Forced Pooling:
The Unconstitutional Taking of Private Property

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Our society's continued addiction to fossil fuels poses an existential threat to our future. The scientific consensus clearly tells us that we must stop burning fossil fuels as fast as possible. This poses a huge political challenge, as many people make a lot of money from the fossil fuel industry, and they resist change. But an overlooked legal doctrine shows that we are not even going after the lowest hanging fruit. Oil and gas rights are often privately held in the United States. Some owners of those rights would be happy to leave their oil and gas safely in the ground. But most states have laws which allow for "forced pooling" of oil and gas rights, allowing operators to extract even the minerals of non-consenting landowners. Halting the extraction of oil and gas owned by those set on profiting from it will be challenging enough. Surely, we can start by not forcing private property owners to extract oil and gas against their will.

There is a ready legal solution to the problem posed by forced pooling in the Takings Clause. Recent cases such as Horne and Cedar Point have clarified two kinds of government actions that per se violate the Takings Clause. If government regulations, even longstanding ones, physically take control of personal property such as raisins (or oil and gas), that is automatically a taking. And if government laws take away the right to exclude and thus authorize invasion of private property by others, that is also a per se taking. Both of these precedents would apply where forced pooling laws allow oil and gas companies to invade private property and physically remove the oil and gas found there.

Changes in the oil and gas industry also justify a change in the legal regime of forced pooling. Forced pooling was designed to address problems caused by the rule of capture, which applies to migratory resources such as water, wildlife, and historically to oil and gas. Modern technology in the oil and gas industry, including horizontal drilling and fracking, instead has enabled the extraction of nonmigratory oil and gas, to which the rule of capture logically does not apply.

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These changes in both the law and the oil and gas industry justify a reexamination of forced pooling on constitutional takings grounds. Perhaps surprisingly, the strong property rights approach taken by the Supreme Court in recent cases can actually be used to protect progressive property owners who wish to leave their oil and gas safely in the ground.

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INTRODUCTION

Technological developments in the oil and gas industry have enabled access to reserves previously thought to be unrecoverable and thereby triggered the latest boom in oil and gas production. Those developments include directional and horizontal drilling, which have enabled drillers to target the long, thin layers of shale that hold massive amounts of oil and gas. The other big technological innovation has been high-volume hydraulic fracturing, which allows drillers to create fractures in the rock formation, thus allowing oil and gas to seep into wells when it otherwise would have been trapped in relatively less-porous rocks. Fracking combined with horizontal drilling therefore enables the economic extraction of oil and gas minerals that were previously nonmigratory. These technologies have led to a dramatic increase in oil and gas production in the United States, resulted in huge investments of capital by industry and investors, and attracted significant support from politicians across the aisle.

However, these changes have also had other side effects. The wells are much deeper and longer than before, requiring larger equipment and more time to drill. The fracking process itself requires use of massive amounts of water, and many toxic chemicals are added to the mixture, potentially contaminating both groundwater and the surface. Directional drilling has allowed consolidation of multiple wells (more than fifty in some instances) onto single sites. This reduces the number of surface areas affected by the drilling operations, but dramatically increases the impact on the areas surrounding these massive industrial drill sites. The fracking revolution has attracted growing attention of public health researchers and environmental advocates, who have raised a host of concerns about the impacts this development has on communities. As a result, more and more property owners are choosing to say "no" to oil and gas development, at least where they control the mineral rights as well as the surface.[1] Yet even when property owners decide to forego the potential income from leasing mineral rights and reaping royalties on any produced oil and gas, oftentimes the state will force those property owners to transfer their property to an oil and gas company against their wishes, through the process known as forced pooling.[2] And in spite of the dramatic changes in technology and our understanding of fracking's impacts, the law of forced pooling has not adapted from its New Deal-era origins. Recently, federal court judges in Ohio wrongly rejected a Takings Clause challenge to the state's forced pooling scheme, failing to meaningfully engage with recent developments that undercut the historical

1. Problems caused by split estates and the impacts caused when mineral interest owners come onto the surface to extract oil and gas are outside the scope of this Article.

2. Other terms related to this practice include unitization, compulsory unit operations, and spacing orders.

justification for forced pooling laws.[3] Those changes in technology and geology, specifically the tight sand and shale formations that are much more commonly targeted during the fracking revolution with horizontal drilling, remove much and perhaps all of the justification for why forced pooling is needed. The rule of capture applies to migratory resources such as wildlife, water, or oil and gas in a common pool reservoir; it should not apply to nonmigratory oil and gas which are more analogous to coal or other minerals that are fixed in place. Courts and the law should take into account these changes and not just reflexively apply outdated laws to this new situation.

The idea behind forced pooling is that oil and gas is found in a common pool beneath the surface, which often results in many property owners having claims to produce oil and gas from the pool. Historically, any landowner was able to drill a vertical well on their property and extract as much gas as possible. This led to inefficient spacing of wells—the potential to negatively degrade the pressure of the reservoir and thereby the ultimate amount of oil and gas recoverable—and to competition among landowners, who would race to drill wells near their property line in an attempt to suck out the oil and gas before their neighbors. In response to this perceived problem, states enacted oil and gas conservation statutes and regulatory schemes in order to curb these practices, focused on the prevention of waste (maximizing the amount of oil and gas recoverable) and the protection of correlative rights (preventing one neighbor from over-producing to the detriment of others in the same common pool). That required the formation of "units" of collective property that would be jointly developed, with proportionate sharing in the costs of production along with compensation through royalty interests in the produced oil and gas.

However, states identified a problem in this system: if they relied on voluntary unitization, one or a small handful of property owners might holdout from the unit and thereby block the development of the oil and gas resources. This led to the development of procedures for "forced pooling" whereby reluctant property owners were forced into the pool against their will. These new laws promoting oil and gas extraction resulted in a number of constitutional challenges to forced pooling on other grounds, typically as violating the Due Process and Equal Protection Clauses of the Fourteenth Amendment.[4] These challenges were universally rejected, as forced pooling was upheld as being within the scope of the police power. Once initial dissatisfaction with oil and gas

3. Kerns v. Chesapeake Expl., L.L.C., No. 18-CV-389, 2018 WL 2952662 (N.D. Ohio June 13, 2018), *aff'd*, 762 F. App'x 289, 298 (6th Cir. 2019). A federal court in Colorado avoided deciding similar questions on *Burford* abstention grounds and because a takings claim was not administratively exhausted. *See infra* notes 308, 311-322 and accompanying text.

4. Of course, as discussed below, takings law has dramatically changed since the 1930s, and it makes more sense to apply a takings framework in light of increased protection for private property rights provided by modern doctrine.

conservation schemes passed, the issue became relatively uncontroversial. Concerns over fracking have once again led to increased scrutiny of forced pooling, making takings challenges ever more likely. Although the initial, unsuccessful challenges to forced pooling laws were based on broad readings of the police power, the Supreme Court has dramatically expanded the applicability of the Takings Clause in the past century. Broad deference to government based on the police power is no longer the law. Technology changes also justify a reexamination of forced pooling laws under the limits of the Takings Clause—especially if courts recognize that the oil and gas at issue is typically nonmigratory and therefore not subject to the rule of capture.

This Article will therefore take a fresh look at forced pooling schemes through the lens of modern takings jurisprudence. First, this Article will examine whether forced pooling amounts to a per se physical taking of private property, with a focus on the recent *Horne* and *Cedar Point* cases. Then, this Article will explore whether forced pooling meets the public use requirement of the Takings Clause as well as related state takings laws. But forced pooling also raises issues related to just compensation and whether standard practices for initial payments and royalty rates must be adjusted to actually provide just compensation for the taken property, particularly to unwilling property owners.

Regarding public use, the question is whether the government may force one private property owner to transfer their property unwillingly to another private party, an oil and gas company. At first blush, of course, the answer to this question seems obvious. The federal courts have routinely taken a broad view of the public use requirement as not actually requiring use by the public, but rather merely some public purpose.[5] This has even been applied in the context of natural resource extraction where a mining company was allowed to use an aerial bucket to transport ore over property it did not own.[6] But the Court has been inconsistent on this point, and in an old oil and gas case struck down sweet gas proration orders in Texas as an unconstitutional taking lacking a public purpose.[7] The logic that the Court used was that "one person's property may not be taken for the benefit of another private person without a justifying public purpose, even though compensation be paid."[8] This case was cited by the dissent in *Kelo*,[9] but was not addressed by the majority. However, the *Thompson* case, combined with Justice Kennedy's concurrence in *Kelo* cautioning that "transfers intended to confer benefits on particular, favored private entities, and with only

5. *See infra* notes 79-93 and accompanying text.

6. *See* Strickley v. Highland Boy Gold Mining Co., 200 U.S. 527, 529 (1906). Although this case is old and predates most modern takings developments, it was cited approvingly by the majority in *Kelo*. Kelo v. City of New London, 545 U.S. 469, 480 (2005).

7. *See* Thompson v. Consol. Gas Util. Corp., 300 U.S. 55 (1937).

8. *Id.* at 80.

9. *See Kelo*, 545 U.S. at 500 (O'Connor, J., dissenting).

incidental or pretextual public benefits, are forbidden by the Public Use Clause"[10] provide some room to argue that forced pooling schemes are unconstitutional takings. State law on takings can be even more favorable, such as in Michigan.[11]

This Article will also examine the question of whether forced pooling schemes actually provide just compensation, even if taking for a public purpose is allowed. The relevant inquiries here involve what is the appropriate royalty interest that must be paid to owners; whether risk penalties are appropriate in the abstract and in concrete circumstances; and whether forced pooling prevents mineral rights owners from legitimately negotiating for better terms on a lease. Conceptualized this way, forced pooling simply puts a giant thumb on the scale of operators, giving them tremendous leverage in refusing to negotiate better deals and running to the state for a forced pooling order. Additionally, the just compensation question involves issues of whether the impacts of oil and gas development on property values and pollution at the surface should require some greater compensation than merely reflected by fair royalty payments. For example, once mineral interests are leased (whether voluntarily or through forced pooling), the operator is said to have the dominant estate,[12] which includes a right of reasonable use of the surface in order to extract the minerals. But to the extent that extraction of oil and gas is incompatible with neighboring land uses, such as in dense urban areas, or near schools, churches, or residential buildings, then extraction might not be reasonable under nuisance principles. In these circumstances, higher compensation might be required where the government forces private property owners to give up property rule protection that would otherwise allow them to prevent the pollution and other disruption from fracking operations.

There is of course a certain irony in applying the Takings Clause to forced pooling laws. Much of the development of takings doctrine has occurred as industry has pushed back on restrictions on development based on conserving the environment or other protections of public health, safety, and welfare traditionally seen as part of the police power. More recently, takings doctrine has pushed back on laws supporting union organizing, which is strenuously opposed by business interests. Threats of takings litigation have been bandied about freely in opposition to the push for greater regulation of fracking. But if what is good for the goose is good for the gander, then forced pooling itself

10. *Id.* at 490 (Kennedy, J., concurring).

11. *See, e.g.*, Wayne County v. Hathcock, 684 N.W.2d 765, 770 (Mich. 2004) (rejecting taking of private property for private use).

12. Wyatt G. Sassman, *The Legal Foundations of Extractive Power*, 71 UCLA L. REV. 66, 87 (2024); Monika U. Ehrman, *One Oil and Gas Right to Rule Them All*, 55 HOUSTON L. REV. 1063, 1071 (2018) ("[I]f the surface and mineral estates are severed, the mineral estate enjoys an easement of reasonable access and development via the burdened surface.").

amounts to an unconstitutional taking of private property, although intended to promote oil and gas development. I am generally skeptical of the strong turn towards protecting private property rights at the Supreme Court, but so long as that is the law, it should be used in ways that benefit society as a whole. And one of the easiest ways to reduce society's addiction to fossil fuels is to stop forcing extraction on owners who wish to leave oil and gas in the ground.

Part I of this Article provides background on the Takings Clause and Supreme Court precedent on takings, including per se physical takings, the public use requirement, and just compensation. Part II explains the concept of forced pooling, the problems it was originally intended to solve, and the mismatch that has arisen given the changes in technology that allow extraction of nonmigratory oil and gas. Part III examines whether forced pooling violates the Takings Clause under several requirements of modern takings jurisprudence. First, it explains why forced pooling amounts to a straightforward physical invasion which is a per se taking under recent Supreme Court precedent. Second, it describes how the public use requirement might pose a problem at the state level, if not the federal level. And third, it discusses how just compensation is not provided by the government, particularly in states that impose some kind of penalty on non-consenting owners who are forced pooled. The Article then concludes with some thoughts on how takings challenges might achieve success in the future.

I. TAKINGS BACKGROUND

The Takings Clause of the Fifth Amendment to the United States Constitution prohibits the taking of private property for public use without payment of just compensation.[13] This clause originally was understood to apply to eminent domain, whereby government would formally condemn and acquire property to be used by the public. Think of activities such as building public roads or providing for utilities infrastructure. Private land was formally transferred into public ownership, and then put to some public use such as a road. In the past century, the Supreme Court has also identified what are known as regulatory takings, meaning that government restrictions on private property have "gone too far," and that fairness requires the public to compensate the private property owner for those restrictions.[14] In these cases, the government does not take action to formally acquire property rights, but a private property owner may file an inverse condemnation claim arguing that government restrictions have crossed the line and become a taking. The Supreme Court has recognized some per se takings in this context, while most regulatory takings are

13. U.S. CONST. amend. V.

14. *See, e.g.*, Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) (stating that if regulation goes too far, it is considered a taking).

evaluated under a balancing test. But if the government has completely destroyed the value of the property[15] or, of critical relevance for forced pooling, authorized a physical invasion of private property,[16] this will automatically be considered a taking.

Development of the law has resulted in a bit of a tug-of-war, as property rights supporters pushed for per se takings to be found in greater circumstances, while those favoring more interventionist government action supported a deferential balancing test. The current swing of the pendulum is in favor of recognizing more per se rules, including two recent Supreme Court cases which are highly analogous to forced pooling.[17] This Part will give a bit of background on takings law and then focus on these recent, highly relevant cases. Then it will conclude by exploring the limits of the "public use" requirement for takings and a brief background on what amounts to "just compensation" once a taking is recognized.

A. CATEGORIES FROM TAKINGS JURISPRUDENCE

Eminent domain is not particularly relevant for forced pooling, as the government does not formally take private property itself as part of forced pooling, but instead authorizes an invasion of private property by another private party. Nor is the concept of regulatory takings particularly relevant because taking away the right to exclude in this context is not a regulatory taking. However, a brief background will be helpful for understanding where forced pooling fits into the latest iteration of the Supreme Court's takings jurisprudence. Early understanding of the Takings Clause was limited to physical appropriations of property.[18] These physical appropriations occurred through a process known as eminent domain. Only in the past century did the Court expand the Takings Clause so that "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking."[19] Thus, federal courts empowered themselves to second-guess elected government officials by declaring that regulations went "too far." Fortunately, the Court developed a rather deferential approach to analyzing these so-called "regulatory takings."[20] But in the eyes of some, this test was too accommodating, and as a result the Supreme Court has at times recognized types of takings that per se go "too far." These cases will be discussed in the Subparts below.

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15. *See* Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1019 (1992).

16. *See* Cedar Point Nursery v. Hassid, 594 U.S. 139, 152 (2021); Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 421 (1982).

17. *See Cedar Point*, 594 U.S. at 148; Horne v. Dep't of Agric., 576 U.S. 350, 357 (2015).

18. *See Cedar Point*, 594 U.S. at 147*; Horne*, 576 U.S. at 360.

19. *Pa. Coal Co.*, 260 U.S. at 415.

20. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978).

1. *Eminent Domain*

"The power of eminent domain encompasses all cases where, by the authority of the [s]tate and for the public good, the property of the individual is taken without his or her consent" for some public use or purpose.[21] The State may exercise the power of eminent domain itself, or sometimes States will delegate this power to another entity.[22] As an inherent aspect of sovereignty, eminent domain is viewed as being limited only by relevant portions of the U.S. Constitution, state constitutions, or statutes.[23]

Ideally, the government would only take property from those willing to sell, and there would be no need for the power of eminent domain. However, absent this power, there is a risk of a holdout problem, especially for things like roads and utilities that must connect one place to another. Avoiding the holdout problem is one of the traditional justifications for the power of eminent domain.

Consider the example of a government that wishes to build a road. It could go to all the property owners along the planned route and seek to purchase the property outright, or at least purchase an easement along the property. If a particular property owner did not wish to sell, then the road might be routed a different way, although this might make the road less efficient than it could have been otherwise. Eventually, the government's options for routes will be narrowed and narrowed, perhaps until only one feasible route remains. At this point, an enterprising property owner might realize the leverage that she has and agree to sell only at an exorbitant price. What if other property owners get wind of this special deal for their neighbor? They might demand higher payment for themselves. Quickly, building the road would become incredibly expensive and may prove impractical. Thus, eminent domain enables the government to condemn property necessary for the road, conditional upon payment of just compensation, and the road can be built at reasonable cost, with fair payment to all affected property owners. The public pays the costs, through the government, and in return the public can all use the new road.

This system works well for the most part, but of course there are gray areas around the edge that raise serious and important questions. First, what counts as a "public use" or even a "public purpose" such that the use of eminent domain is appropriate? This turns out to be a hotly contested and confrontational area. Second, what amounts to "just compensation" for any particular property that is taken by the government? Should special attachments and strong feelings related to the property be taken into account? What about differing views as to the best and highest use the property might be put to? Both the public use and just

21. 26 AM. JUR. 2D *Eminent Domain* § 1, Westlaw (database updated Feb. 2024).

22. *Id.* Some common examples where the power is delegated are to public utilities or pipeline companies for the transportation of oil or natural gas.

23. *See, e.g.*, City of Thornton v. Farmers Reservoir & Irrigation Co., 575 P.2d 382, 388 (Colo. 1978).

compensation issues will be discussed in a later Subpart. But first, we will explore the concept of regulatory takings and when courts will hold government laws or regulations to amount to a taking of private property.

2. *Regulatory Takings*

Another category of government action that might be subject to the Takings Clause, known as "regulatory takings," is when government "imposes regulations that restrict an owner's ability to use [their] own property," in which case the Court has developed a "flexible test" to determine when such regulation "goes too far" and thus will be recognized as a taking.[24] This flexible test, known as the *Penn Central* test, balances factors such as the economic impact of the regulation, how a regulation interferes with reasonable investment-backed expectations, and the character of the government action.[25] The term regulatory takings applies when a law regulating the use of private property is deemed to "take" that property within the meaning of the Constitution. However, this definition has been scaled back in recent years as some Justices have created carve-outs for per se physical takings, even if those takings result from a regulation of private property.

Of course, virtually any regulation will in some way restrict an owner's use of their property, and the vast majority of these regulations will not result in a regulatory taking. Only when, considering the deferential balancing test of *Penn Central*, the regulation "goes too far" will it be deemed a regulatory taking. In those circumstances, government will be required by courts to either compensate for the taking or to relax the regulatory requirement which went too far. As should be clear from this brief discussion, the question of whether a regulation "goes too far" is inherently subjective, and courts have struggled to develop a consistent approach to this question.

However, for purposes of this Article, we can largely avoid this difficulty because the most recent Supreme Court takings case, *Cedar Point*, made clear that regulations that appropriate a right to invade private property are a per se physical taking.[26] Thus, as will be explained below, forced pooling is a per se physical taking, and this ambiguity and uncertainty around regulatory takings can be avoided.

24. Cedar Point Nursery v. Hassid, 594 U.S. 139, 148 (2021).

25. *See Penn Central*, 438 U.S. at 124. In recent years, the Court has been careful to explain that takings which fail the *Penn Central* balancing test are "regulatory takings," while other takings arising from a regulation might nevertheless be a per se taking, such as when the government physically appropriates property. *See Cedar Point*, 594 U.S. at 149; *see also infra* Part I.A.3, discussing physical appropriations.

26. *Cedar Point*, 594 U.S. at 149.

