THE FUTURE OF CLAIMS ARISING FROM ALLEGED DAMAGE TO OIL AND GAS RESERVOIRS AFTER *HAYES FUND*

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I. INTRODUCTION

The past decade has seen the development of a new type of landowner lawsuit. Landowners and mineral interest owners in Louisiana have asserted claims against oil and gas well operators seeking recovery of damages for alleged destruction of hydrocarbon reservoirs due to improper operation during exploration or production. Not surprisingly, these claims have arisen in the context of wells or fields that have produced most of their estimated reserves or have experienced a decline in or cessation of production. To date, the majority of the claims that

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progressed to litigation settled before trial.[1] The only published decision, *Hayes Fund et al. v. Kerr-McGee et al*., went all the way up to the Louisiana Supreme Court (via the Louisiana Third Circuit Court of Appeal), where the trial court's original finding of no liability for the defendant oil companies was reinstated in December 2015.[2] The scope of the trial court ruling, however, left some of the factual and legal arguments raised by the landowners unresolved, particularly (1) how litigants can establish breach of the duty of the reasonably prudent operator standard in these types of cases, and (2) how to prove damage to a reservoir, as opposed to an individual well.

II. LIABILITY BASED UPON BREACH OF THE DUTY TO ACT AS A REASONABLY PRUDENT OPERATOR

Although oil and gas exploration in Louisiana has existed for over a century, the case law on claims for damage to, or destruction of, a reservoir was practically non-existent before *Hayes Fund*. There are several reasons why. First, landowners had the expectation, founded in the commercial realities of the time, that if oil was present under their property, someone would drill a well, or subsequent wells, and exploit the minerals until the wells or reservoir dried up. As long as this cycle continued, and they received uninterrupted royalty payments, landowners had little incentive in scrutinizing the drilling, completion, or production operations or second-guessing oil companies on the manner or extent of production.

Second, almost everyone involved recognized that oil and gas drilling was a risky venture. Because of this, a leasing structure evolved where the landowner bore very little risk, and the operator bore a substantial risk, if the well was a dry hole or if

1. *See, e.g.*, Rainbow Gun Club, Inc., et al. v. Denbury Res., Inc., et al., Docket No. 1019147, 38th Judicial District Court, Cameron Parish, Louisiana (settling as to all but one defendant in June 2016 with a judgment rendered against the non-settling defendant on October 17, 2016) (amended judgment entered on June 9, 2017), *aff'd*, 2017-997 (La. App. 3 Cir. 5/23/18); Montet, et al. v. Edge Petroleum Corp. of Tex., Docket No. 80408-G, 15th Judicial District Court, Vermilion Parish, Louisiana, *consolidated with* Broussard, et al. v. Edge Petroleum Corp. of Tex., et al., Docket No. 80474-L, 15th Judicial District Court, Vermilion Parish, Louisiana (filed 2003); Parker v. Parr Minerals, Docket No. C-494-10, 31st Judicial District Court, Jefferson Davis Parish, Louisiana (filed 2010); Coignet et al. v. Stone Energy Corp., Docket No. C-110741, 17th Judicial District Court, Lafourche Parish, Louisiana (filed 2008).

2. Hayes Fund, et al. v. Kerr-McGee, et al, 2014-2592 (La. 12/08/15); 193 So. 3d 1110.

production from the well did not meet expectations. It seemed to be an acceptable tradeoff at the time—landowners and mineral interest owners took no risk and received a defined royalty payment, while the oil companies received most of the revenue and bore the risk of a dry hole as well as the costs of drilling and completion. Under this arrangement, it was in the best interest of both parties to make productive wells and ensure that reservoirs were drained efficiently.

If anything, the concern of landowners for decades was not that operators would drill or complete wells improperly, but that operators would not drill the wells soon enough or even at all. The Louisiana Mineral Code imposes express obligations upon a lessee to develop and operate a lease prudently.[3] Courts have fashioned remedies for failure to explore for hydrocarbons or permitting drainage of hydrocarbons from under the lessor's property.[4] It is less obvious, however, whether the Mineral Code provides landowners a remedy against a lessee who causes damage to an underground reservoir.

A. THE SOURCE OF THE DUTY

A central tenet of Louisiana Mineral law is the duty expressed in Louisiana Revised Statute § 31:122:

> A mineral lessee is not under a fiduciary obligation to his lessor, but he is bound to perform the contract in good faith and to develop and operate the property leased as a reasonably prudent operator for the mutual benefit of himself and his lessor. Parties may stipulate what shall constitute reasonably prudent conduct on the part of the lessee.[5]

The comments make clear that article 122 reflects a duty found in the common law implied covenant to develop a mineral property for the "mutual advantage and profit of both parties."[6] Article 122 is essentially a codification of the "reasonable,

3. LA. STAT. ANN. § 31:122 (2000) (creating the lessee's obligation to act as reasonably prudent operator) (citing Williams v. Humble Oil & Ref. Co., 290 F. Supp. 408 (E.D. La. 1968), *aff'd*, 432 F.2d 165 (5th Cir. 1970); Carter v. Ark.-La. Gas Co., 36 So. 2d 26 (La. 1948); Caddo Oil & Mining Co. v. Producers Oil Co., 64 So. 684 (1914)).

