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WELL, NOW, AIN'T THAT JUST FUGACIOUS!: A BASIC PRIMER ON ARKANSAS OIL AND GAS LAW

Thomas A. Daily and W. Christopher Barrier***

I. INTRODUCTION

Oil and gas law is an odd, even arcane, sub-specialty of real property law—where else might you run across terms such as "landman," "field rules," "shut-in royalty," "subjoined," and "fugacious?"[1] In jurisdictions with substantial, historical drilling and production activity, such as Texas and Oklahoma, there are hundreds of oil and gas lawyers who deal with such terms daily. Indeed, Texas has a board certification in the specialty. Forty years ago, Arkansas had perhaps ten such practitioners, and just a couple of years ago, it had fewer than five.

Today, with favorable oil and gas prices and improved drilling and production technology, Arkansas oil and gas drilling is in an unprecedented boom cycle, as exemplified by the Fayetteville Shale phenomenon.[2] Attorneys over much of the state have discovered that their clients need oil and gas advice, which, unfortunately, has usually been outside their experience.

This brief introduction to the subject is intended to help those lawyers to better serve their clients and to explore the most important issues and concepts in what is a very complex area of the law.[3] This exercise will involve unfamiliar definitions of familiar words that are peculiar to this area of the law;[4] totally new legal doctrines that are also peculiar to this area of

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1. To learn what these words mean, read on.

2. The Fayetteville Shale Formation, a significant source of natural gas, is found primarily in fourteen counties, stretching across north central Arkansas. It is now accessible because of advanced technology for detection, drilling, and well completion. According to the records of the Arkansas Oil and Gas Commission, the first Fayetteville Shale well was permitted on October 25, 2004. By March 1, 2007, the total permitted was 464, and according to Commission Director Lawrence E. Bengal, the number of wells permitted each month appears to remain on the rise, as of this writing. Telephone interview with Lawrence E. Bengal, Comm'n Dir., Ark. Oil & Gas Comm'n (Mar. 6, 2007).

3. For an excellent and exhaustive treatment of the real property law concepts and theories underlying this sub-specialty, see generally Judge Susan Webber Wright, *The Arkansas Law of Oil and Gas*, 9 U. ARK. LITTLE ROCK L.J. 223 (1986–87); 9 U. ARK. LITTLE ROCK L.J. 467 (1986–87); 10 U. ARK. LITTLE ROCK L.J. 5 (1987–88).

4. *See infra* Parts II, III.

the law;[5] practice pointers in conveyancing and estate planning in which mineral rights are involved;[6] discussions of tax forfeitures,[7] adverse possession,[8] and surface rights,[9] as they relate to these rights; a blueprint of a typical oil and gas lease;[10] an explanation of certain covenants that the law will add to or read into those mineral leases;[11] an explanation of the origins and fallacies of the common law Rule of Capture,[12] leading into a discussion of Arkansas's current oil and gas regulatory environment;[13] and finally, an explication of the practical and philosophical underpinnings of oil and gas law and practice.[14]

II. WHAT IS A MINERAL?

That seems like a simple enough question. According to Webster, "mineral" means "a solid[,] homogeneous[,] crystalline chemical element or compound that results from the inorganic processes of nature; *broadly* any of various naturally occurring[,] homogeneous substances (as stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained usually from the ground."[15]

Legally, the definition is narrower. Not everything within the earth is a mineral. Dirt is not a mineral. Neither is ordinary rock, even if usable as building stone or construction material.[16] In order to constitute a mineral, a substance must not only have some commercial value, it must also be "rare or exceptional."[17] Thus, an exclusion from coverage in a title insurance policy for "minerals ownership" does not exclude the right to remove limestone from the land.[18] In other words, property owners whose titles were insured, but with the typical "minerals ownership" exception inserted in their policies, would nevertheless have a claim against their insurer if their grantor had previously sold the right to remove limestone from the property because

5. *See infra* Parts IV, V.
6. *See infra* Part VI.
7. *See infra* Part VII.
8. *See infra* Part VIII.
9. *See infra* Part IX.
10. *See infra* Part X.
11. *See infra* Part XI.
12. *See infra* Part XII.
13. *See infra* Part XIII.
14. *See infra* Part XIV.
15. Merriam-Webster OnLine, *available at* http://m-w.com/dictionary/mineral (last visited Nov. 1, 2006).
16. S. Title Ins. Co. v. Oller, 268 Ark. 300, 304, 595 S.W.2d 681, 684 (1980).
17. *Id.* at 302, 595 S.W.2d at 683.
18. *Id.* at 304, 595 S.W.2d at 684.

limestone, which is not considered a mineral, was not contemplated by the standard exclusion.

However, a careful drafter will remember that both mineral and non-mineral substances within the earth may be owned separately from the surface. It is this key concept that separates mineral rights law in general, and oil and gas law in particular, from every other area of real property law in which lawyers practice. A grant or reservation of coal or of oil and gas will cause those minerals to be owned differently from the surface, which means they have been "severed" from the land. Indeed, such a grant or reservation of other things such as "sand and gravel" or "limestone," even though not usually categorized as minerals, will create separately owned severed estates as to those substances.[19] Also, different minerals beneath the same land can be owned by different owners.[20] For example, the owner of oil and gas may be a different person from the coal owner. Both of these may be different from the bauxite owner, and so on.

III. TYPES OF SEVERED MINERAL INTERESTS

As if severing minerals from the surface were not conceptually challenging enough, we must also learn that those severed estates may be further subdivided into components that can also be separately owned.[21] For example, a mineral owner may convey a "royalty interest,"[22] while retaining the "executive right" to that interest. The "executive right" owner has the right to develop the mineral interest, or to execute oil and gas leases so that someone else can develop it, binding both owners, and to receive all of the lessor's benefits from such leases, except for the conveyed royalty (often all or part of one-eighth (1/8) of the mineral sales proceeds). The royalty owner gets paid that royalty only if there is production. If there is, the proceeds of production will usually be divided three ways: among the lessee doing the drilling, the lessor,[23] and the non-participating royalty owner.

It is sometimes difficult to distinguish between a conveyance of a fractional-fee mineral interest and that of a royalty. Each such case will have its own facts and must be evaluated in light of the particular facts. If there is ambiguity, however, the most important issue is whether the granting instrument purports to convey the right to develop the mineral interest with

19. Humphreys-Mexia Co. v. Gammon, 254 S.W. 296 (Tex. 1923).

20. 1 AM. L. OF MINING § 4.03 (2d ed. 2004).

21. *See generally* Clampitt v. Ponder, 91 F. Supp. 535 (W.D. Ark. 1950); Parham v. Worthen Bank & Trust Co., 326 Ark. 754, 933 S.W.2d 384 (1996).

22. Also called a "non-participating royalty interest" or an "NPRI."

23. This party's inclusion assumes that the non-participating royalty is less than all of the royalty provided for in the lease.

language such as "together with the right of ingress and egress."[24] If so, the interest being conveyed is probably a fee mineral interest and is coupled with its portion of executive rights.[25] If not, it may be only a royalty interest, and its holder will be bound by leases executed by the executory right owner(s).[26] A royalty interest is almost entirely passive in that its owner must wait for the owner of the executive interest (or its lessee) to act.

Even more confusing are those cases that deal with the size of the royalty interest created. Consider the following hypothetical language in a *conveyance* of a royalty interest that occurred years ago: "conveying one-half (1/2) of the royalty on production of oil and gas, it being the intent to convey a one-sixteenth (1/16) interest in the proceeds of production from the herein described lands."[27] Now, years later, the executive interest owner executes a *lease* providing for a three-sixteenth (3/16) royalty. What royalty fraction should be paid to the royalty interest owner, one-sixteenth (1/16) or three-thirty-second (3/32) (one-half (1/2) of three-sixteenth (3/16))? The answer is probably the former, one-sixteenth (1/16), because of a line of cases[28] holding that the above hypothetical language creates a "fractional interest" rather than a "fraction-of-a-share interest."[29] The important lesson here is that dealing with mineral interests requires very careful drafting to avoid unintended results.

Yet another type of mineral interest that must be distinguished from a royalty interest is the similarly named "overriding royalty interest." The latter is a royalty interest carved out of the oil and gas lessee's net revenue, rather than the mineral owner's interest. It is called a "royalty" because the recipient occupies the same passive position. Such interests are often assigned to employees of the lessee (or its successors in interest), as well as independent geologists and other participants in the drilling process, in lieu of other compensation. While an overriding royalty interest is very much a

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24. Wynn v. Sklar & Phillips Oil Co., 254 Ark. 332, 345, 493 S.W.2d 439, 447 (1973).

25. *Id.*, 493 S.W.2d at 447.

26. *Id.*, 493 S.W.2d at 447.

27. Drafting preferences vary, but this is a representative way of saying that the grantor is selling (typically along with the surface) half of the mineral royalties (typically one-eighth (1/8) of the mineral production), but hedging his bets by keeping the other half, just in case oil and gas are discovered under the land, drilled for, and produced in paying quantities.

28. These cases are cited and explicated in Phillip E. Norvell, *Pitfalls in Developing Lands Burdened by Non-Participating Royalty: Calculating the Royalty Share and Coexisting with the Duty Owed to the Non-Participating Royalty Owner by the Executive Interest*, 48 ARK. L. REV. 934, 934–50 (1995).

29. For a thorough discussion of these types of interests, see generally Norvell, *supra* note 28.

real property interest, its life is generally limited to the life of the lease,[30] which is what gives the oil and gas lessee the right to carve it out in the first place. A typical royalty interest, on the other hand, is generally perpetual.[31] However, like other property interests, it too can be expressly limited, such as in a life estate or term interest.

Indefinite severance of minerals from the surface (so long as the taxes are paid[32]) is not a universally applied or applauded concept or practice. In Louisiana, for example, non-production for a certain period of time[33] not only terminates a lease, but it also takes severed mineral interests and merges them back with the surface ownership (somewhat like the magician's assistant being sawed in half in a box, only to re-emerge in one piece).[34] In almost every session of the Arkansas General Assembly in recent decades, legislation has been introduced to produce a similar magical result, but, as of this writing, no such measure has been enacted.[35]

IV. ARKANSAS'S *STROHACKER* DOCTRINE: A UNIQUE RULE OF PROPERTY

Several of Arkansas's mineral severance cases have not involved grants or reservations of specific substances as discussed above. Rather, they have involved generic grants or reservations of "minerals."[36] For such a generic conveyance to effectively sever a particular mineral substance, that substance must be commonly recognized in legal and commercial usage as a valuable mineral at the time and place of its grant or reservation.[37]

There you have the Arkansas *Strohacker* doctrine, from the case of *Missouri Pacific Railroad Co. v. Strohacker*.[38] In that case, the Arkansas Supreme Court held that deeds executed in 1892 and 1893 in Miller County

30. Normally the overriding royalty interest is conveyed as an interest in the lease, rather than as an interest in the underlying fee. It is thus dependent upon the continued validity of the lease.

31. This is likewise a matter of practice, rather than a matter dictated by the law.

32. *See* discussion *infra* Part VII.

33. *See* discussion *infra* Part X.10.