3. *Physical Appropriations*

In contrast to the concept of regulatory takings, which the Court made up during the twentieth century, the Takings Clause has always applied to physical appropriations of property.[27] These types of physical takings are per se takings, meaning there is no need to engage in any confusing balancing of factors; physical takings are automatically covered by the Takings Clause. The Court has repeatedly recognized the importance of the right to exclude, calling it "one of the most treasured" rights of property owners.[28] Elsewhere the Court has referred to the right to exclude as "one of the most essential sticks in the bundle of rights that are commonly characterized as property."[29]

As a result, the Court has recognized physical takings in a variety of different settings. Those include the following: overflight by aircraft;[30] appropriation of an easement to enter a private marina or access a beach;[31] the permanent physical invasion of a cable;[32] regulatory requirements to set aside a portion of a raisin crop;[33] or laws authorizing union representatives to go onto a private farm to organize farmworkers.[34] These physical takings are per se takings, meaning they automatically fall under the scope of the Takings Clause. Thus, physical invasions require just compensation to be paid for those takings.

Recognizing physical invasions under the color of state law as a per se taking is the flip side of eminent domain. Here, the state has not formally commenced condemnation proceedings to officially take property through eminent domain. But, according to the latest takings doctrine, government has essentially taken the property, or at least a key part of it such as the right to exclude, without paying for it. Sometimes these types of physical invasions authorized by state law are referred to, pejoratively, as "private eminent domain" because it is not the government but a private third party who is invading the private property at issue.[35]

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27. *Id.* at 148.

28. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 435 (1982).

29. Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979).

30. *See* United States v. Causby, 328 U.S. 256, 266 (1946).

31. *See Kaiser Aetna*, 444 U.S. at 180; Nollan v. Cal. Coastal Comm'n, 483 U.S. 825, 841–42 (1987). The Court perhaps engaged in a bit of revisionist history, as in several of these cases the court was engaged in a balancing test, particularly in *Kaiser Aetna*, where the Court explicitly applied the *Penn Central* balancing test. *Kaiser Aetna*, 444 U.S. at 174–75.

32. *See Loretto*, 458 U.S. at 421, 441.

33. *See* Horne v. Dep't of Agric., 576 U.S. 351, 361 (2015) ("The reserve requirement imposed by the Raisin Committee is a clear physical taking.").

34. *See* Cedar Point Nursery v. Hassid, 594 U.S. 139, 143 (2021).

35. Mark Jaffe, *Colorado Property Owners Faced with Possibility of Being Forced into Drilling Plans*, DENVER POST (May 3, 2016, 2:28 PM), https://www.denverpost.com/2011/08/13/colorado-property-owners-faced-with-possibility-of-being-forced-into-drilling-plans (describing the concept of "forced pooling" and noting "private eminent domain" charge from the governor of Pennsylvania).

Recognizing per se physical takings is supposed to prevent government from taking private property through regulation while avoiding payment of just compensation that would be due under eminent domain. Thus, these challenges are typically called "inverse condemnation proceedings," because private property owners force government to condemn their property that was taken by regulation. It doesn't matter what the reason or justification is for the taking—the Takings Clause requires that government pay just compensation for these takings. Two recent Supreme Court cases have reiterated this treatment of physical invasions of private property, one regarding real property (*Cedar Point*) and another involving personal property (*Horne*). These cases will each be discussed more fully below, given their importance and the striking similarities to forced pooling.

Most recently, in the *Cedar Point* case of 2021, the Court ruled that a California law granting unions a right to access the property of farms, in order to engage in labor organizing, was a per se physical taking in violation of the Takings Clause.[36] Key for the Court was that the regulation appropriated the right to exclude others from private property, or, put another way, granted a right to invade private property to third parties.[37] The lead plaintiff was a strawberry grower in northern California, which employed many seasonal and full-time workers.[38] They objected when members of the United Farm Workers entered their property without notice, began using bullhorns to get the attention of workers, some of whom joined the organizers in a protest while causing other workers to leave the worksite.[39] The labor union was proceeding under authority from the state, as the Agricultural Labor Relations Board had adopted a regulation, pursuant to authority from the California Labor Relations Act of 1975.[40] Under this regulation, a labor organization was allowed to take access to an agricultural employer's property for limited amounts of time, after giving notice to the Board and the employer.[41] Expecting that the union would again target its operations and attempt to organize workers on its property, the farm challenged the state board which had adopted the access regulation under which authority the organizers were acting, alleging it appropriated an easement[42] without compensation.[43] After losing in the district court and the Ninth Circuit,

36. *Cedar Point*, 594 U.S. at 162.
37. *Id.* at 167 (Breyer, J., dissenting).
38. *Id.* at 144.
39. *Id.* at 144–45.
40. *Id.* at 144.
41. *Id.*
42. The property owners later abandoned this easement theory, and the Court recognized that no easement or other recognizable interest in property was taken, instead focusing on the "right to exclude" in more abstract terms. *See id.* at 145.
43. *Id.*

the growers brought their case to the Supreme Court, where they received a much more favorable welcome.

The Supreme Court reversed the lower courts and found that "the access regulation grants labor organizations a right to invade the growers' property. It therefore constitutes a *per se* physical taking."[44] The Court found that the access regulation appropriated a right to invade the growers' property because it "grant[ed] union organizers a right to physically enter and occupy the growers' land for three hours per day, 120 days per year."[45] The Court found this was not restraining growers' own use of their property (like a regulatory taking would), but instead "appropriate[d] for the enjoyment of third parties the owners' right to exclude."[46]

By focusing in on the "right to exclude" or the converse "right to invade," the Court made clear that the access regulation was a per se physical taking, and not a regulatory taking to be assessed under the flexible *Penn Central* framework. The Court went through past precedents that it viewed as reviewing per se physical takings,[47] concluding that "government-authorized invasions of property—whether by plane, boat, cable, or beachcomber—are physical takings requiring just compensation."[48]

The Court rejected several attempts to limit the applicability of the per se physical taking rule. It dismissed arguments that a physical appropriation that is only temporary would not be a per se taking.[49] The Court also dismissed objections that the access regulation did not formally take an easement or other form of property interest recognized by state law, arguing that states should not be able to avoid takings liability by crafting regulations to create a slight mismatch with state property law.[50] The Court also rejected comparisons to a similar case that had limited the right to exclude by a shopping center, reasoning

44. *Id.* at 162.

45. *Id.* at 149.

46. *Id.*

47. The Court dismissed the fact that the Court in *Kaiser Aetna* explicitly applied the test for regulatory takings from *Pa. Coal Co.* to find that the regulation at issue in that case went too far. Kaiser Aetna v. United States, 444 U.S. 164, 180 (1979). However, it is correct to say that elsewhere the court had distinguished between a case where the government "is exercising its regulatory power in a manner that will cause an insubstantial devaluation of petitioners' private property; rather, the imposition of the navigational servitude in this context will result in an actual physical invasion of the privately owned marina." *Id.* But the Court did not state that this physical invasion was a *per se* taking, as it later claimed in *Cedar Point*. *Cedar Point*, 594 U.S. at 173.

48. *Cedar Point*, 594 U.S. at 152. This same reasoning should apply to the drilling rigs used to invade private property in the forced pooling context.

49. *Id.* at 153. To do this, the Court had to explain away some seemingly contrary language from the *Loretto* decision, suggesting that not every physical invasion would be a taking. *Id.* (quoting Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 435 n.12 (1982)).

50. *Cedar Point*, 594 U.S. at 155.

that because a shopping center is open to the public, it was appropriate to treat that as a regulatory taking and not a per se physical taking.[51]

The Court was careful in *Cedar Point* to explain that treating an access regulation as a per se physical taking would not endanger the many state and federal activities that involve entry onto private property. Thus, the Court made clear that trespass is still distinct from takings, and physical invasions of private property only amount to takings when they are undertaken pursuant to a granted right of access.[52] This is interesting in light of *Pierson v. Post,* the famous fox case studied by first year law students, where the Court made clear that it wanted to avoid creating rules that would encourage trespass in order to possess fugitive property such as wildlife.[53] Further, the Court explained that, "many government-authorized . . . invasions will not amount to takings because they are consistent with longstanding background restrictions on property rights," such as privileges to enter private property in the event of public or private necessity, or for reasonable searches.[54] Lastly, the Court explained that "government may require property owners to cede a right of access as a condition of receiving certain benefits, without causing a taking," such as government health and safety inspection regimes.[55] One might reasonably quibble with these distinctions, of course, but they reflect the Court's attempt at line-drawing to distinguish per se physical takings from allowable regulations.

In the other relevant recent case, *Horne v. U.S. Dept. of Agriculture*, the Court invalidated a New Deal-era regulatory system for raisin growers that implemented a price support system by limiting the supply of raisins brought to market.[56] As part of this regulatory scheme, the Secretary of Agriculture appoints members of a Raisin Administrative Committee, which annually determines what percentage of raisin growers' crop must be given to the Government, and this percentage is held by raisin handlers. The Raisin Committee acquires title to the reserve raisins not sold on the open market, and decides how to dispose of them, such as selling in noncompetitive export markets, donating to charity, or releasing them to growers who agree to reduce their raisin production.[57] In this way, the government program regulates the raisin market by limiting the supply, in order to support the price and avoid competition in the market which would result in prices collapsing.

The Hornes were a family of raisin growers and handlers. They refused to set aside any raisins pursuant to the order of the Raisin Committee, instead

51. *Id.* at 156–57 (distinguishing PruneYard Shopping Ctr. v. Robins, 447 U.S. 74 (1980)).
52. *Id.* at 159.
53. Pierson v. Post, 3 Cai. 175, 179 (N.Y. Sup. Ct. 1805).
54. *Cedar Point*, 594 U.S. at 160–61.
55. *Id.* at 161.
56. Horne v. Dep't of Agric., 576 U.S. 351, 361 (2015).
57. *Id.* at 355.

believing the system that had been in place for the previous eighty years to be unconstitutional. Perhaps surprisingly, or perhaps not, the Court agreed with them and found that this regulatory system amounted to a per se physical taking, thus requiring just compensation. In reaching this decision, the Court weighed in on three questions: whether per se physical takings apply only to real property and not personal property; whether the government may avoid the duty to pay just compensation by reserving to the property owner a contingent interest in the taken property; and whether a governmental mandate to relinquish specific property may be a condition on permission to engage in commerce.[58]

First, the Court explained that the categorical duty to pay just compensation for physical takings applies to personal property just as it applies to real property.[59] This question was important because the Hornes did not allege that the government had taken any real property, but rather was only taking title to personal property in the form of raisins. The Court found no basis in the text or history of the Takings Clause, or in the Court's precedent, for treating personal property differently from real property.[60] It was clear to the Court that the reserve requirement for raisins was a physical taking, as actual raisins were transferred from the growers to the government, and the Raisin Committee took title to the raisins.[61] And the Court also approved of the formalist distinction that if the government physically took control of raisins, that would be a per se taking, while if the government prohibited the sale of those same raisins, that would be evaluated under the more lenient *Penn Central* test.[62]

Second, the *Horne* Court addressed whether reserving to the property owner a contingent interest in the property taken would avoid the categorical duty to pay just compensation for a physical taking; again, the Court answered no.[63] In this case, the government would eventually sell the reserve raisins, then deduct expenses and subsidies for exporters, and then return any net proceeds (if any) to the growers.[64] This potential future payment due to the remaining interest in the reserve raisins was not enough to defeat a categorical taking. The

58. *Id.* at 357, 362–65.

59. *Id.* at 356–57.

60. *Id.* at 358 ("The Government has a categorial duty to pay just compensation when it takes your car, just as when it takes your home."). The Court even traced protection of agricultural crops all the way back to the Magna Carta. *Id.*

61. *Id.* at 361.

62. *Id.* at 361–62. This formal distinction was true, as the Court explained, because the Constitution "is concerned with means as well as ends," and so it mattered how the government chooses to use its power to regulate the economy. "[A] strong public desire to improve the public condition is not enough to warrant achieving it the desire by a shorter cut than the constitutional way." *Id.* at 362 (quoting Pa. Coal Co. v. Mohan, 260 U.S. 393, 416 (1922)).

63. *Horne*, 576 U.S. at 362–63. This point will be very relevant for forced pooling, as discussed *infra* Part III, where the mineral interest owner might retain a royalty interest in the oil and gas, but only after their share of the costs of extraction are paid, often including a penalty for being a non-consenting owner in the pool.

64. *Id.* at 363.

Court clearly stated that "[t]he fact that the growers retain a contingent interest of indeterminate value does not mean there has been no physical taking."[65] As the Court explained, questions about depriving the owner of economic value is part of the complex balancing test for regulatory takings, and does not apply to physical takings.[66] Thus, any questions about potential future payments do not bear on whether a taking has occurred, and government must pay for these uncompensated physical takings. Left unsettled is whether, once the government must pay for taking the raisins, it would then destroy the growers' contingent property interest in the value of the raisins.

Finally, the *Horne* Court decided whether a government requirement to "relinquish specific, identifiable property as a 'condition' on permission to engage in commerce effects a . . . taking;" here, the Court answered "yes."[67] The Court explained away past decisions that suggested otherwise by saying those were dangerous activities or the harvesting of resources owned by the state, unlike raisin farming.[68] Thus, in the Court's view, it did not matter that raisin growing was a regulated industry that the growers voluntarily chose to engage in.[69] The Court dismissed this defense as "Let them sell wine,"[70] apparently comparing the New Deal-era price support regulations to the indifference of the aristocracy leading up to the French Revolution. But the Court found that raisin growing was not subject to the same restrictions as pesticide production: "Raisins are not dangerous pesticides; they are a healthy snack."[71] Raisins were also not natural animals that belonged to the state, such that the state could limit the right to harvest them. Thus, the Court distinguished adverse precedent from the pesticide and oyster harvesting context.[72]

The Court in *Horne* rejected one other argument from the government that is important for the purposes of this Article as well. It rejected the idea that just compensation for this physical appropriation must take account of the benefits the raisin farmers received from the entire regulatory system, and the price supports specifically.[73] The Court rejected the argument that government enforcement of quality standards and promotional activities also would make the property owners better off than they would be in the absence of regulation.

65. *Id.*
66. *Id.* at 364.
67. *Id.* at 364–65.
68. *Id.* at 366–67.
69. *Id.* at 365.
70. *Id.*
71. *Id.* at 366.
72. *Id.* at 366–67.
73. *Id.* at 368–69.

Instead, the Court focused only on "the market value of the property at the time of the taking" as the measure of just compensation.[74]

B. PUBLIC USE REQUIREMENT

Although many people, particularly the private property owners affected by the act of government takings, object to the process, most people acknowledge and understand the need for the power of eminent domain when some public use is involved. Thus, most of us can appreciate the value of government's ability to create roads, parks, or the infrastructure for utilities such as electric transmission lines. All members of the public can access these now-public lands, or benefit from the system for providing the basics of modern life such as electricity. But what happens if government takes private property not for some use by the public, but instead chooses to take property from one private party and give it to another, simply because the government has decided the new private owner will put the property to a better use? This issue implicates the "public use" requirement of takings doctrine.

Advocates of a strong property rights framework have long opposed this practice. For example, the Castle Coalition bills itself as "a nationwide network" of home and small business owners that uses activism to fight the private-to-private transfer of property by the government through the use of its eminent domain power.[75] The idea behind this and similar groups is that a person's home is their castle, and government can only interfere with this private property in limited and circumscribed ways.[76] Groups such as this oppose redevelopment activities by local governments, such as when an area is declared "blighted" before private property is taken from individual and given to developers, often for some large scale redevelopment project such as office parks or gentrification through upscale luxury development.[77]

According to this view of the Takings Clause, when the Constitution says, "Nor shall private property be taken for public use, without just

74. *Id.* Certainly, there is room to criticize the reasoning of the Court in this decision. Effectively, the Court sanctioned the Hornes as being free-riders who produce more raisins than their neighbors and refuse to cooperate in the government-run price support system, but nevertheless benefit from the "market value" of raisins when all other growers comply with the government regulations. That is certainly a questionable outcome, but nevertheless, that is the state of the law as the Court has laid it out. Now that it is the law, we should ensure that it is applied fairly to all similar situations, even those where conservative judges have historically been more friendly, such as oil and gas extraction.

75. Scott G. Bullock, *Castle Coalition: Uniting Property Owners and Activists*, INST. FOR JUST. (Mar. 1, 2002), https://ij.org/ll/castle-coalition-uniting-property-owners-and-activists.

76. *See, e.g.*, *Eminent Domain*, INST. FOR JUST., https://ij.org/issues/private-property/eminent-domain (last visited Feb. 24, 2023) (discussing what it sees as the potential for abuse particularly following the "now infamous" *Kelo* case).

77. *See id.*

compensation,"[78] that implies that the government cannot take private property for a non-public or private use. This view has been repeatedly, although narrowly, rejected by the Supreme Court, as discussed below. Instead, public use requires not literal use by the public but instead some public purpose, which encompasses virtually anything government seeks to accomplish. However, many states reacted differently to this approach. In the past two decades, those states have enacted stricter limitations based on state law, preventing these private-to-private transfers based on appeals to amorphous concepts such as economic development. Because forced pooling is a matter of state law, not federal, these state laws typically will apply to forced pooling.

1. *Public Use as Public Purpose: The Federal Approach*

A long line of federal court cases have ratified government use of eminent domain for purposes of economic redevelopment. Following these precedents, the City of New London, Connecticut, devised its own redevelopment proposal to create jobs, increase tax revenue, and "revitalize an economically distressed city, including its downtown and waterfront areas."[79] A key part of the plan was to enable the pharmaceutical giant Pfizer to build a research facility adjacent to the proposed redevelopment, in the hopes of drawing new businesses to the area, including a waterfront conference hotel, a small urban village with restaurants and shopping, and new residences.[80] Standing in the way of this bold new vision for the area were several homeowners who did not want to sell, including the lead plaintiff Susette Kelo.[81]

Kelo and the other plaintiffs objected to the government's use of eminent domain to take private property and transfer it to another private property owner for redevelopment. Pejoratively labeled "private eminent domain," this type of practice has also been called "reverse Robin Hood"[82] because it takes property from relatively modest homeowners to transfer it to wealthy corporations or real estate developers.[83] Sadly for the plaintiffs in this case, and for advocates of strong property rights across the country, the Supreme Court ruled in favor of

78. U.S. CONST. amend. V.

79. Kelo v. City of New London, 545 U.S. 469, 472 (2005) (quoting Kelo v. City of New London, 843 A.2d 500, 507 (Conn. 2004)).

80. *Id.* at 474.

81. The story of this fight over eminent domain was dramatized in the 2017 motion picture *Little Pink House*. LITTLE PINK HOUSE (Korchula Productions 2017).

82. John K. Ross & Dick Carpenter, *Robin Hood in Reverse*, CITY J. (Jan. 15, 2010), https://www.city-journal.org/article/robin-hood-in-reverse.

83. After the Supreme Court ultimately greenlighted this use of private eminent domain, the area was bulldozed and remained a vacant lot for nearly twenty years. As of 2022, a private developer was constructing one hundred high-end apartments on the site. Effectively, "homeowners and residents were kicked out so that a private developer could build . . . more homes." *Kelo Eminent Domain*, INST. FOR JUST., https://ij.org/case/kelo (last visited Feb. 24, 2024).

redevelopment, finding no bar in the "public use" requirement of the takings clause to this use of eminent domain.[84]

In *Kelo v. City of New London*, the Court laid out the latest test for whether government use of eminent domain power violates the "public use" requirement in the Constitution.[85] Although the Court stated that government "may not take the property of A for the sole purpose of transferring it to another private party B, even though A is paid just compensation,"[86] the Court had "long ago rejected any literal requirement that condemned property be put into use for the general public."[87] Instead, the Court explained that past cases had made clear that it adopted the "broader and more natural interpretation of public use as 'public purpose.'"[88] The Court then noted that "public purpose" had itself been broadly defined to include redevelopment of blight, reduction of the concentrated ownership of land, and the use of trade secrets to evaluate pesticide safety.[89] Thus, Kelo's challenge failed and the Court adopted a deferential approach to public use challenges of eminent domain.

The *Kelo* decision was a close one, and perhaps its rule will be reconsidered as the ideological composition of the Supreme Court has shifted further to the right, which generally aligns more with a strong property rights framework (as discussed above regarding the cases on per se physical takings). Justice Kennedy provided the crucial fifth vote for the *Kelo* Court in support of New London's position and wrote a concurring opinion to emphasize the importance of a careful review of the record to ensure there was no impermissible favoritism to private parties.[90] Four other Justices, including Justice Thomas who still sits on the Court, would have limited the "public purpose" in this context to only include abatement of uses of private property that "included affirmative harm on society."[91] Under this view, Kelo's use of her property as her residence, with no evidence of blight, was not harming her neighbors or the public. Thus, the government could not take her property and give it to another private party. Justice Thomas's lone dissenting opinion arguably went even further, with strong private property rights language that seems the closest to the Court's language in the recent *Horne* and *Cedar Point* cases.[92] Only time will tell if the public use requirement of the Takings Clause will be another area where the

84. *Kelo*, 545 U.S. at 484.
85. *Id.* at 482–83.
86. *Id.* at 477.
87. *Id.* at 479 (quoting Haw. Hous. Auth. v. Midkiff, 467 U.S. 229, 244 (1984)).
88. *Id.* at 479–80.
89. *Id.* at 480–83.
90. *Id.* at 490–91 (Kennedy, J., concurring).
91. *Id.* at 500 (O'Connor, J., dissenting).
92. *Id.* at 507.