4. *See Carter,* 36 So. 2d 26 (granting partial cancellation of a lease as a remedy for violating the duty of further exploration); Breaux v. Pan Am. Petroleum Corp., 163 So. 2d 406 (La. Ct. App. 1964) (establishing that a cause of action exists for damages caused by failure to protect a leased premise from drainage).

5. LA. STAT. ANN. § 31:122 (2000).

6. LA. STAT. ANN. § 31:122 cmt. (2000).

prudent operator standard which has been consistently applied by Louisiana courts."[7] The comments describe instances where the duty to act as a reasonably prudent operator was implicated: (1) reasonable development of known productive mineral formations, including further exploration of all productive parts of a lease; (2) protection against drainage; (3) diligence in marketing; and (4) restoration of the surface after oil and gas activities have concluded.[8]

Of the foregoing instances, the one that might conceivably incorporate a duty to prevent or mitigate reservoir damage is the duty of reasonable development. While designed primarily to impose on a lessee an affirmative duty to look for hydrocarbons and reduce them to possession, the standard of reasonable development extends to "operation" as well as "development." Thus, a lessor can certainly argue that the duty of reasonable operation is breached when an operator exploits minerals in a way that permanently damages the ability to extract them.

The scope of the reasonably prudent operator duty in the context of alleged damage to a hydrocarbon reservoir, and the facts necessary to establish the breach of such a duty, were raised in *Hayes Fund* but ultimately were not resolved.[9] For the moment, then, there exists no case law to serve as a guide for courts to answer these questions.

B. WHAT IS "REASONABLE" OPERATION?

In theory, the operator has the same, or even a stronger interest, than the landowner to develop and operate wells, as this is how the operator makes a profit. The operator has a financial interest to recover its investment in a well and to make as much profit as possible. In most cases, the operator will therefore act diligently to drill and complete wells. Similarly, it should operate wells for as long as the wells continue to produce in paying quantities. Fulfilling the reasonably prudent operator duty may include the obligation to perform repair or workover to wellbores

7. LA. STAT. ANN. § 31:122 cmt. (2000).

8. *Id.*; *see also* Broussard v. Hilcorp Energy Co., 09-449 (La. 10/20/09); 24 So. 3d 813.

9. As the trial court found that the evidence did not show that any actions of defendants damaged any of the reservoirs, it pretermitted any discussion of the scope of defendants' duty, under article 122 or otherwise. Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2014-2592, p. 1 (La. 12/08/15); 193 So. 3d 1110, 1112 n.1.

over the life of the well.[10] Further, a landowner who feels that the operator has failed to fulfill this duty of reasonable development may demand specific performance of the repairs or termination of the lease on the basis that production in paying quantities no longer exists.[11]

Establishing breach of duty depends on the type of failure alleged. For example, an operator's failure to act with reasonable promptness to drill an offset well to prevent drainage by a neighboring well could be shown by a definable loss of hydrocarbons, as the parties may have access to engineering studies as to the size of the reservoir being drained and the anticipated production from the offset well. By contrast, a reservoir damage case based entirely on the loss of, or damage to, a single wellbore could pose problems, the main one being that the hydrocarbons might not be damaged or lost at all and can be recovered by the drilling of a replacement well, if economic.[12]

When a landowner claims that the operator breached the duty of reasonable development by causing damage to a formation or reservoir itself by some action or inaction during the drilling, completion, or operation of the well, something other than failure to recover 100% of the estimated reserves must be established to show a breach of duty. Article 122 does not mandate absolute perfection in the operation of a well but expresses the duty in terms of "good faith," "reasonably prudent," and "mutual benefit."[13] It expressly excludes the notion of fiduciary duty. Because the operator is not a fiduciary to the mineral interest owners of the minerals that exist below the surface of the lessor's property, it is not charged with custody of a defined quantity of minerals from the landowner or a fiduciary

10. In a case that involved the alleged breach of the duty of reasonable development, the Louisiana Second Circuit Court of Appeal noted the following useful factors to determine whether an operator had complied with the duty to act as a reasonably prudent operator: (1) geological data, (2) number and location of wells drilled, (3) productive capacity of wells, (4) cost of drilling operations compared to profits, (5) time interval between completion of the last well and the demand for additional operations, and (6) acreage involved in the disputed lease. Ferrara v. Questar Exploration & Prod. Co., 46,357 (La. App. 2 Cir. 6/29/11); 70 So. 3d 974, *rehearing denied*, *writ denied* 11-1926 (La. 11/14/11); 75 So. 3d 943.

