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The Legality of Drilling Sideways: Horizontal Drilling and Its Future in West Virginia

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THE LEGALITY OF DRILLING SIDEWAYS: HORIZONTAL DRILLING AND ITS FUTURE IN WEST VIRGINIA

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I. INTRODUCTION

Year after year, our society’s demand for energy continues to grow. In order to keep up with this growing demand, it has become critical for the United States to develop low-cost, reliable energy resources. As part of this effort, the energy industry is experiencing a renewed focus on effectively locating and utilizing natural gas, a viable source of fuel that has been produced and consumed in the Appalachian region for many years. Natural gas is an attractive alternative to other sources of fuel; in addition to being plentiful both in West Virginia and in other portions of the United States, it is one of the cleanest, safest, and most versatile sources of energy available. The discovery of what has been thought to be “the second largest natural gas field in the world”—the Marcellus Shale—literally right under our feet has placed West Virginia at the epicenter for advancements in natural gas exploration and production. Indeed, the term “Marcellus Shale” has become a buzzword among local and national industry professionals and laymen alike.

Recently, natural gas drilling in the Marcellus Shale became an economically viable practice. Technological developments related to the technique known as “horizontal drilling” now allow gas producers access to gas that was previously believed to be too difficult to reach within the rock shale. The advent of horizontal drilling in West Virginia raises several novel legal questions related to the rights of the various parties involved in the drilling process.

This Note addresses two distinct but related questions associated with horizontal drilling in West Virginia. Part II provides a background on the history of natural gas production in West Virginia and the beginnings of horizontal drilling in the state. Part III examines whether mineral leases that predate the common practice of horizontal drilling actually permit leaseholders to use the technique. Currently, West Virginia law does not provide a black-and-white answer as to whether the practice is technically permitted by leases that came into effect long before horizontal drilling became a common practice in the drilling industry. In the context of this question, all drilling is assumed to take place within the same subsurface mineral tract. Part IV focuses on legal questions that arise when the bore of the horizontal well crosses from one underground mineral tract into a separate mineral tract. This section explores the rights of both the surface owner and the mineral owner and examines whether the surface owner should have the ability to prevent gas producers from using their land to drill for gas located on neighboring mineral tracts.

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THE LEGALITY OF DRILLING SIDEWAYS

After analyzing the current state of West Virginia case law and the law in other jurisdictions, this Note argues that it is unclear how the Supreme Court of Appeals of West Virginia ("Court") will rule on the question of whether horizontal wells drilled within the same mineral tract should be permitted by leases that predate the common practice of horizontal drilling. Nevertheless, this Note argues that the Court should hold that horizontal drilling should be permitted under these circumstances. Additionally, this Note argues that horizontal wells which pass from one mineral tract into another mineral tract may be prohibited by the owner of the surface on which the well is being drilled because this constitutes an unreasonable extension of the rights granted by the lease.

II. BACKGROUND

This Part provides a brief history of the development of natural gas production in West Virginia. This Part also discusses some of the characteristics of the Marcellus Shale and explains the process of horizontal drilling.

A. History of Natural Gas Production in West Virginia

Before discussing some of the legal issues surrounding horizontal drilling in West Virginia, it is important to understand how important the natural gas industry has become to the state. Both natural gas and oil production in West Virginia have their beginnings with the salt mining industry.\(^3\) According to the West Virginia Geological and Economic survey, the first natural gas was struck in Charleston in 1815 in a well intended to mine for salt.\(^4\) At that time, oil and gas were considered to be of little value, and salt miners discarded the fuels as waste byproducts.\(^5\) By 1826, industries had discovered some of the potential uses for oil and gas resources, and the Kanawha Valley region “became a pioneer in the discovery of petroleum by boring and in the use of oil and gas on a commercial scale.”\(^6\)

West Virginia was the nation’s leader in natural gas production from 1906 to 1917.\(^7\) Production levels declined between 1917 and 1934 but


\(^5\) Id.

\(^6\) Id.

\(^7\) Kuykendall, supra note 3.
increased again from that point until 1970. Today, forty-nine out of fifty-five of West Virginia’s counties produce natural gas in some amount through approximately 40,500 wells across the state. As of 2009, the Energy Information Administration reported West Virginia as the 14th highest producing state for natural gas, with annual production totaling more than 264 billion cubic feet. Much of this production expansion, at least within the past decade, can be attributed to the increased development of the Marcellus Shale.

B. Development of the Marcellus Shale

Geologists have long been aware of the existence of the Marcellus Shale—a black shale geological formation that “starts at the base of the Catskills in upstate New York, stretches across the upstate toward Marcellus, New York (the town from which the formation is named) and southwest to West Virginia, Kentucky, and Ohio.” Although the formation was recognized as being potentially rich in fossil fuels, it was not until recently that advancements in drilling and gas production technology allowed energy producers to tap into the vast reservoir of natural gas trapped within the rock formation.

The current Marcellus Shale gas “play” appears to have begun in 2003, when Range Resources drilled a natural gas well in Washington County, Pennsylvania. Range had not intended to tap the Marcellus Shale at that time; however, the rock formation showed potential and the company completed a Marcellus well in 2004. Range first began production from the well in 2005, and it soon drilled additional wells and began experimenting with horizontal
drilling and hydraulic fracturing methods that had been developed for use in the Barnett Shale in Texas.\textsuperscript{16} By the end of 2007, "more than 375 gas wells with suspected Marcellus intent had been permitted in Pennsylvania" alone.\textsuperscript{17} Following the initial discovery, interest in the Marcellus skyrocketed, and natural gas producers across the country began to acquire land and business interests in the region and to drill vertical and horizontal wells in order to evaluate the gas potential of the Marcellus.\textsuperscript{18}

While the actual amount of natural gas stored in the Marcellus has been heavily debated by scientists and geologists over the past few years,\textsuperscript{19} even conservative estimates hold that the Marcellus Shale reserves are massive. In 2010, National Geographic compared current reserve estimates to those of some of the largest proven fields in the world:

Estimates are that the Marcellus [S]hale holds between [fifty] trillion cubic feet (TCF) and 500 TCF of natural gas. At the low end, that's double the gas stores seen in Alaska's big Prudhoe Bay at the dawn of its development. At the high end, the reserves would be second to those of the world's largest natural gas field, the Pars field of Iran and Qatar.\textsuperscript{20}

For comparison, fifty TCF "would be enough to supply the entire United States for about two years and have a wellhead value of about one trillion dollars."\textsuperscript{21} The close proximity of the Marcellus to the energy-demanding population centers of the Northeastern United States makes the formation even more economically attractive when the costs associated with gas transportation are taken into account.\textsuperscript{22}

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\textsuperscript{16} King, \textit{supra} note 14. The Barnett Shale, located primarily in northern Texas, is considered to be one of, if not the largest shale natural gas reserves in the United States. \textit{Facts About Barnett Shale}, \textit{BARNETT SHALE ENERGY EDUC. COUNCIL}, http://www.bseece.org/stories/BarnettShale (last visited Sept. 18, 2012). The shale was first drilled in 1981, but it was not until the early 2000s that newly developed horizontal drilling and hydraulic fracturing methods made drilling in the shale an economically viable practice. \textit{Id}.

\textsuperscript{17} King, \textit{supra} note 14.


\textsuperscript{21} King, \textit{supra} note 14.

\textsuperscript{22} \textit{What is Marcellus Shale?}, \textit{supra} note 11.
\end{flushleft}
Marcellus production occurs primarily in five states: Pennsylvania, New York, Maryland, Ohio, and West Virginia. While the majority of gas production expansion thus far has taken place in Pennsylvania, West Virginia has also seen a significant increase in production. In August 2011, reports showed that “natural gas production in West Virginia and Pennsylvania now averages almost four billion cubic feet per day (Bcf/d), more than five times as much as the average from 2004 through 2008.” These two states are now responsible for more than eighty-five percent of all natural gas production in the Northeast. Furthermore, production in West Virginia “has grown over [forty percent] since January 2010 and recently surpassed [one] Bcf/d.” It appears that the Marcellus Shale will play an integral role in the West Virginia energy industry for years to come. This production boom would not have been possible without the help of a novel drilling technique—horizontal drilling.

C. The Rise of Horizontal Drilling

Two technologies have made gas production possible in the once-unusable Marcellus region—horizontal drilling and hydraulic fracturing. These techniques, which saw their first significant action in natural gas production in Texas’s Barnett Shale, are relatively new to the Appalachian Basin. While the first true horizontal oil well was completed in Texas in 1929, there was little use for the technique until the 1980s, when the invention of downhole telemetry equipment and improved drilling motors turned what was once a far-fetched idea into an economically viable practice. Horizontal drilling has been described as

the process of drilling a well from the surface to a subsurface location just above the target oil or gas reservoir called the “kickoff point”, then deviating the well bore from the vertical plane around a curve to intersect the reservoir at the “entry point” with a near-horizontal inclination, and remaining within the reservoir until the desired bottom hole location is reached.

