



**Statement of Adam S. Vann
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**Before
The Committee on Energy and Natural Resources
United States Senate**

April 20, 2010

on

Carbon Capture and Sequestration Legislation

Mister Chairman and Members of the Committee:

My name is Adam Vann. I am a Legislative Attorney with the American Law Division of the Congressional Research Service at the Library of Congress, and I thank you for inviting me to testify today regarding the Committee's consideration of legislation related to emerging carbon capture and sequestration (or, as it is sometimes called, carbon capture and storage) technology. For purposes of this testimony, I will refer to it as "CCS." My testimony will focus on legal issues related to CCS technology; specifically, concerns over who maintains ownership and control over the "pore space" in which the carbon dioxide would be stored or sequestered under most of the emerging CCS models.

At the outset, I should note that as an attorney, my testimony will be limited to legal issues related to CCS, including pore space ownership and control. I cannot speak to technological, economic, or other policy concerns related to CCS. I am certain that my colleagues at this hearing or my fellow Congressional Research Service analysts can ably field any such inquiries. Furthermore, my testimony will not cover other legal issues commonly discussed in the context of CCS technology, including, among others, problems related to potential difficulty obtaining liability coverage and concerns related to trespass of adjacent property.¹ My testimony will be confined to pending legislation and issues associated with ownership of subsurface pore space.

¹ For further discussion of several legal issues related to CCS technology, see CRS Report R41130, *Legal Issues Associated with the Development of Carbon Dioxide Sequestration Technology*, by Adam Vann, James E. Nichols, and Paul W. Parfomak. See also Philip M. Marston and Patricia A. Moore, *From EOR to CCS: The Evolving Legal and Regulatory Framework for Carbon Capture and Storage*, 29 Energy L.J. 421, 475 (2008).

Background

CCS technology is among the many proposals to address concerns over the impact of carbon dioxide emissions from man-made sources on the environment. Unlike most other proposals, CCS technology is not intended to reduce the quantities of these emissions; rather, it would capture these emissions at their source and “sequester” or “store” them at sites with the appropriate geologic characteristics.² Any entity wishing to operate a CCS facility must therefore own or control the pore space in which the carbon dioxide would be sequestered or stored. However, since CCS technology is not yet in existence and was not even considered until recently, most existing legal instruments related to property rights do not address ownership and control of pore space, and to the best of my knowledge, none of them refer to ownership and control of pore space for purposes of sequestration or storage of carbon dioxide. Therefore, in order to determine who holds the relevant property rights, we must interpret the language found in such legal instruments and ascertain how it might apply to pore space to be used for CCS. In doing so, we can look to interpretations of courts who have reviewed similar or analogous property rights disputes.

Traditionally, property law issues are handled at the state level. Indeed, most of the analogous disputes regarding subsurface “pore space” to date have been handled under state law, and presumably would be handled under state law going forward. These disputes, and subsequent actions by some state legislatures, have produced what I will refer to as the “majority rule” that holders of mineral rights do not, merely by virtue of these rights, have ownership or control of subsurface pore space. However, to the extent that CCS projects might take place on lands owned or controlled by the United States, determinations of pore space ownership and control become an issue for the federal government. S. 1856 recognizes this federal role and, as I understand it, attempts to resolve the issue going forward by declaring that “[t]he ownership of any subsurface pore space located below a Federal surface estate shall be vested in the Federal Government,” unless conveyed along with the surface estate or previously severed from the surface ownership.³

S. 1856, if enacted, would govern subsurface pore space rights on Federal lands going forward. However, if any aspect of the bill or similar language results in a transfer of existing subsurface rights of a private entity to the Federal government, that private entity would be entitled to just compensation under the Fifth Amendment of the United States Constitution.⁴ Therefore, it is worthwhile to consider whether any private entity aside from the owner of surface rights might be able to claim ownership of, or control over, the relevant subsurface rights. The most obvious candidate would be the owner of “mineral rights” on/under the Federal land in question, as mineral rights are, generally speaking, rights to something that is subsurface.

The Majority Rule: Pore Space Control Does Not Transfer with Mineral Rights

In order to determine: (1) the extent to which S.1856 would deviate from the current understanding of subsurface property interests under state and federal law; and (2) whether holders of mineral rights or other property interests might be entitled to just compensation for loss of their interest in the pore space

² For further information on geologic aspects of emerging CCS technology, see CRS Report RL33801, *Carbon Capture and Sequestration (CCS)*, by Peter Folger.