11. LA. CIV. CODE ANN. art. 1986 (2018); LA. CIV. CODE ANN. art. 2718 (2018).

12. If the cost of drilling a replacement well is greater than the value of the predicted remaining hydrocarbons, the replacement well would be uneconomic and therefore would not be in the mutual benefit of the lessor and lessee under article 122.

13. LA. STAT. ANN. § 31:122 (2000).

duty to safeguard them at all costs.[14] Instead, the drafters of article 122 crafted a duty based on reasonableness and mutual benefit, appearing to have understood and acknowledged both the uncertainty of reducing a fugacious mineral to possession and the economics driving decisions as to how far an operator must go to extract minerals.[15]

Allied with this problem is the notion of "reasonable" development itself. Because an operator does not have an absolute duty to extract every ounce of hydrocarbons from a given reservoir, but only a duty to develop those hydrocarbons in a reasonable fashion for the mutual benefit of itself and the lessor, an economic point at which an operator may cease production efforts is assumed. The proof problem is this: a landowner who claims that the operator damaged the existing wellbore and seeks financial compensation for the permanent loss of minerals must show that a replacement well to recover the hydrocarbons would not suffice. However, by proving that it is uneconomic to drill a replacement well, a landowner may have effectively established that it is not reasonable for the operator to drill one. When a well or reservoir has reached the point that the cost of workover or replacement is greater than the expected profits of production, the well, by definition, is no longer producing in "paying quantities."

Conversely, if production in paying quantities existed at the time a wellbore was damaged, the implication is that the proper remedy for both the landowner and the operator is the drilling of a replacement well or return of the lease by the operator so that the landowner can arrange for another operator to drill a replacement well. Either way, damage to a wellbore alone would not seem to give rise to a claim for reservoir destruction.

So how does the landowner establish that (1) the reservoir or formation being produced by an existing well has been damaged (as opposed to the wellbore itself), (2) this damage was caused by the breach of the reasonably prudent operator standard, and (3)

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14. *See id.*

15. Article 122 does not prevent parties from contracting to a different standard of liability; it articulates an objective standard that, in the absence of express language to the contrary, should inform the interpretation and application of language in a lease. As a secondary argument in *Hayes Fund*, the plaintiffs argued that a paragraph in the mineral lease did in fact create a form of absolute liability for sub-surface damage. Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2013-1374, p. 31 (La. App. 3 Cir. 10/1/14); 149 So. 3d 280, 299.

the damage cannot be ameliorated by a replacement well or termination of the lease? This leads to the *Hayes Fund* case.

III. PROVING A BREACH OF DUTY TO PROTECT A RESERVOIR FROM DAMAGE

In 2012, *Hayes Fund for the First United Methodist Church of Welsh, LLC, et al. v. Kerr-McGee Rocky Mountain, LLC, et al.* was tried in the Thirty-First Judicial District Court.[16] The plaintiff was a family-owned corporation that leased land in Jefferson Davis Parish for mineral exploration, as well as a number of individual royalty interest owners who derived revenues from the production of hydrocarbons on the property.[17] The property was the subject of a lease between the original landowner and the oil company lessees.[18] The original operator drilled two separate wells in 1999—the Rice Acres #1 and the Hayes Lumber #1.[19] Both wells were successfully completed and turned over to production.[20] The Louisiana Commissioner of Conservation later designated, after public hearings, surface units for each well.[21]

The Rice Acres well produced hydrocarbons until 2004, when production ceased.[22] Later efforts to restore production to the well were unsuccessful.[23] The Hayes well produced continuously until 2007, when it ceased production due to sanding problems.[24] The operator at the time re-entered the well and, after an extensive but ultimately unsuccessful attempt to restore production from the existing zone, recompleted the well in a shallower zone in the spring of 2008.[25] Production from this smaller pocket of hydrocarbons continued until the end of 2008, at which time production from the well ceased.[26]

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16. This is an unpublished decision. The subsequent appellate history is reported at *Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC*, 2013-1374 (La. App. 3 Cir. 10/01/14); 149 So. 3d 280 and *Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC*, 2014-2592 (La. 12/08/15); 193 So. 3d 1100.

17. *Hayes Fund*, 2014-2592, pp. 2–3; 193 So. 3d at 1112.

18. *Id.* at pp. 2–3; 193 So. 3d at 1112–13.

19. *Id.* at p. 3; 193 So. 3d at 1112–13.

20. *See id.* at p. 3; 193 So. 3d at 1113.

21. *See Hayes Fund*, 2013-1374, pp. 20–21; 149 So. 3d at 293–94.

22. *Hayes Fund*, 2014-2592, p. 3; 193 So. 3d at 1113.

23. *See id.*

24. *Id.* at pp. 4–5; 193 So. 3d at 1114–15.

25. *See id.* at p. 4; 193 So. 3d at 1113.

