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Can Oil and Carbon Mix? Using the "Amount Realized" Analysis from Frey v. Amoco Production Co. for Royalty Payments on Carbon Dioxide Sequestration

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INTRODUCTION

If a carbon tax is passed that affects Louisiana or nearby states, Louisiana mineral lessors may find a new source of royalty payments. One way of implementing a carbon tax is to charge companies for each ton of carbon dioxide they emit into the atmosphere,[1] creating an economic deterrent to releasing carbon dioxide into the atmosphere. Depending on the process generating the carbon dioxide, some industries could develop methods of capturing the carbon dioxide that they produce but would then need somewhere to sequester[2] (store) it in order to avoid the carbon tax. One long-term solution is subsurface sequestration, which involves pumping carbon dioxide into underground pore space in order to avoid releasing it into the atmosphere.[3] When properly managed, carbon dioxide can be stored underground for 10,000 years with only a small risk of carbon dioxide leaking into the atmosphere.[4]

If a carbon tax were passed, mutually beneficial relationships could develop between companies that seek to avoid the carbon tax and oil producers that sometimes use carbon dioxide in enhanced oil recovery projects.[5] Depending on the severity of the carbon tax, some companies might pay oil operators to take their carbon dioxide and either use it for carbon injection oil recovery or simply sequester it in the subsurface. Carbon dioxide injection would allow the company who initially produced and captured the carbon dioxide to avoid releasing it into the atmosphere, thereby avoiding the carbon tax, and allowing the operator access to a source of carbon dioxide that is cheap, free, or possibly even one that they will be paid to use.

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1. Ann R. Klee, *Where is U. S. Climate Policy Headed?*, 28 E. MIN. L. FOUND. §1.03 (2007).

2. *What is Carbon Sequestration?*, USGS, https://www.usgs.gov/faqs/what-carbon-sequestration?qt-news_science_products=0#qt-news_science_products [https://perma.cc/E4UD-3A2W] (last visited Nov. 1, 2019).

3. Kevin Bullis, *Cheaper Ways to Capture Carbon Dioxide*, TECH. REV. (June 12, 2018), https://www.technologyreview.com/s/515881/cheaper-ways-to-capture-carbon-dioxide/ [https://perma.cc/66XQ-J2G9]; Daisy Dunne, *World can 'Safely' Store Billions of Tonnes of CO2 Underground*, CARBON BRIEF (June 12, 2018), https://www.carbonbrief.org/world-can-safely-store-billions-tonnes-co2-underground [https://perma.cc/9PBF-SMTA].

4. Dunne, *supra* note 3.

5. The following statement explains what this project is:

> This process of injecting CO_2 into existing oil fields is a well-known "enhanced oil recovery" (EOR) technique: the addition of CO_2 increases the overall pressure of an oil reservoir, forcing the oil towards production wells. The CO_2 can also blend with the oil, improving its mobility and so allowing it to flow more easily.

Christophe McGlade, *Commentary: Can CO2-EOR Really Provide Carbon-Negative Oil?*, INT'L ENERGY AGENCY, (Apr. 11, 2019), https://www.iea.org/news room/news/2019/april/can-co2-eor-really-provide-carbon-negative-oil.html [https: //perma.cc/TL4M-8QB2].

If the operator were paid to use the carbon dioxide, would they be required to pay royalties for the payments they receive? One Louisiana Supreme Court decision, *Frey v. Amoco Production Company*, could create an opportunity for Louisiana land, servitude, or royalty interest owners (referred to as lessors for convenience) to receive royalty payments on carbon dioxide used in enhanced oil recovery projects. The court's ruling required mineral lessees to pay royalties to the lessor for all the economic benefits that they gain through the use of the leased land.[6] If the mineral lessee (the oil and gas producer) is paid to use the carbon dioxide, the *Frey* ruling could require the lessee to pay royalties on the carbon dioxide used in enhanced oil recovery projects.[7]

This Comment analyzes the likelihood of the reasoning from *Frey* being used to require mineral lessees to pay royalties on carbon dioxide used for enhanced oil recovery projects if they were paid to use the carbon dioxide in enhanced oil recovery projects.

Part I covers part of the Louisiana Mineral Code and the rights that are relevant to this Comment. This section also includes an explanation of the *Frey* ruling. Part II presents cases from other states that have both followed and distinguished *Frey*. Part III examines how likely courts are to use logic similar to that used in *Frey,* thereby requiring that lessees pay royalties on carbon dioxide that they are paid to use. It will also discuss whether other states are to require royalty payments in a similar situation, whether a landowner or a servitude owner would be entitled to the payments, possible liabilities that the injecting lessor should avoid, and what costs may be deductible from royalty payments.

I. BACKGROUND

A. Relevant Parts of the Louisiana Mineral Code

In Louisiana, unlike in some other states, ownership of the land does not include ownership of oil or gas in the ground.[8] Louisiana considers oil and gas "fugitive minerals" because they can flow from one place to

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6. Frey v. Amoco Prod. Co., 603 So. 2d 166, 180 (La. 1992).

7. "Enhanced oil recovery (EOR), a stage of hydrocarbon production that involves use of sophisticated techniques to recover more oil than would be possible by utilizing only primary production or waterflooding." *Oilfield Glossary*, SCHLUMBERGER, https://www.glossary.oilfield.slb.com/en/Disciplines/Enhanced-Oil-Recovery.aspx [https://perma.cc/ZNB4-9HVQ] (last visited Oct. 24, 2018).

8. LA. REV. STAT. § 31:6 (2018); Frost-Johnson Lumber Co. v. Salling's Heirs, 91 So. 207, 211 (1920).

another below the surface.[9] As fugitive minerals, oil and gas are not subject to ownership until reduced to possession through production.[10] Ownership of land comes with the right to explore for and produce minerals.[11] Landowners may also "convey, reserve, or lease" their rights to explore for and produce minerals, allowing these rights to be separated from the land.[12]

Mineral servitudes allow someone other than the landowner to explore for and produce minerals from the land.[13] Landowners can create mineral servitudes as long as they possess the right to explore for and produce minerals on the land. The holder of a mineral servitude may use "so much of the land as is reasonably necessary to conduct his operations,"[14] but is obligated, "insofar as practicable, to restore the surface to its original condition at the earliest reasonable time."[15]

A mineral lease is a contract granting a lessee the right to explore for and produce minerals from the land.[16] The Louisiana Civil Code provisions that apply to ordinary leases are also applicable when interpreting provisions in mineral leases.[17] This is because the Louisiana Mineral Code is supplementary to the Louisiana Civil Code, so the Civil Code is used when the Mineral Code does not provide a solution to a particular issue.[18] However, when dealing with matters of mineral law, the Mineral Code will prevail where it conflicts with the Civil Code.[19]

