

# Developing a Correlative Rights Doctrine to Accommodate Development of Oil and Gas in Arkansas

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## I. INTRODUCTION

But for the connected nature of the rock structure where oil and gas are found, a correlative rights doctrine would be unnecessary.<sup>1</sup> When rock structures containing oil and gas extend beyond a single owner's surface boundaries, principles must be established to govern use of the common reservoir.<sup>2</sup> This is necessary because any owner conducting operations within the reservoir can impact the rights of others who own tracts overlying different portions of the reservoir.<sup>3</sup> These use principles must be broad enough to address cross-boundary impacts associated with development conducted on any tract of land within a reservoir.

Arkansas lacks a comprehensive, common law correlative rights analysis for oil and gas.<sup>4</sup> However, court-made rules

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1. Two reservoir characteristics necessitate rules governing acceptable use of reservoir resources: (1) the inability to isolate individual tracts of land within an oil and gas reservoir; and (2) the inability to use a tract without impacting other parts of the reservoir. The inability of private parties to coordinate development of the 5000-acre McKamie-Patton Field in southwest Arkansas is a good example of the connected oil and gas reservoir dilemma. See *Dobson v. Ark. Oil & Gas Comm'n*, 218 Ark. 160, 235 S.W.2d 33 (1950). For a discussion of reservoir dynamics, see JOHN S. LOWE ET AL., *CASES AND MATERIALS ON OIL AND GAS LAW* 14-16 (6th ed. 2013).

2. This article uses the term "reservoir" to describe a connected body of rock with the capacity to contain a substance, whether oil, gas, water, or something else. Courts and state agencies often use the terms "pool" and "common source of supply" to refer to a reservoir. See, e.g., *Cornelius v. Ark. Oil & Gas Comm'n*, 240 Ark. 791, 791-92, 402 S.W.2d 402, 403 (1966).

3. See, e.g., *Deltic Timber Corp. v. Great Lakes Chem. Corp.*, 2 F. Supp. 2d 1192, 1194-95 (W.D. Ark. 1998) (addressing problems created by secondary recovery operations used to recover bromine from a brine reservoir).

4. Thomas A. Daily, *Lawyering the Fayetteville Shale Play—Welcome to My World*, *ARK. LAW.*, Spring 2009, at 10, 12.

dealing with resource conflicts regarding brine and fresh water provide useful guidance for correlative rights principles in the oil and gas context.<sup>5</sup> Intra-reservoir development disputes that can be properly resolved only by applying some form of correlative rights analysis are in progress, both within Arkansas and throughout the nation.<sup>6</sup> This article offers a “reservoir community analysis” based on correlative rights concepts to resolve oil, gas, and other intra-reservoir conflicts.<sup>7</sup>

## II. THE *AD COELUM* DOCTRINE AND THE RESULTING RULE OF CAPTURE

When oil and gas were first discovered, in Arkansas and elsewhere, it was already firmly established that the owner of land owned everything beneath the land, including minerals.<sup>8</sup> Courts held that surface boundaries defined rights to fluid and gaseous minerals—such as oil and gas—possessing the capacity to move within a rock structure without regard for property lines.<sup>9</sup> This spawned the rule of capture, which adjusted the *ad coelum* doctrine to account for the reservoir mechanics that cause oil and gas under one tract of land to migrate to beneath

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5. See *Jameson v. Ethyl Corp.*, 271 Ark. 621, 625-26, 609 S.W.2d 346, 349-50 (1980) (discussing brine); *Jones v. Oz-Ark-Val Poultry Co.*, 228 Ark. 76, 79, 306 S.W.2d 111, 113 (1957) (discussing water).

6. See, e.g., *Hill v. Sw. Energy Co.*, No. 4:12-cv-500-DPM, 2013 WL 5423847 (E.D. Ark. Sept. 26, 2013) (involving injection of exploration and production wastes into disposal wells); *Coastal Oil & Gas Corp. v. Garza Energy Trust*, 268 S.W.3d 1 (Tex. 2008) (addressing hydraulic fracturing fissures that crossed boundary lines).

7. For more on this subject, see David E. Pierce, *Carol Rose Comes to the Oil Patch: Modern Property Analysis Applied to Modern Reservoir Problems*, 19 PENN ST. ENVTL. L. REV. 241, 259-64 (2011) [hereinafter Pierce, *Carol Rose Comes to the Oil Patch*] (applying correlative rights concepts to hydraulic fracturing fissures that cross boundary lines); David E. Pierce, *Developing a Common Law of Hydraulic Fracturing*, 72 U. PITT. L. REV. 685, 693-95 (2011) [hereinafter Pierce, *Developing a Common Law of Hydraulic Fracturing*] (proposing a “reservoir community analysis” to resolve intra-reservoir hydraulic fracturing disputes).

