Horizontal Drilling and Trespass: A Challenge to the Norms of Property and Tort Law

Bruce M. Kramer*

Table of Contents

* Thompson Visiting Professor, University of Colorado Law School; Maddox Professor of Law Emeritus, Texas Tech University School of Law.

I. INTRODUCTION

This Article explores the interplay or interphase between common law property and tort concepts as they apply to surface and subsurface trespass claims and the technological developments in horizontal drilling techniques that are in widespread use in the various shale plays throughout the United States. As used in this Article, the term trespass relates to the unauthorized or unprivileged entry into or onto an interest in real property owned by another.[1] It is one of several different causes of action that may be brought by those parties who believe that an interest in real property has been damaged through the actions of another.[2] This Article also explores the relationship between the trespass issues and the ownership of pore space and/or ownership of strata concepts that have received renewed attention due to the interest in carbon sequestration that has developed over the past several decades. Settling the ownership issue, however, may not resolve the underlying issue of who has the power to consent to, or veto, attempts to use the subsurface for the location of a wellbore outside of the correlative interval/producing formation. The severance of the mineral and surface estates, commonplace in jurisdictions that have substantial oil and gas development, complicates the trespass question because of the

1. Professor Owen Anderson describes in some detail the history of the various writs of trespass that covered both injuries to persons, things and real property. Owen L. Anderson, "*Subsurface Trespass": A Man's Subsurface is Not His Castle*, 49 WASHBURN L.J. 247, 253 (2010). Professors Howard Williams and Charles Meyers offer the following generic definition of a trespass: (1) A form of action to recover damages for an injury to one's property. (2) An unauthorized intrusion or invasion of private premises of another. PATRICK H. MARTIN & BRUCE M. KRAMER, 8 WILLIAMS & MEYERS OIL AND GAS LAW 1094 (2013) [hereinafter WILLIAMS & MEYERS]. The Restatement (Second) of Torts defines an "intentional" trespass in the following terms: "One is subject to liability to another for trespass, irrespective of whether he thereby causes harm to any legally protected interest of the other, if he intentionally, (a) enters land in the possession of the other, or causes a thing or a third person to do so, or (b) remains on the land, or (c) fails to remove from the land a thing which he is under a duty to remove." RESTATEMENT (SECOND) OF TORTS § 158 (1965). In a recent case, FPL Farming Ltd. v. Envtl. Processing Sys., L.C., 383 S.W.3d 274, 282 (Tex. App. 2012), the trial court gave the following jury charge on the trespass claim: " 'Trespass' means an entry on the property of another without having consent of the owner. To constitute a trespass, entry upon another's property need not be in person but may be made by causing or permitting a thing to cross the boundary of the property below the surface of the earth. Every unauthorized entry upon property of another is a trespass, and the intent or motive prompting the trespass is immaterial."

2. These include negligence, negligence per se, nuisance, and strict liability. *See* BRUCE M. KRAMER & PATRICK H. MARTIN, THE LAW OF POOLING AND UNITIZATION § 21.01 (3d ed. 2012) [hereinafter KRAMER & MARTIN]. *See also* Christopher S. Kulander, *Common Law Aspects of Shale Oil and Gas Development*, 49 IDAHO L. REV. 367 (2013).

sometimes unclear demarcation of rights between those severed estates. As always, I am indebted to the many scholars and authors who have preceded me in this endeavor.[3]

II. HORIZONTAL DRILLING FOR DUMMIES

Normally a horizontal well can be broken down into three operational segments: the vertical section, the build section, and the lateral section.[4] The vertical section is drilled as any vertical well would be depending on the depth and the type of rock that will be encountered. Prior to drilling the engineers will have determined the depth at which the "kick-off point" is reached. The kick-off point is the depth at which the vertical drilling rig will be replaced by a horizontal drilling rig. Reaching the kick-off point leads to the build section of a horizontal well. The build section entails the building of the angle from zero degrees to around ninety degrees at the end of the build section. The subsurface tools needed to conduct the build operation segment include the drill bit, the mud motor, bent subs, and the "MWD," or measurement while drilling, devices. In drilling the build section, bit rotation is not provided by the drill string as it is in the vertical section but by a mud motor through a series of impellers that are displaced as drilling fluid is pumped down the drill string. Bent subs are then used to provide angle and are usually applied just above the mud motor. The path of the horizontal lateral is called its azimuth. An azimuth is "the direction in which a deviated or horizontal well is drilled relative to

3. My good friend and former colleague Professor Owen Anderson has written four law review articles on this subject, and my work clearly borrows from those articles. *See* Owen L. Anderson, *Lord Coke, The Restatement and Modern Subsurface Trespass Law*, 6 TEX. J. OIL, GAS & ENERGY L. 203 (2010); Anderson, *supra* note 1; Owen L. Anderson, *Subsurface Trespass After* Coastal v. Garza, 60 INST. ON OIL & GAS L. & TAX'N. 65 (2009); Owen L. Anderson, *Geologic CO_2 Sequestration: Who Owns the Pore Space?*, 9 WYO. L. REV. 97 (2009).

4. *See* Michael J. Wozniak & Jamie L. Jost, *Horizontal Drilling: Why It's Much Better to "Lay Down" Than to "Stand Up" and What is an "18° Azimuth*" Anyway?, 57 ROCKY MOUNTAIN MIN. L. INST. 11-1 (2011); Taylor Reid & John W. Morrison, *Doing the Lateral Lambada: Negotiating the Technical and Legal Challenges of Horizontal Drilling*," 43 ROCKY MOUNTAIN MIN. L. INST. 16-1 (1997). *See also* Patricia Moore, *Horizontal Drilling—New Technology Bringing New Legal and Regulatory Challenges*, 36 ROCKY MOUNTAIN MIN. L. INST.15-1 (1990). Almost every continuing legal education program in the past five years that deals with shale plays will have a technical paper or papers that will discuss in much greater detail the "hows and whys" of horizontal drilling and/or hydraulic fracturing techniques. As noted by this Part's heading, what is contained herein is necessarily a layperson's simplification of a reasonably complex issue.

magnetic north."[5] During the build section operations, a MWD will be used to provide the directional measurements necessary to steer the mud motor and bit along the proper azimuth. The operation of the motors to achieve the desired inclination is controlled from the surface. The build section operations continue until the inclination of the bit is at or near ninety degrees or the intended production formation is reached. The last operational segment is the lateral section. The same equipment used in the build section is used in the lateral section, although the bent subs employed are bent less severely. A MWD is employed to continuously monitor the angle and length of the horizontal well bore. The length will be determined by the formation being drilled, appropriate spacing rules, and whether or not the horizontal well bore has to make "doglegs." It is not uncommon for laterals to be 3,000–12,000 feet in length.[6]

III. OWNERSHIP OF THE PORE SPACE

The issue of who owns the pore space or "rock" after a severance has received renewed attention in the past two decades because of a number of factors including increased hydraulic fracturing, horizontal drilling, and carbon sequestration. Professors Williams and Meyers noted that there is a suggestion in a number of cases that courts treat the severed oil and gas owner as owning the "rock" wherein the hydrocarbons are located.[7] One of the earliest cases separating out the concept of owning the fugitive oil and gas and the "rock" where the oil and gas is trapped is *Gray-Mellon Oil Co. v. Fairchild*.[8] In describing the nature of the ownership of oil and gas that has been severed by a mineral deed, the court said as follows:

> Oil and gas in the earth stands much as water percolating under the earth. The owner in fee owns to the center of the earth. But he does not own a specific cubic foot of water, oil, or gas under the earth until he reduces it to possession . . . . While the oil is fugitive, the sand bearing oil is as stationary as a bank of coal. The only practical use to which the oil-bearing sand can be put is to get the oil out of it. The exclusive, permanent right to get the oil from the sand is necessarily a right to a part of the land, for to use the sand in any other way would be to

5. Wozniak & Jost, *supra* note 4, § 11.02[1] (citing SCHLUMBERGER OILFIELD GLOSSARY ONLINE, http://www.glossary.oilfield,slb.com/default.cfm (search azimuth)).

6. Thomas E. Kurth et al., American Law and Jurisprudence on Fracing, 58 ROCKY MOUNTAIN MIN. L. INST. 4-1 (2012).

7. WILLIAMS & MEYERS, *supra* note 1, § 203.4.

8. 292 S.W. 743 (Ky. Ct. App. 1927).

> destroy the right to extract the oil from it, as the sand must be allowed to remain as it is for the oil to flow through it.[9]

The court was concerned that if the ownership of the "rock" and the ownership of the oil and gas are separate, that would essentially deprive the owner of the oil and gas the opportunity to produce the oil and gas. The paragraph from *Gray-Mellon* quoted above was cited with approval in *Jilek v. Chicago, Wilmington & Franklin Coal Co.*,[10] a decision of the Illinois Supreme Court. *Jilek*, however, dealt with the issue of whether or not one can sever the mineral estate from the surface estate, a more generic question that all jurisdictions answer in the affirmative.[11]

Gray-Mellon also provided support for the position that since the mineral estate owner owns the pore space and/or the "rock" even after the native hydrocarbons have been developed, hydrocarbons that migrate into that pore space or "rock" will belong to the mineral owner and not the party that may have injected the natural gas into the formation for storage purposes.[12] An early Kansas *ad valorem* taxation case suggested, while mentioning the ownership of the stratum theory, that it may be possible to separate out the ownership of the hydrocarbons from the pore space or "rock." The following language may be read to allow such a severance although it might merely be confirming the general view that oil and gas may be severed from the surface estate:

> It has also been determined that, although oil and gas in place are a part of the realty, the stratum in which they are found is capable of severance, and by an appropriate writing the owner of the land may transfer the stratum containing oil and gas to another. Such party acquired an estate in and title to the stratum of oil and gas, and thereafter it becomes the subject of taxation, encumbrance, or conveyance.[13]

Finally, there was language in *United States Steel Corp. v. Hoge*[14] that supported the concept of owning strata underneath the surface as opposed to owning different types of minerals. *Hoge* involved the issue of whether coal-bed methane was owned by the oil and gas owner or the coal owner. By finding that the coal owner also owned the coal bed methane

9. *Id.* at 745.

10. 47 N.E.2d 96 (Ill. 1943).

11. *Id.*

12. Cent. Ky. Natural Gas Co. v. Smallwood, 252 S.W.2d 866 (Ky. Ct. App. 1952), *overruled in part by* Tex. Am. Energy Corp. v. Citizens Fid. Bank & Trust Co., 736 S.W.2d 25 (Ky. 1987). That issue is discussed at text accompanying *infra* notes 23–26.

13. Mound City Brick & Gas Co. v. Goodspeed Gas & Oil Co., 109 P. 1002, 1004 (Kan. 1910).

14. *See* 468 A.2d 1380 (Pa. 1983).

physically located within the coal, the court implied that the coal owner owned the entire strata where the coal seam is located, including any noncoal minerals located therein.

There is no simple answer to the question of who owns the pore space or the "rock" after there has been a severance. Professor Owen Anderson believes that, at least in Texas, the view appears to give the surface owner such ownership rights.[15] The Williams and Meyers treatise posits a contrary position, at least when it comes to the underground storage of gas, namely that the severed surface owner should not be entitled to compensation in any eminent domain action, nor should the surface owner's consent be required before the gas is stored.[16] Analogizing to the ownership of the pore space is a predicate to answering the question of who owns the "rock" that a wellbore penetrates so that the needed approvals can be obtained. But as will be analyzed in Parts VII-VIII *infra*, resolving the ownership issue does not necessarily resolve the question of whether a particular use of the surface or subsurface is legal even where consent from the owner is obtained.

Texas is representative of the uncertainty in the jurisprudence regarding the ownership of the pore space. In *Emeny v. United States*,[17] a United States Court of Claims decision applying Texas law, the court found that the surface owner/oil and gas lessor and not the oil and gas lessee owned the pore space. The United States was storing helium gas in a depleted natural gas reservoir, and the issue was whether the current gas lessee, the oil rights having been severed earlier, was entitled to be declared the owner of the storage rights.[18] The court looked to the language of the oil and gas lease to show that the lessor/surface owner did not intend to part with anything but the right to explore for and produce gas and therefore held that the surface owner owned the storage rights/pore space.[19] While the oil and gas lease constituted a severance of the mineral estate, unlike a mineral deed which would constitute a total severance of all mineral rights, the *Emeny* court reasoned that the lease only provided for a partial severance limited solely for the purposes of oil and gas activities. The court concluded:

---

15. Anderson, *Geologic CO_2 Sequestration: Who Owns the Pore Space?*, *supra* note 3, 103–04*; see also* A. Bryan Endres, *Geologic Carbon Sequestration: Balancing Efficiency Concerns and Public Interest in Property Right Allocations*, 2011 U. ILL. L. REV. 623.

16. WILLIAMS & MEYERS, *supra* note 1, § 222.

17. 412 F.2d 1319 (Ct. Cl. 1969).

18. *Id.* at 1323.

19. As discussed in *infra* Part VI, this same approach is used in determining the respective rights of the surface and mineral owners where there is a potential conflict between different uses of either the surface or sub-surface estate.

> The surface of the leased lands and everything in such lands, except the oil and gas deposits covered by the leases, were still the property of the respective landowners . . . . This included the geological structures beneath the surface, including any such structure that might be suitable for the underground storage of 'foreign' or 'extraneous' gas produced elsewhere.[20]

The court's rather broad language regarding the interests retained by the lessor/surface owner may be limited to circumstances where an oil and gas lease, and not a mineral deed, is the severing instrument. The court did not distinguish between the plaintiff's status as a surface owner and an oil and gas lessor, although it is not an unreasonable view of the court's language that it was referring to the plaintiff as the surface owner. In cases where there has been a severance by deed, does the surface owner retain an interest in the "rock" where no producible minerals are located? That is a somewhat more difficult question to answer, but the court's approach could be extended to the severance by deed scenario given the fact that courts, in the determination of what constitutes a "mineral" in a deed, have often attempted to treat "rock" or common varieties of minerals such as caliche and gravel as not being covered by such a severance.[21]

A second, unreported, Texas Court of Appeals opinion supports a broad reading of *Emeny*. In *Makar Production Co. v. Anderson*,[22] the issue related to whether or not an oil and gas lessee had the power to dispose of brine and oilfield wastes that were produced from other leases.[23] The opinion itself concerns procedural matters, but the end result was that the court upheld the issuance of an injunction preventing the lessee from disposing of off-lease waste on the plaintiff's lease. But as with *Emeny*, the result in this case can be explained by the court's interpretation of the oil and gas lease as not empowering the lessee to engage in such activities.[24] The more difficult question that the facts and opinion do not address would be whether the oil and gas lessee would need the consent of the severed oil and gas lessor or the surface estate owner in order to engage in such activities.

---

20. 412 F.2d at 1323.

21. WILLIAMS & MEYERS, *supra* note 1, § 219.

22. No. 07-99-0050-CV, 1999 Tex. App. LEXIS 9287 (Dec. 15, 2009).

23. Professor Owen Anderson believes that *Makar Petroleum* supports the view that unless specifically granted, the rights to the pore space or "rock" remain with the grantor. Anderson, *supra* note 15, at 103. The general issue of disposing of off-lease wastewater, brine or oilfield wastes is analyzed in *infra* Part V.

