

Who Owns the Right to Store Gas: A Survey of Pore Space Ownership in U.S. Jurisdictions

Stefanie L. Burt¹

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INTRODUCTION

This article addresses the issue of pore space ownership under both state and federal law. Pore space is the term used to refer to depleted subsurface geological formations that are used as storage reservoirs for the storage of natural gas or other minerals. Because the owner of the depleted geological formation is entitled to compensation for use of the formation as a storage reservoir for natural gas, the ownership of pore space is an issue that consistently arises regarding natural gas storage fields.

Natural gas storage fields are located in the depleted subsurface formations, the pore space, where natural gas was previously extracted. These storage reservoirs are characterized by porous and permeable underground formations that are largely surrounded by impermeable formations, rock, or other barriers.² After the native natural gas has been extracted, the operator of the storage field injects non-native natural gas into the depleted formation for later distribution and use.

Natural gas storage fields located in these depleted subsurface geological strata are certificated and regulated by the Federal Energy Regulatory Commission (“FERC”). There are 185 federally certificated natural gas storage fields located in 22 states and at depths ranging from 1,000 feet to 5,000 feet below the surface of the earth.³ Generally, the operator of a natural gas storage field is vested with powers of eminent domain via the Natural Gas Act to acquire the property interests necessary to operate and protect the storage field.⁴ However, an operator may avoid

¹ Stefanie L. Burt is an energy and natural resources attorney at Reed Smith LLP. Attorneys Thomas J. Galligan and Jennifer M. Cully assisted with this article.

² *Natural Gas Storage – Storage Fields*, FERC (Mar. 30, 2016, 12:10 PM), <https://www.ferc.gov/industries/gas/indus-act/storage/fields.asp>.

³ *Id.*

⁴ 15 U.S.C. §§ 717-717z (2012).

condemnation proceedings by acquiring the necessary property interests by lease or easement. Accordingly, either by just compensation or by negotiated agreement, the owner of the pore space in the depleted formation used for the natural gas storage field will be compensated by payment from the operator for the use of that pore space. The relevant issue then becomes who is owed that compensation.

As set forth below, recent case law and legislation follow the prevailing, majority rule that the surface owner owns the rights to the pore space, and is therefore entitled to compensation for use of the pore space. Several states have enacted or have considered legislation establishing that the surface owner owns the underground pore space. The modern trend appears to overwhelmingly favor the surface owner's ownership of the pore space.

I. THE MAJORITY OR "AMERICAN RULE"

The majority of case law on the subject of pore space ownership supports the premise that the surface owner, not the mineral owner, owns the rights to the pore space. This is the so-called "American Rule," which courts have recognized as a departure from the "English Rule," which generally supports the mineral owner's right to the pore space.⁵ The summary of relevant case law below demonstrates that courts in Montana, Oklahoma, Louisiana, New York, Michigan, West Virginia, New Mexico, and California all recognize the surface owner's ownership of underground pore space for gas storage operations. Montana, Wyoming, and North Dakota, in particular, have enacted statutes establishing, as part of broad legislation governing carbon sequestration, that pore space is owned by the surface owner.

Montana In 2011 the Montana Supreme Court held that the surface owner owns the rights to the pore space.⁶ The opinion considered a deed reserving the "coal, oil, gas, and other minerals in and under" certain lands, including the rights of exploration, mining, and removal, and found that it was not sufficient to reserve the rights to the pore space.⁷ The court found that the "deed did not reserve ... ownership of the pore space or other non-mineral materials. The ... deed reserved only the minerals and the rights of exploration, mining, and removal."⁸ The court reasoned that the "pore space beneath [the] property belongs to [the] surface estate in the same manner that all non-mineral material beneath the physical boundaries of [the] property belong to [the] surface estate."⁹

Oklahoma Applying Oklahoma law, a federal district court held "that the surface owner" – and not the mineral owner – "has the power to convey gas storage rights."¹⁰ In addition to its reliance on Oklahoma law, the federal court reasoned that if "it was the mineral interest owner and not the surface owner who had the power to grant storage rights, it would typically mean that hundreds of severed mineral interest owners would have to be contacted if those rights were to

⁵ See *Ellis v. Ark. La. Gas Co.*, 450 F. Supp. 412, 421 (E.D. Okla. 1978), *aff'd*, 609 F.2d 436 (10th Cir. 1979) (collecting secondary sources noting the distinction between English and American Law).