The partner technique, hydraulic fracturing (also known as “hydrofracking,” or simply “fracking”), involves pumping high volumes of water and chemical

23 Marcellus Shale Coalition, supra note 2.
25 Id.
26 Id.
27 King, supra note 14.
29 Id. at 1.
additives into the well at extremely high pressures in order to fracture the rock formation and release the trapped gas.\textsuperscript{30} Hydraulic fracturing raises its own host of legal and environmental concerns, and the process will not be addressed in this Note other than to point out the substantial role it plays in retrieving gas from the Marcellus Shale.\textsuperscript{31}

Horizontal gas wells offer several advantages over traditional vertical wells. Horizontal wells create maximum surface area contact between the gas-bearing rock formation and the well itself. The “pay zone” of the well—the area where the gas can flow into the well from the shale—is significantly increased if the well is drilled linearly with the length of the shale.\textsuperscript{32} When coupled with hydraulic fracturing, this allows for an exponential increase in reservoir contact.\textsuperscript{33} These wells are most efficient when drilled in a direction that intersects the maximum number of fractures in the well.\textsuperscript{34} A single horizontal well, when located in a permeable reservoir such as the Marcellus Shale, can gather significantly more underground gas than a single vertical well in the same location.\textsuperscript{35} These higher production rates can equate to a higher return on investment for horizontal well projects than for vertical well projects when used in the proper manner.\textsuperscript{36}

Drilling horizontally allows producers to reach target gas locations that could not be reached using traditional vertical drilling. A large pocket of gas situated under a residential neighborhood may have been inaccessible via vertical drilling; however, horizontal drilling might allow the producer to reach this gas by drilling the well at another location and directing the well bore to reach the target gas pocket.\textsuperscript{37}

Additionally, numerous horizontal wells can be drilled using the same well pad on the surface.\textsuperscript{38} This practice can significantly reduce surface disturbance because several horizontal wells in the same location can produce

\textsuperscript{30} King, supra note 14.
\textsuperscript{32} Hobart King, Directional and Horizontal Drilling in Oil and Gas Wells, GEOLOGY.COM, http://geology.com/articles/horizontal-drilling (last visited Sept. 19, 2012).
\textsuperscript{34} King, supra note 32.
\textsuperscript{35} See Helms, supra note 28, at 1.
\textsuperscript{36} Id.
\textsuperscript{37} See King, supra note 32.
\textsuperscript{38} Id.
as much or more gas than numerous vertical wells scattered across a wider area.\textsuperscript{39} For instance, in 2010 the University of Texas at Arlington was recognized for drilling twenty-two natural gas wells on only twenty-one and a half acres of land.\textsuperscript{40} The well site produces sixty-two million cubic feet of gas per day, or enough to “meet the needs of 877 homes for an entire year.”\textsuperscript{41} This practice is especially useful in urban areas where permits for multiple wells become increasingly expensive and difficult to acquire.

Horizontal drilling does have its downsides, however, not the least of which being the substantial cost involved. A recent study published by the University of Pittsburgh set out to examine the direct effects of a single Marcellus Shale well drilled in Southwestern Pennsylvania using horizontal drilling and hydraulic fracturing.\textsuperscript{42} The study found that the total cost for such a well comes to approximately $7.6 million.\textsuperscript{43} The study broke down the costs of bringing a well from conception to completion:

- Land acquisition and leasing: $2,100,000
- Permitting: $10,000
- Vertical drilling: $663,000
- Horizontal drilling: $1,200,000
- Hydraulic fracturing: $2,500,000
- Completion: $200,000
- Production to gathering: $472,000\textsuperscript{44}

In short, when combined with hydraulic fracturing, a horizontal well “can cost up to three times as much per foot as drilling a vertical well.”\textsuperscript{45}

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\textsuperscript{39} Why Multiple Horizontal Wells from Centralized Well Pads Should Be Used for the Marcellus Shale, W. VA. \textsc{Surface Owners’ Rights} Org., http://www.wvsoro.org/resources/marcellus/horiz_drilling.html (last visited Oct. 20, 2012).


\textsuperscript{41} Id.


\textsuperscript{44} Id.

\textsuperscript{45} King, \textit{supra} note 32.
In addition to the higher financial expenses incurred by drilling companies, horizontal drilling is also accompanied by a host of other costs. Horizontal wells in the Marcellus Shale can take several months to drill, while traditional vertical wells can be completed in a mere seven to ten days. Horizontal wells also require anywhere from seven to fifteen acres of land, compared to three to five acres with a vertical well. The time needed for hydraulic fracture is significantly increased with a horizontal well, and the fracturing process for horizontal wells can consume nearly ten times the amount of water. The drilling rigs used to drill horizontal wells are considerably larger than those used to drill vertical wells. Finally, the number of trips required by work trucks can rise from approximately 200 for a vertical well to approximately 1600 for a horizontal well due to increased shipments of men and materials to and from the drill site. The additional burdens stemming from horizontal drilling are central to the legal issues discussed later in this Note.

D. Legal Issues Surrounding Horizontal Drilling and the Use of Mineral Leases

Many years ago, land owners in West Virginia began to separate surface and mineral rights—namely coal, oil, and gas rights—using various severance instruments, including severance deeds and wills. These instruments permitted a land owner to convey the surface of the land to another party and reserve a right to the minerals for himself, or vice versa. In order for the mineral right ownership to have any value, the mineral owner must have access to the surface above the minerals in order to reach his property. Thus, the Court has held that mineral owners have “the right to enter upon and use the superjacent surface by such manner and means as is fairly reasonable and necessary to reach and remove the minerals.”

Mineral owners typically do not have the ability or the resources needed to develop the minerals to which they hold title. Instead, these owners either find or are sought out by mineral developers who seek permission to develop the minerals themselves. This is where mineral leases come in. Under a mineral lease, the lessee obtains “100% of, or the exclusive right to develop,
produce and market, the minerals.\textsuperscript{53} The lessee is responsible for bearing all of the costs associated with mineral production, including permit acquisition, exploratory studies, and well drilling and maintenance.\textsuperscript{54} In return, the lessee is entitled to the profits earned from the minerals, minus a royalty payment—customarily one-eighth of the proceeds or the market value—that is made to the lessor.\textsuperscript{55}

This system operates fairly well when vertical wells are used by mineral producers. However, the introduction of horizontal wells presents several new questions to which our legal precedent provides no clear answer. Should old mineral leases, executed long before horizontal drilling was commonly used as a method for natural gas extraction, permit a gas producer to drill horizontal wells even though the original owners who conveyed the right to drill never imagined the technique? Furthermore, should a gas producer be permitted to use the surface of one tract to drill a horizontal well that begins above one mineral tract and ends in a different mineral tract?

Part III examines whether mineral leases that predate the common use of horizontal drilling actually permit horizontal drilling to be used \textit{at all}. To answer this question, we will assume that the horizontal well will remain within the boundaries of one mineral tract under the surface on which the well is drilled. Currently, West Virginia law does not provide a black-and-white answer to this question.

Part IV explores whether the mineral owner has the right to use the surface above his minerals in order to drill a horizontal well that crosses from the subjacent land into another mineral tract. Recent litigation in West Virginia has raised this issue several times, and the Court has yet to provide interested parties with a clear answer.

III. DO MINERAL LEASES THAT PREDATE THE COMMON USE OF HORIZONTAL DRILLING ACTUALLY PERMIT HORIZONTAL DRILLING?

Throughout West Virginia’s history, the Court has attempted to balance the rights of surface owners entitled to the peaceful enjoyment of their land with the rights of mineral owners entitled to access and to produce their minerals underneath the surface. If a gas producer wishes to drill a horizontal well, one way to do so legally would be to simply obtain a lease from the mineral owner that explicitly grants the right to drill horizontally. However, a question arises if the gas producer decides to drill a horizontal well using rights granted in a mineral lease executed \textit{before} the invention of horizontal drilling. This scenario might occur when a gas producer, who has historically drilled conventional vertical wells on a given site, wishes to take advantage of the

\textsuperscript{53} Id. at 11.
\textsuperscript{54} Id.
\textsuperscript{55} Id.
relatively recent advancements in horizontal drilling technology and the associated economic benefits.

This portion of the Note examines case law from both West Virginia and other jurisdictions. Part A explores four significant cases from West Virginia that deal with whether the holder of mineral rights is permitted to perform certain activities that were not contemplated by the parties when the instrument which granted the rights was executed. Part B explores this same issue as it arose in cases in Virginia and Pennsylvania.

A. West Virginia Case Law

Based on the critical nature of the natural gas industry in the state, and because no clear answer exists to this important question, it seems inevitable that this issue will be addressed by the Court. When the Court decides whether gas producers can drill horizontally under the rights bestowed by older leases, it will likely do so using the rules set forth by the following four cases.

1. West Virginia-Pittsburgh Coal Co. v. Strong

The West Virginia-Pittsburgh Coal Co. v. Strong case is one of the earliest instances where the Court examined a mineral producer’s ability to employ a new mineral extraction technique through rights given in an instrument executed prior to the invention of the technique. In Strong, the Court determined whether mineral owners could strip mine a tract of land under rights given by a deed executed before strip mining became a “common practice.” The ownership rights to the coal underneath a 127.74 acre tract were severed in a deed executed in 1904. In addition to this conveyance, the grantee was also given “the right and obligation to purchase the surface lying above the Pittsburgh No. 8 vein which the owner of the coal might occupy or use for its operations.” The severance deed specified the rights given to the grantee:

Together with the right to enter upon and under said land with employees, animals and machinery at convenient point and points, and to mine, dig, excavate and remove all said coal, and to remove and convey from, upon, under and through, said land all said coal and the coal from other land and lands and to make and maintain on said land all necessary and convenient structures, roads, ways, and tramways, railroads, switches, excavations, airshafts, drains and openings, for such mining,

56 42 S.E.2d 46 (W. Va. 1947).
57 Id. at 49.
58 Id. at 48.
59 Id.
removal and conveying of all coal aforesaid, with the exclusive use of all such rights of way and privileges aforesaid, including right to deposit mine refuse on said land and waiving all claims for injury or damage done by such mining and removal of coal aforesaid and use of such privileges.\textsuperscript{60}

The dispute arose when the defendants attempted to stop the plaintiffs from strip mining portions of this land. At the trial court level, the plaintiff coal company contended that “the mining rights expressly granted in the deed” permitted the holder of the right to “strip mine any part of the coal granted.”\textsuperscript{61} Additionally, the plaintiff alleged that it had the right to purchase 22.6 acres of the area above the Pittsburgh No. 8 vein for the sum of $226.00 and to strip mine the coal under that land as well.