24. The result may also be explained by standard oil and gas jurisprudence that deems the disposal off-lease generated waste streams or brine as a per se surcharge of the implied easement of surface use in the absence of language in the lease to the contrary. WILLIAMS & MEYERS, *supra* note 1, §§ 218, 218.4.

In *Mapco, Inc. v. Carter*,[25] fractional owners of the mineral estate brought a partition action against the majority owner who created an underground cavern in a salt dome through leaching for the purpose of storing natural gas and/or liquid hydrocarbons. In describing the basis for the award of damages to the cotenants the court stated:

> Texas adopted the view that interest in minerals, such as oil, gas, salt, and other minerals are susceptible of ownership in place in the ground prior to production of the minerals at or on the surface. The Texas rule is that this interest in minerals is an interest in real property. Thus, the fee mineral owners retain a property ownership, right, and interest after the underground storage facility—here, a cavern—has been created. These same fee mineral owners are vested with ownership rights, including, of course, entitlement to compensation for the use of the cavern.[26]

As noted by Professor Anderson, the salt dome formation was "mineral-bearing" and thus clearly part of the mineral estate. Whether or not the court would have reached the same result had the space been bereft of "minerals" other than the natural rock is not at all clear.[27] Nonetheless, *Mapco* can be read to give the mineral owner the title to the pore space or "rock."

Without mentioning *Mapco*, a recent decision of the Texas Court of Appeals treated *Emeny* as the appropriate precedent for finding that the surface estate owner is not only the owner of the pore space but also of the rock within which the hydrocarbons are located. In *Springer Ranch, Ltd. v. Jones*,[28] the ultimate issue was whether the surface owner was entitled to share in royalties, pursuant to a unique agreement relating to royalty payments, from production from a horizontal well located underneath the

25. 808 S.W.2d 262 (Tex. App. 1991), *aff'd in part, rev'd in part and remanded*, 817 S.W.2d 686 (Tex. 1991).

26. 808 S.W.2d at 274.

27. The same issue arises as to the ownership of mining "voids" after the extraction of coal. In *Levisa Coal Co. v. Consolidated Coal Co.*, 662 S.E.2d 44 (Va. 2008), the court concluded that the coal lessee did not own the mining shafts after extraction, while in *International Salt Co. v. Geostow*, 697 F. Supp. 1258 (W.D.N.Y. 1988), *aff'd*, 878 F.2d 570 (2d Cir. 1989), the court concluded that the owner of the "salt" did not become the fee simple absolute owner of the void after the salt had been removed, although he did retain the right to the void's use and enjoyment. *See also* Yukon Pocahontas Coal Co. v. Consol. Coal Co. 80 Va. Cir. 201 (2010); Clayborn v. Camilla Red Ash Coal Co., 105 S.E. 117 (1920). The Texas Supreme Court, on the other hand, treats the surface owner as the owner of the voids or caverns left after production or leaching operations in salt domes, for purposes of the ad valorem tax. Matagorda Cnty. Appraisal Dist. v. Coastal Liquids Partners, L.P., 165 S.W.3d 329 (Tex. 2005).

28. No. 04-12-00554-CV, 2013 Tex. App. LEXIS 15370 (Tex. App.—San Antonio Dec. 20, 2013).

surface.[29] In determining that a severed mineral owner does not own either the pore space or the rock around which the oil or gas is located, the court relied on *Emeny* and some very troubling dicta in *Coastal Oil & Gas Corp. v. Garza Energy Trust*[30] that suggested that a mineral owner does not own "specific" oil and gas beneath the property due to the application of the rule of capture.[31] That would be inconsistent with Texas' adoption of the ownership-in-place or absolute ownership doctrine for oil and gas that creates a corporeal interest in the oil and gas beneath the surface, subject of course to that oil or gas being captured by a neighboring owner.[32] Nonetheless, the court concluded that the severed mineral owner's corporeal estate is much more like an incorporeal estate in that it gives the owner merely a right to exploit the minerals and does not give such an owner the corporeal interest in the "subsurface mass."[33] While the methodology used to support its decision may be inconsistent with Texas mineral ownership doctrine, the result is probably consistent with the general notion that a mineral estate is really not the same as a surface estate in that it gives the mineral estate owner only limited rights to exploit the minerals including the right to use the pore space and the rock while leaving the surface estate owner as the corporeal owner of both the pore space and the rock.

The few cases that deal with this issue in other states have similarly mixed results. For a while, Kentucky took the position that the owner of the mineral estate owned the pore space at least in the context of the underground storage of injected or nonnative gas.[34] The underlying basis for that position, however, was that the injected gas is still subject to the rule of capture. When Kentucky decided to follow the majority approach and treat injected gas as the personal property of the injector, it overruled in part these earlier decisions.[35] But the extent to which the issue of the ownership of the injected substances impacted the ownership of the pore

29. *Id.* at *11. There was a partition agreement that provided: "all royalties payable under the above described Oil and Gas Lease from any well or wells . . . shall be paid to the owner of the surface estate on which such well or wells are situated . . . ." *Id.*

30. 268 S.W.3d 1, 15 (Tex. 2008). This language was also picked up by the Fifth Circuit in *Dunn-McCampbell Royalty Interest, Inc. v. National Park Service*, 630 F.3d 431, 442 (5th Cir. 2011). The *Dunn-McCampbell* case is analyzed in WILLIAMS & MEYERS, *supra* note 1, § 203.3.

31. *Springer Ranch*, 2013 Tex. App. LEXIS 15370, at *20–21.

32. Stephens Cnty. v. Mid-Kan. Oil & Gas Co., 254 S.W. 290 (Tex. 1923).

33. *Springer Ranch*, 2013 Tex. App. LEXIS 15370, at *21–22.

34. *See* Cent. Ky. Natural Gas Co. v. Smallwood, 252 S.W.2d 866 (Ky. Ct. App. 1952); Hammonds v. Cent. Ky. Natural Gas Co., 75 S.W.2d 204 (Ky. Ct. App. 1934).

35. Tex. Am. Energy Corp. v. Citizens Fid. Bank & Trust Co., 736 S.W.2d 25 (Ky. 1987).

space or "rock" was unclear. Dean Eugene Kuntz suggested that in Kentucky it would behoove a potential storer of gas to get consent of both the mineral and surface owners due to the potential impact on each estate by the storage activities.[36] In West Virginia, if the surface owner can prove that there are no minerals in the stratum, it is the surface owner who owns the pore space and would thus be entitled to payments under a gas storage rental agreement.[37] A similarly strong statement in favor of the surface owner is found in a Michigan Court of Appeals decision, *Department of Transportation v. Goike*,[38] where the court said:

> We conclude that a surface owner possesses the right to the storage space created after the evacuation of underground minerals or gas. While defendants, may, of course, "store" any fluid minerals or gas native to the chamber that has not yet been extracted, they cannot introduce any foreign or extraneous minerals or gas into the chamber. Only the surface owner . . . possesses the right to use the cavern for storage of foreign minerals or gas, and then only after defendants have extracted the native gas from the cavern.[39]

The case law to date does not favor the position taken in *Williams & Meyers* but appears to suggest that the ownership issue be resolved in favor of giving ownership of the pore space or "rock" to the surface owner. It is also important to note that most of the cases deciding in favor of the surface owner do so only after finding that there are no producible hydrocarbons left. That may be suitable for the ownership of pore space issue but may not be directly analogous to the ownership of the "rock" where the existence or nonexistence of minerals, both hardrock and fugacious, may not be known.

The resolution of ownership issues, however, may not resolve all of the legal problems because there may still be competing use rights involved. In *Storck v. Cities Service Gas Co.*,[40] the dispute arose between

---

36. EUGENE KUNTZ, LAW OF OIL & GAS § 7.3(c) (2012 Supp.).

37. *See* Tate v. United Fuel Gas Co., 71 S.E.2d 65 (W. Va. 1952). There are some commentators, however, who do not view *Tate* as standing for the broad proposition that under all circumstances the surface owner owns the pore space. *See* James P. Holland, *Underground Storage of Natural Gas: A Legal Overview*, 3 E. MIN. L. FOUND. 19-1, 19-13 (1982); Robert T. Donley, *Use of the Containing Space after the Removal of Subsurface Minerals*, 55 W. VA. L. REV. 202, 214 (1953).

38. 560 N.W.2d 365 (Mich. Ct. App. 1996).

39. *Id.* at 366. Most other decisions have found that the surface owner owns the pore space once the native minerals have been extracted. *See e.g.*, Ellis v. Ark. La. Gas Co., 450 F. Supp. 412, *aff'd*, 609 F.2d 436 (10th Cir. 1979); S. Natural Gas Co. v. Sutton, 406 So.2d 669 (La. Ct. App. 1981); Miles v. Home Gas Co., 35 A.D.2d 1042 (N.Y. App. Div. 1970).

40. Storck v. Cities Serv. Gas Co., 575 P.2d 1364 (Okla. Civ. App. 1977), *on subsequent appeal*, 634 P.2d 1319 (1981).

a storer of natural gas in a shallow formation and an oil and gas lessee of the deeper formations. The owner of the unified estate executed a storage lease to Cities Service and then subsequently executed an oil and gas lease covering the deeper formations.[41] The storage lease expressly gave the storage lessee the right to consent to all drilling operations on the premises. The oil and gas lessee sought such permission but was denied the right to drill. Seemingly ignoring the consent requirement, the court determined that the Oklahoma oil and gas conservation laws gave the oil and gas lessee a right to drill through the storage formation to deeper formations that may be productive of oil or gas.[42] Because of a provision in the storage lease, the storage lessee had the power to monitor the oil and gas lessee's operations on the land but it did not have the right to veto the oil and gas lessee's ability to drill through the formation. The court was not dealing with a claim by the storage lessee that the oil and gas lessee's operations interfered with its storage operations. That is the situation you may confront with horizontal drilling operations where the wellbore is located in areas not covered by an oil and gas lease.

IV. CROSS-BOUNDARY MIGRATION OF FLUIDS AND PROPPANTS USED IN HYDRAULIC FRACTURING OPERATIONS

While state spacing regulation has historically had as one of its major premises the prevention of drainage across property lines, the use of horizontal drilling techniques along with hydraulic fracturing has created stress with the traditional methodology employed by state oil and gas conservation agencies.[43] While advances have taken place in the use of microseismic technology, that technology is still an ex post facto view at what the hydraulically fractured rock looks like after the fracturing operation. Traditional state spacing rules, including setbacks from property lines and other wells, worked very well with vertical wells whether they were hydraulically fractured or were involved in secondary

41. This case would have been more interesting had the surface and mineral interests been severed. While typically the mineral estate has an implied easement of surface use, which would impact the analysis in this case, one can argue that there are two co-equal mineral estates. For issues relating to conflicts between mineral owners, *see* Bruce M. Kramer, *Developmental Conflicts: The Case for Reciprocal Accommodation*, 21 HOUS. L. REV. 49 (1984).

42. *Storck*, 575 P.2d at 1366–67.

43. *See* Michael J. Wozniak et al., *Spacing and Pooling Issues for Horizontal Development*, *in* ROCKY MOUNTAIN MIN. L. FDN. SPECIAL INSTITUTE ON HORIZONTAL OIL AND GAS DEVELOPMENT PAPER 6 (2012). *See also* Kulander, *supra* note 2, at 388–90.

and/or enhanced recovery operations. Areas of drainage could be predicted with some sense of accuracy before the well was drilled. With horizontal wells, however, that same level of confidence just does not exist with the extant technology. What that leads to is the likelihood that hydraulic fracturing fluids and proppants may cross property or spacing/pooled unit boundary lines. The potential for trespassory or other tort liability in this situation may well have an impact on the use of both horizontal drilling and hydraulic fracturing techniques.

Before *Coastal Oil & Gas Corp. v. Garza Energy Trust*,[44] there were a number of cases in Texas and elsewhere that suggested that cross-boundary migration of injected fluids and proppants would constitute an actionable trespass. In 1961, the Texas Supreme Court issued three opinions all relating to the basic issue of whether a "frac job" that entailed the movement of fluids beyond the property line constituted an actionable and enjoinable trespass. In *Gregg v. Delhi-Taylor Oil Corp.*,[45] the owner of a standard-sized drilling tract sought to enjoin the owner of a Rule 37 exception permit from engaging in a hydraulic fracturing operation on the defendant's 0.47 acre tract. As with the cases dealing with secondary or enhanced recovery operations, the existence of an agency-issued permit complicates the common law trespass issue.[46] The principal issue was whether the court or the Railroad Commission had jurisdiction to resolve the dispute that was brought by Delhi-Taylor seeking to enjoin the fracing operation. The court had no problem finding that the Commission did not have jurisdiction to resolve claims of trespass and issue injunctions to stop such activities. While not expressly concluding that a trespass occurred, the court's opinion clearly suggested that where there is an underground trespass it can be enjoined and that the Commission has no authority to authorize such activities. The court said:

> The invasion alleged is direct and the action taken is intentional. Gregg's well would be, for practical purposes, extended to and partially completed in Delhi-Taylor's land. The pleadings allege a physical entrance into Delhi-Taylor's leasehold. While the drilling bit of Gregg's well is not alleged to have extended into Delhi-Taylor's land, the same result is reached if in fact the cracks or veins extend into its land and gas is produced therefrom by Gregg.[47]

44. 268 S.W.3d 1.

45. Gregg v. Delhi-Taylor Oil Corp., 344 S.W.2d 411 (Tex. 1961), *aff'g* 337 S.W.2d 216 (Tex. Civ. App. 1960). The use of hydraulic or sand fracing was not limited to Texas during this period of time. *See* O'Brien v. Primm, 419 S.W.2d 323 (Ark. 1967).

46. *See infra* text accompanying notes 96–101.

47. *Gregg*, 344 S.W.2d at 416.

In two companion cases decided the same day, the Texas Supreme Court re-affirmed the court's power to issue injunctions to prevent fracing operations whereby the fluids may cross property lines.[48] When looking at the trilogy of *Gregg* cases one may reasonably conclude that fracing operations that cross property lines constitute an actionable trespass. In fact some thirty years later the Texas Supreme Court confirmed that view only to withdraw its opinion and issue a per curiam order stating that it neither approved or disapproved of the opinion of the court of appeals that *Gregg* would find that cross-boundary fracing operations constitute a trespass.[49]

In *Geo Viking, Inc. v. Tex-Lee Operating Co*.,[50] Tex-Lee employed Geo Viking to frac a well drilled into the Austin Chalk formation which was known as an extremely tight formation containing intermittent fractures making production difficult. The hydraulic length of the frac job was some 2,500 feet while the propped length was between 550 and 640 feet. Tex-Lee argued that due to Geo Viking's negligence in conducting the fracing operation, Tex-Lee was unable to produce any hydrocarbons. The trespass issue arose indirectly through the evidence relating to damages. Geo Viking argued that Tex-Lee may not claim damages for the value of the hydrocarbons from outside of the 80 acre unit that Tex-Lee alleged it could produce had Geo Viking done the frac job properly.[51] The court found that basic rule of capture principles allow Tex-Lee to own all of the hydrocarbons that are produced through a well bore bottomed on its leasehold estate. The court of appeals rejected Geo Viking's proffered jury instruction that some of that production would occur by virtue of a trespass on the neighboring lands due to the fracing operations. In a *jus tertii* type analysis the majority of the court of appeals justices would find that if a trespass occurred, that would be a matter between Tex-Lee and its neighbors and not a matter between Geo Viking and Tex-Lee. The author

48. *Id.*; Delhi-Taylor Oil Corp. v. Holmes, 344 S.W.2d 420 (Tex. 1961), *rev'g* 337 S.W.2d 479 (Tex. Civ. App 1960). It is interesting to note that *Gregg* and not *Coastal Oil v. Garza Energy Trust*, 268 S.W.3d 1 (Tex. 2008) is cited in *FPL Farming Ltd. v. Environmental Processing Systems, L.C.*, 383 S.W.3d 274 (Tex. App. 2012), to support the claim that an injection of an unhazardous waste plume into a disposal well may constitute a trespass if the plume crosses the property line. The possessory estate retained by the surface owner in the groundwater also provided a basis for finding of a potential trespass. 383 S.W.3d at 280–81 (citing Edwards Aquifer Auth. v. Day, 369 S.W.3d 814 (Tex. 2012)).