⁶ See *Burlington Res. Oil & Gas Co. LP v. Lang & Sons Inc.*, 259 P.3d 766, 770 (Mont. 2011).

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* (citations omitted).

¹⁰ *Ellis*, 450 F. Supp. at 421 (discussing *Sunray Oil Co. v. Cortez Oil Co.*, 112 P.2d 792 (Okla. 1941)).

be obtained privately.”¹¹ In *Sunray*, the Supreme Court of Oklahoma decision that the *Ellis* court relied on, the court held that the surface owner possesses the right to grant permission to inject wastewater into the subsurface strata, so long as these activities do not interfere with the mineral estate’s operations.¹² The court reasoned that “being the owner of the land [a surface owner] has the right to so use the surface and substrata of her land as she sees fit, or permit others so to do, so long as such use does not injure or damage other persons.”¹³

Louisiana The Louisiana Court of Appeals similarly held that storage rights belong to the surface owner in *Southern Natural Gas Company v. Sutton*, where the court stated that “[s]urface ownership, however, includes the right to use the reservoir underlying the [land] for storage purposes.”¹⁴ This holding is consistent with the reasoning of federal cases decided under Louisiana law, which have consistently held that the surface owner owns the rights to subsurface storage.¹⁵ In fact, the Western District of Louisiana broadly explained that this is the case regardless of “whether a state is governed by an ownership theory or non-ownership theory of mineral rights,” disagreeing with reasoning that relies on the rule of capture to justify pore space ownership by the mineral rights owner.¹⁶

Michigan The Michigan Court of Appeals has held that the surface owner possesses the right to lease a depleted underground reservoir for gas storage.¹⁷ In *Goike*, the court specifically held that “the storage space, once it has been evacuated of minerals and gas, belongs to the surface owner.”¹⁸

New York New York courts have also held that the surface owner owns the sub-surface storage rights.¹⁹ In *Miles*, the court specifically held that a mineral conveyance did not include the right to store gas, reasoning that “[w]hile a grant of production rights will include the right to conduct all operations necessary to extract those minerals, such a grant alone cannot be construed to include the right to store gas piped in from foreign fields.”²⁰ The Second Circuit, construing New York law, has found that a conveyance for “mines” of salt did not include a right to the excavation cavity.²¹ The court found that the mineral owner had an exclusive right to use the cavity for its mining purposes, but only as long as recoverable salt deposits existed and the salt mining operations were not abandoned.²²

West Virginia The Supreme Court of Appeals of West Virginia has also held that rights to pore space belong to surface owners, although its decision was fairly narrow because it was

¹¹ *Ellis*, 450 F. Supp. at 422.

¹² *Sunray*, 112 P.2d at 795.

¹³ *Id.* at 794.

¹⁴ *S. Natural Gas Co. v. Sutton*, 406 So. 2d 669, 671 (La. Ct. App. 1981).

¹⁵ *See, e.g., Miss. River Transmission Corp. v. Tabor*, 757 F.2d 662 (5th Cir. 1985).

¹⁶ *See United States v. 43.42 Acres of Land*, 520 F. Supp. 1042, 1046 (W.D. La. 1981).

¹⁷ *See Dep’t of Transp. v. Goike*, 560 N.W.2d 365 (Mich. Ct. App. 1996).

¹⁸ *Id.* at 366.

¹⁹ *See Miles v. Home Gas Co.*, 316 N.Y.S.2d 908 (N.Y. App. Div. 1970).

²⁰ *Id.* at 910 (*citations omitted*).

²¹ *See Int’l Salt Co. v. Geostow*, 878 F.2d 570, 574 (2d Cir. 1989).