34. LA. REV. STAT. § 31:27–31 (1975); *see e.g.*, Continental Group, Inc. v. J. L. Allison, Jr., 404 So. 2d 428 (La. 1981).

35. *See, e.g.*, S.B. 228, 86th Gen. Assem., Reg. Sess. (Ark. 2007); H.B. 1697, 86th Gen. Assem., Reg. Sess. (Ark. 2007). S.B. 228 was referred to an interim committee for further study. H.B. 1697 died in committee. These proposals necessarily involve taking an asset from one owner and giving it to another owner by operation of law, which raises constitutional issues. The proposals likely have been precipitated by the increased exercise of surface-exploration rights by mineral owners, and they have been supported by owners of large tracts, overlaying severed minerals, who would profit by reclaiming those minerals.

36. For example, a generic grant is one that does not name the substance specifically, such as "all coal and mineral deposits," when the substance at issue is only natural gas.

37. Mo. Pac. R.R. Co. v. Strohacker, 202 Ark. 645, 656, 152 S.W.2d 557, 563 (1941).

38. *Id.*, 152 S.W.2d at 563.

reserving "all coal and mineral deposits" did *not* reserve natural gas, which did not become recognized as a commercially extractable mineral in Miller County until several years later.[39] The court stated as follows: "If the reservations had been made at a time when oil and gas production, or explorations, were general, and legal or commercial usage had assumed them to be within the term 'minerals,' certainly appellant[40] should prevail."[41] In most of the decisions holding that oil and gas were included in reservations of minerals, there were circumstances denoting such intent, and when the purposes of the parties can be ascertained from a writing or from general customs and effect can be given such intentions without impinging a settled rule of law, it should be done.[42]

The Arkansas Supreme Court has repeatedly reaffirmed *Strohacker*, on what appears to be a county-by-county basis, through its adjudication regarding natural gas ownership throughout the state, as have federal courts interpreting Arkansas law on the subject.[43] These courts have applied the doctrine to other minerals as well.[44] The result is that use of the generic term "minerals" in either a grant or reservation may include a specific substance in one county and not in another, and it may include a substance in the same locality in a current conveyance when it did not twenty years previously. Therefore, our hypothetical lawyer, when advising clients as to what was granted and what was reserved in a particular conveyance, may well have to go beyond the face of the conveyance document to know the answer, an "original intent" twist peculiar to the practice of minerals law.

V. PROBLEMS WITH SEVERING MINERALS: CAN YOU "*DUHIG*" IT?

Let us assume your client, McDonald, has a farm and that upon that farm he has some gas. Technically, McDonald owns the surface of the farm but only one-half (1/2) of the oil, gas, and other minerals beneath his fescue.[45] The other one-half (1/2) mineral interest is a severed mineral interest

39. *Id.* at 656, 152 S.W.2d at 563.

40. I.e., the railroad.

41. *Strohacker*, 202 Ark. at 650–51, 152 S.W.2d at 561.

42. *Id.* at 653, 152 S.W.2d at 562.

43. *See generally* Brizzolara v. Powell, 214 Ark. 870, 218 S.W.2d 728 (1949) (Johnson County); Stegall v. Bugh, 228 Ark. 632, 310 S.W.2d 251 (1958) (Union County); Singleton v. Mo. Pac. R.R. Co., 205 F. Supp. 113 (E.D. Ark. 1962) (Pope County); Ahne v. Reinhart & Donovan Co., 240 Ark. 691, 401 S.W.2d 565 (1966) (Logan County).

44. *See generally* Mining Corp. of Ark. v. Int'l Paper Co., 324 F. Supp. 705 (W.D. Ark. 1971) (cinnabar and mercury); Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949) (novaculite); Carson v. Mo. Pac. R.R. Co., 212 Ark. 963, 209 S.W.2d 97 (1948) (bauxite).

45. Any grass of the genus *festuca*, some species of which are cultivated for pasture or lawns. RANDOM HOUSE COLLEGE DICTIONARY 488 (Revised ed. 1975) (not a mineral).

belonging to the descendants of Lee, a carpetbagger who made a swing through Arkansas during the Great Depression, buying mineral interests from the friendly but impoverished natives for next to nothing.

McDonald decides to sell the farm, finds a buyer, Wilson, and hires you to draft the deed. He wants to retain his interest in the minerals. Remember, one-half (1/2) of the minerals already belong to Lee. If your warranty deed reads as follows "But[,] it is expressly agreed and stipulated that the grantor[46] herein retains an undivided one-half (1/2) interest in and to all mineral rights or minerals of whatever description in the land," you have a "*Duhig*" problem.

In 1940, the Texas Supreme Court decided *Duhig v. Peavy-Moore Lumber Co.*,[47] establishing the famous *Duhig* Rule, which states that a reservation of minerals in a warranty deed reserves the interest inclusive of, and not in addition to, prior, retained mineral interests, unless the deed expressly provides otherwise.[48] The deed quoted above purports to grant and warrant a greater mineral interest than can be conveyed because of Lee's prior mineral reservation, which means that what is stated as being warranted in the deed will control over an unclear reservation.[49] Under the *Duhig* Rule, warranty beats reservation. Lee already owned one-half of the minerals. You have helped McDonald convey the other one-half mineral interest to Wilson. McDonald has reserved nothing. All he has done is to decline to convey and warrant Lee's half, which is appropriate, of course, since he never owned it. To have effectively reserved the one-half (1/2) mineral interest not owned by Lee, McDonald needed to reserve all of the minerals or, alternatively, to reserve a one-half (1/2) interest "in addition to previously reserved minerals."

In 1985, the Arkansas Supreme Court adopted the *Duhig* Rule in *Peterson v. Simpson*.[50] Different explanations exist for the *Duhig* Rule in different jurisdictions throughout the country. However, in Arkansas, the reasoning is clear. The rule derives from the warranty.[51] The Arkansas Supreme Court specifically said so in *Peterson*, distinguishing its prior holding in *Hill v. Gilliam*[52] that *Duhig* was inapplicable in the context of a quitclaim deed.[53] Again, draft carefully.

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46. McDonald.
47. 144 S.W.2d 878 (Tex. 1940).
48. *Id.* at 880.
49. *Id.*
50. 286 Ark. 177, 690 S.W.2d 720 (1985).
51. *See id.*, 690 S.W.2d 720.
52. 284 Ark. 383, 682 S.W.2d 737 (1985).
53. *Id.* at 387, 682 S.W.2d at 739.

VI. LIFE ESTATES: VERY TRICKY INDEED

Out in rural Arkansas, a common amateur estate-planning tool is the conveyance from parents to children that reserves a life estate to the parents. In practice it looks something like the following: Zeke, Jr., who is married to Maudie, his second wife, owns a farm that he inherited from his father, Zeke, Sr. Zeke, Jr. is elderly, conscious of the impermanence of his life, as well as the extent of his bounty and the objects thereof. Those objects are his adult children from his first marriage, Zeke, III and Sunshine. Zeke, Jr., who gets most of his legal advice at the co-op, figures that the thing to do is to deed the farm to the kids, reserving a life estate. His unsuspecting lawyer draws the deed from Zeke, Jr., joined by Maudie, with the following reservation: "Reserving to the grantors a life estate in the herein above-described lands." The deed is subsequently executed and recorded.

Five years later, after Zeke, Jr. has departed this life, Maudie and the kids execute oil and gas leases. Gas is promptly discovered. Lots of gas. The question is, who gets the royalties?

The answer may surprise you. First, Maudie may not even have a life estate in the farm. Since Zeke, Jr. owned the place as his separate property, Maudie must first overcome a rule of conveyance that a reservation in favor of a stranger to the instrument is void.[54] Some jurisdictions have recognized an exception to this rule when the stranger was the grantor's spouse.[55] In the 1988 case of *Haynes v. Metcalf*,[56] the Arkansas Supreme Court acknowledged the general rule, noted the exception, and then based its decision in favor of the widow upon estoppel, instead of just adopting the exception to the rule as an Arkansas rule of property.[57] If Maudie and the kids are on the outs, she may have an interesting lawsuit just to establish her life estate.

Unfortunately, that was the simple part. Assume Maudie received the life estate. She is still not entitled to all of the royalties from her life estate. At common law, the life tenant cannot commit waste.[58] Removing minerals is generally considered waste because it depletes the corpus.[59] You cannot give back the coal when you are through "leasing" it to the mining compa-

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54. Haynes v. Metcalf, 297 Ark. 40, 42, 759 S.W.2d 542, 543 (1988) (citing Rye v. Baumann, 231 Ark. 278, 283, 329 S.W.2d 161, 165 (1959)).

55. *See generally, e.g.*, Saunders v. Saunders, 26 N.E.2d 126 (Ill. 1940); Derham v. Hovey, 161 N.W. 883 (Mich. 1917); Glasgow v. Glasgow, 70 S.E.2d 432 (S.C. 1952); Krug v. Reissig, 488 P.2d 150 (Wyo. 1971).

56. 297 Ark. 40, 759 S.W.2d 542 (1988).

57. *Id.* at 42–44, 759 S.W.2d at 543–44.

58. *See generally* Smith v. Smith, 219 Ark. 304, 241 S.W.2d 113 (1951).

59. Brader v. Ellinghausen, 154 S.W.2d 662 (Tex. Civ. App. Fort Worth 1941); SUMMERS, THE LAW OF OIL & GAS § 32 (3d ed. 2004).

ny.[60] In any event, Maudie is entitled to receive only the income from the royalty and is not entitled to the royalty itself.

The computation of that income interest is problematic. Arkansas has no statute or reported case explaining how to compute the interest. There are at least three possibilities:

> (1) Deposit the royalty as it accrues in an interest bearing account, pay the interest to Maudie, and distribute the corpus of the account to the kids after her death;
>
> (2) Apply the Uniform Principal and Income Act,[61] by analogy, whereby Maudie gets ten percent of the royalty and Zeke, III and Sunshine get forty-five percent each;[62] *or*
>
> (3) Apportion the royalty using the IRS formula for computing percentage depletion, whereby Maudie gets eighty percent and the kids each get ten percent.[63]

Zeke, Jr. could have done better by Maudie. He could have first deeded the farm to himself and Maudie as tenants by the entirety. Then, the new co-owners could have deeded it to the kids, reserving "a life estate together with the power to execute oil, gas, or mineral leases, binding upon the remainder interests, and the right to receive, for the life of the grantors, and the survivor of them, all bonus, rentals, and royalty, from such leases." Or, despite its deficiencies,[64] they could have used a beneficiary deed, as permitted by statute,[65] from Zeke to Maudie for her life, reserving those same powers in her, remainder to the kids. It would take effect only upon Zeke's death, leaving Zeke and Maudie complete rights to drill and lease to their hearts' content during each of their lives.

The result would have been different had the oil and gas lease been executed during Zeke, Jr.'s lifetime. Under the Open Mine Doctrine, the life

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60. See discussion *infra* Parts IX, X, XI, XII, and XIII for an explanation as to why the term "lease" is a misnomer when applied to minerals.