Court reverses decades-old precedent.[93] For the time being at least, public use challenges to forced pooling based on federal law will be an uphill battle. At the state level, however, the prospects for such challenges are much rosier.

2. *Differences in State Law*

Strong property rights advocates loudly criticized the *Kelo* decision, with some calling it "one of the most controversial rulings in [the Court's] history."[94] These activists may have been unable to influence the Court in its decision in *Kelo*, but they had much greater success turning to state legislatures and citizens in the aftermath of this case. As a result, many states changed their own takings laws in response to the *Kelo* decision, in a way that is meaningful for the analysis of forced pooling.

As one example, Arizona citizens approved a ballot measure to enact the Private Property Rights Protection Act in 2007, which defined "public use" in the eminent domain context to be limited to possession, occupation, and enjoyment of land by the general public or public agencies; use of land for utilities; acquisition of property to eliminate a direct threat to public health or safety; or acquisition of abandoned property;[95] and explicitly excluded "the public benefits of economic development, including an increase in tax base, tax revenues, employment, or general economic health."[96] In North Dakota, a constitutional amendment was approved that said:

> [A] public use or a public purpose does not include public benefits of economic development, including an increase in tax base, tax revenues, employment, or general economic health. Private property shall not be taken for the use of, or ownership by, any private individual or entity, unless that property is necessary for conducting a common carrier or utility business.[97]

Michigan voters approved a similar constitutional amendment prohibiting "the taking of private property for transfer to a private entity for the purpose of economic development or enhancement of tax revenues."[98]

Numerous other states adopted similar measures legislatively.[99] In Colorado, the taking of private property may be done "solely for the purpose of furthering a public use" and explicitly does not apply to "the taking of private

93. Of course, if the Supreme Court does reverse course and reinvigorate the "public use" requirement as a serious limitation on government's use of eminent domain, that would pose and even greater threat to forced pooling.

94. *Kelo Eminent Domain*, *supra* note 83.

95. ARIZ. REV. STAT. ANN. § 12-1136(a) (2006).

96. *Id.* § 12-1136(b).

97. N.D. CONST. art. 1, § 16.

98. MICH. CONST. art. X, § 2.

99. As discussed later, many of these states also have significant oil and gas activity and forced pooling laws which likely run afoul of these limitations on the state's power of eminent domain.

property for transfer to a private entity for the purpose of economic development or enhancement of tax revenue."[100] In Florida—held up by property rights advocates[101] as a great example—H.B. 1567 (2006) requires a waiting period of ten years before transfer to another private party; it also requires a three-fifths majority in the legislature to grant exceptions to the state's prohibition against using eminent domain for private use (in a constitutional amendment).[102] Perhaps the strongest property rights legislation came from South Dakota, where 2006 H.B. 1080 prohibits government agencies from seizing private property by eminent domain "for transfer to any private person, nongovernmental entity, or other public-private business entity."[103] In Pennsylvania, the 2006 Property Rights Protection Act prohibits the use of eminent domain "to take private property in order to use it for private enterprise."[104] Iowa even recently considered a bill that would ban eminent domain for carbon pipelines.[105]

Many state courts have also adopted a stricter approach than the U.S. Supreme Court, finding that uses of eminent domain violate state statutes or constitutions that require public use. Perhaps most prominently, the Michigan Supreme Court reversed an earlier case called *Poletown*, rejecting the position that "a vague economic benefit stemming from a private profit-maximizing enterprise is a 'public use.'"[106] In Pennsylvania, courts have interpreted the Property Rights Protection Act to block the use of eminent domain so that the government could give a private developer a utility easement for sewage and stormwater facilities.[107] Although the municipal authority might have been able to take an easement to provide these utility services itself, it could not give that power to a private developer.[108] And in Ohio, the state supreme court held that the Ohio Constitution does not permit eminent domain to be used solely for economic development and courts must apply "heightened scrutiny" when reviewing governmental uses of eminent domain.[109]

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100. COLO. REV. STAT. ANN. § 38-1-101(1)(b)(I) (West 2004). The Colorado Supreme Court has also ruled that state eminent domain power had not been granted to an oil pipeline, implying that they were not engaged in a public use. Larson v. Sinclair Transp. Co., 284 P.3d. 42, 46 (Colo. 2012).

101. *See* INST. FOR JUST., 50 STATE REPORT CARD: TRACKING EMINENT DOMAIN REFORM LEGISLATION SINCE *KELO* 13 (2007), https://ij.org/wp-content/uploads/2015/03/50_State_Report.pdf.

102. H.R. 1567, 2006 Leg., Reg. Sess. (Fla. 2006); FLA. CONST. art. X, § 6. Florida voters also approved a ballot measure in response to the *Kelo* decision. *See* U.S. GOV'T ACCOUNTABILITY OFF., EMINENT DOMAIN 42 n.53 (2006), https://www.gao.gov/assets/gao-07-28.pdf.

103. 50 STATE REPORT CARD, *supra* note 101, at 45.

104. 26 PA. STAT. AND CONS. STAT. § 204(a) (West 2006).

105. Katarina Sostaric, *New Iowa Bill Would Block Eminent Domain for Carbon Pipelines for One Year*, IOWA PUB. RADIO (Mar. 17, 2022, 1:15 PM CDT), https://www.iowapublicradio.org/state-government-news/2022-03-17/new-iowa-bill-would-block-eminent-domain-for-carbon-pipelines-for-one-year.

106. Wayne County v. Hathcock, 684 N.W.2d 765, 786 (Mich. 2004).

107. Reading Area Water Auth. v. Schuylkill River Greenway Ass'n, 100 A.3d 572, 582 (Pa. 2014).

108. *Id.* at 577.

109. City of Norwood v. Horney, 830 N.E.2d 1115, 1123 (Ohio 2006).

C. DETERMINING JUST COMPENSATION

Even if a taking of private property fulfills the public use requirement of federal or state law, government is still required to pay "just compensation." Where government has not paid such compensation, the taking is then said to be unconstitutional. Determining what is just compensation for any particular taking is complicated, especially outside of the affirmative use of eminent domain. The topic is rich and could merit an entire article applying just compensation to forced pooling.[110] This Article will focus on a few key threshold issues of just compensation for physical takings and later apply them to forced pooling. A more in-depth analysis of what just compensation would be required under particular forced pooling regimes will have to be saved for another day.

There are four main issues. First, if the government doesn't entirely take one hundred percent of the value of property rights, has it provided just compensation? Second, what benefits from the regulatory system should be counted as far as just compensation for physical takings? Third, does the government have to pay the compensation, or can the compensation come from the third-party, the private party to whom government transfers an owner's property? Fourth, and finally, how is just compensation to be determined for any particular physical taking? Each of these issues will be addressed in turn.

The Court made clear in *Loretto* that a physical invasion need not destroy the entire value of the property in order to qualify as a per se physical taking.[111] Regarding the residual value of property left with the initial owner, the *Horne* Court clarified that this type of analysis only makes sense for regulatory takings, not for per se physical takings. In that case, the Supreme Court was presented with the question: "Whether the government may avoid the categorical duty to pay just compensation for a physical taking of property by reserving to the property owner a contingent interest in a portion of the value of the property, set at the government's discretion."[112] The government had argued that the raisins at issue were fungible goods whose only value was from their sale, and that interest remained with the raisin growers.[113] The Court made clear that for categorical physical takings, courts should not ask "whether [the taking] deprives an owner of all economically valuable use of [its] property."[114] This

110. *See, e.g.*, Kevin J. Lynch, *A Fracking Mess: Just Compensation for Regulatory Takings of Oil and Gas Property Rights*, 43 COLUM. J. ENV'T L. 335, 391 (2018) (applying just compensation doctrine to the idea of regulatory takings of oil and gas rights).

111. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 442 (1982). Thus, physical invasions should not be confused with so-called *Lucas* total per se takings, which are a form of regulatory takings due to the reduction in value coming from use restrictions in the regulation, not authorizing a third party to invade the property. Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1044 (1992).

112. Horne v. Dep't of Agric., 576 U.S. 350, 362–63 (2015).

113. *Id*. at 363.

114. *Horne*, 576 U.S. at 363 (quoting Tahoe-Sierra Preserv. Council v. Tahoe Reg. Plan. Agency, 535 U.S. 302, 333 (2002)).

was also the case in *Loretto*, where the property owner still retained and could sell or rent the property, but still the physical invasion by cable required compensation.[115] Thus, "any payment from the Government in connection with that action goes, at most, to the question of just compensation."[116] As a result, the government must pay for the property that it actually took even if it only took a portion of that property.

Next up is the question of how to account for offsetting benefits, or sometimes what is referred to as the average reciprocity of advantage. Although the Supreme Court is not always consistent in applying these principles, the importance of accounting for offsetting benefits of a regulation has been recognized broadly in takings cases.[117] Yet whatever relevance this concept may have for regulatory takings analyzed under a multi-factor balancing approach, the Court rejected a broad view of this in the context of per se physical takings in *Horne*.[118] In that case, the Court rejected arguments from the government that the raisin growers benefitted from the entire regulatory system and the government's support for the raisin framing business.[119] According to the Court, "general regulatory activities" cannot "constitute just compensation for a specific physical taking. Instead, our cases have set forth a clear and administrable rule for just compensation: The Court has repeatedly held that just compensation normally is to be measured by the market value of the property at the time of the taking."[120] Another recent Supreme Court case affirmed this idea, stating that "[t]he Fifth Amendment right to full compensation arises at the time of the taking, regardless of post-taking remedies that may be available."[121] Thus, according to the most recent Supreme Court caselaw, for physical takings, the government must pay the market value of the property at the time of the taking, and suggestions that the property owner benefits from the overall regulatory structure are not to be considered.

So now that we know what property must be compensated, and when it must be compensated, we must ask who must pay compensation for the taking of private property? In *Horne*, the government ran the Raisin Committee and thus it was the government that could potentially pay the private property owner.[122] But what if the government does not make any payments, but instead

115. *Horne*, 576 U.S. at 363 (citing *Loretto*, 458 U.S. at 430, 436).

116. *Id.* at 364.

117. Lynch, *supra* note 110, at 391 (discussing in the context of regulatory takings).

118. *Horne*, 576 U.S. at 368–69.

119. *Id.*

120. *Id.* (internal quotation omitted).

121. Knick v. Township of Scott, 588 U.S. 180, 190 (2019). The Court went on to explain that a "later payment of compensation may remedy the constitutional violation that occurred at the time of the taking, but that does not mean that the violation never took place." *Id.* at 193.

122. *Horne*, 576 U.S. at 355.

it is a third party who attempts to compensate the initial private property owner? Courts state over and over that the government must pay just compensation for a taking, so can government really shirk its duty by allowing the third party to pay the required just compensation? The answer appears to be yes. Here, it is worth briefly looking into the law around pipelines and the delegation of government authority for eminent domain. This history shows that government may authorize even private parties to take another's private property, although compensation is still required. The taking of property by private parties has been described as "hardly novel" and traced back to early mill acts in the colonial era, railroads, and other common carriers.[123] This practice extended to pipelines used in the energy industry to transport natural resources as well.[124] Although, because these cases are handled as condemnation proceedings, perhaps it is still an open question as to whether the government can simply, by regulatory fiat,[125] transfer property from one private owner to another without the government being forced to pay just compensation.

Once we know what property must be compensated, when, and by whom, we still must determine how to calculate just compensation. In theory, this is simple. Courts repeatedly state that just compensation is to be based on the market value of the property at the time it is taken.[126] Simple in theory, but in practice this can get quite complicated, especially outside of the realm of real property estates in land, such as valuing mineral estates.[127]

This background on takings law is, of course, focused and incomplete. There are many other intricacies that this Article does not explore, in the interest of brevity. But now we know enough about takings law to understand how it will apply to forced pooling, particularly in a time when fracking is necessary because the minerals would otherwise not be migratory in the geologic reservoirs where they are found. First though, it is important to take the time to go through forced pooling and oil and gas law more generally.

II. FORCED POOLING

In order to understand how forced pooling works, and what issues it presents under the Takings Clause, it is important to first understand some history about how oil and gas has been regulated over time. From the traditional rule of capture to the so-called "era of conservation" that came about in the

123. James W. Ely, Jr., *The Controversy over Energy Takings: A Tale of Pipelines and Eminent Domain*, 9 PROPERTY RIGHTS J. 173, 174–76 (2020).

124. *Id.* at 180–81.

125. As will be discussed below, forced pooling regimes do not engage in condemnation proceedings where just compensation would be determined in a court setting.

126. *See, e.g.*, United States v. Miller, 317 U.S. 369, 374 (1943).

127. Lynch, *supra* note 110, at 356.

1930s,[128] shifts were made away from the common law rule of capture to a much more highly regulated approach, designed to encourage the efficient production of oil and gas. Forced pooling entered the picture at this time as a cure for some of the ills caused by the rule of capture. This regime has remained in place now for nearly one hundred years, with only marginal attempts to update the laws and regulations to keep up with advances in technology and industrial practices.

Understanding how the law developed also requires some basic understanding of the property at issue, specifically where the natural resources are found and how they can be extracted and brought to the surface. Thus, this Part will present a necessarily brief and high-level overview of reservoir geology.

A. REGULATION OF OIL AND GAS

1. *The Rule of Capture*

The oil and gas industry is younger than the United States, with its origins typically being traced to 1859, or perhaps as far back as 1833.[129] Initially, courts looked to the common law for ways to define and address this natural resource. The most obvious comparison was to water, since oil and water are both fluids and to some extent, they move around relatively freely underground. Oil was treated differently than other minerals such as coal, which is a mineral in place. Previous generations in the nineteenth century imagined that oil and gas flowed underground like rivers.[130] Although this view was not accurate, further advances in scientific fields such as geology showed that pumping oil and gas out of a well would reduce the pressure in a reservoir, causing oil and gas from neighboring areas to migrate across the reservoir.[131] As a result, courts responded to the migratory nature of oil and gas by applying the "rule of capture."[132] The applicability of the rule of capture to oil and gas was explained this way by the Court:

> In common with animals, and unlike other minerals, [oil and gas] have the power and the tendency to escape without the volition of the owner . . . . They belong to the owner of the land, and are part of it, so long as they are on or in it, and are subject to his control; but when they escape, and go into other land,

128. K.K. DuVivier, *Sins of the Father*, 1 TEX. A&M J. REAL PROP. 391, 404–05 (2014).

129. *Id.* at 400 (discussing the "discovery" of oil in the Eastern United States).

130. *Id.* at 401; Ronald W. Polston, *Mineral Ownership Theory: Doctrine in Disarray*, 70 N.D. L. REV. 541, 551 (1994).

131. Polston, *supra* note 130, at 552.

132. Westmoreland & Cambria Nat. Gas Co. v. De Witt, 18 A. 724, 725 (Pa. 1889). *See also* Bruce M. Kramer & Owen L. Anderson, *The Rule of Capture – An Oil and Gas Perspective*, 35 ENV'T L. 899, 902–03 (2005).

> or come under another's control, the title of the former owner is gone. Possession of the land, therefore, is not necessarily possession of the gas.[133]

This formulation of the rule of capture will be familiar to most law students, who likely studied the famous fox case of *Pierson v. Post*[134] in their first year Property class. In that case, Post was pursuing a fox with his hounds and argued this was enough for him to establish possession of the fox.[135] Pierson, on the other hand, knew that Post had been chasing the fox, but nevertheless intervened to kill the fox himself and carry it off.[136] Under this formulation of the rule of capture, the fox was not property until it was actually captured by a party (Pierson), and it was not enough merely to be attempting to exert control over the fox (Post).[137] Applied to oil and gas, this meant that the oil and gas was not subjected to property ownership until it was extracted from below ground.[138]

The rule of capture worked well enough as an analytical matter in the early days of the oil and gas industry, although practical difficulties soon emerged. The rule of capture led to an expensive race to drill for oil, and incentivized property owners to rush to drill at the edge of their property lines, in an attempt to suck the oil or gas from beneath their neighbor's property, before the neighbor did the same. Anyone who has seen the 2007 movie *There Will Be Blood* will remember the famous "I drink your milkshake" scene, in which Daniel Day-Lewis's character famously threatens to do exactly this.[139] These incentives led to too many wells being drilled and wasteful competition.[140] They also risked damaging the pressure in the reservoir, ultimately leading oil and gas to be stranded underground. Figure 1, below, highlights the incentives of owners in a common pool of oil or gas to compete to extract the oil and gas before their neighbors.

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133. *De Witt,* 18 A. at 725.

134. *See* Pierson v. Post, 3 Cai. 175 (N.Y. Sup. Ct. 1805).

135. *Id.* at 177.

136. *Id.* at 180–81 (Livingston, J., dissenting) (describing Pierson as a "saucy intruder").

137. *Id.* at 179–80.

138. 1 PATRICK H. MARTIN & BRUCE M. KRAMER, WILLIAMS & MEYERS, OIL & GAS LAW § 203.1 (2023). Although state laws varied in how they treated oil and gas, ranging from non-ownership theories, to qualified ownership theories, to theories of ownership in place, in all states once oil and gas is extracted, it is treated as personal property and no longer tied to interests in real property. *See, e.g.*, Lynch, *supra* note 110, at 348–52 (cataloging various state approaches to oil and gas property rights).

139. THERE WILL BE BLOOD (Paramount Vantage 2007).

140. *See also* Kramer & Anderson, *supra* note 132, at 901–02 (explaining the nuance involved with application of the rule of capture to oil and gas reserves, and some of the problems that arose from strict adherence to the rule of capture such as "overdrilling and the dissipation of the reservoir's natural energy").

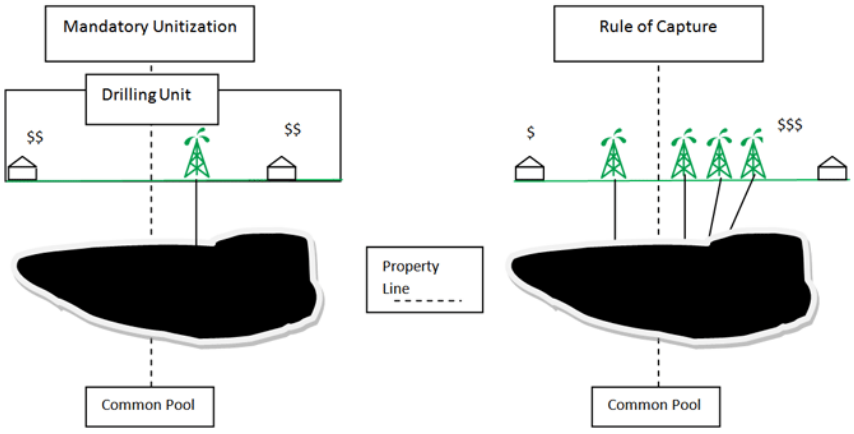

Figure 1: Owner Incentives[141]

2. *Historical Development of Oil and Gas Conservation Statutes*

The problems and inefficiencies created by the rule of capture as applied to oil and gas[142] led most states to adopt Oil and Gas Conservation Statutes. These were called "conservation" statutes because they were designed to prevent waste and ensure that oil and gas reservoirs could produce up to their maximum capacity of the natural resources.[143] These oil and gas conservation statutes were primarily concerned with eliminating or reducing waste (both physical and economic waste), protecting the correlative rights of all owners in the common pool resource, and ensuring the maximum production from the reservoir through well spacing and density requirements.