²² *Id.* at 575.

premised on the specific and unique language of the mineral conveyance at issue in that case.²³ In *Tate*, the court held that so long as no recoverable minerals existed in the subsurface stratum, the surface owner possessed the right to grant storage rights.²⁴ Despite the specific nature of the deed language at issue in the case, the *Tate* case has been recognized by leading oil and gas treatises for the principle that the surface owner rather than the mineral owner is entitled to gas storage rental when the minerals originally in place in the stratum in question had been depleted.²⁵

California In *Cassinos v. Union Oil Co. of California*, the court assumed without deciding that the surface owner held the rights to the pore space.²⁶ In that case the mineral owner sued an operator who had permission from the surface owner to inject wastewater under the property.²⁷ The court found that “even if [the surface owner] did own the pore space and could authorize injection . . . ,” the mineral owner’s trespass claim was still valid because the operator also caused an injury to the mineral estate.²⁸ In this way, the California court avoided analysis of the issue of pore space ownership but, given the assumption in *Cassinos*, another California court to consider the issue will likely agree with the prevailing rule that the surface owner owns the pore space.

New Mexico In *Jones-Noland Drilling Co. v. Bixby*, the Supreme Court of New Mexico discussed the nature of the interest transferred by an oil and gas lease, and in so doing indicated New Mexico’s position on what rights the mineral owner holds:

“While an oil and gas lease, with the right of ingress and egress to explore for, discover, develop, and remove oil and gas, conveys an interest in real estate, it does not convey a greater interest in the soil, except the oil and gas, than to enable the owner of the lease to use the soil in carrying out and availing the leases of the above-named rights. The fee in the soil, except the oil and gas, remains in the lessor unencumbered with those rights of the lessee. The lessee is not the owner of the solids of the earth He, at most, is the owner of the oil and gas, in place, and merely has the right to use the solid portion so far as necessary to bore for, discover, and bring to the surface the oil and gas.”²⁹

Secondary sources have cited *Bixby* as “establish[ing] in New Mexico the holding that the mineral estate is limited and does not include rights to the geologic formation.”³⁰ This type of analysis is consistent with the broader principle that the surface owner starts with a fee interest

²³ See *Tate v. United Fuel Gas Co.*, 71 S.E.2d 65 (W. Va. 1952).

²⁴ *Id.* at 72.

²⁵ *Tate v. United Fuel Gas Co.*, 71 S.E.2d 65 (W. Va. 1952).

²⁶ *Cassinos v. Union Oil Co.*, 14 Cal. App. 4th 1770, 1783 (Cal. Ct. App. 1993).

²⁷ *Id.* at 1775-76.

²⁸ *Id.* at 1783.

²⁹ *Jones-Noland Drilling Co. v. Bixby*, 282 P. 382, 383 (N.M. 1929).

³⁰ Mark E. Fesmire et. al., *A Blueprint for the Regulation of Geologic Sequestration of Carbon Dioxide in New Mexico*, OIL CONSERVATION DIVISION, NEW MEXICO ENERGY, MINERALS, NATURAL RESOURCES DEPARTMENT (2007).

in the entire property and reserves to himself anything not specifically granted, conveyed, or leased.³¹

II. THE MINORITY OR “ENGLISH RULE”

Only two jurisdictions, Kentucky and Texas, have held that the mineral owner possesses the right to pore space, and the continuing viability of that case law is questionable. With respect to Kentucky law, the reasoning of the courts has been largely undermined, and it is unclear whether a Kentucky court today would issue the same holding or follow the modern trend favoring the American Rule. Similarly, more recent decisions have also cast doubt on whether Texas precedent remains good law, and it is unclear whether Texas will join the majority of jurisdictions—including a number of other mineral producing jurisdictions—and determine that the surface owner owns the pore space. Accordingly, it is unclear if courts in these jurisdictions or others will continue to apply the minority English Rule to hold that the pore space belongs to the mineral rights owner or will join the majority of jurisdictions that have considered the issue.