61. ARK. CODE ANN. §§ 28-70-101 to -605 (LEXIS Repl. 2004) (providing rules for fiduciaries as to how to differentiate income, which is generally distributable to the beneficiaries, from principal, which generally must be preserved. Interestingly, the statute specifically recognizes that mineral royalties, in fact, represent principal, on a depleting basis, and not "rent," as such); *see, e.g.*, *id.* §§ 28-70-103(a)(7), (b)(6), 28-70-109–11 (LEXIS Repl. 2004).

62. *See id.* § 28-70-411(a)(3) (LEXIS Repl. 2004).

63. 26 U.S.C. § 263(a), (c) (2007) (providing a similar process of differentiation and allocation of principal (capital expenditures) and expenses (deductible expenditures) for oil and gas and geothermal wells).

64. *See* Christopher Barrier, *The Uncertain Gift: Arkansas's New Beneficiary Deed*, ARK. LAWYER, Spring 2006, at 20.

65. ARK. CODE ANN. § 18-12-608 (LEXIS Suppl. 2006).

tenant has a right to work a mine that is opened prior to the vesting of the life estate.[66] Because the mine was already there, continuing to work it would not have constituted waste.[67] In 1925, the Arkansas Supreme Court held that the Open Mine Doctrine applies to oil and gas and that the mere granting of a lease "open[s] the mine," regardless of whether actual drilling operations occurred only after the life estate had vested.[68]

Another important distinction is whether a life estate owned by a surviving spouse is a dower or curtesy right, which Maudie, had she executed the life estate deed, might have inadvertently cut off.[69] Under Arkansas law, dower or curtesy includes the right to all royalty accruing to the one-third (1/3) (or, if there are no children, one-half (1/2)) of the life estate of the surviving spouse.[70]

VII. TAX FORFEITURES OF SEVERED MINERAL INTERESTS: ASSESSOR SHORTCOMINGS MUDDY THE WATER

Severed mineral interests are real property interests and, as such, are subject to ad valorem taxes, to being assessed, and if taxes are not paid, to becoming delinquent, forfeited, and sold.[71] However, the authors have concluded that, at least prior to 1986, there was never a single, valid assessment of a severed mineral interest in the State of Arkansas.

In a 1950 decision, the Arkansas Supreme Court held that Arkansas's ad valorem tax statutes were violated unless assessments of severed mineral interests were subjoined to surface interests of the same land.[72] In other words, each assessor was required to place assessments of severed mineral interests in the same book, and immediately adjacent to, the same tract's surface owner's assessment. You might think, with seventy-five counties[73] trying to do this within the thirty-five tax years between the court's 1950 decision and 1985, some assessor or deputy in some county or judicial district would take to heart this requirement and devise an appropriate system to meet it. In fact, the authors know of no evidence that any county's assessments of severed mineral interests were ever properly subjoined, in spite

66. *See generally* Poole v. Union Trust Co., 157 N.W. 430 (Mich. 1916).
67. *Id.* at 169.
68. Warren v. Martin, 168 Ark. 682, 684, 272 S.W. 367, 371 (1925).
69. ARK. CODE ANN. § 18-12-402 (LEXIS Repl. 2003).
70. *Id.* § 28-11-304 (LEXIS Repl. 2004).
71. ARK. CONST. art. 16, § 5(a).
72. Sorkin v. Myers, 216 Ark. 908, 912, 227 S.W.2d 958, 960 (1950).
73. Some of which even have two judicial districts that are, for practical purposes, separate counties.

of at least seven other decisions reaffirming the Arkansas Supreme Court's 1950 holding.[74]

Finally, in 1985, a desperate Arkansas General Assembly enacted Act 961 of that year, which eliminated the requirement of subjoinder and substituted a requirement that the severed mineral assessment records be maintained by legal description of the surface estate in the same manner as surface assessments.[75] In 1992, the court refused to apply the 1985 Act retroactively.[76] It remains to be seen whether the assessors can follow the relaxed rules.

Meanwhile, the General Assembly changed the tax-sale procedure for severed mineral interests.[77] Act 864 of 1993 required the state to stop auctioning off forfeited, severed mineral interests.[78] Instead, Act 864 required the state to hold them indefinitely.[79] However, after the redemption period expired, the surface owner, and no one else, could purchase them from the state under the cited statute.[80] Meanwhile, the State got to lease the interests and keep any resulting profit.

Inadequate legal descriptions used in the assessment, taxation, and forfeiture processes also plague purported tax forfeitures of severed, mineral interests. Assessors either have never mastered the rules of describing land, or, more likely, have lacked technical and financial resources to implement them. Imagine the tract in question being sixteen acres in size, all within Section six. It is clearly insufficient to describe it the way assessors commonly do, i.e, "Pt. SW/4–16 Acres." Rather, the legal description must permit persons of ordinary education and training to find the precise boundaries of the land.[81] A tax forfeiture proceeding using such a "part of" description

74. *See generally* Dawdy v. Holt, 281 Ark. 171, 662 S.W.2d 818 (1984); Garvan v. Potlatch Corp., 278 Ark. 414, 645 S.W.2d 957 (1983); Hurst v. Rice, 278 Ark. 94, 643 S.W.2d 563 (1982); Adams v. Bruder, 275 Ark. 19, 627 S.W.2d 12 (1982); Stienbarger v. Keever, 219 Ark. 411, 242 S.W.2d 713 (1951); Blackburn v. Cline, 8 Ark. App. 108, 650 S.W.2d 588 (1983); Walker v. W. Gas Co., 5 Ark. App. 226, 635 S.W.2d 1 (1982).

75. Act of 1985, No. 961 (codified at ARK. CODE ANN. § 26-26-1112) (1997).

76. Gilbreath v. Union Bank, 309 Ark. 360, 362, 830 S.W.2d 834, 854, 855–56 (1992).

77. Act of 1993, No. 864 (codified at ARK. CODE ANN. § 26-37-314) (1997).

78. As amended by Act of 2003, No. 1279 (codified at ARK. CODE ANN. § 26-37-314 (LEXIS Repl. 1997)).

79. ARK. CODE ANN. § 26-37-314 (LEXIS Repl. 1997).

80. *Id.*

81. The basic system in Arkansas for sales of real estate to collect unpaid ad valorem taxes provides for a series of notices and warnings to the property owner, and an auction of the land by the Arkansas Commissioner of State Lands. ARK. CODE ANN. §§ 26-37-101 to -315 (LEXIS Repl. 1997 & Supp. 2005). The notice provisions were recently given due process scrutiny by the United States Supreme Court and found wanting. *See generally* Jones v. Flowers, 126 S. Ct. 1708 (2006). Inadequate legal descriptions frequently depress or eliminate meaningful bidding.

is void.[82] The Arkansas Supreme Court has set forth the following standard: "A description [that] is intelligible only to persons possessing more than the average intelligence, or the use and understanding of which is confined to the locality in which the land lies, is not sufficient."[83]

Although clearly insufficient, the bob-tailed description set out above is the assessor's short hand for a lengthy metes and bounds description, which an assessor understandably could find difficult to incorporate into his books. The difficulty presumably could be eased by electronic filing and indexing of real estate documents.[84] It is not difficult to imagine future clerks forwarding deeds electronically to the assessor, as is now done with paper copies, to update the tax rolls, including title companies in the process to allow storage of the full legal description without laborious copying. But, this has not been done yet.

VIII. ADVERSE POSSESSION OF SEVERED MINERAL INTERESTS: DARN NEAR IMPOSSIBLE

When an insufficient legal description of a surface tract creates a problem, the purchaser at the tax sale may pursue a type of quiet-title action.[85] Alternatively, he may be able to eventually cure his defective title by adversely possessing the tract for the statutory period of seven years.[86] Importantly, however, this is not the case with a severed mineral interest. The pub-

82. *See* Am. Portland Cement Co. v. Certain Lands, 179 Ark. 553, 554, 17 S.W.2d 281, 281 (1929); Buchanan v. Pemberton, 143 Ark. 92, 95–96, 220 S.W. 660, 661 (1920); Guy v. Stanfield, 122 Ark. 376, 376, 183 S.W. 966, 967 (1916); Boswell v. Jordan, 112 Ark. 159, 164, 165 S.W. 295, 296–97 (1914); Dickinson v. Ark. City Improv. Co., 77 Ark. 570, 576, 92 S.W. 21, 24 (1906); Covington v. Berry, 76 Ark. 460, 464, 88 S.W. 1005, 1006 (1905); Rhodes v. Covington, 69 Ark. 357, 359, 63 S.W. 799, 799–800 (1901); Boles v. McNeil, 66 Ark. 422, 425, 51 S.W. 71, 71 (1899); Little Rock & Ft. S.R. Co. v. Huggins, 64 Ark. 432, 434–35, 43 S.W. 145, 146 (1897); Cooper v. Lee, 59 Ark. 460, 463–64, 27 S.W. 970, 971 (1894); Patrick v. Davis, 15 Ark. 363, 371 (1854). Adding tax parcel numbers to the description does not help, for obvious reasons; *see generally* Patton v. Blake, 362 Ark. 538, 210 S.W.3d 74 (2005).

83. *Cooper*, 59 Ark. at 463, 27 S.W. at 971 (citing Schattler v. Cassinelli, 56 Ark. 178, 19 S.W. 746 (1892)).

84. That is the general scheme represented by the Uniform Real Property Electronic Recording Act, enacted in the 2007 regular session of the Arkansas General Assembly as Act 734 of 2007. However, implementation of Act 734 is optional at the county level, and hence, universal use may be years away. *See also generally* Patricia Brumfield Fry, James A. Newell & Michael R. Gordon, *Coming to a Screen Near You—"eMortgages"—Starring Good Laws and Prudent Standards—Rated "XML,"* 62 BUS. LAW. 295 (2006).

85. ARK. CODE ANN. § 18-60-601 (LEXIS Repl. 2003). The provisions for search and notice were tightened considerably by Act 1037 of 2007.

86. *Id.* §§ 18-60-501 to -511 (LEXIS Repl. 2003).

lic-sale, quiet-title statute does not apply to undivided interests in mineral rights.[87]

More significantly, the Arkansas Supreme Court has consistently held that when title to the surface estate of land has been severed from title to the underlying mineral estate, title to the minerals cannot be acquired by adverse possession of the surface alone.[88] Rather, actual production of minerals is required.[89] In *Claybrooke v. Barnes*,[90] for example, the Arkansas Supreme Court held as follows:

> [When] there has been a severance of the legal interest in the minerals from the ownership of the land, it has been held as to solid minerals, and the same rule has been applied to oil and gas, that adverse possession of the land is not adverse possession of the mineral estate[] and does not defeat the separate interest in it. . . . So[,] it may be taken as settled that the two estates, when once separated, remain independent, and title to the mineral rights can never be acquired by merely holding and claiming the land, even though title be asserted in the minerals all the time.[91]

The rationale for this is that "the statute of limitations does not run against these rights [to severed mineral interests,] unless there is an actual adverse holding[,] which constitutes an invasion of these particular rights."[92] Adverse possession, whether of the surface or severed minerals, must be open and notorious (meaning highly visible) and inconsistent with rights of the true owner.[93] The only way to make a visible claim to the minerals is to sink a mine shaft or drill a well and then to use that shaft or well to actually remove the mineral.

