

**BEFORE THE OKLAHOMA WATER RESOURCES BOARD
STATE OF OKLAHOMA**

IN THE MATTER of Determining the Maximum)
Annual Yield for the Arbuckle-Simpson)
Groundwater Basin underlying parts of Murray,)
Pontotoc, Johnston, Garvin, Coal and Carter)
Counties.)

**CPASA'S BRIEF IN RESPONSE TO THE CORPORATE SPECIAL INTEREST
GROUPS' BRIEFS IN OPPOSITION TO THE TENTATIVE DETERMINATION
OF MAXIMUM ANNUAL YIELD FOR THE ARBUCKLE-SIMPSON
GROUNDWATER BASIN**

COMES NOW Citizens for the Protection of the Arbuckle-Simpson Aquifer, Jim Baker, Leonia Barger, Diane Barrett, Terry Beals, Retha Beals, Peggy Bell, Betty Sue Boyd, Leonard D. Briley, Donald J. Brittin, Michaeli Brunk, Kathryn Brunk, Bill Brunk, John P. Bruno, Jesse T. Bruno, Elaine Bruno, Esme Bruno, Lou Carlton, Darryl Carter, John H. Chrobot, Scott Clark, Derek L. Collins, Virginia Cooper, Joyce Crosby, Sandra L. Czajkowski, Claude V. Czajkowski, LaQuita Dayton, Sara Donaho-Jones, Joe S. Duncan, Jana L. Dutton, David Earsom, Eddie Easterling, Reg Easterling, Gloria Ellis, Janice Ellis, Kasy Fincher, Amy Ford, Thomas M. Forster, Dana Forster, Catherine L. Gardner, Jerry A. Gray, Pat Gray, James F. Herndon, Susan Ingram, Jamie Inman, Royce D. Jones, Dana Kelley, Wayne Kellogg, K. Wayne King, Austin LeMay, Ray Lokey, John D. Manning, Mike Martin, Mary Jo Massey, Cindy Matheny, Janet Mathis, C.I. Maxwell, Jr., Jimmy "J.J." McGill, Timothy D. Metzger, Kenneth R. Meyers, Esther Miller, Darrell Morris, Marvin Munger, June Murphy, Larry Murphy, Mary Jane Nelson, Donald H. Nichols, Gary Paddock, Floy Parkhill, Curtis E. Perry, Stanley A. Rice, Jett Robbins, Reginald Robbins, Paula Rush, Patti Sanders, Donald Schroeder, Charles Shipley, John Sikes, Wayne A. Smith, Josh Talkington, Y. Steven Thompson, Helen H. Thompson, Rogelio Trevino, Wayne Walker, Gloria L. Webb, Danny Wells, Steve Wheeler, Dorena J. White, Glenna J.

Wright, and Paul D. Young (herein collectively “CPASA”) and hereby respectfully respond to the following briefs in opposition to the Oklahoma Water Resources Board’s (herein the “OWRB’s”) Tentative Determination of Maximum Annual Yield for the Arbuckle-Simpson Groundwater Basin (herein the “Tentative Order”):

- 1) Protestants OKAA¹ and TXI² Brief in Opposition to the Tentative Maximum Annual Yield and Requested Findings of Fact upon Issues Essential to the Decision (herein the “OKAA Brief”); and
- 2) Protestants Oklahoma Farm Bureau Legal Foundation,³ Pontotoc County Farm Bureau, Oklahoma Independent Petroleum Association,⁴ Environmental Federation of

¹ OKAA began in 2000 when various aggregate industries operating in Oklahoma decided to band together to, among other things, “promote the best interest of its members in matters where member interest are common.” See <http://www.okaa.org/mission.php>, last visited June 13, 2012. In addition to opposing the Tentative Order, OKAA opposes any meaningful regulation of pit water in the Arbuckle-Simpson Aquifer, which is that quantity of Arbuckle-Simpson groundwater infiltrating the mine pit. Instead, OKAA maintains that mining companies may dispose of the groundwater as they choose. However, data from one of the many mines over the Arbuckle-Simpson Aquifer shows it pumps approximately 1,000 acre-feet of water out of its pits each year—roughly the same amount the City of Sulphur uses for municipal water supply each year.

² Texas Industries, Inc., or TXI, produces gravel, sand, concrete, shale, and clay for sale primarily in Texas and California. See <http://www.txi.com/overview>, last visited June 13, 2012.

³ According to its website, “The Oklahoma Farm Bureau Legal Foundation (OFBLF) was created in 2001 by the Oklahoma Farm Bureau Board of Directors for the purpose of entering the legal arena to protect private property rights and production agriculture.” It is believed that the OFBLF is largely supported by corporate interests, given that its arguments to the OWRB in this case support the heightened usage of groundwater, and as such, are counter to the interests of the various family farms and ranches overlying the Arbuckle-Simpson Aquifer. The Tentative Order ensures that farmers and ranchers—both existing and future—have a reliable source of water. However, OFBLF has partnered with EFO, among others, to oppose this Order. As discussed below, EFO was one of the key players attempting to transfer approximately 80,000 acre-feet of water from the Arbuckle-Simpson Aquifer to out-of-basin municipalities. Such a transfer would have had devastating ramifications on farmers and ranchers in South-Central Oklahoma. OFBLF’s support of corporate interests becomes

Oklahoma,⁵ Oklahoma Aggregates Association, and Oklahoma Cattlemen's Association Post-Hearing Brief In Opposition to the Arbuckle-Simpson Tentative Maximum Annual Yield/Equal Proportionate Share (herein the "Farm Bureau Brief").

For purposes of this brief, the entities protesting are referred to as the "Corporate Special Interest Groups" or the "CSIG." This single, succinct response responds to CSIG's combined 51 pages of briefing.⁶ The arguments made in the CSIG's briefs are inaccurate distortions of both the law and of the record and should therefore be disregarded as unreliable.

increasingly clear in its "Top Stories" on its webpage, where it also argues in favor of the use of Atrazine as a pesticide, and against the management of wastes produced at Concentrated Feeding Animal Operations, which are generally operated by large corporations.

⁴ As stated on its website, "Founded in 1955, the Oklahoma Independent Petroleum Association was created to give the state's independent oil and natural gas producers a unified voice. Today, the OIPA is made up of more than 2,000 members in the crude oil and natural gas exploration/production industry and affiliated businesses. It is the state's largest oil and gas advocacy group, and one of the largest statewide petroleum groups in the nation."

⁵ Belying its bucolic title, the Environmental Federation of Oklahoma is a corporate special interest group. According to the Membership page on its website, "The Environmental Federation of Oklahoma, Inc. (EFO) is a non-profit organization *providing Oklahoma companies* a voice in the formulation and implementation of state and federal environmental laws, regulations and policies." (emphasis added). EFO's board of directors encompasses representatives from Conoco-Phillips, Georgia-Pacific, Weyerhaeuser, and International Paper, only one of which is an "Oklahoma company."

⁶ No response is being provided at this time to the brief filed by the Arbuckle-Simpson Protection Federation of Oklahoma, Inc. (herein "ASPFO"), and its six members, Charles Roos, Paul Warren, Bill Clark, John Sparks and Floyd Bergen. It should be noted, however, that ASPFO is essentially chartered by EFO, through the activities of James Barnett, who was instrumental in the creation of both groups. Moreover, the individual members of ASPFO each were parties to *Jacobs Ranch, LLC, v. Smith*, 2006 OK 34. Mr. Barnett represented Jacobs Ranch, LLC in that matter. It is therefore unsurprising that ASPFO and its members continue to press the legal arguments that they lost in *Jacobs Ranch*. Despite their perception of the law and their perception of inequity as a result of the application of the law, ASPFO's and its members' arguments in this case are irrelevant to the Maximum Annual Yield determination, but are directed instead toward the OWRB's future rulemaking concerning the timing within which the MAY would become fully effective.

ARGUMENT AND AUTHORITIES

1. ***Contrary to CSIG's assertions, the OWRB is not a "party" to this administrative proceeding.***

Before addressing the CSIG's various arguments, it is necessary to clarify the alignment of the various entities participating in the hearing. The CSIG implied incorrectly that the OWRB is a party to the hearing and that it somehow bears "the burden of proving by substantial evidence that the proposed MAY is supported by good science and is not the result of arbitrary agency decision." See Farm Bureau Brief at 7 (emphasis in original). Such assertion is contrary to Oklahoma law. Instead, 82 O.S. § 1020.6 provides the following relevant provisions:

A. Once the Board has set a tentative maximum annual yield for the groundwater basin or subbasin, the Board shall call and hold hearings at centrally located places within the area of the major groundwater basin or subbasin or in the county for minor groundwater basins or subbasins. Prior to such hearings being held, the Board shall make copies of such hydrologic survey available for inspection and examination by all interested persons and, at such hearings, shall present evidence of the geological findings and determinations upon which the tentative maximum annual yield has been based. ***Any interested party shall have the right to present evidence in support or opposition thereto.*** The hearings shall be conducted pursuant to Article II of the Administrative Procedures Act.

The OWRB is not, under Section 1020.6(A), a "party" to the hearing, either supporting or opposing the Maximum Annual Yield or "MAY." Rather, the hearing permits *others* to have the

ASPFO's six members are each large ranch-owners. In 2002, they entered into an agreement with the "Central Oklahoma Water Resource Authority" or "COWRA." The agreement would have the ASPFO group "selling" approximately 120,000 to 80,000 acre feet of groundwater each year to COWRA, for use in Mustang, El Reno and elsewhere. It was ASPFO's actions, and its agreement with COWRA that prompted the Oklahoma legislature to enact Senate Bill 288, imposing a moratorium on out of basin groundwater sales, and requiring the OWRB to conduct a study in order to sustainably manage the Aquifer.