Mineral leases generally provide for the lessor to be paid a mineral royalty. The Mineral Code broadly defines a mineral lease royalty, but the most relevant portion for the purpose of this paper is "any interest in production, or its value, from or attributable to land subject to a mineral lease, that is deliverable or payable to the lessor or others entitled to share therein."[20] Essentially, this means that the lessee (oil and gas producer) pays the lessor (land or servitude owner) some fraction of the money earned when minerals are produced and sold from the land. Mineral

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9. LA. REV. STAT. § 31:7 (2018); *Frost-Johnson Lumber Co.*, 91 So. 2d at 211.
10. *See* sources cited *supra* note 9.
11. LA. REV. STAT. § 31:6 (2018).
12. LA. REV. STAT. § 31:15.
13. LA. REV. STAT. § 31:21 (2018). LA. REV. STAT. § 31:24 (2018).
14. LA. REV. STAT. § 31:22 (2018).
15. *Id.*
16. LA. REV. STAT. § 31:114.
17. LA. REV. STAT. § 31:2 (2018); Melancon v. Texas Co., 89 So. 2d 135, 142 (1956).
18. LA. REV. STAT. § 31:2 (2018).
19. *Id.*
20. LA. REV. STAT. § 31:213.

lessees can sometimes gain economic benefits from their right to produce minerals by means other than production, such as in *Frey v. Amoco Production Co.*, where the lessee gained economic benefits through a "take-or-pay" contract.[21]

B. Frey v. Amoco*: What Was the Dispute?*

In gas "take-or-pay" contracts, production companies agree to sell gas at a set price and pipeline companies agree to purchase a minimum amount of gas, usually expressed as a percentage of well production.[22] If a pipeline company does not purchase the agreed upon minimum amount of gas for the year, it must still pay the price of the minimum, but will retain a right to take delivery of the gas for a limited amount of time.[23] These contracts essentially give the purchaser has a limited amount of time to take gas that they agreed to pay for but were not able to take.

In *Frey*, owners of gas royalty interests (referring to the entire group as Frey) brought a suit against Amoco Production Company to recover a royalty share for proceeds that Amoco received due to a "take-or-pay" settlement with its pipeline purchaser, Columbia Gas Transmission Corporation.[24] As part of the settlement agreement, Amoco was to receive $20.9 million for "non-recoupable take-or-pay payments" for gas that the pipeline purchaser no longer had a right to take delivery because they failed to take delivery of the gas during the time given to do so by the contract.[25] Frey claimed that he was entitled to royalty payments under his mineral lease's royalty clause, which provided for a "royalty on gas sold by the Lessee [of] one-fifth (1/5) of the *amount realized* at the well from such sales".[26] The Louisiana Supreme Court rendered a judgment in favor of Frey, requiring the lessee to pay royalties for the "amount realized," including the take-or-pay payments as part of the "total price" for the gas sold and the "economic benefits" that the lessee received from the lease.[27]

21. Frey v. Amoco Prod. Co., 603 So. 2d 166, 178 (La. 1992).
22. A.F. Brooke II, *Great Expectations: Assessing the Contract Damages of the Take-or-Pay Producer*, 70 TEX. L. REV. 1469, 1470 (1992).
23. *Id.*
24. *Frey*, 603 So. 2d at 169.
25. *Id.* at 170.
26. *Id.* at 169 (emphasis added).
27. *Id.* at 178.

C. Frey v. Amoco*: Total Price Reasoning*

The Louisiana Supreme Court held that Frey and the other mineral lessors were owed royalties for the take-or-pay payments.[28] The ourt offered two arguments in support of this ruling. The first argument relied on the mineral lease's language requiring royalties to be paid when gas is sold, instead of when gas is produced.[29] The court viewed this language as supporting Frey's argument that production was not a prerequisite for sale, which led the court to include the take-or-pay payments in the total price for the gas that the buyer received.[30]

The court determined that the take-or-pay contract was a sale of a future thing.[31] In Louisiana, a future thing may be the object of a sale, and when the thing comes into existence the effect of the sale is retroactive to the execution of the contract.[32] In this case, the future thing is gas that has yet to be produced, and therefore not yet capable of being owned.[33] Once the gas is produced it becomes capable of being owned.[34] The court reasoned that the sale of the gas was retroactive to when the take-or-pay contract was signed, instead of occurring when the gas was actually produced.[35]

The court then explained why the payments for the "non-recoupable" gas were part of the amount realized by Amoco for the sale of the gas.[36] The amount realized included both the "total price paid by Columbia for the natural gas delivered" and the "economic benefits" that Amoco derived from its right to develop and explore the property of the lessors.[37] Amoco, the lessee, was willing to sell the gas at a lower price "in exchange for the guarantee the pipeline will either 'take-or-pay' for a specific minimum quantity of natural gas."[38] The agreement required Columbia, the buyer, to pay for a certain amount of gas, at a price lower than market value, regardless of whether they could actually take the gas.[39] This take-or-pay

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28. *Id.*
29. *Id.* at 179.
30. *Id.*
31. *Id.* at 178.
32. LA. CIV. CODE art. 1775 (2018); LA. CIV. CODE art. 1767 (2018); LA. CIV. CODE art. 2450 (2018); Frey v. Amoco Prod. Co., 603 So. 2d 166, 179 (La. 1992).
33. *Frey*, 603 So. 2d at 179.
34. *Id.*
35. *Id.*
36. *Id.*
37. *Id.* at 179–80.
38. *Id.* at 180.
39. *Id.*

obligation provided the economic incentive for Amoco to enter into the contract and sell its gas at a reduced price by guaranteeing Amoco would receive a minimum payment.

The lower sale price used for take-or-pay contracts usually leads to a lower royalty payment per unit of gas than if the gas were sold at the market price, as royalty payments are normally a fraction of the sale price.[40] The *Frey* court noted that not including the take-or-pay payments as part of the total price paid for the gas that was taken would "disregard the obvious economic considerations underlying the take-or-pay clause."[41] Further, the court found that the "actual price paid" per unit of gas by the buyer should be calculated by "dividing the total quantity of gas delivered by the total amount paid to the producer."[42] The "total amount paid to the producer" included the take-or-pay payments, so Amoco was required to pay royalties on the take-or-pay payments.[43] The *Frey* court then moved to their second argument for why the "take-or-pay" payments should be included within the "amount realized."