On appeal, the Court examined the severance instrument in its entirety and found that in issuing the instrument, the parties intended to preserve “the surface of the entire tract, subject to the use of the owner of the coal ‘at convenient point or points’ in order ‘to mine, dig, excavate and remove all of said coal’ by the usual method at the time known and accepted as common practice in Brooke County.”\textsuperscript{62} The Court did not believe that strip mining was a method accepted as “common practice” at the time the instrument was executed.\textsuperscript{63}

The Court concluded that the rights for removal of the minerals were “such rights as are incident to the production of minerals by means of mines, that is by shafting or tunneling.”\textsuperscript{64} Because strip mining was not recognized by statute in West Virginia until 1939, strip mining could not have been within the “implied contemplation of the parties” for a severance deed executed in 1904.\textsuperscript{65} The Court made the “contemplation of the parties” requirement the standard, holding that “[j]n order for a usage or custom to affect the meaning of a contract in writing because within the contemplation of the parties thereto, it must be shown that the usage or custom was one generally followed at the time and place of the contract’s execution.”\textsuperscript{66}

This “contemplation of the parties” requirement has an obvious connection to horizontal drilling. In \textit{Strong}, the mining company wished to use the new technique of strip mining, a mining practice that had not been conceived at the time the instrument granting the mining rights was executed. The Court did not allow strip mining to take place because the parties to the

\textsuperscript{60} \textit{Id.}

\textsuperscript{61} \textit{Id. at 49.}

\textsuperscript{62} \textit{Id.}

\textsuperscript{63} \textit{Id.}

\textsuperscript{64} \textit{Id.}

\textsuperscript{65} \textit{Id.}

\textsuperscript{66} Syl. pt. 1, W. Va.-Pittsburgh Coal Co., 42 S.E.2d 46.
severance deed could not have contemplated the technique or the burdens imposed by it at the time of the deed’s execution. If the Court today were to apply this principle, and nothing more, to the question of whether horizontal drilling should be permitted under leases executed before the technique became commonplace, it would have no choice but to ban horizontal drilling under these circumstances. The Court revisited the issue in 1980 in another coal mining case.

2. **Buffalo Mining Co. v. Martin**

The Court addressed the contemplation of the parties issue once again in *Buffalo Mining Co. v. Martin.* The Martin family owned the surface rights to a tract of land and wished to prevent the Buffalo Mining Company ("Buffalo") from constructing an electric transmission line on the surface. Buffalo had acquired the rights to mine a large tract of coal—part of which was located under the Martins’ property—as successors in interest to a severance deed originally executed in 1890. The Martins’ primary argument was that the 1890 deed was "silent as to the right of the mineral grantees . . . to erect an electric power line, and that, from a technological standpoint, such use would not have been contemplated by the parties to the severance deed." The Martin case seems to deviate from the earlier *Strong* decision in that it brings a reasonableness requirement into the court’s analysis. Initially, the Court noted that the 1890 deed language was “rather comprehensive” regarding surface use and included “the right to ‘telephone and telegraph lines.’” The Court then stated the generally recognized principle that in situations where the minerals have been severed and the grantee is given rights to use the surface, “such surface use must be for purposes reasonably necessary to the extraction of the minerals.”

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68 Id. at 722.
69 Id.
70 Id. at 723. Under other circumstances, the Martin case could have been much more useful in answering the primary questions of this Note. In addition to the contemplation of the parties contention, the Martins also set forth two other arguments. First, the Martins claimed that the transmission line was being built to support a mine ventilation shaft that did not lie below the Martins’ land, and as such, the power line easement was not for “any mining purpose within their tract, and consequently not encompassed in the severance of the 1890 deed.” Id. at 722. Second, the Martins also contended that the power line constituted “an unreasonable use of the surface.” Id. Unfortunately, the court declined to address these contentions, simply because the Martins had not raised these factual issues at the trial court. Id. at 723.
71 Id.
72 Id.
The Martins relied on three past cases—most notably the *Strong* case—in which the Court had refused to allow strip or auger mining in its interpretation of the surface right language in severance deeds. The Court said that the decisions in those prior cases were based on two grounds: first, neither mining technique had been developed at the time of the severance deed and could not have been "within the contemplation of the parties"; second, and more importantly, both of those mining methods "virtually destroyed the surface for its normal use." The Court did not believe these cases were controlling because a dispute over a transmission line "involves no claim of any widespread destruction of the surface, but whether the utilization of the surface for an electric power line can be inferred as a reasonable use within the context of the severance deed language."

After conducting a search of legal precedent in other jurisdictions, the Court was only able to locate a few past cases that directly addressed the contemplation of the parties issue. In one instance, an Indiana appellate court inferred a right to an electric power line easement in a 1905 deed that gave broad surface mining easements but made no mention of electric power lines. The Indiana court noted that coal mining machines were not operated by electricity at the time the deed was granted, therefore there would have been no need to include or exclude language involving electrically powered machinery. The terms of that grant were "so broad and all inclusive" that it was clear to the court that "the grantors intended to give the grantees any and all rights reasonably necessary to the maintenance and operation of the said mine and, indeed, they included therein everything which at that time was known to be reasonably necessary."

Based on its examination of the scant authority from other jurisdictions, the Court stated that when the severance deed gives broad surface use rights to the grantee in conjunction with underground mining, and when these rights are combined with specific surface uses, "courts will be inclined to imply compatible surface uses that are necessary to the underground mining activity." In this instance, the Court noted that not only did the severance deed grant several express surface rights, including the right to the use of telephone

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74 *Id.*, 267 S.E.2d at 724.
75 *Id.*
76 *Id.*
77 *Id.* (citing Creasey v. Pyramid Coal Corp., 61 N.E.2d 477 (Ind. App. 1945)).
78 *Creasey*, 61 N.E.2d at 479–80.
79 *Id.*
80 *Martin*, 267 S.E.2d at 725.
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and telegraph lines, the deed also “sets forth the general grant of ‘all proper and reasonable rights and privileges for ventilating and draining the mines and wells.’” 81

The Court went on to hold that when implied rights are sought, “the test of what is reasonable and necessary becomes more exacting.” 82 For a claim of implied rights to be successful, the party must show “not only that the right is reasonably necessary for the extraction of the mineral, but also that the right can be exercised without any substantial burden to the surface.” 83 Notably, the Court made little to no mention of the actual contemplation of the parties rationale in articulating its holding. In reconciling the Strong case with the decision here, the Court believed that Strong was correctly decided “on the more fundamental principle that a right to surface use will not be implied where it is totally incompatible with the rights of the surface owner.” Footnote 3 of the case also sheds further light on the distinction:

In West Virginia-Pittsburgh Coal v. Strong . . . we indicated that from a technological standpoint the parties could not contemplate strip and auger mining, and therefore the technological advance would not be allowed. The fundamental basis for all of the decisions is whether the easement sought was substantially compatible with the surface rights granted to the mineral owner and whether it substantially burdens the surface owner’s estate. 84

Two of the five justices strongly dissented with the Martin majority, arguing that the majority had essentially turned its back on the contemplation of the parties rationale in favor of the Indiana rule. 85 Specifically, the dissent alleged that the holding displaces the intention of the parties as a controlling factor, and somehow finds that the West Virginia-Pittsburgh Coal decision was based on some subliminal, perhaps primordial, unspoken instinct of that court that it was balancing the burdens of the rights sought by the mineral owner with the use of the surface by the owner thereof. 86

81 Id.
82 Id.
83 Id.
84 Id. at 724 n.3.
85 Id. at 726.
86 Id. at 727 (Harshbarger, J., dissenting).
The dissent appears to be correct in that the Martin decision creates confusion for those attempting to predict how the court will determine the rights of mineral producers. Martin suggests that when a party wishes to assert an additional right under a severance instrument, i.e., constructing an electrical line when the deed only explicitly allows telephone and telegraph lines, the party must show that the right is “reasonably necessary for the extraction of the mineral” and that it does not “substantially burden” the surface. This language brings a reasonableness test to the forefront of the inquiry. At the same time, however, the Court refused to discount any portion of Strong, which held that the determining factor was the intentions of the parties at the time of the severance and left practically no room for a reasonableness test.

3. **Lowe v. Guyan Eagle Coals, Inc.**

In the same year that Martin was decided, the Court again took up the question of whether a mineral producer could assert rights that may have not been contemplated in the severance instrument. In Lowe v. Guyan Eagle Coals, Inc., the Court examined whether a past deed permitted a mineral rights holder to transport men and materials across a surface property in order to reach a strip mine located outside the property. The mineral severance occurred in a 1902 deed, where the grantor reserved mineral and mining rights through a reconveyance. Specifically, the deed gave the grantor and his successors “full rights of ways to, from and over said premises by the construction and use of roads . . . or otherwise, for the purpose of . . . shipping or transporting all of said minerals . . . whether contained on said premises or anywhere.” Plaintiff William Lowe, who owned the nineteen acres at issue here, was one of several heirs to the original grantee and property owner. Defendant Guyan Eagle was a successor to the reserved mineral rights.

At one point, the Amherst Coal Company held the mineral rights to Lowe’s land and mined for the minerals under the property. Later, Guyan Eagle acquired these mineral rights, and, separately, the right to strip mine the adjacent Buffalo Creek watershed. Although Guyan Eagle never mined for the coal under the Lowe property, the company did use the old Amherst right-

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87 273 S.E.2d 91 (W. Va. 1980).
88 Id. at 92.
89 Id.
90 Id. at 92–93.
91 Id. at 92.
92 Id.
93 Id.
94 Id.
of-way to haul materials and workers to and from the strip mine. The dispute arose when Lowe sued Guyan Eagle for trespass and unauthorized use of his property.