In addition to the requirement that an adverse possessor must actually extract the minerals, there is an unresolved question in Arkansas as to whether production from a unit well that is not situated on the tract in issue is sufficient to constitute adverse possession.[94] Such production has been

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87. Schuman v. Certain Lands, 223 Ark. 85, 88–89, 264 S.W.2d 413, 415–16 (1954).

88. Jones v. Brown, 211 Ark. 164, 167–68 n.2, 199 S.W.2d 973, 975 n.2 (1947); Skelly Oil Co. v. Johnson, 209 Ark. 1107, 1121–22, 194 S.W.2d 425, 432 (1946); Claybrooke v. Barnes, 180 Ark. 678, 682–83, 22 S.W.2d 390, 392 (1929); Bodcaw Lumber Co. v. Goode, 160 Ark. 48, 61, 254 S.W. 345, 349 (1923).

89. *See* Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157, 164 (W.D. Ark. 1949); Buckner v. Wright, 218 Ark. 448, 451, 236 S.W.2d 720, 722 (1951); Grayson-McLeod Lumber Co. v. Duke, 160 Ark. 76, 80, 254 S.W. 350, 350 (1923).

90. 180 Ark. 678, 22 S.W.2d 390 (1929).

91. *Id.* at 682, 22 S.W.2d at 392; *see also Jones*, 211 Ark. at 167, 199 S.W.2d at 975.

92. *Bodcaw Lumber Co.*, 160 Ark. at 61, 254 S.W. at 349.

93. Gibbs v. Bates, 215 Ark. 646, 650–51, 222 S.W.2d 805, 807–08 (1949); *see also* ARK. CODE ANN. §§ 18-11-106, 18-60-501–511 (West 2006).

94. A "unit" is formed when contiguous ownerships are grouped together to share the costs and benefits of oil or gas production anywhere within the unit, voluntarily or by regula-

held to be insufficient in Oklahoma,[95] but there is some indication that the Arkansas Supreme Court would not adopt such an approach. In *Post v. Tenneco Oil Co.*,[96] the Arkansas Supreme Court held that a lessor's entitlement to "free gas" from wells located on the leased premises included the off-premises unit wells.[97] In *Post*, the court noted that the unit wells produced gas from under the leased premises and that royalties were paid on a unit basis.[98] In an earlier case, the Arkansas Supreme Court had held that adjoining production under a voluntary pooling agreement did not constitute adverse possession of gas, but the court offered the following dicta: "It is possible that the rule might be different if the neighboring well had been drilled in accordance with a finding in the Oil and Gas Commission that such a well *would* drain surrounding property, necessitating the formation of a drilling unit[,] but that situation is not presented."[99]

IX. INGRESS AND EGRESS: THE SURFACE OWNER'S SURPRISE

More than one Arkansas lawyer[100] has received a call from a client with regard to a recently purchased tract of land.[101] Like many similar transactions, the client's deed was limited to surface rights. Oil, gas, and all other minerals were reserved by a prior owner (perhaps several conveyances back) and were excluded from coverage by the client's title insurance policy. The client was advised at closing, by the closing officer, that the title company "just [did not] search or insure minerals." The call to the lawyer was prompted by a survey stake and a certified letter. What the client saw as a future rural home site, a natural gas exploration company saw as its latest drill site. Confronted with a hysterical client, the hypothetical lawyer knows what the client wants to hear but, hopefully, will not respond accordingly. The lawyer can do the following:

(1) tell the client she can enjoin the drilling of the well;

(2) tell the client she can recover damages for trespass to her land, perhaps even punitive damages; or

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tory discretion, on the supposition that those substances are not isolated under one owner. *See* discussion *infra* Parts XII, XIII.

95. *See, e.g.*, Krosmico v. Pettit, 968 P.2d 345, 350–51 (Okla. 1998); *see also* Cornelius v. Moody Bible Inst. of Chi., 18 P.3d 1081, 1084 (Okla. Civ. App. 2001).

96. 278 Ark. 527, 648 S.W.2d 42 (1983).

97. *Id.* at 530, 648 S.W.2d at 44.

98. *Id.* at 528, 648 S.W.2d at 43.

99. Brizzolara v. Powell, 214 Ark. 870, 873, 218 S.W.2d 728, 729 (1949).

100. Once again and hereafter, our "hypothetical lawyer."

101. Presumably, no legal advice was sought before closing.

(3) tell the client that if the gas company has the permission of the mineral owner (i.e., a lease),[102] she cannot stop the well from being drilled and can only recover damages if she can prove the company exercised its rights negligently, excessively, or unreasonably.[103]

The least desirable choice may be the third, but it happens to be the only legally correct one.

A mineral owner who is not also the surface owner has a common law right, the right of "ingress and egress."[104] Traditionally, this right has allowed a mineral owner to use as much of the surface as is reasonably needed to explore for the owned mineral, to produce it, and to transport it to market.[105] The ingress and egress right is, in effect, a non-exclusive easement belonging to the mineral owner, appurtenant to that ownership interest, for that particular use.[106] Permission from the surface owner is not required.[107] Further, the surface owner is not entitled to payment.[108] She is, however, entitled to notice that the mineral owner is coming.[109] That was the reason for the certified letter in our hypothetical scenario.

Ingress and egress rights are not unlimited. The mineral owner or lessee must give due regard to the interest of the surface owner[110] and must then restore the surface to the degree practicable.[111] If the mineral owner or lessee makes unreasonable use of the surface or does unreasonable harm, he or she will be liable for damages.[112] Because a jury might ultimately decide the reasonableness issue against them, most oil and gas companies are willing to settle the issue by paying modest "surface damages." However, the important lesson for the lawyer providing advice to the surface owner is that the owner simply cannot stop the well.

Were our hypothetical lawyer instead representing the natural gas exploration company, the important lesson would be the doctrinal shift in the last thirty years from "the dominance of the mineral estate over conflicting

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102. Such permission is included in every standard oil and gas lease form. *See* discussion *supra* Part X.1 (regarding the oil and gas leases granting clause).

103. Diamond Shamrock Corp. v. Phillips, 256 Ark. 886, 892–93, 511 S.W.2d 160, 164 (1974).

104. *Id.* at 891, 511 S.W.2d at 163.

105. *Id.*, 511 S.W.2d at 163.

106. *Id.*, 511 S.W.2d at 163.

107. *Id.*, 511 S.W.2d at 163.

108. *Id.*, 511 S.W.2d at 163.

109. ARK. CODE ANN. § 15-72-203 (Michie Repl. 1994).

110. McFarland v. Taylor, 76 Ark. App. 343, 346–47, 165 S.W.3d 468, 471 (2002).

111. Bonds v. Sanchez-O'Brien Oil & Gas, 289 Ark. 582, 585, 715 S.W.2d 444, 446 (1986).

112. *Diamond Shamrock Corp.*, 256 Ark. at 892, 511 S.W.2d at 163.

uses of the surface" by the surface owner,[113] sometimes referred to as the Doctrine of Reasonable Necessity,[114] to the Reasonable Accommodation Doctrine,[115] by statute in some states and by case law[116] in Arkansas. The traditional, common law view was that the mineral owner, which generally means the mineral owner's lessee or a successor thereto, could do whatever proved reasonably necessary to extract the minerals in the mineral rights contract, notwithstanding the damage to the surface.[117] The Doctrine of Reasonable Necessity only required the mineral owner, confronted with two equally convenient courses of action, to choose the one with the lesser impact on the surface owner.[118] The mineral owner was virtually never required to choose a more expensive or less convenient approach just to protect the surface owner.[119] Gradually, however, the Reasonable Accommodation Doctrine has supplanted the Doctrine of Reasonable Necessity in many oil and gas producing jurisdictions. "In general, the doctrine [of Reasonable Accommodation] provides that the mineral owner must give due regard to the interests of the surface owner if there are alternative means that are reasonable and practical under the circumstances."[120]

The first reported Arkansas case indicating the subtle shift of policy in this jurisdiction was *Diamond Shamrock Corp. v. Phillips*,[121] a classic illustration of the old lawyer's adage that bad facts make bad law. Diamond Shamrock's agent, Moody, visited with Phillips, the surface owner, at the approximate location of Diamond's proposed well on Phillips's five acre

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113. Paul F. Hultin, *Recent Developments in Statutory and Judicial Accommodation Between Surface and Mineral Owners*, 28 ROCKY MTN. MIN. L. INST. 1021, 1023 (1982).

114. Phillip Wm. Lear & Stephanie Barber-Retena, *Split Estates and Severed Minerals: Rights of Access and Surface Use After the Divorce (and Other Leasehold-Access-Related Problems)*, in ROCKY MTN. MIN. L. FOUND. 10-27 (2005).

115. James J. O'Malley & Kendor P. Jones, *Chained Gates and No Trespassing Signs: Dealing with Wary Landowners in a Brave New World*, 51 ROCKY MTN. MIN. L. INST. 7-1, 7-9 (2005).

116. *See Diamond Shamrock Corp.*, 256 Ark. at 891, 511 S.W.2d at 163; McFarland v. Taylor, 76 Ark. App. 343, 346, 65 S.W.3d 468, 471 (2002); Getty Oil Co. v. Jones, 470 S.W.2d 618, 621 (Tex. 1971); Getty Oil Co. v. Royal, 422 S.W.2d 591, 593 (Tex. Civ. App. 1967).

117. *See* Kinney-Coastal Oil Co. v. Kieffer, 277 U.S. 488, 504–06 (1927) (interpreting federal agricultural and mining statutes together so as to reveal that result.

118. *Id.* at 504.

119. For a succinct summary of the development of the "reasonably necessary test" sixty years ago, which resulted in the dominance of the mineral estate; the limitation of that dominance by the "due regard" or "mutual accommodation approach" in the intervening years; and the final displacement of that test in a growing number of jurisdictions by the "reasonable accommodation" doctrine, beginning roughly ten years ago, see O'Malley & Jones, *supra* note 115, at 7-5 to 7-11.

120. *Split Estates and Severed Minerals*, *supra* note 114, at 16.

