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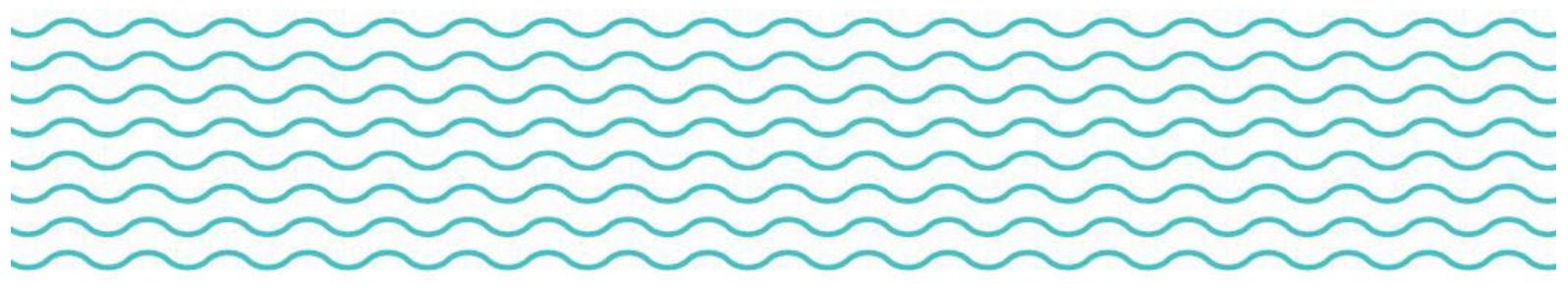
Brief

Pore Space Rights – U.S. Overview

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Overview

Sequestering carbon dioxide (CO₂) in the United States (U.S.) in subsurface geological formations presents a unique property law issue, pore space ownership. Understanding the difference between surface and mineral estates is essential when making land purchases, contractual arrangements for carbon storage, and analyzing pore space ownership. The surface estate includes everything above the ground, such as trees, the land, and buildings. The mineral estate refers to underground resources such as oil, gas, and other minerals.

This document provides information on the property rights related to pore space ownership within the United States. The issue of pore space ownership is largely settled for carbon capture and storage (CCS) in many other jurisdictions around the world. However, as the U.S. law is not sufficiently settled, each party should consult local counsel to draft leases and other carbon dioxide storage-related documents.

Summary

CO₂ will be sequestered in the pore space of the geologic formations. Pore space ownership is not always clear and often an unsettled area of property rights law, creating uncertainty in many states. Ownership of the pore space should not be presumed to be vested in the surface owner, especially when there has been a severance of the surface estate and mineral estate. However, most states in the United States seem to follow what is known as the American rule. Under American rule, the mineral estate holder owns the minerals but not the geologic formation. The surface owner owns the geologic pore space and has storage rights. "A caveat to this rule states that surface estates, under the American rule, must allow the oil and gas company holding the mineral estate to complete their extraction of minerals and completely deplete the subsurface area before leasing the pore space to another." ¹ The English rule takes the position that the mineral estate owner owns the natural resources and the pore space.

There is an added complication in split estates, where the same person does not own the surface and mineral estates. "In much of the United States, it is common for mineral rights to have been severed from surface ownership by prior reservation, leaving surface and mineral ownership in separate hands. In the public land states of the Western United States, the "split estate" issue primarily arises from federal land disposition laws, most notably the Stock-Raising Homestead Act (SHRA) of 1916, which expressly reserved minerals to the federal government for over 50 million acres around the west. Courts in these cases have generally concluded that the use of geologic pore space is not associated with the mineral estate since the pore space represents the absence of minerals and that the surface owner, therefore, owns geologic storage rights. In other situations, such as the construction of solution-mined caverns in subsurface salt deposits, ownership of void space has been an attribute of



the mineral estate. However, there is enough nuance in the law of individual states that broad conclusions are difficult to draw without substantial local law research.^{2,8} Even in cases where the state follows the American rule, there may be underlying documents that could mandate the court issue an opinion that is not consistent with the rule followed. For example, in "*Ellis v. Arkansas Louisiana Gas*, an Oklahoma case, the Tenth Circuit held that, in general, the pore space belonged to the surface owner for gas storage purposes; however, in this particular case, the mineral owner prevailed because the court found a prescriptive easement. A prescriptive easement allows someone other than the original property owner to gain the right to use a property. This easement typically arises after a long, continuous, adverse, open use of a right-of-way over someone else's property for a certain amount of time. The amount of time may vary by state.

Those looking to sequester CO₂ should perform due diligence research regarding the property rights laws in the area(s). Unfortunately, the law is unsettled, and ancillary factors could yield opinions contrary to the general understanding of the governing rule (American or English). Table I depicts the uncertainty that remains in this area of property law in the United States.

Table I: Pore Space Ownership Summary

State	Pore Space Ownership	Reference(s)	Comments
Arkansas	Likely to follow American Rule	3, 7	
California	Unsettled	6, 10	The prevailing rule appears to be that the surface owner owns the pore space.
Colorado	Unsettled	8, 3, 10	For lands subject to the SRHA, the federal government likely owns the pore space. Colorado courts have not directly addressed who owns the pore space
Idaho	Undecided	8	
Kansas	Undecided	12	
Kentucky	Appears to be mineral owner	4, 10	Court in <i>Central Kentucky Natural Gas v. Smallwood</i> applied the English rule that is, "the mineral owner possesses the exclusive right of production as well as the exclusive right to the storage space left after production has ceased." Surface owners argue English rule is not applicable. ²



Louisiana	Surface owner	4, 10	
Michigan	Surface owner	4, 10	Caveat: But the court <i>In Department of Transportation v. Goike</i> , the Michigan Court of Appeals made it clear that when native oil or gas remains in the pore space, the mineral owner may preclude the surface owner from using the storage space...
Montana	Surface owner	2, 6, 10	
New Mexico	Appears to be surface owner	4, 10	New Mexico's policy towards ownership of pore space is somewhat ambiguous because the state and public entities have the right to use aquifer storage to recharge the aquifer. Older case law appears to indicate the surface owner has pore space ownership. ¹⁰
New York	Appears to be surface owner	10	
North Dakota	Surface owner	2, 6	
Ohio	Undecided	10	Ohio courts have not spoken directly as to who owns the pore space.
Oklahoma	Appears to be Surface owner	4, 10	
Pennsylvania	Undecided	10	There are no Pennsylvania cases directly addressing the ownership of pore space in Pennsylvania.
Texas	See comments	1, 4, 5, 10	In Texas, there is no clear general rule on which estate, surface or mineral, possesses ownership of the pore space for storage purposes unless the severance contract expressly specifies. There are multiple cases in Texas that offer conflicting results regarding whether the state follows the English or American Rule.
Utah	Undecided	13	Pore space rights are currently in an initial absolute stage of development. ¹³
West Virginia	Appears to be surface owner	4, 10	Case law appears to support surface owner. ¹⁰
Wyoming	Surface owner	5, 6, 9	



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