The Court distinguished this case from Martin by stating that no implied easements or reservations were involved here. Instead, the language "expressly reserve[d] the right to use the surface for transporting coal from other property," and as such, the facts here were more similar to those found in Strong. The Court stated that the Strong decision was "based on the compatibility of a mineral owner's uses of and burdens of a surface owner's estate, with the intention of the parties to the deed." These were questions of material fact and prevented the Court from allowing summary judgment in this case.

In stating the rule of law, the Court held that right-of-ways were not to be used in a manner that is "different from that established at the time of its creation so as to burden the servient estate to a greater extent than was contemplated at the time of the grant." The Court remanded the case to determine whether the "technology of hauling" is so dissimilar from anything generally considered in 1902 that the process creates an undue burden on the surface property that was not contemplated at the time of the execution. If a jury had found that hauling on the right-of-way was "within the contemplation of the parties as to potential burdens on the surface estate," the defendant coal company would have been entitled to continue the practice.

This case rearticulates the holding in Strong and shows that the primary difference between Strong and Martin is whether the rights being examined are express or implied. The rights in question here—the right to use the surface to transport coal from another property—were expressly reserved, therefore it must be shown that transporting the coal does not impose more of a burden than what was contemplated at the time of execution.

If the Court decides to adopt the ruling from Lowe in interpreting horizontal drilling rights, the Court would be forced to embark on an evidentiary analysis to determine whether horizontal drilling creates a burden
on the surface owner's estate that was beyond anything contemplated by the parties to the lease when it was executed. The analysis described in Lowe appears to coincide with the reasonableness inquiry discussed in Martin. Therefore, under this line of reasoning, if horizontal drilling creates such a significant burden on the surface estate that the parties to the severance instrument could not have foreseen the burden, horizontal drilling should not be permitted unless the mineral owner obtains additional permission from the surface owner.

The Court revisited the contemplation of the parties question more recently in 2003. This case, discussed below, presents more confusion because the ruling implies that the Court may be attempting to retreat from the reasonableness inquiry of Martin and Lowe and revert to the more stringent analysis described in Strong, which simply said that if the practice was not contemplated at the time of the severance, it should not be permitted.

4. Energy Development Corp. v. Moss

Energy Development Corp. v. Moss106 examines whether a mineral producer is permitted to extract a mineral that was not considered valuable at the time the mineral rights were granted. Moss involved a quarrel over the mineral resource known as coalbed methane ("CBM"), which, as its name implies, is methane that is found trapped within a coal seam.107 Long viewed as a dangerous byproduct of coal mining, in more recent years CBM has become a viable energy source,108 thus leading to disputes over ownership. The particular question addressed in Moss was whether a "standard oil and gas lease executed in 1986" permitted the lessee to drill in the lessor's coal seams to retrieve CBM.109

In the 1980s, the Hall Mining Company, along with members of the Moss family, owned two tracts of land in McDowell County and all of the minerals under the surface, "including the coal, oil, and gas."110 Representatives from Energy Development Corporation, Inc. ("EDC") contacted Hall Mining regarding a possible lease of the mineral rights, and two such leases for "all of the oil and gas" were executed in September 1986.111 The leases made no explicit mention of CBM.112

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107 Id. at 137.
108 Id. at 137–38.
109 Id. at 138.
110 Id. at 138–39.
111 Id. at 139.
112 Id.
For the next twelve years, EDC drilled more than a half-dozen conventional wells on the property but made no attempt to produce the CBM.\textsuperscript{113} A dispute over royalty payments arose in 1998, and during those proceedings EDC petitioned the circuit court to declare that it had the right to drill into the coal formations to produce CBM.\textsuperscript{114} This was the first instance in which either party had argued over ownership of CBM.\textsuperscript{115} While this action was pending, Hall and the other surface owners, who were the appellees here, entered into a separate agreement with another gas producer, GeoMet, Inc.\textsuperscript{116} This agreement granted GeoMet, who apparently had some prior experience with CBM development, the explicit right to develop CBM wells.\textsuperscript{117}

The trial court heard testimony from the parties in order to determine “the knowledge or understanding the parties had with respect to [CBM] at the time they entered into the leases.”\textsuperscript{118} The trial court stated that the lease contained a latent ambiguity regarding CBM ownership and therefore, because of this ambiguity, the court was entitled to consider extrinsic evidence, including common industry practices at the time of the lease’s execution.\textsuperscript{119} The trial court went on to hold that a general lease for “all oil and gas” executed before any commercial CBM drilling had begun in the state did “not unambiguously grant the lessee the right to drill the lessor’s coal seams to produce [CBM].”\textsuperscript{120} Furthermore, the trial court explicitly held that an oil and gas lease executed before commercial CBM drilling began in West Virginia did not give the oil and gas lessee the right to produce gas from coal seams retained by the lessor, absent language specifically providing for or clearly indicating the intention of the parties to allow for that right.\textsuperscript{121}

On appeal, EDC argued that the “all oil and gas” language from the 1986 leases granted it the right to develop CBM.\textsuperscript{122} The Court noted that although CBM was technically methane, the resource was “intimately bound to the coal,” and as such the case could not be resolved by a simple declaration that CBM is either coal or gas.\textsuperscript{123} To solve this dispute, the Court would have to

\textsuperscript{113} Id.
\textsuperscript{114} Id.
\textsuperscript{115} Id.
\textsuperscript{116} Id.
\textsuperscript{117} Id.
\textsuperscript{118} Id. at 140.
\textsuperscript{119} Id.
\textsuperscript{120} Id. at 141.
\textsuperscript{121} Id.
\textsuperscript{122} Id.
\textsuperscript{123} Id. at 143.
determine whether a gas lease that predated commercial CBM production in the state would permit the practice if the lease was silent on the topic.\textsuperscript{124}

Once the Court concluded the leases were ambiguous, it set out to determine the intent of the parties in making the lease.\textsuperscript{125} In addition to the “custom and usage of the gas industry at the time of execution,” the Court noted two other issues that helped to persuade the trial court that the appellees did not intend to convey rights to develop CBM:

First, if the leases included the right to develop [CBM], then they would also carry an implied right for [EDC] to invade the coal seams of the appellees and stimulate them in a fashion that could make it more difficult or dangerous to later produce the coal; second, that the production of [CBM] was not a common practice in McDowell County at the time the leases were executed.\textsuperscript{126}

The Court stated that the rule from Martin,\textsuperscript{127} that “the test of what is reasonable and necessary becomes more exacting” when the party is seeking an implied right to mine coal, was applicable even though gas rights were in question.\textsuperscript{128} The Court noted its unwillingness to construct ambiguous agreements in a way that would create “a large and possibly never-considered burden on one of the parties” and declared that “generally, a court will not find an implied right to conduct a given activity (not mentioned in the lease) unless that activity is clearly demonstrated to have been a common practice in the area, at the time of the lease’s execution.”\textsuperscript{129}

This principle is in line with the holdings from Strong\textsuperscript{130} and Lowe.\textsuperscript{131} In affirming the lower court’s decision to prevent EDC from producing CBM, the Court held that “in the absence of specific language to the contrary or other indicia of the parties’ intent, an oil and gas lease does not give the oil and gas lessee the right to drill into the lessor’s coal seams to produce [CBM].”\textsuperscript{132} The Court did, however, state that all that a conventional gas lessee would need to do in order to gain access to the CBM would be to “obtain the express right to

\begin{itemize}
\item \textsuperscript{124} \textit{Id.}
\item \textsuperscript{125} \textit{Id. at 144.}
\item \textsuperscript{126} \textit{Id.}
\item \textsuperscript{127} Buffalo Mining Co. v. Martin, 267 S.E.2d 721 (W. Va. 1980).
\item \textsuperscript{128} Moss, 591 S.E.2d at 145 (quoting Martin, 267 S.E.2d at 725).
\item \textsuperscript{129} \textit{Id.}
\item \textsuperscript{130} 42 S.E.2d 46 (W. Va. 1947). The Moss Court also cited Phillips v. Fox, 458 S.E.2d 327, 333 (W. Va. 1995), essentially reaffirming the Strong holding.
\item \textsuperscript{131} 273 S.E.2d 91 (W. Va. 1980).
\item \textsuperscript{132} Moss, 591 S.E.2d at 146.
\end{itemize}
produce coalbed methane from the lessor, or other party deemed to have ownership of the coalbed methane."\textsuperscript{133}

Moss again provides observers with confusion because it appears as though the Court may be moving back toward the more stringent "contemplation of the parties" standard. If that is the case, any mineral extraction technique that had not been contemplated by the parties at the time of the lease would not be permissible. This would include horizontal drilling in cases where the severance deed or mineral lease was executed before the technique became commonplace. However, a closer reading of the language in Moss indicates that the Court may not have been discounting the reasonableness analysis in its entirety.