D. Frey v. Amoco*: Economic Benefits Reasoning*

The court also used the "economic benefits" analysis from *Henry v. Ballard & Cordell Corp.* in its reasoning for including the "take-or-pay" payments as part of the "amount realized" for royalty calculation.[44] In *Henry*, a mineral lessor wanted to be paid royalties based on the current market value of gas at the time it was delivered instead of the price from the long-term contract that the producer had with the buyer.[45] The *Henry* Court found that the market value to be paid under the lease's royalty provision was the price from the "take-or-pay" contract.[46]

Part of the court's reasoning was that a mineral lease arrangement "is in the nature of a cooperative venture" where the lessor contributed the land and the lessee contributed the "capital and expertise necessary to develop the minerals for the mutual benefit of both parties."[47] The cooperative venture creates an implied obligation for the lessee to "market

40. *Id.*
41. *Id.*
42. *Id.*
43. *Id.*
44. *Id.* at 173; Henry v. Ballard & Cordell Corp., 418 So. 2d 1334 (La. 1982).
45. *Henry*, 418 So. 2d at 1335.
46. *Id.* at 1340.
47. *Id.* at 1338.

or dispose of the product in a reasonable and prudent way to secure the maximum benefit possible for both parties."[48]

The *Henry* Court also considered the ultimate objective of royalty provisions, which it described as "fix[ing] "the division between the lessor and lessee of the economic benefits anticipated from the development of the minerals."[49] The court noted that it was not practical to give the lessor a fractional part of the produced gas (as in pay their royalty in gas rather than money).[50] Instead, leases usually provide for the lessee to "dispose of the gas (in a prudent manner)," and then make royalty payments to lessors based on their fractional interests.[51]

The *Henry* Court looked to the mutual intent of the contracting parties and the circumstances surrounding the parties at the time they made the contract.[52] The court found that the lessee had an obligation to market the discovered gas reserves and that there was an "accepted universal practice" of using long-term gas sales contracts to market gas reserves.[53] There was also a customary practice for lessees to use the price received under the long-term gas contracts as the market value when making mineral royalty payments and for lessors to accept royalty payments that were calculated in this way.[54] This meant that if it were prudent for a lessee to enter into a "take-or-pay" contract (as it was in *Henry*), then the market value used to calculate the lessor's royalty payments would be based on the "take-or-pay" contract's price, which is usually lower than the market value for gas that is sold outside of a "take-or-pay" contract.

When considering economic benefits in both *Henry* and *Frey*, the Louisiana Supreme Court adopted Professor Thomas Harrell's analysis of how lessees and lessors should split revenues.[55] The Harrell Rule applies

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48. *Id.* at 1338 (citing Harrell, *Developments in Non-Regulatory Oil & Gas Law,* The 30th Annual Institute on Oil & Gas Law & Taxation, Southwestern Legal Foundation, 311 (1979)).

49. *Id.* at 1338.

50. *Id.*

51. *Id.*

52. *Id.* at 1340.

53. *Id.*

54. For example:

> At trial, defendants presented unrefuted evidence that customary practice in the oil and gas industry required the lessee to pay "market value" royalties on gas in dollar amounts equivalent to the price received under a long-term sales contract (less permissible transportation charges), and the lessors to accept royalty payments so calculated.

Id.

55. *Id.* at 1338; Frey v. Amoco Prod. Co., 603 So. 2d 166, 173 (La. 1992); Professor Harrell served on the faculty of LSU Law for 23 years, was named the

when the "lessee's arrangements to market were prudently arrived at consistent with the lessee's obligation."[56] The rule states that a determination of market value, which "permits either the lessor or lessee to receive a part of the gross revenues from the property greater than the fractional division contemplated by the lease, should be considered inherently contrary to the basic nature of the lease and be sustained only in the clearest of cases."[57] Relying on the *Henry* case and the Harrell rule, the *Frey* court concluded "[a]n economic benefit accruing from the leased land, generated solely by virtue of the lease, and which is not expressly negated . . . is to be shared between the lessor and lessee in the fractional division contemplated by the lease." The "fractional division contemplated by the lease" being the fraction of production that the lessor is to receive under the mineral royalty provisions.[58]

The *Frey* court pointed out that the case could have been decided on the "total price paid" reasoning alone, but included the "economic benefits" reasoning in order to account for every economic benefit a lessee might procure through the rights granted to them by their lessor.[59] One way that the court found the economic benefits reasoning to be superior was that it would require royalty payments even if no gas had ever actually been delivered.[60] This was in line with the court's interpretation in *Frey* of the "amount realized" phrasing from the royalty provision. The *Frey* court viewed the "amount realized" as including "the sum total, the whole, or the final effect of the economic benefits obtained by Amoco" from exercising the rights granted by the lease.[61] This "sum total" was composed "in part, of the advantages flowing to Amoco by virtue of the sale of natural gas under the Morganza Contract" (the Morganza Contract is the contract between Amoco and the pipeline).[62]

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director of the Louisiana Mineral Law Institute in 1979, served as a Senior Officer of the Louisiana Law Institute, Vice President of the Louisiana Chapter of the Association of Henri Capitant, and was on the Legal Committee of the Interstate Oil Compact Commission. *Law Center Mourns Passing of Professor Emeritus Thomas Harrell*, LSU LAW (Jan. 21, 2016), https://www.law.lsu.edu/news/2016/01/21/law-center-mourns-passing-of-professor-emeritus-thomas-harrell/ [https://perma.cc/9BQP-48ZX].

56. *Henry*, 418 So. 2d at 1338; *Frey*, 603 So. 2d at 173.
57. *See* cases cited *supra* note 56.
58. *Frey*, 603 So. 2d at 174.
59. *Id.* at 180.
60. *Id.*
61. *Id.*
62. *Id.*

The *Frey* court also discussed the mineral lessee's implied obligation to diligently market the minerals discovered.[63] Article 122 of the Mineral Code states that a "mineral lessee . . . is bound to perform the contract in good faith and to develop and operate the property leased as a reasonably prudent operator for the mutual benefit of himself and his lessor."[64] According to the court, if Amoco, the lessee, did not pay a royalty for the "take-or-pay" payments, there would be an incentive for Amoco to "maximize the lump sum settlement and minimize the future price."[65] This would cause Frey, the lessor, to receive less in royalty payments when the same amount of gas is taken.[66]

II. HOW CASES SINCE *FREY* HAVE USED THE ECONOMIC BENEFITS ANALYSIS

A. Cases That Have Followed Frey

There have been a few cases outside of Louisiana where courts adopted the economic benefits analysis from *Frey*. *Klein v. Jones* involved a dispute between Arkansas royalty owners and a gas producer over "take-or-pay" payments.[67] The Eighth Circuit explained the "amount realized" analysis from *Frey* and went on to adopt the Harrell rule as part of its decision to reverse the district court's decision which dismissed the lessors' suit for royalty payments.[68]