121. 256 Ark. 886, 511 S.W.2d 160 (1974).

tract where Phillips and his wife were building a home.[122] "Phillips said he protested that he did not want an encroachment on the homesite, whereupon Mr. Moody acceded to his request . . . [and] assured him the well could be drilled behind the house site and in the pasture."[123] A reassured Mr. Phillips went off to California to take care of some business.[124] Guess where he found the well upon his return—smack dab on the homesite.[125]

Phillips sued.[126] Phillips won.[127] The jury even gave Phillips a small award of punitive damages.[128] Diamond Shamrock appealed and succeeded in getting the punitive damage award reversed.[129] The Arkansas Supreme Court affirmed the remainder of the jury's verdict, agreeing that Diamond Shamrock's actions constituted an unreasonable exercise of its ingress and egress rights.[130] More importantly for the development of Arkansas mineral/surface law, the court quoted from the Texas decision[131] that signaled a shift to Reasonable Accommodation, stating as follows: "where there is an existing use by the surface owner[,] which would otherwise be precluded or impaired, and [when] under the established practices in the industry[,] there are alternatives available to the lessee," the lessee will be held liable if he fails to employ the alternative least injurious to the surface owner.[132]

More recently, in 2002, the Arkansas Court of Appeals issued its opinion in the case of *McFarland v. Taylor*.[133] That decision affirmed a lower court's denial of an injunction requested by the oil operator, McFarland, which would have stopped Phillips, a surface owner, from blocking the operator's use of a road across Phillips's tract.[134] Originally Phillips had given McFarland's predecessor permission to use the road, but he "withdrew" that permission after his son, daughter-in-law, and three-year-old granddaughter moved into a mobile home on the same tract.[135] Phillips testified that the lessee's continuing use of the road had become a safety hazard to his ex-

122. *Id.* at 887, 511 S.W.2d at 161.
123. *Id.* at 888, 511 S.W.2d at 161.
124. *Id.*, 511 S.W.2d at 161.
125. *Id.*, 511 S.W.2d at 161–62.
126. *Id.* at 887, 511 S.W.2d 161.
127. *Diamond Shamrock Corp.*, 256 Ark. at 892, 511 S.W.2d at 164.
128. *Id.*, 511 S.W.2d at 164.
129. *Id.* at 893, 511 S.W.2d at 164.
130. *Id.* at 891–92, 511 S.W.2d at 163–64.
131. *See generally* Getty Oil Co. v. Jones, 470 S.W.2d 618 (Tex. 1971).
132. *Diamond Shamrock Corp.*, 256 Ark. at 891, 511 S.W.2d at 163.
133. 76 Ark. App. 343, 65 S.W.3d 468 (2001).
134. *Id.* at 344, 65 S.W.3d at 469.
135. *Id.* at 345, 65 S.W.3d at 469–70.

tended family, and he offered expert testimony[136] that an alternate road could be adequately improved for use by the operator for only $1000 to $1500.[137]

The Reasonable Accommodation decisions, like *Diamond Shamrock v. Phillips* and *McFarland v. Taylor*, indicate that the court balanced the interests of the parties. If a small additional expense to the mineral owner yielded a great benefit to the surface owner, the mineral owner had to pay it.[138] If one access route adversely impacted a dwelling, even one built after the well was in operation, and a second one, although somewhat less direct, did not, the *McFarland* court required the operator to switch access roads, at the operator's expense.[139] *McFarland* is arguably limited to its facts, such as the apparent ease in switching routes, but it is instructive in that the losing oil operator argued the Doctrine of Reasonable Necessity straight down the line and was trumped on every point by the court's acceptance of the Reasonable Accommodation Doctrine.

X. The Oil and Gas Lease: What You Give and What You Take

The most important oil and gas instrument is a document usually headed "Oil and Gas Lease." That document defines the relationship between a mineral owner[140] and the exploration company.[141] As noted earlier, the oil and gas lease is poorly named. It is more than a mere lease. It is a conveyance of a determinable fee in the mineral estate, conditioned upon the timely establishment of commercial production and the continuation of that production. It is a complicated document, but each oil and gas lease has certain typical provisions, including the following:

> 1. **The Granting Clause:** That Lessor, for and in consideration of the sum of Ten and more Dollars ($10.00 & more) in hand paid, and of the covenants and agreements hereinafter contained to be performed by the Lessee, does hereby grant, devise, lease, and let unto said Lessee the hereinafter described land, for the purpose of carrying on geological, geophysical, and other exploration work, and the drilling and operating for, producing and saving all of the oil, gas, and other hydrocarbons, within all that certain tract of land, together with any reversionary rights therein, situated in the

136. Apparently unrefuted.
137. *McFarland*, 76 Ark. App. at 345, 65 S.W.3d at 470.
138. Diamond Shamrock Corp. v. Phillips, 256 Ark. 886, 891, 511 S.W.2d 160, 163 (1974).
139. *Id.* at 347–48, 65 S.W.3d at 470.
140. The lessor is also called the "royalty owner."
141. The lessee is also called the "working-interest owner."

> County of _______________, State of Arkansas, and described as follows:
>
> (Legal Description)
>
> containing _____________ acres, more or less, and also, in addition to the above-described land, any and all strips or parcels of land, other than those constituting regular, governmental subdivisions, adjoining or contiguous to the above-described land and owned or claimed by Lessor, all of the foregoing land being hereinafter referred to as "leased premises." It is the intention of the Lessor herein that the leased premises cover and include all land owned or claimed by Lessor in the above-numbered governmental section or sections together with any and all accretions thereto whether or not herein accurately and completely described.

Note and remember the broad extent to which that granting clause authorizes surface operations. Also, note the "Mother Hubbard" language in the description of the "leased premises," which brings under the lease any mineral ownership of the lessor in the general vicinity of the property specifically described—in other words, every mineral interest in the lessor's "cupboard." It is intended to protect the lessee when its landman incorrectly describes the lessor's tract. Given the state of record title in many parts of Arkansas, that is not uncommon.

> 2. **The Habendum (Term) Clause:** This lease shall remain in force for a primary term of ________ years and as long thereafter as oil, gas, or other hydrocarbons are produced from said leased premises or from lands pooled therewith.

Potentially, an oil and gas lease can have two terms, the primary term and the secondary term. If the lessee establishes commercial production during the primary term, the lease will continue in force indefinitely until production ceases. The life of the lease after the primary term is called its secondary term.

Arkansas statutes somewhat limit the extent to which non-productive lease lands can be held along with productive lease lands by suggesting as follows:

> (a) The term of an oil and gas, or oil or gas, lease extended by production in quantities in lands in one (1) section or pooling unit in which there is production shall not be extended in lands in sections or pooling units under the lease [when] there has been no production or exploration.
>
> (b) This section shall not apply when drilling operations have commenced on any part of lands in sections or pooling units under the lease

> within one (1) year after the expiration of the primary term, or within one (1) year after the completion of a well on any part of lands in sections or pooling units under the lease.
>
> (c) The provisions of this section shall apply to all oil and gas, or oil or gas, leases entered into on and after July 4, 1983.[142]

The advising lawyer must now deal with a statute that is poorly drafted and ambiguous. Still, its apparent intent is to require the lessee to drill at least one well per year after the expiration of the primary term, until all lands covered by the lease have been explored. Also, "production" sufficient to perpetuate the lease must be in commercial paying quantities.[143] A lessee may not hold a lease for speculative reasons by producing his well at a loss.[144]

> 3. **The Oil Royalty Clause:** Lessee shall deliver, free of cost, to Lessor at the well or to the credit of Lessor in the pipeline to which the well may be connected, one-eighth (1/8) part of all oil and other liquid hydrocarbons produced and saved from the leased premises or, at the Lessee's option, to pay Lessor for such one-eighth (1/8) royalty the market price at the well for such oil and other liquid hydrocarbons of like grade and gravity prevailing on the day such oil and other liquid hydrocarbons are run from the lease stock tanks.
>
> 4. **The Gas Royalty Clause:** Lessee shall pay Lessor one-eighth (1/8) of the proceeds received by Lessee at the well for all gas (including all substances contained in such gas) produced from the leased premises and sold by Lessee. If such gas is used by Lessee off the leased premises or used by Lessee for the manufacture of casing head gasoline or other products, Lessee shall pay Lessor one-eighth (1/8) of the prevailing market price at the well for the gas so used.

Both royalty clauses above are appropriate because oil and gas are marketed differently. Oil is difficult to transport. Thus, it is usually sold to the local refinery. The refiner often buys the shares of both the lessor and lessee and pays each separately. Most gas is sold through a network of interstate pipelines to purchasers located far away. The identity of those purchasers changes frequently, so it is impractical for the purchasers to pay the

142. ARK. CODE ANN. § 15-73-201 (LEXIS Supp. 2005).
143. Turner v. Reynolds Metals Co., 290 Ark. 481, 483, 721 S.W.2d 626, 627 (1986).
144. *Id.*, 721 S.W.2d at 627.

royalty. Thus, in gas sales, the lessee sells the entire product and then accounts to the lessor for her royalty.

The one-eighth (1/8) royalty is sometimes negotiable. Typically, a lessor is paid a cash bonus to sign the lease. If the lessor is willing to accept a smaller bonus, and the lessee's economics permit it, he or she may be able to get a three-sixteenths (3/16) or a one-sixteenth (1/16) royalty. If the lessor will forego the bonus altogether, he or she may even be able to get one-fourth (1/4).

Calculation of the royalty on gas production is not without its issues. What costs, if any, may be deducted from the total sales proceeds? As we shall see from the following discussion, the answer is anything but clear.

Severance and production taxes are clearly deductible pursuant to Arkansas statutory law.[145] It is equally clear that the costs of drilling, equipping, and operating the well itself are not deductible.[146] The difficult question involves costs incurred by the lessee, downstream from the wellhead, under circumstances in which the lessee must transport the gas to the point of sale, or treat the gas to improve its purity to boost its pressure so that it will flow into a pipe line.

There are two Arkansas reported decisions, which may or may not be in conflict. In *Clear Creek Oil & Gas Co. v. Bushmiaer*,[147] the court held that when the point of sale occurred down stream from the well, the reasonable cost of transporting the gas to that point was proportionately chargeable to the royalty owner.[148] However, in the later case of *Hanna Oil & Gas Co. v. Taylor*,[149] the court refused to allow the lessee, Hanna, to deduct the cost of compressing the gas to exceed pipeline pressure, in spite of uncontroverted testimony that there was no market for the uncompressed gas at the well.[150] The lessee had established a long course of conduct of not deducting compression costs prior to changing its royalty calculation methodology[151] so that they were deducted. It is unclear whether the court's decision in *Hanna* resulted from that change in Hanna's course of conduct, or whether it was a tacit reversal of *Clear Creek.*

Normally, the trend appears to be to base the deductibility of these "post-production" costs upon whether there was, in fact, a market at the well. The lessee's implied obligations under the lease require the production, free of costs other than taxes, of a marketable product at that place.[152] If

145. ARK. CODE ANN. § 26-58-115 (LEXIS Supp. 2005).
146. *See generally* Hanna Oil & Gas Co. v. Taylor, 297 Ark. 80, 759 S.W.2d 563 (1988).
147. 165 Ark. 303, 264 S.W. 830 (1924).
148. *Id.* at 303, 264 S.W. at 832.
149. 297 Ark. 80, 759 S.W.2d 563 (1988).
150. *Id.* at 85, 759 S.W.2d at 566–67.
151. *Id.* at 81, 759 S.W.2d at 564.
152. *See infra* Part XI.

no such market exists, the reasonable costs of getting to market are deductible.[153] Likewise, if the lessee enhances the value of marketable gas to facilitate a higher price, the additional reasonable cost of doing so is proportionately charged to the royalty share.[154]

> 5. **The Shut-In Clause:** If a well capable of producing gas or gas and gas-condensate in paying quantities located on the leased premises (or on acreage pooled or consolidated with all or a portion of the leased premises into a unit for the drilling or operation of such well) is at any time shut in and no gas or gas-condensate therefrom is sold or used off the premises or for the manufacture of gasoline or other products, nevertheless such shut-in well shall be deemed to be a well on the leased premises producing gas in paying quantities, and this lease will continue in force during all of the time or times while such well is so shut in, whether before or after the expiration of the primary term hereof. Lessee shall use reasonable diligence to market gas or gas-condensate capable of being produced from such shut-in well but shall be under no obligation to market such products under terms, conditions, or circumstances that, in Lessee's judgment exercised in good faith, are unsatisfactory. Lessee shall be obligated to pay or tender to Lessor within forty-five (45) days after the expiration of each period of one year in length (annual period) during which such well is so shut in, a royalty of One Dollar ($1.00) per net royalty acre retained hereunder as of the end of such annual period; provided that, if gas or gas-condensate from such well is sold or used as aforesaid before the end of any such annual period, or if, at the end of any such annual period, this lease is being maintained in force and effect otherwise than by reason of such shut-in well, Lessee shall not be obligated to pay or tender, for that particular annual period, said sum of money. Such payment shall be deemed a royalty under all provisions of this Lease. Such payment may be made or tendered to Lessor or to Lessor's credit in the ____________ Bank at ____________________________, or its successors, which Bank and its successors are the Lessor's agent and shall continue as the depository for any and all sums payable under this Lease regardless of changes of ownership in said land, or in the right to receive royalty hereunder. Royalty ownership as of the last day of each such annual period as shown by Lessee's

153. *See generally* Mittelstaedt v. Santa Fe Minerals, Inc., 903 P.2d 259 (Okla. 1994).
154. *See generally id.*

> records shall govern the determination of the party or parties entitled to receive such payment.