³ S. 1856.

⁴ The Fifth Amendment to the U.S. Constitution provides in part that “private property [shall not] be taken for public use, without just compensation.”

pursuant to S. 1856, we must look at both state and federal common law and currently existing statutes and regulations.

It is the opinion of CRS that the vast majority of relevant case law suggests that a reviewing court would likely find that the pore space that would be used in CCS is not conveyed with mineral rights, but rather in most cases would remain with the holder of the surface rights. The vast majority of legal precedent suggests that the property owner, not the holder of mineral rights, would have the relevant property interest in pore space for purposes of any CCS project. Indeed, most legal experts who have studied this issue have reached a similar conclusion.⁵ In the case of Federal land on which the mineral rights are leased, this means that, although the holder of the mineral rights would of course have certain rights that must be considered in using the property, the Federal government would have ownership of, and control over, the pore space that would be used for CCS. Experts have cited to a number of common law decisions in support of this conclusion.

An instructive precedent to consider from the federal court jurisprudence is *Emeny v. United States*.⁶ In *Emeny*, the United States Court of Claims⁷ was tasked with deciding whether the United States had acquired the right to store helium gas within a pore space formation on a certain property when the terms of the government's lease with the owner of the pore space were limited to the sole purpose of mining and operating for oil and gas.

The plaintiffs in *Emeny* owned a tract of land in Texas which contained significant deposits of helium gas. The plaintiffs granted to a private gas company "oil and gas leases covering a total of approximately 217,000 acres of land, including the area which contains the Bush Dome."⁸ The United States eventually obtained these oil and gas leases from the private oil company, along with the remaining mineral rights that had been reserved by the plaintiffs, and compensated the respective parties accordingly.⁹ However, in the lease with the United States, the plaintiffs expressly reserved for themselves the surface of the leased lands, "including any such structure that might be suitable for the underground storage of 'foreign' or 'extraneous' gas produced elsewhere."¹⁰

Pursuant to the lease agreement, the United States commenced operations to extract the helium contained within the Bush Dome, and continued to do so for approximately three decades until the Bush Dome was empty. After the Bush Dome was emptied, the United States sought to store helium gas produced elsewhere inside of the now empty pore space.¹¹ The plaintiffs argued that they were entitled to just compensation for the government's use of the Bush Dome as a helium storage facility because pursuant to

⁵ See, e.g., Owen L. Anderson, *Geologic CO2 Sequestration: Who Owns the Pore Space?* 9 Wyoming L. Rev. 97 (2009); Ian J. Duncan, Scott Anderson and Jean-Philippe Nicot, *Pore Space Ownership Issues for CO2 Sequestration in the U.S.*, GHGT-9 Energy Procedia, Elsevier V.1 p. 4427-4430 (2009); Philip M. Marston and Patricia A. Moore, *From EOR to CCS: The Evolving Legal and Regulatory Framework for Carbon Capture and Storage*, 29 Energy L.J. 421, 475 (2008).

⁶ 412 F.2d 1319 (1969) (*Emeny*).

⁷ The U.S. Court of Claims was the original court in which claims against the United States were tried. The U.S. Court of Claims was abolished in 1982. The court's trial-level jurisdiction was transferred to the U.S. Court of Federal Claims and its appellate jurisdiction to the U.S. Court of Appeals for the Federal Circuit.

⁸ *Emeny* at 1321. According to the court's opinion, the Bush Dome "is a closed geological structure, or underground dome, in which gaseous substances can be stored ... The potential storage capacity of the Bush Dome is in excess of 52 billion standard cubic feet of gas." *Id.* at 1321.

⁹ *Id.* at 1321-1322.

¹⁰ *Id.* at 1323.

¹¹ *Id.* at 1322.

the language of the lease agreement, the government only had a right to extract the gas contained within the pore space and no right to use the pore space for storage of helium gas produced elsewhere.