The Court noted that it based its decision only on the factual scenario in that given case.\textsuperscript{134} In its analysis, the Court cited testimony from the parties that showed that as EDC drilled its conventional gas wells, it failed to perform tests on the coal strata to evaluate the possibility for future CBM production.\textsuperscript{135} EDC sealed off these wells with concrete casing that prevented any future tests from being performed.\textsuperscript{136} This evidence, along with the fact that EDC had not attempted to produce any CBM in the sixteen years between the lease execution and the date of trial,\textsuperscript{137} demonstrated that EDC had no intention of producing CBM at the time the lease was executed. Also, the Court pointed out that allowing EDC to produce CBM would have required allowing EDC to penetrate the appellee’s coal seams based on an implied right.\textsuperscript{138}

Based on this analysis, it appears that Moss may not actually be proposing that any mining practice that was not within the contemplation of the parties at the time of the agreement should be forbidden. This leaves the reasonableness test discussed in Martin and articulated in Lowe intact: whether the new mining practice places so great a burden on the surface property that it was not contemplated when the minerals were severed from the surface. Therefore, if this legal precedent is applied to the practice of horizontal drilling, the Court should determine whether horizontal drilling creates a burden on the surface that is so great that it could not have been contemplated when the severance instrument was executed. If the answer to that question is "no," horizontal drilling should be permitted under instruments that were executed before the practice was invented.

\textsuperscript{133} Id. at 153.
\textsuperscript{134} Id. at 146.
\textsuperscript{135} Id. at 146.
\textsuperscript{136} Id. at 140.
\textsuperscript{137} Id.
\textsuperscript{138} Id. at 146.
B. Cases from Other Jurisdictions

The Court may wish to examine legal precedent from foreign jurisdictions before deciding whether leases that predate horizontal drilling allow producers to engage in the practice. The highest courts in other states have heard similar cases involving mineral extraction that incorporate the contemplation of the parties argument.

A Pennsylvania case, *U.S. Steel Corp. v. Hoge,*139 is similar to *Moss*140 in that it addressed the “contemplation of the parties” argument in the context of CBM extraction. In *Hoge,* a dispute arose between the surface owners of a tract of land and the owner of the coal, the United States Steel Corporation (“U.S. Steel”), who had obtained rights to the coal from a severance deed executed in 1920.141 The severance deed language conveyed “[a]ll the coal of the Pittsburgh or River Vein underlying all that certain tract of land.”142 The surface owner, however, “reserve[d] the right to drill and operate through said coal for oil and gas without being held liable for any damages.”143 In the 1970s, the appellee (the “gas lessee”) acquired these gas rights from the surface owner.144 When the gas lessee began drilling wells to extract CBM, U.S. Steel filed an action to stop the gas lessee from drilling through U.S. Steel’s coal seam.145 This was the first time the Pennsylvania court reviewed issues of CBM ownership and development rights.146

On appeal, the Supreme Court of Pennsylvania noted that as early as 1900, wells capable of producing CBM in paying quantities were drilled into the same vein of coal; however, the court further stated that “commercial exploitation ... remained very limited and sporadic until recently.”147 After an initial analysis of the properties of CBM, the court held that, generally speaking, CBM belongs to the owner of the coal in which the gas lies.148 The court found that the coal owner, as owner of the gas, “may allow others certain rights respecting the gas.”149 The court examined the severance deed, which

139 468 A.2d 1380 (Pa. 1983).
140 See supra Part III.A.4.
141 *Hoge,* 468 A.2d at 1382–83.
142 *Id.* at 1382.
143 *Id.*
144 *Id.*
145 *Id.*
146 *Id.*
147 *Id.* at 1383.
148 *Id.*
149 *Id.* at 1384.
reserved these rights for the grantor, to determine the intent of the parties while considering "conditions existing at the time of its execution."\textsuperscript{150}

The court found that "[a]lthough the unrestricted term 'gas' was used in the reservation clause," the common practice at the time of the severance deed was to vent CBM as a waste product.\textsuperscript{151} Under those circumstances, the court found it "inconceivable that the parties intended a reservation of all types of gas."\textsuperscript{152} The court believed that the "gas" that was reserved by the deed reservation was "the gas . . . which was generally known to be commercially exploitable," namely natural gas.\textsuperscript{153} In so holding, the court essentially found that the parties to the severance deed had not contemplated the practice of drilling for CBM because it was not common to the industry at the time of execution.\textsuperscript{154} Therefore, the court would not extend the severance deed to include rights to drill for CBM more than sixty years later. This principle can certainly be carried over into the context of horizontal drilling, as discussed in Moss.

The Virginia case of \textit{Phipps v. Leftwich}\textsuperscript{155} is akin to the \textit{Strong}\textsuperscript{156} decision from West Virginia. In \textit{Phipps}, the Supreme Court of Virginia oversaw a dispute between surface owners and mineral owners over the right to strip mine a property. The appellants, who acquired title to the minerals and mineral rights from a 1902 deed,\textsuperscript{157} argued that the language of the deed conveyed the right to strip mine.\textsuperscript{158} Specifically, the appellants relied on "the grantee's right under the deed to enter upon the land 'and use and operate the same and the surface thereof free from further costs or damages in all or any manner' deemed 'necessary or convenient.'"\textsuperscript{159} The court stated that deeds such as this must be construed to find the intent of the parties at the time the deed was executed.\textsuperscript{160}

There was no dispute that when the deed was executed in 1902, strip mining was not a common practice in that county and that the only kind of mining within the "contemplation of the parties" at that time was underground

\begin{itemize}
\item \textsuperscript{150} \textit{Id.}
\item \textsuperscript{151} \textit{Id.}
\item \textsuperscript{152} \textit{Id.} at 1384–85.
\item \textsuperscript{153} \textit{Id.}
\item \textsuperscript{154} \textit{See id.} at 1384–85.
\item \textsuperscript{155} \textit{Id.} at 353.
\item \textsuperscript{156} \textit{Id.} at 353.
\item \textsuperscript{157} \textit{Phipps}, 222 S.E.2d at 538.
\item \textsuperscript{158} \textit{Id.} at 358.
\item \textsuperscript{159} \textit{Id.}
\item \textsuperscript{160} \textit{Id.}
\end{itemize}
mining.\textsuperscript{161} Thus, the court found that "the broad language of the deed [was to apply] only to underground mining."\textsuperscript{162} The court declined to extend the rights granted in the deed to include strip mining, but did make this additional point:

Appellants may, of course, take advantage of developments in the operation of underground mines which modern technology may make available. Improvements in mining machinery, power, lighting, ventilation, transportation, and safety facilities may be utilized. A change, however, from underground mining, which leaves the surface substantially usable by the owner of the freehold, to surface mining, which destroys what was reserved by the grantor, is not permissible.\textsuperscript{163}

The \textit{Phipps} decision goes a step further than the \textit{Strong} holding in that it explicitly states that mineral rights holders may employ technologies and techniques that had not been invented at the time the instrument granting the mineral rights was executed. However, the \textit{Phipps} court still stands for the proposition that if the new practice "destroys what was reserved by the grantor," the mineral estate should not be extended to allow the new practice absent express permission.\textsuperscript{164} In the context of horizontal drilling, the question comes down to whether horizontal drilling, as opposed to vertical drilling, destroys the surface and prevents the surface owner from enjoying his land.

C. \hspace{1em} \textit{Summary: The Issue Remains Unclear}

To date, the question of whether leases predating the common use of horizontal drilling allow natural gas producers to drill horizontal wells has not been litigated in front of the West Virginia Supreme Court of Appeals. Lawyers may be weary to dispute the issue with such uncertainty surrounding the Court’s position, given the state of the common law.

The West Virginia cases examined by this Note provide some help in attempting to predict which way the Court will rule on the issue. If the Court were to apply the holding from \textit{Moss} alone, it would most likely find that horizontal drilling should not be allowed under leases executed prior to the common use of horizontal drilling because the practice was not within the contemplation of the parties when the lease was executed. The \textit{Martin} and \textit{Lowe} cases, however, appear to provide a reasonableness consideration that would allow producers to use horizontal drilling as long as the drilling does not burden or damage the land to an extent that was not foreseen at the time of execution. Finally, the \textit{Moss} decision creates even more confusion because it

\textsuperscript{161} \textit{Id.} at 540.
\textsuperscript{162} \textit{Id.}
\textsuperscript{163} \textit{Id.} at 541.
\textsuperscript{164} \textit{Id.}
may stand for the proposition that the Court is returning to the strict "contemplation of the parties" position first articulated in *Strong*.

The cases examined from outside West Virginia, while potentially useful in providing some direction to the Court, also do little to provide a clear answer. The *Hoge* case from Pennsylvania essentially holds that leases executed prior to the common production of CBM will not allow producers to use the lease to assert CBM rights in the future.\(^{165}\) The *Phipps* case from Virginia holds that leases executed prior to the advent of strip mining will not permit strip mining to occur when the lease only granted underground mining rights.\(^{166}\) However, *Phipps* also states that mining companies may take advantage of technologies that were not in existence at the time the lease was executed.\(^{167}\)

None of these cases provide a rule that can be directly analogized to horizontal drilling for natural gas. For example, while the *Moss* case holds that strip mining is not permitted under leases that were executed before the invention of this technique,\(^{168}\) the practice of strip mining completely destroys the surface of the land and prevents the surface owner from having virtually any use of the land whatsoever. On the other hand, while horizontal drilling may inflict more of a burden on the surface of the land than traditional vertical drilling, it cannot be reasonably argued that horizontal drilling damages the land to the same extent as strip mining.

Furthermore, the only West Virginia case examined by this Note to discuss natural gas at all was *Moss*, and the natural gas discussed in that case—CBM—was tied inextricably to the coal underground.\(^{169}\) In short, any analogy of the rules provided by these cases would involve analogizing rules developed for the coal mining industry and interpreting them in the context of the natural gas industry.

Unfortunately, these cases are the best legal precedent available for trying to predict how the Court will answer the question of whether horizontal drilling should be permitted under leases executed before the common use of horizontal drilling. And, as described throughout this Note, the cases do not provide enough clear answers for one to reliably predict how the Court will rule on the issue. At this time, the state of the law is simply too uncertain to give a strong opinion on which direction the Court will go.