Most states adopted oil and gas conservation statutes last century, including provisions related to forced pooling. The exceptions are typically states with little to no oil and gas development, such as in the Northeast, Mid-Atlantic, a handful in the Midwest, and Hawaii. Those states without forced pooling thus continue to operate under the traditional rule of capture for oil and gas resources. Ironically, this system should work well in the age of fracking, allowing protection of property rights while those with resources can extract them if they

141. Source: *Compulsory Pooling Laws: Protecting the Conflicting Rights of Neighboring Landowners*, NAT'L CONF. OF STATE LEGISLATURES (Oct. 24, 2014), http://www.ncsl.org/research/energy/compulsory-pooling-laws-protecting-the-conflicting-rights-of-neighboring-landowners.aspx.

142. FRED BOSSELMAN, JOEL B. EISEN, JIM ROSSI, DAVID B. SPENCE & JACQUELINE WEAVER, ENERGY, ECONOMICS AND THE ENVIRONMENT: CASES AND MATERIALS 259 (3d ed. 2010) (highlighting the waste of large amounts of the resource, both above and below ground, resulting from the rushed and inefficient development).

143. *See* DuVivier, *supra* note 128, at 404–05 (discussing the "Era of Conservation" as the time between the mid-1930s and 1960).

wish. True, it might be challenging to accumulate enough mineral rights to make a large-scale fracking operation complete with horizontal drilling economical. But that just reflects economic reality, and the resource might become economically available in the future.

The era of oil and gas conservation started in 1935, when several states formed the Interstate Oil Compact Commission.[144] This Commission developed a set of model regulations for use by the states, which was released in 1949.[145] Most states then adopted their own oil and gas conservation statutes, establishing regulatory agencies to oversee the process, in the 1950s.[146] These statutory schemes were focused on preventing waste, initially physical waste but later expanded to include economic waste. They also sought to protect the correlative rights of owners in the common pool Correlative rights are protected primarily by requiring unitization and imposing well spacing and density requirements. Each of these will be discussed in turn below.

a. *Preventing waste*

Although it may seem odd to find the words "conservation" and "oil and gas" in the same statutes, it makes some sense when you understand that a key aim of these laws was to avoid waste. The statutes are aimed at conserving, rather than wasting, a valuable natural resource. The concept of waste has two main meanings in this context: physical waste or economic waste. Preventing physical waste is the primary goal of oil and gas conservation statutes, although some states also include authority for the prevention of economic waste, notably Texas.

The way that oil and gas conservation statutes prevent physical waste is by ending the wasteful race to drill and instead imposing orderly, efficient regulation on the drilling process in order to ensure that the maximum amount of oil or gas can be recovered from the reservoir. Thus, state laws might define physical waste of oil or gas to include the "inefficient, excessive or improper use, or the unnecessary dissipation of, reservoir energy"[147] or as "physical waste or loss . . . from drilling, equipping, locating, spacing, or operating a well or wells in a manner that reduces or tends to reduce the total ultimate recovery of

144. Those states were Oklahoma, Texas, Colorado, Illinois, New Mexico, and Kansas. *See About Interstate Oil and Gas Compact Commission*, INTERSTATE OIL & GAS COMPACT COMM., https://oklahoma.gov/iogcc/about-us.html (Apr. 5, 2024). But regulations of the oil and gas industry to conserve the resource predated this era, going back at least to the 1920s. *See* 1 BRUCE KRAMER & PAT MARTIN, THE LAW OF POOLING AND UNITIZATION § 1.01 (3d ed. 2024).

145. ENVIRONMENTAL REGULATION OF OIL AND GAS OPERATIONS BY STATE CONSERVATION AGENCIES § 14.02(1) (ROCKY MTN. MIN. L. INST. 1992).

146. U.S. DEP'T ENERGY, OFF. FOSSIL ENERGY, STATE OIL AND NATURAL GAS REGULATIONS DESIGNED TO PROTECT WATER RESOURCES 14 (May 2009).

147. WYO. STAT. ANN. § 30-5-101(a)(i)(B).

oil or gas from any pool."[148] The point of these laws is to maintain the ability, perhaps sometime in the future, for the efficient extraction of oil or gas from the reservoir or pool.

Economic waste is also a concern and might result from inefficient operations to extract the resource, or overproduction in excess of demand that causes the price to drop. Oil and gas conservation statutes often limit the number of wells and require them to be spaced out, thus reducing the overall cost of extraction, and thereby improving the economics of the enterprise.[149] Or these statues prevent economic waste by authorizing state regulators to issue prorationing orders, effectively limiting the amount of production in an area to ensure that prices are maintained at a reasonable level. The laws concerning economic waste might proscribe "production of oil in excess of transportation or market facilities or reasonable market demand."[150] Absent these prorationing orders, "crude oil for lack of market demand and adequate storage tanks would inevitably go into earthen storage and be wasted" and restrictions on production were needed to prevent this economic waste.[151] This type of regulatory scheme, in which production cuts are shared across the industry, was common of many other New Deal regulatory systems attempting to lift the country out of the Great Depression.[152] But the laws outlived the Great Depression. Just recently, Texas considered using this latent authority when oil prices briefly turned negative at the start of the COVID-19 pandemic, due to supply that exceeded demand and storage capacity.[153] It should be noted that the model regulations from the Interstate Oil Conservation Commission were only focused on physical waste,

148. TEX. CODE ANN. § 85.046(6). *See also* COLO. REV. STAT. § 34-60-103(13) (proscribing acts that "cause reduction in quantity of oil or gas ultimately recoverable from a pool under prudent and proper operations" or abusing correlative rights by "causing reasonably avoidable drainage between tracts of land" leading to inequitable production).

149. Frank Sylvester & Robert W. Malmsheimer, *Oil and Gas Spacing and Forced Pooling Requirements: How States Balance Energy Development and Landowner Rights*, 40 U. DAYTON L. REV. 47, 49 (2015); Rowland Harrison, *Regulation of Well Spacing in Oil and Gas Production*, 8 ALTA. L. REV. 357, 360–61 (1970).

150. TEX. CODE ANN. § 85.046(10). *See also* WYO. STAT. ANN. § 30-5-101(a)(i)(E); Champlin Refin. Co. v. Corp. Comm'n of Okla., 286 U.S. 210, 226 (1932) (discussing similar provision of Oklahoma law).

151. *Champlin Refin. Co.*, 286 U.S. at 230.

152. If this sounds familiar, that is because the attempts to avoid economic waste of oil and gas are quite similar to the New Deal-era system of capacity limitations and price supports for raisins that were at issue in the *Horne* case. *See supra* notes 56-74 and accompanying text.

153. *See* Mitchell Ferman, *Texas' Oil and Gas Regulators Aren't Ready to Cut Production Yet. They're Not Even Sure How it Would Work if They Did.*, TEX. TRIB. (Apr. 15, 2020, 12:00 AM CST), https://www.texastribune.org/2020/04/15/texas-oil-production-cuts-not-happening-yet-railroad-commission (discussing hearing before the Texas Railroad Commission to consider production limits in response to collapsing demand related to pandemic shutdowns); *see also* Jillian Ambrose, *Oil Prices Dip Below Zero as Producers Forced to Pay to Dispose of Excess*, GUARDIAN (Apr. 20, 2020, 2:26 PM EDT), https://www.theguardian.com/world/2020/apr/20/oil-prices-sink-to-20-year-low-as-un-sounds-alarm-on-to-covid-19-relief-fund.

not economic waste, and not all states have provisions regarding the prevention of economic waste.

b. *Protecting correlative rights*

Another key feature of oil and gas conservation laws, related to the goal of preventing waste, is the protection of correlative rights. The idea behind correlative rights is that property owners in a common pool resource, like traditional oil and gas reservoirs, have their rights but those rights also depend on the relation to other owners who have rights in the same pool. Louisiana has defined the concept this way: "Landowners and others with rights in a common reservoir or deposit of minerals have correlative rights and duties with respect to one another in the development and production of the common source of minerals."[154] In Wyoming, correlative rights are defined as "the opportunity afforded the owner of each property in a pool to produce, so far as it is reasonably practicable to do so without waste, his just and equitable share of the oil or gas, or both, in the pool."[155]

Any definition of correlative rights is based on the resource in question being found in a common pool. A homeowner does not have any correlative rights in the use of their home. Instead, one's home is one's castle; and such property may be used as the owner sees fit, subject to reasonable regulation by the government to prevent that use from harming neighbors or society as a whole. But a neighbor cannot pool land with their neighbors in order to create a bigger, more cost-effective farm, because the land is not a common pool. Of course, any property is burdened by laws such as nuisance, zoning, and other ways that government ensures we can live in a civil society without coming to blows, or worse. But correlative rights are distinct from general property rights, and correlative rights only apply to common pool resources.[156] This made sense in the early days of the oil and gas industry, where oil and gas were found in subterranean pools. But as I will show below, the concept of correlative rights should not be expanded beyond common pool resources, such as nonmigratory oil or gas found in tight sand or shale formations that are the target of most extraction done these days through the use of hydraulic fracturing.[157]

154. LA. STAT. ANN. § 31:9. For a discussion of this provision see David E. Pierce, *Employing a Reservoir Community Analysis to Define and Marshal Correlative Rights in the Oil and Gas Reservoir*, 76 LA. L. REV. 787, 788 (2016).

155. WYO. STAT. ANN. § 30-5-101(a)(ix).

156. *See, e.g.*, Joseph A. Schremmer, *Subsurface Trespass: Private Remedies and Public Regulation*, 101 NEB. L. REV. 1005, 1009 (2022) (describing the private law remedies and statutory conservation laws which addressed issues in common pool resources); *see also* Joseph A. Schremmer, *Crystal Gazing: Foretelling the Next Decade in Oil and Gas Law*, 61 ROCKY MTN. MIN. L. INST. 5-1, 5-57 (2020) ("Limitations on drilling and production under traditional conservation legislation are constitutional because they protect correlative rights in, and prevent waste of, a common pool resources.").

157. *See infra* Part III.B.

Put a bit more simply, regulatory schemes to protect correlative rights prevent unscrupulous property owners from "drinking your milkshake," to use the colorful metaphor presented in *There Will Be Blood*.[158] Instead, the state imposes a system on all owners in a common pool for the efficient extraction of the resource, and the proceeds are to be shared equitably among all the owners. No longer should there be a rush to drill, in order to drain the oil or gas from beneath your neighbor's property. Of course, this can only happen where it would be physically possible for your neighbor to drain minerals from your property without trespassing or otherwise invading it.

c. *Unitization, spacing, and density requirements*

Simply prohibiting waste and stating a desire to protect correlative rights is not enough in the abstract; some policies must be enacted and enforced in order to support this regulatory scheme. States developed a variety of mechanisms to prevent waste and protect correlative rights, including unitization, spacing, and well density requirements, as well as forced pooling. This Subpart will briefly introduce the first three concepts, some of which are outdated as applied to modern fracking, before diving into forced pooling in more detail in the following section.

Unitization can be defined as the "joint operation of all or some portion of a producing reservoir."[159] Unitization in this sense might be voluntary, if all the property owners with an interest in the common pool reservoir come together to jointly develop the resource. Thus, unitization need not be compulsory, but when unitization is mandated by the government, then it becomes what I will later describe as "forced pooling."[160]

Spacing requirements generally involve regulation of the number and location of wells that can be drilled within a specified area.[161] The idea was that the waste and inefficiency caused by the rule of capture could be reduced by requiring a minimum distance between wells.[162] The spacing requirement derives from the maximum acreage that could be drained by a single well in a specific formation, which also depended on the size of the drilling unit.[163] It has been commonly said that spacing requirements and pooling go hand-in-hand because a well located on one person's property might be used to drain oil and

158. THERE WILL BE BLOOD (Paramount Vantage 2007).

159. Kramer & Anderson, *supra* note 132, at 902 n.6.

160. *See id.* ("Compulsory unitization involves a government body forcing mineral owners, royalty owners and working interest owners to jointly operate all or some portion of a producing reservoir.").

161. Bruce M. Kramer, *Compulsory Pooling and Unitization: State Options in Dealing with Uncooperative Owners*, 7 J. ENERGY L. & POL'Y 255, 258 (1986).

162. Sylvester & Malmsheimer, *supra* note 149, at 54–57.

163. *Id.* at 54.

gas from beneath others with an interest in the same pool.[164] Of course, that point again relies on the presence of oil and gas in a common pool reservoir. What made sense in the 1950s, 1980s, or even 2000s does not necessarily apply to oil and gas development in the 2010s or 2020s, using different drilling techniques to access minerals in different types of formations.

Density requirements for wells are closely related to spacing requirements. Density regulations might "limit the number of wells that may be drilled on a given tract,"[165] for example. These requirements, in turn, are intended to promote the orderly development of the reservoir and protect the correlative rights of owners in the common pool.[166]

All of these different concepts and regulatory approaches point towards the same goals, preventing waste of oil and gas and protecting the correlative rights of owners in a common pool resource. But to get to that point, the regulations must ensure that all the owners in the common pool join together. If they will not voluntarily pool their property interests, the government has decided to force them to do so. This notion gets us at last to forced pooling.

3. *Forced Pooling: Overcoming the Holdout Problem*

The holdout problem is familiar to anyone who has studied the topic of eminent domain. In the traditional formulation, government intervention is necessary to facilitate the construction of roads, railways, or even pipelines, because they must be placed on the land and ideally in a straight line. Because numerous private parties often separately own the land traversed, each individual owner will have an incentive to hold out for more money because every segment is necessary for a properly functioning road. In order to stop one or a few private landowners from blocking the road entirely, or from extorting disproportionate amounts of money just by being difficult, governments use eminent domain to force the transfer of the relevant property at a fair price. This concept was extended to the oil and gas context as well, and it made sense in the days of pooled reserves of oil and gas that could flow more or less freely between different areas of the pool. The general idea is outlined in Figure 2 from an explanation of forced pooling by the National Conference of State Legislatures.

164. Kramer, *supra* note 161, at 258.

165. Schremmer, s*upra* note 156, at 1065.

166. *Id.* at 1065–66 (discussing the harm prevention justification for density and other requirements of oil and gas conservation laws, justified by protecting the private rights of others in the reservoir).

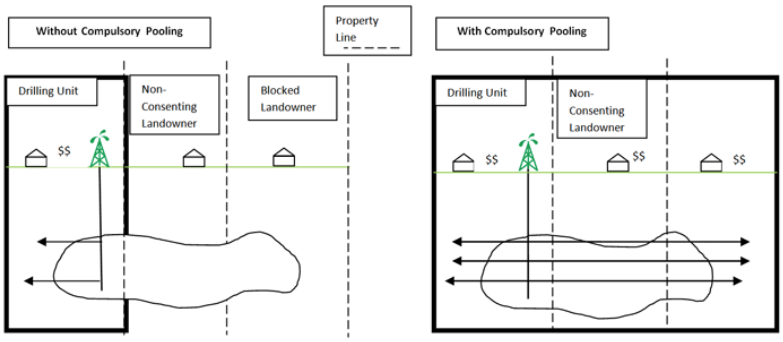

Figure 2: Comparing Properties With and Without Compulsory Pooling[167]

In Figure 2, one can see the idea that a "non-consenting landowner" can effectively block another landowner from sharing in the profits to be made by extracting oil and gas from a common pool.[168] However, in the eyes of state legislatures of the mid-twentieth century, the problem was even worse because holdouts would lead to waste and the harm of correlative rights as well. Thus, forced pooling was seen as a necessary reaction to prevent the perceived ills caused by holdouts in this context.

Under most modern state oil and gas conservation statutes, unitization is the initial step for development of oil and gas from a particular location.[169] This unitization is enforced by the state whether the property owners like it or not. For example, in Colorado "[i]n the absence of voluntary pooling, the commission, upon the application of [any eligible person], may enter an order pooling all interests in the drilling unit for the development and operation [thereof]."[170] State forced pooling schemes typically provide for notice and a hearing or other appropriate process for the affected landowners, such as generic requirements that terms be "just and reasonable" or the minimum percentages of the pool that must be controlled by the operator before a forced pooling order will be entered against the remaining property owners. The laws typically address costs as well, stating that "as to each nonconsenting owner who refuses

167. Source: *Compulsory Pooling Laws: Protecting the Conflicting Rights of Neighboring Landowners*, NAT'L CONF. OF STATE LEGISLATURES (Oct. 24, 2014), http://www.ncsl.org/research/energy/compulsory-pooling-laws-protecting-the-conflicting-rights-of-neighboring-landowners.aspx.

168. As will be further explained below, Figure 2 reflects the change in geology, as oil and gas are no longer migratory through relatively porous geologic reservoirs. Instead, the government requires oil and gas companies to drill through the entire formation and break the rock apart in order to release the oil or gas that would otherwise be stuck, nonmigratory, in the formation. *See infra* Part II.B.2.

169. *See* Schremmer, *supra* note 156, at 1067.

170. COLO. REV. STAT. ANN. § 34-60-116(6) (West 2019).

to agree to bear his proportionate share of the costs and risks of drilling and operating the wells, the order must provide for the reimbursement to the consenting owners" who pay for the drilling and operation of the well.[171]

The states vary in how they address the compensation issue. The operator may make payment upfront or out of the share of the profits from extraction. Some states adopt a "free ride" approach where the nonconsenting owner is only liable for production costs if the extraction is successful. This places the risk on the consenting owners and the oil and gas company. In other states, a "risk penalty" approach is used to reward the oil company for bearing the risks associated with drilling. Thus, the non-consenting owner will typically pay more than it would have otherwise. This approach is the most common among the states. Returning again to Colorado, the risk penalty is 200%,[172] and a bill was recently introduced in the state legislature to increase the penalty to 300%,[173] although this effort failed. A few other states give the non-consenting landowner options to choose from, based on her circumstances.

How does this play out in practice? A "landman" representing the oil and gas company will go around to mineral owners in an attempt to lease their mineral rights. These landmen will often tell the confused property owner, who was not even thinking about the topic at all, that they should "sign the lease now or else the company will just force pool you."[174] This tactic is meant to intimidate property owners and speed up the leasing process, and it often has that effect. As one might expect, it is rare for a property owner to take the time to research the issue more fully, and even more rare for them to take the time and expense to hire an attorney to represent them. Furthermore, the landman is not wrong. If the mineral owners do not sign a lease promptly, usually on the terms laid out by the company without room for negotiation, then the company will simply go to the state for a forced pooling order. In that case, the property owner will end up with a lease anyways, and sometimes at terms less favorable than the initial offer (due to the inclusion of risk penalties). With this understanding, it is straightforward to see that the threat of forced pooling prevents mineral owners from negotiating a fair, arms-length transaction with oil and gas operators. There is simply no ability for property owners to negotiate for better terms on a lease, when the operator can just run to the state for a forced pooling order.

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171. COLO. REV. STAT. ANN. § 34-60-116(7) (West 2019).

172. COLO. REV. STAT. ANN. § 34-60-116(7)(b)(II) (West 2019) ("Two hundred percent of that portion of the costs and expenses of staking, well site preparation, obtaining rights-of-way, rigging up, drilling, reworking, deepening or plugging back, testing, and completing the well . . . .").

173. S. 18-230, 71st Gen. Assemb., 2d Sess. (Colo. 2018).

174. Zachary Grey, *Mineral Rights – What Is Forced Pooling?*, FRASCONA JOINER GOODMAN & GREENSTEIN PC (July 11, 2018), https://frascona.com/mineral-rights-forced-pooling.

4. *State Forced Pooling Regimes*

There are of course many differences in the details of state oil and gas conservation laws, but many of them are not particularly relevant for this analysis under the Takings Clause. Some of those distinctions are quite relevant though, particularly those related to the punishments imposed on non-consenting landowners who are forced pooled. The different approaches taken by the states are laid out below, using Bruce Kramer's categorization from his prior work in 1986.[175] Those categories include: (1) free ride states; (2) risk penalty states; (3) option states; and (4) silent states.[176] A comprehensive survey of state laws was provided as recently as 2015,[177] but I have updated citations to all the states here, as some of their laws have changed even in just the past few years.

a. *Free ride approach*

In "free ride" states, the non-consenting landowner has their "share of the cost of the well taken solely out of production. If the well is a dry hole, the non-consenter is not forced to pay anything."[178] The free ride approach is probably the most favorable towards the non-consenting landowner, although still the non-consenting owner will not see any profits until their share of the costs of the enterprise are first recouped. Years may pass before the non-consenting owner sees any money after being forced pooled. Even so, this approach has been criticized as being too lenient in that it "in effect requires the operator to give an interest-free loan to the non-consentor" especially since the loan will be defaulted by the operator if the well doesn't result in significant oil and gas production, and the operator will have no way to force contribution from non-consenting landowners.[179] In essence, here the non-consenting owner bears no risk, but if the well is profitable, she shares equally in the profit.