SEECO, Inc. v. Hales was a class-action lawsuit between a group of royalty owners and a gas producer.[69] Part of the dispute involved the royalty owners claiming that the gas producer should pay royalties on "take-or-pay" payments that the gas producer had received.[70] The Arkansas Supreme Court required the gas producer to pay royalties on the "take-or-pay" payments.[71] The *SEECO* Court cited to *Klien*, which adopted the *Frey* case's economic benefits reasoning, when describing

63. *Id.* at 181.
64. LA. REV. STAT. ANN § 31:122 (2018).
65. Frey v. Amoco Prod. Co., 603 So. 2d 166, 182 (La. 1992).
66. *Id.*
67. Klein v. Jones, 980 F.2d 521, 531 (8th Cir. 1992).
68. "[A] lease arrangement is in the nature of a cooperative venture in which the lessor contributes the land and the lessee the capital and experience necessary to develop the minerals for the mutual benefit of both parties." *Id.*; Frey v. Amoco Prod. Co., 603 So. 2d 166, 173 (La. 1992).
69. SEECO, Inc. v. Hales, 22 S.W.3d 157, 161 (Ark. 2000).
70. *Id.* at 162.
71. *Id.* at 182.

how the Harrell Rule allows royalty owners "to receive a portion of the take-or-pay settlement."[72] In *SEECO*, the Arkansas Supreme Court interpreted an Arkansas statute which required royalties to "be paid when any money is paid to the lessee" for royalty oil or gas.[73] The court reasoned that "the statute does not specify that the gas has to have been produced or sold," and so royalties were to be paid when the lessee received money for the gas, whether or not it was actually produced.[74] The language of the Arkansas statute is broader than Louisiana's statutory definition of a mineral royalty, which reads "any interest in production, or its value, from or attributable to land subject to a mineral lease, that is deliverable or payable to the lessor or others entitled to share therein."[75] While the Louisiana Mineral Code ties royalty payments to an "interest in production, or its value," the *Frey* court's adoption of the Harrell Rule expanded when royalty payments would be due to also include situations when no production took place.[76]

B. Cases That Have not Followed Frey*'s Reasoning*

While some cases outside of Louisiana have followed the economic benefits reasoning from *Frey*, other cases have not. *Cimarex Energy Co. v. Chastant* involved a dispute between lessors and lessees over whether royalties should be paid on money generated by Cimarex by "hedging" activity.[77] The U.S. Fifth Circuit opinion described Cimarex's hedging activity as "purely financial activity" that involved "simply buying or selling financial positions."[78] The court found that Cimarex was only

72. *Id.* at 181.
73. *Id.*
74. *Id.* at 182.
75. LA. REV. STAT. § 31:213 (2018).
76. Frey v. Amoco Prod. Co., 603 So. 2d 166, 180 (La. 1992).
77. Cimarex Energy Co. v. Chastant, 6:11-CV-1713, 2012 WL 6652360, at *1 (W.D. La. Dec. 18, 2012), *aff'd*, 537 F. App'x 561 (5th Cir. 2013).
78. *Id.* at *2. The following is an explanation of futures:

> A futures contract gives the buyer of the contract, the right and obligation, to buy the underlying commodity at the price at which he buys the futures contract. On the other hand, a futures contract gives the seller of the contract, the right and obligation, to sell the underlying commodity at the price at which he sells the futures contract." Hedging commodities allows investors to ensure predictable financial results by protecting against future price movements. By purchasing futures contracts, investors can lock in prices that are favorable to an organization to continue realizing profits over time.

obligated to pay royalties on oil and gas produced on the land under the terms of the lease.[79] The court reasoned that "the *Frey* Court specifically held that the take-or-pay payments were part of the 'amount realized' under the terms of the lease at issue."[80] The court believed that having Cimarex pay royalties on its "hedging" activities based on the *Frey* economic benefits reasoning would "overturn decades of Louisiana oil and gas law precedent" and would "allow lessors to claim royalties on the revenue derived from essentially any transaction that a lessee enters into because of the oil or gas."[81]

In affirming the district court's decision, the Fifth Circuit explained that a critical fact in the case was that "Cimarex's hedging operations [did] not affect the market value of those items at the well or on the lease."[82] This was important because the lease provided for royalties to be paid "on the best market price of the gas at the mouth of the well or the oil on the leased property."[83] The type of hedging that Cimarex was engaged in did not affect the price at the wellhead, so the court found the profits of the trading were not subject to royalty payments.[84]

Both the district and appellate court in *Cimarex* declined to apply the "economic benefits" portion of the "amounts realized" analysis to expand what activities would require royalty payments.[85] Instead, they read the opinion in *Frey* as reaffirming "the well-settled principle that 'the right of the owner of a royalty interest is restricted to a share in production if and when it is obtained.'"[86] This does not appear to be entirely consistent with the *Frey* Court's decision. As previously mentioned, the *Frey* Court included the "economic benefits" analysis to expand when a lessor would receive royalty payments to include "final effect of the economic benefits" that the lessee obtains through exercising "the rights granted by a synallagmatic contract of Lease," including situations where there are

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The Fundamentals of Oil & Gas Hedging - Futures, MERCATUS ENERGY ADVISORS, https://www.mercatusenergy.com/blog/bid/86597/the-fundamentals-of-oil-gas-hedging-futures [https://perma.cc/7GNJ-U9S6] (last visited Nov. 9, 2019).

79. *Cimarex Energy Co.*, 2012 WL 6652360, at *2.

80. *Id.* at *3.

81. *Id.* at *4.

82. Cimarex Energy Co. v. Chastant, 537 F. App'x 561, 564 (5th Cir. 2013) (per curiam).

83. *Id.*

84. *Id.*

85. *Cimarex Energy Co*, 2012 WL 6652360, at *3.

86. *Id.*; 537 F. App'x at 565–66.

"take-or-pay" payments but no gas is produced.[87] Had the *Cimarex* court applied this portion of the "amount realized" analysis, it might have found that the hedging activity that Cimarex was engaging in was a benefit derived from the rights granted to them by the lease, and would then fall within the "amount realized" and be subject to royalty payments.