26. *See id.*

A. THE DISPUTE IN *HAYES FUND*

The plaintiffs initially demanded termination of the Hayes lease then filed suit for damages in 2009.[27] The lawsuit alleged that the reservoirs of both the Rice Acres well and the Hayes well had been damaged through the operators' actions and that, as a result, the plaintiffs would never realize the amount of royalty payments they should have if the damages to the reservoirs had not taken place.[28] Specifically, the plaintiffs asserted that the wells were operated "in an imprudent manner in violation of La. R.S. 31:122."[29]

In the case of the Rice Acres well, the principal allegation was that the operator had compromised the original wellbore during the drilling of the well when a well control event, or kick, occurred.[30] Afterward, the operator was unable to retrieve a portion of the drill string and instead cemented it in place to seal off the lower wellbore and prevent communication of fluids to the surface or between zones within the wellbore.[31] The operator then sidetracked the well from a shallower depth and completed it.[32]

Plaintiffs alleged that the cementing of the original wellbore had been done improperly, leaving gaps or pores in the cement that permitted communication via the original wellbore between the producing hydrocarbon formation and deeper formations containing water.[33] The plaintiffs claimed that, as a result, the well became non-productive years sooner than it otherwise would have due to an incursion of water into the producing zone.[34] By contrast, the defendants observed that the Rice Acres well produced according to expectation and that the incursion of water into the wellbore after a period of production was an expected

27. See Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2013-1374, p. 1 (La. App. 3 Cir. 10/1/14); 149 So. 3d 280, 282–83.

28. *See* Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2014-2592, p. 4 (La. 12/08/15); 193 So. 3d 1100, 1113.

29. *See id.*

30. *See id.* at pp. 10–11; 193 So. 3d at 1117–18.

31. *See id.* at p. 25; 193 So. 3d at 1125.

32. *See id.* at pp. 25–26; 193 So. 3d at 1125–26.

33. *See generally Hayes Fund*, 2014-2592; 193 So. 3d 1100.

34. The cost of disposing of produced water can be significant. In the case of wells drilled in southwest Louisiana, a well can "water out" when the disposal cost is disproportionately high compared to the sale value of the produced hydrocarbons.

result of producing a water-driven hydrocarbon reservoir.[35]

The plaintiffs claimed that the Hayes wellbore was compromised by the way it was originally completed; specifically, the choices made as to the type and number of packers during completion led to eventual problems with the well sanding up and limited future options to cure the sanding problem and restore production in the well.[36] The plaintiffs also claimed that failure to identify and isolate tubing leaks in the well before or during recompletion led to a premature watering out event similar to that claimed in the Rice Acres well.[37] The defendants contended that the two producing zones in question reached or exceeded estimated production and that the sanding up of the lower zone was simply a result of natural, common processes and that the well plan was appropriate and proper.[38]

With respect to each allegedly damaged zone of production, the plaintiffs did not assert that the hydrocarbons were physically lost from their location in the underground reservoir. Rather, they claimed that damage to each wellbore after a lengthy period of production resulted in a permanent loss of production from each zone.[39] The counterargument by the defendants to the permanent loss allegation was that, if the minerals were still in place and existed in the quantities alleged by the plaintiffs, they could in theory be recovered by a replacement well or wells by another operator.[40] The defendant operators disputed that paying quantities still existed in these reservoirs based on multiple reserve estimates made before and during production and the correlation between those estimates and the actual production.[41]

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35. Water drive reservoirs are so-named because water is typically contained in the same formation that produces hydrocarbons. As more hydrocarbons are removed, water migrates into the pore spaces left by the extracted hydrocarbons and eventually begins to be produced in greater volumes along with the hydrocarbons. This process also helps production, as the water contributes to the pressure that causes the upward flow of the hydrocarbons. Water drive reservoirs contrast with depletion drive reservoirs where there is minimal water and the drive mechanism is simply the expansion of the hydrocarbons into empty space as they are extracted.

36. *See generally* Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2014-2592 (La. 12/08/15); 193 So. 3d 1100.

37. *See id.* at p. 4–5; 193 So. 3d at 1114–15.

38. *See generally Hayes Fund*, 2014-2592; 193 So. 3d 1100.

39. *See generally id.*

40. *See generally id.*

41. *See generally id.*

The plaintiffs' expert relied on two basic premises to substantiate the operators' liability. First, he contended that each well produced vastly less hydrocarbons than it should have based upon his assumptions as to the size of each reservoir.[42] Second, he claimed that each well produced water at some stage of its life, which he designated as "extraneous" water that came from zones not otherwise in communication with the producing reservoir.[43] Both assumptions were critical to establish that the defendants had damaged any of the three reservoirs. That is, it was necessary to show that (1) a meaningful amount of hydrocarbons had not been and could not now be produced, and (2) there was some objective evidence that the operators' actions caused this result.