After a consideration of Texas common law, the court in *Emeny* agreed with the plaintiffs that the government's property interest did not include the right to use the pore space for gas storage, and ordered the United States to pay the plaintiffs just compensation for its use of the Bush Dome as a helium storage facility. According to the court, "[t]here is no reasonable basis on which the rights granted to the [United States] in the ... oil and gas leases could be construed as including the right to bring to the premises and store there gas produced elsewhere."¹²

The West Virginia courts reached a similar conclusion in *Tate v. United Fuel Gas Company*.¹³ In *Tate*, the highest court in West Virginia addressed the question of pore space ownership once the minerals contained therein had been extracted. The owner of the land deeded the land to another man, but expressly reserved to himself the "oil, gas ... and all minerals ... underlying the surface of the land."¹⁴ The new owner then deeded the surface estate to Virgil Tate, subject to the same exceptions in the original deed, including the reservation of the mineral estate for the original owner. After extracting all of the oil from the pore space, the original owner eventually leased his remaining mineral rights to the defendant, United Fuel Gas Company. United Fuel Gas Company then used this mineral rights property interest to store gas produced elsewhere in the empty pore space.

Plaintiff Tate, the owner of the land subject to the underground property interest leased to United Fuel Gas Company, asserted that the lease between the original owner and United Fuel Gas Company which gave United Fuel the "remaining" mineral rights was invalid, since the original owner/holder of the mineral rights only had a right to extract the contents of the subsurface estate, not the right to use the pore space for other purposes. The Supreme Court of West Virginia agreed with Tate and held that the express reservation of mineral rights only granted to the original owner/mineral rights holder (and his lessee, United Fuel Gas Company) a right to exploit the gas and minerals contained within the pore space, not a right to use the pore space itself for the storage of gas produced elsewhere.¹⁵

According to *Tate*, the owner of the mineral rights likely would not have the right to the use or lease the pore space for carbon dioxide capture and sequestration, unless the owner of the surface estate expressly allows the owner of mineral rights to use the pore space. This conforms with what is referred to here as the "majority rule" (and others have called the "American rule") that pore space is not conveyed with a standard conveyance of mineral rights.¹⁶

Another case that reached a similar conclusion is *U.S. v. 43.42 Acres of Land*.¹⁷ In this case, a federal district court had to determine whether the surface owners, mineral owners, or both should receive compensation from the government for land acquired for the construction of an underground crude oil

¹² *Emeny* at 1323.

¹³ 71 S.E.2d 65 (1952) (*Tate*).

¹⁴ The pertinent language of the deed stated that "[t]he oil, gas and all minerals ... underlying the surface of the land hereby conveyed are expressly excepted and reserved from the operation of this deed ... it being understood [sic] that the term 'mineral' as used herein does not include clay, sand, stone, or surface minerals except such as may be necessary for the operation for the oil and gas and other minerals." *Tate* at 67-68.

¹⁵ *Id.* at 72.

¹⁶ Some legal writings have referred to this rule as the "American rule." This terminology is used in contrast with the "English rule" that the mineral rights owner retains the right to the subsurface space even after the minerals have been extracted.

¹⁷ 520 F. Supp. 1042 (1981) (*Acres*).

storage tank.¹⁸ One defendant owned the land under which a crude oil storage tank was to be constructed. The other defendant owned the rights to the minerals that needed to be extracted to construct the underground storage tank. The United States intended to construct this storage tank by extracting the salt contained inside of the subterranean geological structure and then using the evacuated underground formation as a storage area.¹⁹ Both defendants claimed an exclusive right to be compensated by the United States for its taking of the property pursuant to the Energy Policy and Conservation Act.²⁰

Since *Acres* was a case of first impression under Louisiana law, the court considered common law authority from other jurisdictions to inform its opinion, and concluded that “. . . the general rule in common law . . . provides that, after the removal of minerals, the opening left by the mining operations belongs to the land owner by operation of law.”²¹ Since the minerals had not yet been removed from the pore space by the United States and since the resulting pore space needed to be used by the United States for crude oil storage, the court ordered the United States to compensate both the landowner and the mineral rights owner.²²

Although the question of compensation was the primary focus of the court in *Acres*, the determination that both the surface and mineral estate owners should be compensated by the government was based on the rationale that the mineral estate owner has an interest in the minerals contained within a pore space, while the surface estate owner retains an interest in the pore space itself.²³

While virtually all authors and scholars have concluded that the case law clearly favors a rule attaching pore space ownership and control to the surface estate or remaining estate over the holder of mineral rights, some have noted that the precedent is far from unanimous.²⁴ Two cases commonly cited in support of the argument that a mineral rights conveyance also conveys ownership and control of pore space are *Mapco v Carter*²⁵ and *Central Kentucky Natural Gas Co. v. Smallwood*.²⁶

¹⁸ In his opinion, Judge Veron writes, “Simply stated, the issue to be decided by this court is: who is entitled to be compensated for the value of the hole in the ground to be created by construction of the underground storage cavern[:] the land owners or the mineral owners?” *Acres* at 1043.