How does this work in practice? Even in a so-called "free ride" state, operators are allowed to charge actual expenses to non-consenting owners' share of production, as well as a charge for supervision of the enterprise, and "non-consenting owners receive no profits" until the parties who initially covered the costs are reimbursed.[180] Additionally, the forced pooling laws may grant a statutory lien on the expected future profits of non-consenting owners, which may be sold to cover the share of costs from the non-consenting owners.[181] Thus,

175. Kramer, *supra* note 161, at 261–76.

176. *Id.*

177. *See generally*, Sylvester & Malmsheimer, *supra* note 149.

178. Kramer, *supra* note 161, at 262.

179. *Id.*

180. Sylvester & Malmsheimer, *supra* note 149, at 63.

181. *See, e.g.*, MO. ANN. STAT. § 259.130 (West 1965) ("A person to whom another is indebted for expenses incurred in drilling and operating a well on a drilling unit required to be formed as provided for in section 259.110, may, in order to secure payment of the amount due, fix a lien upon the interest of the debtor in the

the consenting owners do not necessarily front the costs of production all on their own.

States that have adopted the free ride approach include Alaska,[182] Arizona,[183] Indiana,[184] Iowa,[185] Missouri,[186] and North Carolina.[187]

b. *Risk penalty approach*

Many states adopt a much harsher approach, such as the so-called "risk penalty" states. These states address the perceived free rider problem by imposing a risk penalty on non-consenting working interest owners, in order to "relieve the nondrilling interest owner from having to advance his proportionate share of the drilling costs but provide extra compensation from production (if oil is found) to the drilling party who has advanced the . . . entire cost of a 'dry hole.'"[188]

This approach is not necessarily punitive, as it might enable a property owner to extract the resources found on their property without having to raise the capital necessary to fund a proportionate share of the enterprise. However, it assumes that there is some great risk at play. That may have been true back in the 1980s or earlier. Today, modern developments in technology have greatly reduced the chances of a dry hole, such that in certain areas, the chance of not producing economic quantities of oil and gas are virtually non-existent. Yet still, a "risk penalty" is imposed even in the absence of risk. The penalty is imposed broadly without any thought to what the current amount of risk is in the industry.[189]

Although the risk penalty is not necessarily punitive, it certainly can work out that way in some circumstances. Because now the non-consenting owner has to pay not only their fair share of the costs, but sometimes two, three, or more times as much as their share of the costs, the non-consenting owner might never see a dime from being forced pooled. No wonder many property owners agree to sign a lease rather than fight the order when threatened with forced pooling in a risk-penalty state. Or even if the well is highly profitable and some of that money makes its way to the non-consenting owner, the interest is significantly

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production from the drilling unit or the unit area, as the case may be, by filing for record, with the recorder of deeds of the county where the property involved, or any part thereof, is located, an affidavit setting forth the amount due and the interest of the debtor in such production.").

182. ALASKA STAT. ANN. § 31.05.100(c) (West 2022).

183. ARIZ. REV. STAT. ANN. § 27-505(A) (West 2024).

184. IND. CODE ANN. §§ 14-37-9-2, 14-37-9-3 (West 2023).

185. IOWA CODE ANN. §§ 458A.8, 458A.10 (West 2023).

186. MO. ANN. STAT. §§ 259.110, 259.130 (West 2023).

187. N.C. GEN. STAT. ANN. § 113-393(a) (West 2012).

188. *In re* Kohlman, 263 N.W.2d 674, 675 (S.D. 1978).

189. Kramer, *supra* note 161, at 265 ("Several states set the amount of risk penalty as a matter of law in the pooling and unitization statute.").

reduced by the penalty they have paid. And in these cases, it may take months or years before both the non-consenting owners' share of the costs and the risk penalty are repaid, before any profits are shared with the owner.

The risk-penalties vary from state to state. In some states, costs are deducted at 100 percent, which in effect provides a free ride for those specific costs and is not really a penalty at all. Others may set the penalty for costs to be 150 percent, 200 percent, or commonly up to 300 percent.[190] The highest risk penalty appears to be in Nebraska, with a penalty of a whopping 500 percent for wells 6500 feet or deeper.[191] That means that the operator would be able to add up the relevant costs of extracting the oil and gas, multiply them by five, and then deduct that amount from the proceeds of selling the oil and gas before sharing any profits with the nonconsenting landowners. Five hundred percent may be extreme, but even 300 percent or 200 percent penalties can be quite significant, especially given the enormous costs associated with modern fracking operations.

There are two main ways that risk penalties are assessed. They can include a percentage of the overall costs, based on each owners' percentage of ownership in the drilling unit.[192] Alternatively, some costs are only based on "classified costs," meaning that only certain costs are included or that later costs, involving less risk, might not involve a penalty at all, or a lower penalty.[193]

States that have adopted some version of a risk penalty approach include Alabama,[194] Louisiana,[195] Montana,[196] Nebraska,[197] Nevada,[198] New Mexico,[199]

190. *See infra* Part III.B–E.

191. NEB. REV. STAT. ANN. § 57-909(2) (West 2011). Woe unto any non-consenting owner who lives in Nebraska!

192. Sylvester & Malmsheimer, *supra* note 149, at 66.

193. *Id.*

194. ALA. CODE § 9-17-13(c)(5) (2023).

195. LA. STAT. ANN. § 30:10(A)(2)(b)(i) (2022). The penalty amount is currently 100 percent for alternate, cross-unit, and subsequent wells, and 200% for unit wells or substitute unit wells.

196. MONT. CODE ANN. § 82-11-202(2)(b) (West 2023). The penalty amount is currently 100 percent for surface equipment costs and 200 percent for set up costs.

197. NEB. REV. STAT. ANN. § 57-909(2) (West 2011). Cost penalties ramp up based on the depth of the well, as high as 500 percent for wells greater than 6500 feet deep. A reasonable rate of interest on the unpaid balance is also charged.

198. NEV. REV. STAT. ANN. § 522.060.4 (West 2023).

199. 19 N.M. REG. 1112 (Dec. 1, 2008).

North Dakota,[200] Ohio,[201] Oregon,[202] Tennessee,[203] Texas,[204] Utah,[205] and Wyoming.[206] Vermont previously followed the risk-penalty approach, but in 2023 it repealed its entire Natural Gas and Conservation Law except for a prohibition on hydraulic fracturing and the storage of fracking waste.[207]

c. *Option approach*

Other states adopt a hybrid approach, mandating neither a free ride nor a risk penalty approach. These states give non-consenting landowners a limited set of options to choose from, and thus were called by Kramer "option states."[208] The details of the options provided vary from state to state, but usually contain a risk-penalty option, and may include the right to surrender the interest in minerals for a reasonable price as determined by the state agency, or simply require "just and reasonable alternatives" be provided to the non-consenting landowner.[209] These option states are a bit more comparable to an open market, although there is still an element of coercion, despite the greater flexibility than in risk penalty states.

For example, in Pennsylvania, owners may choose to transfer or lease their mineral interests for just compensation, or they may elect to have the costs of exploration financed by the well operators or participating landowners and have a risk penalty (of 200 percent) imposed on them.[210]

200. N.D. CENT. CODE ANN. § 38-08-08(3)(a) (West 2009). North Dakota has recently added a 50 percent penalty if the non-consenting owner is not subject to a lease or other contract for development, while forced pooled interests based on a lease or contract face a 200 percent penalty. *Id.* at § 38-08-08(3)(b).

201. OHIO REV. CODE ANN. § 1509.27(F) (West 2015).

202. OR. ADMIN. R. 632-010-0161(6)(c) (2013). Oregon recently gave greater discretion to the oil and gas commission board to determine the appropriate risk penalty.

203. TENN. COMP. R. & REGS. 0400-55-01-.01(d) (2013).

204. TEX. NAT. RES. CODE ANN. § 102.052(a) (West 1977).

205. UTAH CODE ANN. § 40-6-6.5(4)(d)(i) (West 2018).

206. WYO. STAT. ANN. § 30-5-109(g) (West 2020).

207. VT. STAT. ANN. tit. 29, § 523(c) (West 2023) (repealed 2023).

208. Kramer, *supra* note 161, at 272.

209. *Id.* at 272–73.

210. 58 PA. STAT. AND CONS. STAT. ANN. § 408 (West 1961).

States adopting some version of the option approach include Arkansas,[211] Colorado,[212] Florida,[213] Idaho,[214] Illinois,[215] Kansas,[216] Kentucky,[217] Mississippi,[218] New York,[219] Pennsylvania,[220] South Carolina,[221] South Dakota,[222] Virginia,[223] Washington,[224] and West Virginia.[225]

d. *Silent approach*

The final approach that states might take is to say nothing, the so-called "Silent States" approach.[226] Instead of specifying in detail how non-consenting owners must be treated, these state statutes might simply insist that the lease terms be just and reasonable. Here state courts have been left to determine what is "just and reasonable." For example, in Oklahoma, non-consenting owners were given the option to either share proportionately in the costs of the operation, or not participate but receive "a fair and reasonable bonus to be determined by the governmental agency."[227] In recent years though, Oklahoma has also allowed a risk penalty option.[228] As a result, silent states may in practice converge to a similar place as option states.

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211. ARK. CODE ANN. § 15-72-304(b)–(d) (West 2015). Current law provides a royalty interest of 1/8th of the profits from the well.

212. COLO. REV. STAT. ANN. § 34-60-116(7)(b)–(c) (West 2019). Current law changed the royalty from one-eighth (12.5 percent) to 16 percent of profits.

213. FLA. STAT. ANN. § 377.2411(2)(a)–(b) (West 1994). Current law now allows non-consenting owners to have costs financed by the participating owners.

214. IDAHO CODE ANN. §§ 47-320(3)(b), 47-321(5) (West 2023). Current law allows a risk penalty of up to 300%.

215. 225 ILL. COMP. STAT. ANN. 725/22.2(f) (West 2013).

216. KAN. STAT. ANN. § 55-1305(*l*) (West 2000).

217. KY. REV. STAT. ANN. § 353.640(3)–(4) (West 2018). Current law now allows non-consenting owners to have costs financed by the participating owners.

218. MISS. CODE ANN. § 53-3-7 (West 2014). Current law now allows up to 300% costs for well site preparation, drilling, and well equipment.

219. N.Y. ENV'T CONSERV. LAW § 23-0901-3(a)(1) (McKinney 2005).

220. 58 PA. STAT. AND CONS. STAT. ANN. § 408(c) (West 1961). Current law now allows non-consenting owners to have costs financed by the participating owners.

221. S.C. CODE ANN. § 48-43-340(C) (1993).

222. S.D. CODIFIED LAWS § 45-9-33 (2011).

223. VA. CODE ANN. § 45.2-1620(C)(7) (West 2021). Current law now allows non-consenting owners to have costs financed by the participating owners.

224. WASH. REV. CODE ANN. § 78.52.250(2)–(3) (West 1994). Washington now allows only 100% of costs for surface equipment and the operation costs from first production and provides for a minimum 1/8th royalty interest unless a basic higher royalty was established in that development unit.

225. W. VA. CODE ANN. § 22C-9-7(b)(5)–(6) (West 1998). Current law provides a royalty interest of 1/8th of the profits from the well.

226. Kramer, *supra* note 161, at 274.

227. *Id.* at 274–75. Interestingly, courts found these options, which required either participation or sale of the mineral interest for a fair price, not to be an unconstitutional taking, as the forced sale was analogized to eminent domain. Anderson v. Corp. Comm'n of State of Okla., 327 P.2d 699, 702 (Okla. 1958).

228. Kramer, *supra* note 161, at 276.

States that have forced pooling laws, but which are silent on their treatment of non-consenting owners include California,[229] Georgia,[230] Michigan,[231] Minnesota,[232] and Oklahoma.[233]

B. GEOLOGY OF OIL AND GAS RESERVES

Although this point is key for this Article's analysis of forced pooling as unconstitutional takings of private property, it is relatively straightforward. The oil and gas industry has changed in the past decade or so in ways that should lead to critical reevaluation of the legal treatment of oil and gas and property owners. Historically, oil and gas were migratory resources underground, which led to calls for regulation to rationalize the development of a common pool. Most oil and gas being extracted today is not coming from common pool reservoirs, but instead from tight sand or shale formations with low porosity and permeability. As a result, fracking is needed to break apart these reservoirs and release significant, economic quantities of oil and gas. This means that oil and gas extracted through the use of fracking is *nonmigratory*, and thus outdated legal systems developed to deal with migratory resources should not be reflexively applied. Industry, however, has found that forced pooling laws are very helpful not just at overcoming holdouts, but also at easily assembling large tracts of mineral rights that it can exploit. Who wouldn't love the opportunity to force private property owners to lease their property for use in highly profitable industrial activity, even in residential areas? But the convenience and profits of industry cannot be enough to overcome the plain constitutional takings issues presented by forced pooling of nonmigratory oil and gas, as Part III discusses later. First though, a bit more detail will be helpful to understand the changes in the modern oil and gas industry and how it upends the historical understanding of the resource and justifications for heavy-handed regulation of private property rights.

1. *Early Production from Pooled Reservoirs*

Conventional oil and gas production was focused on exploiting natural traps in rock formations, after oil and gas had migrated out of the source formation.[234] This is why oil and gas were viewed as migratory minerals in the early portion of the oil and gas industry, when the law of oil and gas was

229. CAL. PUB. RES. CODE § 3647 (West 1975).

230. GA. CODE ANN. § 12-4-45(a) (West 2019).

231. MICH. COMP. LAWS ANN. § 324.61705 (West 1994).

232. MINN. STAT. ANN. § 93.515 (West 1993).

233. OKLA. STAT. ANN. tit. 52, § 87.1(e) (West 2022).

234. J. Quinn Norris, Donald L. Turcotte, Eldridge M. Moores, Emily E. Brodsky & John B. Rundle, *Fracking in Tight Shales: What Is It, What Does It Accomplish, and What Are Its Consequences?*, 44 ANN. REV. EARTH & PLANETARY SCI. 321, 325 (2016).

developed; the minerals being exploited at that time truly were migratory. Conventional oil and gas production thus targeted minerals concentrated in discrete underground pools, which were made of rock formations with high porosity and permeability found below impermeable rock.[235] The impermeable rock formation or "cap rock" could be shale or salt formations.[236] These "conventional oil and gas pools [were] developed using vertical wells and using minimal[, if any,] stimulation."[237] Figure 3, below, illustrates a typical stylized view of a conventional pool of oil and gas.

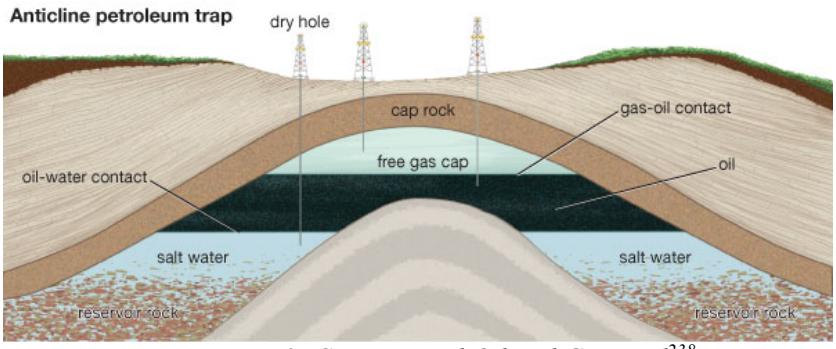

Figure 3: Conventional Oil and Gas Pool[238]

2. *Recent Innovations in Tight Shale and Sand Formations*

There are several key technological developments that have enabled oil and gas extraction from new geological formations, ones that previously could not be reached economically. These are typically referred to as tight shale or sand formations.[239] First, the development of directional and horizontal drilling has allowed oil and gas companies to drill long wells through relatively narrow formations, sometimes many miles away from where the well started at the

235. *See Conventional Versus Unconventional Oil and Gas*, B.C. MINISTRY OF NAT. GAS DEV. & MINISTER RESPONSIBLE FOR HOUS. (Mar. 3, 2016), https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-gas-oil/petroleum-geoscience/conventional_versus_unconventional_oil_and_gas.pdf.

236. TalkOilandGas, *Understanding Cap Rock (Geology)*, MEDIUM (Feb. 10, 2018), https://medium.com/@talkoilandgas/understanding-cap-rock-geology-2a589a651b95.

237. *Conventional Versus Unconventional Oil and Gas*, *supra* note 235.

238. Source: *Petroleum Trap: Media*, ENCYC. BRITANNICA, https://www.britannica.com/science/petroleum-trap/images-videos.

239. *See The Process of Unconventional Natural Gas Production*, U.S. ENV'T PROT. AGENCY https://www.epa.gov/uog/process-unconventional-natural-gas-production (Jan. 26, 2024) ("Tight sands are gas bearing, fine-grained sandstones or carbonates with a low permeability."). *See also* Norris et al., *supra* note 234, at 322 (explaining that tight shales are formed when natural fractures in the formation as sealed by deposition over long time scales, resulting in formations with very low fracture permeability).

surface.[240] And even more importantly, the technology of hydraulic fracturing has advanced such as that rock formations can be literally broken apart or fractured in order to free up the oil and gas that was previously locked in the formation.[241] This is relevant for forced pooling, because now I can drill a well starting on my property, but extending onto my neighbors' property.[242] I can also extract minerals that were previously nonmigratory, meaning that if I drilled a well straight down at the border of our property, I could not suck the oil and gas from beneath my neighbor's land without first fracking the formation, at least not in any appreciable or economically meaningful sense.

Directional and horizontal drilling are what enable the physical invasion of non-consenting owners' property. Horizontal drilling is the term for when a well is drilled from the surface down to the entry point of a reservoir, where it turns to run essentially horizontally through the reservoir.[243] This is important because it allows the wellbore to expose significantly more of the rock formation that bears oil and gas.[244] This first generation of modern horizontal drilling occurred through naturally fractured formations such as the Bakken Shale in North Dakota.[245] More recently, horizontal drilling has been combined with fracking to access even more reservoirs that were not naturally fractured.[246] Directional drilling is related to horizontal drilling, although it encompasses drilling at some deviation from horizontal, such that the well will bottom out at a point distant from that directly below the well's surface location.[247] Often directional drilling and horizontal drilling will be used in combination, such that multiple horizontal wells may be drilled through the same formation from the same surface location.[248] Figure 4, below, illustrates this process in a stylized view.

240. *See, e.g.*, Stephen Rassenfoss, *The Trend in Drilling Horizontal Wells Is Longer, Faster, Cheaper*, J. PETROLEUM TECH. (Feb. 10, 2022), https://jpt.spe.org/the-trend-in-drilling-horizontal-wells-is-longer-faster-cheaper (noting lateral lengths of horizontal wells reaching up to 3 miles).

241. *Hydraulic Fracturing*, U.S. GEOLOGICAL SURV. (Mar. 2, 2019), https://www.usgs.gov/mission-areas/water-resources/science/hydraulic-fracturing.

242. Absent forced pooling orders, drilling such a well would amount to trespassing.

243. Lynn Helms, *Horizontal Drilling*, N.D. DEP'T MIN. RES. NEWSL. (N.D. State Gov't, N.D.), Jan. 2008, at 1, https://www.dmr.nd.gov/ndgs/documents/newsletter/2008Winter/pdfs/Horizontal.pdf.

244. *Id.*

245. *Id.* at 2.

246. *Id.* at 3 (describing the "third generation" of horizontal wells which is used in combination with hydraulic fracturing or heat injection wells).

247. *See* Society of Petroleum Engineers, *Directional Drilling*, PETROWIKI (June 26, 2015, 2:19 PM), https://petrowiki.spe.org/Directional_drilling ("Directional drilling is defined as the practice of controlling the direction and deviation of a wellbore to a predetermined underground target or location").

248. *See Pad Drilling and Rig Mobility Lead to More Efficient Drilling*, U.S. ENERGY INFO. ADMIN. (Sept. 11, 2012), https://www.eia.gov/todayinenergy/detail.php?id=7910.

