
IN THE
Supreme Court of Virginia

RECORD NO. 030634

HARRISON-WYATT, LLC,

Appellant,

v.

DONALD RATLIFF, et al.,

Appellees.

OPENING BRIEF OF APPELLANT

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ASSIGNMENTS OF ERROR

- I. The Trial Court erred in finding that, under Virginia law, the grant of coal rights does not include coalbed methane ("CBM") absent an express grant of CBM.
- II. The Trial Court erred in failing to adopt the plain and common meaning of the term "coal" in the 19th century as presented in the defendant's uncontested evidence of such definitions that describe coal as a heterogeneous substance that includes gas, a meaning that was also supported by the defendant's uncontested evidence of the current meaning of the term "coal" as a generic term with constituent parts that vary greatly.
- III. In the alternative, the Trial Court erred in failing to acknowledge the ambiguity in the term "coal" contained in the severance deeds at issue in this case, finding instead that the term unambiguously did not include CBM.
- IV. The Trial Court considered evidence outside the record on the issue of the meaning of the term "coal" as used in the 19th century.
- V. Having failed to either find ambiguity in the severance deeds or to adopt the common meaning of the term "coal" as used in the 19th century and as supported by current expert testimony, the Trial Court erred in failing to apply the proper rules of construction that should be applied to the severance deeds, finding instead that the grantors retained an interest in CBM when they could not beneficially use or enjoy the estate without trespassing on the coal owner's estate; and the coal owner could not beneficially use or enjoy the coal estate without trespassing on the purportedly retained estate of the grantor in the CBM. To do so, the Trial Court erroneously relies on a "common law" right of the coal owner to release CBM in connection with its coal operations.
- VI. The Trial Court erred in adopting a simplistic construction of the severance deeds finding that the grantors on these severance deeds intended only to convey the solid core of the coal and none of its associated volatile components such as CBM. Specifically, the Trial Court held that "the only finding that would allow the Court to rule in favor of the coal owners is that the CBM is a constituent of the coal itself." In doing so, the Trial Court disregarded the law of Virginia on mineral rights, that mineral estates may include non-specified elements when those elements are substantially connected with or integrally a part of the granted estate. Here, CBM is substantially connected with coal and an integral part of the *in situ* coal.
- VII. The Trial Court erred in construing the severance deeds to find that the grantors retained an interest in CBM when the grantors could not beneficially use or enjoy the estate without trespassing on the coal owner's estate; and the coal owner could not beneficially use or enjoy the coal estate without trespassing on the purportedly retained estate of the grantor in the CBM.

STATEMENT OF CASE

This case involves a significant question of first impression in Virginia: Where a surface owner or his predecessor in title has conveyed all coal in and under his property, has title to the coalbed methane (CBM) passed to the coal owner along with the coal? The resolution of this issue is long over-due in Virginia, as CBM has been commercially produced for over a decade, during which time this question has remained unanswered and caused millions of dollars in royalties to be escrowed. In passing the 1990 Virginia Oil and Gas Act, Va. Code § 45.1-361.1, et seq., (the "1990 Act"), the General Assembly cleared the way for commercial production of CBM, but specifically avoided answering this question of ownership, leaving it instead to future judicial determination. The 1990 Act provides that, on tracts where the question of ownership remains unresolved, the commercial production of the CBM may proceed by forced pooling of interests, but the royalties from such production must be escrowed pending a resolution of the issue of ownership. Va. Code § 45.1-361.22.

Harrison-Wyatt, LLC ("Harrison-Wyatt," "the defendant" or "coal owner"), the defendant below, is the successor grantee of coal severance deeds from the 19th century on three tracts of land in Buchanan County, Virginia (the "Mineral Tracts"). The plaintiffs below ("the plaintiffs" or "other mineral owners") are the owners of the surface and all unsevered "other minerals" on portions of the Mineral Tracts. CBM has been produced from the Mineral Tracts, and the royalties from that production have been escrowed pursuant to Virginia Code § 45.1-361.22(4).

The plaintiffs filed a Motion for Judgment in the Circuit Court of Buchanan County seeking a declaratory judgment as to their claim of ownership to CBM produced from the coal seams below the surface of their property, so as to allow them to receive the escrowed royalties and future

royalties from CBM production on their portions of these tracts. (App. 3-9)¹ Harrison-Wyatt denied that the surface owners owned the CBM. (App. 16-18)

The case was presented in a two day bench trial on June 24-25, 2002, with The Honorable Keary Williams presiding, with a subsequent ruling in favor of the plaintiffs. The trial court initially set forth its ruling in a letter opinion dated August 29, 2002. (App. 23-30) That opinion was subsequently modified by an opinion dated December 6, 2002. (App. 31-38) The trial court held that “a grant of coal right does not include title to the CBM absent an express grant of CBM, natural gases, or minerals in general; and that the surface owner holds the right to the CBM once it has separated from the coal.” (App. 38) The trial court limited the plaintiffs’ rights, holding that:

the surface owners’ right to the CBM only extends to that which has separated from the coal. The Court does not hold that the surface owners have the right to frac the coal in order to retrieve the CBM.