¹⁹ The process by which crude oil reservoirs are created was described in *Acres*:

To utilize the subsurface for the extraction of brine and the creation of storage facilities[,] a well is drilled so as to penetrate the salt formation. Water is forced into the formation through the well, the salt is withdrawn as brine, and a cavity is left in the salt mass because of gradual dissolving of the salt and a resulting erosion by the leaching process. The jug shaped cavity, or ‘jug[,]’ formed by this leaching is used for the storage of hydrocarbons. A jug is 100 feet or more in depth, with capacity for storing over a million barrels of one of the various hydrocarbons. A thick barrier of salt must be retained around each jug to form a satisfactory wall for the containment of the stored product.

Acres at 1043.

²⁰ 42 U.S.C. § 6249(a)-(f).

²¹ *Acres* at 1045.

²² “[Owners of a mineral servitude] have no right to claim compensation for the value of the cavern to be created by removal of the salt. They should be compensated only for the value of the right to explore for and reduce to possession the minerals on the land in question. [The] land owners . . . own all remaining rights in the land, and they are entitled to be compensated for the underground storage value of the land.” *Id.* at 1046.

²³ *Id.* at 1045.

²⁴ See, e.g., Elizabeth J. Wilson and Mark A. Figueiredo, Geologic Carbon Dioxide Sequestration: An Analysis of Subsurface Property Law, 36 Environmental L. Rev. 10114 (2006).

²⁵ 808 S.W.2d 262 (Tex. 1991) (*Mapco*).

²⁶ 252 S.W.2d 866 (Ky. 1952) (*Smallwood*).

In *Mapco*, multiple parties had interests in the surface and mineral rights of a parcel of land in Texas. As a result of a previous court-ordered partition, the surface and mineral rights were divided among the various co-owners. Despite the fact that the co-owner Mapco only possessed a minority interest in the mineral rights in addition to the surface rights, Mapco decided to extract and sell the salt contained beneath its portion of the partitioned land without the consent of the other co-owners.²⁷ When the salt was completely extracted, Mapco “plugged” the empty cavern with concrete and abandoned it, thereby rendering it unusable as storage space for gas or petroleum products.²⁸

Ultimately, the Court of Appeals of Texas ordered Mapco to compensate the co-owners of the mineral rights because, as mineral rights co-owners, they were also entitled to an amount of the proceeds from Mapco’s sale of the salt equal to their respective interests in the partitioned land.²⁹ The court held that under Texas law, “this interest in minerals is an interest in real property. Thus, the fee mineral owners retain a property ownership, right and interest after the underground storage facility ... had been created.”³⁰

This result suggests that mineral rights are not merely a right to extract the minerals in question and an ownership right in said minerals, but also grant an ownership right in the subsurface formation left behind. However, in the opinion of CRS, this fact pattern may be distinguished from any hypothetical claim that mineral rights include an interest in subsurface pore space. In *Mapco*, the subsurface storage area was created by the excavation of the mineral. In contrast, pore space contemplated for use in CCS technology is naturally occurring, not created by the mineral extraction. Furthermore, the storage area in *Mapco* was actually comprised of the mineral in question (salt). Again, this would presumably not be the case with respect to pore space used for CCS.

In *Central Kentucky Natural Gas v. Smallwood*,³¹ the property owner executed an “oil and gas production and storage lease” conferring the right to drill for oil and gas and to store gas of any kind regardless of source in the subsurface.³² The lessee did not produce any gas, but gas that was removed from wells on adjacent lands in the area was stored under the surface and rentals were paid. The lessee paid the lessor only half of the rental fees, under the assumption that the rentals should be paid to the holder of the mineral rights, not the surface rights (the lessor had retained a 50% interest in the minerals).³³ The lessor claimed that the rent should be paid solely to him, as the owner of the surface estate and thus the subsurface formations in which the gas was stored.³⁴ The court ruled in favor of the lessee, finding that the stored gas was equivalent to “native” gas and that therefore revenue therefrom was attributable to the owner of that gas, i.e. the holder of the mineral rights.³⁵

However, the court’s decision was based solely on the classification of the stored gas as equivalent to the native gas. In fact, the court clarified that “[i]n reaching the conclusion that we reach, it is not necessary to determine whether the cavern or strata from which a mineral has been removed becomes the property

²⁷ *Mapco* at 267.