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\(^{166}\) See Phipps v. Leftwich, 222 S.E.2d 536, 542 (Va. 1976).

\(^{167}\) See id. at 541.

\(^{168}\) See supra Part III.A.4.

\(^{169}\) See supra Part III.A.4.
D. The Court Should Hold That Horizontal Drilling Is Permissible Under Leases That Predate the Common Use of Horizontal Drilling

Although the law is too unclear to make a reliable prediction as to how the Court will rule, the Court should follow the holding in Martin and the language from the holding in Lowe and, in cases where the instrument granted “a right to drill” for natural gas, conduct an evidentiary analysis to determine whether horizontal drilling would create so great a burden on the surface owner so as to not have been contemplated by the parties who executed the instrument.

An analysis of this sort would consist of comparing the various burdens placed on the surface owner caused by both horizontal drilling and vertical drilling. Some of these burdens include, but are not limited to, the amount of time and surface property that is required to drill and maintain the wells.170

The practice of strip mining, which was discussed extensively in Strong, can be looked to as an example. That technological advancement completely destroyed the surface of the land and virtually destroyed the right to surface enjoyment for the surface owner.171 When compared to vertical drilling, horizontal drilling does not create as great of a burden on the surface as does strip mining when compared to traditional shaft mining.

When cumulative surface use is taken into account, horizontal drilling may actually reduce the burden on the land.172 Historically, a natural gas producer would drill numerous wells on a given tract of land to reach most or all of the available gas. Horizontal drilling, which allows a producer to reach considerably more natural gas from a single well, can substantially reduce the overall number of wells needed.173 Furthermore, this effect is compounded when the producer is able to drill multiple horizontal wells from the same well pad.174 While a horizontal well may take up more surface area than a single vertical well, the horizontal well, with its ability to extract more natural gas, can reduce the total number of wells needed and ultimately lower the burden on the surface.175

Although the financial costs associated with the construction and operation of a horizontal well may be considerably higher,176 this burden is borne by the producer, not the owner of the surface. Horizontal wells may also

170 See supra Part II.C.
171 See supra Part III.A.1.
172 See supra Part II.C.
173 See supra Part II.C.
174 See supra Part II.C.
175 See supra Part II.C.
176 See supra Part II.C.
require much more water to operate than vertical wells. However, this water could be transported in from an off-site location and would not necessarily create an additional burden on the land.

Furthermore, as a practical matter, it seems unreasonable to prevent mineral producers from taking advantage of any technological advancement that may come about in the industry. The Virginia court in Phipps held just that when it stated that producers could “of course, take advantage of developments in the operation of underground mines which modern technology may make available.” The Phipps court explicitly stated that mining companies could take advantage of advancements “in mining machinery, power, lighting, ventilation, transportation, and safety facilities.” The Martin case seemed to agree with this reasoning by allowing a mining company to build electrical lines for ventilation purposes when the original deed allowed for the right to build “telephone and telegraph lines.” It does not seem unreasonable to extend this line of thinking to the case at hand and allow horizontal wells to be drilled in situations where the instrument granted the mineral producer the right to drill vertical wells.

The Court will need to balance the factors discussed above with some of the burdens imposed on the surface by horizontal drilling through the course of its evidentiary analysis. Horizontal wells take considerably longer to drill than vertical wells. Also, the increased size and scope of the well usually requires that more shipments of men and materials be made to and from the well site. Even when these factors are taken into account, however, the burdens on the land do not seem to outweigh the potential advantages of horizontal drilling, most notably the fact that the cumulative surface used for drilling can be greatly reduced by consolidating numerous wells into a single location.

Considering all of the factors involved with drilling and operating horizontal wells as compared to vertical wells, one can reasonably conclude that horizontal wells do not impose a burden on the land that is so great that it was not contemplated by the parties at the time of the execution of the mineral lease. Therefore, the Court should conclude that horizontal wells should be permitted under leases that were executed prior to the common use of horizontal drilling.

177 See supra Part II.C.
178 Phipps v. Leftwich, 222 S.E.2d 536, 541 (Va. 1976); see also discussion supra Part III.B.
179 Phipps, 222 S.E.2d at 541.
180 See supra Part III.A.2.
181 See supra note 46 and accompanying text.
182 See supra note 50 and accompanying text.
183 See supra Part II.C.
IV. CAN A MINERAL OWNER USE THE SURFACE ABOVE HIS TRACT TO DRILL A HORIZONTAL WELL THAT CROSSES FROM THE FIRST MINERAL TRACT INTO A NEIGHBORING MINERAL TRACT?

The Court has not yet answered the question of whether a mineral owner may use the surface above a mineral tract to drill a horizontal well that crosses into an adjoining mineral tract owned by the mineral holder. A dispute on this issue could potentially arise if the owner of the surface on which the mineral holder wishes to drill attempts to block the horizontal well from being built.

For instance, a gas producer may wish to drill numerous horizontal wells from the same well pad in order to drain a much larger area than could be reached using a single, or even several, conventional vertical wells. As an initial matter, the mineral owner would need to hold the rights to produce gas from all mineral tracts that would be drained because a failure to hold this right would clearly result in a subsurface trespass. However, the surface owner may not approve of this production approach because the process for drilling and maintaining the horizontal wells may create a substantially larger burden on the surface than the process for drilling vertical wells. Regarding a mineral producer’s use of surface land in this way, the American Law Reports noted that there would be an additional burden on the surface owner:

From the surface owner’s viewpoint, . . . use of the facilities on his land for mining any but the immediately subjacent minerals places an additional onus on his already burdened estate, not infrequently culminating in impeded exploitation of his own minerals, diminished royalty income, postponed reversionary interests, and actual physical damage to the land by reason of the expanded operations.\(^{184}\)

If all gas production takes place on the mineral tract that is subjacent to the well pad, the surface owner may not have much say in the matter because the horizontal wells drilled in the same location would likely be considered less of a burden on the land than numerous vertical wells scattered about over a larger area.\(^{185}\) However, if the gas producer plans for one or more of these horizontal wells to cross from the subjacent mineral tract into a neighboring mineral tract, the surface owner may be able to rightfully object.

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\(^{184}\) W.C. Crais III, Annotation, Right of Owner of Title to or Interest in Minerals Under One Tract to Use Surface, or Underground Passages, in Connection with Mining Other Tract, 83 A.L.R.2d 665, 668 (1962).

\(^{185}\) See supra Part III.D.
This section examines several sources to determine how the Court should rule on this issue. Part A explores West Virginia case law to look at how the Court has handled similar issues. Part B examines the law in other jurisdictions pertaining to this question. Finally, Part C investigates treatise authorities to understand how experts in the mineral resources field believe this question should be answered.

The mineral owner should not be permitted to use the surface that lies above his mineral tract to drill a horizontal well that crosses from the subjacent mineral tract into a neighboring mineral tract. While a surface owner has no choice but to allow a mineral owner to do what is necessary to reach the minerals directly below his surface, the mineral owner should not be forced, without his consent or any additional compensation, to allow the surface owner to use his land in order to reach minerals that are not directly below his surface. Considering the substantially increased cost, time, manpower, and surface area required to drill a horizontal well, the surface owner should be able to prevent a natural gas producer from using his land to drill a horizontal well that is meant to retrieve gas at another location.

A. Current State of West Virginia Law

Generally speaking, West Virginia case law appears to provide little guidance on the question of whether a mineral owner can use the surface above his tract to drill a horizontal well that begins in the subjacent tract and crosses into a neighboring mineral tract. That being said, this Section examines two cases that may help to shed some light on the issue.

In *Fisher v. West Virginia Coal & Transport Co.*,\(^{186}\) the plaintiffs filed suit to stop the corporate defendant from using the surface of a tract of land and to "restrain such defendant from transporting coal mined from adjacent tracts through subterranean passageways in such tract of land."\(^{187}\) The plaintiffs were owners of the tract of land but did not own the rights to the coal under the surface.\(^{188}\) The defendant had acquired the leases for two tracts of land: a sixteen acre tract and a one acre tract.\(^{189}\) The lease provided that the defendant could mine and remove the coal underlying the two tracts of land, and other lands not involved in this suit, granted necessary mining rights and privileges, with the right to transport coal

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186 73 S.E.2d 633 (W. Va. 1952).
187 *Id.* at 634.
188 *Id.*
189 *Id.* at 636. The surface of the one acre tract had originally been conveyed to serve as a coal yard for the grantee. *Id.* at 635.
mined from adjacent tracts of land through openings made in the coal underlying the land described in the lease.\textsuperscript{190}

The parties both admitted that the defendant had been mining coal from lands adjacent to the sixteen acre tract and that the coal from neighboring land was being transported through the subterranean passageways beneath the sixteen acre tract.\textsuperscript{191} Furthermore, both parties admitted that the installations and structures that had been constructed on the one acre tract were being used to process and transport this coal.\textsuperscript{192} The Court articulated two important questions:

(1) Does the corporate defendant have the right to use the surface of the [one] acre tract of land for the purpose of transporting and processing coal mined from adjacent lands?
(2) Does the corporate defendant have the right to use the subterranean passageways underlying the [sixteen] acre tract for transportation of coal mined from adjoining lands?\textsuperscript{193}

With regard to the second question, the Court held that as long as “the coal under the 16 [sic] acre tract is neither exhausted nor abandoned, and mining is being prosecuted with due diligence,” the defendant, acting as lessee from the owner of the coal “may use the subterranean passageways for the transportation of coal mined from adjacent lands to an opening on lands owned by its lessor.”\textsuperscript{194} In the context of horizontal drilling, this holding could be important for the practice of moving gas retrieved from adjacent mineral tracts through the horizontal well passage. It seems that that holding would allow the natural gas producer to transport gas taken from adjacent mineral tracts through the subjacent mineral tract, as long as the subjacent mineral tract itself has not been “exhausted or abandoned.” The holding, however, says nothing concerning the way in which the mineral owner can use surface for this sort of gas transport; it only mentions that the gas may be brought to an opening on the lessor’s lands.\textsuperscript{195}

The first question, in which the Court discussed whether the defendant could use the surface of the one acre tract for the purpose of transporting and processing coal mined from adjacent lands, is more relevant to the question posed by this Note. In addressing this issue, the Court held that “[i]n the absence of a right arising out of contract, the corporate defendant has no right to use the surface of the [one] acre tract of land for transporting and processing

\textsuperscript{190} Id. at 636.
\textsuperscript{191} Id. at 637.
\textsuperscript{192} Id.
\textsuperscript{193} Id. at 637–38.
\textsuperscript{194} Id. at 639.
\textsuperscript{195} Id.
coal admittedly mined from lands adjoining the [sixteen] acre tract.\textsuperscript{196} In this case, the defendants did in fact have a right to use the land in this manner based on a contract (a lease) between the defendant and the owner of the one acre tract, who was not a plaintiff here. Therefore, the plaintiffs had no way to stop the surface use on these grounds.

