume electric submersible pumps. SandRidge commonly installs these high volume pumps on those wells as the bottom-hole pressure depletes over time and on some select new completions.

Q. What is the benefit of the proposed rule?

A. The existing rule appears to have been based on the use of high volume pumps in vertical wells, and it does not appear to have contemplated the volume of fluids that will be produced by these horizontal Mississippi wells. While moving 2,500 barrels per day of fluid from a vertical well may be viewed as excessive, moving that volume of fluid from a horizontal Mississippi well is much different. SandRidge has seen that the horizontal Mississippi wells are capable of safely producing substantially more than 2,500 barrels of fluid per day using gas lift or high volume pumps. This proposed new rule will simply prevent the operator from having to file an Application for the use of a "high volume pump" in connection with nearly every horizontal Mississippi well in Kansas.

Q. In your opinion, will the use of a "high volume pump" in the horizontal Mississippi wells pose any danger to correlative rights or could it cause waste?

A. No, I do not believe that allowing high volume pumps in these wells will pose any risk of damaging the productive formation in these wells or will potentially affect any other operator's correlative rights. Those pumps are needed simply due to the natural productive characteristics of these wells and the high volumes of fluid that they can and do produce.

Q. Does that conclude your testimony?

A. Yes, it does.