49. Geo Viking, Inc. v. Tex-Lee Operating Co., 817 S.W.2d 357, 364 (Tex. App. 1991), *rev'd on other grounds*, No. D-1678, 1992 Tex. LEXIS 40, at *2 (Tex. Apr. 22, 1992), *opinion withdrawn and writ denied per curiam*, 839 S.W.2d 797 (Tex. 1992).

50. *Geo Viking*, 817 S.W.2d 357.

51. *Id.* at 363–64.

of the majority opinion, however, changed his mind while a motion for rehearing was pending and wrote a dissenting opinion where he agreed with Geo Viking that a limiting instruction on damages was warranted because Geo Viking would not be entitled to benefit from the alleged trespass caused by the cross-boundary frac job. Essentially the dissent argued that illegal production resulting from a trespass cannot serve as the basis for damages. Relying on *Gregg*, Justice Grant found that the rule of capture was inapplicable because the capture was the result of a trespass.[52]

The Texas Supreme Court in a per curiam opinion, later withdrawn, said the following:

> Although oil and gas are subject to legitimate drainage under the law of capture, the owner "is accorded the usual remedies against trespassers who appropriate the minerals or destroy their market value." . . . Fracing under the surface of another's land constitutes a subsurface trespass. . . . Therefore, the rule of capture would not permit Tex-Lee to recover for a loss of oil and gas that might have been produced as the result of fracing beyond the boundaries of its tract.[53]

While granting motions for rehearing occurs within the ordinary course of business for the Texas Supreme Court, especially in oil and gas cases, issuing per curiam opinions and withdrawing the grant of a petition for review do not. The court's withdrawal of its earlier opinion contained the following disclaimer of either the majority or dissenting opinions of the court of appeals and clearly repudiated the withdrawn opinion: "In denying petitioner's application for writ of error we should not be understood as approving or disapproving the opinions of the court of appeals analyzing the rule of capture or trespass as they apply to hydraulic fracturing."[54]

There are a number of other decisions from other jurisdictions that indirectly deal with the hydraulic fracing/trespass issue. In *Columbia Gas Transmission Corp. v. Smail*,[55] Columbia Gas sought to enjoin the drilling of a well on a tract adjacent to, but outside, of the boundary of a certificated underground gas storage facility. While most of the opinion dealt with the likelihood that the new well would produce nonnative stored gas rather than native gas, there was evidence at the trial regarding the potential

52. *Id.* at 364–65. (Grant, J., dissenting).

53. *Geo Viking*, 1992 Tex. LEXIS 40, at *5.

54. *Geo Viking*, 839 S.W.2d at 798. Prior to the time the Texas Supreme Court withdrew its opinion, a federal district court in Texas found that a sand fracing job that crossed property lines and destroyed the integrity of the off-lease well was a trespass. Gifford Operating Co. v. Indrex, Inc., No. 2:89-CV-0189, 1992 U.S. Dist. LEXIS 22505, at *16–17 (N.D. Tex. Aug. 7, 1992).

55. No. C86-1196A, 1986 U.S. Dist. LEXIS 22580, at *2 (N.D. Ohio July 18, 1986).

impact of a proposed fracing operation on the storage facility. In attempting to balance the equities, the trial court allowed the well to be drilled but then required that Columbia Gas be provided notice before a fracing operation may be attempted so that it may oppose such an operation before the state conservation agency.[56] In states where there is no permit requirement for hydraulic fracturing operations, this type of attempted compromise might not work.

In *Zinke & Trumbo, Ltd. v. State Corporation Commission*,[57] the trespass issue was only tangentially involved because the plaintiff was challenging the Kansas Corporation Commission's setting of allowable for a fraced well. An operator of a lease adjacent to one operated by Zinke fractured a well that was 330 feet from the property line. This resulted in a 500 percent increase in the fraced well's flow rate.[58] The evidence showed that the apparent effective length was at least 400 feet. As a result, it appears likely that both the fluid and the proppants crossed the boundary lines. Because the Commission sets the allowable for wells based in part on the adjusted open flow rate of the well, Zinke sought to challenge the Commission's allowable order that greatly increased its competitor's allowable. Without commenting on the trespass issue the court noted that the Commission has a duty to protect correlative rights so that it had to consider evidence of the frac job's impact on adjacent lands. This would include the potential for production from underneath Zinke's lease. The court concluded that the Commission's proration order might reward the adjacent operator's trespass since the frac obviously crossed into Zinke's leasehold estate.[59]

In *ANR Production Co. v. Kerr-McGee Corp.*,[60] the Wyoming Supreme Court was faced with the aftermath of a hydraulic fracing operation that caused hydrocarbons to migrate from a unitized formation to the fraced well located in another formation. The unit agreement only covered the First Bench Formation and specifically authorized parties to the agreement to drill to nonunitized formations. ANR proposed to drill a well to the Second Bench Formation located some 40–50 feet below the First Bench Formation. ANR then fractured the well, which led to the unit operator's claim that the fracing operation caused communication between the First and Second Bench Formations so as to require the Commission to shut-in the well. After an initial round of litigation affirmed the

56. *Id.* at *26. The court further noted that the adjacent owner did not have any rights to the nonnative gas under the rule of capture. *See id*. at *5–6.

57. 749 P.2d 21 (Kan. 1988).

58. *Id.* at 27.

59. *Id.* at 27–28.

60. 893 P.2d 698 (Wyo. 1995).

Commission's shut-in order,[61] this action sought to recover damages for trespass. The Wyoming Supreme Court did not discuss the issue of trespass, but the court presumed that the trial court's order finding a trespass was correct because, on appeal, the parties disputed the amount of damages, not whether damages should be paid.[62]

With this backdrop seemingly leading to the inexorable result that cross-boundary frac jobs constitute a trespass, the Texas Supreme Court in *Coastal Oil & Gas Corp. v. Garza Energy Trust*[63] reversed course and concluded that the rule of capture precluded the finding of a trespass in such circumstances.[64] In *Coastal Oil*, there was some dispute as to the hydraulic length, the propped length, and the effective length of the frac job but it was generally conceded that both the hydraulic and propped lengths were greater than the 467 feet between the well being fraced and the boundary line.[65]

According to traditional trespass doctrine, a physical invasion of one's possessory estate is a trespass even without a showing of damages. The Texas Supreme Court recognized the basis proposition when it stated:

> Had Coastal caused something like proppants to be deposited on the surface of Share 13, it would be liable for trespass, and from the ancient common law maxim that land ownership extends to the sky above and the earth's center below, one might extrapolate that the same rule should apply two miles below the surface.[66]

Notwithstanding this bow to the common law, the Texas Supreme Court decided to ignore 1000 years of the common law of trespass based on four public policy reasons and weak attempts to distinguish both the earlier Texas cases dealing with hydraulic fracturing and the Texas cases dealing with slant or directional holes.[67] The key point to take from

61. ANR Prod. Co. v. Wyo. Oil & Gas Conservation Comm'n, 800 P.2d 492, 494 (Wyo. 1990).

62. *See Kerr-McGee*, 893 P.2d at 701.

63. 268 S.W.3d 1 (Tex. 2008).

64. *Id.* at 4. For a more thorough analysis of the facts and rationale of the *Coastal Oil* decision, see Bruce M. Kramer, Coastal Oil & Gas Corp. v. Garza Energy Trust*: Some New Paradigms for the Rule of Capture and Implied Covenant Jurisprudence*, 30 ENERGY & E. MIN. L. INST. 329; Anderson, *Subsurface Trespass After* Coastal v. Garza, *supra* note 3, at 65.

65. *Coastal Oil*, 268 S.W.3d at 6–7.

66. *Id.* at 11.

67. *See id.* at 14–17. My criticism of the *Coastal Oil* opinion is set forth in greater detail in Kramer, *supra* note 64. Professor Owen Anderson provided two additional reasons in support of the *Coastal Oil* opinion, namely practical necessity and common sense. Anderson, *supra* note 3, § 3.04[3], at 86. The dissenting opinion in *Coastal Oil* also provides a well-reasoned critique of the majority's abandonment of basic trespass

Coastal Oil is that a cross-boundary migration of frac fluids or proppants is not an actionable trespass in the absence of a showing of damages by the owner of the mineral estate so invaded, and such damages cannot be shown due to the impact of the rule of capture.

It took five years before another court would render a decision on the cross-boundary frac job as a trespass issue. In *Stone v. Chesapeake Appalachia, LLC*,[68] the district court, applying West Virginia law, held that West Virginia would not apply the *Coastal Oil* view that the rule of capture insulates an oil and gas operator who engages in a cross-boundary hydraulic fracturing operation from trespass liability. The *Stone* court specifically rejected the four reasons given by the majority opinion in *Coastal Oil* to support its conclusion that no trespass had occurred. It instead agreed with the dissenting opinion in *Coastal Oil* about the use of artificial means to increase production and drainage, which is inconsistent with an earlier Fourth Circuit case that explored the parameters of the rule of capture under West Virginia law.[69] It was not the use of "artificial means" that caused the trespass to occur but the existence of a cross-boundary migration of frac fluids or proppants that caused the trespass. Hydraulic fracturing is no different than other enhanced production techniques if the operations take place on the operator's side of the lease boundary line.

The court further supported its adoption of the *Coastal Oil* dissenting opinion by its rejection of the "self-help" or "drill or frac your own well" rationale that had been the hallmark of the rule of capture.[70] It saw no

principles. *Coastal Oil*, 268 S.W.3d at 42–51 (Johnson, J., concurring in part and dissenting in part).

68. Stone v. Chesapeake Appalachia, LLC, No. 5:12-CV-102, 2013 U.S. Dist. LEXIS 71121 (N.D.W. Va. April 20, 2013). In *Tucker v. Southwestern Energy Co.*, No. 1:11-cv-44-DPM, 2012 U.S. Dist. LEXIS 20697 (E.D. Ark. Feb. 17, 2012), the court refused to dismiss plaintiff surface owner's trespass claim that fracing fluids had migrated across property lines and rendered its water well unusable. The court expressed some doubt as to whether a trespass or a nuisance claim would be appropriate for alleged air pollution that crossed the boundary line.

69. *Stone* quoted extensively from *Trent v. Energy Development Corp.*, 902 F.2d 1143, 1147 n.8 (4th Cir. 1990), which accepted the general rule that however the oil or gas comes up through the wellbore the rule of capture applies so long as the wellbore is located on your side of the property line. *Stone*, 2013 U.S. Dist. LEXIS 71121, at *4 (quoting Trent v. Energy Dev. Corp., 902 F.2d 1143, 1147 n.8 (4th Cir. 1990)).

70. *Id.* at *17. The court's embracing of some hyperbole about oil and gas operators "stealing" oil or gas from the small landowner does not strengthen the court's opinion. One can say the same thing about the rule of capture in general since it does allow an adjacent owner to keep oil or gas which was originally located under the land of another. Furthermore, as only hinted at by the court, the legislature can avoid the taking of another's

difference between the cross-boundary migration of frac fluids and the cross-boundary migration of injected fluids used in secondary or enhanced recovery operations. The court also relied on the rationale of *Young v. Ethyl Corp.*,[71] one of several somewhat inconsistent opinions relating to the injection and withdrawal of brine that may have cross-boundary impacts.[72]

Under West Virginia law, a trespass is shown where: "the defendant's conduct . . . result[s] in an actual, nonconsensual invasion of the plaintiff's property, which interferes with the plaintiff's possession and use of that property."[73] Because the *Stone* opinion is an order denying the lessee's motion for summary judgment, the issue of whether the plaintiff can prove that there was a physical invasion of the frac fluid or proppant will have to be resolved at a trial on the merits of the trespass claim.

An issue that was not raised in *Stone* but was raised in *Coastal Oil* is that of standing to claim a trespass. Normally one would think that one has to own a present possessory estate in order to claim a trespass, but that may not necessarily be the case. Because Coastal Oil owned the leasehold estate on both sides of the property line, the court had to first determine the standing of the owner of the royalty interest and possibility of reverter to bring a "trespass" action. It found that a royalty/possibility of reverter owner does have standing, but the court specifically eschewed deciding the broader principle that subsurface invasions may be actionable where the plaintiff is the owner of the possessory estate.[74] Because the plaintiffs in *Coastal Oil* are owners of the nonpossessory royalty interest and a possibility of reverter, they did not own a present possessory estate. What if the plaintiffs in the case were oil and gas lessees, unleased mineral owners, surface owners, or owners of the unified estate all of whom may own a possessory estate? Given the court's affirmation of the rule that a

hydrocarbons by enacting well spacing and statutory pooling regulatory regimes which will minimize or eliminate the amount of "stealing" that may take place.

71. *Id.* at *18 (quoting Young v. Ethyl Corp., 521 F.2d 771 (9th Cir. 1975). *See also* Jameson v. Ethyl Corp., 609 S.W.2d 346 (Ark. 1980).

72. See cases cited in *supra* note 64. *See also* KRAMER & MARTIN, *supra* note 2, § 23.03.

73. *Stone*, 2013 U.S. Dist. LEXIS 71121, at *7 (quoting Hark v. Mountain Fork Lumber, 34 S.E.2d 348 (W. Va. 1945); Rhodes v. E.I. DuPont De Nemours Co., 636 F.3d 88, 96 (4th Cir. 2011). Another definition involves "an entry on another man's grounds without lawful authority, and doing some damage, however inconsiderable, to his real property." *Stone*, 2013 U.S. Dist. LEXIS 71121, at *7 (quoting Hagy v. Equitable Prod. Co., No. 2:10-cv-01372, 2012 U.S. Dist. LEXIS 69099 (S.D.W. Va. May 17, 2012)).