8. In *Osborn v. Arkansas Territorial Oil & Gas Co.*, a 1912 case decided by the Arkansas Supreme Court, the court stated, “the owner of the surface is the owner of the gas beneath it.” 103 Ark. 175, 179, 146 S.W. 122, 124 (1912). The court continued, “[u]ntil severed from the realty, it is as much a part of it as coal or stone, and, so long as it remains under the ground, it is treated as a part of the realty itself under the surface of which it lies.” *Id.*

9. See, e.g., *id.* (“It is found in the land, but has the power to escape without the volition of the owner of the land. It has, however, been well settled, we think, that natural gas is a mineral, and while in place in any particular land it is part of the land itself.”).

the land of another.<sup>10</sup> The rule of capture created a legal incentive to overdevelop a common reservoir and thus waste the underlying oil and gas.<sup>11</sup> Producing states responded by enacting “conservation” laws to control the wasteful development practices caused by the rule of capture.

### III. CORRELATIVE RIGHTS UNDER THE OIL AND GAS CONSERVATION ACTS

#### A. Correlative Rights as a Legislative Foundation

Legislators initially used correlative rights to justify conservation regulation.<sup>12</sup> If the private rights of one landowner were limited to protect the private rights of another, then conservation regulation had a protection-of-private-property basis, as opposed to a pure public-rights basis.<sup>13</sup> If unrestrained capture rights were limited to protect the property rights of the owner being restrained, it seemed less intrusive than limiting private rights for a more nebulous public good, such as the prevention of “waste.”<sup>14</sup> Gradually, courts became more confident relying upon the public-rights basis for conservation

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10. In defining the Arkansas ownership-in-place rule for gas, the Arkansas Supreme Court in *Osborn* noted the rule applied to gas “while in place . . . as long as it remains in the particular tract of land.” *Id.* In *Budd v. Ethyl Corp.*, the court recognized the adoption of the “law of capture” in *Osborn* when it quoted with approval the following:

Petroleum, gas and oil are substances of a peculiar character. . . . They belong to the owner of land, and are part of it so long as they are part of it or in it or subject to his control; but when they escape and go into other land or come under another’s control, the title of the former owner is gone. If an adjoining owner drills his own land and taps a deposit of oil or gas extending under his neighbor’s field, so that it comes into his well, it becomes his property.

251 Ark. 639, 640-41, 474 S.W.2d 411, 412 (1971) (omission in original) (quoting *Osborn*, 103 Ark. at 179-80, 146 S.W. at 124) (internal quotation marks omitted).

11. ROBERT E. SULLIVAN, HANDBOOK OF OIL AND GAS LAW 259 (1955).

12. *See Ohio Oil Co. v. Indiana*, 177 U.S. 190, 210 (1900) (upholding challenged statute “protecting private property and preventing it from being taken by one of the common owners without regard to the enjoyment of the others”).

13. *See Bandini Petroleum Co. v. Superior Court, L.A. Cnty., Cal.*, 284 U.S. 8, 20-21 (1931) (“The District Court of Appeal apparently thought it doubtful whether the State might restrict or regulate the production of oil or gas ‘on the theory of the public’s interest in their natural resources’ . . .”).

14. *See id.* at 22 (“If the statute be viewed as one regulating the exercise of the correlative rights of surface owners with respect to a common source of supply of oil and gas, the conclusion that the statute is valid upon its face . . . is fully supported by the decisions of this Court.”).

regulation and the correlative-rights justification fell into disuse.<sup>15</sup>

### B. Correlative Rights as a Limit on Discriminatory Regulation

The private-property, correlative-rights concept found a new role under state conservation acts by requiring that regulatory action limiting an owner's capture rights be administered in a non-discriminatory manner. When an owner enjoyed unrestrained capture rights, he could protect his property using the rule of capture. However, once self-help capture rights are restricted, the restraining agency must ensure all owners within the reservoir are treated fairly.<sup>16</sup>

### C. Statutory Correlative Rights in Arkansas

Consistent with the private-rights rationale for conservation regulation, early Arkansas conservation statutes sought to protect the correlative rights of natural gas owners by limiting the rule of capture to develop oil. For example, the 1923 Conservation Act focused on the prevention of "waste," but the term was defined to include common oil-production activities that resulted in the waste of natural gas.<sup>17</sup> All of the state's conservation legislation prior to 1939 focused primarily on limiting the destruction of gas when producing oil.<sup>18</sup>

With the 1939 Conservation Act, the Arkansas General Assembly broadened the focus to include the waste of oil as well as gas. The Act also sought to restrain the "[a]buse of the correlative rights" in "oil and gas in a common reservoir."<sup>19</sup> However, legislators limited this "abuse" to "non-uniform, disproportionate, and unratable withdrawals causing undue

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15. See, e.g., *Champlin Ref. Co. v. Corp. Comm'n of Okla.*, 286 U.S. 210, 233-34 (1932) (upholding a proration order on public right to prevent waste).

16. See, e.g., *Cornelius v. Ark. Oil & Gas Comm'n*, 240 Ark. 791, 793, 402 S.W.2d 402, 404 (1966) (reversing the Commission's refusal to either grant a drilling permit or add the applicant's land to the existing McKamie-Patton Pool).