ASPFO is not to be confused with a different landowner group in this proceeding, who is represented by Kelly Hurt. This group of landowners opposes the proposed phase-in period, but does not necessarily oppose the Tentative Order, itself. Rather, the group simply seeks to force a water supply shortage in order to demand exorbitant lease agreements. However, Mr. Hurt's efforts to embarrass the City of Ada and the other municipalities into buying water from his client is certainly a unique marketing strategy.

status of a “party” to either support or oppose the Tentative Order that the OWRB has proposed tentatively for approval. And, in fact, that is what occurred in this case: the hearing commenced with straightforward testimony and a presentation of the tentative order and a summary of the evidence it is based upon by the OWRB, parties presented evidence and testimony in opposition to the Tentative Order (CSIG’s), and parties presented evidence and testimony in support of the Tentative Order (CPASA, the National Park Service, the U.S. Fish & Wildlife Service, local municipalities, and various other local citizens). Accordingly, the OWRB is not a party to the proceeding, but is the agency responsible for approving a MAY, and has permitted *interested parties* to support or object to the MAY as is required by law.

2. *Standard of review*

The CSIG appear to agree that the OWRB’s factual determinations in this case will be judged by applying the well-known “Substantial Evidence” test.⁷ *See* Farm Bureau Brief at 7. “The standard of review in Oklahoma under the Administrative Procedures Act is that of substantial evidence and further that the findings should not be reversed unless they are clearly erroneous.” *Kline v. State*, 1988 OK 18; 759 P.2d 210, 214 (citing 75 O.S. § 322); *see also Vickers v. State ex rel. Okla. Police Pension & Ret. Bd.*, 2005 OK CIV APP 65 ¶ 8 (same and citing *Kline*). Accordingly, it is proper for the Hearing Examiner to utilize the same analysis when reviewing the factual support for the MAY.

⁷ Alternatively, the CSIG could set stakes round the clearly erroneous standard or the arbitrary and capricious test. *See Cox v. State ex rel. Okla. Dep’t of Human Servs.*, 2004 OK 17, 87 P.3d 607. It appears that the clearly erroneous standard is essentially the same as the substantial evidence test. *Kline v. State*, 1988 OK 18, 759 P.2d 210. Moreover, the CSIG have not attempted to reach the high summit of applying the clearly erroneous standard, nor would it appear to be in their interests to set their bar so high. The CSIG have mentioned the arbitrary and capricious test. But, if there is substantial evidence, then the decision is not arbitrary or capricious. Therefore, the alternative standards of review – other than the substantial evidence test – are not exhaustively reviewed here.

While the *Kline* case announces that the Substantial Evidence test applies, the case does not flesh out the test's contours. Fortunately, the Substantial Evidence test is well-established law, applied generally to formal agency decisions made on the record in most jurisdictions, including Oklahoma. See *Steadman v. SEC*, 450 U.S. 91, 96 n.13, 101 S. Ct. 999, 67 L. Ed. 2d 69 (1981). ("Substantial-evidence review by the court of appeals here required a hearing on the record. Otherwise, effective review ... would have been frustrated.") [Citations omitted]; *Intermountain Rural Elec. Ass'n v. NLRB*, 984 F.2d 1562 (10th Cir. 1993); *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 414, 91 S. Ct. 814, 28 L. Ed. 2d 136 (1971).

The Supreme Court equated the Substantial Evidence test to whether a directed verdict ought to be entered or refused in light of a jury verdict. *NLRB v. Columbian Enameling & Stamping Co.*, 306 U.S. 292, 300, 59 S. Ct. 501, 83 L. Ed. 660 (1939). Accordingly, the Hearing Examiner and a later reviewing court cannot substitute their judgment for the OWRB's merely because there is evidence to support a different point of view, like the ones espoused by the CSIG. *Trimmer v. Dep't of Labor*, 174 F.3d 1098, 1102 (10th Cir. 1999). (the substantial evidence standard does not permit a judge to change an agency's choice between two conflicting views, even though the court would justifiably have made a different choice had the one matter been before it *de novo*). Oklahoma's jurisprudence is in accord. *Cox v. State ex rel. Okla. Dep't of Human Servs.*, 2004 OK 17, 87 P.3d 607.

"We do not substitute our judgment for that of the agency on its factual determinations. Rather, we review the record to determine whether the petitioner's substantial rights have been prejudiced by a clearly erroneous decision considering the reliable, material, probative and substantially competent evidence resulting in an arbitrary or capricious result."

Id.

While the Substantial Evidence test can be described in terms of what a reviewing court cannot do, under the law a court must also determine whether there is some evidence in the record as a whole to support the agency's decision. *Consolo v. Federal Maritime Comm'n*, 383 U.S. 607, 620, 621 86 S. Ct. 1018, 16 L. Ed. 2d 131 (1966). As the Supreme Court explained, "This is something less than the weight of the evidence, and the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency's finding from being supported by substantial evidence." *Id.* Famously, the Supreme Court described the review as meaning that "[s]ubstantial evidence is more than a mere *scintilla*." *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229, 59 S. Ct. 206, 83 L. Ed. 126 (1938).

Addressing a case important to Oklahoma, the Supreme Court fully addressed this issue in *Arkansas v. Oklahoma*, 503 U.S. 91, 112 S. Ct. 1046, 117 L. Ed. 2d 239, 259 (1992). The Court stated:

[T]he [Appeals] court disregarded well established standards for reviewing the factual findings of agencies and instead made its own factual findings ... at least four times the court concluded that 'there was substantial evidence before the ALJ to support' particular findings which the court thought appropriate but which were contrary to those actually made by the EPA ... the court turned that analysis [substantial evidence] on its head. A court reviewing an agency's adjudicative action should accept the *agency's* factual findings if those findings are supported by substantial evidence on the record as a whole. The court should not supplant the agency's findings merely by identifying alternative findings that could be supported by substantial evidence.

Id. at 113 [citations omitted].

It is undeniably true that the CSIG put the full weight of their substantial financial resources into the development of an alternative set of "facts" and scientific opinions for the Hearing Examiner to consider. Even *assuming* the veracity of the two-week long review

completed by CSIG's eminently qualified hydrologist, Dr. Poeter, and CSIG's other experts,⁸ there still remains substantial evidence upon which the OWRB's Tentative Order rests. Indeed, the record shows that CSIG's own expert witnesses drew different opinions based upon the same facts—Dr. Poeter declared the digital groundwater/surface-water-flow model unsuitable for use, *see* Audio Recording No. 13 at 01:22:40 – 01:23:10, while Dr. Reely testified that the model was a good planning tool for determining the MAY. *See* Audio Recording No. 12 at 00:58:32 – 00:58:52. Accordingly, there is upon reviewing the whole record substantial evidence supporting the OWRB's Tentative Order.

3. *CSIG's arguments are predicated upon inaccurate assertions of law*

The CSIG set the foundation for their argument on upon the issue of natural flow. The CSIG assert inaccurately that the OWRB defined, or failed to define, this legal term of art. *See* Farm Bureau Brief at 4-5. While it is true that Ms. Cunningham was not, as a non-lawyer, aware of what the term “natural flow” might mean, that only serves to prove that the OWRB did not attempt to modify the well-understood legal definition.

⁸ In addition to Dr. Poeter's hurried review of the OWRB's Tentative Order and its underlying data, which the OWRB compiled through a thorough multi-year hydrologic and geologic investigation, she did not find it necessary to actually visit the Arbuckle-Simpson Groundwater Basin before crafting her opinions. *See* Audio Recording No. 8 at 00:11:27 – 00:12:45. Similarly, Dr. Murray did not find it necessary to conduct any fieldwork in the Basin, despite his proximity to the area. *See* Audio Recording No. 4 at 01:03:10 – 01:03:32. However, this should come as no surprise, since Dr. Murray failed even read the USGS Arbuckle-Simpson Report in its entirety before deeming it insufficient. *See* Audio Recording No. 5 at 00:25:14 – 00:26:03.

Conversely, the OWRB staff conducted over 100 field studies during the course of the hydrologic study, including site visits to area ranches, studying the Aquifer's outcrops, drilling wells, taking loggings and cuttings from the wells, and taking stream measurements. As such the OWRB staff are intimately aware of the specific hydrological and geological characteristics of the Arbuckle-Simpson Groundwater Basin. *See* Audio Recording No. 13 at 00:30:57 – 00:31:43 and 00:31:44 – 00:32:16.

Natural flow is a concept originally derived from English law. *See* Restatement 2d Torts 41, Introductory note on the Nature of Riparian Rights and Legal Theories for Determination of Rights. The Natural Flow theory was, essentially, the first water law developed in England to deal with competing uses of water in light of the industrial revolution. The Oklahoma legislature expressly chose and applied the term “natural flow” in Senate Bill 288.