Since gas can only be transported by pipeline, it is sometimes impossible to begin selling immediately from a new well. Pipeline problems or market conditions can also cause suspension of sales from older wells. Under those circumstances, there has been concern[155] that there is lack of "production" required to perpetuate the lease into a secondary term. The Shut-In Clause solves that problem for the lessee, by giving it an alternative that also produces at least some income for the mineral owner.

The client may want to know the consequence of a lessee's failure to timely pay shut-in royalty. There is no Arkansas decision on point. However, the issue should be resolved by an examination of the express language of the Shut-In Clause itself. In the clause set out above, the requirement that shut-in royalty be paid is clearly a *covenant* of the lessee. The consequence of breach of a covenant is normally liability for the damage caused by the breach. On the other hand, a few lease forms deal with shut-in royalty as a *condition*. Consider the following language: "If a well capable of producing gas . . . is shut in, . . . this lease shall, nevertheless continue in force provided Lessee shall pay or tender to Lessor, etc." It is arguable that failure to timely pay, under such a *condition* clause, would result in termination of the lease, well and all.

> 6. **The Pooling Clause:** Lessee hereby is given the right, at its option, at any time and whether before or after production, to pool for development and operation purposes all or any part or parts of leased premises or rights therein with any other land in the vicinity thereof, or with any leasehold, operation, or other rights or interests in such other land so as to create units of such size and surface acreage as Lessee may desire but containing not more than forty-five (45) acres; provided, however, a unit may be established hereunder containing not more than 640 acres plus ten percent (10%) acreage tolerance if unitized only as to gas rights or only as to gas and gas-condensate, except that units pooled for oil or oil and gas for or in conjunction with the repressuring, pressure maintenance, cycling, and secondary recovery operations or any one or more of same may be formed to include not more than 320 acres. If at any time larger units are required under any then applicable law, rule, regulation, or order of any governmental authority for the drilling, completion, or operation of a well, or for obtaining

155. Primarily because of Texas case law. *See generally, e.g.*, Gulf Oil Corp. v. Reid, 337 S.W.2d 267 (Tex. 1960).

> maximum allowable from any contemplated, drilling, or completed well, any such unit may be established or enlarged to conform to the size specified by such law, rule, regulation, or order. Each unit shall be created by Lessee's recording a Declaration of Pooling containing a description of the unit so created, or by order of the Arkansas Oil and Gas Commission.
>
> Operations on any part of any lands so pooled shall, except for the payment of royalties, be considered operations on leased premises under this lease, and, notwithstanding the status of a well at the time of pooling, such operations shall be deemed to be in connection with a well that was commenced on leased premises under this Lease. The term "operations" as used herein shall include, without limitation, the following: commencing construction of roadways, preparation of drillsite, drilling, testing, completing, reworking, recompleting, deepening, plugging back, repressuring, pressure maintenance, cycling, secondary-recovery operations, the production of oil or gas, or the existence of a shut-in well capable of producing oil or gas.
>
> There shall be allocated to the portion of leased premises included in any such pooling, such proportion of the actual production from all lands so pooled, as such portion of leased premises, computed on an acreage basis, bears to the entire acreage of the lands so pooled. The production so allocated shall be considered for the purpose of payment or delivery of royalty to be the entire production for the portion of leased premises included in such pooling, in the same manner as though produced from such portion of leased premises, under the terms of this Lease.

The purpose of the pooling clause is to permit the lessee to combine his leases into a multi-lease block for development and to perpetuate all such leases with a well producing from anywhere in the block. The pooling clause provides for apportionment of royalties. As explained later in this Article,[156] most pooling in Arkansas is accomplished by field rules adopted by the Arkansas Oil and Gas Commission[157] (AOGC) rather than by using the pooling clause of the lease. When that happens, the express provisions of the pooling clause are obviated by *force majeure*.[158]

156. *See infra* Part XIII.
157. Hereinafter "AOGC."
158. Gordon v. Crown Cent. Petroleum Co., 284 Ark. 94, 981, 679 S.W.2d 192, 194 (1984).

> 7. **The Proportionate Reduction Clause:** If the Lessor owns a lesser interest in the above-described land than the entire and undivided mineral estate therein, then the royalties herein provided for shall be paid to the said Lessor only in the proportion that his interest bears to the whole and undivided mineral estate.

This clause is necessary because there is always a lawyer, somewhere, who is willing to argue that each owner of a one-tenth (1/10) interest in the minerals under a tract is entitled to receive a full one-eighth (1/8) royalty. Of course that would result in a ten-eighths (10/8) total royalty obligation, leaving the lessee in an untenable position.

> 8. **The Assignment and Change of Ownership Clause:** If the estate of either party hereto is assigned, and the privilege of assigning in whole or in part is hereby expressly allowed, the covenants hereof shall extend to their heirs, executors, administrators, successors, or assigns, but no change in the ownership of the land or the minerals in and under the same or assignment of royalties shall be binding on Lessee unless Lessee shall have been furnished ninety (90) days before payment hereunder of such royalties, with certified copies of recorded instruments showing evidence of title.

This clause (sometimes also with a reference to change of ownership in the title) first permits either party to assign the lease and then protects the lessee from the claims of assignees of the lessor until he is given proper notice of the lessor's assignment. The requirement of certified copies may be burdensome, but it is a very common one.

> 9. **Miscellaneous Surface Issues Clause:** Lessee shall have the right to use, free of cost, gas, oil, and water found on said land for its operations, except water from the wells of the Lessor. When required by the Lessor, the Lessee shall bury its pipelines below plow depth and shall pay reasonable damages for injury by reason of its operations to growing crops on said land. No well shall be drilled nearer than 200 feet to any house or barn or other structure on said premises as of the date of this Lease without the written consent of the Lessor. Lessee shall have the right at any time, during or after the expiration of this Lease, to enter upon the property and to remove all machinery, fixtures, and other structures placed on said premises, including the right to draw and remove all casing, but the Lessee shall be under no obligation to do so.

This self-explanatory clause is designed to deal with several surface issues. Note that the lessee must pay for damages to growing crops. As will be explained later in this Article, there is no other obligation for a lessee who acts reasonably to pay extra when he uses the surface to drill a well.

> 10. **Continuous Drilling or Continuous Operations Clause:** Notwithstanding anything contained in this Lease to the contrary, it is expressly agreed that if the Lessee shall commence operations as provided herein at any time while this Lease is in force, this Lease shall remain in force and its terms shall continue so long as such operations are prosecuted, and if production results therefrom, then as long as production is maintained.

> 11. **Cessation of Production Clause:** If, after the expiration of the primary term of this Lease, production on the leased premises should cease from any cause, this Lease shall not terminate provided Lessee commences operations for additional drilling or reworking within sixty (60) days from such cessation, and this Lease shall remain in force during the prosecution of such operations and if production results therefrom, then as long as production is maintained.

The two clauses above save the lessee who commences operations on the last day of the primary term and then continues until production results. Likewise, when production from the well ceases, the lessee has sixty days to commence operations to fix the well or drill another well, thereby restoring production. As set out in the pooling change, commencing operations does *not* require actual drilling. The lessee must merely start, and then diligently pursue, those activities on the land, which lead to the drilling of the well.[159]

It is important to harmonize the Recommencing Clause with the lease's Shut-In Clause discussed above.[160] The lessee may only perpetuate his lease by payment of shut-in royalty *if the well is shut-in for lack of a favorable market.* The lessee *cannot* "shut-in" a broken well to avoid paying to fix it, then pay shut-in royalty, and thus hold on to the lease.

> 12. **The Surrender Clause:** Lessee may at any time surrender or cancel this Lease in whole or in part by delivering or mailing such release to the Lessor, or by placing such release of record in the proper County. In case this Lease is surrendered or canceled as to only a portion of the acreage covered thereby, then all payments and liabilities thereafter accruing under the terms of this Lease as to the portion canceled shall cease. As to the portion of the

159. Haddock v. McClendon, 223 Ark. 396, 397, 266 S.W.2d 74, 75 (1954).

160. *See supra* Part X.5.

acreage not released, the terms and provisions of this Lease shall continue and remain in full force and effect for all purposes.

The important aspect of the Surrender Clause is that it allows the lessee to release the lease as to *part* of the lands covered and to *retain the lease on the rest*, with a proportionate reduction of the lessee's payment obligations. This leaves the lessor free to seek another lessee for those released portions.

13. **The *Force Majeure* Clause:** All provisions herein, express or implied, shall be subject to all Federal and State Laws and the orders, rules, and regulations of all governmental agencies administering the same, and this Lease shall not in any way be terminated wholly or partially, nor shall the Lessee be liable in damages for failure to comply with any or the express or implied provisions hereof if such failure accords with any such laws, orders, rules, or regulations. Should the Lessee be prevented during the last year of the primary term hereof from drilling a well hereunder by the order of any constituted authority having jurisdiction, or if Lessee shall be unable during said period to drill a well hereunder due to the equipment necessary in the drilling thereof not being available for any cause, the primary term of this Lease shall continue until one year after said order is suspended or said equipment is available.

14. **The Covenant of Title Clause:** Lessor hereby warrants and agrees to defend the title to the land herein described and agrees that the Lessee, at its option, may pay or discharge in whole or in part any taxes, encumbrances, or other liens existing, levied, or assessed against the above-described lands, and in the event Lessee exercises such option, it shall be surrogated to the rights of any holder or holders thereof and may reimburse itself by applying any royalty accruing hereunder to the amount of any such encumbrance, tax, or other lien paid by Lessee.