17. See Act 664, § 2, 1923 Ark. Acts 555, 557.

18. The pre-1939 conservation acts are collected in *THE OIL AND GAS CONSERVATION STATUTES* 33-47 (Northcutt Ely ed., 1933).

19. Act 105, § 9, 1939 Ark. Acts 219, 224 (codified at ARK. CODE ANN. § 15-72-102(15)(C) (Repl. 2009)).

drainage between tracts of land.”<sup>20</sup> No attempt was made to define the relative rights of owners within the reservoir, other than their non-discriminatory access to marketing facilities after the oil or gas was extracted. This correlative rights language in the 1939 Conservation Act has remained unchanged since its enactment.<sup>21</sup> To date, Arkansas’s sole correlative-rights focus has been on “prohibiting waste and compelling ratable production.”<sup>22</sup>

#### IV. ARKANSAS’S LIMITED COMMON LAW OF CORRELATIVE RIGHTS

##### A. Oil and Gas

Correlative rights in oil and gas remain unexplored in Arkansas. Courts have been unwilling to venture beyond the authority provided by the Arkansas General Assembly.<sup>23</sup> As Thomas Daily has noted, “*correlative rights* are not common law rights; they are one hundred percent statutory.”<sup>24</sup> Another commentator has suggested Arkansas might recognize a cause of action for reservoir damage that significantly impairs the capture rights of other owners.<sup>25</sup> However, the one series of cases where correlative rights issues have been addressed are the “brine cases.”

##### B. Brine

The Arkansas brine cases offer a useful foundation for a correlative rights analysis that can be applied to oil, gas, and other reservoir environments. These cases all concerned the relative rights of owners in a reservoir where one party obtained a substantial block of acreage and invested in a brine-bromine

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20. § 9, 1939 Ark. Acts at 224 (codified at ARK. CODE ANN. § 15-72-102(15)(C) (Repl. 2009)).

21. See ARK. CODE ANN. § 15-72-102(15)(C) (Repl. 2009).

22. See ARK. CODE ANN. § 15-72-101 (Repl. 2009) (“Declaration of policy”).

23. See *Dobson v. Ark. Oil & Gas Comm’n*, 218 Ark. 160, 164-65, 235 S.W.2d 33, 36 (1950) (“It is true that [the Conservation Act] sweepingly prohibits the waste of oil or gas, but it does not follow that the General Assembly has thereby undertaken to delegate to the Commission the power to impose any means of waste prevention that it may choose.”).

24. Daily, *supra* note 4, at 12.

25. Susan Webber Wright, *The Arkansas Law of Oil and Gas*, 9 U. ARK. LITTLE ROCK L.J. 223, 234-35 (1987) (noting Arkansas courts would likely recognize a limitation on the rule of capture similar to that imposed by the Texas Supreme Court in *Elliff v. Texon Drilling Co.*).

production operation.<sup>26</sup> This process involves the production of a bromine-rich brine solution, processing the brine to remove the bromine, and re-injecting the spent brine back into the reservoir to displace more bromine-rich brine toward extraction wells.<sup>27</sup> The disputes concerned owners of portions of the reservoir, either outside the brine production area or within the production area. The complaints of reservoir owners included the intrusion of re-injected, de-mineralized brine into the reservoir beneath their land and the displacement of valuable mineralized brine.

### 1. Budd v. Ethyl Corp.

In the first case to address the brine issues, *Budd v. Ethyl Corp.*,<sup>28</sup> the cause of action was not trespass, but rather for an accounting.<sup>29</sup> The plaintiff landowner did not want to enjoin the defendant's activity; rather, he wanted to share in "his proportionate share of the profits accruing from the recycling process."<sup>30</sup> The first claim was for drainage of a 240-acre tract outside, but adjacent to, a 16,000-acre development block.<sup>31</sup> As to this tract, which was located beyond the outer circle of injection wells, the court held the law of capture applied.<sup>32</sup> The second claim was for drainage of a forty-acre tract within the circle of injection wells.<sup>33</sup> The court avoided addressing the drainage issue because the plaintiff owned a fractional *leasehold* interest which, unlike the fractional *mineral* interest he held in the 240-acre tract, gave the plaintiff no present right in the oil and gas beneath the forty-acre tract.<sup>34</sup> The court, however, observed that if the plaintiff had owned a mineral interest, the situation may have been similar to that of a cotenant who drills a

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26. For example, in *Jameson v. Ethyl Corp.*, the developer operated 15,000 acres in the Kerlin Brine Field. 271 Ark. 621, 622, 609 S.W.2d 346, 347 (1980). In *Young v. Ethyl Corp.*, the developer had "mineral leases on approximately 16,000 acres of land overlying the 'Smackover Limestone Formation.'" 521 F.2d 771, 772 (8th Cir. 1975).

27. A federal district court described the development process in *Deltic Timber Corp. v. Great Lakes Chemical Corp.* See 2 F. Supp. 2d 1192, 1194 (W.D. Ark. 1998).

28. 251 Ark. 639, 474 S.W.2d 411 (1971).

29. *Id.* at 640, 474 S.W.2d at 412.

30. *Id.*

31. *Id.*

32. *Id.* at 641, 474 S.W.2d at 412-13.