(App. 37, 41) The trial court entered a final order on December 23, 2002 (the “Final Order”), finding in favor of the plaintiffs, and adopting the findings set forth in its opinions. (App. 39-42) In the Final Order, the trial court made it clear that, even though the plaintiffs’ rights to the CBM extends only to that which is separated from the coal, and even though the plaintiffs have no right to enter the coal and retrieve the CBM, if the coal owner removes the CBM from its coal, the plaintiffs receive the compensation as owners of the CBM. (App. 41)

Harrison-Wyatt noted an appeal to this Court, and filed a Petition for Appeal. By Order dated June 3, 2003, this Court awarded Harrison-Wyatt an appeal.

¹ References to the Appendix will be denoted “(App. ____).”

QUESTION PRESENTED

- I. WHETHER THE TRIAL COURT ERRED IN FINDING THAT, UNDER VIRGINIA LAW, THE GRANT OF COAL IN THE 19TH CENTURY SEVERANCE DEEDS UNAMBIGUOUSLY DOES NOT INCLUDE CBM. (**Assignments of Error I-VII**).

STATEMENT OF MATERIAL FACTS

The land in question is designated as Mineral Tracts 18, 19 and 56. The severance deeds for Mineral Tracts 18 and 19 were recorded on August 2, 1887. The coal severance language from these deeds conveys with general warranty "all the coal in, upon and underlying a certain tract or parcel of land. . . ." The severance deed for Tract 56 was executed on October 13, 1887, and contained similar language. (App. 47-56)

The coal on the Mineral Tracts is owned by Harrison-Wyatt. It has been leased over the years by Harrison-Wyatt (or its predecessor entities) and coal has been mined since the 1960's. (App. 395) During these years of coal production, CBM was known to be part of the coal, and it was vented in order to mine the coal. (App. 404-5) By necessity and by legislation, the coal miners have had to ventilate the CBM that is released by the mining activities.² The dangers associated with CBM, including underground explosions, presented safety concerns for the coal owner. (App. 231-2) Ventilation wells and large ventilation fans (1.6 million cubic feet per minute) were used by the coal miners to evacuate the CBM from the mining areas. (App. 181, 226, 405-6) The CBM was simply discharged into the atmosphere for many years. (App. 231) During the coal mining on these tracts, the plaintiffs never objected to the venting of this CBM by wells or by fans. (App. 424)

² From 1966 until 1994, Chapter 5 of the Virginia Mine Safety Law of 1966 provided laws relating to the ventilation of coal mines in Virginia. See Va. Code § 45.1-54 *et. seq.* These laws provided specific guidelines as to the maintaining of ventilation and air quality in mining operations.

In 1990, the General Assembly passed the 1990 Virginia Oil and Gas Act ("the "1990 Act"). The 1990 Act specifically defined CBM as "occluded natural gas produced from coalbeds and rock strata associated therewith." Va. Code § 45.1-361.1 (1990). This legislation created a structure by which CBM could be captured instead of discharged.

By lease dated February 14, 1990, Harrison-Wyatt's predecessor (Landon R. Wyatt, Jr. and Wales R. Harrison, Jr., Trustees), as coal owner, entered into a CBM lease with OXY USA, Inc. for producing and marketing "occluded methane and all associated natural gas and other hydrocarbons normally produced or emitted from coal formation or seams and any related associated or adjacent rock material," defined in the lease as "coalbed methane gas." (App. 57) The acreage contained in this lease included Tracts 18, 19 and 56, among others. (App. 88) As there was a conflict between the plaintiff surface owners and the defendant regarding ownership of the CBM, the royalties on the CBM produced from these tracts have been escrowed.

The trial of this case involved extensive evidence on the characteristics, origin, history and definitions of "coal" as well as the production techniques for coal and CBM, the relationship between coal and CBM, and the history of ventilation of CBM in connection with the mining of coal.