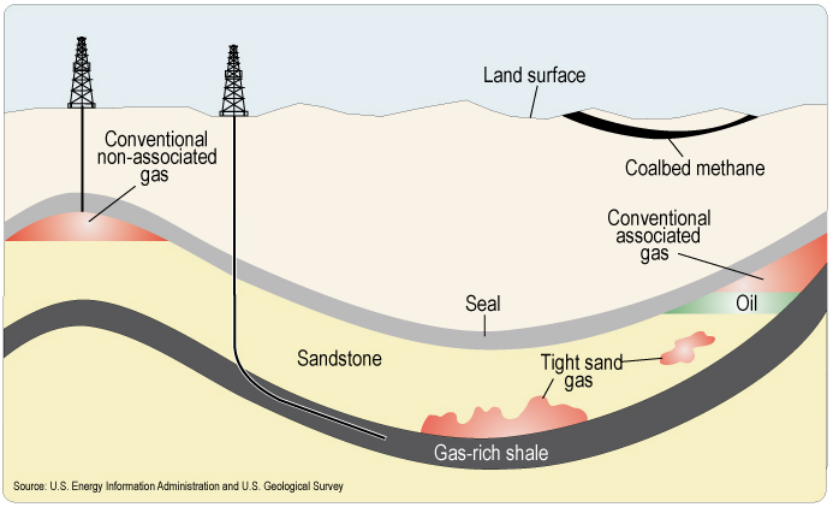

Figure 4: Schematic Geology of Natural Gas Resources[249]

Hydraulic fracturing is what allows the extraction of minerals that would otherwise be considered nonmigratory.[250] Thus, the rule of capture would not apply, and the justifications of the whole forced pooling regime fall apart. Fracking is the process used to produce fractures in the rock formation to stimulate the flow of oil and natural gas in to the well, which dramatically increases the volume of minerals that can be recovered.[251] The fractures are created by pumping large quantities of fluids at high pressure down a wellbore and into the rock formation, as well as some kind of proppant such as sand and chemical additives to increase the flow of minerals from the fractured rocks around the wellbore.[252] Modern fracking typically uses incredibly high volumes of water, although earlier usage of fracking occurred on much smaller scales.[253] Fracking enables the exploitation of so-called "unconventional" reservoirs that would not produce natural gas cost-effectively without a "special stimulation technique, like hydraulic fracturing."[254] In other words, the mineral resource in these unconventional reservoirs would be viewed as nonmigratory (at least not

249. Source: *The Geology of Natural Gas Resources*, U.S. ENERGY INFO. ADMIN. (Feb. 14, 2011), https://www.eia.gov/todayinenergy/detail.php?id=110.

250. Norris et al., *supra* note 234, at 325 (describing how technological innovations have allowed industry to tap into the source reservoir directly, rather than going after oil or gas which had collected in a trap below ground, after migrating out of the source reservoir).

251. *The Process of Unconventional Natural Gas Production*, *supra* note 239.

252. *Id.*

253. Norris et al., *supra* note 234, at 324.

254. *The Process of Unconventional Natural Gas Production*, *supra* note 239.

significantly so, in most cases) and it requires some intervention in the rock formation such as fracking to release the mineral from the reservoir.[255]

These two developments combined have transformed the oil and gas industry, leading to the recent fracking boom which started last decade. By 2016, the federal government estimated that most new oil and gas wells were "hydraulically fractured horizontal wells."[256] This most recent boom has been termed the "Shale Revolution."[257] As the next Part discusses, state regulators, policy makers, and court have met the Shale Revolution with disinterest at best, and willful blindness at worst.

III. TAKINGS ANALYSIS OF FORCED POOLING

That brings us to the crux of this Article: Is forced pooling an unconstitutional taking of private property? Forced pooling statutes have a long pedigree at this point in time, and strong support from industry as well as most state governments, in a bipartisan fashion. Why on earth would anyone dare suggest that these well-established and politically favored laws nevertheless pose an unconstitutional threat to private property rights? It takes only a brief peek behind the curtains to see the obvious flaws with forced pooling, particularly in modern times where the oil and gas being pooled is nonmigratory. Without even a patina of justification based on the need to protect correlative rights and avoid a harmful race to drill, the blatant disrespect for private property embodied in forced pooling laws become readily apparent. These dire affronts to property rights, if the Supreme Court is to be taken at its word, must be stopped in order to promote freedom and liberty and allow property owners, not governments, to decide how their property is to be used.

The Takings Clause, especially to property rights advocates, is serious stuff. The Supreme Court has repeatedly made sweeping assertions in favor of property rights, such as, "[t]he Founders recognized that the protection of private property is indispensable to the promotion of individual freedom."[258] Under this view of private property rights, which a strong majority of the current Supreme

255. *See, e.g.*, *id.* ("Unless natural fractures are present, almost all tight sand reservoirs require hydraulic fracturing to release gas.").

256. *Hydraulically Fractured Horizontal Wells Account for Most New Oil and Natural Gas Wells*, U.S. ENERGY INFO. ADMIN. (Jan. 30, 2018), https://www.eia.gov/todayinenergy/detail.php?id=34732 (estimating that 69 percent of new wells and 83 percent of total linear footage drilled are "horizontal").

257. *The US Shale Revolution Has Reshaped the Energy Landscape at Home and Abroad, According to Latest IEA Policy Review*, INT'L ENERGY AGENCY (Sept. 13, 2019), https://www.iea.org/news/the-us-shale-revolution-has-reshaped-the-energy-landscape-at-home-and-abroad-according-to-latest-iea-policy-review.
There has been more recent speculation that the boom is over, meaning that the geo-political impact of the U.S. shale revolution is fading as traditional powers such as OPEC reassert themselves. John Kemp, *Is the U.S. Shale Oil Revolution Over?*, REUTERS (Nov. 23, 2022, 9:51 AM PST), https://www.reuters.com/markets/commodities/is-us-shale-oil-revolution-over-kemp-2022-11-22/.

258. Cedar Point Nursery v. Hassid, 594 U.S. 139, 147 (2021).

Court endorses, protection of property rights is "necessary to preserve freedom" and "empowers persons to shape and to plan their own destiny in a world where governments are always eager to do so for them."[259] Thus, it doesn't matter, at least in theory, what aims government is trying to achieve through its laws; protection of private property is paramount and courts are directed to uphold it. One might suggest that courts, especially the way that federal courts are currently ideologically disposed, are inevitably going to rule in favor of laws that promote oil and gas extraction. But this adherence to strong protection for property rights, if taken seriously, will lead in the other direction when forced pooling is seriously analyzed under the Takings Clause.

The argument that forced pooling violates the Takings Clause will likely be met with fierce resistance. Admittedly, this realization of the need to protect private property rights from the use of private eminent domain will cause many issues in the oil and gas industry. Forced pooling is a very helpful and powerful tool from the perspective of industry seeking to unitize often splintered mineral rights, including mineral rights of unclear or unknown ownership. Forced pooling makes it much easier than having to get affirmative consent from each owner to enter a pooling agreement. Undoubtedly, upending forced pooling would reduce the amount of oil and gas that gets extracted, and would drive up costs for industry and for property owners who want to extract their oil and gas. Some will see that as a negative, others as a positive.

But the convenience and profits of the oil and gas industry, however strongly desired as a policy by state legislators, regulators, and even courts, cannot justify the uncompensated taking of private property. Many people strongly support the pro-union policies found to be a taking in the *Cedar Point* case. Many raisin farmers undoubtedly favor the price support system found to be unconstitutional in *Horne*. These strong policy preferences cannot be enough to overcome the constitutional protections for private property found in the Constitution and modern takings jurisprudence. A desire by government to interfere with private property rights, even a strong and widely shared desire, cannot overcome the limits of the law. Protecting private property owners from forced pooling will instead empower them "to shape and to plan their own destiny in a world where governments are always eager to do so for them."[260] This Part will focus instead on the legal and factual issues that lead inexorably to the conclusion that forced pooling is an unconstitutional taking of private property.

Before moving on to the more detailed analysis of forced pooling under takings law, it is important to note that the shift to unconventional oil and gas

259. Murr v. Wisconsin, 582 U.S. 383, 394 (2017).
260. *Id.*

production is but one example of the broader puzzle of how legal regimes can adapt to changes in property, especially landscape-level resources. This question was examined in a 2020 symposium on "Overlapping Resources and Mismatched Property Rights."[261] This Article is focused on the doctrinal issues of applying modern takings jurisprudence to forced pooling regimes, although it would be an interesting inquiry to think about the changes in the oil and gas industry and the lagging adaptation of the legal systems governing oil and gas extraction, and what that means for broader questions of mismatch between property systems and resources that go from being a commons to being privately-controlled. Such an inquiry, however, is outside the scope of this Article.

A. EXPLAINING THE OPPOSITION TO FORCED POOLING

As an initial matter, you might be wondering, "Why would anyone be opposed to making money off their mineral interests?" The argument goes that the only so-called "productive" use of oil or gas is to dig it up from the ground and burn it. Under this view, leaving the oil and gas safely trapped underground makes no sense. But there are several varying reasons why property owners might oppose being forced pooled.

One reason is the moral or environmental objection to continued fossil fuel extraction. Most people, although sadly not all, recognize that climate change poses an existential threat to human society and the natural ecosystems upon which we rely. Experts agree that fossil fuel extraction and use is the primary driver of man-made climate change.[262] Many people, myself included, believe that continued fossil fuel extraction only digs us into a deeper hole on climate change, and are pushing to transition away from reliance on fossil fuels as quickly as possible. The thought of making money by causing harm to other people, future generations, and nature is abhorrent and morally repugnant to these types of people. There may even be a religious element to this view, as many of the world's religions preach that conservation and stewardship of the natural world is a religious imperative.[263] To this type of person, forcing them to lease their mineral rights to an oil and gas company, who will profit obscenely off of them, is highly problematic.

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261. *See* Karen Bradshaw, Billy Christmas & Dean Lueck, *An Introduction to "Overlapping Resources and Mismatched Property Rights"*, 14 INT'L J. COMMONS 553, 553–54 (2020).

262. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2023: SYNTHESIS REPORT 24 (2023).

263. *See, e.g.*, *Religions and Environmental Protection*, U.N. ENV'T PROGRAMME, https://www.unep.org/about-un-environment-programme/faith-earth-initiative/religions-and-environmental-protection (last visited Apr. 6, 2024); *see also* Addison Graham, *Will Mormons Save the Great Salt Lake*, WASH. POST (Feb. 14, 2023, 7:48 AM EST), https://www.washingtonpost.com/opinions/2023/02/14/mormons-save-salt-lake (noting Mormon doctrine about conserving nature, such as restrictions on eating meat).

Another reason why property owners oppose forced pooling is more personal, selfish even, based on the impacts of fracking at the surface. This applies mostly to those property owners who own both the surface and the mineral estate.[264] One example, which will be discussed below, occurred in Colorado where mineral rights holders opposed forced pooling, in part due to the impacts that oil and gas extraction would have on their health, safety, and quiet enjoyment of their property.[265] But to consider the issue more generally, imagine a property owner who purchased a home in a quiet rural or suburban neighborhood, including the land's subsurface mineral rights. This person might feel secure in owning their own slice of the American Dream, until a landman comes along and tells them they are going to be forced pooled. Now the property owner will have to deal with noise, twenty-four-hour lights, odors, traffic, harmful local air pollution, regional smog issues, the risk of spills onto their land or into their water, and the risk of explosions or other accidents at the drill site.[266] State regulators have been slow to address these types of concerns out of deference to the political influence of the oil and gas industry, and they have been largely unaddressed. In many instances, state oil and gas commissions have deemed these impacts to be "reasonable" and necessary for the extraction of the oil and gas, which is often viewed as the highest policy imperative. But in the meantime, the property owner is now living an all-too-common American nightmare. This situation is all the more galling because the property owner thought they owned their mineral rights, until the oil and gas company invaded and took them, under the authority of state forced pooling laws.

Even if you put aside the environmental, health, and safety concerns held by large portions of the population,[267] there is another concern that might lead you to oppose forced pooling—economics. Individual property owners often do not want to have the timing and process of oil and gas exploration dictated to

264. In many states, property law allows for a split estate, where one person owns the surface and another the subsurface, including the mineral estate. Although the owner of a so-called severed mineral interest might still care about the local and regional impacts of fracking at the surface, this Article is focused more on owners who combine surface and subsurface interests.

265. *See* Complaint at 60–61, Wildgrass Oil & Gas Comm. v. Colorado, (D. Colo. 2020) (No. 19-cv-190) (describing the health and safety concerns of residents who were forced pooled). Then-Representative and Now-Governor of Colorado, Jared Polis, also objected when fracking was proposed near his family's farm back in the early 2010s. *See Fracking Issue Is Personal for Rep. Jared Polis*, CBS NEWS COLO. (July 26, 2013, 6:41 PM MDT), https://www.cbsnews.com/colorado/news/fracking-issue-is-personal-for-rep-jared-polis.

266. *See* Kevin J. Lynch, *Regulation of Fracking Is Not a Taking of Private Property*, 84 U. CIN. L. REV. 38, 43–45 (2016) (discussing impacts of fracking on the surface and on neighboring communities).

267. Many people, especially those whose livelihoods are connected to the oil and gas industry, have convinced themselves or chosen to believe that the environmental, health, and safety concerns laid out above do not exist, or at a minimum are vastly overblown. Why this phenomenon occurs is outside the scope of this Article. However, this Article relies on the scientific and policy consensus regarding climate change, the growing body of public health literature documenting the harms that fracking imposes on neighboring communities, and the subjective lived experience of those who have had fracking forced upon them by industry and the state.

them by industry operators. In recent years, many oil and gas operators have racked up enormous amounts of debt and are forced to continuously drill new wells in order to keep up with their debt. Some of those companies have gone bankrupt when oil or gas prices dropped.[268] As a result, they may not make the best financial decisions from the perspective of the mineral owners.

Forced pooling does not only apply to individual homeowners who might oppose for economic reasons. There are active investment and acquisition firms in this field as well.[269] Such firms aim to profit by owning and leasing non-operated working interests in oil and gas, purchasing those interests when prices are low with the goal of selling or leasing them when prices are higher. Such investors may logically expect prices to increase the future, as demand continues to increase, and policies turn away from supporting oil and gas extraction no matter the cost. These types of firms would also utilize the services of landmen, but not to forced pool non-consenting owners. Instead, they would engage in voluntary transactions with mineral interest owners and derive value not by imposing eminent domain on others, but by using expertise and knowledge of the local geology or trends in the oil and gas industry to purchase assets at a discount and then later sell them for a profit. Forced pooling instead would allow any extraction company, under the authority of state law, to force development, perhaps at an inopportune time, thus destroying much of the economic value (and perhaps all in some instances) that had been identified by these investment and acquisition firms.

These types of economic objections to forced pooling might also consider the risk penalties that many state forced pooling systems impose. For these non-consenting owners, the absence of any fair market artificially reduces the value of their mineral interests. Instead, property owners often feel compelled to lease even at terms they would not otherwise agree to because if they refuse, the state will just penalize them and further reduce the value of their property. Thus, even if they are only concerned with the economics of the situation,[270] a property

268. *See, e.g.*, Judith Kohler, *Denver-Based Extraction Oil and Gas Latest Producer to File for Bankruptcy, Pays Millions to Executives*, DENVER POST (June 15, 2020, 8:46 PM), https://www.denverpost.com/2020/06/15/extraction-oil-gas-bankruptcy-colorado. Extraction Oil and Gas was a notorious oil and gas producer whose business model revolved around "neighborhood drilling," often in places more responsible operators would not go. This business model failed spectacularly and led to bankruptcy, but not before executives at the company were obscenely rewarded despite the financial wreckage they had caused. *Id.* Extraction was the company behind the forced pooling at issue in the *Wildgrass* case discussed below.

269. *See, e.g.*, *Accurately Value Risk in Real-Time*, RAISA ENERGY, https://www.raisa.com (last visited Feb. 25, 2023).

270. Of course, these interests are not exclusive to each other. Investors seeking to profit from the expected future value of oil and gas interests are not necessarily ignoring the externalities of climate change or the local impacts of fracking. In fact, given the urgent need to reduce overall emissions now, oil and gas could be more safely extracted in the future once global emissions are contained. Or the harms associated with current fracking technology and practices might be reduced or even avoided, as even better technology is developed in the future.

owner will also have more than sufficient reasons to object to being forced pooled.

And of course, these reasons might overlap for any individual property owner. Imagine a homeowner who also owns their mineral estate. This person is deeply devout and believes that contributing to climate change is a sin. This person may suffer from asthma and be particularly concerned about the air pollution and dust caused by an industrial operation in their backyard. And they might also be concerned that the income from oil and gas royalties will not offset the decrease in property value for their home.[271] Surely these religious, health and safety, and economic objections are worthy of protection by courts under the Takings Clause.

B. FORCED POOLING AS A PER SE PHYSICAL TAKING

Forced pooling laws should be found to be a per se physical taking because they involve state regulatory systems that authorize physical invasions of private property, without just compensation paid at the time of the taking. Physical invasions are not allowed under *Cedar Point*. Forced pooling also amounts to government-sanctioned confiscation of nonmigratory minerals, often with royalty or other payments deferred for years and after the imposition of extreme penalties. Confiscation of physical property is not allowed under *Horne*, even if some contingent future payment might eventually occur. Application of these key recent takings cases will make this point clear.

Cedar Point emphasizes that a key aspect of property rights is the right to exclude, and if the government takes that away by authorizing a physical invasion of private property, then a per se physical taking has occurred.[272] Forced pooling amounts to a physical invasion for several reasons. First, in many cases, the non-consenting owners' property will be literally drilled through, fracking will break apart the property, and the previously nonmigratory minerals will be extracted. If putting a cable on the outside of a building was a physical invasion as in *Loretto*,[273] then surely engaging in a disruptive industrial operation to drill a wellbore, case the well, and violently perforate the well to fracture the surrounding rock formation would also be a physical invasion. This type of invasion will occur even for severed estates, where the mineral rights are owned separately from rights to the land at the surface. Second, in some instances the oil and gas operator will be given access to surface land on which to drill the wells, install equipment such as large tanks to store produced oil and

271. Ron Throupe, Robert A. Simons & Xue Mao, *A Review of Hydro "Fracking" and Its Potential Effects on Real Estate*, 21 J. REAL ESTATE LIT. 205, 227 (2013) (finding an expected decrease of 5 to 15 percent on home values in robust real estate markets, and up to 25 percent decrease in weaker markets).

272. *See supra* notes 36-52 and accompanying text.

273. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 421 (1982).

gas, or construct roads on which heavy industrial trucks will be driven. Or even if the well is not located on someone's land, perhaps a pipeline will cross the owners' physical property. True, these types of physical invasions will only occur if the non-consenting owner also owns surface property in the region.

The government makes no attempt to compensate non-consenting owners for this invasion of private property rights, instead taking the right to exclude by entering a forced pooling order. Compensation is due at that time. In some cases, non-consenting owners might share in profits years down the line, but this is entirely conjectural.

I invite the reader to go through the *Cedar Point* opinion and make a few simple substitutions, to change the setting from a dispute over union organizers accessing workers on a private farm, to instead oil and gas companies drilling onto private land and injecting concrete, chemicals, and large volumes of water and proppants. Now, the text would read "[forced pooling] regulation grants [oil and gas operators] a right to invade the [non-consenting owners]' property. It therefore constitutes a *per se* physical taking."[274] Or it would now read: "government-authorized invasions of property—whether by plane, boat, cable, [] beachcomber[, or drill bore]—are physical takings requiring just compensation."[275] The invasion in the forced pooling context is even more extreme than in *Cedar Point* because forced pooling orders "grant [oil and gas operators] a right to physically enter and occupy the [non-consenting owners]' land for [as much as several years]."[276] If the union organizing law challenged in *Cedar Point* was a per se physical taking, then forced pooling is an even worse infringement on private property and must also be recognized as a per se physical taking.

The critical distinctions made by the court in *Cedar Point* also do not apply here.[277] Forced pooling is also not a trespass because the oil and gas operator is invading another's private property under authorization of state law, the forced pooling order. Thus, trespass law cannot protect a non-consenting owner, and the takings clause is one of the few remedies available. Forced pooling also would not be allowed under background principles of property law. Under the rule of capture, my neighbor was not authorized to drill onto my land or frack

274. *Cf.* Cedar Point Nursery v. Hassid, 594 U.S. 139, 162 (2021) ("The access regulation grants labor organizations a right to invade the growers' property. It therefore constitutes a *per se* physical taking.").

275. *Cf. id.* at 152 ("The upshot of this line of precedent is that government-authorized invasions of property—whether by plane, boat, cable, or beachcomber—are physical takings requiring just compensation.").