The Louisiana Supreme Court revisited the "mutual benefit: principal from *Frey* in *Caskey v. Kelly Oil Co*. *Caskey* involved a mineral lessor's attempt to enjoin a lessee from using a road on the leased land to conduct mineral operations on neighboring land.[88] The court's decision turned on whether the "mutual benefit" principle encompassed the contractual right to reasonable use of the surface for operations on adjacent lands that the lessee was granted under the adjacent lands clause of the lease.[89] The purpose of the adjacent lands clause was to allow reasonable surface use of the lessor's land to conduct operations on adjacent land.[90] The "mutual benefit" principle, codified in Louisiana Mineral Code article 122, requires a mineral lessee to "develop and operate the property leased as a reasonably prudent operator for the mutual benefit of himself and his lessor."[91] The court did not find any authority that the mutual benefit principle's scope should extend to include the contractual right to reasonable use of the surface.[92] It also found that its holding did not conflict with *Frey,* as the *Caskey* court did not interpret the use of adjacent lands as an economic benefit flowing from the leased land or implicating the royalty clause in any manner.[93] While the lessee was attaining an economic benefit in a sense, because they would likely not have used the land unless it was beneficial, it seems this sort of benefit was too attenuated. Had there been some direct payment associated with the use or some other way for the court to calculate what the economic benefit was, the court may have come to a different conclusion.

Harvey E. Yates Company v. Powell was a New Mexico case that involved a dispute between a gas lessee and the New Mexico Commissioner of Public Lands over whether a State Land Office regulation was valid.[94] The regulation required royalty payments on "take-or-pay" payments.[95] The *Harvey* court considered both *Frey* and *Klein*,

87. Frey v. Amoco Prod. Co., 603 So. 2d 166, 180 (La. 1992).
88. Caskey v. Kelly Oil Co., 737 So. 2d 1257, 1259 (La. 1999).
89. *Id.* at 1260.
90. *Id.* at 1263.
91. LA. REV. STAT. § 31:122 (2018).
92. *Caskey*, 737 So. 2d at 1262.
93. *Id.*
94. Harvey E. Yates Co. v. Powell, 98 F.3d 1222, 1228 (10th Cir. 1996).
95. *Id.*

finding that both cases adopted the cooperative venture approach "largely because of unique state statutes which expanded the definition of 'royalty' in mineral leases."[96] Meanwhile, New Mexico's statute specifically connected royalty payments to the production of gas.[97] The *Harvey* court did not find the reasoning in *Frey* and *Klein* persuasive due to the difference in the states' statutory definition of mineral royalties.[98]

These cases show that the economic benefits argument used in *Frey* can be used in other states, like Arkansas, that have broad definitions for mineral royalties, but not in states that directly tie royalty payments to production of minerals. The *Cimarex* decision indicates that courts might not be willing to require royalty payments for all economic benefits that lessees derive from the rights granted to them by the lease.

III. LIKELIHOOD OF COURTS USING REASONING SIMILAR TO *FREY* IN SITUATIONS WHERE OPERATORS ARE PAID TO USE CARBON DIOXIDE IN ENHANCED OIL RECOVERY PROJECTS

A. Likelihood of Louisiana Applying Frey *for Carbon Dioxide Payments*

As previously explained, a cooperative venture exists between a lessor and a lessee when there is a mineral lease.[99] This cooperative venture creates an implied obligation for the lessee to "market or dispose of the product in a reasonable and prudent way to secure the maximum benefit possible for both parties."[100] According to the *Frey* court, "[e]ncompassed within the lessee's duty to market diligently is the obligation to obtain the best price reasonably possible."[101]

The lessor grants the operator (lessee) rights that allow the operator to produce minerals from the land. Some companies might pay oil operators

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96. *Id.* at 1233.

97. "'Royalty,' as used in connection with mineral leases, means any interest in production, or its value, from or attributable to land subject to a mineral lease, that is deliverable or payable to the lessor or others entitled to share therein." LA. REV. STAT. § 31:213(5) (2000); "Rather, New Mexico's only pertinent statute specifically connects the payment of royalties to the production of gas. N.M. STAT. § 19–10–4.1 (Michie 1994) (royalties are due on gas which is 'produced and saved from the leased premises')." *Harvey*, 98 F.3d at 1233.

98. *Harvey*, 98 F.3d at 1233.

99. The lessor contributes the land and the lessee contributes the "capital and expertise necessary to develop the minerals for the mutual benefit of both parties." Henry v. Ballard & Cordell Corp., 418 So. 2d 1334, 1338 (La. 1982).

100. *Id.* (quoting Thomas Harrell, *Developments in Non-Regulatory Oil & Gas Law,* 30 INST. ON OIL & GAS L. & TAX'N 311 (1979)).

101. Frey v. Amoco Prod. Co., 603 So. 2d 166, 175 (La. 1992).

to store carbon dioxide for them in order to avoid the would-be carbon tax. If this happened, the operator would be receiving an "economic benefit" based on its ability to store carbon dioxide on the leased land, and this is not accounted for by the royalty on produced minerals. This "economic benefit" would be "accruing from the leased land, generated solely by virtue of the lease" and "is not expressly negated."[102] Under the Harrell rule used by the *Frey* court, this economic benefit should be "shared between the lessor and lessee in the fractional division contemplated by the lease."[103] If the economic benefits analysis from *Frey* were applied, a court would likely find that lessors are owed a royalty on the payments for carbon dioxide storage because the company is directly profiting from their operations on the land.

It is possible that a court may elect not to apply the economic benefits analysis. The "amount realized" reasoning was partially based on treating the "take-or-pay" contract as a sale of a future thing.[104] This allowed the "take-or-pay" payments to be treated as part of the total price (amount realized) received for the gas that the lessee sold, even when the pipeline company did not take the amount of gas it paid for.[105] Unlike a "take-or-pay" situation, a third party who pays the lessee to use its carbon dioxide in order to avoid a hypothetical carbon tax is not buying any oil or gas, so the money the third party pays to the lessee could not be lumped in as part of the total price of oil or gas, as was done in *Frey*.[106]

Not considering the payments for carbon dioxide storage as part of the "total price" does not necessarily mean that the mineral lessor would be unable to receive royalty payments. This is because the *Frey* court chose to include the economic benefits as part of the amount realized instead of relying only on the total price.[107] However, it does leave open the possibility of courts continuing to distinguish *Frey*, as was done by the *Cimerax* court. While the lessee would be paid to store the carbon dioxide, this payment would not be part of a sale of oil or gas, and it would not influence the market value of the oil being produced, which was part of the reasoning for not requiring royalty payments in *Cimarax*.[108] The fact that the activity the lessee is receiving money for, pumping the carbon into the subsurface, requires direct use of the leased land in the manner

102. *Id.* at 174.
103. *Id.*
104. *Id.* at 179.
105. *Id.*
106. *Id.* at 180.
107. *Id.*
108. Cimarex Energy Co. v. Chastant, 537 F. App'x 561, 564 (5th Cir. 2013) (per curiam).

contemplated by the lease would make courts more likely to apply the economics benefits reasoning in the carbon dioxide situation. Whereas, in the types of situations dealt with in *Cimarex* or in *Caskey*, a court would be more likely to find that this activity falls within the lessee's "mutual benefit" obligation because it directly involves how the lessee is developing and operating the leased property.