Kentucky The leading case adopting the minority rule that pore space is owned by the mineral owner is *Hammonds v. Central Kentucky Natural Gas Co.*³² In *Hammonds*, the Kentucky appellate court determined that a land owner was not entitled to compensation for gas stored beneath her lands. The court reasoned that once injected, the storage gas no longer belonged to the storage company, and therefore, there was no cause of action against the storage company.³³ The Kentucky appellate court again considered the issue of ownership of pore space in *Central Kentucky Natural Gas Company v. Smallwood*.³⁴ At issue in *Central* was whether the surface owner or mineral owner had the right to lease underground storage reservoirs for gas storage, where a mineral owner had leased the right to produce and store gas to a lessee, and received payment under the lease.³⁵ The Kentucky court acknowledged the “English Rule” that the mineral owner typically owned the pore space, and also recognized that the rule in the United States appeared to be the opposite.³⁶ Ultimately, the court determined that because the mineral owner possessed rights to stored minerals (as injected gas was subject to the rule of capture), the mineral owner was entitled to lease gas storage rights.³⁷ Both of these Kentucky decisions were premised on the theory that the rule of capture applies to injected and stored gas, but the Kentucky Supreme Court arguably overruled these decisions when it found that title to injected gas is not lost upon injection, and that surface owners have no right to produce injected storage gas.³⁸ Kentucky has not otherwise addressed the issue of pore space ownership, and it is unclear whether *Hammonds* remains good law on the issue of pore space ownership. Given that the Kentucky Supreme Court has departed from much of the reasoning that supported the holding in *Hammonds*, it is possible that, when next presented with the issue of pore space ownership,

³¹ See *Del. & Hudson Canal Co. v. Hughes*, 38 A. 568 (Pa. 1897) (explaining “[t]he ownership of the surface carries with it, if there is no obstacle to the application of the general rule, title downwards to the center of the earth and upwards indefinitely”).

³² *Hammond v. Cent. Ky. Natural Gas Co.*, 75 S.W.2d 204 (Ky. Ct. App. 1934).

³³ *Id.*

³⁴ *Cent. Ky. Natural Gas Co. v. Smallwood*, 252 S.W.2d 866 (Ky. Ct. App. 1952).

³⁵ *Id.* at 867-68.

³⁶ *Id.* at 868.

³⁷ *Id.* at 869.

³⁸ See *Tex. Am. Energy Corp. v. Citizens Fid. Bank & Trust Co.*, 736 S.W.2d 25, 27 (Ky. 1987).

Kentucky will join the majority of United States jurisdictions in applying the American Rule. The reasoning from the Western District of Louisiana is instructive here, where it explains that the ownership or non-ownership theories of mineral rights are not relevant in determining pore space ownership.³⁹

Texas In *Mapco, Inc. v. Carter*, the Texas appellate court found that a mineral owner was entitled to be compensated for storage rights in an underground salt cavity, even after the salt was depleted.⁴⁰ Despite the fact that the mineral owner had already mined the salt creating a mostly depleted cavern, the court reasoned that “mineral owners retain and still possess and own an ownership interest after the underground storage facility has been constructed and completed or the stratum depleted. These mineral owners are vested with ownership and title rights, including compensation for the use of the cavern.”⁴¹ The court justified its decision as consistent with the mineral-in-place ownership theory.⁴² This decision arguably conflicted with an earlier Court of Claims decision applying Texas law and concluding that the surface owner should be compensated for pore space rights.⁴³ In *Emeny*, the Court of Claims found that a conveyance of oil and gas rights did not include rights to “the geological structures beneath the surface, including any such structure that might be suitable for the underground storage of foreign or extraneous gas produced elsewhere.”⁴⁴ The Court of Claims found that the surface owner retained rights to utilize underground pore space for storage.⁴⁵ The Texas Supreme Court, in *dicta*, cited positively to *Emeny* with respect to its discussion of a surface owner’s rights to underground pore space.⁴⁶ Further, in a more recent Texas appellate court decision involving a surface owner’s trespass action against an agency’s issuance of an underground waste disposal permit, the court noted that it was “assuming, without deciding” that the surface owner had rights to the subsurface storage area.⁴⁷ Although not conclusive, this assumption also casts doubt on the *Mapco* decision.⁴⁸ Additionally, given the nationwide trend and the tendency of a mineral producing jurisdiction to look to the case law of other mineral producing jurisdictions, it is possible that, if a Texas court is squarely presented with the issue in the future, it will join the majority rule.