276. *Cf. id.* at 149 (explaining that California's union law only authorized organizers to access a land three hours per day, 120 days per year, not constantly for several years, which would cover the typical life of a modern fracking well, with the possibility of reentry later to re-frack the well in hopes of stimulating more production of oil and gas).

277. *See supra* notes 49-52 and accompanying text.

the formation beneath my property.[278] The concepts of correlative rights and preventing waste were made up in the aftermath of the initial oil rush and the Great Depression (just as the raisin limits were in *Horne*), and do not qualify as background principles of property law under takings jurisprudence. Finally, in no sense could forced pooling be justified as a reasonable condition placed on property owners in exchange for receiving benefits such as health and safety inspections that promote the general health of the community. Here, many non-consenting owners simply wish to live in peace and not host disruptive industrial operations on their property, and to leave their oil and gas property safely below ground. Owning a home and peacefully enjoying it cannot be conditioned on being forced pooled to authorize oil and gas operators to invade your property.

The *Horne* case also presents a useful roadmap here: Government regulations designed to support a particular industry cannot authorize a third party (or even a government entity) to take possession of personal property that is privately owned. Once minerals such as oil and gas are extracted, they are personal property. Government cannot authorize physical takings of this personal property any more than it can authorize the physical invasion of real property.[279] In the forced pooling context, state government agencies issue an order that enables private companies to extract oil and gas from the owners' property and hold it before eventually selling the property, hopefully at a profit. Nothing guarantees a profit of course (this is the justification for imposing a risk penalty, after all). That property belonged to the original owner and could not have been taken even by government order. It does not matter if the government regulation is justified on the grounds that it makes the entire industry more profitable or efficient. The same argument could have been made for the regulation of raisins that was struck down in *Horne*. Oil and gas are not dangerous products like pesticides and are not like wildlife that is owned by the state.

The rule of capture does complicate the analogy to *Horne* somewhat, but overall, it does not ruin the analogy. Raisins are not subject to the rule of capture, and so are definitely treated as owned by the owner of the property where they are grown. That ownership continues even if the raisins are stored elsewhere after harvest. Ownership of oil and gas in place is complicated and varies from state to state. It might be argued that because oil and gas are subject to the rule of capture, then the oil and gas company owns the oil and gas outright once they are extracted from the ground. But not even the oil and gas industry would go this far, as they still of course recognize that all the owners in the unit have rights

278. *Cf.* Coastal Oil & Gas Corp. v. Garza Energy Tr., 268 S.W.3d 1, 12–13 (Tex. 2008) (holding that the rule of capture did not prevent someone from extracting oil and gas through a well located on his own property, even if the oil and gas migrated from neighboring property).

279. Horne v. Dep't of Agric., 576 U.S. 351, 361 (2015).

to a proportionate share of the minerals extracted. And of course, the rule of capture does not justify physically invading another's property in order to capture oil and gas found there. This is particularly the case with modern fracking, as the minerals are nonmigratory and could not be meaningfully extracted without some kind of physical invasion.[280] Arguing otherwise would be the same as arguing Pierson should have been allowed to physically invade Post's property and kill the fox there.

Following the logic of current takings doctrine to its conclusion compels the result that forced pooling is a physical taking, so defenders of the status quo such as the oil and gas industry will be forced to try and distinguish the applicability of these recent precedents. This exercise in hair-splitting should fail. The best attempt to distinguish forced pooling will be the one made by Texas courts when faced with a trespass claim related to fracking. In that case, the Texas Supreme Court ultimately decided that what would amount to a trespass at the surface would not amount to a trespass underground.[281] This distinction though is untenable. Limitations on property rights into the sky are very different than limiting property rights below the surface. Thus, a private party flying miles above property in way that does not harm it is sensibly not treated as a trespass, but a private party drilling, even several miles, below the surface of property is clearly a physical invasion. This is especially true when the purpose of that invasion is to extract valuable minerals found there.

Once forced pooling is seen as a per se physical taking, the implications are clear and automatic. There is no need to engage in the balancing test for regulatory takings claims, for example. Instead, as the Supreme Court has made clear, the government must pay just compensation at the time of the physical taking, or otherwise the relevant laws violate the Takings Clause of the Fifth Amendment to the U.S. Constitution.

C. FORCED POOLING AS PUBLIC USE: FEDERAL AND STATE LAW

The Takings Clause specifies that if private property is taken *for public use*, then just compensation is required. If public use means actual use by the public,

280. Perhaps there would be some close cases, where a well is not drilled onto the non-consenting owners' property, and instead there are more difficult factual questions about how far the fractures extended into the formation, and whether they entered the non-consenting owners' property. This was the case in the *Garza* dispute decided by the Texas Supreme Court back in 2008. *Garza Energy*, 268 S.W.3d at 12–13 (disputing whether fracking executed in 1993 had extended onto the property of the plaintiff, in the context of a trespass claim). But we should not let the possibility of close cases blind us to the reality of the clear and obvious ones. Forced pooling might have made some sense in the world of common-pool resources, but in a world of nonmigratory minerals, oil and gas should be treated more like coal or other minerals which are owned in place.

281. *Id.* at 11 ("Had Coastal caused something like proppants to be deposited on the surface of Share 13, it would be liable for trespass . . . [but t]he law of trespass need no more be the same two miles below the surface than two miles above.").

such as in the paradigmatic examples of roads or utility lines, then forced pooling might run into an issue and be found unconstitutional. This line of reasoning has largely been foreclosed at the federal level under the *Kelo* decision, which equated "public use" with "public purpose" including economic development.[282] Thus, a public use challenge to forced pooling is likely to fail under federal law. But as discussed above, many states have adopted stricter public use requirements than found in the U.S. Constitution.[283] Forced pooling likely violates these laws in many states, on any fair reading of the public use requirements. And of course, there is nothing to stop the Supreme Court from revisiting the *Kelo* decision and adopting a stricter public use requirement in its takings jurisprudence. If that happens,[284] then forced pooling might violate the public use requirement of the Fifth Amendment as well.

Before *Horne* and *Cedar Point*, one of the best arguments against forced pooling under the Takings Clause would have been that the states which enacted greater property protections in blowback to the *Kelo* decision had banned the use of private eminent domain. Arguments that promoting oil and gas extraction are actually in the public interest only work if you equate the public interest with economic development, as was done by the Supreme Court in its *Kelo* decision. But states have reacted very negatively to that decision and put limits on state laws transferring private property from one party to another, unless the property would be actually used by the public. In the forced pooling context, there is no requirement for public use of the oil and gas that is extracted. Indeed, significant amounts of oil and gas extracted in the United States is destined for export to other countries, and thus is not used at all by the public here.[285]

To revisit an example discussed previously, North Dakota declares that:

> [A] public use or a public purpose does not include public benefits of economic development, including an increase in tax base, tax revenues, employment, or general economic health. Private property shall not be taken for the use of, or ownership by, any private individual or entity, unless that property is necessary for conducting a common carrier or utility business.[286]

If this statute is taken seriously, then forced pooling is unlawful in North Dakota because oil and gas extraction is neither a common carrier nor a utility

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282. Kelo v. City of New London, 545 U.S. 469, 469 (2005).

283. *See supra* notes 94-109 and accompanying text.

284. The Supreme Court has of course revisited a number of long-standing precedents in recent years, turning the law in a more ideologically conservative direction. The Court's recent changes in composition thus might reasonably be expected to lead to a reexamination of *Kelo*, which is loathed by many property rights advocates.

285. *See How Much Petroleum Does the United States Import and Export?*, U.S. ENERGY INFO. ADMIN. (Mar. 29, 2024), https://www.eia.gov/tools/faqs/faq.php?id=727&t=6#:~:text=The%20top%20five%20destination%20countries,million%20b%2Fd%E2%80%947%25.

286. N.D. CONST. art. I, § 16.

business. Instead, forced pooling is justified as important for promoting oil and gas extraction or general economic development. These are not allowable justifications for transferring property from one private owner to another. Case law in other states such as Michigan have rejected references to "a vague economic benefit stemming from a private profit-maximizing enterprise is a 'public use.'"[287]

Alexandra Klass rightly noted at the time that these property rights laws were enacted, their supporters often overlooked the blatant use of private eminent domain to support natural resource extraction.[288] Wyatt Sassman has also explained "how formal legal structures designed to promote extraction of oil and gas also empower industry to dismantle opposition and entrench extraction in communities over time."[289] No doubt, our laws as a general matter strongly favor the extraction of natural resources. These points are well-taken, and, of course, this Article must recognize the possibility that courts will just think that "oil and gas is different" and thus resist applying property rights laws to forced pooling. Courts have repeatedly referred to natural resource development as in the public interest. But laws intended to allow the transportation of natural resources, such as laws governing ditches for transporting water or pipelines for oil and gas are quite different than laws allowing a third party to invade private property and take the natural resources found there. The context should matter here and will make forced pooling different than the use of eminent domain to build pipelines.

Ultimately, the argument that forced pooling violates the public use requirement of takings law is probably a bit weaker than the claim that it amounts to a per se physical taking. This is definitely true under federal law. Under state law, perhaps the argument is equally strong in some instances. However, property owners do not need to succeed on both theories to protect themselves from being forced pooled; one unconstitutional finding would be enough. Thus, public use objections to forced pooling provide an important alternative argument that can be advanced in favor of protecting private property rights.

D. ROYALTY SCHEMES AND JUST COMPENSATION

One final argument can be expected in defense of forced pooling as an unconstitutional taking: Industry and states will likely argue that even if there is a taking, it is constitutional because just compensation was provided. It is, of course, correct to say that a taking, even a per se physical taking, is not unconstitutional if just compensation is paid. The question then becomes

287. Wayne County v. Hathcock, 684 N.W.2d 765, 786 (Mich. 2004).

288. Alexandra B. Klass, *The Frontier of Eminent Domain*, 79 U. COLO. L. REV. 651, 661 (2008).

289. Sassman, *supra* note 12, at 86.

whether forced pooling laws provide just compensation to non-consenting owners. The answer is "no."

Defenders of forced pooling can be expected to point to several ways that just compensation has been paid. They will argue that the only economically valuable use of oil and gas is in extracting it and selling it for consumption. Forced pooling is therefore necessary to enable efficient and rational production of oil and gas. They will argue that non-consenting owners still retain a contingent interest in their minerals and can be expected to share in the profits once the costs of extraction are recouped. And finally, they may point to the option under some state forced pooling laws (though not all) which allow a non-consenting owner to transfer their mineral rights for some form of compensation. Of these, the latter is the strongest argument, and it might even succeed in some circumstances. However, the earlier arguments almost surely fail.

First, what of the argument that oil and gas have only one value in our society—to be extracted and burned? This argument of course ignores the many externalities associated with our society's addiction to fossil fuels. In a rational economic system, people would not be able to dump the pollution from fossil fuels into the atmosphere for free. When those costs are accurately accounted for, many oil and gas reserves actually cause more harm to society than good. In those circumstances, oil and gas are best left safely underground where they will not catastrophically alter our climate, or cause regional air pollution issues such as smog, or disturb the quiet use and enjoyment of residential property. The argument that the only value in oil and gas is in their use also ignores the calls for recognition of a "right of nonuse" in natural resources.[290] Thus, this first argument rests on a false assumption. And of course, the Supreme Court has recognized that it is not up to government to decide how private property is to be best used, it is up to the owner of that property.[291]

Second, what about the argument that the prospect of royalty payments in the distant future is just compensation, or even the payment in exchange for a lease of mineral rights in the short term? This argument falls apart on even the merest inspection. Just compensation is typically calculated in terms of the fair market value. But the fair market value is difficult to assess in this instance since there is no free market where voluntary exchanges are made. Yes, there are some owners of mineral rights who "voluntarily" sign a lease, but they often do so knowing that if they refuse, they will be forced to lease their rights at less favorable terms. Nothing in the forced pooling system ensures that leases are actually made at a fair value that the market would support in the absence of coercion.

290. *See* JAN G. LAITOS, THE RIGHT OF NONUSE 6 (2012).

291. Murr v. Wisconsin, 582 U.S. 383, 394 (2017).

The royalty payment as just compensation argument also fails because it is contingent, and therefore uncertain. The Supreme Court rejected this argument as applied to raisins in the *Horne* case. There, the government argued that its regulations of raisins left the interest in proceeds from the sale of raisins with the growers, and after selling reserve raisins and deducting expenses and subsidies for exporters, the growers would gain any net proceeds.[292] If this sounds familiar, it is because non-consenting owners who are forced pooled have a royalty interest in their oil and gas, to be paid out once the operators deduct their share of the costs, impose a 200-300% or more risk penalty, and also charge reasonable supervision costs. The *Horne* court rejected the argument that this contingent interest avoided a finding that a taking had occurred, and also noted that in some previous years, there were no "net proceeds" available to the raisin growers after the all the expenses were accounted for.[293] The same situation can happen with forced pooling of course; that is the entire justification for the "risk penalty" approach to forced pooling. The risk penalty assumes that the operation might not be profitable and penalizes the non-consenting owner for not fronting their share of the costs. For non-consenting owners, the chances of seeing no profits are dramatically increased because of the penalty that is imposed. Therefore, forced pooling takes private property without any assurance of payment in the future. Thus, the taking occurs without any just compensation, at least in some circumstances.

Finally, option states that allow the payment of compensation in exchange for a transfer of mineral rights have the best argument as providing just compensation. But courts should still inquire into whether the payment made was actually just, under all the circumstance. In many instances, it will not be.

There are several reasons that any payment received by non-consenting owners would not be adequate. First, risk penalties significantly reduce the value of the property. The higher the penalty, the less likely the compensation is just. But also, the risk penalty assumes that wells might not be profitable. Advances in technology have reduced the chances of a "dry hole" that fails to produce oil and gas. Instead, the bigger risk is that market prices for the resources might drop over the time it takes to extract them. But the risk is much greater for non-consenting owners who might pay a largely disproportionate share of the costs.

Let's take a simple example to see how this might work. Imagine that you own mineral rights in Wyoming, which authorizes a risk-penalty of up to 300% for some costs.[294] If you own 25% of the mineral rights in a particular unit, you can still be forced pooled. Then, you would be forced to pay triple your share of

292. Horne v. Dep't of Agric., 576 U.S. 350, 363 (2015).

293. *Id.* at 364.

294. WYO. STAT. ANN. § 30-5-109(g) (West 2020) (authorizing 300 percent of costs related to well site preparation and drilling).

costs, including for activities such as drilling which make up the lion's share of costs. You would then be responsible for 75% of the costs, but only 25% of the profits. Thus, even if the well is profitable, you won't see a dime unless the profits exceed the costs by three-fold. That sure does not sound like just compensation.

It is also important to remember that the payment of royalty interests, after deductions for costs, may not come for many years after the forced pooling order and even several years after the fracking operation occurs. This timing dimension is also important and should be considered in assessing just compensation.

In addition, there are other costs and harms associated with fracking that are not accounted for at all in current forced pooling systems. These are often the costs that lead to property owners not consenting in the first place, particularly where the owner of mineral rights also owns the surface. Fracking is a loud and disruptive industrial process. It ignores local zoning laws and thus might take place in areas otherwise limited to quiet residential use. Fracking pollutes the air, risks spills onto land or into water, generates light and noise 24/7, and risks explosions or other accidents. These harms are not accounted for at all in forced pooling systems, and further demonstrate that even ample profits from oil and gas extraction might not amount to just compensation. If someone wanted to operate a disruptive and dangerous industrial operation on your land that was not related to extraction of oil and gas, they would not be able to force you to lease your property to them. Forced pooling should not be used to justify the same just because government or industry favor oil and gas extraction.

E. CASES CHALLENGING FORCED POOLING

If forced pooling has such clear constitutional infirmity, why have courts not struck down these blatant government-authorized invasions of private property? The answer is complicated and nuanced, but important to examine. Initial constitutional challenges were rejected in the 1920s and 1930s, at a time when courts were much more deferential to government regulation of the economy. Additionally, as explained previously, the geology and technology of the oil and gas industry was dramatically different, so the need for regulation of what really were common pool resources was much higher.

Since that time, the dramatic changes in technology, including directional and horizontal drilling techniques, combined with hydraulic fracturing, have largely undercut the pragmatic argument in favor of forced pooling.[295] On the

295. *But see* Coastal Oil & Gas Corp. v. Garza Energy Tr., 268 S.W.3d 1, 12–13 (Tex. 2008) (rejecting arguments that fracking causes a trespass, and reiterating commitment to the rule of capture even where fracking is necessary for extraction of oil and gas). In my view, the Texas Supreme Court missed a golden opportunity to reexamine whether the rule of capture should be applied to nonmigratory minerals accessed through fracking.

legal side, property rights supporters have secured victory upon victory at the Supreme Court, staking out an ever-clearer prohibition on government interference with private property rights lacking payment of just compensation. Combine these two developments, and a reexamination of the constitutionality of forced pooling is ripe.

Yet the two recent cases that considered this issue, one from Ohio and the other from Colorado, failed to seriously grapple with these changes in law and technology. As a result, these decisions rubber stamped forced pooling, citing old and outdated cases and rationales. Those cases were wrongly decided, as explained below. The previous analysis instead provides a roadmap for courts and litigators seeking to drag oil and gas regulation into the twenty-first century.

1. *Early Due Process Constitutional Challenges*

This Subpart will be brief, although it is useful to know the history of how courts deferentially viewed forced pooling when it was developed in the early twentieth century. Times were different then, and courts were much more deferential towards government regulation of the economy.[296] But it must be acknowledged that early constitutional challenges to forced pooling laws failed. However, these were almost uniformly due process challenges against prorationing orders, and not taking claims against forced pooling or specifically per se physical takings which had not yet been identified as a discrete category.

One of the earliest cases challenged Oklahoma's early law which prohibited waste in the production of oil and gas.[297] The claim was that the law violated the Due Process and Equal Protection Clauses of the Fourteenth Amendment as well as the Commerce Clause.[298] The case raised no claims under the Takings Clause of the Fifth Amendment, and explicitly dealt with common pool resources.[299] The Supreme Court rejected these challenges, but they are not relevant to how forced pooling would fare under modern takings jurisprudence. A similar challenge to a proration order in Texas was rejected as not violating the Fourteenth Amendment either.[300] Oklahoma's implementation

296. At least, they were since the famous "Switch in Time That Saved Nine" when the U.S. Supreme Court stopped striking down New Deal legislation, perhaps to avoid President Roosevelt's court-packing threat. *See* John Q. Barrett, *Attribution Time: Cal Tinney's 1937 Quip, "A Switch in Time'll Save Nine"*, 73 OKLA. L. REV. 229, 243 (2021).

297. Champlin Refin. Co. v. Corp. Comm'n of State of Okla., 286 U.S. 210, 223–24 (1932). Although not explicitly about forced pooling, the laws prohibiting waste are tightly connected to forced pooling requirements which are often part of comprehensive oil and gas conservation laws, as described above.

298. *Id.*

299. *Id.*

300. R.R. Comm'n of Texas v. Rowan & Nichols Oil Co., 310 U.S. 573, 579 (1940) (explaining how this was thought to be different because in Texas oil and gas are owned "in place" although still subject to the rule of capture). The court clearly wanted no part overseeing prorationing orders, as it said the case "calls for a fresh

of oil and gas conservation laws was again challenged on the basis of "the power of a state to fix prices at the wellhead on natural gas produced within its borders."[301] These claims again were brought under the Due Process and Equal Protection Clauses of the Fourteenth Amendment, and were rejected by the Court, which broadly deferred to state regulation of the oil and gas industry.[302]

There was at least one state case which dealt explicitly with pooling and with a takings claim. In *Anderson v. Corp. Comm'n*, the Oklahoma Supreme Court was faced with a claim that a pooling and unitization order was an unconstitutional taking of private property.[303] Focusing largely on well spacing requirements and the need to protect against waste and protect correlative rights, the court rejected the takings claims on the basis that the owner had no property rights taken.[304] The analysis of whether any property was taken is of course very different now, as applied to nonmigratory minerals and modern takings doctrine.

2. *Kerns v. Chesapeake Oil*

In the face of these rapid changes in technology in the oil and gas industry, the law has failed to adapt nearly so fast. Most regulators, industry, and courts still behave as if oil and gas collect in "pools" in underground reservoirs, and that the geological formations that have been so crucial to the fracking boom allow oil and gas to freely flow through porous material, despite technical and scientific information that clearly contradicts this view. State oil and gas conservation laws, even where they have been updated recently, rarely have considered these seismic changes under the ground. And only in rare instances have courts even bothered to grapple with the changing facts and how they might lead to changes in the law, or at least how the law is applied to modern fracking practices.