74. Coastal Oil & Gas Corp. v. Garza Energy Trust, 268 S.W.3d 1, 12–13 (Tex. 2008). The court drops a footnote embracing the long-held view that invasions of a possessory interest are actionable without the requirement of showing actual injury. *Id.* at 12 n.36.

trespass against a possessory interest does not require actual injury,[75] would the nonliability finding apply?[76]

Two simple hypotheticals will flesh out the lacunae in the *Coastal Oil* opinion. Assume that Able Oil Co., an oil and gas lessee of Blackacre, drills a horizontal well in compliance with the relevant state spacing rules and hydraulically fractures the well. Although the frac job is designed to not exceed the distance between the lateral and the property line, microseismic testing shows that the fluids and proppants cross the boundary line. Baker owns the unified fee simple absolute estate of Whiteacre. There is no doubt that Baker is the owner of the possessory estate. Under *Coastal Oil*, could Baker sue Able Oil Co. for trespass even in the absence of a showing of actual damages? My reading of the majority opinion is that Baker could sue and receive nominal damages. The unresolved issues are whether Baker can successfully sue to enjoin the fracing operation should he know about it before it starts, and whether he can successfully sue after the first frac job to enjoin any future fracing through the existing perforations in the lateral wellbore.

The second hypothetical also has Able Oil Co. engaging in the same operations as in the first hypothetical, but now Whiteacre has been leased from Baker to Charlie Oil Co. Charlie Oil has an existing horizontal well on Whiteacre. What is the potential liability if Able engages in a frac job and shortly thereafter Charlie Oil Co.'s well "waters out," "sands out," or suffers a dramatic diminution in its productivity? The *Coastal Oil* court specifically excepted from its rule of nonliability for cross-boundary migration "misconduct that is illegal, malicious, reckless, or intended to harm another without commercial justification . . . ."[77] Assuming that Able's activities do not meet any of the standards listed by the court, would it be liable in the case where the adjacent well "waters out"? Initially, one would have to determine whether a fault-based liability doctrine, such as negligence, would apply, or whether the "intentional" liability doctrine of trespass would apply. In either case there is a causation issue, but presume, for the purpose of this hypothetical, that the microseismic will show that the fractures extend beyond the property line onto Whiteacre. Since in absolute ownership jurisdictions Charlie Oil is the owner of a present

75. *Id.* at 12 n.36 (citing Lyle v. Waddle, 188 S.W.2d 770, 773 (1945) and McDaniel Bros. v. Wilson, 70 S.W.2d 618, 621 (Tex. Civ. App. 1934, writ ref'd)).

76. It is clear to Justice Willett that under no circumstances should a person engaging in hydraulic fracturing operations be held liable in the absence of some fault-based tort such as negligence. *Id.* at 30–31.

77. *Id.* at 17. The second hypothetical's facts are very similar to the facts in *Gifford Operating Co. v. Indrex, Inc.*, No. 2:89-CV-0189, 1992 U.S. Dist. LEXIS 22505 (N.D. Tex. Aug. 7, 1992), where the court concluded that a trespass had occurred and awarded damages to the lessee of the well deleteriously impacted by the adjacent lessee's frac job.

possessory estate, the language in *Coastal Oil* applying the trespass on the case/actual damages model would seemingly be inapposite.[78] In fact, *Coastal Oil* supports finding liability without actual damages in invasions of one's possessory estate. The intent requirement for trespass is not necessarily a specific mens rea requirement but merely that one set into motion actions that led to the invasion of another's possessory estate. Professor Anderson, in commenting on the intent element, states:

> The intentionality of any subsurface invasion is of paramount concern, given that it is the distinguishing factor in apportioning liability between invasions that do cause harm and those that do not. Because waste injection operations, gas storage operations, and enhanced recovery operations would be considered intentional acts and could be done with intent or at least knowledge that such operations could invade neighboring subsurface, such operations would seem to be actionable for money damages under the Restatement and possibly subject to injunctive relief.[79]

If you add hydraulic fracturing to the list of operations or activities, which makes sense, then it would appear that Able Oil has committed a trespass.

Furthermore, Charlie Oil would, depending on the proof available, be able to show negligence in the design or implementation of the fracturing operation. Whether or not the res ipsa loquitur doctrine may be applicable is unclear but one could argue that a well that is producing at a certain rate and a certain pressure is not likely to suddenly "water out" or "sand out" without external causes.[80] In this hypothetical, the issue of damages is relatively easy to prove both as to the individual well that has been impacted but also in terms of recoverable damages to the formation, a cause of action recognized in at least a few states.[81] The *Coastal Oil* rule regarding nonliability due to the lack of damages under the rule of capture

78. Owen Anderson argues that the Restatement (Third) of Torts that is presently being drafted should insulate the injector from liability even where the trespass is claimed by the owner of the possessory estate in the absence of a showing of actual damages. Anderson, *Lord Coke*, *supra* note 3, at 207–11.

79. *Id.* at 210 (footnotes omitted).

80. The *res ipsa loquitor* doctrine was discussed in *E. I. Du Pont de Nemours & Co. v. Cudd*, where a person was injured during a "well shooting" operation involving the use of nitroglycerin to essentially fracture the formation to increase permeability. 176 F.2d 855, 859 (10th Cir. 1949).

81. *See* Elliff v. Texon Drilling, 210 S.W.2d 558, 562–63 (Tex. 1948). Professor David Pierce in his insightful work on the nature of correlative rights would clearly find that a duty exists to neither injure the formation nor to produce more than one's fair share of the common source of supply. David E. Pierce, *Developing a Common Law of Hydraulic Fracturing*, 72 U. PITT. L. REV. 685 (2011).

does not necessarily extend to circumstances where the party receiving the frac fluids and proppants is claiming that the operator is negligent in designing or implementing the fracture operation. Furthermore, where the damages alleged are not based on the amount of oil or gas being drained away but on damage to the formation, so traditional trespass liability would attach so that negligence need not be shown.

The wild card in this analysis is whether or not a jurisdiction will apply the strict or absolute liability standard of *Rylands v. Fletcher*.[82] This issue has been revived by two recent decisions in Pennsylvania that allowed claims under the strict liability doctrine for alleged injuries caused by hydraulic fracturing operations to withstand the operators' motions for summary judgment.[83] Most states, in general, apply the six-factor Restatement (Second) test to determine if the particular activity should fall within the definition of an ultrahazardous activity that triggers the strict liability standard.[84] In the Pennsylvania cases, the courts also applied the Restatement (Second) multi-factor test and distinguished some state cases dealing with oil-related activities that refused to apply the *Rylands* standard.[85]

The case law on the application of the *Rylands* standard is mixed. Texas has seemingly rejected the *Rylands* doctrine *in toto* as applied to oil

82. [1868] UKHL 1, (1866) 1 L.R. Ex. 265, *aff'd*, (1868) 3 (H.L.) 330.

83. Berish v. Sw. Energy Prod. Co., 763 F. Supp. 2d 702, 705 (M.D. Pa. 2011); Fiorentino v. Cabot Oil & Gas Corp., 750 F. Supp. 2d 506 (M.D. Pa. 2010); *see also* Tucker v. Sw. Energy Co., No. 1:11-cv-44-DPM, 2012 U.S. Dist. LEXIS 20697 (E.D. Ark. Feb. 17, 2012). Two student comments have joined the debate: one favoring the use of the strict liability doctrine, Hannah Coman, Comment, *Balancing the Need for Energy and Clean Water: The Case for Applying Strict Liability in Hydraulic Fracturing Suits*, 39 B.C. ENVTL. AFF. L. REV. 131 (2012); and one opposing, Joe Schremmer, Comment, *Avoidable "Fraccident": An Argument Against Strict Liability for Hydraulic Fracturing*, 60 KAN. L. REV. 1215 (2012).

84. RESTATEMENT (SECOND) OF TORTS §§ 519–20 (1965). For some general commentary on the strict liability doctrine *see* William K. Jones, *Strict Liability for Hazardous Enterprise*, 92 COLUM. L. REV. 1705 (1992). There are also some excellent law review articles on both sides of the argument regarding the applicability of *Rylands v. Fletcher* to oil and gas operations. *See, e.g.*, Leon Green, *Hazardous Oil and Gas Operations: Tort Liability*, 33 TEX. L. REV. 574 (1955); Page Keeton & Lee Jones, Jr., *Tort Liability and the Oil and Gas Industry*, 35 TEX. L. REV. 1 (1956). In *Branch v. Western Petroleum, Inc.*, 657 P.2d 267, 273 (Utah 1982), the court notes that some 30 jurisdictions have adopted the *Rylands* doctrine while only seven have rejected it.

85. In *Fiorentino v. Cabot Oil & Gas Corp.*, 750 F. Supp. 2d 506 (M.D. Pa. 2010), the court distinguished *Melso v. Sun Pipe Line Co.*, 576 A.2d 99 (Pa. Commonw. Ct. 1990), finding the operation of a petroleum pipeline not an ultrahazardous activity, and *Smith v. Weaver*, 665 A.2d 1215 (Pa. Super. Ct. 1995), making a similar finding as to an underground storage tank.

and gas operations.[86] Louisiana through its Civil Code has an analog to the *Rylands* doctrine,[87] but the Louisiana courts have rejected its application to both oilfield and hydrocarbon pipeline operations.[88] Wyoming treats oilfield drilling operations as ultrahazardous activities but then seemingly adds a negligence or fault component to the liability question.[89] Other recent decisions also reject the application of the doctrine to hydrocarbon pipeline operations, typically as alleged after there has been a pipeline breach and explosion.[90]

There have not been many cases dealing with "normal" oil and gas drilling and production operations, but in *Williams v. Amoco Production Co.*,[91] the court in a cogent analysis of the Restatement (Second) factors concluded that a natural gas drilling operation was not an ultrahazardous activity. The court did so by looking at the individual drilling operation and the threat of explosions, which it found to be almost nonexistent under the facts as presented.[92]

There are, however, three cases involving the injection or migration of fluids into subsurface formations all of which concluded that the *Rylands* doctrine should apply. In *Mowrer v. Ashland Oil & Refining Co.*,[93] an oil and gas lessee of an adjacent tract instituted a waterflood secondary recovery operation that was approved by the state oil and gas conservation agency. Several years later, the plaintiff discovered oil seeping out of a plugged and abandoned wellbore on his property and subsequently discovered contamination of his freshwater well. While the

86. Turner v. Big Lake Oil Co., 96 S.W.2d 221 (Tex. 1936); Cosden Oil Co. v. Sides, 35 S.W.2d 815 (Tex. Civ. App. 1931); Klostermann v. Houston Geophysical Co., 315 S.W.2d 664 (Tex. Civ. App. 1958).

87. LA. CIV. CODE art. 667 (1996).

88. *See* Barasich v. Columbia Gulf Transmission Co., 467 F. Supp. 2d 676 (E.D. La. 2006) (pipeline operations); TS & C Invs., L.L.C. v. Beusa Energy, Inc., 637 F. Supp. 2d 370 (W.D. La. 2009); La. Crawfish Producers Ass'n-W. v. Amerada Hess Corp., 935 So.2d 380 (La. App. 2006).

89. *See* Hull v. Chevron U.S.A., Inc., 812 F.2d 584, 589 (10th Cir. 1987) (applying Wyoming law); Pan Am. Petroleum Corp. v. Like, 381 P.2d 70 (Wyo. 1963).

90. *See, e.g.*, Smith v. Mid-Valley Pipe Line Co., No. 3:07-CV-13-KKC, 2007 U.S. Dist. LEXIS 33179 (E.D. Ky. May 4, 2007); Cantrell v. Marathon Ashland Pipe Line, L.L.C., No. Civ.A. 03-298-KSF, 2005 U.S. Dist. LEXIS 45192 (E.D. Ky. June 30, 2005); Fletcher v. Conoco Pipe Line Co., 129 F. Supp. 2d 1255, 1261 (W.D. Mo. 2001); Mahowald v. Minn. Gas Co., 344 N.W.2d 856, 863 (Minn. 1984); Foster v. City of Keyser, 501 S.E.2d 165 (W.Va. 1997); New Meadows Holding Co. v. Wash. Water Power Co., 687 P.2d 212 (Wash. 1984).

91. 734 P.2d 1113 (Kan. 1987).

92. *Id.* at 1123; *accord* Charles F. Hayes & Assocs., Inc. v. Blue, 233 So.2d 127, 128 (Miss. 1970).

93. 518 F.2d 659 (7th Cir. 1975).

case was tried to a jury utilizing nuisance theory, in rejecting the defendant's motion for a judgment *non obstante verdictor*, the trial court stated that the defendant engaged in an ultrahazardous activity invoking the *Rylands* doctrine.[94] The Seventh Circuit affirmed the view that the injection program constituted an ultrahazardous activity even though it was permitted by the state. Conflating the nuisance and strict liability doctrines, the court concluded that the jury verdicts relating to the nature of the defendant's operations supported a finding of liability under either theory.

There are obvious ties between the injection of fluids in *Mowrer* that caused other fluids to migrate across property lines and the injection of fluids in a hydraulic fracturing operation. The court's conflation of nuisance and strict liability weakened the court's conclusion that a state-licensed secondary recovery injection program was an ultrahazardous activity under the Restatement (Second)'s six-factor balancing test. Nonetheless, *Mowrer* clearly stands for the proposition that even utilizing a technique that is widely used can support the finding that it is an ultrahazardous activity.

In *Gulf Oil Corp. v. Hughes*,[95] as in *Mowrer*, the defendant commenced a secondary recovery water injection program that plaintiff alleged caused the pollution of its water well used for domestic and livestock purposes. The jury was given several instructions, including an instruction based on strict liability.[96] The instruction allowed the jury to award damages merely upon a showing that the defendant engaged in water flooding operations and such operations caused the plaintiffs' water supply to be unusable. The opinion, however, couched its analysis as one involving nuisance and not strict liability even though the instruction at issue did not include the typical requirements for nuisance liability involving an unreasonable interference with use and enjoyment of another's property.

In *Branch v. Western Petroleum, Inc.*,[97] the alleged ultrahazardous activity was not the injection of fluids into the ground but the disposal of produced water on the ground that allegedly migrated across property lines to pollute a water well on the plaintiff's land. The migration was both on the surface and below the ground.[98] The trial court found that the *Rylands*

94. *Id.* at 661 (relying on a coal mining case, Enos Coal Mining Co. v. Schuchart, 188 N.E.2d 406 (Ind. 1963), where the coal miner was using explosives as part of its operations).

95. 371 P.2d 81 (Okla. 1962).

96. *Id.* at 84.

97. 657 P.2d 267 (Utah 1982).

98. *Id.*

doctrine applies to the surface disposal operations. The plaintiffs did not allege either nuisance or a trespass, although the surface run-off of the produced water that flowed onto their land would clearly have constituted a trespass. Instead, the Utah Supreme Court concluded that the accumulation of produced water in a single pond that was unlined was "an abnormally dangerous and inappropriate use of the land" partly because the pond was in close proximity to the plaintiff's water well.[99] The court further noted that imposing a strict liability standard for a party that is polluting groundwater is consistent with the public policy as reflected in statutory prohibitions against such pollution.[100] As with *Mowrer*, the court also concluded that the judgment against the oil and gas operator could be supported on a nuisance theory.