Although the \textit{Fisher} decision involved coal mining rights, the holdings could be applied in the context of the natural gas industry. Considering the additional burdens that horizontal wells may place on a surface tract when compared to traditional vertical wells,\textsuperscript{197} it would not seem unreasonable for the Court to extend the analysis in this way. If the rule established here were interpreted in the context of horizontal drilling, the \textit{Fisher} decision would hold that a gas producer would have no right to use the surface to produce gas that had been drilled for and retrieved on a mineral tract that lies outside of the subjacent mineral tract.

The case of \textit{Cole v. Ross Coal Co.}\textsuperscript{198} may also provide some guidance to the Court. The controversy in \textit{Ross} involved an action for declaratory judgment in which the plaintiff requested the Court to determine the rights of both the plaintiffs and defendants regarding a piece of real estate that was the subject of a deed.\textsuperscript{199} Prior to the execution of the deed in question, the defendant had owned all the coal underlying a 217.5 acre tract while the West Virginia Coal & Coke Corporation ("WV Coal") owned the surface of the tract and leased the coal from the defendant.\textsuperscript{200} In 1939, WV Coal operated the Island Creek seam and removed the coal through a tipple on an eighteen-acre section of the tract.\textsuperscript{201} In 1954, WV Coal stopped its operations on the tract and conveyed to the plaintiffs "all the unmined coal in the Island Creek and overlying seams" inside the 217.5 acre tract.\textsuperscript{202} This deed also conveyed "the right to use the 18-acre tipple site . . . for the purpose of mining coal from the Island Creek and overlying seams in the 217[.5]-acre tract and any and all coal from adjoining tracts."\textsuperscript{203} The defendant argued that the rights granted to the plaintiffs by this deed were "inferior to the rights of the defendant with respect

\textsuperscript{196} \textit{Id.} at 638.
\textsuperscript{197} \textit{See supra} Part II.C.
\textsuperscript{199} \textit{Id.} at 809.
\textsuperscript{200} \textit{Id.} at 810. West Virginia Coal & Coke Corp. was the predecessor in title to the plaintiff. \textit{Id.}
\textsuperscript{201} \textit{Id.} This eighteen-acre location was the only portion of the surface on which a tipple and other mining facilities could feasibly be built. \textit{Id.}
\textsuperscript{202} \textit{Id.}
\textsuperscript{203} \textit{Id.} The Island Creek seam was one of several coal seams below the tract of land at issue here. \textit{Id.} The seams occurred at various depths, and Island Creek was one of the middle seams. \textit{Id.}
Furthermore, the defendant asserted that when read as a whole, the deed expressed a "clear intent that defendant has the right not only to mine the underlying seams of coal from under the 217[.5]-acre tract, but also to bring coal from the same vein from other adjacent tracts and then take it up through the surface." On appeal, the Court found that even though the defendant may have had the implied right to use the surface above its coal in a manner that was reasonably necessary to mine the coal, it did not necessarily have the right to mine coal from adjoining tracts. It was true that "[d]efendant ha[d] an implied right, by reason of necessity, to mine its own coal under a given tract . . ." However, the Court found that "with respect to coal from other tracts, there is no such necessity, and therefore no implied right." The Court noted that it was true that the 1939 deed gave the defendant "the right to transport, free of toll or wheelage, coal from other tracts through the underlying seams of the 217[.5]-acre tract." But that grant did not involve rights to surface use and therefore could not be read to "extend defendant’s right to use the surface." The Court also held that there was no merit to the defendant’s argument that the deed granted the defendant the right to use the surface for coal mined from adjacent lands because the owner of a coal seam holds the right to use the passageways to move coal mined from another location.

Ultimately, Ross appears to stand for the proposition that a mineral producer may not use the surface directly above his mineral tract to produce minerals that were taken from a tract that does not lie directly below this surface. In the context of the natural gas industry, this holding could be interpreted to read that a gas producer may not construct a horizontal well on the surface if that well is to be used to extract natural gas from a tract that is not subjacent to the surface.

204 Id.
205 Id. at 811 (emphasis added).
206 Id. at 817.
207 Id.
208 Id.
209 Id.
210 Id.
B. Cases from Other Jurisdictions

The Court may wish to examine case law from out-of-state jurisdictions to determine whether a mineral owner can use the surface above his tract to drill a horizontal well that crosses from the first mineral tract into a neighboring mineral tract. The American Law Reports has proclaimed that "[i]t may be stated as a rather strict general rule that in the absence of contractual permission, the holder of the minerals underlying a tract of land will not be permitted to use the surface thereof in aid of mining operations on adjacent, adjoining, or other tracts of land." 211 Unfortunately, even outside of West Virginia, there does not appear to be a wealth of authority that specifically discusses horizontal drilling that begins on one mineral tract and ends on a neighboring mineral tract.

In Russell v. Texas Co., 212 the plaintiff sought relief against the defendant, the Texas Company, for use of the surface in question—known as section twenty-three—"in connection with its operation on section [twenty-three] and on adjacent lands." 213 The Texas Company had conducted extensive operations on section twenty-three beginning in 1952 in reliance on an oil and gas lease. 214 In addition to these operations, the defendant had also used the surface "in connection with operations carried on by it on lands other than section [twenty-three]." 215 The plaintiff sought to recover damages for the "reasonable value of the use of the surface of section [twenty-three] including the use of water, rock and roads thereon in connection with operations on adjacent lands" before a revocable license was accepted by the Texas Company in October 1952 that permitted such use of the land. 216 Additionally, the plaintiff also requested damages for obligations the Texas Company incurred based on that revocable license, which said that the Texas Company was to pay the plaintiff "$150.00 a day for the continued use of section [twenty-three] in connection with its operations on adjacent lands, a use admittedly in excess of the easement flowing from the mineral reservation in the original deed." 217

The plaintiff's offer of the license to the Texas Company stated clearly and unambiguously that "continued use of section [twenty-three] in connection with activities and operations on other lands would constitute an acceptance of the offer of the license." 218 Because the Texas Company continued to use

211 Crais, supra note 184, at 670.
212 238 F.2d 636 (9th Cir. 1956).
213 Id. at 638.
214 Id.
215 Id.
216 Id. at 641.
217 Id.
218 Id. at 642.
section twenty-three in this manner, the trial court found that its actions had come within the acceptance terms. In stating the rule of law, the Ninth Circuit held that there was "a well established principle of property law that the right to use the surface of land as an incident of the ownership of mineral rights in the land, does not carry with it the right to use the surface in aid of mining or drilling operations on other lands." The court found that this use of the land was tortious, and, furthermore, the plaintiff offeror was reasonably able to believe that the act of the defendant offeree was an acceptance based on the facts of the case.

In Moore v. Lackey Mining Co., the Kentucky Court of Appeals took on the issue of whether a mineral lease granted a lessee the express or implied right to use the surface of the land in connection with coal being mined on other tracts. The pertinent language of the lease ("Hays lease") granted "all the necessary rights and privileges to the successful mining of this coal." In addition to its mining operations on the tract covered by this lease, the appellee also owned a coal lease on an adjoining tract of land, where it conducted mining operations both above and below the surface. At some point, the two underground mines were merged, at which time the appellee ceased use of the opening and tipple on the surface of the adjoining tract and began to bring all the coal from both tracts to the surface using the land covered by the Hays lease. Furthermore, all of the coal was to be loaded for market using the structures located on the Hays lease. The appellants brought suit to stop this practice, alleging that the lease did not give the appellee the right to use the surface in such a way.