Most prominently, federal courts in Ohio were presented with a takings challenge to the state's forced pooling system and rejected this claim out-of-hand. The district and appellate courts made numerous errors in doing so, including errors relating to geology and technology, and law. Regarding geology, the court made several statements about the geology of oil and gas reservoirs that may have been accurate last century, but no longer apply to modern fracking from tight sand and shale formations. For example, the Sixth Circuit claimed that "with each new drill site, the reservoir loses more pressure,

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reminder that courts must not substitute their notions of expediency and fairness for those which have guided the agencies to whom the formulation and execution of policy have been entrusted." *Id.* at 581.

301. Cities Serv. Gas Co. v. Peerless Oil & Gas Co., 340 U.S. 179, 180 (1950).

302. *Id.* at 185–86.

303. 327 P.2d 699, 701 (Okla. 1957). The case was not one about forced pooling, as the mineral interest owner had voluntarily entered the pool. *Id.* (clarifying that the rights at issue were a "working interest" and not a "royalty interest").

304. *Id.* at 702–03.

thus leaving much of the oil unobtainable."[305] The courts did not, however, explain how they made the leap to fracking from a traditional reservoir where oil and gas pools and moves relatively freely without any need for fracking to release it from pore space. The courts also erred significantly on the law, failing to apply the new factual circumstances under the modern takings jurisprudence. Instead, the district court cited 120- and 70-year-old cases upholding the state's exercise of police power to prevent economic and physical waste of oil and gas, without considering whether the forced pooling scheme used for hydraulic fracturing actually prevents any waste of the resource.[306] The district court failed to engage with the many more recent Supreme Court cases that have moved away from broad deference to government actors based on exercise of the police power. And the district court explicitly rejected the plaintiffs' arguments that concerns about "correlative rights" did not apply in this new context of hydraulic fracking.[307] The district court seemingly failed to grasp the point that correlative rights are not implicated if the resource is not found in a common pool, but instead in a tight sand or shale formation requiring fracking to release oil and gas from the geological formation. Other courts could easily reject the reasoning from this Ohio case based on expert testimony establishing the outdated and inapplicable analogy to pooled reservoirs in modern fracking.[308]

In addition to these errors, the courts in Ohio also issued their opinions rejecting takings challenges to forced pooling before the Supreme Court's most recent takings case, *Cedar Point*.[309] As discussed below, this case made clear that if a statute or regulation authorizes a third party to invade someone's private property, it will be a per se physical taking.[310] Of course, forced pooling does allow an oil and gas operator to drill onto someone else's property against their will, so this case also calls for reconsideration of whether forced pooling laws

305. Kerns v. Chesapeake Expl., L.L.C., 762 F. Appx. 289, 291 (6th Cir. 2019). The Sixth Circuit did address hydraulic fracturing, but only made the unsupported assertion that "[c]onflicting hydraulic fracturing operations can likewise result in unnecessary drilling with less overall output." *Id.* The district court had gone even further, noting a few details of how the fracking process works, stating that "[h]orizontal drilling and fracking involve injecting water, sand, and chemicals into the shale beneath the Unit, including Plaintiff's land, causing the shale to fracture and release oil, gas, and natural gas liquids, which then flow to the wells for retrieval." Kerns v. Chesapeake Expl., LLC, 2018 WL 2952662 at *2 (N.D. Ohio 2018).

306. *Id.* at *10.

307. *Id.* at *10–11 (agreeing instead with the state's view that correlative rights are still impacted, regardless of the type of drilling at issue).

308. The court cited to a case out of Colorado from a few years earlier where the court made a similar error in an egregious preemption case that was later overturned by the state legislature. *Id.* at *11 (citing City of Longmont v. Colo. Oil & Gas Ass'n., 369 P.3d 573 (Colo. 2016)). *See also* COLO. REV. STAT. § 34-60-105 (2019) (amending Colorado state preemption law so that state and local government has the authority to regulate oil and gas operations).

309. *See* discussion *supra* notes 36-55 and accompanying text.

310. Cedar Point Nursery v. Hassid, 594 U.S. 139, 162 (2021).

comply with the U.S. Constitution. That reconsideration should bring to bear all the latest developments in law, technology, and geology.

3. *Wildgrass Oil & Gas Committee v. Colorado*

Ever since the fracking boom that started in the 2010s, Colorado has been one of the key focal points for fracking disputes.[311] The public and more liberal local governments clashed with the oil and gas industry and their supporters in state government. Citizens at the local level were able to put in place bans or moratoria on fracking, out of concern for the risks and uncertainty of this new industrial technology.[312] Industry claimed exemptions from local land use rules, and backed by the state government, obtained court rulings that these local efforts to slow fracking were preempted by state law.[313] Industry kept pushing the idea of "neighborhood drilling," next to residents' backyards or next to school playgrounds, leading to continuing clashes over drilling permits and planning processes.[314] Inevitably, accidents happened such as explosions, leaks, and spills. Sadly, one such incident caused the death of Mark Martinez and his brother-in-law Joe Irwin who were working on a furnace in a basement, when a leaking gas flowline caused an explosion.[315] Finally, the mounting calls from the public for change led the state legislature to pass a new law updating the state's Oil and Gas Conservation Statute, requiring the state to regulate oil and gas rather and promote it, and empowering greater local control over the siting of wells in residential and other sensitive areas.[316]

Out of this backdrop, a group of homeowners decided to challenge the state's forced pooling system to try to protect their neighborhood from being overtaken by industrial fracking operations.[317] In *Wildgrass Oil and Gas Committee v. Colorado*, the district court briefly looked into the history of forced pooling, noting how it was intended to "address flaws in the 'rule of capture,' under which the lessee of an oil and gas lease acquires title to all oil and gas

311. *See, e.g.*, Lynch*, supra* note 266, at 49–52 (discussing the fracking boom in Colorado and the response by citizens, local governments, industry, and courts).

312. *See id.* at 51.

313. *See* City of Longmont v. Colo. Oil & Gas Ass'n, 369 P.3d 573, 585 (Colo. 2016); City of Fort Collins v. Colo. Oil, 369 P.3d 586, 594 (Colo. 2016).

314. Daniel Glick, Kelsey Ray & Ted Wood, *Greely Residents Sue State Oil and Gas Commission Over Neighboring Drilling Rules*, COLO. INDEP. (Nov. 18, 2016), https://www.coloradoindependent.com/2016/11/18/greeley-residents-lawsuit-cogcc; Tyler Silvy, *Watch: Greeley's Bella Romera Fracking Fight Featured on The Daily Show*, GREELEY TRIB. (May 28, 2020, 7:23 AM), https://www.greeleytribune.com/2019/01/29/greeleys-bella-romero-fracking-fight-featured-on-the-daily-show.

315. Jesse Paul, *Decision to Allow Homes to be Built Near Oil and Gas Drilling Facilities Contributed to Fatal Firestone Blast, NTSB Says*, COLO. SUN (Oct. 29, 2019, 9:34 AM MDT), https://coloradosun.com/2019/10/29/ntsb-report-firestone-explosion-2017-colorado. The testimony of Erin Martinez, who survived the incident, was critical to passage of an overhaul of Colorado's Oil and Gas Conservation Act.

316. S. 19-181, 74th Gen. Assemb., 2d Reg. Sess. (Colo. 2019).

317. Wildgrass Oil & Gas Comm. v. Colorado, 447 F. Supp. 3d 1051, 1057 (D. Colo. 2020).

produced from a drilled well, including minerals that may have migrated from adjoining lands."[318] The court then talks about how forced pooling has been applied both to conventional drilling for oil and gas, as well as hydraulic fracturing.[319] The court even explicitly noted the differences between fracking and conventional development, stating that "[u]nlike in conventional drilling, fracking allows operators to access non-migratory minerals contained in rock formations that have not escaped into adjoining lands."[320] Yet ultimately, the court abstained from applying modern constitutional doctrine to modern fracking technology, specifically Wildgrass' claim that "the forced pooling statute, which was grounded in the rule of capture, only applies to non-transient minerals."[321]

Frustratingly, from the point of view of this Article, the court got so close to recognizing the issue and applying the law in light of new facts on the ground yet avoided reaching a decision on the merits. In a brief section of the opinion addressing potential takings issues, the court swept past the argument because the plaintiffs had not exhausted their administrative remedies, and so the court again did not reach the constitutional issue.[322] Yet in spite of this exhaustion finding, the court then (gratuitously?) went on to observe that it found no reason to disturb old cases from the 1940s and 1950s finding forced pooling a justified use of the police power, and supported "the public interests in curbing waste, protecting correlative rights, and protecting the economy of the state."[323] Oddly,

318. *Id.*

319. *Id.*

320. *Id.* at 1057–58.

321. *Id.* at 1062–63 (abstaining from deciding an issue that would interfere with state administrative agency proceedings under the *Burford* extension doctrine). Later, the court framed this issue this way: "Wildgrass' procedural due process claims ask this Court to examine the [state oil and gas agency]'s application of the forced pooling statute to nonmigratory minerals . . . ." *Id.* at 1064. The court said that this was "a question of state statutory interpretation that is difficult and controversial." *Id.*

322. *Id.* at 1069. The court was not very clear in this portion of its ruling, finding "the existence of a property interest" but not that forced pooling "does not serve a public purpose." *Id.* at 1070. But as the U.S. Supreme Court has now made clear, when a physical taking has occurred, this is a per se violation of the Takings Clause. *See* Cedar Point Nursery v. Hassid, 594 U.S. 139, 162 (2021). The court did not engage with any modern takings doctrine and this should not be read as any kind of blessing of forced pooling from a takings clause perspective.

323. *Wildgrass*, 447 F. Supp. 3d at 1070. The first two of these public interests, curbing waste and protecting correlative rights, would not apply to nonmigratory minerals, as the traditional justification for forced pooling was addressing flaws in the rule of capture. But the rule of capture only applies to migratory minerals, not nonmigratory ones such as those accessed by fracking. And the final purported public interest, "protecting the economy of the state" would run afoul of state law restricting the use of eminent domain to a public use only, which is defined to exclude "transfer to a private entity for the purpose of economic development or enhancement of tax revenue." COLO. REV. STAT. § 38-1-101(1)(b)(I) (2006). Thus, although the court in *Wildgrass* expressly did not decide that forced pooling survives a taking challenge, if it is read to include such a finding, that finding would be erroneous and inconsistent with this state law, as applied to the modern facts of forced pooling. However much government might think it knows best how private property should be used to promote the economy of the state, the Colorado legislature has made clear that it cannot take private property for this purpose.

there was no mention that those old cases were all in regards to migratory minerals, and did not involve the nonmigratory minerals at issue in this case.

4. *The Case for Revisiting Takings Challenges to Forced Pooling*

If courts will continue to reflexively apply outdated and inapplicable precedent, without applying modern takings doctrine[324] to the new reality of fracking involving nonmigratory minerals, then the law will never change. This failing would be a grave error. Perhaps Judge Jackson's error in the *Wildgrass* case can be excused because it was superfluous and unnecessary, given his *Burford* abstention ruling and finding that the takings claim was barred for lack of administrative exhaustion. However, future litigants should be able to squarely raise the issue and force courts to drag the law of fracking into the twenty-first century.

The *Kerns* court avoided even acknowledging either the new facts—fracking allows extraction of oil and gas that are nonmigratory—or the new law—*Horne* makes clear that long-established regulatory schemes are susceptible to takings challenges where they involve physical takings. Although the court in *Wildgrass* did a bit better by at least acknowledging the new facts regarding fracking, it still avoided applying those facts under existing constitutional doctrine. As a result, this severe restriction on property rights is still the law in most states of the country. However, it should not be long before savvy litigators can force courts to grapple with these issues.

Finally, both *Kerns* and *Wildgrass* were decided before the U.S. Supreme Court issued its decision in *Cedar Point*. This case is the most applicable analogy, and it makes clear that when government takes away the right to exclude, it has affected a taking of private property. Thus, absent just compensation, the taking of the right to exclude is unconstitutional. Forced pooling is an even more egregious taking of the right to exclude than was considered in *Cedar Point*, and courts should recognize it as such.

Extractive industry and their supporters will of course fight against these changes. Property rights advocates might hesitate when their arguments are taken to their logical conclusion, in a way that may not align with their ideological perspective. For example, the blowback against the broad reading of the "public use" requirement after *Kelo* often overlooked blatant invasions of private property and the right to exclude, if those invasions were helpful in easing natural resource extraction.[325] However, forced pooling is not the only

324. By this, I do not mean only *Cedar Point* and *Horne*. I mean that courts should not reflexively apply old cases from the 1930s or 1950s, or even older cases that pre-date *Pa. Coal Co*. The Supreme Court has dramatically reshaped takings doctrine over the past century, and in the past few decades since *Penn Central*, it has repeatedly carved out new categories of per se takings as alternatives to the lenient test for regulatory takings.

325. Klass, *supra* note 288, at 652.

area in natural resources law where anti-regulatory doctrines typically associated with conservatives have been deployed in ways that would challenge the supremacy of natural resources extraction. In the pipeline context, the using or delegating eminent domain power has also proven highly controversial, with the Supreme Court currently being asked to review the power of the Federal Energy Regulatory Commission under the major questions doctrine.[326] The lawyer representing private property owners opposed to the pipeline put the issue very succinctly in a recent press story: "Well, we really need pipelines, so we'll just let FERC run wild with little to no guidance from Congress, as it has done for decades."[327] If these pushbacks against the dominance of energy and extractive industry succeed, there is no reason to think that forced pooling opponents will not have similar success.

CONCLUSION

So where does all that leave us? Is it reasonable to expect that state and federal courts will upset the long-standing forced pooling regimes that have promoted oil and gas development in an efficient manner for nearly a century? Do the rights of liberal and progressive property owners opposed to extractive industry get the same respect as the rights of conservative property owners opposed to regulation of business and industry? Only time will tell, but the logic of modern takings doctrine clearly leads to the conclusion that forced pooling laws often, perhaps always, violate the Takings Clause or state level laws restricting the use of eminent domain. There is a certain poetic justice in industry being the one "hoist with [its] own petard" by this analysis of forced pooling as unconstitutional taking.[328]

A cynical view of the courts might lead one to conclude that logical application of *Horne*, *Cedar Point*, and related takings precedents to forced pooling will fail because unlike in *Horne*, forced pooling laws are favored by industry and by certain ideologies that favor government support for business but are hostile to regulations that impose costs on businesses or otherwise

326. Petition for Writ of Certiorari, Bohon v. Fed. Energy Regul. Comm'n, 143 S. Ct. 1779 (2022) (No. 22-256).

327. Niina H. Farah, *Landowners Ask Supreme Court to Curb Pipeline Eminent Domain*, E&E NEWS (Sept. 26, 2022, 6:38 AM EDT), https://www.eenews.net/articles/landowners-ask-supreme-court-to-curb-pipeline-eminent-domain.

328. WILLIAM SHAKESPEARE, HAMLET act 3, sc. 4, l. 207. Industry usually is the one claiming that government regulations, specifically those restricting or imposing limits on oil and gas development, amounts to a regulatory taking. *See* Lynch, *supra* note 266, at 41. We have already seen this in action, as the Colorado Alliance of Mineral and Royalty Owners opposed the litigation of mineral owners to halt forced pooling in the *Wildgrass* case. *See* John Aguilar, *Anti-fracking Activists Sue Colorado over "Forced Pooling," Promise More Challenges*, DENVER POST (Jan. 23, 2019, 6:28 PM), https://www.denverpost.com/2019/01/23/colorado-lawsuit-forced-pooling-oil-gas.

interfere with the interests of the wealthy and powerful.[329] The handful of recent court decisions certainly reflect this view, although all of those decisions predate *Cedar Point* which is a strong analogy to forced pooling. And while there is certainly ample support for this position,[330] it does not naturally map onto the issue of forced pooling. The interests at stake in forced pooling simply do not easily map onto our perceived ideological fault lines.

True, some mineral rights owners would oppose forced pooling out of concern for the environment and not wanting to further exacerbate climate change. Those or similar owners might also distrust oil and gas operators, especially Big Oil. No doubt the current majority on the U.S. Supreme Court, and many lower court judges, would not look kindly on such plaintiffs. But those are far from the only people who might object to the use of private eminent domain by oil companies. Libertarians opposed to virtually any government control over what would otherwise be private contractual relationships might also bring challenges to forced pooling schemes. Mineral interest owners might also be motivated by monetary gain by seeking to time the extraction of their resources (or even just the sale or lease of mineral interests, independent of extraction) to secure the maximum profit on their investments. Forced pooling takes away their ability to choose the ideal time to enter into the transaction. Especially due to the relatively short life of many fracked wells using current technology, extraction that coincides with a bust cycle of the market would lose out considerably compared to one coinciding with a boom cycle. Why shouldn't recent takings precedents be applied to forced pooling under these circumstances?

And of course, even if ideological biases might play some role, the logic of *Horne*, *Cedar Point*, and the currently dominant view of the Takings Clause leads inexorably to the conclusion that forced pooling amounts to an unconstitutional taking of private property. Any attempts to cabin the Takings Clause to only favor certain ideological causes would likely fail in the long run.[331]

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329. *See, e.g.*, Blake Emerson, *The Real Target of the Supreme Court's EPA Decision*, SLATE (June 30, 2022, 4:08 PM), https://slate.com/news-and-politics/2022/06/west-virginia-environmental-protection-agency-climate-change-clean-air.html ("It is impossible to escape the conclusion that there is a needle's-eye-size standing rule for beneficiaries of progressive causes, and a Los-Angeles-freeway-size rule for conservatives.").

330. *See, e.g.*, West Virginia v. EPA, 142 S. Ct. 2587, 2609 (2022) (employing the so-called "major questions doctrine" to limit the authority of Congress to issue broad delegations to federal agencies to address important issues, particularly where the law's text would grant large authority over the economy); *cf.* PennEast Pipeline Co. v. New Jersey, 141 S. Ct. 2244, 2270 (2021) (Barrett, J., dissenting) ("The availability of the [sovereign immunity] defense does not depend on whether a court approves of the State's conduct.").

331. *See, e.g.*, Dobbs v. Jackson Women's Health Org., 597 U.S. 215, 385 (2022) (JJ. Breyer, Sotomayor, Kagan, dissenting) ("And law often has a way of evolving without regard to original intentions—a way of actually following where logic leads, rather than tolerating hard-to-explain lines. Rights can expand in that way.").

Ultimately, the argument that forced pooling is an unconstitutional taking is surprisingly simple and straightforward. The argument follows naturally from the way that modern horizontal drilling and hydraulic fracturing work, and the types of oil and gas reservoirs that can be exploited by these technologies. Forced pooling orders from a state literally authorize a third party to drill onto private property, inject large volumes of water, chemicals, and sand on private property in order to break apart rock formations, and then extract the oil and gas released by fracking. In many states, payment for the extracted oil and gas comes months or years after the physical invasion, if indeed it ever comes at all. This was not always the case with traditional oil and gas wells, where the reservoir was relatively porous, and the oil or gas would migrate from beneath one property to a well on another. Forced pooling may have historically been an appropriate regulatory tool to protect correlative rights and prevent waste. No longer. Not in today's world of hydraulic fracturing and directional and horizontal drilling. The law has not yet caught up with the changes in industry. However, the law has advanced in other areas such as the takings doctrine announced in *Horne* and *Cedar Point*, which make clear that these physical invasions of private property, under the color of state law, are per se takings that are unconstitutional in the absence of just compensation paid by the state at the time of the taking.

This analysis does not only rely on courts, however, to protect the constitutional rights of private property owners opposed to forced pooling. Yes, courts can provide a backstop and rule in favor of upholding the constitution. But there is nothing to stop state agencies from updating their interpretations of state law and no longer approving forced pooling orders as applied to nonmigratory minerals. This could be done tomorrow. Policy makers such as state legislatures can also amend their laws to more clearly protect private property rights, and end forced pooling of nonmigratory minerals, or even end forced pooling outright. And if elected officials and their appointees fail to act, and the courts do not faithfully apply takings doctrine, then the voters retain the power to force change through ballot measures, constitutional amendments, or electing officials and judges who will take action on this important issue. This Article thus provides a roadmap for ending the flagrant unconstitutional infringement on private property rights that is forced pooling, and for bringing the law of forced pooling into the twenty-first century.

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