Professor Anderson believes that the traditional Restatement of Torts approach to physical and intentional trespass, which creates a viable cause of action without the need to prove actual damages or injury, should not be the approach taken by the pending Restatement (Third) of Torts as it regards damage-less subsurface trespasses.[101] He would treat subsurface trespasses of frac fluids and proppants as the Restatement (Second) treats aerial trespasses.[102] This approach would accept the *Coastal Oil* damage requirements for subsurface trespasses but obviously not preclude a subsurface trespass action being brought where the plaintiff can show actual damage to the formation. Should an operator who is nonnegligent but nonetheless causes injury to the common source of supply after a fracing operation be held liable where the fluids and proppants cross property lines? Professor David Pierce believes that where an operator does cause such damage, whether by physical injury to the formation or by gaining more than its fair share of the hydrocarbons (correlative rights doctrine), that operator should be liable.[103] Trespass, however, is not the sole tort that may be asserted in the cross-boundary migration of frac fluids or proppants. As noted above, negligence or strict liability claims are potentially available to the party receiving the fluids and/or proppants. In those cases, however, as in the *Coastal Oil* trespass claim, the injured party must show actual damages. That can be shown not by the loss of hydrocarbons but through injury to the common source of supply, injury to the wellbore on the adjacent tract through "watering" or "sanding" out, or through injury to the adjacent owner's correlative rights.

99. *Id.* at 274.

100. *Id.* at 275; *see also* Atlas Chem. Indus., Inc. v. Anderson, 514 S.W.2d 309 (Tex. Civ. App 1974), *aff'd*, 524 S.W.2d 681 (Tex. 1975).

101. Anderson, *Lord Coke*, *supra* note 3, at 212.

102. *Id.*

103. Pierce, *supra* note 81, at 693–94.

V. CROSS-BOUNDARY MIGRATION OF INJECTED FLUIDS

There are two other factual scenarios that the courts have dealt with concerning the cross-boundary migration of fluids. The first involves waste disposal operations and the second involves secondary or enhanced recovery operations. In both scenarios, the extant court opinions have been impacted by the issuance of state permits regarding the injection program. It is an axiomatic rule of administrative law that in the absence of an express delegation of authority by the legislature, administrative bodies lack the power to adjudicate common law causes of action or otherwise license or permit private actions that would violate some common law duty, be it contract, property, or tort-based.[104]

As recently stated by the Texas Supreme Court:

> As a general rule, a permit granted by an agency does not act to immunize the permit holder from civil tort liability from private parties for actions arising out of the use of the permit. . . . Of course, statutory remedies may preempt common law actions or other standards that may set the bar for liability in tort, but a permit is not a get out of tort free card.[105]

In *FPL Farming Ltd. v. Environmental Processing Systems, L.C.*, the Texas Supreme Court rejected the claim that by receiving a waste injection well permit, the injector was insulated from the common law tort of trespass should the owner of the formation allegedly receiving the wastewater stream be able to show that there was a cross-boundary migration of such fluids.[106]

The reversed court of appeals decision relied on two Texas Supreme Court opinions that seemingly gave great weight to the administrative decision to issue a permit or not regulate the injection program. In

---

104. KRAMER & MARTIN, *supra* note 2, §§ 22.04, 24.02[2][a]. *See generally* Pickrell Drilling Co. v. Corp. Comm'n, 654 P.2d 477 (Kan. 1982); Merritt v. Corp. Comm'n, 438 P.2d 495 (Okla. 1968); FPL Farming Ltd. v. Envtl. Processing Sys., L.C., 351 S.W.3d 306 (Tex. 2011); Preferred Energy Props. v. Wyo. State Bd. of Equalization, 890 P.2d 1110 (Wyo. 1995). Where a party asserts a negligence per se claim, however, the existence of a state permit or the lack of a finding that the permittee is acting in violation of the permit will clearly impact the success or failure of such a claim. *See* KRAMER & MARTIN, *supra* note 2, § 21.01.

105. *FPL Farming*, 351 S.W.3d at 310–11.

106. The court also notes that the enabling statute not only did not intend to preempt common law causes of action but also specifically preserved them. TEX. WATER CODE ANN. § 27.104 (West 2013); 30 TEX. ADMIN. CODE § 305.122(c) (2014). *FPL Farming*, 351 S.W.3d at 312–13.

Railroad Commission v. Manziel,[107] a case where there was interplay between a Commission order authorizing a secondary injection program and a common law claim for trespass, the Texas Supreme Court said:

> The orthodox rules and principles applied by the courts as regards surface invasions of land may not be appropriately applied to subsurface invasions as arise out of the secondary recovery of natural resources. . . .We conclude that if, in the valid exercise of its authority to prevent waste, protect correlative rights, or in the exercise of other powers within its jurisdiction, the Commission authorizes secondary recovery projects, a trespass does not occur when the injected, secondary recovery forces move across lease lines, and the operations are not subject to an injunction on that basis. The technical rules of trespass have no place in the consideration of the validity of the orders of the Commission.[108]

This language supports the view taken in *Williams & Meyers* that there is a "negative" rule of capture that insulates from liability such secondary recovery operations even where there is cross-boundary migration of the injected fluids.[109] Instead of overruling *Manziel*, the Texas Supreme Court in *FPL Farming* merely distinguished it on the basis that *Manziel* involved an attack on the validity of the Commission secondary recovery order while *FPL Farming* was a common law, private tort action. This is, of course, somewhat inconsistent with the use of *Manziel* in the *Coastal Oil* case where the Texas Supreme Court deferred to the Railroad Commission the decision to regulate or not regulate hydraulic fracturing operations.

In New Mexico, where there is a cross-boundary migration of injected fluids, the injector will be liable for tort damages, including trespass and nuisance damages, even though the injector may have received a permit from the state conservation agency. In *Hartman v. Texaco, Inc.*,[110] the court treated, as a given, the tort liability of a unit operator whose injections caused an adjacent owner's well to water-out and focused on whether a statutory double-damages recovery was allowed for a subsurface as opposed to a surface trespass.

In Kansas, the decisions relating to the impact of state orders on cross-boundary migration of injected fluids in secondary recovery actions are somewhat inconsistent. In *Jackson v. State Corporation*

---

107. 361 S.W.2d 560 (Tex. 1962).

108. *Id.* at 568–69. The court cites in part that portion of the *Williams & Meyers* treatise positing the "negative" rule of capture theory.

109. WILLIAMS & MEYERS, *supra* note 1, § 204.5.

110. 937 P.2d 979, 983 (N.M. Ct. App. 1997).

Commission,[111] the Kansas Supreme Court had no difficulty upholding a Commission order allowing a unit operator to inject saltwater into a well located some 12 feet from the property line in order to implement an enhanced recovery project. Since the only issue for the court was whether there was substantial evidence in the record to support the permit, the court did not analyze the reasonably obvious potential for the fluids to migrate across the property line.[112] This litigation was followed by a common law tort action asserting trespass and other tort claims based on the watering-out of the plaintiff's well.[113] The principal issue in the second case was whether the doctrine of collateral estoppel precluded an "attack" on the Commission order. The court, applying the traditional view that agencies do not have the power to adjudicate common law views, rejected the application of the collateral estoppel doctrine and then went on to apply a "strict liability" standard for cross-boundary migration of injected fluids.

But there is language, albeit dicta, in *Crawford v. Hrabe*,[114] a case dealing with the injection of brine or produced water for secondary recovery purposes, which seemingly rejected the *Tidewater/Jackson* conclusion. The case centered on the power of the lessee to inject brine into the lessor's wells that was produced off of the lease. But in reviewing the potential for trespass liability the court stated that "[e]ven when no contractual rights exist between a property owner and an oil and gas lease operator, courts have been reluctant to apply the general rules of trespass to subsurface intrusions of migrating salt water."[115]

Three relevant cases in Arkansas create the same type of confusion as exists in Kansas. In *Budd v. Ethyl Corp.*,[116] the court, in dicta, clearly suggested that a cross-boundary migration of fluids as part of a secondary recovery operation would not constitute a common law trespass. *Budd*,

111. 348 P.2d 613, 617 (Kan. 1960).

112. There is evidence in the record that the location of the injection well would optimize recovery of the oil. *Id.* at 614–15. *See generally* KRAMER & MARTIN, *supra* note 2, § 23.03[1].

113. Tidewater Oil Co. v. Jackson, 320 F.2d 157 (10th Cir. 1963).

114. 44 P.3d 442 (Kan. 2002).

115. *Id.* at 449–50 (analyzing W. Edmond Salt Water Disposal Ass'n v. Rosecrans, 226 P.2d 965 (Okla. 1950); Cal. Co. v. Britt, 154 So. 2d 144 (Mo. 1963); R.R. Comm'n v. Manziel, 361 S.W.2d 560 (Tex. 1962); Baumgartner v. Gulf Oil Corp., 168 N.W.2d 510 (Neb. 1969)).

116. 474 S.W.2d 411, 413 (Ark. 1971). In *Tucker v. Southwestern Energy Co.*, No. 1:11-cv-44-DPM, 2012 U.S. Dist. LEXIS 20697 (N.D. Ark. Feb. 17, 2012), the court at the summary judgment stage refused to dismiss a trespass claim based on allegations that frac fluids migrated under a property line and rendered a water well unusable. *Tucker* also intimated that as to claims relating to air pollutants crossing property lines that nuisance, rather than trespass, might be the more appropriate cause of action.

however, is followed by *Young v. Ethyl Corp.*,[117] a case involving the same field as *Budd*. A nonparty to the unit agreement was able to obtain trespassory damages when de-brominated fluids were injected within the unit but then migrated outside of the unit onto the plaintiff's mineral estate. The measure of damages was the difference in value between the original, more valuable, brominated water and the replacement, less valuable, de-brominated water.[118] The Arkansas Supreme Court opted for the *Young* rationale in *Jameson v. Ethyl Corp*.,[119] a case involving the same field as the two earlier cases. The court noted the tension between enhanced recovery operations, the rule of capture and the common law nuisance and trespass causes of action. The fact that the injector was producing the more valuable brominated fluid would normally be immunized from liability by the rule of capture. The court, however, chose not to follow the path of the much later-decided *Coastal Oil* opinion and emphasized that the migration of the fluids across the plaintiff's boundary line was either a trespass or a nuisance. The Jamesons could not measure damages based on the value of the produced brominated fluids from Ethyl's wells since that was protected by the rule of capture, but they could seek damages and/or injunctive relief against the physical invasion of their mineral estate by the injected fluids.

Both California and Oklahoma recognize that the injection of fluids even for secondary recovery purposes may constitute a trespass, presuming that the injured party can show damages. In *Cassinos v. Union Oil Co. v. California*,[120] the court found that the injection of wastewater that crossed a boundary line and caused damage to an adjacent tract of land constituted both a trespass and a tort. The court crafted a quasi-contractual damage remedy based on the value of the disposal right rather than the traditional before and after value used in trespass claims.

Oklahoma also found that the injection of fluids for secondary recovery purposes that moves across a unit boundary may constitute a nuisance under Oklahoma's somewhat unique nuisance cause of action.[121] After a number of cases denying nuisance/trespass liability based on the

117. 382 F. Supp. 769 (W.D. Ark. 1974), *rev'd*, 521 F.2d 771 (8th Cir. 1975), *on remand*, 444 F. Supp. 207 (W.D. Ark. 1977), *aff'd in part and rev'd in part*, 581 F.2d 715 (8th Cir. 1978). The *Young* rationale provided one of the bases in *Stone v. Chesapeake Appalachia, L.L.C.*, No. 5:12-CV-102, 2013 U.S. Dist. LEXIS 71121, at *6 (N.D.W. Va. Apr. 10, 2013) for the court's conclusion that a cross-boundary migration of frac fluids would constitute an actionable trespass.

118. *Young*, 581 F.2d at 717.

119. 609 S.W.2d 346 (Ark. 1980).

120. 18 Cal. Rptr. 2d 574 (Cal. Ct. App. 1993).

121. *See* KRAMER & MARTIN, *supra* note 2, § 23.03[2][b].

plaintiffs' failure to prove damages,[122] the Tenth Circuit made a definitive ruling that upon a showing of damages, the plaintiff was entitled to recover against an injector even though the injector had received a Corporation Commission permit to engage in secondary recovery operations.[123]

Finally, in Nebraska, the court fashioned its own compromise solution to the issue of potential trespassory liability in cases where the party asserting the trespass has refused to join a voluntary unit. In *Baumgartner v. Gulf Oil Corp.*,[124] the plaintiff refused to join a voluntary unit agreement that was planning to engage in an enhanced recovery operation. The Nebraska Oil and Gas Conservation Commission approved the operation.[125] Fluids were migrating into the plaintiff's tract and pushing oil onto the unit. Plaintiff asserted that the fluids caused a trespass and constituted a nuisance. The court applied the rule of capture to deny damages to the plaintiff for the amount of oil that would have migrated to the unit wells in the absence of the enhanced recovery operation. While relying on *Manziel* and its "negative" rule of capture doctrine, the court found that the injector could be liable if the plaintiff could show that the cross-boundary migration interfered with the plaintiff's ability to produce oil through primary recovery operations.[126] This compromise appears to do violence to the rule of capture and is clearly inconsistent with the later-developed *Coastal Oil* rationale that no damages can be shown by the migration of hydrocarbons across property lines that is caused by the injection of fluids.

There has been a substantial amount of litigation regarding the injection of fluids for waste disposal purposes. Some of these cases, such as *FPL Farming*, deal with the impact of a state administrative agency's issuance of a permit for such disposal operations. As discussed above, the *FPL Farming* conclusion that an agency permit will not insulate the injector of waste from common law tort liability, including trespass liability, is the generally recognized rule.[127] Many of these cases deal with the scope of the implied easement of surface use in the context of whether or not the lessee has the power to inject fluids that are generated off of the

122. *See* W. Edmond Salt Water Disposal Ass'n v. Rosecrans, 226 P.2d 965 (Okla. 1950), *app. dismissed*, 340 U.S. 924 (1951); W. Edmond Hunton Lime Unit v. Lillard, 265 P.2d 730 (Okla. 1954).

123. Greyhound Leasing & Fin. Corp. v. Joiner City Unit, 444 F.2d 439 (10th Cir. 1971).

124. 168 N.W.2d 510 (Neb. 1969).

125. At the time of this litigation Nebraska did not have a compulsory unitization statute, although such a statute is enacted shortly after this decision is rendered.

126. *Baumgartner*, 168 N.W.2d at 516–17.

127. KRAMER & MARTIN, *supra* note 2, §§ 23.03, 24.02[2].

lease.[128] Lastly there are the cases dealing with the cross-boundary migration of frac fluids.

In *FPL Farming*, the Texas Supreme Court remanded the case back to the court of appeals to look at a number of issues that had been short-circuited by the court of appeals' decision to insulate the injector from liability due to its injection well permit.[129] The original trial court opinion dismissed the plaintiff's trespass claim because plaintiff did not show any actual damages and rejected the plaintiff's request for an instruction that actual injury is not an element of the trespass cause of action.[130] The Texas Supreme Court was clearly signaling to the appellate court that the *Coastal Oil* holding probably did not apply to the cross-boundary migration of waste fluids where the rule of capture is not implicated.