Of course, one must be careful in the field of water law importing a definition from a different jurisdiction because each state court addressing the question of natural flow has modified it to some degree with elements of “reasonable use” or “relative reasonableness.” *See, e.g., City of Waterbury v. Town of Washington*, 800 A.2d 1102 (Conn. 2002); *Harris v. Brooks*, 283 S.W.2d 129 (Ark. 1955). Oklahoma has done the same. *See Godlin v. Hockett*, 1954 OK 22; 272 P.2d 389 (Plaintiff entitled to damages because defendant's construction of a dam diverted the natural flow of water); *Hatmaker v. Gripe*, 184 Okla. 26; 84 P.2d 418 (same); *Smith v. Standolind Oil & Gas Co.*, 197 Okla. 499, 172 P.2d 1002 (imposing a relative reasonable use standard on the natural flow standard); *Franco-American Charolaise, Ltd. v. OWRB*, 1990 OK 44, 855 P.2d 568, 578. (“the rights of the riparian owner and the appropriator are to be determined by relative reasonableness”).

As demonstrated above, prior to the Oklahoma legislature’s adoption of the term, “natural flow,” the Oklahoma Supreme Court defined the term for its use in Oklahoma. As the Court in *Franco* pointed out, “The stream's natural flow is considered public water and subject to appropriation.” *Franco*, 855 P.2d. at 573. Accordingly, and despite the CSIG’s pedantic argument, there is no serious question that both the OWRB and the Oklahoma Legislature know what the term “natural flow” means.

In light of the Oklahoma Supreme Court’s definition of natural flow, the OWRB properly seeks in its Tentative Order to implement that term using its specialized scientific understanding. That is, it is one thing to say that there is a requirement to preserve the natural flow such that diversions must exist within a rule of “relative reasonableness.” It is another to numerically quantify that requirement. The OWRB applied both its scientific expertise and its expertise with water management to translate the legal definition of natural flow into a numerical requirement after spending approximately five years of studying the Aquifer and conducting at least 100 different field investigations of the Aquifer area. As Mr. Smithee testified, a scientific model using fish and their habitat was developed to approximate when the natural flow of a stream would be diminished unreasonably by groundwater pumping. *See* Audio Recording No. 10 at 00:21:38 – 00:21:57. Such a process of relying on scientific analysis is exactly the kind of fact finding that is not to be disturbed by legal review. *See, e.g., Arkansas v. Oklahoma*, 503 U.S. 91, 112 S. Ct. 1046, 117 L. Ed. 2d 239, 259 (1992); *Kline v. State*, 1988 OK 18; 759 P.2d 210, 214 (citing 75 O.S. § 322). And, the process was reasonably related to the OWRB’s administration of the surface waters, since the “stream's natural flow is considered public water and subject to appropriation.” In essence, the OWRB balanced its mission to administer the surface waters with its duty to manage the groundwater.

The OWRB, like all other Oklahoma environmental agencies, is charged in the administration of surface and groundwaters to “promote the general welfare, and the environment and natural resources of this state.” *See* 27A O.S. § 1-1-202 (5). Moreover, each agency responsible in Oklahoma for environmental concerns shall develop a water quality

standards implementation plan, which among other things shall “lead to” the “maintenance of water quality where beneficial uses⁹ are supported.” *Id.* at (B)(3)(a)(1).

The beneficial uses identified in Appendix A to 785 OAC § 45 are largely based on ecological integrity. *See* 785 OAC 45-5-3 (a) (1) (c) (establishing a “warm water aquatic community” as a beneficial use on waters that are not lakes). It is not surprising that the beneficial uses in Chapter 45 are biologically based because they were adopted in part according to the authority of the US Clean Water Act, which requires a national “goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water.” *See* Clean Water Act, § 101 (a) (2), *codified at* 33 U.S.C. § 1251 (a)(2). Accordingly, the OWRB’s decision to maintain the ecological integrity of the surface waters was not just permissible, it was required as a matter of law.

The CSIG’s criticism that the MAY pits “fish versus people” misses the mark because the law requires the OWRB to implement not only state policy, but also federal policy, in the maintenance of surface water and in the protection and propagation of fish and shellfish. *Cf.*, Farm Bureau Brief at 5 – 8. Finally, the word *propagation* is important insofar as it relates to habitat. The CSIG argue there is a disconnect between the OWRB’s analysis of fish and the habitat in which the fish live. *See* Farm Bureau Brief at 10-12. While the CSIG’s argument conjures the old saw of a “fish out of water,” the fact remains that part of the OWRB’s mission is

⁹ A beneficial use is a term of art, defined in Oklahoma’s regulations (as approved by the legislature and adopted by the OWRB). The term “beneficial uses” means a classification of the waters of the State, according to their best uses in the interest of the public. 785 OAC § 45-1-2. Extensive, scientific treatment is given to identifying those beneficial uses in Appendix A to Chapter 45. Mr. Smithee, who performed the work in this case, is the agency official responsible for administering those beneficial uses in the state, making him the ideal choice to identify the beneficial uses to be balanced reasonably with groundwater pumping.

to protect beneficial uses of water for the *propagation* of fish, which necessarily requires *habitat*. As such, the CSIG's argument is without merit.

In a related, though still unsupported criticism, the CSIG imply that the various low flow metrics –5-year annual average versus a 75% low flow rate – are unrelated. *See* Farm Bureau Brief at 12-16. While the CSIG established that these flow regimes are not *identical*, they did not establish that they are *different*. What is known, however, is that the USGS and the OWRB felt these metrics were similar enough such that they could equate them for planning purposes. As such, the OWRB's expertise and decision to equate various flow metrics used in biological systems to flow rates that are used by hydrologists for modeling is within the OWRB's fact finding mission and should not be disturbed based only on the CSIG's argument – without evidence – that there is a difference between them.

4. *The MAY is supported by Substantial Evidence*

Rather than make out un-ending legal arguments of why the MAY is supported by substantial evidence, CPASA has attached hereto proposed findings of fact and conclusions of law. *See* Attachment 1. As set out therein, substantial evidence supports the issuance of a final order.

5. *The CSIG's arguments are based upon inaccurate statements and distortions*

Because the CSIG's arguments were not supported by the unvarnished facts, they generously applied a veneer of inaccurate distortions in an attempt to bolster their weak arguments. Among CSIG's most creative distortions is its assertion that the OWRB did not "study" the western and central parts of the Aquifer. The CSIG go so far with their rhetoric that they attempt, but fail to consistently, call the Aquifer the "Aquifers." *See* OKAA Brief at 1 (first paragraph, referring both to the Aquifer and the Aquifers). The CSIG's entire argument is

predicated upon testimony by Dr. Murray, who admitted that he didn't have time to read the entire USGS report he was criticizing. *See* Audio Recording No. 5 at 00:25:14 – 00:26:03.

Moreover, the CSIG argue that there were significant modeling “mistakes.” *See* Farm Bureau Brief at 19. Specifically, the CSIG assert that a different storage coefficient should have been used in creating the model. As the CSIG explain, the storage coefficient is a numerical representation of the quantity of water that can be stored in an aquifer. The USGS, in a peer-reviewed study, used a storage coefficient of 0.008. In contrast, the CSIG, through Dr. Poeter, and after her two-week, limited review, asserted that the storage coefficient for the uppermost part of the Aquifer should have been 10 times or more higher. *See* Farm Bureau Brief at 19 – 20. However, Dr. Poeter admitted that she did not conduct enough analysis to determine if any of her concerns would ultimately make a difference in the overall model. *See* Audio Recording No. 9 at 00:12:05 – 00:12:31.

Even more interesting is the CSIG's expert witness, Mr. Bert Smith, who did not testify and who left the hearing during CPASA's cross-examination of Dr. Poeter. Mr. Smith previously testified under oath to the OWRB regarding the attributes of the Aquifer, stating:

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3 **Q.** And tell us, what did you find noteworthy in
4 Circular 91?
5 **A.** Circular 91 provided a wealth of information
6 about the physical makeup of the Arbuckle-Simpson
7 Aquifer. For example, its recharge area is about a 500
8 square mile -- square mile area. The average saturated
9 thickness of the aquifer is about 3500 feet, which is
10 extremely large for an aquifer of any type. It's 3500
11 foot of saturated thickness.
12 The water levels have been known to fluctuate in
13 these historical studies between eight to 53 feet each
14 year, and that fluctuation is in response to climatic
15 changes such as rainfall events, precipitation events.
16 The recharge to the aquifer is estimated at about
17 4.7 inches per year; and that would be considered, in my

18 opinion, a conservative value from a standpoint that
19 that recharge estimate was determined during a period of
20 time when they had only 80 percent of the annual --
21 average annual rainfall.

22 *There are aquifer parameters that are pretty --*
23 *very widely recognized, such as the aquifer storage*
24 *coefficient value of 0.008,* a transmissivity value of
25 15,000 feet squared per day, and there's approximately

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1 9 million acre-feet of groundwater estimated to be
2 stored in the groundwater in this particular groundwater
3 aquifer, and an undetermined amount of groundwater
4 probably exists around the periphery of the basin.
5 The chemical quality in the Arbuckle is very
6 consistent, both vertically and laterally throughout the
7 aquifer. It contains ds, or dissolved-solids
8 concentrations around 360 on average. The quality of
9 the springs that issue from this aquifer and the
10 groundwater are very similar in average total
11 dissolved-solids concentration.