B. NON-TRADITIONAL CALCULATION OF RESERVES AND THE COLLATERAL ATTACK DOCTRINE

The plaintiffs' expert did not rely upon a direct comparison between the reserve estimates (made before and during the life of the wells by the operators' reservoir engineers) and actual production records. Doing so would have presented problems for the plaintiffs' case since the actual production in the Hayes well exceeded reserve estimates, and the production in the Rice Acres well was not far off its estimated reserves. Accepting the validity of the reserve estimates would have implied that (1) the wells had produced as expected, and (2) any incremental remaining amounts of hydrocarbons were not economical to produce because it would have required drilling the replacement wells. Thus, it would have been difficult to establish that the actions of the operators in shutting in the wells after failed attempts to restore production were unreasonable under article 122.[44]

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42. *See* Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2014-2592, pp. 5–6 (La. 12/08/15); 193 So. 3d 1100, 1114–15.

43. *See id.*

44. The method for estimating hydrocarbons in a reservoir was discussed at length by the defendants' experts and operational engineers for the wells at trial. They testified to the necessity for establishing initial reserves before production, how much was produced (produced reserves), and how much future production could be expected (remaining reserves). This process, which is well established in the field of petroleum engineering, includes the use of a considerable variety of information obtained as to the size and shape of the reservoir, projected rates and volumes of production, pressure data, and experience of nearby area wells. Trial Ct. R. vol. 28, 6979–7009 (Aug. 16, 2012); *Standards Pertaining to the Estimating and Auditing of Oil & Gas Reserves Information*, SOC'Y OF PETROLEUM ENGINEERS 1 (Feb. 2007), http://www.spe.org/industry/docs/Reserves_Audit_Standards_2007.pdf; *Petroleum*

Instead, the plaintiffs' expert used the surface dimensions of the conservation unit for each well as a basis to calculate the size of the reservoir, rejecting in the process the available seismic, log, and other data used by the original engineers who planned the well.[45] This method resulted in a larger volume of alleged reserves, which he used to support both the existence of damages and the inference that, if such a large volume of hydrocarbons were not produced, it must have been the result of the alleged extraneous water problem.[46] The plaintiffs' expert did not deny that this was a non-traditional approach or that in using it he was ignoring or rejecting the available, existing reserve calculations made by the operator's engineers and others throughout the life of the well. Instead, he claimed that he was required to do so by the Commissioner of Conservation's unit order. Specifically, he testified that the order of the Commissioner that created the production units also defined the size of the reservoir and the reserves therein and that any objection to the Commissioner's order represented an impermissible collateral attack on a Commissioner's order.[47]

To rebut the plaintiffs' allegations, the defendants' expert engineers went through the available information as to the limits of the reservoirs and testified that the plaintiffs had substantially overstated the size of the reservoirs and the reserves contained therein.[48] They examined the plaintiffs' assertions as to the source of the water produced in the wells and testified that the water came from the producing zones rather than some hitherto

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Reserves Definition, SOC'Y OF PETROLEUM ENGINEERS ET AL. 1, 5–6 (2001), http://www.spe.org/industry/docs/PRMS_Guidelines_Nov2011.pdf. Employing this process, the defendants' experts concluded that the wells produced as expected and that any remaining reserves were not economical to produce. The plaintiffs' expert did not challenge the conclusions of the defendants' experts based on their method; rather, he testified that his own method was required by virtue of the Commissioner's ruling. Trial Ct. R. vol. 23, 5729–33 (June 28, 2012).

45. *See generally* Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2014-2592 (La. 12/08/15); 193 So. 3d 1100; Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2013-1374 (La. App. 3 Cir. 10/01/14); 149 So. 3d 280.

46. *See generally Hayes Fund*, 2014-2592; 193 So. 3d 1100; *Hayes Fund*, 2013-1374; 149 So. 3d 280.

47. *See Hayes Fund*, 2013-1374, pp. 19–21; 149 So. 3d at 293–94. The "collateral attack" doctrine, as applied to orders of the Commissioner of Conservation, is a principal that Courts use to prohibit a party from attacking the substance of an administrative order in a lawsuit when the party had the opportunity to do so in the administrative hearing but failed to do so. *See* discussion of EOG Res. v. Chesapeake Energy Corp.*, infra* Part IV.