³⁹ See *43.42 Acres of Land*, 520 F. Supp. 1046 (W.D. La. 1981).

⁴⁰ *Mapco, Inc. v. Carter*, 808 S.W.2d 262 (Tex. App.), *rev’d on other grounds*, 817 S.W.2d 686 (Tex. 1991).

⁴¹ *Id.* at 277.

⁴² *Id.* at 277-78.

⁴³ See *Emeny v. United States*, 412 F.2d 1319 (Ct. Cl. 1969).

⁴⁴ *Id.* at 1323.

⁴⁵ *Id.* at 1323-24.

⁴⁶ See *Humble Oil & Ref. Co. v. West*, 508 S.W.2d 812, 815 (Tex. 1974). See also *Springer Ranch, Ltd. v. Jones*, 421 S.W.3d 273, 283 (Tex. App. 2013) (“[O]wnership of the hydrocarbons does not give the mineral owner ownership of the earth surrounding those substances.” (*citing Emeny*, 412 F.2d at 1319)).

⁴⁷ See *FPL Farming, Ltd. v. Tex. Natural Res. Conservation Comm’n*, No. 03-02-00477-CV, 2003 Tex. App. LEXIS 1074, at *10 (Tex. App. Feb. 6, 2003).

⁴⁸ See also Madeline Mathews, *Carbon Sequestration and Pore Space Ownership in Texas*, 41 TEX. ENVTL. L. J. 205, 215 (2011) (“The cases fall into two basic sets: those that support surface owner pore-space ownership and those that favor the mineral owner. By and large, Texas case law favors the surface owner”).

III. LEGISLATION

Montana, Wyoming and North Dakota have enacted legislation that the pore space is owned by the surface owner.⁴⁹ A number of other states, including New Mexico, have introduced proposed pore space legislation in the past but have not enacted the relevant laws.⁵⁰ Much of the state legislation is patterned after the Interstate Oil and Gas Compact Commission Model Regulations, which appear to agree with the prevailing rule and suggest that pore space rights should be vested in the surface owner.⁵¹ Current literature suggests that carbon sequestration will become a very large industry in the future, and the pore space owner will be the beneficiary of that industry. In anticipation of that burgeoning industry, certain states⁵² have enacted legislation regarding carbon sequestration and specifically addressing the ownership of pore space with respect to carbon sequestration. Still, other states, such as Utah and Illinois, have recognized the importance of carbon sequestration, and have tasked commissions with the responsibility of addressing pore space ownership.⁵³ Although carbon sequestration legislation and research are often industry specific, they also lend additional insight into the general legal understanding of ownership of depleted formations and the nationwide trend toward the surface owner.

IV. KEY UNDECIDED JURISDICTIONS

⁴⁹ See MONT. CODE ANN. 82-11-180(3) (“If the ownership of the geologic storage reservoir cannot be determined from the deeds or severance documents related to the property by reviewing statutory or common law, it is presumed that the surface owner owns the geologic storage reservoir”); WYO. STAT. § 34-1-152(A) (“The ownership of all pore space in all strata below the surface lands and waters of this state is declared to be vested in the several owners of the surface above the strata”); N.D. CENT. CODE § 47-31-03 (“Title to pore space in all strata underlying the surface of lands and waters is vested in the owner of the overlying surface estate”).

⁵⁰ See, e.g., S.B. 208, 49th Leg., 1st Sess. (N.M. 2009) (vesting ownership of pore space in the surface owner).

⁵¹ THE INTERSTATE OIL AND GAS COMPACT COMMISSION, STORAGE OF CARBON DIOXIDE IN GEOLOGIC STRUCTURES (2007), available at <http://iogcc.publishpath.com/Websites/iogcc/PDFS/2008-CO2-Storage-Legal-and-Regulatory-Guide-for-States-Full-Report.pdf>.