33. *Budd*, 251 Ark. at 641, 474 S.W.2d at 413.

34. *Id.* at 641-43, 474 S.W.2d at 413. Arguably, a leasehold interest should nevertheless confer on the lessee correlative rights to protect his capture rights.

well without the consent of his fellow cotenant, stating that in such a scenario, “accountability seems to be the rule.”<sup>35</sup>

## 2. Young v. Ethyl Corp.

The rights of a mineral owner within the circle of injection wells referred to in *Budd* was addressed by the Eighth Circuit Court of Appeals in *Young v. Ethyl Corp.*<sup>36</sup> The plaintiff mineral owner’s 180-acre tract was surrounded by a 16,000-acre area leased by the defendant developer in the Smackover Limestone Formation.<sup>37</sup> A lower court, relying on *Budd*, held the rule of capture protected the developer.<sup>38</sup> A three-judge appellate panel reversed, holding *Budd* did not address the situation where the developer “by force, pushes minerals out from under the land of another when the minerals would remain in place without the application of such force.”<sup>39</sup> The court also made the following observation: “[T]he common law rule of capture is not a license to plunder. Rather, it has an important corollary in the doctrine of ‘correlative rights.’”<sup>40</sup> The context in which the court used the term “corollary” suggests the court viewed the doctrine of correlative rights as a limitation on the rule of capture. But the court held the correlative rights limitation only applied when the rule of capture did as well.

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35. *Id.* at 642, 474 S.W.2d at 413. Although the court used the term “trespass” in the same sentence as cotenant development, a cotenant that drills a well on jointly owned land is not a trespasser. *See Fife v. Thompson*, 288 Ark. 620, 621, 708 S.W.2d 611, 611-12 (1986). A cotenant has a non-exclusive right to possession that entitles him to enter the land and develop its mineral potential. *Id.* at 622, 708 S.W.2d at 612. The wrong is not the cotenant’s presence and development, but rather his failure or refusal to account to the other cotenants for their proportionate share of any net profits that may accrue once the reasonable costs of development are fully recovered. *Id.* at 621, 708 S.W.2d at 611-12.

36. 521 F.2d 771 (8th Cir. 1975).

37. *Id.* at 772.

38. *See Young v. Ethyl Corp.*, 382 F. Supp. 769, 774 (W.D. Ark. 1974).

39. *Young*, 521 F.2d at 772.

40. *Id.* at 774. The court then quoted the following from a leading treatise on oil and gas:

The term “correlative rights” is merely a convenient method of indicating that each owner of land in a common source of supply of oil and gas has legal privileges as against other owners of land therein to take oil and gas therefrom by lawful operations conducted on his own land limited, however, by duties to other owners not to injure the source of supply and by duties not to take an undue proportion of the oil and gas.

*Id.* at 774-75 n.9 (quoting 1 W.L. SUMMERS, THE LAW OF OIL AND GAS 180-81 (perm. ed. 1954)).

The court described the correlative rights doctrine as consisting of two duties: (1) a duty not to injure the source of supply; and (2) a duty not to take an undue proportion of the oil and gas from the common pool.<sup>41</sup> The court also noted that taking an undue proportion of the oil and gas from the common pool violates the statute prohibiting an abuse of correlative rights through “withdrawals causing undue drainage between tracts of land.”<sup>42</sup> The court, however, made a fundamental error by finding that correlative rights issues need be addressed only once the rule of capture is held to apply to the situation. The court stated, “the Supreme Court of Arkansas would not apply the rule of capture to this situation and, hence, would not need to proceed to the alternative question of correlative rights.”<sup>43</sup> The court ultimately ruled the developer’s bromine recovery operation “constitute[d] an actionable trespass.”<sup>44</sup>

In *Young*, the court took an all-or-nothing approach to the issues. Since the rule of capture did not apply, the defendant committed a trespass. By limiting correlative rights to a subset of capture principles, the court eliminated the one analysis that could effectively deal with the all-or-nothing approach it created. Interestingly, without addressing the *Young* court’s defective correlative rights analysis, the Arkansas Supreme Court later adopted a position that tempered its capture-trespass analysis.

### 3. Jameson v. Ethyl Corp.

*Jameson v. Ethyl Corp.*<sup>45</sup> concerned the Kerlin Brine Field, the Smackover Formation, and a tract of unleased land surrounded by a developer’s injection wells that injected spent brine to produce bromine-rich brine.<sup>46</sup> After years of negotiation over a proposed lease, the developer sought a court order declaring its extraction process lawful under the rule of capture, but the landowner argued the injection process was “a

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41. *Id.* at 774-75.

42. *See id.* at 775 (quoting ARK. STAT. ANN. § 53-109(I)(3) (1947) (current version at ARK. CODE ANN. § 15-72-102(15)(C) (Repl. 2009))).

43. *Id.*

44. *Young*, 521 F.2d at 775.

45. 271 Ark. 621, 609 S.W.2d 346 (1980).