When the *Frey* court applied the "amounts realized" analysis, the court explained that lessees could be encouraged to set up "take-or-pay" contracts that were not as beneficial to the lessor if they did not require royalty payments on "take-or-pay" payments.[109] The court was worried that if royalty payments were not required for "take-or-pay" payments, then lessees would have an incentive to maximize "take-or-pay" payments.[110] Lessees take avoid paying as much in royalties by setting the price of gas low and requiring high amounts of gas to be taken in the contract with the pipeline purchaser.[111] Assuming the pipeline company took around the same amount of gas, the lessee could receive the same amount of money from the buyer since the buyer has agreed to pay for a minimum amount of gas, whether or not it can actually take the gas. While the lessee could receive the same amount of money, they would have to pay much less in royalties to the lessor because the gas would be "sold" at a lower price. This difference in the royalties received is because most of the money paid to the lessee would now be "take-or-pay" payments, which are paid when gas is not taken. The *Frey* court wanted to avoid allowing lessees to manipulate the "take-or-pay" contracts to avoid paying royalties to their lessor.[112] The same type of situation is less likely to occur when a third party pays the lessee to take carbon dioxide. Instead of lessees manipulating contracts to avoid paying lessors royalties on production, lessees would be encouraged to do more enhanced recovery projects using carbon dioxide injection. More enhanced recovery projects would likely lead to more royalties being paid to lessors from the increased production.

B. Possible Use in Other States

States that define mineral royalties broadly (not tying the royalty payments specifically to production) would be more likely to use the economic benefits analysis to require royalty payments for carbon dioxide that lessees are paid to use. States that specifically connect royalty payments to production of minerals, like New Mexico in *Harvey*, would

109. *Id.* at 182.
110. *Id.*
111. Frey v. Amoco Prod. Co., 603 So. 2d 166, 182 (La. 1992).
112. *Id.* at 182.

be less likely to use the economic benefits analysis because the money received for taking the carbon is not directly connected to mineral production.[113] Even a state with a broader royalty definition, like Arkansas, which used the Harrell rule to require royalties for "take-or-pay" payments,[114] might have trouble extending the economic benefits analysis to payments for using carbon dioxide. Arkansas requires the lessee to pay "to the lessor or his assignees the same price . . . for royalty oil or gas that is paid the operator or lessee under the working lease thereunder."[115] The royalty payments are still connected to the oil or gas, so the *SEECO* and *Klein* courts' analysis would not necessarily expand to include money paid to the lessee to use carbon dioxide on the leased land. Even so, Arkansas and states with similar royalty definitions would still be more likely to require royalty payments for carbon storage than states with a more limited definition for mineral royalties.

C. If a Mineral Servitude is on the Land, Who Should Receive the Payments?

If the "economic benefits" argument is used to require royalty payments for carbon dioxide stored or used as part of an enhanced recovery project, a question could arise as to who should receive these carbon dioxide royalty payments. In Louisiana, a landowner can create a mineral servitude as long as they own the right to explore for and produce minerals at the time that the servitude is created.[116] Mineral servitudes grant the servitude holder the right to explore for and produce minerals from the land of another.[117] If a mineral servitude existed on the land, the landowner may attempt to challenge the servitude owner's right to store or use carbon dioxide on the land.

The landowner owns everything that is "directly above or under" the land.[118] The pore space (the space between the grains that form the rocks) is in the subsurface portion of the land and, thus, would be owned by the landowner. Since the landowner owns the pore space, and a mineral servitude only grants the holder the right to explore for and produce

113. Harvey E. Yates Co. v. Powell, 98 F.3d 1222, 1233 (10th Cir. 1996).

114. SEECO, Inc. v. Hales, 22 S.W.3d 157, 181 (Ark. 2000); Klein v. Jones, 980 F.2d 521, 531 (8th Cir. 1992).

115. *SEECO, Inc.*, 22 S.W.3d 157 at 182.

116. LA. REV. STAT. § 31:24 (2018).

117. "A mineral servitude is the right of enjoyment of land belonging to another for the purpose of exploring for and producing minerals and reducing them to possession and ownership." LA. REV. STAT. § 31:21.

118. LA. CIV. CODE art. 490 (2018).

minerals from the land, the landowner would retain ownership and the right to use the pore space for storage.[119] In a state that allows for a permanent severance of the mineral estate from the surface estate, like Texas, the surface estate owner would also maintain ownership of the actual pore space.[120] A landowner may attempt to challenge royalty payments paid to a servitude holder on the basis that the operator is paying the royalties for carbon dioxide being stored on the land, not minerals being produced from the land.

If the mineral servitude owner's lessee (the operator) was only using the land for storage and not conducting an enhanced oil recovery project using the carbon dioxide, the landowner would likely succeed. Before a mineral servitude is created by the landowner, the landowner owns every right to explore for and produce minerals, and to use the pore space for storage.[121] The rights granted to the servitude owner cover mineral exploration and production, but not use of the pore space for storage.[122] The servitude owner cannot grant their lessee rights that the servitude does not grant its holder.

In Louisiana, a servitude owner "is entitled to use only so much of the land as is reasonably necessary to conduct his operations," the operations being exploration for and production of minerals form the land.[123] When the lessee is injecting carbon dioxide for the sole purpose of sequestering it, the lessee is attempting to use rights that the mineral lease did not grant them. In fact, the mineral servitude owner could not grant the lessee rights

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119. "Under the 'American rule,' also referred to as an ownership-in-place theory, 'a mineral rights holder owns the mineral beneath the land, but the rest of the geological formation—including the pore space in which the CO2 would be stored—is owned by the surface interest owner.'" BRUCE M. KRAMER & PATRICK H. MARTIN, WILLIAMS & MEYERS OIL AND GAS LAW § 222 (2017) (quoting ELIZABETH LOKEY ALDRICH ET AL., ENERGY POLICY INST., ANALYSIS OF EXISTING AND POSSIBLE REGIMES FOR CARBON CAPTURE AND SEQUESTRATION: A REVIEW FOR POLICYMAKERS 19 (2011), https://www.ourenergypolicy.org/wp-content/uploads/2015/06/epi-ccs-pore-space-regimes.pdf [https://perma.cc/5QN N-49G3]).