²⁸ *Id.* at 268-269.

²⁹ *Id.* at 278-279.

³⁰ *Id.* at 274-75.

³¹ 252 S.W.2d 866 (Ken. 1952) (*Smallwood*).

³² *Id.*

³³ *Id.* at 867.

³⁴ *Id.*

³⁵ *Id.* at 867-868.

of the mineral or surface owner.”³⁶ Indeed, the court references the “English rule” that subsurface spaces are owned by the mineral rights holder and then notes that “[t]he general rule in the United States seems to be otherwise.”³⁷ Thus, *Smallwood* does little to establish precedent contrary to the “majority rule” or the “American rule.”

Finally, it should be noted that some states have enacted legislation establishing default rules for pore space ownership and control. Three states have enacted relevant legislation: Montana, North Dakota, and Wyoming. In each of these states, the state legislature decreed that the surface owner, not the mineral rights owner, is the owner of the pore space to be employed in CCS technology.³⁸ Further, in the two states that are currently considering relevant legislation (Michigan and New York), the pending legislation reportedly would also declare that pore space does not belong to the mineral rights holder but remains with the surface estate.³⁹

It is worth pausing briefly to consider why this “majority rule” or “American rule” has been so widely adopted. There is a general principle in property law that any property right not expressly conveyed is retained by the owner or grantor.⁴⁰ Accordingly, courts have tended to interpret limited property grants (like mineral rights) from a fee simple owner narrowly, with the fee simple owner retaining all property rights not explicitly granted in the document. Thus, a grant of mineral rights would grant only what is explicitly granted in the “four corners” of the document. In the case of federal mineral rights leases, the conveying language usually is something similar to this: “This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described ... together with the right to build and maintain necessary improvements thereupon.”⁴¹

Courts would thus likely be inclined to find that anything not explicitly mentioned, e.g. subsurface pore space or similar formations, would not be transferred, but would remain with the grantor, as the cases described above illustrate.

S. 1856

Given the aforementioned, S.1856 probably would not disrupt the current understanding of the ownership rights of the Federal government and mineral rights leaseholders in subsurface pore space, at least in the context of mineral leases. The latest draft of the bill that CRS has seen would establish that, as a rule, subsurface pore space below a surface estate owned by the Federal government would be owned by the Federal government. With respect to mineral leases, this is clearly in line with the “majority rule” or “American rule” that appears to have been adopted by virtually every court (and every state legislature) that has considered the question, as described in detail above; although, of course, no court has yet ruled on this issue with respect to use of subsurface pore space for CCS. Similarly, by establishing that “a conveyance of the surface ownership shall include the conveyance of the Federal pore space in all strata

³⁶ *Id.* at 868.

³⁷ *Id.*

³⁸ Mont. Code Ann. § 82-11-181(3); N.D. Cent. Code § 47-31-03; Wyo. Stat. Ann. § 34-1-152(a).

³⁹ Southern States Energy Board, “Carbon Capture and Sequestration Legislation in the United States of America,” March 2010, available at <http://www.sseb.org/documents/CCSLegMatrixshort.pdf>.

⁴⁰ See, e.g., *Davis v. Peavy-Moore Lumber Co.*, 144 S.W.2d 878, 880 (Tex. 1940).

⁴¹ U.S. Department of the Interior, Bureau of Land Management, Form 3100-11 (October 2008): Offer to Lease and Lease for Oil and Gas. CRS has also reviewed several other lease forms dating back to 1984, and all of them contain substantially similar language.

below the surface of the Federal land” unless previously reserved,⁴² the bill effectively clarifies that the application of the “majority rule” or “American rule” extends not just to exclude subsurface pore space from mineral rights conveyances, but in fact to attach such rights to the surface estate.

However, aspects of S. 1856 could prove controversial in other respects. First, the declaration that ownership of the subsurface pore space is “vested in the Federal Government” is not limited to cases in which the Federal Government has conveyed mineral rights, but in fact covers all Federal surface estates. This could prove problematic where the conveyances are for a property interest other than mineral rights, in which the grantee might be able to claim that the subsurface pore space was conveyed. In such cases S. 1856 might trigger a requirement that the grantee be justly compensated, as discussed in more detail below. Indeed, the testimony to this point should only be considered applicable to the extent that the property interests in question are mineral rights on the one hand, and the remaining estate on the other. The rights and obligations of any other conveyances would need to be considered on a case by case basis.