46. *Id.* at 622, 609 S.W.2d at 347.



trespass or private nuisance.”<sup>47</sup> The court wisely noted the practical impact of each party’s theory.<sup>48</sup> If a landowners could assert a trespass for injected material impacting the ninety-five acres of the reservoir, it would give them undue control over the remaining 15,000-acre portion of the reservoir.<sup>49</sup> On the other hand, if the developer could use injected material to remove valuable substances from the ninety-five acres without any liability, then the rights of the landowners in the ninety-five acres would be taken because, as a practical matter, they did not have the ability to “go and do likewise.”<sup>50</sup>

Rejecting the positions of both parties, the court held the conduct was not a trespass; nor was it protected by the rule of capture.<sup>51</sup> Instead, the developer could pursue its operations when “carried out in good faith for the purpose of maximizing recovery from a common pool.”<sup>52</sup> However, the tradeoff for the exemption from a trespass claim is “an obligation on the extracting party to compensate the owner of the depleted lands for the minerals extracted in excess of natural depletion, if any, at the time of taking and for any special damages which may have been caused to the depleted property.”<sup>53</sup> This illustrates an application of a basic correlative rights analysis. Both parties had interests within the reservoir, and because of its connected nature, neither party could exist in isolation of the other

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47. *Id.* at 622-23, 609 S.W.2d at 347-48.

48. *See id.* at 628-29, 609 S.W.2d at 351.

49. *See id.* at 628, 609 S.W.2d at 351 (“A determination that a trespass or nuisance occurs through secondary recovery processes within a recovery area would tend to promote waste of such natural resources and extend unwarranted bargaining power to minority landowners.” (emphasis added)).

50. The “go and do likewise” response is the self-help, protective side of the rule of capture. If a landowner drills a well on his land that can impact surrounding lands, the only remedy of the surrounding landowners is to drill a well to “protect” their oil and gas. The *Jameson* court stated this proposition as follows:

On the other hand, a determination that the rule of capture should be expanded to cover the present situation could unnecessarily extend the license of mineral extraction companies to appropriate minerals which might be induced to be moved from other properties through such processes and, in any event, further extend the bargaining power of such entities to reduce royalty payments to landowners who are financially unable to “go and do likewise” as suggested by Ethyl.

*Jameson*, 271 Ark. at 628-29, 609 S.W.2d at 351.

51. *See id.* at 629, 609 S.W.2d at 351.

52. *Id.*

53. *Id.*

reservoir owners.<sup>54</sup> Therefore, if a developer's conduct is conducive to maximizing the economic value of the reservoir and will not damage the reservoir to the detriment of all reservoir owners, it will not be a trespass as to other reservoir owners. This is what the court generically referred to as operations "carried out in good faith for the purpose of maximizing recovery from a common pool."<sup>55</sup>

The compensation required by the court, although appropriate on the facts in *Jameson*, may not be required in all cases. For example, consistent with the *Jameson* compensation analysis, no compensation should be due in three circumstances: (1) where there is no economic loss to the reservoir owner; (2) where the reservoir owner has, in reality, the ability to "go and do likewise"; or (3) where the conduct of the developer benefits the general reservoir community and the general public.

#### 4. Deltic Timber Corp. v. Great Lakes Chemical Corp.

*Deltic Timber Corp. v. Great Lakes Chemical Corp.*<sup>56</sup> addressed the "good faith" element of the *Jameson* analysis where the developer had the statutory authority to unitize the development area.<sup>57</sup> A federal district court, applying Arkansas law, found "good faith" as to lands outside the area of operations.<sup>58</sup> When operations were expanded to include adjacent lands, the developer sought leases from all impacted landowners.<sup>59</sup> However, when the developer was unable to obtain leases on favorable terms, it did not seek to avail itself of the statutory unitization procedure.<sup>60</sup> The court held this constituted bad faith.<sup>61</sup> The difference between the developer's good faith and bad faith actions were reflected in the measure of damages, which sought to discourage developers from failing to "leas[e] brine rights, unitiz[e] the lands, or otherwise provid[e]

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54. The court in *Jameson* noted that it was "not commercially feasible under the circumstances" to "seal off" or "isolate" the ninety-five-acre portion of the reservoir from the remaining 15,000 acres. *Id.* at 625, 609 S.W.2d at 349.

55. *Jameson*, 271 Ark. at 629, 609 S.W.2d at 351.

56. 2 F. Supp. 2d 1192 (W.D. Ark. 1998).

57. *See id.* at 1195 ("The case at hand is the first to include allegations that a Plaintiff's brine rights were affected subsequent to the enactment of Act 937 of 1979.")

58. *Id.* at 1199.

59. *Id.*

60. *Id.*

61. *See Deltic Timber Corp.*, 2 F. Supp. 2d at 1199.

the [impacted landowners] with any of the economic reward bestowed upon [the developer] as a result of its expanded operations.”<sup>62</sup>

The four brine cases, particularly *Jameson*, provide the rudimentary elements of a workable correlative rights analysis. Next, consider how the correlative rights doctrine has developed in Arkansas regarding fresh water.