25 O. *In this matter in reviewing whether or not the*

.....
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1 *proposed use would degrade or interfere with springs, do*
2 *you feel like you conducted an exhaustive study and*
3 *review?*

4 *A. We conducted an exhaustive study and review of*
5 *data that's come into existence since those reports were*
6 *published in the 1990's.*

7 Q. Now, we're going to come back and go through some
8 of these items in more detail. But tell the Board, if
9 you would, what are your opinions and conclusions as to
10 whether Meridian's proposed groundwater use will likely
11 degrade or interfere with any springs or streams?

12 A. My opinion is that Meridian's use would not
13 interfere -- not likely interfere or degrade with any
14 streams or springs.

15 *O. And what's the basis for that opinion?*

16 *A. The basis for that opinion is a review of the*
17 *circular data in addition to review of the new*
18 *information and comparison of those two data sets*
19 *together.*

20 *O. All*

5 Q. (By Mr. Walker) And as part of your
6 investigation in this case did you also look at the new
7 study data that is available on groundwater levels?
8 A. Yes, I did.

.....

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22 Q. And so are the results of the new Water Resources
23 Board study pursuant to Senate Bill 288, are they
24 showing similar changes in groundwater levels to these
25 1990 reports that we went through yesterday?

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1 A. They're showing the very, very similar -- again,
2 these are natural fluctuations that are a result of the
3 climatic changes, in particular, precipitation.

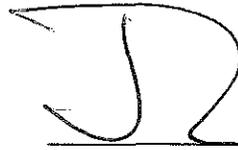
Sworn Testimony of Bert Smith to the OWRB on direct examination of Mark Walker, author of Farm Bureau's brief, from the Meridian Aggregate's Hearing, Volume II, December 15, 2005.

When Dr. Poeter was asked whether she agreed with some of Mr. Smith's prior testimony, Mr. Smith left the hearing. The CSIG have not only misrepresented the testimony of the various hydrologists in the hearing, they misrepresented what their own expert would have testified about if they had not kept him from the courtroom.

6. The CSIG Failed to Submit Any Evidence Supporting Their Concerns

Despite belaboring their concerns at both the Hearing and through briefing, the CSIG failed to establish that their concerns had any impact on the OWRB's ultimate decision. For these reasons, CPASA joins in the response submitted by the National Park Service and the U.S. Fish & Wildlife Service.

Respectfully submitted this 14th day of June, 2012.



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CERTIFICATE OF MAILING

I hereby certify that on the 14th day of June, 2012, a true and correct copy of the foregoing instrument was deposited in the United States mail, to the following persons, postage prepaid, first class:

Bill Holley
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Sulphur, OK 73086

James Dunegan
City Manager, City of Durant
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Edward T. Tillery
210 W. Grant Ave
Pauls Valley, OK 73075

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I hereby further certify that on the 14th day of June, 2012, a true and correct copy of the foregoing instrument was electronically transmitted to the following persons via electronic mail:

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ATTACHMENT 1

**BEFORE THE OKLAHOMA WATER RESOURCES BOARD
STATE OF OKLAHOMA**

IN THE MATTER of Determining the Maximum)
Annual Yield for the Arbuckle-Simpson)
Groundwater Basin underlying parts of Murray,)
Pontotoc, Johnston, Garvin, Coal and Carter)
Counties.)

**CPASA’S PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW**

Upon its evaluation of the evidence and the record, the Oklahoma Water Resources Board (herein the “OWRB” or the “Board”) hereby makes the following Findings of Fact in relation to its Tentative Order approving a Maximum Yield (herein the “Tentative Order”) for the Arbuckle-Simpson Aquifer (herein the “Aquifer” or the “Arbuckle Simpson Groundwater Basin”)

1. **BACKGROUND** – Concerns over proposed large-scale withdrawals of groundwater prompted the State Legislature to pass Senate Bill 288 (“SB288”) in 2003, now codified at 82 O.S. §§ 1020.9, 1020.9A & 1020.9B. The statutes imposed a moratorium on all temporary groundwater permits for municipal or public water supply outside of any county that overlies a “sensitive sole source groundwater basin.” The Aquifer is currently the only “sensitive sole source groundwater basin” in the state. Under Section 1020.9B, the moratorium continues until the Board completes a hydrologic study and approves a maximum annual yield that will ensure that any permit for the removal of groundwater from a sensitive sole source groundwater basin will not reduce the natural flow of water from springs or streams emanating from the Aquifer. The statutes mentioned above have been reviewed and were confirmed to be constitutional pursuant to *Jacobs Ranch, LLC, v. Smith*, 2006 OK 34.

2. **HYDROLOGIC SURVEY –**

a. The U.S. Geological Survey (“USGS”), in cooperation with the Board and numerous other federal and state entities, conducted hydrologic surveys and investigations of the Aquifer, which is located under parts of the following counties: Murray, Pontotoc, Johnston, Garvin, Coal, and Carter Counties in South-Central Oklahoma. The primary purpose of the study was to provide the Board with the scientific information needed to determine the volume of water that could be withdrawn from the Aquifer while protecting the flow of springs and streams emanating from the Aquifer.¹ In addition, the USGS constructed a digital groundwater/surface-water-flow model of the Aquifer for the Board to use as a tool in making its determination of maximum annual yield. In September 2011, the USGS published its study of the Aquifer entitled Hydrogeology and Simulation of Groundwater Flow in the Arbuckle-Simpson Aquifer, South-Central Oklahoma, Scientific Investigations Report 2011-5029. This report, hereinafter referred to as the “USGS Arbuckle-Simpson Report,” was admitted into the administrative record as OWRB Exhibit 1. The Board based its Tentative Order on the USGS Arbuckle-Simpson Report, other reports related to the hydrologic investigation of the Aquifer, and studies referenced therein.

b. Oklahoma Farm Bureau Legal Foundation, Pontotoc County Farm Bureau, Oklahoma Independent Petroleum Association, Environmental Federation of Oklahoma, Oklahoma Aggregates Association, Oklahoma Cattlemen’s Association, and TXI Operations, LP, (herein sometimes collectively “Protestants”) argue that the Board did not make a basin wide hydrologic survey and investigation because it did not adequately study the Central and Western

¹ USGS Arbuckle-Simpson Report at p. 5.

portions of the Arbuckle-Simpson Aquifer. However, the record shows that geologic information was obtained for *all* parts of the Basin, geochemical studies were performed across the entire Basin, and recharge calculations were done on streamflow data for the entire Basin.² Accordingly, the Board finds that the hydrologic survey and investigation of the Arbuckle-Simpson Aquifer constitutes a basin-wide study.

3. **TENTATIVE DETERMINATION OF MAXIMUM ANNUAL YIELD FOR THE ARBUCKLE-SIMPSON GROUNDWATER BASIN** – On March 13, 2012, the Board approved the Tentative Order, which was admitted into the administrative record as OWRB Exhibit 5.

4. **NOTICE AND HEARING ON TENTATIVE ORDER** –

a. Prior to the Prehearing Conference and Hearing, copies of the pertinent hydrologic survey and investigation upon which the Tentative Order was based was made available for inspection and examination at the Board's website, and at the following locations:

- Hugh Warren Memorial Library, 124 S. Rennie, Ada, Oklahoma;
- Chickasaw Regional Library System, 601 Railway Express, Ardmore, Oklahoma;
- Ardmore Public Library, 320 E. St. NW, Ardmore, Oklahoma;
- Coal County Public Library, 115 W. Ohio, Coalgate, Oklahoma;
- Nora Sparks Warren Memorial Library, 210 N. Willow, Pauls Valley, Oklahoma;
- Mary E. Parker Memorial Library, 500 W. Broadway, Sulphur, Oklahoma; and
- Johnston County Library, 116 W. Main, Tishomingo, Oklahoma.

b. Notice of the May 9, 2012 Prehearing Conference and May 15, 2012 Hearing was properly and timely published in the following newspapers, copies of which were admitted into the administrative record as OWRB Exhibit 12:

- *Johnston County Capital-Democrat*, a newspaper of general circulation in Johnson County, on March 29, 2012 and April 5, 2012;

² CPASA Exhibit B at p. 2.

ATTACHMENT 1

CPASA's Proposed Findings of Fact and Conclusions of Law

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- *Pauls Valley Democrat*, a newspaper of general circulation in Garvin County, on March 29, 2012 and April 8, 2012;
- *The Sulphur Times-Democrat*, a newspaper of general circulation in Murray County, on March 29, 2012 and April 5, 2012;
- *Coalgate Record-Register*, a newspaper of general circulation in Coal County, on March 28, 2012 and April 4, 2012;
- *The Daily Ardmoreite*, a newspaper of general circulation in Carter County, on March 29, 2012 and April 5, 2012;
- *The Davis News*, a newspaper of general circulation in Murray County, on March 28, 2012 and April 4, 2012; and
- *The Ada News*, a newspaper of general circulation in Pontotoc County, on March 29, 2012 and April 5, 2012.

c. In anticipation of substantial public interest in the Hearing, the Board scheduled a Prehearing Conference on the Tentative Order for May 9, 2012, in Ada, Oklahoma, to identify interested parties, to organize and expedite the presentations to be made at the Hearing, for establishing fact stipulations, if any, and to address other matters deemed appropriate by the Hearing Examiner. Those persons/entities who appeared personally or were represented by an authorized delegate at the May 9, 2012 Prehearing Conference are listed in Exhibit 1, which is incorporated in this Order as though fully set forth herein.

d. The Board scheduled a Hearing on the Tentative Order for May 15, 2012, in Sulphur, Oklahoma. A list of those individuals/entities who attended the Hearing on May 15-16, 2012 are listed in Exhibit 2, which is incorporated in this Order as though fully set forth herein. Board staff presented evidence and findings upon which the Tentative Order was based. Several persons present at the May 15-16, 2012 Hearing raised questions, expressed objections to and support of the Tentative Order, and offered comments for consideration.

e. Following the May 15-16, 2012 Hearing, the Board received letters, comments, and briefs. A list of the individuals/entities submitting letters, comments, and/or briefs is listed in Exhibit 3 and is incorporated in this Order as though fully set forth herein.