⁵² See, e.g., KT. REV. STAT. ANN. § 353.800 (2011) (defines “pore space owner” as “the surface owner unless the pore space has been severed from the surface estate, in which case the pore space owner shall include all persons reasonably known to own an interest in the pore space”); W. VA. CODE § 22-11A-6(d), (h)(3) (2009) (creating a carbon dioxide sequestration working group that is tasked with studying “issues regarding ownership and other rights and interests in subsurface space that can be used as storage space for carbon dioxide...commonly referred to as ‘pore space’” and to recommend legislation regarding “ownership and other rights and interests in pore space”).

⁵³ ILL. PUB. ACT. 96-754 (establishing a commission to create a report on ownership of pore space and present to the General Assembly) (repealed); *but see* Rachel Wells, *CO2 Study Group Stalled*, ILLINOIS TIMES (Aug. 26, 2010). See also UTAH CODE ANN. § 54-17-701 (2008) (creating a Task Force to present recommended rules to the Legislature’s Administrative Rules Review Committee discussing *inter alia* the ownership of subsurface rights and pore space); see Recommended Rules For Carbon Capture and Geologic Sequestration (November 15, 2010) (“Utah law does not address whether the surface property owner or the mineral rights holder owns the subsurface pore space. The majority rule among the states is that the surface owner owns the subsurface pore space between his property”).

Because natural gas storage fields are located in formations that have been depleted of the native natural gas, the 22 states where federally certificated natural gas storage fields are located are states that are now, or were historically, oil and gas producing jurisdictions.⁵⁴ However, there are a number of significant oil and gas producing jurisdictions that contain natural gas storage fields, where the issue of pore space ownership remains undecided. It is likely that as these states continue to see an expansion in the natural gas industry and to develop their oil and gas related jurisprudence, we will see resolution of the question of who owns the rights to pore space and therefore the rights to storage compensation.

Pennsylvania Although there are federally certificated natural gas storage fields located in Pennsylvania, there are no Pennsylvania cases directly addressing the ownership of pore space in Pennsylvania. As a result, leading commentators and oil and gas treatises do not describe Pennsylvania as among the jurisdictions adopting the majority view or the minority view with regard to ownership of pore space. In one Pennsylvania intermediate appellate decision involving gas storage, the court explained that absent express language, storage rights are not among the rights granted in an oil and gas lease.⁵⁵ The court held that under an oil and gas lease, the grant of mineral rights must be narrowly construed, and found that the right to extract gas did not include the right to use the cavernous spaces owned by the lessor for the storage of gas in the absence of an express agreement therefor.⁵⁶ Because the lessee did not acquire an estate in the caverns and was not authorized to store gas on plaintiff's land, the court held that the lessee was liable for the unauthorized storage of gas on Pomposini's land.

Arguably, selected Pennsylvania case law involving coal appears to conflict with the majority rule, and provides support for a mineral owner's right to the pore space. In *U.S. Steel Corp. v. Hoge*, the Pennsylvania Supreme Court held that the coal estate possessed a right to the coalbed methane gas embedded in the coal seam, reasoning that "subterranean gas is owned by whoever has title to the property in which the gas is resting."⁵⁷ However, this case did not involve gas operations, and Pennsylvania has developed a unique body of case law concerning the coal estate, which is a separate estate under Pennsylvania law and treated specifically and separately due to the historic coal industry. Accordingly, the applicability of the coal related precedent to the issue of ownership of the pore space relative to underground storage for natural gas is unclear.

Ohio Similarly, Ohio courts have not spoken directly as to who owns the pore space. However, *Columbia Gas Transmission Corp. v. Smail* provides guidance.⁵⁸ There, the District Court for the Northern District of Ohio rejected the secondary holding in the Kentucky case of *Hammonds*, stating that "[a]lthough Ohio courts have not spoken on the point, the Court finds persuasive the rationale . . . that one who injects natural gas into storage facilities in the ground does not lose title to the gas when he stores it."⁵⁹ Because an Ohio district court has rejected

⁵⁴ *Natural Gas Storage – Storage Fields*, see *supra* note 2.

⁵⁵ See *Pomposini v. T.W. Phillips Gas & Oil Co.*, 580 A.2d 776, 778-79 (Pa. Super. Ct. 1990).