### C. Water

The Arkansas water cases embrace a common law correlative rights doctrine based upon private property rights and obligations. In *Harris v. Brooks*,<sup>63</sup> the Arkansas Supreme Court adopted a reasonable use theory to define rights in surface water.<sup>64</sup> The court observed, “[t]he use of the stream or water by each proprietor is . . . limited to what is reasonable, having due regard for the rights of others above, below, or on the opposite shore.”<sup>65</sup> The *Harris* opinion focused on permissible “use” of the stream. The rights of a riparian owner were as follows:

In general, the special rights of a riparian owner are such as are necessary for the use and enjoyment of his abutting property and the business lawfully conducted thereon, qualified only by the correlative rights of other riparian owners, and by certain rights of the public, and they are to be so exercised as not to injure others in the enjoyment of their rights.<sup>66</sup>

This same statement could be applied to an oil and gas reservoir, or to any connected rock structure.

The Arkansas Supreme Court extended the reasonable use theory to subsurface waters in *Jones v. Oz-Ark-Val Poultry Co.*<sup>67</sup> The court adopted correlative rights as the guiding principle to define reasonable use, noting that “the right of a landowner to appropriate percolating water in his own land is limited by the corresponding right of his neighbor, and extends only to a reasonable exercise of such right; or, as said by the court, the

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62. *See id.* at 1203.

63. 225 Ark. 436, 283 S.W.2d 129 (1955).

64. *Id.* at 443, 283 S.W.2d at 133.

65. *Id.*

66. *Id.*

67. 228 Ark. 76, 306 S.W.2d 111 (1957).

rights are correlative.”<sup>68</sup> The foundation for the correlative rights principle is the connected nature of the resource: “Where two or more persons own different tracts of land, underlaid by porous material extending to and communicating with them all, which is saturated with water moving with more or less freedom therein, each has a common and correlative right to the use of this water.”<sup>69</sup>

These principles also provide a foundation for a common law correlative rights analysis for oil and gas in Arkansas. Like oil and gas, rights in water are initially defined by land ownership. However, the nature of ownership in water, as with oil and gas, is qualified because it is found in a connected environment that prevents any owner from segregating his part of the reservoir that contains the water, or the oil and gas. This means the right to do what an owner pleases on his own land is restricted, but at the same time he has rights in the entire reservoir that can impact his portion. The rights are correlative.

## V. THE NEED FOR A CORRELATIVE RIGHTS ANALYSIS TO ADDRESS CONTEMPORARY RESERVOIR DISPUTES

### A. The Need: Defining Rights to Allow Full Use of Connected Rock Structures

The need to better define rights in a connected rock structure arises from increasing demand by owners to use the reservoir, coupled with better knowledge about what is happening in the reservoir. These two events bring the “unseen” in a collision course with the *ad coelum* doctrine. Any use that impacts the reservoir beyond the extended surface boundaries will immediately be met with trespass or nuisance claims.<sup>70</sup>

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68. *Id.* at 80-81, 306 S.W.2d at 114 (quoting Annotation, *Subterranean and Percolating Waters*, 55 A.L.R. 1385, 1399 (1928)) (internal quotation marks omitted).

69. *Id.* at 81, 306 S.W.2d at 115 (quoting *Hudson v. Dailey*, 105 P. 748, 752 (Cal. 1909)) (internal quotation marks omitted).

70. The brine cases demonstrate the predictable response when a landowner causes something to enter another owner’s property without consent. The immediate response is a claim of trespass. However, as the brine cases also demonstrate, not every non-consensual entry onto another owner’s property constitutes a trespass. Even an entry that results in the removal of valuable substances from the property may not, in the reservoir context, be a trespass. See *Jameson v. Ethyl Corp.*, 271 Ark. 621, 629, 609 S.W.2d 346, 351 (1980) (rejecting the trespass theory in developing remedy for secondary recovery operations that

Any use that impacts the reservoir by negatively altering the status quo of other owners will be met with demands for damages or injunctive relief. The party using the reservoir will typically rely upon some form of capture-based theory to avoid liability. However, both parties and courts resolving such disputes fail to address the real issue, which is one of ownership. What is the precise property interest of each owner in a connected rock structure when it extends beneath several separately owned tracts of land? The answer is provided by a reservoir community analysis, which defines the correlative rights of owners in any connected rock structure.<sup>71</sup>

### B. Defining Correlative Rights: A Reservoir Community Analysis

Although the foundation for a reservoir community analysis is simple, it is uniformly ignored by litigants and, therefore, by the courts.<sup>72</sup> Hopefully, once the undeniable factual basis and utility of the analysis are recognized, litigants and courts will employ them to ask and answer the real questions that should define whether a particular reservoir use is acceptable. The undeniable factual basis is simple—reservoirs consist of rock structures that are connected in such a way that activity undertaken within one portion of the reservoir can impact portions of the reservoir located outside the bounds of a single landowner's property. The varying degree of

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removed valuable brine from beneath unleashed owner's portion of reservoir underlying his land).