5. **MAJOR GROUNDWATER BASIN –**

a. **AQUIFER CHARACTERISTICS** – The evidence shows, and the Board finds, that the Aquifer, found in parts of Murray, Pontotoc, Johnston, Garvin, Coal, and Carter Counties, is a distinct body of groundwater overlain by contiguous land that has substantially the same geological and hydrological characteristics.³ The Aquifer is a bedrock aquifer, as distinguished from an alluvium and terrace aquifer.⁴ It is contained within three major rock units of Upper Cambrian to Middle Ordovician age, including the Timbered Hills Group, the Arbuckle Group, and the Simpson Group.⁵ The bedrock is highly faulted and fractured.⁶

b. The Aquifer is generally delineated into three areas, the “Eastern,” “Central,” and “Western.”⁷ The record shows that the three areas share substantially similar—although not identical—geologic and hydrologic characteristics.⁸ For example, the record shows that all three areas of the Arbuckle-Simpson Aquifer consist of a series of northwest-southeast-trending structural features that are separated by Paleozoic faults and fault zones.⁹ Additionally, contiguous, regional exposures of the Timbered Hills, Arbuckle, and Simpson Group rock units

³ USGS Arbuckle-Simpson Report at p. 3.

⁴ USGS Arbuckle-Simpson Report at p. 3; *see also*, Audio Recording No. 1. at 00:18:37 – 00:19:02.

⁵ USGS Arbuckle-Simpson Report at p. 6.

⁶ CPASA Exhibit 12, Evaluation of Fracture Properties of the Arbuckle-Simpson Aquifer at p.5

⁷ USGS Arbuckle-Simpson Report at p. 6.

⁸ USGS Arbuckle-Simpson Report at p. 6.

⁹ USGS Arbuckle-Simpson Report at p. 14.

comprise all three areas of the Aquifer outcrop.¹⁰ Moreover, the entire outcrop lies in an uplifted area known as the Arbuckle Mountains, which consists of folded and faulted igneous and metamorphic rocks of Proterozoic and Cambrian ages and Paleozoic sedimentary rocks ranging in age from Cambrian through Late Pennsylvanian.¹¹ The record also shows the Arbuckle Mountains to be characterized by great thicknesses of mostly carbonate sedimentary rocks, uplifts, folded structures, and large fault displacements.¹² The evidence shows, and the Board finds, that although there are general geographic areas where the major rock units of the Aquifer are found, the geologic groups consisting of the three portions of the Aquifer contain a distinct body of water overlain by contiguous land that have substantially the same geological and hydrological characteristics.

c. The Oklahoma Farm Bureau Legal Foundation, Pontotoc County Farm Bureau, Oklahoma Independent Petroleum Association, Environmental Federation of Oklahoma, Oklahoma Aggregates Association, Oklahoma Cattlemen's Association, and TXI Operations, LP, (herein sometimes collectively "Protestants") presented a number of arguments opposing the Board's tentative determination that the three areas share substantially the same geological and hydrological characteristics. Protestants argued that differences in fault and fracture density, formation thickness, and placement and incidence of varying rock types between the Central, Western, and Eastern portions of the Aquifer prohibited the Board from managing the three portions as one groundwater basin. These arguments are based in part upon the testimony of Dr. Kyle Murray, a hydrogeologist on staff at the Oklahoma Geological Survey. Dr. Murray's

¹⁰ CPASA Exhibit 18, Arbuckle-Simpson Hydrology Study, Final Report to the U.S. Bureau of Reclamation at p.8

¹¹ USGS Arbuckle-Simpson Report at p. 6.

¹² USGS Arbuckle-Simpson Report at p. 6.

ATTACHMENT 1

CPASA's Proposed Findings of Fact and Conclusions of Law

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testimony revolved around a project proposal entitled *Augmented Hydrologic Assessment of the Arbuckle-Simpson Groundwater Basin*, in which Dr. Murray proposed to perform additional monitoring and scientific research on the Aquifer. Said proposal was admitted into the administrative record as OKAA Exhibit 2, although Citizens for the Protection of the Arbuckle-Simpson Aquifer (herein "CPASA") objected to its admittance.¹³ Dr. Murray's project proposal stated the Eastern area appeared to have much lower fault and fracture density than the Central and Western areas.¹⁴ However, Dr. Murray's statements were based upon studies of the Arbuckle-Simpson Aquifer in 1990.¹⁵ Evidence from the current hydrologic investigation shows that the Eastern portion of the Aquifer is actually highly faulted.¹⁶ Such information was gathered through the use of cutting-edge geophysical methods, including seismic, electric resistivity imaging, ground-penetrating radar, and helicopter electromagnetic surveys.¹⁷ For the reasons stated above, the Board finds the three portions of the Aquifer share substantially the same geological and hydrological characteristics.

d. Protestants also claim that, when presented with several distinct major parts of the same aquifer, the Board treated each part as a separate sub-basin and established separate MAY's for each sub-basin.¹⁸ Thus, because Protestants assert the three portions of the Aquifer have differing hydrologic and geologic characteristics, Protestants conclude the Board should divide the three areas into sub-basins and approve separate MAY's for each. Previous

¹³ Audio Recording No. 4 at 01:39:45 – 01:41:54.

¹⁴ OKAA Exhibit 2, *Augmented Hydrologic Assessment of the Arbuckle-Simpson Groundwater Basin* at p. 3.

¹⁵ OKAA Exhibit 2, *Augmented Hydrologic Assessment of the Arbuckle-Simpson Groundwater Basin* at p. 3.

¹⁶ USGS Arbuckle-Simpson Report at p. 18.

¹⁷ USGS Arbuckle-Simpson Report at p. 18.

¹⁸ *See Farm Bureau Brief* at p. 27

maximum annual yield determination have been made which separate distinct portions of the same aquifer based on differences in hydrologic and geologic characteristics. However, as discussed above, the evidence shows, and the Board finds, that in this case the three portions of the Aquifer share substantially the same hydrologic and geologic characteristics.

e. **WELL YIELDS** – The evidence shows groundwater wells located throughout the Aquifer areas yield at least 50 gallons per minute on average.¹⁹ No evidence in opposition to this finding was presented.

f. **WATER QUALITY** – The evidence shows water quality of the groundwater is considered good, generally containing less than 500 milligrams per liter total dissolved solids throughout the area.²⁰ No evidence in opposition to this finding was presented.

6. **TOTAL LAND AREA OVER BASIN** –The testimony at the May 15, 2012 Hearing showed, and the Board finds, that the total land area overlying the Arbuckle-Simpson Groundwater Basin is approximately 612.5 square miles, or 392,019 acres.²¹ The evidence showed that the Aquifer surface outcrop encompasses approximately 520 square miles, but, during the course of the hydrologic investigation, areas of fresh groundwater from the Aquifer were identified beyond the outcrop that were contiguous to the surface outcrop.²² For these reasons, the Board finds the total land area overlying the Arbuckle-Simpson Groundwater Basin to be approximately 612.5 square miles. No evidence in opposition to this finding was presented.

¹⁹ USGS Arbuckle-Simpson Report at p. 96; see also Audio Recording No. 1 at 00:18:37 – 00:19:02.

²⁰ USGS Arbuckle-Simpson Report at p. 32.

²¹ Audio Recording No. 1 at 00:19:44 – 00:20:17.

²² CPASA Exhibit 18, Arbuckle-Simpson Hydrology Study, Final Report to the U.S. Bureau of Reclamation at p.5.

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7. **AMOUNT OF WATER IN STORAGE** – The testimony at the May 15, 2012 Hearing shows, and the Board finds, that the amount of water in storage in the Arbuckle-Simpson Groundwater Basin is approximately 11,000,000 acre-feet.²³ This amount of storage differs from the original Tentative Order proposed on February 13, 2012, which stated the amount of water in storage was approximately 9,408,461 acre-feet. However, the testimony shows, and the Board finds, that the Oklahoma Water Resources Board staff met with USGS staff following the February 13, 2012 Board meeting to revise certain aspects of the Tentative Order in order to make the Order more reflective of the science.²⁴ These revisions included changes in rounding and in carrying out numbers to specific decimal numbers. Oklahoma Farm Bureau Legal Foundation, Pontotoc County Farm Bureau, Oklahoma Independent Petroleum Association, Environmental Federation of Oklahoma, Oklahoma Aggregates Association, Oklahoma Cattlemen's Association, and TXI Operations, LP, argue that such refinements equate to arbitrary agency action. Nonetheless, the testimony at the May 15, 2012 Hearing shows, and the Board finds, that the amount of water in storage in the Arbuckle-Simpson Groundwater Basin is 11,000,000 acre-feet, which reflects a refinement of the February 13, 2012 Tentative Order.