⁵⁶ *Id.*

⁵⁷ *U.S. Steel Corp. v. Hoge*, 468 A.2d 1380 (Pa. 1983).

⁵⁸ *Columbia Gas Transmission Corp. v. Smail*, No. C86-1196A, 1986 U.S. Dist. LEXIS 22580 (N.D. Ohio July 18, 1986).

⁵⁹ *Id.* at *18.

Hammonds for its secondary holding, it reasons that another Ohio court may be likely to adopt the majority rule that the surface owner owns the pore space than the minority rule as set forth in *Hammonds*.

However, Ohio cases decided in the early twentieth century also offer some insight into how an Ohio court may analyze the issue of pore space ownership. In *Chartiers Oil v. Peter Curtiss*, the court seems to indicate that storage rights are not incidental to a grant of the right explore for and extract minerals.⁶⁰ The Chartiers court explained that although the plaintiff had acquired the “right to drill for oil and gas”, it had not also acquired the “right of storage.”⁶¹ This type of language, along with the explanation in *Smail*, appears to lay the groundwork for Ohio to adopt the majority rule and hold that the surface owner retains the right to pore space.

On the other hand, early Ohio decisions involving coal rights indicate that the coal owner has the right to use “the space left by excavation.”⁶² Like the *Hoge* case in Pennsylvania, this early Ohio precedent is arguably distinguishable because of the unique body of coal-related law that has developed in this region of the country. The empty space remaining after coal extraction is useful to the coal operator in the extraction of the remaining coal. The court in that case described that the coal operator may use the space created by removal of mineral within the grant, as a way for the carriage of minerals from his adjoining lands...” Again, similar to Pennsylvania, absent additional recent cases addressing the storage of natural gas, it is difficult to predict if Ohio courts would extend the coal-related precedent to natural gas storage operations or follow the nationwide trend and the dicta in *Smail*.

Colorado Colorado courts also have not directly addressed who owns the pore space. However, in *Grynberg v. City of Northglenn*, the Colorado Supreme Court held that a coal lessee had the exclusive right to grant permission to collect core samples that traversed through the coal seams, although the court did not explicitly find that the coal lessee owned the pore space in the coal seams.⁶³ As in Pennsylvania and Ohio, it is unclear how Colorado courts would rule on the question of who owns the pore space given the dearth of case law on this issue.

V. FEDERAL LANDS

The federal government owns approximately 640 million acres, excluding government owned lands in marine refuges, national monuments, and interest in lands only, such as subsurface

⁶⁰ See *Chartiers Oil v. Curtiss*, 1911 Ohio Misc. LEXIS 241, at *9-10, 14 (Ohio Misc. 1911) (“It follows that the plaintiff has the right to drill for oil and gas upon the lands of the defendants described in the petition, together with such right of ingress and egress upon the surface of said lands as may be necessary for that purpose ... [i]t ought not, however, have a right of storage upon this tract, other than as may be incidental to the immediate production and marketing of oil, as it has other adjacent lands on which such right of storage exists”).

⁶¹ *Id.*

⁶² See *Moore v. Indian Camp Coal Co.*, 80 N.E. 6, 8 (Ohio 1907) (“[T]he mine owner has the right to use as he may choose, but without injury to the owner of the soil, the space left by excavation of the mineral ... it results from the absolute proprietorship over the mineral in place, that the owner thereof has a like interest in the containing chamber until the termination of the estate”).

⁶³ *Grynberg v. City of Northglenn*, 739 P.2d 230 (Colo. 1987).

minerals and easements.⁶⁴ The federal government owns 700 million acres of mineral rights in 22 states where federally certificated natural gas storage fields are located.⁶⁵ The Department of Interior’s Bureau of Land Management (“BLM”) manages those acres and mineral interests. Split estates occur where the federal government conveyed surface rights to land to private individuals, but reserved some form of mineral rights to the federal government.