71. See Pierce, *Carol Rose Comes to the Oil Patch*, *supra* note 7, at 259-64 (applying correlative rights concepts to hydraulic fracturing fissures that cross boundary lines); Pierce, *Developing a Common Law of Hydraulic Fracturing*, *supra* note 7, 693-95 (proposing a "reservoir community analysis" to resolve intra-reservoir hydraulic fracturing disputes).

72. In addition to the first brine cases in Arkansas, other courts have failed to consider correlative rights when addressing reservoir conflicts uniquely suited for a reservoir community analysis. Predictably, their analyses began, and ended, with a comparison of the rule of capture and trespass approaches. Unlike in *Jameson*, where the Arkansas Supreme Court ultimately adopted a form of correlative rights analysis, the Texas Supreme Court relied on the rule of capture, and a federal district court in West Virginia relied on trespass. Compare *Coastal Oil & Gas Corp. v. Garza Energy Trust*, 268 S.W.3d 1, 4 (Tex. 2008) (using forms of action and the rule of capture to avoid addressing whether a frac fissure sent across a reservoir boundary line constituted a trespass), with *Stone v. Chesapeake Appalachia, LLC*, No. 5:12-CV-102, 2013 WL 2097397, at \*8 (N.D. W.Va. Apr. 10, 2013) (holding a frac fissure sent across a reservoir boundary line constituted a trespass), *vacated*, 2013 WL 7863861 (N.D. W.Va. July 20, 2013).

connectivity and other reservoir conditions all factor into the analysis. The triggering event, however, is some level of connectivity such that it is neither possible, practical, nor desirable to confine operations to any single portion of the reservoir defined by surface boundaries.

Therefore, and most importantly, no single owner in the reservoir can legitimately claim exclusive control over an identifiable portion of the reservoir. This means each owner will always have some collective rights that are shared with others in a reservoir community. Defining these collective rights is the proper function of the correlative rights doctrine, and the tool for conceptualizing correlative rights is the reservoir community analysis.

Consider how effectively a reservoir community analysis could be applied to resolve conflicts regarding hydraulic fracturing. The problem litigated to date concerns frac fissures that travel beyond one tract of land, across reservoir boundaries, and into adjacent tracts. The frac fissures are designed to improve the drainage of oil and gas from the reservoir where they are made. Although such activity on the surface of land would be met with immediate claims of trespass, that will often not be the case in a subsurface reservoir. For example, in *Coastal Oil & Gas Corp. v. Garza Energy Trust*,<sup>73</sup> it was undisputed that the reservoir at issue would have been worthless to its owners without hydraulic fracturing.<sup>74</sup> The court also noted that to effectively frac a well at a lawful location it would, of necessity or by prudent design, send fissures across the reservoir boundary.<sup>75</sup>

In determining a landowner's right to be free from any invading frac fissures in its portion of the reservoir, the landowner's true "ownership" rights must be defined. First, the landowner's part of the reservoir is interconnected to other parts of the reservoir—he owns nothing in complete isolation from the reservoir as a whole. Second, because of the interconnectedness, the landowner has rights to use parts of the reservoir that lie beyond his reservoir boundaries. Similarly, other reservoir owners have reciprocal rights to use the landowner's part of the reservoir. These rights could even be

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73. 268 S.W.3d 1 (Tex. 2008).

74. *See id.* at 6.

75. *See id.* at 16.

phrased in the more common “reasonable use” language.<sup>76</sup> Once each party’s collective ownership is properly defined, courts can focus on the real issue: Is the conduct something that is appropriate—a “reasonable use”—for this particular reservoir community? And, if so, how will the rights facilitate full and proper development of the reservoir resources? These are the sorts of questions the Arkansas Supreme Court asked in *Jameson* once it recognized the true nature of the unleased landowner’s “ownership” in the brine reservoir.<sup>77</sup>

In *Jameson*, the court found it necessary to require compensation of the unleased landowners impacted by the permitted secondary recovery operations.<sup>78</sup> That will not, however, be required in every case. For example, in the hydraulic fracturing situation, the adjacent landowner may be unable to prove drainage, or to prove drainage beyond what would have occurred naturally. Also, the adjacent landowner may have the self-help remedy the court found lacking or impractical in *Jameson*—the right to “go and do likewise” by exercising their mutual right to conduct hydraulic fracturing.<sup>79</sup>

### C. Applying the Analysis: *Hill v. Southwestern Energy Co.*

To demonstrate how a reservoir community analysis works, consider *Hill v. Southwestern Energy Co.*,<sup>80</sup> a dispute currently being litigated in an Arkansas federal district court. The case does not concern oil and gas development, but it does involve the use of a connected rock structure for disposal of water used in oil and gas development.<sup>81</sup> The defendant developers

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76. “Reasonable use” offers consistency with the correlative rights concepts and a severed mineral interest owner’s right to make reasonable use of the burdened land to develop its mineral potential. See *Diamond Shamrock Corp. v. Phillips*, 256 Ark. 886, 891, 511 S.W.2d 160, 163 (1974) (discussing the severed mineral owner’s right to make reasonable use of the surface); *Jones v. Oz-Ark-Val Poultry Co.*, 228 Ark. 76, 79, 306 S.W.2d 111, 113-14 (1957) (applying the reasonable use doctrine to subsurface waters).