Given the opportunity to decide the trespass issue on the merits, rather than avoid it by treating the injection well permit as a "get out of jail free" card, the Texas Court of Appeals in *FPL Farming*[131] concluded that FPL should be allowed to try its trespass claims.[132] Relying on a pre-*Coastal Oil* case dealing with an underground trespass claim from hydraulic fracturing operations undertaken on producing wells[133] as well as a directional well case where the well was bottomed on adjacent lands,[134] the court concluded that Texas would recognize such claims. The court did not cite *Coastal Oil* in its discussion of an underground trespass cause of action, nor does it deal with the fact that *Coastal Oil* clearly distinguishes *Gregg*. *Coastal Oil* also emphasized the fact that activities

128. *See* WILLIAMS & MEYERS, *supra* note 1, § 218.4

129. FPL Farming Ltd. v. Envtl. Processing Sys., L.C., 351 S.W.3d 306 (Tex. 2011), *rev'g* 305 S.W.3d 739 (Tex. App. 2009). On remand from the Texas Supreme Court, the Court of Appeals discussed the issue of whether the owner of the surface had standing to claim damages caused by the alleged migration of the waste plume. FPL Farming Ltd. v. Envtl. Processing Sys., L.L.C., 383 S.W.3d 274, 279 (Tex. App. 2012). The injector argued that a predecessor in title to FPL had reserved the right to store minerals in the sub-surface and therefore the surface owner did not have standing to claim an injury to the sub-surface. The court found that based on the surface owner's ownership of the groundwater, Robinson v. Robbins Petroleum, Corp., 501 S.W.2d 865 (Tex. 1973), there was a sufficient showing of an ownership interest to claim a trespassory injury. *Id.* at 280–281.

130. *FPL Farming*, 351 S.W.3d at 315; *FPL Farming*, 305 S.W.3d at 741–42.

131. 383 S.W.3d 274 (Tex. App. 2012), *petition for review granted*, No. 09-08-00083-CV, 2013 Tex. LEXIS 1010 (Tex. Nov. 22, 2013).

132. The court disposed of Environmental Processing Systems' affirmative defense that FPL lacked standing to bring a claim for an underground trespass. 383 S.W.3d at 279–80. While FPL owned only the surface estate and a third party owned the mineral estate including the right to inject and store, the court concluded that as the surface owner, FPL was the owner of any groundwater (citing *Robinson*, 501 S.W.2d at 867).

133. Gregg v. Delhi-Taylor Oil Corp., 344 S.W.2d 411, 415–16 (Tex. 1961).

134. Hastings Oil Co. v. Tex. Co., 234 S.W.2d 389, 396–97 (Tex. 1950).

below the surface are different than activities on the surface and also distinguished the trespassing directional well cases as not applying to the underground migration of fluids.

In *FPL Farming*, Environmental Processing Systems also tried to argue that because the disposal is occurring in a briny or salt water-laden strata, there can be no trespass.[135] But a recent decision of the Texas Supreme Court clearly found that the ownership of groundwater is like the ownership of oil and gas, namely that the owner has a possessory interest in the water or oil and gas that is subject to the rule of capture and police power regulation.[136] Even though there is little, if any, value to the briny groundwater, the fact that the plume from the Environmental Processing Systems' injection well was migrating across the property lines implied that the briny water formation under the FPL surface had commercial value which might provide a measure of damages in the trial. Thus, a trial on the merits of the trespass cause of action was ordered.

Other decisions, however, seem to apply the *Coastal Oil* actual damages rationale for subsurface physical trespasses. In *Chance v. BP Chemicals, Inc.*,[137] the owners of the unified estate brought a class action on behalf of all of such owners alleging that fluids injected into a subsurface formation migrated across their property lines to support nuisance, strict liability, and trespass claims. The court first agreed with the general rule that merely because the defendant had a permit from the state it was not insulated from common law tort liability.[138] The court then disagreed with the plaintiff owners' claim that they are the absolute owner of the subsurface estate based on the air rights cases.[139] That served as the basis for imposing an actual damages requirement on the plaintiffs which they were unable to meet because their principal damages expert testified only as to the potential loss of value due to people being wary that waste fluids were being deposited several thousand feet under the surface.[140] While the *Chance* opinion's definition of a trespass does not require proof of actual damages, other Ohio decisions include actual damages as an

135. *FPL Farming*, 383 S.W.3d at 280–81.

136. Edwards Aquifer Auth. v. Day, 369 S.W.3d 814 (Tex. 2012).

137. 670 N.E.2d 985 (Ohio 1996).

138. *Id.* at 990. The court summarily agrees that the nuisance and strict liability claims were properly dismissed by the trial court. *Id.*

139. *Id.* at 991–92 (relying on Willoughby Hills v. Corrigan, 278 N.E.2d 664 (Ohio 1972)). The court obviously did not get into the ownership issue that would be caused by the severance of the mineral and surface estates.

140. *Id.* at 993. One might argue that a claim may have been asserted based on some quasi-contract/unjust enrichment theory since the plaintiffs were the unwilling storer of such wastes for which the injector had undoubtedly paid someone for the privilege of so injecting or through the purchase of the subsurface and/or surface estate.

element of any trespass claim.[141] Nonetheless, the *Chance* opinion clearly places Ohio in the same category as Texas under *Coastal Oil*, namely that where there has been a cross-boundary migration of fluids, actual damages must be proven before trespassory liability will be found.

Louisiana, through federal court decisions, has taken a different approach to the issue of potential trespass liability. In *Raymond v. Union Texas Petroleum Corp.*,[142] the court found that a cross-boundary migration of injected salt water that was licensed by a state agency is "not unlawful and does not constitute a legally actionable trespass."[143] The court further noted that a potential trespass claim could be filed in the future should the owner be able to show actual damages from the migration of fluids. *Raymond* is followed by *Mongrue v. Monsanto Co.*,[144] where the trial court initially found that triable issues of fact exist as to the existence of a potential trespass claim, distinguishing *Raymond*, but the plaintiffs then dismissed the trespass claim and asserted an unlawful takings claim based on the existence of the permit. The Fifth Circuit only dealt with the takings claim and affirmed the dismissal of that claim without further discussing the trespass issue. *Boudreaux v. Jefferson Island Storage & Hub, L.L.C.*[145] ignores the *Mongrue* district court opinion finding that triable issues of fact existed on the trespass claim even with the state permit and reaffirmed the *Raymond* finding that the state permit made the injections "lawful."[146]

In New Mexico, the court in *Snyder Ranches, Inc. v. Oil Conservation Commission*[147] seems to reject the *Coastal Oil* rationale of requiring actual damages where injected fluids cross boundary lines while at the same time reaffirming the view that the Commission's permit cannot insulate the injector from trespassory liability. This portion of its opinion is dicta, but the court nonetheless makes the clear point that should the party asserting

141. *See* Apel v. Katz, 697 N.E.2d 600 (Ohio 1998); Linley v. DeMoss, 615 N.E.2d 631, 633 (Ohio 1992).

142. 697 F. Supp. 2d 270 (E.D. La. 1988).

143. *Id.* at 274. The court relies largely on *Nunez v. Wainoco Oil & Gas Co.*, 488 So.2d 955 (La. 1986), a case dealing with a pooled unit where the wellbore deviated from true vertical and ended up beneath a tract of land which was still located within the pooled unit. *Nunez* is discussed *infra* text accompanying notes 164–166.

144. Civil Action No. 98-2531 Section "L" (2), 1999 U.S. Dist. LEXIS 5543 (E.D. La. Apr. 9, 1999), Civil Action No. 98-2531 Section "L" (4), 1999 U.S. Dist. LEXIS 16663 (E.D. La. Oct. 21, 1999), Civil Action No. 98-2531 Section "L" (4), 1999 U.S. Dist. LEXIS 19573 (E.D. La. Dec. 16, 1999), *aff'd*, 249 F.3d 422 (5th Cir. 2001).

145. 255 F.3d 271 (5th Cir. 2001).

146. *Id*. at 274. The court also cites *Mongrue* to the effect that because a tort claim might have been made, no claim may be based on quasi-contract/unjust enrichment. *Id.* at 275.

147. 798 P.2d 587 (N.M. 1990).

a claim for trespass prove that there is a cross boundary migration of injected fluids, liability would follow even where the injector has a permit from the Commission.[148]

VI. THE HYPOTHETICAL PROBLEM SCENARIO

Issues relating to trespass and surface use are the function of the lack of clarity that has existed in the property jurisprudence relating to defining the relative rights granted or reserved when there has been a severance of the surface and the mineral estates. Vertical divisions of ownership create some difficulty. But, if all of the owners of the respective estates own the unified estate, there is no uncertainty as to whose permission must be received before drilling a horizontal well. The following diagram sets the stage for dealing with these trespass/surface issues.

148. *Id.* at 590.

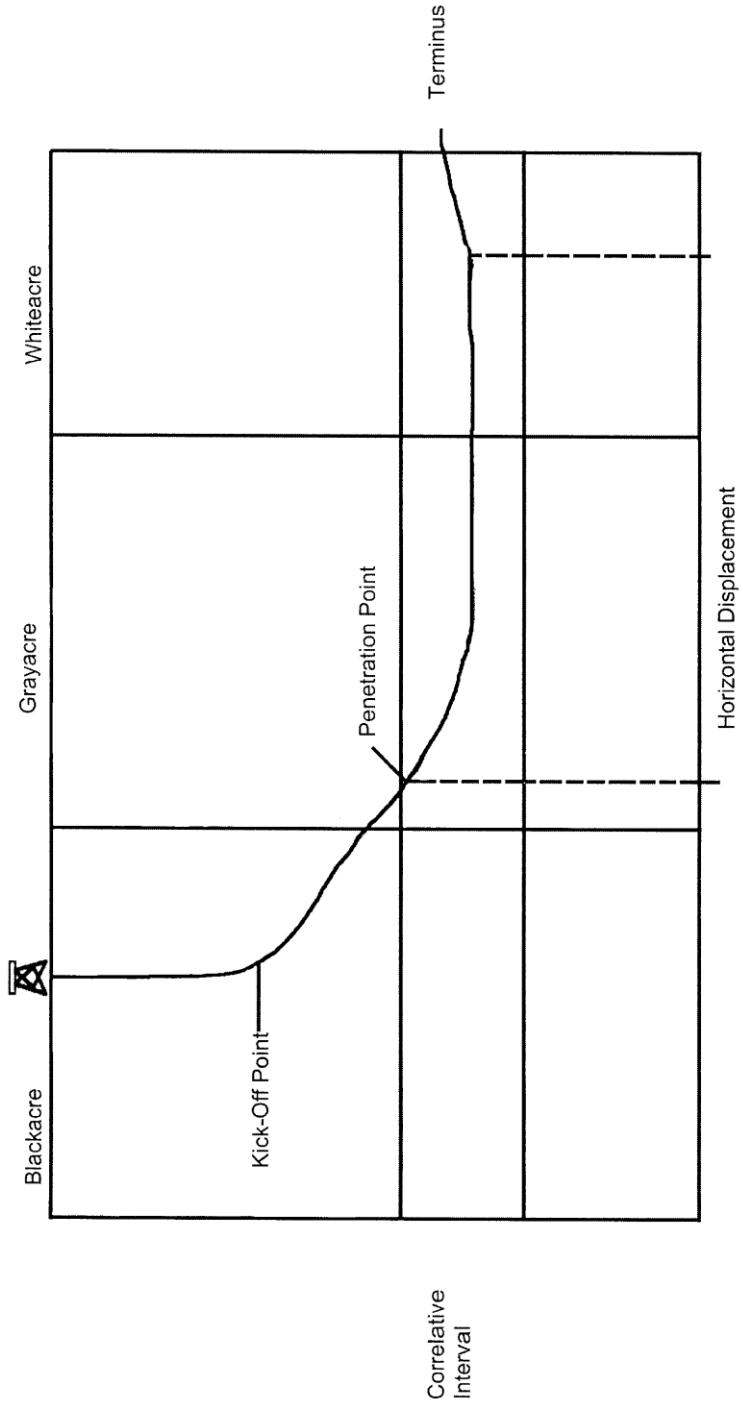
Terminus
Whiteacre
Grayacre
Blackacre
Penetration Point
Kick-Off Point
Horizontal Displacement
Correlative Interval

Figure 1

While the terminology may be somewhat different depending upon the jurisdiction, the issues that need to be resolved arise where the ownership of the mineral and surface estates in Blackacre, Grayacre, and Whiteacre have been severed. In resolving the issues as to what the rights of the respective mineral and surface owners are or whose consent must be given in order to engage in operations outside of the correlative interval, we are not writing on a totally blank slate. The legal system has dealt with such issues in a variety of contexts including what is meant by the term "minerals" when used in a severance,[149] the cross-boundary migration of injected fluids,[150] the cross-boundary movement of fluids and proppants using hydraulic fracturing techniques,[151] and the storage of natural gas in underground, depleted formations.[152] I do not intend to re-plow the fertile ground of determining what is meant by the term "minerals" in the context of a private conveyance or a statute. In cases such as that shown in Figure 1 where the well passes through thousands of feet of "rock" before it enters the correlative interval, it would not be illogical to try to answer the question of who owns the "rock" by analogizing to the question of who owns the pore space. Ownership of the pore space or the "rock" may be a predicate question regarding whose consent may be required in order to put the wellbore in such "rock" before the productive correlative interval is reached. In the hypothetical scenario as shown above, from whom must consent be received to locate the wellbore beneath Blackacre? The issue would be rendered even more complex if the surface location was on Blueacre and not Blackacre where only the Blueacre surface owner gives consent.

VII. THE SURFACE USE ISSUE

There are a number of basic principles that apply when dealing with surface rights. The first is that the lessee of Blackacre's right to use the surface will either be governed by express language in the oil and gas lease

149. *See* WILLIAMS & MEYERS, *supra* note 1, § 219. For example, a severance of the minerals from the surface estate will, in the absence of express language to the contrary, leave the ownership of the groundwater with the surface estate owner. *Id.* § 219.6. There may, however, be some dispute as to whether salt water, as opposed to fresh water, is a mineral.

150. *See* FPL Farming Ltd. v. Envtl. Processing Sys., Inc., 351 S.W.3d 306 (Tex. 2011); R.R. Comm'n v. Manziel, 361 S.W.2d 560, 567–68 (Tex. 1962); Chance v. BP Chemicals, Inc., 670 N.E.2d 985, 992 (Ohio 1996).

151. Coastal Oil & Gas Corp. v. Garza Energy Trust, 268 S.W.3d 1, 9 (Tex. 2008).

152. *See* KRAMER & MARTIN, *supra* note 2, § 2.03[2][c].

or other severing instrument or by an implied easement of surface use.[153] If the mineral owner/lessee is relying on the implied easement of surface use, the mineral owner/lessee will be restricted to using the surface estate solely for the benefit of Blackacre.[154] As stated by the Ninth Circuit, "[i]t is a well-established principle of property law that the right to use the surface of land as incident of the ownership of mineral rights in the land, does not carry with it the right to use the surface in aid of mining or drilling operations on other lands."[155] Thus, while a mineral lessee may have the right to use the surface itself or to convey the implied easement to another party, it cannot do so where the surface use, as in the hypothetical scenario, is being used to support mineral extraction activities off of Blackacre. That off-tract use would clearly be an excessive use of the implied easement.