120. "[W]e conclude that the surface estate owner controls the earth beneath the surface estate." Lightning Oil Co. v. Anadarko E & P Onshore LLC, 480 S.W.3d 628, 635 (Tex. App. 2015), *aff'd sub nom*. Lightning Oil Co. v. Anadarko E&P Onshore, LLC, 520 S.W.3d 39 (Tex. 2017).

121. LA. CIV. CODE art. 490 (2018); LA. REV. STAT. ANN § 31:6 (2018).

122. "However, the severance of minerals should not be construed as authorizing the mineral owner without the consent of the surface owner to use the surface for purposes other than exploration, development and production of "native" minerals." KRAMER & MARTIN, *supra* note 119.

123. LA. REV. STAT. § 31:22 (2018).

to store the carbon dioxide when it is not reasonably necessary for production (as the mineral servitude owner cannot give the lessee rights that the landowner still retains). Injecting carbon dioxide purely for storage purposes would infringe upon rights that the landowner did not give to the lessee in the servitude. Therefore, the landowner would be the proper party to receive royalties for carbon dioxide if it was injected purely for storage purposes instead of as part of an enhanced recovery project. Courts in other states would likely come to similar results.[124]

However, the results would be different when the carbon dioxide is injected into the subsurface as part of an enhanced oil recovery project. The servitude grants its holder the right to explore for and produce minerals from the land.[125] Enhanced oil recovery projects that involve carbon dioxide injection lead to increased production.[126] Even though the carbon dioxide is being pumped into the pore space, which is owned by the landowner, the land is being used as reasonably necessary to produce minerals from the land. Since the lessee received the right to explore for and produce minerals from the servitude owner, the carbon dioxide injection activity would not be infringing upon the rights that were retained by the landowner when it is reasonably necessary to produce minerals.

A landowner might also take issue with carbon dioxide left sequestered within the pore space of their land after the servitude or lease ends. Louisiana Mineral Code article 22 states that the owner of a mineral servitude "is obligated, insofar as practicable, to restore the surface to its original condition at the earliest reasonable time."[127] As explained before, if the injection took place as part of an enhanced oil recovery project, then the carbon dioxide was properly placed there as part of reasonably necessary efforts to produce minerals.[128]

Mineral servitudes are made for the purpose of allowing someone other than the landowner to produce minerals from the land and to do reasonably necessary things to accomplish this. To produce the minerals, the contents of the pore space will experience some change.[129] When these changes are reasonably necessary to produce minerals from the land, the landowner would not have a right of action against the lessor or servitude

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124. KRAMER & MARTIN, *supra* note 119.
125. LA. REV. STAT. § 31:21 (2018).
126. *Enhanced Oil Recovery*, OFF. OF ENERGY, https://www.energy.gov/fe/science-innovation/oil-gas-research/enhanced-oil-recovery [https://perma.cc/9GQJ-5HYB] (last visited Nov. 3, 2019).
127. *Id.*
128. LA. REV. STAT. § 31:22 (2018).
129. These changes could be removal of minerals, water flooding, or carbon dioxide injection.

owner; but if the changes were not reasonably necessary the landowner could have a valid claim against the servitude owner and the lessee, depending on other laws or regulations in the jurisdiction.[130]

D. Possible Liabilities for Lessors

Whether the operator had a lease with a servitude owner or a landowner, injecting carbon dioxide into the subsurface purely for storage reasons without a provision in the lease allowing them to do so could be a breach of the lease and lead to the operator being sued for damages. In *Corbello v. Iowa Production*, Shell was sued for breaching a lease because of unauthorized saltwater disposal,[131] when the lease required Shell to restore the land to its original condition.[132] Because Shell disposed of unauthorized saltwater on the property, it was found to have breached the lease, leaving it liable for damages from the disposal and for the cost of restoring the land.[133] Shell argued that the damages for restoration should be limited to the value of the land if it was restored, instead of the much higher cost of restoring the land; but the court found that the lease provision requiring Shell to restore the land was controlling and required Shell to pay the amount necessary to restore the land to its original

130. "Unless a statute or agreement provides to the contrary, the consent of the owner of the premises is required for a program of underground storage or disposal that requires surface locations for injection and withdrawal wells, pipelines, compressor stations, and other surface rights." KRAMER & MARTIN, *supra* note 119.

131. *Corbello* stated the following:

> The above quoted provision unambiguously sets forth what saltwater Shell can dispose of on the leased premises: saltwater produced by it on the Heyd property or any other property in the Iowa Field. Disposal of saltwater produced in the Iowa Field by anyone other than Shell was not authorized and disposal of saltwater produced by Shell anywhere other than the Heyd property or in the Iowa Field was not authorized.

Corbello v. Iowa Prod., 850 So. 2d 686, 704 (La. 2003).

132. "Plaintiffs maintain that the parties bargained for, among other things, reasonable restoration of the property to its original condition, in exchange for Shell's use of the land for production of oil and gas for profit." *Id.* at 693.

133. "Accordingly, we find that the court of appeal did not err in finding that Shell's disposal of saltwater from Shell's Gas Plant outside the Iowa Field, the Hawthorne lease, the Kings Bayou lease, and the Mobile Gas Plant was a breach of the 1961 contractual lease." *Id.* at 704; "Shell must not be allowed to now alter the terms of this contract by limiting its liability to an amount reasonably or rationally related to the market value of the property." *Id.* at 695.

condition ($33,000,000).[134] A lessor injecting carbon dioxide into the subsurface for storage purposes could be forced to pay for the cost of restoring the land to its original condition if it did not have the rights to do so.[135] As seen in *Corbello*, restoration costs may prove to be very costly, but this may be limited by Louisiana's laws on carbon sequestration.[136]

The carbon dioxide plume may travel to subsurface areas that are not covered by the leased land. If the plume does this, it could displace more valuable minerals on neighboring land, possibly leading to neighbors seeking damages for displaced minerals.[137] The rule of capture insulates producers from liability when oil and gas migrates from neighboring property due to production.[138] A "negative rule of capture" has been suggested, which would insulate injectors from damages based on their injected fluid or gas migrating onto the property of others.[139] The negative rule of capture has not been universally adopted, though, leaving operators

134. "We find that the contractual terms of a contract, which convey the intentions of the parties, overrule any policy considerations behind such a rule limiting damages in tort cases." *Id.* at 694–95.

135. *See* LA. REV. STAT. § 30:1109 (2018) (discussing carbon sequestration liability issues).