77. See *Jameson v. Ethyl Corp.*, 271 Ark. 621, 628-29, 609 S.W.2d 346, 351 (1980) (rejecting the rule of capture and trespass to define ownership rights, allowing a brine developer to conduct secondary operations without the consent of all reservoir owners, and recognizing an obligation to compensate unleased owners for the proportionate benefit obtained).

78. *Id.* at 629, 609 S.W.2d at 351.

79. *Id.* at 628-29, 609 S.W.2d at 351.

80. No. 4:12-cv-500-DPM, 2013 WL 5423847 (E.D. Ark. Sept. 26, 2013).

81. *Id.* at \*1. The injected material at issue is water produced from oil and gas wells, including flow-back fluids associated with hydraulic fracturing.

obtained injection well permits from the state, and apparently all operations complied with the issued permits.<sup>82</sup> The essence of the plaintiffs' complaint is that the operators of the wells injected a volume of fluid such that fluids migrated beyond the land leased for the purpose of drilling injection wells and into the plaintiffs' portion of the reservoir.<sup>83</sup> Although the complaint contains a laundry list of alleged wrongs, including a RICO claim, all depend upon whether the migrating injected fluids constitute a trespass.<sup>84</sup>

In an order rejecting dismissal of the plaintiffs' trespass claim, the court used a classic surface trespass analysis. United States District Judge D.P. Marshall framed the issue as follows: "Whether *ad coleum* [sic] remains the law in Arkansas, as plaintiffs argue, or the governing rule requires actual interference with some reasonable and foreseeable use, as the gas companies contend, the answer is the same at this point in this case."<sup>85</sup> Judge Marshall concluded: "Plaintiffs have stated a claim. The essence of real property ownership is the right to use and enjoy it, excluding others if the owner so chooses."<sup>86</sup> The problem with a reservoir environment is that the right to exclude others is not absolute; rather, it is significantly qualified. Legitimate uses of the reservoir that defy property lines exist because individual ownership is as a member of the reservoir community. The only function of boundaries is to define membership in the reservoir community. Once membership is established, rights to impact and use the reservoir will be evaluated using a reservoir community analysis.

Applying the proper analysis to the *Hill* case requires that the parties first acknowledge the connected nature of the reservoir. There presently appears to be no dispute on that point.<sup>87</sup> Second, the relevant geophysical aspects of the reservoir should be identified. For example, the complaint does

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82. *See id.*

83. *Id.* ("The plaintiffs say the waste fluid injected in several disposal wells has exceeded the storage capacity of the subsurface strata beneath the wells and migrated to their property.").

84. Despite dismissing most of the plaintiffs' causes of action, the court refused to dismiss the plaintiffs' trespass and unjust enrichment claims. *Id.* at \*4.

85. *Hill*, 2013 WL 5423847, at \*4 (footnote omitted).

86. *Id.*

87. *See id.* at \*1. Although there are issues of proof regarding migration, there is no dispute that the parties owned an interest in the reservoir where the injection took place.



not claim the use of the reservoir will damage valuable substances, such as oil or gas. Apparently the reservoir is valuable for waste disposal. Third, the situation of the parties must be evaluated. The operators of the injection wells obtained a permit to inject waste on the land they leased for that purpose. According to the court, “[e]ach of the plaintiffs lives a mile or more away from at least one disposal well.”<sup>88</sup> In essence, the plaintiffs contend anyone desiring to use this reservoir for waste disposal needs to obtain the consent of an unknown number of people, even those who live “a mile or more away” from the disposal well.<sup>89</sup> The practical effect of this requirement means the reservoir will, in all likelihood, remain an unused, worthless asset. Is that consistent with what the reservoir community would consider proper “use” of this connected rock structure that is apparently good for one thing—waste disposal? I think not.

Under a *Jameson* correlative rights analysis, the court would probably view any sort of trespass claim as giving the complaining owners in the reservoir “unwarranted bargaining power” resulting in a waste of otherwise valuable reservoir space. On the other side of the equation, note the other landowners in *Hill* have the opportunity to “go and so likewise.” They too could use the space beneath their land, and within the reservoir, for disposal purposes. Whether they do, or not, is their decision. They are not compelled to do anything, but nor should they have the ability to veto the actions of those who chose to invest and make use of the reservoir space. Therefore, under *Jameson*, no offsetting compensation should be due to any other member of the reservoir community. Use of the reservoir is consistent with reservoir community norms, as is a refusal to compensate those who may be incidentally impacted but choose not to develop the resource for their own benefit.

## VI. CONCLUSION

In *Jameson v. Ethyl Corp.*, the Arkansas Supreme Court set the stage for a common law of correlative rights applicable to oil and gas development and all manner of disputes concerning a connected body of rock. *Hill v. Southwestern Energy Co.*

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88. *Id.*

89. *See id.*

presents an opportunity to fully define what owners “own” in a common reservoir and the activities that the reservoir community deems acceptable when undertaken by members of the community.