48. *Hayes Fund*, 2014-2592, pp. 5–6; 193 So. 3d at 1115.

isolated zone, and the available evidence showed no compromise of the formations due to wellbore communication.[49]

Finally, they explained that the plaintiffs' "collateral attack" argument—that the Commissioner's orders establishing the surface units for the two wells would somehow be undermined by the introduction at trial of evidence as to the size of the underlying reservoirs and the estimated reserves contained therein—relied upon a fundamental misunderstanding of the purpose of a unitization order.[50] The defendants' experts pointed out that a Commissioner's decision as to the boundaries of a surface unit was relevant to the issue of how the surface landowners participated in production from the well but was not intended to describe the amount of reserves in a reservoir or even the geological contours of the reservoir itself.[51] Since the defendants did not attempt to dispute the dimensions of the unit or ask that it be re-drawn to favor one landowner over another, the testimony offered by the defendants to determine the extent to which the reserves had been exhausted was in no sense an impermissible collateral attack on a Commissioner's unit order.[52]

C. TRIAL VERDICT: NO PROOF OF DAMAGES

The trial court found that the plaintiffs did not prove that any of the defendants' actions caused damage to any of the three reservoirs at issue.[53] The court noted that the plaintiffs "[failed to] demonstrate[ ] that there were any damages to the remaining hydrocarbons that could be produced from a replacement well."[54] The defendants' point—that the particular formation in

49. Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2014-2592, pp. 5–6 (La. 12/08/15); 193 So. 3d 1100, 1115.

50. *Id.*

51. The defendants' expert geologist at trial explained the differences between a drilling unit, a hydrocarbon reservoir, and the quantity of reserves of hydrocarbons contained in a reservoir and why they are not interchangeable concepts. Particularly, the dimensions of a surface unit are not intended to correspond to the dimensions of an underground geologic reservoir in which hydrocarbons are found; likewise, the establishment of a surface unit is not intended to be used as the mathematical basis for estimating or describing the quantity of reserves contained in a geologic reservoir. Brief for *Hayes Fund*, as Amici Curiae Supporting Kerr-McGee, et al., 2014-2592, pp. 6–9; 193 So. 3d at 1114–16.

52. *See* United Gas Pipeline Co. v. Watson Oil Corp., 306 So. 2d 731, 736 (La. 1975) (which noted that a Commissioner's order is collaterally attacked only "if there is a conflict" between the order and a subsequent contract or action of a party).

53. *Hayes Fund*, 2014-2592, pp. 1–2; 193 So. 3d at 1111–12.

54. *Id.* at p. 11; 193 So. 3d at 1117.

southwest Louisiana from which the wells were produced was a water driven formation and that all reservoirs in the area, including the Rice Acres and Hayes, had a water drive component—proved to be critical to the court's decision.[55] Because water was expected to occur at some stage of the production, its mere appearance did not signal a defect in the wellbore or damage to the reservoir.[56] The trial court further accepted the testimony of the defendants' experts that there was no continuous geological separation of the hydrocarbon and water bearing formations, as the plaintiffs' expert suggested, and that there did not need to be a separate reason for water intrusion.[57] Therefore, the trial court rejected the "extraneous water" allegations and instead accepted that the water came from the producing reservoir and was a natural consequence of production.[58] Having made this determination, the trial court did not need to address the remaining issues of the case pertaining to the extent and calculation of damages or the application of the collateral attack doctrine to the determination of the amount of reserves.

D. SUBSEQUENT APPELLATE HISTORY

On appeal, the Louisiana Third Circuit Court of Appeal reversed the trial court on the issue of liability and awarded $13,437,895 in damages—the amount sought by the plaintiffs on appeal—instead of remanding the case to the trial court for a damage determination.[59] In so doing, the court of appeal accepted the theories of liability advanced by the plaintiffs and applied the collateral attack doctrine to exclude the evidence introduced by the defendants to show the scientific basis for the actual dimensions of the reservoirs and the amount of reserves

55. Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC, 2014-2592, pp. 15–22 (La. 12/08/15); 193 So. 3d 1100, 1120–23.

56. *See id.* at 58; 193 So. 3d at 1145.

57. *See generally Hayes Fund*, 2014-2592; 193 So. 3d 1100; Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, LLC 2013-1374 (La. App. 3 Cir. 10/01/14); 149 So. 3d 280.

58. *See generally Hayes Fund*, 2014-2592; 193 So. 3d 1100; *Hayes Fund*, 2013-1374; 149 So. 3d 280.

59. *Hayes Fund*, 2013-1374, pp. 36–50; 149 So. 3d at 295–99. Damages had been argued and briefed at the trial court level, but since there had been no finding of liability, the reasons for ruling by the trial court did not include any discussion thereof. The court of appeal discussion of damages contains no evaluation of the arguments raised by the defendants.

contained therein.[60] The reasons assigned by the court of appeal for using the collateral attack doctrine in this fashion tracked the plaintiffs' argument. Particularly, the court of appeal conflated the terms "unit," "reservoir," and "reserves" as though they were synonymous when, in fact, the terms have entirely different meanings and usages and cannot be used interchangeably.[61]

The defendants sought review of this decision from the Louisiana Supreme Court, which granted certiori, reversed, and reinstated the trial court's verdict.[62] The supreme court concluded that the court of appeal misapplied the manifest error standard of review and impermissibly substituted its own view of the facts for those of the trial court.[63] As a result, the court of appeal's application of the collateral attack doctrine is not precedent for future litigation.