1. The definition of "coal" in the 19th century included CBM.

The severance deeds at issue were executed in the 1880's. Accordingly, in order to establish the meaning of these 19th century documents, the defendant introduced uncontested evidence of the 19th century definitions of "coal," without objection, by expert testimony and publications from the 19th century. The published definitions of "coal" from the time period describe coal as an "amorphous substance of variable composition" which could therefore not be defined as a crystallized or definite mineral could be. (App. 337-38)

These definitions noted that gases (now known as coalbed methane, but described as "marsh gas" at the time) "are present in considerable quantity in coal..." (App. 338) The American Encyclopedia from 1873³ defined "coal" as:

a term now commonly used to denote all kinds of mineral fuel....at the present time, when wood and charcoal are fast giving place to the mineral varieties of fuel, the term coal is applied to that class of this fuel in general use....Under the term coal, we may therefore embrace all classes of mineral fuel that will ignite and burn with flame or incandescent heat....The combinations of carbon, hydrogen, oxygen, and nitrogen with earthy impurities, to which the term mineral fuel may be properly applied, are infinite, ranging through all the grades of coal, from the hard, dense anthracite to the asphaltic varieties, and from the solidified petroleum to the gaseous naphtha.

(App. 130, 338) The same American Encyclopedia confirms the understanding of the time that:

All kinds of coal vary considerably both in mechanical structure and chemical composition....The gradations of carbon, hydrogen, and oxygen compounds, from almost the pure fixed carbon in anthracite, through the more volatile bituminous varieties of coal, to the free carbon and hydrogen of naphtha, are infinite; and no formula can truly express the relative proportions which limit these compounds to the various classes of coals, or as mineral fuel.

(App. 134)

The Encyclopedia Britannica of 1877⁴ confirms the same understanding of coal:

Coal is an amorphous substance of variable composition and therefore cannot be as strictly defined as a crystallized or definite mineral can... .Coal is perfectly amorphous... .Gases, consisting principally of light carburetted hydrogen or marsh gas are often present in considerable quantity in coal, in a dissolved or occluded state, and the evolution of these upon exposure to the air, especially when a sudden diminution of atmospheric pressure takes place, constitutes one of the most formidable dangers that the coal miner has to encounter.

³ IV THE AMERICAN ENCYCLOPEDIA: A POPULAR DICTIONARY OF GENERAL KNOWLEDGE, 726 (Ripley and Dana eds., 1873).

⁴ VI ENCYCLOPAEDIA BRITANNICA 45 (9th ed. 1877).

(App. 92) The same work also describes in detail the proportionate content of this CBM (a/k/a "marsh gas" or "fire damp") in various types of coal, listing it along with elements of carbonic acid, oxygen and nitrogen. (App. 119) The extent to which this CBM was released from the coal during the mining process was a considerable concern to coal miners. (Id.) Accordingly, 19th century researchers tested coal to see the rate at which it could be expected to emit the CBM. (Id.) This research, presented in the evidentiary record in this case, found that, of the entire volume of the CBM in the coal, "only one-third could be expelled at the temperature of boiling water, and the whole quantity, amounting to 650 cubic feet per ton, was only to be driven out by a heat of 300 degrees Celsius." (Id.) However, notwithstanding the tenaciousness of CBM, the Encyclopedia further cautioned that "blowers" can exist in these coal seams and

the gases evolved from the sudden outbursts or blowers in coal, which are often given off at considerable tension, are the most dangerous enemy that the [coal miner] has to contend with. They consist almost entirely of marsh gas, with only a small quantity of carbonic acid, usually under 1 per cent, and from 1 to 4 per cent of nitrogen.

(Id.) The same definitions and discussions are also repeated in the "Americanized" Encyclopedia from 1892.⁵ (App. 167-68)

The plaintiffs offered no evidence to contest or rebut this documentary evidence or the testimony that accompanied it through Harrison-Wyatt's expert, Dr. Thomas Novak⁶.

2. Even under modern definitions, "coal" is a heterogeneous substance with many inherent constituents, including CBM.

"Coal" is currently defined as a "generic term or a generalized designation for a heterogeneous fossil fuel that contains varying amounts of fixed carbon, volatile matter and various

⁵ III AMERICANIZED ENCYCLOPAEDIA BRITANNICA 1642, 1647-8 (1892).

⁶ Dr. Novak, who has a Ph.D. in Mining Engineering, is a Professor and the head of the Mining and Minerals Engineering Department at Virginia Tech. (App. 334-35)

other constituents" such as water, ash, sulphur, and carbon dioxide. (App. 337, 339, 341) "Methane is an inherent constituent of the *in situ* [i.e., in place] coal, the same as moisture, ash, sulphur, etc." (App. 253, 356-7) Methane is an extremely explosive gas. (App. 380) Accordingly, miners have always had to contend with these dangers and find ways to safely ventilate the gas from mining areas. (App. 231-32, 358, 362)

CBM is actually produced in the same natural process that results in coal (the coalification process), and it stays there in the coal. (App. 352) A coal seam consists of a tremendous number of small grains of coal, each one of which contains a micropore structure filled with small voids. (App. 347) To illustrate the incredible surface area of this sponge-like substance, anecdotal reference was given at trial that each gram of coal has the surface area of two or three football fields; this entire surface area is adsorbed⁷ with methane. (App. 347) Each ton of coal in the Pocahontas 3 seam (the one at issue in this case) contains 600 cubic feet of CBM per ton of coal. (App. 345) Ninety-eight per cent (98%) of the CBM in a coal seam is actually adsorbed to the coal itself. (App. 348)

3. The nature of CBM and the manner in which it is stored in coal and then produced differs substantially from conventional natural gas.