15. **The Adverse Claims Clause:** Lessee hereby is given the right to acquire for its own benefit, deeds, leases, or assignments covering any interest or claim in leased premises, which Lessee or any other party contends is outstanding and not covered hereby, and even though such outstanding interest or claim be invalid or adverse to Lessor. In the event the validity of this Lease be disputed by Lessor or by any other person, then, for the period such dispute remains indisposed of, Lessee shall be relieved of all obligations hereunder to explore or develop leased premises; all royalties or other payments, which would otherwise accrue shall be suspended

for such period; and this Lease automatically shall be extended for an additional period equal to the duration of such period.

16. **Release of Dower and Curtesy:** It is specifically understood that each wife and husband named herein and executing this Lease, for the consideration above set out and the covenants and agreements contained in this Lease to be performed by the Lessee, do hereby release and relinquish unto said Lessee all right of dower, curtesy, and homestead in and to the lands covered hereby for the purpose of this Lease.

17. **Successors and Assigns Clause:** This Lease and all its terms, conditions, and stipulations shall extend to and be binding on all successors in title of said Lessor or Lessee.

The clauses above are typical "boilerplate" clauses found in various real-property instruments and other contracts and are self-explanatory.

XI. IMPLIED COVENANTS: THE REST OF THE LEASE STORY

The oil and gas lease, like an insurance policy or a bank account agreement form, is an industry-drafted document. Not surprisingly, courts have refused to allow industry lessees to have their unfettered way with lessors. Recognizing that the primary consideration flowing to the lessor is royalty income, courts have imposed mandatory implied covenants upon the oil and gas lessee, essentially writing the covenants into the lease contract for the parties, when there was only blank space before.[161] There are two alternative theories behind such implied covenants:

(1) The covenants are implied in fact. These are concepts so basic and obvious that it was unnecessary to include them in the writing; or

(2) The covenants are implied in law. Regardless of what the writing says, public policy requires these covenants.

If the covenants are *implied in fact*—in effect, invisible promises between the lines of the writing—it should be possible to modify or altogether disclaim them in the lease form itself. However, if the covenants are *implied in law*, public policy might well cause any effort to dilute them to be void or voidable. Also, there are statute of limitations issues that may apply. Covenants implied in law are subject to a three-year period of limitations.[162] It is

161. *See* Amoco Prod. Co. v. Ware, 269 Ark. 313, 321, 602 S.W.2d 620, 624 (1980).

162. ARK. CODE ANN. § 16-56-105 (Lexis Repl. 2005); Scroggin Farms Corp. v. Howell, 216 Ark. 569, 572, 226 S.W.2d 562, 564 (1950).

at least arguable that covenants implied in fact, being part of the writing, are subject to the five-year statute.[163] The one reported case on this issue that arose in Arkansas is no help. In *Klein v. Jones*,[164] the federal appeals court appeared to agree with the district court's conclusion that the three-year statute applied to an implied oil and gas lease covenant, but the court reversed because it concluded that the three years did not begin as early as the date chosen by the district court. The court's opinion did not even discuss the possible argument that the covenant might have been implied in fact, and thus be within the five-year statute.

Different courts have called these covenants by different names. Regardless, the lessee has the following implied duties:

> (1) the implied duty to drill sufficient wells to fully develop the lease;[165]
>
> (2) the implied duty to market the product of producing wells on favorable terms;[166]
>
> (3) the implied duty to protect the lease from drainage from offsetting wells;[167] and
>
> (4) the implied duty to operate with due regard to the interests of the surface owner[168] and, upon completing any portion of the surface, restore the land to the extent reasonably practicable.[169]

In performing these duties, the lessee is held to a standard of competence and good faith known as the "prudent operator" standard. This standard is really a specialized version of negligence law's "reasonable man" standard.[170] A prudent operator is one who is a competent explorer/producer who behaves in good faith.[171] His objective is to maximize the value of the lease to both parties by maximizing commercial production.[172] However, the prudent operator is not required to be perfect.[173] He is not required to take

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163. ARK. CODE ANN. § 16-56-111 (Lexis Repl. 2005).
164. 980 F.2d 521, 532 (8th Cir. 1992).
165. *Amoco*, 269 Ark. at 321, 602 S.W.2d 620, 624.
166. *See generally* Taylor v. Arkla Gas Co., 793 F.2d 189, 192 (8th Cir. 1986).
167. *Amoco*, 269 Ark. at 321, 602 S.W.2d 620, 624.
168. McFarland v. Taylor, 76 Ark. App. 343, 346–47, 65 S.W.3d 468, 471 (2002).
169. Bonds v. Sanchez-O'Brien Oil & Gas Co., 289 Ark. 582, 585, 715 S.W.2d 444, 446 (1986).
170. *See Amoco*, 269 Ark. at 319, 602 S.W.2d at 623.
171. *See id.* at 322, 602 S.W.2d at 624.
172. *See id.*, 602 S.W.2d at 624.
173. Few are perfect when viewed in the light of hindsight.

industry-unacceptable risks.[174] He certainly is not required to violate statutes or rules regulating oil and gas production.[175]

The lessor's remedy for violation of drilling and development covenants is equitable.[176] He or she may seek cancellation of the lease or, at least, of that part of the subject of the lease that the lessee has not yet developed. Even if the court agrees with the lessor, it will often decree cancellation only conditionally, giving the lessee a last chance to drill new wells in a relatively short period of time before being stripped of his or her investment.[177]

Equitable cancellation is also available for violation of a lessee's duties to market, protect from drainage, and restore.[178] Alternatively or additionally, the lessor may be able to prove and recover damages for violation of these covenants.

XII. THE RULE OF CAPTURE: A LICENSE TO STEAL?

Centuries ago, as the common law developed, wild game[179] were important. They provided sport, food, and, evidently, some litigation. While the fox roams on your land, he is potentially your fox. If your neighbor shoots across the fence at him without your permission, he has committed a trespass. You are entitled to the dead fox. However, should the fox jump the fence onto the neighbor's land, he may capture him, and thus, become his owner for as long as he can contain him.[180]

Hard minerals, such as coal, stay in place until they are mined. If there is coal under your land, it is your coal.[181] You may mine it, or not, as you choose. Oil and gas, on the other hand, are *fugacious*[182] minerals. Like the fox, they are here today, gone tomorrow. As most seventh-grade science students know, these substances, being liquid and gaseous, move in response to very predictable and somewhat controllable forces, such as gravity.

Gravity pulls matter toward the earth. The greater the density of the matter, the greater gravity's pull. Water is more dense than oil, and both are more dense than gas. Therefore, if a subsurface reservoir contains water, oil, and/or gas, those substances will be layered, top to bottom, in reverse order.

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174. *See Amoco*, 269 Ark. at 322, 602 S.W.2d at 624.
175. *Id.*, 602 S.W.2d at 624.
176. Ark. Oil & Gas Inc. v. Diamond Shamrock Corp., 281 Ark. 207, 209, 662 S.W.2d 824, 825 (1984).
177. *Id.*, 662 S.W.2d at 825.
178. *See id.*, 662 S.W.2d at 825.
179. For example, foxes.
180. *See generally* Pierson v. Post, 3 Cai. 175 (N.Y. Sup. Ct. 1805).
181. Assuming, of course, that you own the minerals or, at least, the coal.
182. "Apt to flee away or flit," Young v. Ethyl Corp., 521 F.2d 771 (8th Cir. 1975) (citing the OXFORD ENGLISH DICTIONARY (1971)).

Gases and liquids move from place to place, but not to escape the hounds. Their movement is in response to pressure differentials. They move from areas of relatively high pressure to areas of relatively low pressure. Were there no gravity, the gasses and liquids would continue to move until all surrounding pressures became equal. Gravity will somewhat retard this movement.[183] Again, the more dense the substance, the more it is affected by gravity.

Picture a pin-pricked balloon in extremely slow motion. The gas molecule closest to the hole senses that the pressure to its left, inside the balloon, is higher than that to its right, just outside. So out it pops, free at last, headed for relatively lower pressure. It will stop moving when it is again surrounded by equal pressure. Meanwhile, the next gas molecule senses the same thing and responds accordingly. Pretty soon most, but not all, of the gas molecules will have escaped. The number that will remain is the number required to keep the pressure inside the pricked balloon equal to that of the atmosphere outside.

Gas in the ground works in a similar way. A subsurface geologic reservoir may underlie a large area, encompassing several, separately owned tracts. If a well drilled on your tract penetrates the reservoir, it will provide a pressure differential, first at the well itself and, later, depending upon the initial pressure of the reservoir and its permeability, farther away. Your well may even drain all the gas from under your neighbor's adjacent tract. That drained gas may, for a time, be partially replaced by gas that has migrated from areas of the reservoir even farther from the well. Eventually though, if the reservoir is sufficiently permeable, your well will produce all of the recoverable gas from the reservoir.

Whose gas got drained? Since it is *your* well, it is *your* gas. The fact that it was originally under your neighbor's land is immaterial. Like the fox, the gas has jumped the fence. This principle is called the "Rule of Capture."

There is a problem with the Rule of Capture. If it costs $700,000[184] to drill, complete, and equip a well that is capable of producing one-half (1/2) million MCF[185] of gas from under ten separately owned, contiguous tracts, and if the price of gas is five dollars per MCF,[186] that well will yield a gross income of $2,500,000, or a profit[187] of $1,800,000. However, if each tract

183. Unless, of course, the movement is downward.

184. This is about average for a conventional, vertical well. Horizontal wells cost considerably more.

185. Thousand Cubic Feet. One million MCF equals one billion cubic feet. In the Arkoma Basin, a well producing that much gas is considered a success.

186. Actually, gas is priced on the basis of one million British Thermal Units ("MMBTUs"). However, the quality of Arkoma Basin Gas is so uniform that one MCF is almost identical to one MMBTU. Thus, the terms are used interchangeably.

187. Without a discount for time/value.

owner protects himself by drilling his own $700,000 well, the owners will collectively lose $4,500,000. In the real world, some of the wells will be better than others. Some lucky well owners may even see a slight profit, but it is obvious that most, if not all, will lose money. The legislative and industry response has been to embrace regulation.

XIII. STATE REGULATION: THE RULE OF CAPTURE IS LIMITED

The oil and gas business is one of the very few industries in which regulation is not only advantageous but of practical necessity. Every significant American oil and gas producing jurisdiction has enacted legislation designed to prevent waste and to protect the correlative rights of the several owners within common reservoirs.[188]

Arkansas's regulatory scheme is administered by the Arkansas Oil and Gas Commission (AOGC).[189] The AOGC promulgates rules called "field rules" for the various oil and/or gas fields across the Arkansas Arkoma Basin and South Arkansas. These field rules provide for drilling and production units as subdivisions of each field. The AOGC regulates the number of wells permitted to produce, at any one time, from any separate reservoir within each drilling and production unit.[190]

Until recently, that number of wells was always one; that is, one well per separate producing reservoir, per unit. That rule, called disparagingly by some the "Rule of One," was largely based upon a very primitive understanding of geology. Underground oil and gas reservoirs were believed to underlie the surface in a more or less blanket fashion. The original statutory definition of a unit was the "maximum area [that] may be efficiently and economically drained by one well . . . ."[191] Of course, in the early days, no one really knew what that area was. Instead, people guessed.