8. **RATE OF RECHARGE** – The evidence shows, and the Board finds, that the rate of recharge to the Arbuckle-Simpson Groundwater Basin is an average of 5.58 inches per year.²⁵

9. **TOTAL DISCHARGE** – The total discharge from the Arbuckle-Simpson Groundwater Basin consists of withdrawals by users pursuant to rights established under the law

²³ Audio Recording No. 1 at 00:20:17 – 00:20:27.

²⁴ Audio Recording No. 1 at 00:35:01 – 00:35:47.

²⁵ Audio Recording No. 1 at 00:20:40 – 00:20:50.

prior to July 1, 1973 and recognized in final orders of the Board, known as "prior rights." The evidence shows, and the Board finds, that prior rights to use groundwater from the Arbuckle-Simpson Groundwater Basin total 5,432 acre-feet per year.²⁶ No evidence in opposition to this finding was presented.

10. **TRANSMISSIBILITY** – The evidence shows, and the Board finds, that the Arbuckle-Simpson Groundwater Basin has an average transmissivity of 11,000 feet squared (ft²) per day.²⁷ The Board notes that the term "transmissivity" refers to a measure of how well an aquifer transfers water from one area to another; it is determined from pump tests. It is essentially the same as "transmissibility," which is the term used in 82 O.S. § 1020.5. These terms are virtually interchangeable, although "transmissibility" is the older term and "transmissivity" is the term currently preferred and used by geologists and hydrologists. No evidence in opposition to this finding was presented.

11. **POTENTIAL FOR POLLUTION FROM NATURAL SOURCES** – The evidence shows, and the Board finds, the possibility of pollution of the Arbuckle-Simpson Groundwater Basin from natural sources is negligible.²⁸ In limited areas, water of lower quality may be found. However, this may be due to heavy groundwater pumping in those areas. There is no evidence of any widespread pollution problems caused by natural sources. No evidence in opposition to this finding was presented.

12. **SENATE BILL 288** – Senate Bill 288 ("SB288") was passed into law in 2003, and is now codified at 82 O.S. §§ 1020.9, 1020.9A & 1020.9B. The statutes imposed a

²⁶ Audio Recording No. 1 at 00:20:51 – 00:21:22.

²⁷ Audio Recording No. 1 at 00:22:00 – 00:22:12.

²⁸ Audio Recording No. 1 at 00:22:41 – 00:22:53.

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moratorium on all temporary groundwater permits for municipal or public water supply outside of any county that overlies a "sensitive sole source groundwater basin." The Aquifer is currently the only "sensitive sole source groundwater basin" in the state. Under Section 1020.9B, the moratorium continues until the Oklahoma Water Resources Board (herein "OWRB" or "Board") completes a hydrologic study and approves a maximum annual yield that will ensure that any permit for the removal of water from a sensitive sole source groundwater basin will not reduce the natural flow of water from springs or streams emanating from the Aquifer. With respect to the impact of this provision of Senate Bill 288 on the Board's MAY Order, please see Conclusion of Law No. 6, below.

13. **NATURAL FLOW** – In order to evaluate the potential effects of groundwater pumping withdrawals on the natural flow of springs and streams in the Arbuckle-Simpson Groundwater Basin, the Board commissioned a Surface Technical Advisory Group, which discussed evaluating recreation, water supply, fishing, ecological integrity, water quality, spring flow, and stream flow data as methods to determine what would not reduce the natural flow of water from springs and streams emanating from the Aquifer.²⁹

14. **DETERMINATION OF MAXIMUM ANNUAL YIELD** – In cooperation with the Board, the USGS developed a digital groundwater/surface-water-flow model of the Aquifer system to assist the Board in determining the volume of groundwater that could be withdrawn from the Aquifer without reducing the natural flow of springs and streams emanating from the Aquifer. At the Board's request, the USGS developed several simulations for different groundwater withdraw quantities. The Board has duly considered these simulations, along with

²⁹ OWRB Exhibit 9, Arbuckle-Simpson Study Surface Water Technical Advisory Group Recommendations, slide 5.

other evidence in the record, including the USGS Arbuckle-Simpson Report, and the testimony of the Board staff at the May 15-16, 2012 hearing. The Board has also given due consideration to the objections, contentions, and information submitted by interested persons. Taking into account the record and the Findings of Fact herein, the Board finds that the maximum amount that can be withdrawn from the Arbuckle-Simpson Groundwater Basin each year (i.e., the "maximum annual yield") to be 78,404 acre-feet. The Board further finds that this maximum annual yield will not reduce the natural flow of springs and streams emanating from the Arbuckle-Simpson Groundwater Basin, which is a "sensitive sole source groundwater basin or subbasin" pursuant to Senate Bill 288. The maximum annual yield of the Arbuckle-Simpson Groundwater Basin translates into an allocation of 0.2 acre-feet per acre of land overlying the basin per year.

PROPOSED CONCLUSIONS OF LAW

Based upon applicable law, and as applied to the above Findings of Fact and evidence in the record, the Board draws the following Conclusions of Law:

1. **SUBJECT MATTER JURISDICTION** – The Board is given authority by the Oklahoma Groundwater Law, 82 O.S. (2011) §§ 1020.4, 1020.5, 1020.6, 1020.9A and 1020.9B to make hydrologic surveys and investigations, enter orders to make tentative determinations, hold hearings on the tentative determinations, and enter final orders regarding the maximum annual yields of each groundwater basin and subbasin. The Board is also given authority to cooperate with state and federal agencies engaged in similar surveys and investigations and may accept and use the findings of such agencies.

2. PERSONAL JURISDICTION; PROCEDURAL DUE PROCESS –

a. Due and proper notice as required by 82 O.S. § 1020.6 has been provided, and all potentially interested persons have had an adequate opportunity to be heard. Culminating with this Order, the Board has followed and completed the administrative procedures prescribed by 82 O.S. §§ 1020.4-1020.6 and 1020.9A & B for determining the maximum annual yield of a major groundwater basin.

3. CONCLUSION RE MAJOR GROUNDWATER BASIN

a. Oklahoma statute defines “major groundwater basin” as

a distinct underground body of water overlain by contiguous land and having substantially the same geological and hydrological characteristics and from which groundwater wells yield at least fifty (50) gallons per minute on the average basinwide if from a bedrock aquifer and at least one hundred fifty (150) gallons per minute on the average basinwide if from an alluvium and terrace aquifer, or as otherwise designated by the Board.

Applying this law to the facts, the Board concludes that the body of groundwater described in Finding of Fact No. 5 constitutes and is hereby designated as a major groundwater basin identified as the Arbuckle-Simpson Groundwater Basin. The general basin boundaries of the Arbuckle-Simpson Groundwater Basin are shown in Exhibit 4.

a. The Board acknowledges the hydrologic study activities were more intense on the Eastern portion of the Aquifer for a variety of reasons, including the availability of more raw data for that area. Nonetheless, the Board concludes there is sufficient information and data to establish that the three areas share substantially the same geological and hydrological characteristics to consider the area as one groundwater basin.

b. The Board further concludes that there are no separately identifiable subdivisions of the Arbuckle-Simpson Groundwater Basin that should at this time be declared "subbasins."

4. **TYPICAL STATUTORY FACTORS IN DETERMINING MAXIMUM ANNUAL YIELD** – Title 82 O.S. § 1020.5 requires a tentative determination (and, by implication, a final determination) of the MAY of a major groundwater basin to be based upon several enumerated factors:

- a. The total land area overlying the basin;
- b. The amount of water in storage in the basin;
- c. The rate of recharge to the basin and total discharge from the basin;
- d. Transmissibility of the basin; and
- e. The possibility of pollution of the basin from natural sources.

Generally, the MAY must be based upon a minimum basin life of twenty (20) years from the effective date of the order establishing the final determination of the MAY.

5. **CONCLUSION RE SENSITIVE SOLE SOURCE GROUNDWATER BASIN** – Section 1020.9A of the Oklahoma Groundwater Law also contains a definition of "sensitive sole source groundwater basin" that must be integrated with other definitions in the Oklahoma Groundwater law.

a. A sensitive sole source groundwater basin is "a major groundwater basin or subbasin all or a portion of which has been designated as a 'Sole Source Aquifer' by the United States Environmental Protection Agency . . . and any portion of any contiguous aquifer

located within five (5) miles of the known areal extent of the surface outcrop of the sensitive sole source groundwater basin.”

b. As noted in Finding of Fact No. 5 and Conclusion of Law No. 3, the three portions of the Aquifer studied, including the “subcrop” area near and extending north from the City of Sulphur constitutes one “major groundwater basin” as defined in Section 1020.1 of the Oklahoma Groundwater Law.

c. The Eastern portion of the Aquifer was designated as a “Sole Source Aquifer” by the United States Environmental Protection Agency in September 1989 (*see* 54 Federal Register 39230).

d. The Board concludes the Arbuckle-Simpson Groundwater Basin qualifies as a “sensitive sole source groundwater basin” because the Eastern portion of the Aquifer has been designated as a sole source aquifer by the United States Environmental Protection Agency.