To date, federal law has not determined the issue of ownership of pore space generally, or in a split estate where the United States owns at interest. It is unlikely that the language in mineral reservations and conveyances in federal land patents would address ownership of the pore space. Any analysis starts with the language of the mineral reservation itself and the granting statute.⁶⁶ It is common for a mineral reservation in a land patent to reserve and except to the federal government “all the oil and gas in the lands” or “all minerals.”⁶⁷ Courts that have considered the definition of “minerals” have reasoned that if it cannot be severed from the subsurface, it is not a mineral.⁶⁸ The plain meaning of the terms “oil” and “gas”, which are extractable minerals that may be severed from the realty, also does not seem to include the pore space, the depleted subsurface structures. Absent language that specifically references the right to store natural gas or other minerals, it is unclear if a land patent would contain language specific enough to either convey or reserve the pore space.

Furthermore, arguably the issue of construing mineral reservation language in a land patent (or other conveyance document) is distinct from the issue of pore space ownership generally. That is to say, that specific language in a conveyance or reservation of real property can, under any circumstances, determine relative property interests.⁶⁹ But, absent specific language to that effect, there will be a “default” owner of the pore space – either the surface owner or the mineral rights owner. That determination could be guided by legal analysis of the specific issue: absent contractual language, who owns the pore space? And, absent federal statutory or common law contradicting the nationwide trend of the surface owner owning the pore space, it is a reasonable conclusion to rely on state law holding that the surface owner owns the pore space and the right to compensated for use of the pore space.

It is well-established that state law, and not federal law, governs property ownership rights in the United States.⁷⁰ The Supreme Court has held that “[u]nder our federal system, property ownership is not governed by a general federal law, but rather by the laws of the several States.”⁷¹ Notably, even when federal common law was predominant in the *Swift v. Tyson* era,

⁶⁴ See CAROL HARDY VINCENT, ET AL., CONG. RESEARCH SERV., R42346, FEDERAL LAND OWNERSHIP: OVERVIEW AND DATA (2014).

⁶⁵ *Id.*; *Natural Gas Storage – Storage Fields*, see *supra* note 2.

⁶⁶ *BedRoc Ltd. v. United States*, 541 U.S. 176 (2004).

⁶⁷ See *Watt v. Western Nuclear, Inc.*, 462 U.S. 36 (1983).

⁶⁸ See *id.* at 53-54 (1983) (defining “mineral” as capable of being produced at the surface).

⁶⁹ *Temple v. McCall*, 720 F.3d 301, 304 (5th Cir. 2013).

⁷⁰ *Oregon ex rel. State Land Bd. v. Corvallis Sand & Gravel Co.*, 429 U.S. 363 (1977).

⁷¹ *Id.* at 378; see also *Beres v. United States*, 97 Fed. Cl. 757, 767 (Ct. Fed. Cl. 2011) (*citing Oregon ex rel. State Land Bd. v. Corvallis Sand & Gravel Co.*, 429 U.S. 363 (1977), for the proposition that state law governs determinations regarding property interests); *Davies Warehouse Co. v. Bowles*, 321 U.S. 144, 155 (1944) (“The great body of law in this country which controls the acquisition, transmission, and

“an exception was carved out for the local law of real property.”⁷² For example, the Court of Federal Claims has held that state law applied in determining property interests in claims for just compensation under the Takings Clause of the Fifth Amendment, citing Supreme Court precedent holding that property ownership is not governed by general federal law, but rather is governed by the law of the several states.⁷³

CONCLUSION

As demonstrated above, recent case law and legislation follow the prevailing, majority rule that the surface owner owns the rights to pore space, and is therefore entitled to compensation for use of the pore space. Several states have passed legislation establishing that the surface owner owns the underground pore space. Based on recent case law and legislation, it appears that the modern trend appears to favor the American Rule, holding that the surface owner owns the pore space.

transfer of property, and defines the rights of its owners in relation to the state or to private *parties*, is found in the statutes and decisions of the state”).

⁷² Oregon ex rel. State Land Bd., 321 U.S. at 378-79.

⁷³ See *Ingram v. United States*, 105 Fed. Cl. 518 (Fed. Ct. Cl. 2012) (holding in a Rails-to-Trails Fifth Amendment takings case that the issue of how to value of the properties at the time of the taking should be based on state law).