In two circumstances, the courts appear to misapply the general rule regarding off-lease surface use. In *Double M Petroproperties, Inc. v. Frisby*,[156] the surface owner sought to enjoin the lessee's continued injection of salt water originating from off of the leased lands. The court refused to allow an injunction to stay in effect since the injection was allegedly not needed to maintain the status quo or prevent probable harm.[157] The court never decided whether the lessee had an easement to dispose of such salt water, which undoubtedly would require express language in the lease. In the absence of such language, the continued disposal of salt water should constitute a continuing trespass that would normally be subject to injunctive relief. The only explanation that justifies the result was the court's reference to the fact that the lessee had a Railroad Commission permit to dispose of the off-lease generated salt water in the plaintiff's well.[158] It is clear, however, under *FPL Farming*, that the issuance of an agency permit cannot authorize a common law trespass.[159]

153. *See generally* Bruce M. Kramer, *The Legal Framework for Analyzing Multiple Surface Use Issues*, 44 ROCKY MTN. MIN. L. FOUND. J. 273 (2007).Where the severance is accomplished by mineral deed, it is much more likely that the deed will be silent on the scope or extent of the easement of surface use, while if the severance is accomplished by an oil and gas lease, the lease will typically contain specific language governing the scope and extent of the easement). WILLIAMS & MEYERS, *supra* note 1, § 218.

154. *Id.* § 218.4.

155. Russell v. Tex. Co., 238 F.2d 636, 642 (9th Cir. 1956).

156. 957 S.W.2d 594 (Tex. App. 1997).

157. *Id.*

158. The impact of agency orders on common law torts are discussed in KRAMER & MARTIN, *supra* note 2, § 23.03.

159. FPL Farming Ltd. v. Envtl. Processing Sys., L.C., 351 S.W.3d 306, 312 (Tex. 2011).

The second case, *Mountain Fuel Supply Co. v. Smith*,[160] involved a unique situation where eleven separately owned surface tracts were united into a single owner. The tracts were separately leased. The court found that the post-lease merging of the separate estates allowed the lessee to use the surface of each of the tracts for the benefit of the other tracts. The court offered no authority for, and no rationale of, its conclusion that common ownership of surface rights in previously segregated tracts had the effect of increasing the geographic coverage of the implied easements of surface use that were created at a time when the tracts were segregated. Since the implied easements were created at the time of the initial severance, the scope of each of them was limited to the tract of land described in the severing document. Once created, traditional property law would not allow the easements to be expanded geographically by each of the tracts coming under common ownership.

Parties are free, however, to include in a deed or a lease specific language expanding the scope of the easement to include utilizing the surface of Blackacre for the purpose of engaging in operations off of Blackacre.[161] Where the oil and gas lessor is also the owner of the surface estate, the inclusion of a pooling and/or unitization clause in the lease can serve that same purpose of expanding the areal coverage of the express easement.[162] For example, a lease may provide the following language after listing the express easements: "and any and all other rights and privileges, necessary, useful, or convenient to or in connection with operations conducted by lessee thereon or on any neighboring land."[163] In *Caskey v. Kelly Oil Co.*,[164] the court interpreted a lease giving the lessee a right to use the surface for operations "on any adjacent lands" as not being limited to adjoining premises owned by the lessor. This type of clause promotes the efficient development of oil and gas fields as well as the state's policy of developing mineral resources. The fact that the lessor did not directly benefit from the use of the surface estate for operations conducted by the lessee on adjacent lands did not defeat the express language giving the lessee a geographically enlarged easement.[165]

160. 471 F.2d 594 (10th Cir. 1973).

161. *See generally* WILLIAMS & MEYERS, *supra* note 1, § 218.4.

162. KRAMER & MARTIN, *supra* note 2, § 20.06[1].

163. *See* WILLIAMS & MEYERS, *supra* note 1, § 218.4 n.1.

164. 737 So. 2d 1257, 1261 (La. 1999).

165. *See also* Pittsburg & Midway Coal Mining Co. v. Shepherd, 888 F.2d 1533, 1536 (11th Cir. 1989) (scope of implied easement of surface use limited to operations on the leased tract, but express grants of surface easement to support operations on other tracts contained in coal lease will be enforced).

Unless the lease contains such a provision, the lessee of Blackacre will not have the power to convey any portion of its express easement of surface use for the purpose of producing oil or gas from Grayacre or Whiteacre. Thus, if the lessee of Grayacre and Whiteacre wants to locate its surface equipment on Blackacre it will have to negotiate a lease and/or sale of the needed acreage from the surface owner. Obviously, the surface owner of Blackacre is not restricted in its power to convey the surface estate for whatever reasons and/or purposes the parties can agree on.

There are still some issues that may complicate this particular scenario as to the surface use even where the surface owner has conveyed the surface rights to Grayacre's and Whiteacre's lessee. The first is that the mineral owner/lessee may still claim that the conveyance by the surface owner will interfere with its express or implied easement of surface use. For example, if the surface of Blackacre is hilly or has water bodies located thereon, there may not be sufficient acreage to locate multiple surface sites for the drilling of wells. In that case, the issue of how to balance the potentially competing interests will come to the fore.[166]

If we start from the basic premise that a mineral severance, either by deed or lease, gives to the surface owner the continued right to use the surface or subsurface estate so long as he does not interfere with the mineral owner/lessee's express or implied easement of surface use, the issue would seemingly be an issue of fact determined on an ad hoc basis. The following two cases adhere to this kind of ad hoc factual determination analysis, and both concluded that no unreasonable interference occurred.

In *Humble Oil & Refining Co. v. L. & G. Oil Co.*,[167] the court specifically allowed the lessee of Grayacre to purchase the surface estate of Blackacre and drill a well bottomed on Grayacre over the opposition of the mineral owner of Blackacre. As with *Atlantic Refining Co. v. Bright & Schiff*, so long as the surface use of Blackacre did not unreasonably interfere with the mineral owner of Blackacre's ability to produce its minerals, the surface owner was free to drill a directional well.[168] L. & G. added the dimension not only of the potential interference with the surface use but the potential interference in the subsurface given the proposed

166. This same issue can be said to apply to the subsurface use by whoever owns the pore space or the "rock."

167. 259 S.W.2d 933 (Tex. Civ. App. 1953, writ ref'd n.r.e.).

168. *See also* Atlantic Refining Co. v. Bright & Schiff, 321 S.W.2d 167 (Tex. Civ. App. 1959, writ ref'd n.r.e.); Grubstake Inv. Ass'n v. Coyle, 269 S.W.854 (Tex. Civ. App. 1925, writ dism'd). The basic concept being applied in these cases is that the surface owner while subject to the implied easement of surface use has free use of the surface so long as it does not interfere with the implied easement. Parker v. Tex. Co., 326 S.W.2d 579, 582 (Tex. Civ. App. 1959, writ ref'd n.r.e.).

directional well that would clearly be located on Blackacre's subsurface estate.[169] While the reported opinion did not include the express terms of the oil and gas lease, a case note quoted the lease in question as giving the Blackacre oil and gas lessee the "exclusive" rights to explore for and produce oil and gas.[170] The court, through its omission of the lease's granting clause, ignored the nature of the rights granted by the lease. Through its findings that there was not an unreasonable interference with the "exclusive" exploration and development rights, the court was clearly implying that the term "exclusive" means something less.

In *Bright & Schiff*,[171] a surface owner of lands leased to Atlantic executed a surface lease to Bright & Schiff which had its own mineral lease on a small tract that was incapable of hosting the surface equipment for the well. Atlantic, as the oil and gas lessee underneath the surface tract sought to enjoin Bright & Schiff from using the surface even though Bright & Schiff's well would be bottomed where Bright & Schiff was the oil and gas lessee. In describing the relationship between a surface and mineral owner the court said:

> It becomes apparent, therefore, that a lessee who would enjoin surface uses by a lessor, or another under his lessor, must prove that the use interferes with the reasonable exercise of his own rights under his own lease. To do this he must prove that he needs the surface at the time and place then being used by the other user.[172]

The decision clearly favored the surface owner because the mineral lessee may not show future or potential interference in order to seek injunctive relief but must show interference at the time and location then being exploited by the surface owner or its transferee.

Where, however, the mineral owner can prove that the proposed use of the surface by a mineral lessee of an adjacent tract will actually interfere with its operations, such surface use may be enjoined. In *Mid-Texas*

---

169. *L. & G.*, 259 S.W.2d at 938; Other courts have held that certain surface uses may unreasonably impair mineral rights, *see* Mid-Tex. Petroleum Co. v. Colcord, 235 S.W. 710, 715 (Tex. Civ. App. 1921). *See also* DuLaney v. Okla. State Dep't of Health, 868 P.2d 676, 681 (Okla. 1993) (use of surface for landfill would necessarily preclude mineral development); Phillips v. Frances, 101 S.W.2d 924, 925 (Ky. 1937) (use of land for cemetery purposes would preclude use of land for oil and gas development).

170. Stanley D. Rosenburg, Note, *Oil and Gas—Surface Owner's Right to Drill a Well from His Property, the Mineral Lease of Which is Held by Another, and Bottom it in Adjoining Land Leased to the Driller*—Humble Oil & Refining Co. v. L. & G. Oil Co., *259 S.W.2d 933 (Tex. Civ. App.—Austin 1953, Error Ref'd N.R.E.)*, 32 TEX. L. REV. 353 (1954).

171. 321 S.W.2d 167, 168 (Tex. Civ. App. 1959).

172. *Id*. at 169 (citing Grubstake Inv. Ass'n v. Coyle, 269 S.W. 854 (Tex. Civ. App. 1925); Mid-Tex. Petroleum Co. v. Colcord, 235 S.W. 710 (Tex. Civ. App. 1921).

Petroleum Co. v. Colcord, the surface owner attempted to execute a lease to the oil and gas lessee of the subsurface estate underlying a riverbed. The court found that the proposed surface lease would interfere with the mineral lessee's ability to access the minerals underneath the surface lease. On its face, the factual finding appears to be questionable since two twenty-acre tracts are involved. Nonetheless, given the drilling technology available in the 1920s along with the absence of meaningful spacing regulation, a court could have found that an unreasonable interference with the rights of the oil and gas lessee's easement of surface use.

More troubling, however, is *Chevron Oil Co. v. Howell*,[173] where the court enjoined a drilling operation on the surface estate of a third party because it concluded that there would be inevitable damage to the mineral estate where the vertical, nonproducing portion of the directional or horizontal well was located. The court apparently relied on a presumption of injury to the mineral estate that appeared to be conclusive and was probably not based in fact. While there may be justifications for the use of a rebuttable presumption should a horizontal lateral be located, but not perforated, in the correlative interval, there was seemingly no basis for creating a conclusive presumption that use of the surface and/or subsurface estate constituted an interference. If followed, *Howell* would require that permission be sought not only from the surface owner of Blackacre but from the mineral owner as well. In our hypothetical where the common source of supply is not even penetrated underneath Blackacre, the mineral owner of Blackacre should bear the burden of proof to show that there has been damage done to the common source of supply.

As is usually the case in Texas, the approaches taken by *L & G* and *Chevron* are seemingly inconsistent. *L. & G.* required the trier of fact to make an ad hoc determination of whether there was an unreasonable interference with the oil and gas lessee's easement of surface and subsurface use while *Chevron* set forth a conclusive presumption of such interference. The clearly preferable view, in my opinion, is the ad hoc determination view of *L. & G.* that will maximize the opportunities for development while protecting the rights of all of the parties concerned.

The California courts seem to follow the *Chevron* approach. In *Hancock Oil Co. v. Meeker-Garner Oil Co.*,[174] the surface owner of Blackacre, which is under lease to the plaintiff, granted an easement to the lessee of Grayacre to make a surface location on Blackacre for the purpose of drilling a directional well bottomed on Grayacre. The surface location was stipulated by the parties to not interfere with the existing or contemplated activities of the plaintiff in producing oil and gas from under

173. 407 S.W.2d 525 (Tex. Civ. App. 1966, writ ref'd n.r.e.).

174. 257 P.2d 988, 989 (Cal. Ct. App. 1953).

Blackacre. Nonetheless, the court concluded that while there might not be any direct injury, there would be injury caused by the drainage of oil from Blackacre to Grayacre. It was this reference to the potential for drainage that undoubtedly led Professors Williams and Meyers to conclude that where drainage is likely, the consent of both the mineral and surface owners should be garnered before drilling a deviated or horizontal wellbore traveling through Blackacre.[175] While not universal in nature, the ubiquitous nature of spacing regulation should minimize drainage concerns and thus support the *Williams & Meyers* view that consent of the surface owner is sufficient in these types of cases in the absence of a showing of an unreasonable interference with the mineral owner.

The common law jurisprudence on multiple mineral development or split estates is still in its infancy. There is no uniform treatment either within a state or between the states. The location of wellbores outside of the correlative interval may become the new standard operating procedure to the extent that a single surface location may be the host to numerous horizontal laterals. Besides having to determine whether the mineral or surface owner has the power to consent to the location of such wellbores, there is the continuing problem that if it is the surface owner who has the power to consent, the mineral owner may still have certain rights that cannot be trampled upon. The two approaches taken to date are antipodal. The first is an ad hoc approach that allows the mineral owner to seek injunctive relief or damages only upon a showing that the activities of the surface owner's transferee will unreasonably interfere with its rights. Placing the burden of proof on the mineral owner who has not consented to the placement of the wellbore may, in many cases, make it impossible for that owner to prove his case. The second approach is to create a presumption, perhaps conclusive, that the mere placement of a wellbore within the "rock" through which another mineral owner owns the minerals creates an unreasonable interference that may be enjoined. This latter approach is inconsistent with the *Coastal Oil* decision and Professor Anderson's view that in the absence of proof of actual damages there should be no actionable trespass even where there is a physical invasion. I support the first of these approaches where the surface owner has given consent to the use of the "rock" as a conduit for a wellbore. I would place the burden of proof on the mineral owner to show that the wellbore unreasonably interferes with the mineral owner's easement. Note that if there are multiple mineral owners, the issues become even more complex, but again I would require those mineral owners to show that the placement of the wellbore interferes with their separately owned gas, oil, or coal estates. The same can be said where there is a horizontal severance based

175. WILLIAMS & MEYERS, *supra* note 1, § 218.6.

on depth. Should the mineral owner of a strata from 10,000 to 15,000 feet subsea be able to veto a wellbore passing through that strata designed to produce hydrocarbons from a formation at 17,500 feet subsea? I think that a balancing approach, including the placement of the burden of proof on the party seeking to enjoin such operations, is the best solution.[176]

VIII. THE IMPACT OF POOLING OR UNITIZATION ON SURFACE OR SUBSURFACE USE RIGHTS

Because of the length of laterals, it will be more likely than not that the working interest owners will need to pool and/or unitize separately owned tracts in order to effectively and efficiently develop the hydrocarbons. Where the surface estate has been severed from the mineral estate prior to the execution of a lease or the pooling of the mineral estates, issues may arise as to whether the surface estate, including the "rock" beneath the surface, may be used for pooled or unitized purposes. As noted above, the widely accepted rule is that the surface estate may be used only for activities that take place on that estate and not those that benefit another tract of land.[177] Further complicating the situation is the enactment by some thirteen states of a surface damage statute.[178] While many of these statutes refer to the surface estate or the surface estate owner, it is not clear that if the surface owner also owns the pore space or the "rock," that the provisions of the statute would not apply to the mineral owner's occupation of that subsurface space with the wellbore.