IV. THE RESERVOIR DESTRUCTION CLAIM GOING FORWARD

Hayes Fund does not preclude the finding of damage to, or destruction of, a reservoir under different facts, but it does demonstrate the difficulties associated with proving that such damage or destruction occurred from a breach of the duty to act as a reasonably prudent operator. Reservoir engineering, the area of science developed by oil companies to estimate the size and extent of underground reservoirs and the corresponding value of reserves contained therein, provides a method for estimating reserves and for comparing estimates to actual production. The problem with comparing these estimates to actual production is that, generally, production close to the reserve estimates is evidence that the operator has developed the

60. Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, 2013-1374, pp. 23–24, 32 (La. App. 3 Cir. 10/01/14); 149 So. 3d 280, 295–96, 300.

61. The court of appeal's confusion on this point is evident in its statement that "the Commissioner's orders are clear and unambiguous with respect to the reservoir boundaries." *See id.* at pp. 22–23; 149 So. 3d at 295. The testimony of the unit geologist who participated in the unitization hearings for the wells flatly contradicted this statement and demonstrated that unitization hearings do not determine either reservoir size or quantity of reserves, a position two former Commissioners of Conservation endorsed within amicus briefs filed at the supreme court level. Hayes Fund, et al., Trial Tr. vol. 24, 5873–52 (June 29, 2012); Brief for Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, as Amici Curiae Supporting Kerr-McGee, et al., 2014-2592, pp. 6–9 (La. 12/08/15); 193 So. 3d 1110, 1114–16.

62. *See Hayes Fund*, 2014-2592; 193 So. 3d 1100.

63. *Id.* at pp. 65–67; 193 So. 3d at 1149–50.

reservoir reasonably. However, if the reserve estimates indicate substantial reserves remain in the ground, it is generally evidence that the solution is termination of the lease or drilling of a replacement well.

As noted earlier, the *Hayes* plaintiffs attempted to circumvent this problem by a two-step process: (1) using the dimensions of the surface unit adopted by the Commissioner of Conservation to obtain a larger area of a reservoir and higher reserve estimates, and (2) foreclosing any contrary calculation method as an impermissible collateral attack. Use of this tactic ought to be a non-starter. It is completely at odds with the science of reservoir engineering and deliberately and improperly conflates several independent concepts: reservoir size (the size and shape of the geologic formation underground that contains hydrocarbons), reserves (the amount of hydrocarbons in the ground), and unit dimensions (the surface rectangle that determines landowner participation in production). For another, it represents an incorrect use of the collateral attack doctrine itself.

In *EOG Resources, Inc. v. Chesapeake Energy Corp.*, the U.S. Fifth Circuit Court of Appeals identified three factors critical to determining whether an impermissible attack on a Commissioner's order had occurred: (1) whether the relief sought would require the defendant to violate the Commissioner's order, (2) whether resolution of the claim would require reconsideration of the Commissioner's factual findings, and (3) whether the Commissioner could have granted the relief if the plaintiff had been present at the conservation hearing.[64] Unitization hearings are designed to permit a reasonable apportionment of the proceeds of hydrocarbon production between surface owners. They are not proceedings to establish the future amount of production, the amount of reserves in the ground, or the feasibility of extracting them in the future. Therefore, the use of scientific evidence in a case where the amount of reserves is in dispute does not alter or affect the Commissioner's apportionment of how surface owners shared in whatever production occurred. The resolution of a dispute as to the amount of reserves likewise requires no reconsideration of a Commissioner's finding as to the surface limits of a drilling or production unit. Finally, it is not part of the Commissioner's duties to offer opinions, advisory or

64. EOG Res., Inc. v. Chesapeake Energy Corp., 605 F.3d 260, 265–66 (5th Cir. 2010).

otherwise, as to the amount of reserves that may be produced in the future from a reservoir. Because the Commissioner could not have granted this type of relief at a hearing, there can be no possibility that a subsequent judicial determination of this issue would constitute a collateral attack on a unit order.

The plaintiffs in *Hayes Fund* tried to use the collateral attack doctrine to circumvent the proof problems of both liability and damages. Apart from the fact that it was a misuse of the doctrine, it still did not dispose of the economics or feasibility of drilling a replacement well. That is, even if a calculation based on an inflated reservoir size leads to a greater reserve number, the same problem remains—if the reserves really are there, then the remedy is still termination of the lease or specific performance, not increased monetary damages. The supreme court noted, almost as an aside, that the *Hayes Fund* plaintiffs "attempted to advance as a damage claim one for delay in recovery; i.e., plaintiffs were deprived of the present worth of minerals through defendants' failure to produce them expeditiously."[65] The court noted that such a claim would be premised on article 122's duty of reasonable development and cited the comment to the article that "[n]o Louisiana court has ever awarded damages for breach of the obligation of reasonable development."[66] Though not precluding future claims based on this theory, the court's footnote observed that the plaintiffs merely made the argument without presenting adequate proof at trial.[67]