6. **SENATE BILL 288 MAXIMUM ANNUAL YIELD LIMITATION** – As noted in Finding of Fact No. 12, Senate Bill 288 amended the Oklahoma Groundwater Law and required additional determinations relating to the maximum annual yield of any “sensitive sole source groundwater basin or subbasin.” Specifically, Senate Bill 288, now codified at 82 O.S. §§ 1020.9, 1020.9A & 1020.9B, imposed a moratorium on all temporary groundwater permits for municipal or public water supply outside of any county that overlies a “sensitive sole source groundwater basin.” Under Section 1020.9B, the moratorium continues until the Oklahoma Water Resources Board (herein “OWRB” or “Board”) completes a hydrologic study and approves a maximum annual yield that will ensure that any permit for the removal of water from

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a sensitive sole source groundwater basin will not reduce the natural flow of water from springs or streams emanating from the Aquifer.

a. As noted in Conclusion of Law No. 5, the Arbuckle-Simpson Groundwater Basin constitutes a "sensitive sole source groundwater basin" pursuant to section 1020.9A of the Oklahoma Groundwater Law.

b. Accordingly, the Board concludes it must consider the effects of existing and future pumping on the "natural flow" of the springs and streams emanating from the Arbuckle-Simpson Groundwater Basin when determining its maximum annual yield.

7. CONCLUSIONS RE MAXIMUM ANNUAL YIELD

a. Applying the applicable law to the facts, the Board concludes that the maximum annual yield of the Arbuckle-Simpson Groundwater Basin is 78,404 acre-feet per year, which results in an allocation of 0.2 acre-feet per acre of land over the basin per year.

b. Oklahoma Farm Bureau Legal Foundation, Pontotoc County Farm Bureau, Oklahoma Independent Petroleum Association, Oklahoma Aggregates Association, Oklahoma Cattlemen's Association, and TXI Operations, LP (herein "Protestants") presented a number of objections and contentions against the Tentative Order. Protestants argued that the Arbuckle-Simpson Aquifer had three distinct parts of the same aquifer and thus should have separate MAY's for each subbasin. As discussed in Findings of Fact No. 5, the Board found the Arbuckle-Simpson Groundwater Basin to be a distinct body of groundwater overlain by contiguous land and having substantially the same geological and hydrological characteristics. While there is supposition in the record in this issue, the weight of the evidence shows that there is a single distinct body of groundwater in the Aquifer.

c. Protestants also argued the Board failed to adequately explain the reasons for changing the quantity of water in storage between the February 13, 2012 Tentative Order, which was tabled by the Board, and the March 13, 2012 Tentative Order, which was ultimately approved, and thus argued the Board acted arbitrarily. However, as discussed in Findings of Fact No. 7, testimony given by Board staff at the May 15-16th Hearing explained the purpose for the refinement to be so to more accurately reflect the data from the hydrologic study. Accordingly, the Board concludes its determination is not arbitrary; rather, its decision is based upon competent, substantial evidence found in the record.

d. Protestants further argued the digital groundwater/surface-water-flow model contained numerous mistakes and errors and, as such, it was improper for the Board to rely upon the model when making its determination.

i. Specifically, Protestants argue it was improper for the model to use the same storage coefficient of 0.008 for all zones of the Aquifer and instead should have accounted for the varying storage coefficients of the different confined, semi-confined, and unconfined zones. As discussed in Findings of Fact No. 14, the Board did not base its decision solely upon the simulations produced by the groundwater model. Rather, as found in Findings of Fact No. 14, the Board considered the model's simulations, the USGS Arbuckle-Simpson Report, and the various studies and reports when making its determinations. Accordingly, the Board concludes it was not improper to use the model as one of the many factors incorporated into the maximum annual yield determination. Moreover, the Board has long recognized that the "maximum annual yield is derived by averaging basin parameters." *See* Cache Creek Final MAY Determination, FOF 12. In other words, although some areas of the basin are unconfined

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and have a storage coefficient greater than the confined or semi-confined zones, the majority of the basin is either confined or semi-confined and thus has a smaller storage coefficient.

ii. Protestants implied during the May 15-16, 2012 Hearing that basing a maximum annual yield upon the assumption that there would be a well on every acre is unrealistic. However, if the Board did not base its determination upon 100% basin utilization, it would run the risk that actual future use may exceed the projected use and reduce the natural flow of springs and streams emanating from the Basin. The Board concludes that a rational method of complying with 82 O.S. § 1020.9A & B, in relation to the natural flow of springs and streams emanating from the Aquifer is to rely upon the data and the potential for 100% basin utilization. Although this assumption may produce a conservative result, the result nonetheless is based upon substantial evidence and rationally relates to and satisfies the statutory requirements.

e. Oklahoma Farm Bureau Legal Foundation, Pontotoc County Farm Bureau, Oklahoma Independent Petroleum Association, Environmental Federation of Oklahoma, Oklahoma Aggregates Association, Oklahoma Cattlemen's Association, TXI Operations, LP, and numerous individual protestors argued that the proposed determination constitutes a taking of private property rights. The Oklahoma Groundwater Law requires a framework for "reasonable regulations for the allocation for reasonable use based on hydrologic surveys of fresh groundwater basins . . .to determine a restriction on the production, based upon the acres overlying the groundwater basin" 82 O.S. § 1020.2. The constitutionality of this framework was expressly upheld by the Supreme Court of Oklahoma in *Kline v. State*, 1988 OK 18; 759 P.2d 210. The Oklahoma Groundwater Law also makes clear that the right to use

groundwater for non-domestic purposes from a basin that has not had a maximum annual yield determination is temporary, and subject to the allocation established in the final maximum annual yield and authorized in a "regular" permit. 82 O.S. §§ 1020.5-1020.11. Accordingly, the Protestants' arguments are meritless.

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PARTIES IDENTIFIED AT THE PREHEARING CONFERENCE

- Oklahoma Farm Bureau Legal Foundation;
- Pontotoc County Farm Bureau
- Oklahoma Independent Petroleum Association
- Oklahoma Aggregates Association
- Oklahoma Cattlemen's Association
- U.S. Fish and Wildlife Service
- National Park Service
- City of Sulphur
- Sierra Club
- Arbuckle Master Conservancy District
- Oklahoma Geological Survey
- TXI
- City of Ada
- Oklahoma Farm Bureau
- Arbuckle-Simpson Aquifer Protection Federation of Oklahoma
- Environmental Federation of Oklahoma, Inc.
- Citizens for the Protection of the Arbuckle-Simpson Aquifer
- FWS Tishomingo National Fish Hatchery
- City of Durant
- Richard Day
- Institute of Environmental Science, Education & Research
- Murray County RWD No.1
- U.S. Silica
- City of Tishomingo
- C.J. Maxwell, Jr.
- Ada Public Works Authority
- Bill Flanigan
- Arbuckle-Simpson Landowners Group
- NPS Chickasaw National Recreation Area
- Jonathan Gourley
- Nature Conservancy of Oklahoma
- Chapman Properties
- Gary J. Montin
- Dick Scalf
- Bill Brunk
- Angela Williams
- Shannon Shirley
- Chapman Family & Related Entities
- Estate of Ida Sutton Williams
- Chuck Roberts
- Joseph Morrow
- Ronnie Wartchow
- Charles Morrow
- Carolyn Sparks
- Floy Parkhill
- Jerry Lamb
- Amy Ford
- Wingard Water Corporation
- James T. Johnson
- Paul Warren
- Charles Roos
- Abbie Schneider
- Adalene Rhodes
- Agnes Lane
- Amanda Copeland
- Amber Williams
- Amy Ford
- Angela Williams
- Ann Schroeder
- Anna Baker
- Anna Vines
- Arlinda Elkins
- Audrey Pruitt
- Austin LeMay
- Ava M. Converse
- Barbara J. Stevens
- Barry Schrader
- Benji
- Betty Crabtree

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- Billy Howell-Howell Family Trust
- Bob Donaho
- Brenda Jones
- Brenda Rolan
- Brent Shields
- C I Maxwell Jr.
- C.D. Robertson Jr.
- Carin Salazar
- Carl Adcook
- Carl Schneider
- Catherine Pendergraft
- Cathy Gardner
- Cecil C. Carter
- Charles W. Shipley
- Charlie Wright
- Cheryl Whitman
- Chris McMurry
- Christiane Robinson
- Cindy Matheny
- Claude V. Czajkowski
- Claudia F. Spalding
- Cody Wainscott
- Connie Chrobot
- Craig Garone
- Curtis Perry
- Phyllis Perry
- Dan Elkins
- Dana Forster
- Dana Kelley
- Danny Wells
- Darrell Morris
- Darrell Gipson
- Darryl Carter
- David Earsom
- David Gainey
- David R. Spalding
- Dawn R. Summers
- Dawnita Summers
- Dayna Baker
- Dean Arnold
- Denver Donaho
- Derek L. Collins
- Diane Shaver
- Dianne Barrett
- Donald H. Nichols
- Donald J. Brittin
- Donald Schoeder
- Donna Hunt
- Donna L. Pope
- Donnel Somers
- Dorena White
- Doris Murray
- Dorothy Bertino
- E. J. Shipman
- Ebony McDonald
- Ed Perryman
- Eddie Easterling
- Edra J. Mullendore
- Elizabeth Kennedy
- Ellen Spraggins
- Ellen T. Innis
- Estee Brunk
- Esther Miller
- F. Lovell McMillin
- Florence Coble
- Floy Parkhill
- Fred Chapman
- Fred Schraeder
- Gabe Green
- Gary Burdine
- Gary Good
- Gary Greene
- Gary Joiner
- Gary Paddack
- George W. Johnson
- Glenna J. Wright
- Gloria Ellis
- Gloria Webb
- Harold Pruitt