In dealing with the impact of pooling and unitization, be it voluntary or compulsory, the states have not followed a uniform analytical approach on the geographic extent of the implied easement of surface use.[179] For example, in Texas, the Supreme Court has concluded that a surface owner may prevent its lessee from injecting saltwater produced from the lease for unitized purposes. In *Robinson v. Robbins Petroleum Corp.*,[180] the lessee included the leased land in three waterflood units and then used saltwater produced from the lessor/surface owner's lands throughout the three units. The surface owner owns the saltwater under Texas law, but the lessee has the implied easement of surface use that allows the lessee to use the

176. *See* Kramer, *supra* note 41.

177. *See* WILLIAMS & MEYERS, *supra* note 1, § 218.4.

178. *Id.* § 218.5 (listing 13 states with such statutes).

179. *See generally* KRAMER & MARTIN, *supra* note 2, § 20.06[1] (taking the policy position that surface use on individual tracts for pooled or unitized purposes should be allowed).

180. 501 S.W.2d 865, 866 (Tex. 1973).

saltwater so long as it is reasonably necessary for the production of hydrocarbons from the lease and not the unit. The three units were voluntary units that were approved by the Railroad Commission. Nonetheless, the court concluded that:

> Even if the waterflood operation is reasonably necessary to produce oil from premises of the Wagoner lease [on the plaintiff's land], it does not follow that the operator is entitled to the use of Robinson's surface for the secondary recovery unit that includes acreage outside the Waggoner lease. This more extensive use is permitted in Oklahoma. . . . We do not agree with the rule applied by the Oklahoma Supreme Court . . . because it fails to give due regard to the rights of the surface estate.[181]

Applying this rule to our hypothetical scenario, the surface estate owner of Blackacre can clearly object to the use of its surface and subsurface estate even if Blackacre is included in the pooled unit or unitized area.

But there are other Texas cases that reach a contrary result. For example, in *Miller v. Crown Central Petroleum Corp.*,[182] there was an existing oil and gas lease that authorized the lessee to pool the leasehold estate at the time that the surface estate was severed, which the court read as authorizing the use of the surface for pooled unit purposes. Having purchased the surface estate with knowledge that the oil and gas lessee had the power to pool, the court deemed that the implied easement extended to the entire pooled unit and not merely to the acreage conveyed.[183] Likewise, where a surface owner ratifies a unit agreement, the surface owner will be deemed to have consented to have the surface estate used for unit purposes.[184]

A recent decision, *Key Operating & Equipment, Inc. v. Hegar*,[185] raises some issues about the impact of pooling on the surface use rights of lessees who have pooled two or more separately owned estates. Key Operating at one time was the lessee of two adjacent tracts, the Richardson Tract and the Rosenbaum-Curbo tract.[186] It constructed a road that traversed the two separate tracts in order to operate wells on each of the

181. *Id.* at 867.

182. 309 S.W.2d 876 (Tex. Civ. App. 1958).

183. *Id.* at 878–79.

184. Cole v. Anadarko Petroleum Corp., 331 S.W.3d 30, 36 (Tex. App. 2010).

185. 403 S.W.3d 318 (Tex. App. 2013), *rev. granted* (Dec. 13, 2013).

186. *Id.* at 323. In a somewhat rare moment of judicial candor, a dissenting justice asserted that the majority opinion not only applied the wrong law to the case but also had several important factual misstatements and omissions. *Id.* at 335–36 (Sharp, J., dissenting).

tracts. The well on the Rosenbaum-Curbo Tract stopped producing in 2000 and the extant lease terminated.[187] Shortly thereafter the two owners of Key Operating purchased a 1/16th mineral interest covering the Rosenbaum-Curbo Tract and leased that interest to Key Operating. That lease contained a pooling clause and Key Operating pooled 30 acres from the Richardson Tract with 10 acres from the Rosenbaum-Curbo Tract and drilled a well physically located on the Richardson Tract.[188] Key Operating continued to use the road that traversed both tracts to service the pooled unit well in addition to wells solely on the Richardson Tract.

In 2002, the Hegars purchased the surface and twenty-five percent of the minerals in a portion of the Rosenbaum-Curbo Tract and subsequently built a home on the tract that was within 300 feet of the road servicing the oil and gas wells. Several years later after an increase in truck traffic, the Hegars filed this action asserting that the road in front of their home on the Rosenbaum-Curbo Tract was being used solely for the benefit of the wells producing from the Richardson Tract.

The general rule as stated in the *Crown Central* case is that the surface of Blackacre may be used in connection with operations on lands pooled with Blackacre so long as the severance takes place subsequent to the execution of a lease with a pooling clause.[189] Since in this case the Key Operating lease for the Rosenbaum-Curbo Tract that contained a pooling clause antedated the Hegar purchase of the surface estate, the general rule would allow Key Operating to continue to use the Hegar surface estate to access its pooled unit well physically located on the Richardson Tract. The Hegars, however, presented expert testimony that the pooled unit well did not in fact produce oil and gas from underneath the Rosenbaum-Curbo Tract.[190] The court readily admitted that the implied easement of surface use did not pertain to off-tract operations or production from tracts not burdened by that easement so long as the severing documents include a pooling clause.[191] But because the trial court found that the pooled unit well was not producing oil or gas from beneath the Rosenbaum-Curbo Tract, the implied easement that would normally include road access to an

187. *Id*. at 323.

188. *Id.*

189. *See* Miller v. Crown Cent. Petroleum Corp., 309 S.W.2d 876, 877 (Tex. Civ. App. 1958); *Key Operating*, 403 S.W.3d at 332; Prop. Owners of Leisure Land v. Woolf & Magee, Inc., 786 S.W.2d 757, 760 (Tex. App. 1990).

190. *Key Operating*, 403 S.W.3d at 333–34. The court discusses two issues that are not relevant to the issue before it: (1) Are the Hegars "bound" by the lease and/or pooling executed by the Keys, and (2) Does the accommodation doctrine apply? The single issue raised by the Hegars is whether or not there is a surcharge on their surface estate by Key Operating's use of their surface to service wells on other tracts.

191. *Id.* at 331.

off-tract, pooled unit well did not apply. Since there was no pooled or commingled production that included production from the Rosenbaum-Curbo Tract, Key Operating should be enjoined from continuing to use the road on the Rosenbaum-Curbo Tract to produce minerals that solely are coming from the Richardson Tract.[192]

Oklahoma allows the surface estate to be burdened by unit operations. In *Holt v. Southwest Antioch Sand Unit, Fifth Enlarged*,[193] the court found that the unit had the power to produce as much saltwater as it needed for unit purposes from wells located on lands that were included in the unit. The Oklahoma Supreme Court's decision was clearly influenced by the nature of unit operations, which essentially treated the unit area as a single lease with all of its co-owners sharing in the production from the entire unit. One supporting rationale for the *Holt* result was that to allow a surface owner to veto surface use where such use services the entire unit would defeat the purpose of the unitization law.[194] But there is at least one contrary case involving the use of an unleased owner's land for unit purposes whereby the court concluded that the unleased owner is entitled to compensation for the use of its surface for pooled unit purposes.[195]

In *Kysar v. Amoco Production Co.*,[196] plaintiffs were successors in interest to the original owner of the unified surface and mineral estate who only own the surface estate. At the time of their purchase, there were two extant leases, one covering the northern portion of the tract and the other covering the southern portion of the tract. The two leases were amended prior to the severance to include pooling and unitization clauses as well as Pugh clauses. The deed to the Kysars contained a provision giving the mineral owner rights of ingress and egress for removal of the reserved minerals. In 1992, a unit was formed with adjacent acreage also owned by the lessee, Amoco. A portion of one of the leases was communitized with federal lands and the unit well was located off of the Kysar surface estate. Amoco used a road on the Kysar estate to access the unit well. A portion of the road was not on lands that were communitized. The Kysars asserted that the lessee could not use the portion of the road that was not part of the communitized area.

192. Robinson v. Robbins Petroleum, Corp., 501 S.W.2d 865, 867 (Tex. 1973).

193. 292 P.2d 998, 1000 (Okla. 1955); Alabama appears to follow the Oklahoma approach. Gulf Oil Corp. v. Deese, 153 So.2d 614, 619 (Ala. 1963). Arkansas, in a somewhat confusing opinion, reaches the same result as *Holt*, although the rationale is not as clear. Reimer v. Gulf Oil Corp., 664 S.W.2d 456 (Ark. 1984).

194. *See* Nelson v. Texaco, Inc., 525 P.2d 1263, 1266 (Okla. Civ. App. 1974).

195. Cormack v. Wil-Mc Corp., 661 P.2d 525, 526 (Okla. 1983).

196. 93 P.3d 1272, 1275 (N.M. 2004). *See also* Kysar v. Amoco Prod. Co., 379 F.3d 1150, 1152 (10th Cir. 2004).

The Tenth Circuit certified the following two questions to the New Mexico Supreme Court:

> 1. Under New Mexico law, does a mineral rights lessee, by virtue of a Communitization Agreement to which the mineral rights lessee is a party, gain a right of access over the surface estate of the unitized portion of the leased area in connection with operations on other premises or lands pooled or unitized therewith where the lease did not expressly grant this right?
>
> 2. Under New Mexico law, does a mineral rights lessee, by virtue of a Communitization Agreement to which the mineral rights lessee is a party, gain a right of access over the surface estate of the non-unitized portion of the leased area in connection with the production and extraction of minerals on other premises or lands pooled or unitized therewith where the lease did not expressly grant this right.[197]

The New Mexico Supreme Court answered the first question by stating "a mineral rights lessee, having entered into a communitization agreement with the permission of the prior fee owner, enjoys a right of access over the surface estate of the portion of the leased area subject to the agreement."[198] The rationale was that the surface owner knew about the pooling power contained in the leases when it purchased the surface estate and thus it was not an additional burden on the surface estate.[199] Furthermore, it is consistent with public policy to treat communitized areas as an entity unto itself for development purposes, and thus allowing such access furthers the efficient development of the hydrocarbons.

As to the second question, however, the court stated "a mineral rights lessee does not, by virtue of having entered into a communitization agreement with the permission of the prior fee owner, enjoy a right of access over the surface estate of the portion of the leased area that is not subject to the agreement."[200] While seemingly inconsistent with the answer to the first question, the court relied on the existence of the leasehold Pugh clauses, which effectively segregated the two leases into pooled and unpooled tracts. That Pugh clause, by limiting pooled units to a single section, evinced an intent to limit the implied easement of surface use to a single section. The communitization agreement cannot expand the scope of the implied easement because the surface estate was severed prior to its execution thus restricting its geographic scope. Only with the surface

197. *Kysar*, 93 P.3d at 1273.

198. *Id.*

199. *See* Key Operating & Equipment, Inc. v. Hegar, 403 S.W.3d 318, 326 (Tex. App. 2013), *rev. granted* (Dec. 13, 2013).

200. *Kysar*, 93 P.3d at 1273.

owner's consent can non-unitized lands be used to access an off-tract, but communitized well.[201]

In Louisiana, the existence of a Commissioner pooled unit changes the dynamics of the scope of the rights of the operator to use either the surface or subsurface of any estate that is within the boundary lines of the pooled unit. In *Nunez v. Wainoco Oil & Gas Co.*,[202] Nunez was the owner of an unleased interest within the confines of a pooled unit. Wainoco, an oil and gas lessee of another tract within the pooled unit used a surface location on its leasehold estate, but during the drilling of the well, directional surveys showed that both at the intermediate casing level and at the bottom hole location the well was under the Nunez tract. While the court admitted that in the absence of the pooled unit order there would have been an actionable trespass, the Commissioner's order pooling the Nunez tract operated to insulate the operator from trespass liability. *Nunez* cannot be read to authorize cross-boundary migration of fluids where the migration is off of the pooled unit, but it does clearly stand for the proposition that the pooling insulated the operator/injector from liability for actions taken that are solely within the pooled unit boundaries.[203] This view was reinforced in a subsequent action whereby the court of appeals found that the operator was only liable for surface damages where the owner can show some unreasonable or negligent use.[204] Where a pooled unit has been created, each of the constituent tracts is made subject to the implied easement of surface use for the pooled unit and not just for the leased or unleased tract that makes up a portion of the pooled unit.[205]

The existence of a pooled unit or unitized area will impact the scope of the implied easement of surface or subsurface use depending upon the jurisdiction. The prevailing, but clearly not unanimous, view is that the geographic extent of the allowed surface or subsurface use is now the pooled unit or unitized area, except where the surface estate severance antedated the creation of the pooled unit or unitized area. There are a number of states, however, that do not consider the date of the severance critical where either there is a pre-existing lease with a pooling or

201. *Id.* at 1284.

202. 488 So.2d 955, 956 (La. Ct. App. 1986). In a companion case, Nunez v. Wainoco Oil & Gas Co., 606 So.2d 1320 (La. Ct. App. 1992), the appeals court upholds a trial court determination that the landowner did not suffer any subsurface or surface damages from the unit operations.

203. This is consistent with the view that pooled units essentially erase internal boundary lines and modify the rule of capture and trespass rules for actions whose effects are limited to the pooled unit. *See also* Cont'l Res., Inc. v. Farrar Oil Co., 559 N.W.2d 841, 846 (N.D. 1997).

204. *Nunez*, 606 So.2d at 1327.

205. *See* Fuller v. XTO Energy, Inc., 989 So.2d 298, 302 (La. Ct. App. 2008).

unitization clause or there is a compulsory/statutory pooled unit or unitized area created. It is not surprising to find that in the case of field-wide units, it appears to be the custom and practice of the industry to have a separate surface use agreement executed in order to place unit facilities on the surface.

IX. CONCLUSION

The common law has evolved over nearly 1000 years to deal with changing social and political norms. It has not evolved gradually over time, but seemingly in fits and starts where external forces demand change. Furthermore, it is not just the common law that changes or evolves. Legislation also reacts to changing social and political norms as exemplified by the increase in the number of states that have surface protection or damages statutes that confirm, modify, or reverse the common law rules that have developed. We are likewise seeing legislative attempts to define ownership interests in the "rock" or pore space in order to accommodate what was seen as an impediment to achieving carbon sequestration. The common law rules relating to trespass and other torts that are implicated in the use of longer and longer horizontal well laterals and hydraulic fracturing have come under siege. Some of those rules need to be changed, although I am not as sanguine as Professor Anderson that we need to treat subsurface physical invasions the same as airplane over-flights. Professor Pierce, on the other hand, would expand the common law doctrine of correlative rights to cover the situation where through horizontal drilling and hydraulic fracturing operations a single owner of a common source of supply gets an unfair competitive advantage in developing that common source of supply. The rules are in flux, which makes it an exciting time for academics and a difficult time for those providing legal advice to oil and gas explorers and producers.