A second critical question for this type of cases in the future is how a party can prove (or disprove) that an event, such as a defective cementing operation that occurred miles below the surface in a wellbore, caused communication between different formations sufficient to damage the ability to ever produce hydrocarbons from a reservoir. *Hayes Fund* shows the nature of the problem—often, direct evidence may be hard to come by. Photographs do not exist. No one can travel down to the alleged point of communication to view or inspect it. Logging techniques may prove inconclusive. Whether or not a path exists for fluid to migrate through gaps or inconsistencies in the cement from one

65. Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, 2014-2592, pp. 4, 68 (La. 12/08/15); 193 So. 3d 1110, 1113 n.4, 1150.

66. *Id.* at pp. 4, 49–51; 193 So. 3d at 1113 n.4, 1140.

67. *Id.* at pp. 4, 68; 193 So. 3d at 1113 n.4, 1150.

formation to another may often be merely conjectural. Beyond that, parties must prove, as noted above, actual permanent damages—that the minerals have been lost to future production, not simply that the wellbore is unusable.[68]

Of the other Louisiana cases where plaintiffs have asserted claims of reservoir destruction, most of them appear to have a common theme of extraneous water as the cause of the damage to the reservoir.[69] This is not surprising to the extent that the cases all involved wells in south Louisiana where water drive reservoirs are common. It will be interesting to see if reservoir destruction cases will be premised on another causative agency, such as the effect of fracking, and how this will affect outcomes at trial.

As noted earlier, most of these cases settled out of court either prior to or after filing suit. There are ample reasons to settle cases of this type, such as costs of discovery and expert testimony and the length and expense of a multi-week trial and appeal. Similarly, each side may feel some apprehension as to their chances of success before a fact finder because of the

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68. The plaintiffs in *Hayes Fund* alternately pled a cause of action arising from breach of the mineral lease damage restoration provision, where the parties had lined through the words "to timber and growing crops of Lessor" so that the provision stated that the "Lessee shall be responsible for all damages caused by Lessee's operations." The trial court found that this change did not, as the plaintiffs argued, impose strict or absolute liability, and in any event, did not relieve the plaintiffs from proving imprudent operations and causation of damages. *See* Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, 2013-1374, pp. 23–24, 31–33 (La. App. 3 Cir. 10/01/14); 149 So. 3d 280, 295, 299–301 (stating the trial court's findings that change to terms in lease as "all damages" did not impose strict liability). The third circuit reached an opposite conclusion in its opinion, finding the existence of absolute liability; however, the reversal of the third circuit opinion and the reinstatement of the district court decision renders the precedential value of the third circuit's conclusion on this point dubious. *See id.* at pp. 31–33; 149 So. 3d at 299–301; Hayes Fund for the First United Methodist Church of Welsh, LLC v. Kerr-McGee Rocky Mountain, 2014-2592, pp. 1–2 (La. 12/08/15); 193 So. 3d 1110, 1111–12.

69. *See, e.g.,* Rainbow Gun Club, Inc., et al. v. Denbury Res., Inc., et al.*,* Docket No. 1019147, 38th Judicial District Court, Cameron Parish, Louisiana (settling as to all but one defendant in June 2016 with a judgment rendered against the non-settling defendant on October 17, 2016) (amended judgment entered on June 9, 2017), *aff'd*, 2017-997 (La. App. 3 Cir. 5/23/18); Montet, et al. v. Edge Petroleum Corp. of Tex.*,* Docket No. 80408-G, 15th Judicial District Court, Vermilion Parish, Louisiana, *consolidated with* Broussard, et al. v. Edge Petroleum Corp. of Tex., et al., Docket No. 80474-L 15th Judicial District Court, Vermilion Parish, Louisiana (filed 2003); Parker v. Parr Minerals, Docket No. C-494-10, 31st Judicial District Court, Jefferson Davis Parish, Louisiana (filed 2010); Coignet et al. v. Stone Energy Corp.*,* Docket No. C-110741, 17th Judicial District Court, Lafourche Parish, Louisiana (filed 2008).

complex nature of the engineering and geological concepts that the fact finder must parse through to establish the merit of a particular claim. Finally, there is the issue of proof for both sides, as discussed above, which might cause parties to achieve an early resolution.

Despite the legal and factual problems of prevailing on claims for reservoir damage or destruction, the attractiveness of a large recovery would seem reason enough to expect this trend to continue. Given the recent downturn in the oil and gas industry and the concomitant decline in mineral royalty revenues, landowners and other mineral interest owners might be more inclined to look at sudden or unexpected declines in well performance and consider whether this was the fault of the operator and whether it is actionable. Therefore, it is conceivable that reservoir damage lawsuits will continue, at least until some of the remaining legal issues raised but not resolved in the *Hayes Fund* litigation are eventually adjudicated by the courts.