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- James T. Hunter
- Jamie Inman
- Jana L. Dutton
- Jane Mowbry
- Janet Mathis
- Janice Ellis
- Janis Stewart
- Jason R. Girard
- Jean Drew
- Jeanie Upson
- Jeff Vick
- Jennifer Gallagher
- Jerry Gray
- Pat Gray
- Jerry Summers
- Jett Robbins
- Jill Clark
- Jim Baker
- JJ McGill
- Joe S. Duncan
- Joel Wisran
- John Bruno
- John C. Pope
- John David Smith
- John H. Chrobot
- John Kimbrough
- John Krittenbrick
- John M. Thompson III
- John Manning
- John Sikes
- Johnny C. Wilson
- Jon Collins
- Josh Davidson
- Josh Presley
- Josh Talkington
- Joyce Allgood
- Joyce Crosby
- Judy G. Fisher
- June Murphy
- Justin Grimes
- K. Wayne King
- Kara Berst
- Karen Butler
- Kasy Fincher
- Kathryn Brunk
- Kathy Eye
- Kenneth Copeland
- Kenneth J. Bylsma
- Kenneth R. Meyers
- Kerri Rousey
- Kimberly Johnson
- LaDonna Wilbanks
- Lanny Murphy
- LaQuita Dayton
- Larry Wood
- Leonard D. Briley
- Leonia Barger
- Linda Byrd
- Lou Carlton
- Luanne Snodgrass
- Lucille J. Norman
- Luis J. Ruseo
- Luther Harbert
- M. Charlene Goodson
- Mack T. Presley
- Macy Wisran
- Amy Wisran
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- Mark Hughes
- Mark K. Deen
- Mark Lumry
- Mark Newton

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- Melissa Shawn
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- Michael Castellow
- Michael Summers
- Michaeli Brunk
- Michelle P Bass
- Mike Harris
- Mike Martin
- Monica Bell
- Nancy Binderim
- Nancy Drumgold
- Nathan Bright
- Norma Chaney
- Norma J. Mantzke
- Norma L. Paschall
- Pat Neasbitt
- Patricia A. Castellow
- Patricia Baker
- Patti Sanders
- Paul D. Young
- Paul Hall
- Paula Rush
- Peggy Bell
- Priscilla Stevens
- Randy Neasbitt
- Ray Lokey
- Reginald Robbins
- Retha Rousey
- Rhoda Grayham
- Rhonda Newton
- Richard A. Murray
- Richard K. Muller
- Richard Powell
- Robert Brunk
- Robin Ross
- Rogelio Trevino
- Ronald Cooper
- Ronnie Conner
- Rosalyn Tiner
- Rosemary Poythese
- Rosemary Shipe McBee
- Roy David Mullens
- Roy Ewing
- Royce D. Jones
- S.L. Sherell
- Sandra Alexander
- Sandra Czajkowski
- Sandra Esleres
- Sara Donaho-Jones
- Sara Kendall
- Sarah Miracle
- Sarah Newton
- Scott Clark
- Sharon Keith
- Shawna Murphy
- Sherri Owens
- Shon Aguero
- Stacy Blackwood
- Stacy Gibney
- Stanley Rice
- Stephanie Carson
- Steve A. Deen
- Steve Wheeler
- Sue Kendall
- Susan Ingram
- Talon Hyatt
- Tammie Durbin
- Tammy Merrell
- Terry Barnes
- Terry Beals
- Retha Beals
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- Thalia Miller
- Thomas Forster

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- Vicki Harbert
- Virgil M. Mowbray
- Virginia Cooper
- Walter E. Mullendore
- Wayne Baker Sr.
- Wayne Kellogg
- Wayne Smith
- Wayne Walker
- Whitney Ruelle
- Winifred Kasco
- Woody D. Alexander
- Y. Steven Thompson
- Yvonne Pruitt
- Zeno McMillan

EXHIBIT 2
PARTIES AND INTERESTED INDIVIDUALS ATTENDING THE HEARING

MAY 15, 2012

- Alan R. Woodcock
- Amelia Branscum
- Amy Ford
- Angela Williams
- Anne Montin
- Barry Schrader
- Bill Brunk
- Bill Corbin
- Bill Flanigan
- Bill Holley
- Bill Rogers
- Billy Easterling
- Blaine Reely
- Bob Donaho
- Brenda Rolan
- Bruce Noble
- C.D. Robertson Jr
- C.E. Zato
- Carloyn Hunt Sparks
- Charles McCall
- Charles McCall
- Charles Morrow
- Charles Roos
- Charlie Wright
- Chris Phillips
- Chuck Roberts
- Cindy Matheny
- Clifford Hughes
- Clyde Runyan
- Conrad Kleinholtz
- D. Craig Shew
- Dan Becker
- Dana Forster
- Darin Farrell
- Dave Roberson
- David Gainey
- David Ocamb
- David Perkins
- Debbie Thomson
- Denvon N. Davison
- Dick Scalf
- Don Chaffin
- Doris Row
- Duane Smith
- Eddie Easterling
- Emily Clark
- Emily Shipley
- Eric Chapman
- Eric Swanson
- Floy Parkhill
- Frances Morrell
- Fred Chapman
- Fred Chapman
- Garrett Clark
- Gary M. Day
- Gary Montin
- George Matthews
- Ginny McCarthick
- Glenn Woods
- Greg Quinlan
- Hazel Ruth
- Heather Grams
- Heather Lazrus
- Homer Spalding
- Imogene Martin
- Ira Dean Adams
- James Barnett
- James Rowland
- James T. Johnson
- Jamie Inman
- Jamie Petith
- Janis Stewart
- JD Branscum
- Jeanette Roberson
- Jeanne Corbin
- Jennifer Back

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- Julie Altman
- Kara Berst
- Kelly Hurt
- Ken Meyers
- Kenny Howard
- Kerry Graves
- Kevin Blackwwod
- Kevin Caldwell
- Kim Winton
- Kinsey Money
- Kodi Monroe
- Kris Patton
- Kyle Murray
- Lewis Parkhill
- Linda Byrd
- Lisa Inpson
- Lisa Impson
- Lu Liu
- Mark Helm
- Mark Walker
- Markia Matthews
- Marla Peek
- Mary McLemore
- Melvin Mortin
- Michael A. Langston
- Michael Nelson
- Mike Wofford
- Miranda Elliot
- Mitchell Hull
- Neil Mayo
- Noel Osborn
- Novice Boyd
- Paul Hall
- Paul Warren
- Peter Burck
- Peter Fahmy
- Precious Braggs
- Ralph Simmons
- Randall Weaver
- Randy Keller
- Randy L. Mitchell
- Ray Lokey
- Reginald Robbins
- Rick Buchanan
- Robert O'Bannon
- Rogelio Trevino
- Ron Kopplin
- Royce S. Sliger
- Scott Butcher
- Scott Christenson
- Scotty McCarthick
- Shane Kak
- Shannon Shirley
- Shawn Howard
- Shelly Sawatzky
- Steven Jolly
- Tamara Sikes
- Terry McCurry
- Thomas J. Enis
- Tim Rhynes
- Walter Allen
- Wayne Kellogg
- Xiaodi Yu

ATTACHMENT 1

CPASA's Proposed Findings of Fact and Conclusions of Law

June 14, 2012

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MAY 16, 2012

- Alan Woodcock
- Amy Ford
- Bill Brunk
- Bill Clark
- Brent Elliot
- Buddy Graves
- Carolyn Sparks
- Chris Phillips
- Chuck Bromley
- Cindy Matheny
- Clifford Hughes
- Dan Becker
- Dave Roberson
- Donald J. Chaffin
- Eric Swanson
- Floy Parkhill
- Garrett Clark
- Gary M. Day
- Gary Montin
- George Matthews
- Jeri Flemig
- Johnny Parker
- Jonathan Gourley
- Julie Altman
- Kathryn Brunk
- Kelly Hurt
- Ken Meyers
- Kenny Howard
- Kim Winton
- Kodi Monroe
- Kris Patton
- Kyle Murray
- Leonard Fullagan
- Lewis Parkhill
- Markia Matthews
- Mary McLemore
- Michael Worcester
- Miranda Elliot
- Noel Osborn
- Peter Burck
- Randy Fullagan
- Reginald Robbins
- Rick Buchanan
- Royce S. Sliger
- Shannon Shirley
- Shon Aguero
- Terry Beals
- Terry McCurry

EXHIBIT 3
COMMENTS RECEIVED AFTER THE HEARING

- Ken Meyers on behalf of the Oklahoma City (89er) Chapter of Trout Unlimited;
- C.I. Maxwell, Jr. (two letters);
- Barry C. Shrader;
- Dick Scalf;
- George & Markia Matthews;
- Ray Lokey, editor of the Johnston County Capital-Democrat;
- Wayne Kellogg;
- Dolly Lemay;
- Lorene Black;
- Cinco Roos;
- Julie Aultman;
- Arbuckle-Simpson Master Conservancy District;
- David Gainey;
- Floy Parkhill;
- Robert Charles Roos IV; and
- John Gayler.

BRIEFS RECEIVED AFTER THE HEARING

- CPASA's Designation of Service;
- City of Ada Motion and Brief;
- Protestants' Brief;
- CPASA Notice to Hearing Examiner;
- Protestants OKAA and TXI Brief;
- National Park Service's Preliminary Comments;
- U.S. Fish and Wildlife Service's Post Hearing Comments;
- Ranchers' Brief; and
- Ranchers' Motion to Admit.

Attachment 1. Boundaries of the Arbuckle-Simpson Groundwater Basin.