In analyzing the rulings of the high courts of several other states, the Moore court noted that numerous other cases established the doctrine that an owner in fee or lessee of coal "has the right... to use the underground passages or gangways made by removing the coal from the chamber containing

219 Id.
220 Id. (emphasis added).
221 Id. at 642–43.
222 284 S.W. 415 (Ky. 1926).
223 Id. at 416 (emphasis added).
224 Id.
225 Id.
226 Id.
227 Id.
it for transporting coal from other lands owned by or under lease to him."229
The court made it very clear, however, that those cases dealt exclusively with the rights to use underground passages.230 The Moore court pointed out that

[N]one of [those holdings], save in cases where the lease or the instrument granting the fee in the coal authorized it, established the principle that the coal from adjacent lands might be brought to the surface through the pits, shafts, or entries from the surface of a given lease and its surface be used as the dumping ground of the refuse therefrom, and the structures on its surface be used in mining or loading or marketing such coal.231

The court held that the right for an owner or lessee of coal underlying a tract to "use the pits or shafts or openings to the surface and the surface in cleaning, screening, loading, and marketing coal from adjacent lands . . . must be contracted for and granted by the deed, lease, or reservation."232 Furthermore, the express language of the lease which referred to "this coal" made it clear that the lease gave the appellee only the right to use the surface for mining activities related to the coal directly beneath the surface.233

While the majority of cases on this subject appear to involve coal mining, another Ninth Circuit opinion deals with the oil and gas industry. In Franz Corp. v. Fifer,234 the plaintiff Fifer sought to recover for damages on his ranch property caused by the corporate defendant.235 The plaintiff had leased the property to the defendant "for the sole and only purpose of mining and operating for oil and gas, the laying of pipe lines and building of tanks, power stations, and structures thereon, to produce, save, and take care of said products."236 Additionally, the lease held the lessee responsible for any damages to the property, including damages done to the plaintiff's crops or fences.237

The plaintiff alleged that the defendant, among other things, "built tanks and pumping stations for the purpose of caring for and handling production of oil produced upon lands other than those belonging to plaintiff, and built a pumping station upon the lands of plaintiff, to supply water for its

229 Moore, 284 S.W. at 417.
230 Id.
231 Id.
232 Id.
233 Id. at 418.
234 295 F. 106 (9th Cir. 1924).
235 Id. at 106.
236 Id.
237 Id.
own operations in another field.\textsuperscript{238} Furthermore, the plaintiff asserted that the defendant had “carried on extensive oil operations on lands adjacent to and in the vicinity of the lands belonging to plaintiff, and made use of the right of entry upon plaintiff’s lands in carrying on such operations.”\textsuperscript{239} These actions by the defendant allegedly caused the plaintiff’s fences and crops on the property to be damaged.\textsuperscript{240}

The lower court held that the defendant would not be responsible for damages to the ranch property, including the erection of buildings, pumps, and pipe lines, which were “reasonably necessary for the purposes of taking oil out of the leased land.”\textsuperscript{241} However, the trial court also instructed the jury that the “defendant would not be justified in making the land leased the basis of operations on surrounding lands that the defendant was engaged in taking oil from.”\textsuperscript{242} Furthermore, if the defendant did in fact use the land in such a way, “and by reason of that fact did greater injury than was the natural consequence of operations upon the leased land, then for such excess injury defendant would be liable to the plaintiff.”\textsuperscript{243} In affirming the damages award for the plaintiff, the court held that it was correct to allow the jury to determine whether the Fifer lands were being used as a base of operations for mining on other fields not belonging to Fifer, and that the evidence tended to coincide with the jury’s findings.\textsuperscript{244}

The foregoing cases all stand for the proposition that a mineral owner may only use the surface above his mineral tract to extract minerals that lie within the subjacent mineral tract. If the owner wishes to use the surface to extract minerals from adjacent lands, the mineral owner needs to obtain express permission from the owner of the surface land. Therefore, the rules established by these cases, if applied to horizontal drilling, would lead to the conclusion that a natural gas producer cannot drill a horizontal well that crosses from the subjacent mineral tract into an adjoining mineral tract without express permission from the owner of the surface on which the well is to be drilled.

\textsuperscript{238} \textit{id.} at 107.
\textsuperscript{239} \textit{id.}.
\textsuperscript{240} \textit{id.}.
\textsuperscript{241} \textit{id.}.
\textsuperscript{242} \textit{id.}.
\textsuperscript{243} \textit{id.}.
\textsuperscript{244} \textit{id.} at 108.
C. Treatise Authority

An examination of relevant treatises on oil and gas law could be of some benefit for the Court in deciding whether a gas producer may drill a horizontal well from one mineral tract into a neighboring mineral tract. In Oil and Gas Law, one of the most thorough general treatises in the field of mineral rights, the scholars take up the question of whether the surface of a tract of land may be used in connection with operations on other premises. 245 Section 218.4 of the treatise states the following:

The usual express easements and implied surface easements of a mineral owner or lessee are limited to such surface user (sic) as is reasonably necessary for exploration, development and production on the premises described in the deed or lease. Of course the instrument may expressly grant easements in connection with operations on other premises; such an express provision is common in joint or community leases or instruments which authorize pooling and unitization. Absent such express provision, clearly the use of the surface by a mineral owner or lessee in connection with operations on other premises constitutes an excessive use of his surface easements. 246

The language above illustrates that the authors take the position that when a mineral holder does not have the express permission to use the surface for mining operations on adjacent lands, using the surface in such a way is wrongful. The treatise goes on to discuss the issue in terms of directional well drilling:

Directional drilling techniques have so far advanced since the second quarter of the century that by whipstocking wells and directional surveying it is often possible to bottom wells at predetermined locations. When for one reason or another, the surface of a given tract (Blackacre) may not be utilized for a well location, e.g., because the surface is a public way or railroad right of way or the mineral deed or lease severing exploration and development rights expressly denies the mineral owner or lessee any surface easements, frequently it is possible to locate a well on other nearby premises (Whiteacre) and by directional drilling bottom the well under Blackacre. Under these circumstances may the owner of the surface rights in Whiteacre bar the use of the surface for a well location even

245 1 Howard R. Williams & Charles J. Meyers, Oil and Gas Law § 218.4 (Patrick H. Martin & Bruce M. Kramer eds., 1998) (“Conduct of Operator Injurious to Others”).
246 Id. at 211–12 (emphasis added) (citation omitted).
though the owner of mineral rights in Whiteacre has authorized such well location or himself seeks to make such well location for the purpose of recovering minerals from adjoining premises on which he holds a mineral lease or mineral interest? The consensus is that such veto power exists, although there is little case authority on the matter. The reason for the dearth of such authority is that such veto power appears generally assumed and hence operators who desire to engage in such activities have sought to obtain from the surface owners an express easement for such a well location.247

The opinion from this treatise could easily be directed toward horizontal wells in addition to the directional wells discussed because both types of wells are capable of being started on the surface of one tract and ending underneath the surface of another tract. The treatise author opined that the surface owner does have veto power to prevent this use of his land.248 Furthermore, the author believed that the reason for the lack of authority on the issue is because typically, if a gas driller wishes to use the surface in such a way, it will seek express permission from the surface owner in doing so.249

Other treatises concur with the opinion from Oil and Gas Law. Dean Kuntz also commented on the rights of the mineral owner:

If the title to all minerals has been severed, the mineral owner is entitled to the use of the surface for the purpose of extracting minerals from such land. His right to use the surface for such purpose is necessarily exclusive. Such mineral owner should not have the right to use the surface for the other purposes, such as the purpose of removing minerals from another tract of land.250

The treatises discussed in this section clearly support the notion that a mineral owner who attempts to use the surface above his mineral tract in order to extract minerals from mineral tracts that do not lie directly under the land is exceeding his rights. When applied to horizontal drilling, these treatises would support the argument that in order for a natural gas producer to drill a horizontal well that crosses from the subjacent mineral tract into an adjoining mineral tract, the producer needs to obtain express permission from the surface owner.

247 Id. (citation omitted).
248 Id.
249 Id.
250 1 EUGENE KUNTZ, A TREATISE ON THE LAW OF OIL AND GAS § 12.8, at 357 (1989) (citation omitted).
D. Summary

The authorities examined by this Note all point to the same conclusion: mineral owners should not be permitted to use the surface above their mineral tract to facilitate extracting minerals from a tract that is not directly below the surface. The mineral owner does, by necessity, have the right to use the surface directly above his minerals to extract those minerals; however, this right should not be extended when the mineral owner attempts to use the surface in the course of extracting minerals elsewhere. The case law in West Virginia, the cases cited from out-of-state jurisdictions, and the learned treatises discussed above all appear to agree on this rule.

Although most authorities on the topic discuss this rule in terms of the coal mining industry, this principle can and should be carried over to the natural gas industry and the practice of horizontal drilling. Accordingly, it seems clear that a natural gas producer who wishes to drill a horizontal well that begins on one mineral tract and ends on an adjoining mineral tract should be required to obtain permission from the surface owner before drilling.

V. Conclusion

With the recent boom in natural gas drilling in West Virginia and the surrounding region, it is crucial that the Court provide both gas producers and property owners with concrete answers regarding the legality of horizontal drilling. The development of the Marcellus Shale has made the need for clear rules on horizontal drilling all the more important because the technique has become vital to extracting gas from the unforgiving rock formation in a cost-effective manner.

This Note has explored two important legal questions. First, the Note examined whether mineral leases which predate the common practice of horizontal drilling allow a lease holder to drill a horizontal well. Early West Virginia case law related to the question has held that a mineral extraction technique that was not contemplated by the parties at the time of the execution of a mineral lease should not be permitted. However, later West Virginia cases have appeared to stand for the proposition that as long as a new mineral extraction technique does not create a burden on the surface of the property so extensive that it could not have been contemplated when the lease was executed, the technique should be permitted. After considering the burdens imposed by horizontal drilling techniques when compared to traditional vertical drilling, the Court should allow horizontal drilling to take place because it does not create an unreasonable burden on the surface.

Second, this Note examined whether a mineral owner should be able to use the surface above his mineral tract to drill a horizontal well that crosses from the subjacent mineral tract into a neighboring mineral tract. While West Virginia case law does not provide an entirely clear answer to this question, several cases on coal mining appear to hold that a mineral producer should not
be permitted to use the surface above one mineral tract to extract minerals from a neighboring mineral tract. Furthermore, cases from other jurisdictions and relevant treatises on the topic support this position even more clearly. Therefore, a mineral producer who wishes to drill a horizontal well that begins in a subjacent mineral tract and proceeds into a neighboring mineral tract should be required to obtain permission from the surface owner before proceeding.

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