Unlike conventional natural gas, which is created in one location and then migrates to another geological trap, coal is both the source and the reservoir for CBM. (App. 352) Conventional natural gas wells are drilled into a geological "trap" where the gas exists under significant pressure. (App. 352) The natural pressure in the trap allows the conventional gas to be produced without supplemental energy. (*Id.*) Other than drilling through the stone that creates this trap, no other action is typically required in order to produce conventional natural gas. As to the production of the CBM at issue here, testimony was presented from Claude Morgan, the Vice-

⁷ "Adsorbed" means "physically attached" to the micropore walls in the coal matrix. (App. 348)

President of Operations of CNX Gas Company, a subsidiary of Consol Energy, the operator of this field. (App. 228-9) Mr. Morgan testified that, in contrast to conventional natural gas wells, in order to produce the CBM, it is necessary to actually invade the coal seam itself to induce the flow of the gas out of the coal. (App. 237) If you drill into the coal seam without any active mining and without any fracturing of the coal, you are not able to produce the CBM in commercial quantities. (App. 238, 353) "Frac" or fracture wells are created by pumping water and sand or nitrogen foam and sand into the coal seam at high pressure in order to fracture the coal and open cracks within the coal in order to release enough gas to produce. (App. 352-54) It is not uncommon to put as much as 50,000 pounds of sand into one well in order to accomplish this objective. (App. 355)

Once the coal seam is fractured, it still will not produce gas into a well until water is pumped out of the coal seam. Water (beginning with a large amount and becoming less) must be pumped from the coal seam in order to release the pressure on the coal and cause the fractured coal to release its CBM. (App. 239) These frac wells are generally drilled in advance of mining. (Id.) Unlike conventional gas production, CBM is produced almost at atmospheric pressure, so it requires substantial compression. (App. 244) Since it is not "free" gas (floating around in the reservoir), CBM must actually be sucked from the coal seam. (App. 374) Testimony at trial established that these wells are not removing gas that has already been liberated from the coal seam. "It hasn't been liberated from the coal. You're sucking it out of the coal." (App. 374)

Within mine works, horizontal holes are often drilled into the coal seam to capture the methane in advance of mining. These horizontal holes also penetrate into the coal seam and extract the gas from the seam in much the same manner as FRAC wells. (App. 257)

Longwall mining⁸ causes the mined-out area behind the miner to collapse, thereby causing the mined coal seam as well as the overlaying strata of coal and related strata to subside and fracture. This is a tremendously effective 'frac'turing of the seam and those seams above it, releasing a substantial amount of CBM. (App. 365) Without a well to capture or vent the CBM from both the mined coal and the coal above it, the CBM would migrate down towards the area of low pressure created by the mining activity. (App. 240) The CBM wells used to capture this gas are referred to as "GOB" wells. GOB wells are connected to the active mining operation, and it is essential that all of this CBM is evacuated from the mine area. (App. 251) Any restriction on what the GOB well is producing forces gas back into the active mining area. (Id.) The overriding concern with the operation of GOB wells is the safety of miners. (Id.)

The chemical content of CBM is different from conventional natural gas. CBM contains 96.6% methane, whereas conventional natural gas has a methane content of only 80-90%, and usually contains higher hydrocarbons such as ethane, propane and butane. (App. 255-56, 356)

4. Historic treatment of CBM under legislation regarding natural gas in Virginia indicates that CBM has never been considered to be part of the natural gas estate and gas producers have been prevented from producing it.

Chapter 12 of the Virginia Mine Safety Law of 1966 provided for oil and gas operations in general and in relation to coal operations. Virginia Code § 45.1-122 (1966) (Repealed by Acts 1982, c. 347) specified that, in the event that gas wells were drilled penetrating one or more coal

⁸ Longwall mining is a process that involves tunnels that are driven alongside a large block of coal that may be anywhere from 600 feet to 1000 feet wide. These tunnels are driven along each side of that block of coal, anywhere from 5,000 to 10,000 feet in length and then connected at the ends. These access tunnels allow the movement of men and machines as well as ventilation. A mining machine is then set up across the full width of the block of coal. A series of large hydraulic supports called shields are put in place to support the roof above the active working area. A large revolving drum shearer essentially chews the coal off of that face and puts it on to a conveyor system. As the shearer moves forward, the large hydraulic shields move forward behind it. The rock and strata above the shields are allowed to cave in as the shields move forward. (App. 241-42)

