

It is now possible that landowners can make money out of thin air...or pore space.

Natural resources trial lawyer, Trae Gray, said surface owners can benefit from pore space, the empty space between the grains of rock, fractures and voids.

The owner of LandownerFirm, located just west of Coalgate, Okla., said pore space can be used to store carbon, waste water, and natural gas.

"When an oil company comes in and extracts the oil and gas, they extract that from the pore space," Gray explained. "That space becomes open or available to do something with it."

Gray reviewed laws related to pore space in more than 10 states, including Oklahoma, in his thesis as a Master of Laws student at the University of Oklahoma. He explored states that used pore space heavily, either for oil and gas production, or carbon sequestration production.

"In some formations, you have carbon sequestration, where they inject carbon into the ground to get rid of greenhouse gases and things like that," Gray added.

Interest in hydraulic fracturing and the need to store the salt water by-product produced by the oil and gas industry has made pore space popular in recent years.

"In the oil and gas context, they take oil and gas out of the ground, and then they have waste water that's produced from the earth and inject the waste water back down into the pore space," Gray explained.

In his thesis, Gray explored both the historic and current status of the law regarding pore space in Oklahoma, as well as the valuation of pore space.

Several cases in Oklahoma address pore space to some extent, including *Ellis v. Arkansas Louisiana Gas Co.*, in 1980.

In *Ellis*, a group of surface owners, who owned surface rights for 78 acres in Pontotoc County, Okla., claimed the mineral owner unlawfully utilized "the underground strata for storage of natural gas."

The surface owners argued the natural gas company did not have the right to store natural gas in a porous reservoir rock after the minerals were depleted.

The court's decision granted the surface owners the right to create lease agreements for pore space. The decision allowed landowners to profit from the space.

Other cases like *Ellis v. Arkansas Louisiana Gas Co.*, addressed pore space ownership in terms of wastewater injection and natural gas storage, Gray explained. However, pore space was not considered a property right at all until recently, he said.

"In many states, the law is uncertain," Gray explained. "In Oklahoma, the law is pretty certain because we have a state statute that says the pore space belongs to the surface owner."

In 2011, the Oklahoma legislature made it clear that pore space is a property right owned by the surface owner and not the mineral owner, but Gray said he has not heard of any litigation surrounding the statute.

"What we haven't seen is how the courts are going to interpret that statute, or how specific fact See SPACE page 13



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PHOTO DETAILS

Pore space is defined as the empty space between the grains of rock, fractures and voids. (Photo by Jacob Redway)

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Space

scenarios are applied to the statute and how the courts are going to rule," Gray explained.

Surface owners need to keep in mind the right of reasonable use, he added.

"An oil and gas operator has the right to use as much pore space as reasonably necessary for their oil and gas operations," Gray explained. "But, if they start doing something that's beyond the right of reasonable use, they wouldn't have the right to do that."

When dealing with pore space, Gray said landowners need to make sure they retain ownership. If the landowner leases pore space, there is an end point in time where the landowner can forfeit the pore space.

"I believe, as we go on and move into the future, [pore space] is going to become a more and more valuable asset for the surface owners if they are able to hold on to it." he added.

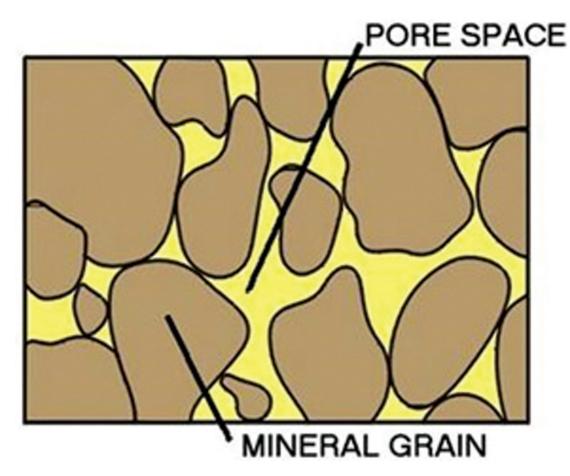
Many landowners have forfeited their mineral rights over time in the past, and Gray does not want the same thing to happen with pore space.

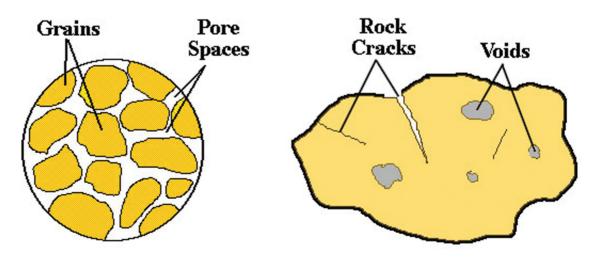
"Obviously if they had to do it all over again, they would probably like to have the minerals," Gray explained. "They don't want to do the same thing with the surface or the water or the wind."

Valuing pore space can be difficult because there is no set market value for pore space, he explained. The value of pore space is determined by what it is going to be used for and how much the user is going to pay.

Pore space is also difficult to value if the pore space is not utilized prior to the company wanting to use it.

Although the litigation on pore space is relatively new, Gray believes it will be a "hot topic" in future years. Gray theorizes there is a possibility of cases involv-





Pore space can be used to store carbon, waste water and natural gas. (Photos courtesy of LandownerFirm)

ing wastewater seeping from one property to another landowner's property in the future in his 2015 thesis.

"Practically speaking, it is a theory wrought with evidentiary problems and political pressure in a state known to favor the energy industry," Gray wrote. "Oklahoma is set to be a proving ground for surface owner rights as they relate to pore space." *

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