Another concern is the statement concerning the “applicable law” in construing conveyances prior to the enactment date of S. 1856. The provision would likely not be applicable to a claim seeking compensation for the “taking” of a subsurface property right under the terms of S. 1856, as such a claim would depend on the applicable law at the time of the conveyance, as discussed in more detail below. Also, the language might prove troubling because it applies only to “ownership” interests. Mineral rights and other subsurface interests can be, and often are, conveyed as leases or other property interests that may not be considered “ownership” interests. The applicability of this language to those interests may be a concern.

Takings Concerns

If S. 1856 is enacted, and subsequently it is determined that a private party previously had a property interest in the subsurface pore space located below a Federal surface estate, such a finding would not likely invalidate the enacted law. Instead, the party would likely be entitled to just compensation pursuant to the “Takings Clause” of the Fifth Amendment to the U.S. Constitution.

A takings claim resulting from S. 1856 or similar legislation would likely be in the form of a “physical/appropriations” takings claim.⁴³ Indeed, “[t]he paradigmatic taking requiring just compensation is a direct government appropriation or physical invasion of private property.”⁴⁴ Thus, in the case of a hypothetical loss of a real property interest in subsurface pore space, there is little question that the interest represents “property” that would require just compensation. The main question, therefore, would be whether S. 1856 or similar legislation would in fact divest a real property interest from any potential party.

As explained in detail above, a mineral rights holder on Federal lands would have difficulty arguing that the mineral rights interest included a property interest in the subsurface pore space. Therefore, it is unlikely that a party that holds only a mineral rights lease on Federal lands would have a compensable Takings claim as a direct result of S. 1856 or similar legislation. However, the expansive language in S. 1856, which preempts *any* claim to subsurface pore space property rights located below a Federal surface estate, is more likely to create a compensable taking. The Federal government grants leases, easements

⁴² S. 1856.

⁴³ For a more detailed discussion of the Takings Clause, the various types of Takings claims, and the applicable legal standards, see CRS Report RS20741, *The Constitutional Law of Property Rights “Takings”*: An Introduction, by Robert Meltz.

⁴⁴ *Lingle v. Chevron USA, Inc.*, 544 U.S. 528, 537 (2005).

and rights of way, and other real property interests on (and under) Federal lands in many forms and for many purposes. It is not possible to conduct a comprehensive review of all such property interests. However, the possibility exists that some of these may encompass an interest in subsurface pore space (in whole or in part). If such a property interest does exist, the party holding the interest may well be entitled to Takings compensation upon the passage of S. 1856 or similarly worded legislation.

Also, it should be noted that this taking analysis addresses only potential physical/appropriations takings claims; that is, a claim that the legislation results in the loss of a real property interest in the subsurface pore space. Consideration of “regulatory” or other takings claims, in which the aggrieved party would argue that the law or regulation results not in a total loss of a property interest but rather in the reduction of the value of a property interest that the party continues to hold, are outside the scope of this testimony. However, the language in S. 1856 does provide that “[n]othing in this section alters any laws or case law in existence on the date of enactment of this section relating to the rights belonging to, or the dominance of, the mineral estate.” This language may provide additional assurance to those concerned that mineral rights on Federal lands might be taken. Also, S. 1856 does not authorize CCS projects or any other activity. It simply attempts to classify ownership interests in real property. Because it does not authorize new activity, it likely would not, by itself, give rise to any regulatory or other partial takings claim.

Conclusion

As described above, S. 1856 likely would not represent a significant deviation from the current understanding of the real property rights associated with ownership and control of the subsurface pore space that would likely be employed in CCS technology. Common law, legal scholars, and state legislatures have, for the most part, agreed that subsurface pore space is owned and controlled by the holders of surface rights, not mineral rights. As a result, this legislation, or similar legislation, would likely not result in a compensable takings claim from a holder of mineral rights on Federal lands. However, there are some concerns about the breadth of the language in S. 1856 and potential takings of property interests other than mineral rights.

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Mister Chairman, that concludes my prepared statement. I would be happy to answer any questions that you or other Members of the Committee might have, and I look forward to working with all Members and staff of the Committee on this issue in the future.