136. *Id.*

137. One treatise states the following:

> For purposes of cycling, recycling, secondary recovery operations, disposal of saltwater produced with oil, or storage of gas near a market, a landowner (or his mineral grantee or lessee) may desire to inject fluids (gas, water or air) into an underground structure. The fluid injected may migrate to a portion of the structure underlying the land of another and in the course of such migration displace valuable substances in such land.

BRUCE M. KRAMER & PATRICK H. MARTIN, WILLIAMS & MEYERS OIL AND GAS LAW § 204.5 (2019).

138. "In order to prove an actionable trespass, one has to show an injury and the rule of capture insulates from liability a party whose well is bottomed beneath its own land even where the oil or gas is migrating from beneath another's land." *Id.*

139. This explanation comes from a treatise:

> Just as under the rule of capture a landowner may capture such oil or gas as will migrate from adjoining premises to a well bottomed on his own land, so also may be inject into a formation substances which may migrate through the structure to the land of others, even if this results in the displacement under such land of more valuable with less valuable substances (e.g., the displacement of wet gas by dry gas).

Id.

vulnerable when the land that may be affected has not been unitized.[140] Injectors have been held liable for nuisance in Oklahoma, trespass in Arkansas, and a landowner in Nebraska was able to recover "what he can prove by a preponderance of evidence he could have obtained through his own efforts if he had drilled, developed, and operated his property . . . ."[141]

E. How Would Royalty Payments be Calculated?

If royalty payments were required for carbon dioxide used on the land, questions would likely arise about what costs could be deducted from the money received by the lessor when calculating the royalty payments. Since the royalty would be required under the mineral lease, rules used when calculating mineral royalties could be applied by analogy to determine what costs are deductible. Often, mineral leases allow for costs that are incurred after the well to be proportionally deducted from mineral royalties (this is called the netback method).[142] When drilling a well, "costs of production" (drilling, geophysical surveys, secondary recovery, etc.) are borne by the operator (lessee) alone.[143] Non-operators, lessors, and royalty owners are required to bear their proportionate share of "post-production" costs (transportation, compression, and treatments to make minerals marketable).[144] While a mineral lessee cannot deduct the costs involved with enhanced oil recovery projects from the mineral royalty, as those costs are going towards producing the mineral, some costs may be deductible from a royalty that is being paid from the operator taking carbon dioxide.

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140. "It is hazardous, therefore, to engage in a secondary recovery program in the absence of unitization (voluntary or compulsory) of all premises which may be adversely affected by injection of fluids." *Id.*

141. "However, this is not what took place, and instead there was the intrusion of saltwater injected by defendant constituting a private nuisance under State decisions." Greyhound Leasing & Fin. Corp. v. Joiner City Unit, 444 F.2d 439, 443 (10th Cir. 1971); "The appellant has a vested existing property right in the brominated saltwater underlying his land, and the action of the defendants in forcibly removing that solution by means of injection and production wells on surrounding property constitutes an actionable trespass." Young v. Ethyl Corp., 521 F.2d 771, 775 (8th Cir. 1975); Baumgartner v. Gulf Oil Corp., 184 Neb. 384, 399–400, 168 N.W.2d 510, 519 (1969).

142. 3 WILLIAMS & MEYERS, OIL AND GAS LAW § 645 (2018).

143. "The expenses incurred in exploring for mineral substances and in bringing such substances to the surface are clearly 'costs of production' and are not chargeable against the usual royalty or non-operating interest absent some express contractual provision to the contrary." *Id.* § 645.1.

144. *Id.* § 645.2.

The netback method attempts to determine the value of minerals at the valuation point (usually the well) by deducting post production costs from the sales price.[145] In a situation involving royalties for carbon dioxide injected into the well, the operator would be paid to take the carbon dioxide, then would transport it to the well, and then inject it into the well. The placement of the valuation point will affect what costs are deductible from the sales price.[146] If the valuation point is set at the point where the operator takes possession of the gas, costs would not be deductible, as that is the same point that the prices for taking the gas was set. Since the operator is being paid to store or use the carbon dioxide, which requires the operator to inject the carbon dioxide into the subsurface, it would make more sense to set the valuation point at the injection point.[147] This would allow for the carbon dioxide injection to be treated essentially as the reverse of production when calculating the royalty.[148] With the valuation point set at the injection point instead of the point at which the operator takes the carbon dioxide, transportation costs (and other costs incurred by the operator between taking the gas and injecting it) could be deducted from the royalty in order to determine the value at the lease.[149]

There is a possibility that the deductible costs (transportation, etc.) could be higher than the price being paid to the operator to take the carbon dioxide, which would lead to no royalty being paid when the valuation point is set at the injection site. The price paid to the operator would likely depend on the severity of the carbon tax, as the carbon dioxide producer would be willing to pay more to avoid a higher tax. If the price being paid to operators to take the carbon is outweighed by the transportation costs then operators would not inject carbon dioxide just to inject it for storage, as they would take a loss. Many operators would likely still opt for this

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145. BRUCE M. KRAMER, *Royalty Interest in the United States: Not Cut From the Same Cloth*, 29 TULSA L.J. 449, 461 (1994).

146. "Under the net-back or work-back methodology 'value at the point of valuation is determined by taking the downstream sales price and deducting from it the costs incurred by the working interest owner . . . to move the gas from the point of valuation to the actual point of sale.'" Elliott Indus. v. BP Am. Prod. Co., 407 F.3d 1091, 1100 n.2 (10th Cir. 2005).

147. Essentially, set the valuation point at the same place as it would be when producing minerals (the well).

148. Injecting carbon dioxide is essentially the reverse of producing something from the land, as the operator is being paid to take something and put it into the subsurface instead of taking something out of the subsurface and selling it.

149. "Properly understood, the netback method is not a means of cost-shifting; it is a means of determining the net profit on the oil and gas by 'netting' the gross profit." Anderson Living Tr. v. Energen Res. Corp., 879 F.3d 1088, 1094 (10th Cir. 2018).

option when conducting enhanced oil recovery, though, as it could still be cheaper than buying carbon dioxide to use.

CONCLUSION

Whether lessors receive royalty payments for carbon dioxide that the lessor is paid to use depends on whether Louisiana courts are willing to apply the "economic benefits" analysis from *Henry* and *Frey* when the transaction is not directly related to the sale of the minerals. If the "amount realized" analysis is applied broadly, then courts would likely require royalty payments for money received by lessees to use carbon dioxide on the land, as this money would be an economic benefit derived from the lessee's use of the leased land. Courts could take a more limited approach to the amounts realized analysis though, as was done in *Cimarex*. Courts might use the "economic benefits" analysis only when activity is related to the sale or production of minerals. Essentially, courts might only consider economic benefits as part of the amounts realized when the "total price" reasoning from *Frey* could also apply.

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