Oil is heavy and liquid. Surely it cannot travel very far. Oil units were established containing forty acres or fewer. Deep oil wells cost a lot of money. Perhaps, then, deep oil will be able to travel a little farther. Units for deep oil reservoirs were established containing 160 acres.

Gas is light and, of course, a gas. It was believed to always be able to travel a long distance. Thus, units for gas wells were established containing a square mile (640 acres) of land. Since the original United States Government Survey had already subdivided Arkansas into square-mile, governmen-

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188. Arkansas's conservation statutes originated with Act No. 105 of 1939. They are codified beginning at Arkansas Code Annotated section 15-71-101 (Michie Repl. 1994).

189. Its web address is http://www.aogc.state.ar.us.

190. After notice and a hearing.

191. Act of 1939, No. 105, 1939 Ark. Acts 231 (codified at ARK. CODE ANN. § 15-71-101 (Michie Repl. 1994)).

tal sections, those sections were largely adopted as the drilling units for North Arkansas gas production.

As more and more wells were drilled, the oil and gas industry became smarter and smarter about geology. First, it was learned that oil and gas were potentially present at more than one subsurface strata under the same location. Clearly, multiple wells would be needed to produce from multiple, vertically stacked reservoirs. Thus, the Rule of One was almost immediately violated when permission was given to produce multiple wells, as long as they produced from different depths.

From time to time, someone would drill a dry hole.[192] Those dry holes dispelled the blanket reservoir theory. Rather, people learned that hydrocarbon deposits mostly lie within prehistoric water channels,[193] now buried thousands of feet below the surface. To further complicate things, subsequent seismic events had caused abundant faulting, which juxtaposed previously continuous channels into separately confined reservoirs. Each of these needed its own well, or its oil or gas would never be produced.

Out of necessity, the AOGC, by policy evolution, rewrote the Rule of One. No longer was one well per unit sufficient. The rule became the following instead: One well, per each provably separate reservoir, per unit. Sometimes that meant six or more wells within a single unit, each producing from a separate reservoir. Meanwhile, the statutory definition had become a mockery.

Even more recently, geologists and reservoir scientists persuaded the AOGC that all oil and gas reservoir rock is not fungible. Some reservoirs enjoy high permeability. In those reservoirs, a single channel, if uninterrupted by faulting, can be effectively drained by a well a mile, or even two miles, away. Other reservoirs contain significant stores of oil or gas but lack that high quality permeability. These are called "tight." Oil or gas can be successfully produced from them,[194] but wells must be placed much closer together if efficient drainage is to occur. In addition, many of these reservoirs are located in the southern portion of the Arkoma Basin, near the place in which the tectonic events that resulted in the Ouachita Mountain range caused almost impossibly complex thrust faulting, resulting in hundreds of aerially limited reservoirs. Finally, in 2003, in response to this evolved body of scientific knowledge, the Arkansas General Assembly amended the unitization statute. The amended statute now defines a unit and the AOGC's regulatory authority as follows:

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192. "Dry Hole" is a term meaning any oil or gas well that is not capable of producing commercial oil or gas. The hole is not necessarily dry. Indeed, it may contain copious quantities of salt water, but that was not the objective of the enterprise.

193. In north Arkansas most of these were deltaic river channels.

194. Particularly during times of high oil and gas prices.

> (2)(A) As used in this subchapter, "drilling unit" means a single[,] governmental section or the equivalent[,] unless a larger or smaller area is requested by an owner, as defined in [Arkansas Code Annotated section] 15-72-102, within the drilling unit to be established and a larger or smaller area is established by order of the commission. The drilling unit shall constitute a developed unit[,] as long as a well is located thereon that is capable of producing oil or gas in paying quantities.
>
> (B) The commission shall have the continuing authority to:
>
> (i) Designate the number of wells that may be drilled and produced within a drilling unit; and
>
> (ii) Regulate the spacing among multiple wells drilled and produced within a drilling unit.[195]

Now, the AOGC hears evidence not that a single well will drain X acres, but rather evidence regarding what is the most effective and efficient manner of locating multiple wells for the effective, but cost-efficient, removal of the maximum amount of oil or gas from a square mile unit.[196] Sometimes this will involve a single well for each separate reservoir within the unit. Other times, the AOGC will find the necessity for multiple unit wells within single tight reservoirs.

Meanwhile, well drilling and completion technology has evolved dramatically. For example, drillers are now able to drill and complete horizontal wells that go down into the reservoir and then turn on a tight radius before proceeding 2000 feet or more within the gas-bearing strata. The horizontal (or "lateral") portion of the well bore is then fracture-stimulated at multiple points along its length to effectively induce artificial permeability into extremely tight reservoir rock, accomplishing a long narrow cylinder of producing reservoir. These cylinders are then laid side by side and/or end to end in patterns that accomplish remarkably effective and cost-efficient drainage while, at the same time, reducing surface impact.

Today, in Arkansas, these techniques are being utilized to explore and produce gas from the Fayetteville Shale formation, an extremely tight, but thick, reservoir rock that extends in a band across much of the northwest and north central parts of the state. The AOGC has recently enacted its General Regulation B-43 to provide field rules for these shale wells. Units are defined as the approximately 640-acre, governmental sections containing the wells. Up to sixteen wells, per producing shale zone, per section are permit-

195. ARK. CODE ANN. § 15-72-302(2)(a) (Michie Repl. 1994).
196. *Id.* § 15-72-302.

ted.[197] Each well is required to be located[198] at least 560 feet from each other well and a minimum of 560 feet from all unit boundaries.[199] Rule B-43 also contains a provision allowing the owners of a majority in interest in each of two or more adjacent units to petition the AOGC for authority to drill and produce a shared well that crosses one or more unit lines.[200]

Production from each drilling unit is shared among the various working-interest and royalty owners, proportionate to their respective ownership interests.[201] The costs of drilling, equipping, and producing unit wells are likewise proportionately shared by the working-interest owners.[202] The AOGC will designate one of those working-interest owners as *unit operator.*

If unleased mineral owners refuse to execute leases, and/or if working-interest owners refuse to participate in the cost of drilling the well, the AOGC will issue an order[203] "integrating" their non-consenting interests, after notice and a hearing.

It is often difficult to obtain oil and gas leases or participation commitments from every owner of unleased mineral or leasehold rights in an entire 640 acre drilling unit. Therefore, the AOGC has the authority to compel the inclusion of non-consenting interests into the unit.[204] That process is called "integration." It is authorized by statute.[205]

The integration process really begins months before the formal filing of the application, as the applicant's field landmen[206] traipse about the countryside seeking oil and gas leases from those persons identified by record title examination as the mineral owners. An applicant for integration is required by the AOGC to make documented good faith efforts to secure a lease or participation commitment from each such unleased mineral owner and each non-consenting leasehold owner.[207] After the prospective applicant for inte-

197. Arkansas Oil and Gas Commission, General Rules and Regulations, B43(f), 34, *available at* http://www.aogc.state.ar.us/OnlineData/Forms/Rules%20and%20 Regulations.pdf (last visited Nov. 20, 2006) [hereinafter General Rules and Regulations].

198. Throughout its entire producing interval.

199. General Rules and Regulations, *supra* note 197, at B43(i)(1-2), 34.

200. *Id.* at B43(o), 35.

201. *Id.*

202. *Id.*

203. ARK. CODE ANN. § 15-72-303(b) (Michie Repl. 1994). The lease is generally on the same terms, including any bonus.

204. *Id.*

205. *Id.* §§ 15-72-303–305 (Michie Repl. 1994).

206. A "landman" is a person employed in the oil and gas industry who specializes in researching land and mineral ownership and in negotiating leases and other agreements. Some, but not many, are women who are proud to call themselves "landmen."

207. The AOGC normally requires these efforts to extend over a minimum period of sixty days prior to the filing of the application as to unleased mineral owners but permits a shorter period as to leasehold owners, who are likely the applicant's industry competitors.

gration secures all the leases and commitments that it can secure without AOGC help, it will file its integration application.

That application, really a letter from the applicant's attorney to the AOGC, must be filed at least twenty days prior to the AOGC meeting at which it will be heard.[208] The applicant is also required to mail notice of its application to all interested parties[209] and publish notice of its application in a newspaper of general circulation in the county containing the unit at least ten days prior to the hearing.

Before the AOGC grants an application for integration, it weighs the sufficiency of the applicant's efforts to secure leases or participations on its own. It then considers evidence of the prevailing bonuses and royalties contracted for in the unit. Finally, the AOGC considers evidence of the expected geological nature of the proposed well, especially the extent of geological risk involved in the venture.[210]

The integration order will require each non-consenting owner to make an election.[211] Unleased mineral owners get the following three options:

> (1) lease to the unit operator on terms determined to be fair and reasonable by the AOGC;
>
> (2) participate in the cost of drilling, equipping, and producing the well; or
>
> (3) receive a one-eighth (1/8) royalty on their proportionate interest in the well until and unless the other seven-eighths (7/8) of the well's revenue equals a sum that is determined as follows: drilling and equipping costs times X%, plus operating costs, times 100% ("X" is usually 400% or 500%, as determined by the AOGC to compensate the operator for taking the financial risk of drilling the well).[212]

After this sum is recovered, each non-consenting owner becomes a participant in the well, proportionately entitled to share in future revenue, and proportionately liable for future well costs.[213] This option is called "going non-consent."

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208. The AOGC currently meets monthly, except for November and December, normally beginning on the fourth Tuesday of the month. The November/December meeting is combined and specially scheduled for either the last Tuesday in November or the first Tuesday in December.

209. Including unleased mineral owners and non-consenting, working-interest owners, as described in this section setting forth options of interest owners presented with an integration order.

210. *See* ARK. CODE ANN. § 15-72-302 (d)(2) (Michie Repl. 1994).

211. *See id.* § 15-72-304 (Michie Repl. 1994).

212. *See id.* § 15-72-301(b)–(d) (Michie Repl. 1994).

213. *See id.* § 15-72-305(d)(1) (Michie Repl. 1994).

If an unleased mineral owner fails to affirmatively elect from the above options, she will be deemed to have selected option one,[214] i.e, the lease. If a non-consenting, working-interest owner fails to affirmatively elect one of the three options, he or she will be deemed to have gone non-consent.

The AOGC's integration order will require that operations be conducted pursuant to a complex, written agreement called an "Operating Agreement,"[215] approved by the AOGC. Forms for this agreement were developed by an industry group, American Association of Petroleum Landmen (AAPL), and are widely used throughout the oil and gas producing areas of this country. In 2006, the AOGC, working with a host of industry representatives, adopted a standard form Operating Agreement for use in its integration orders.[216]

The AOGC also protects the correlative rights of owners within adjoining units by regulating the number of wells within each unit, as well as the proximity of wells to unit boundaries, and by regulating the amount of oil or gas that each well can legally produce. Again, the point is to seek to level the playing field and prevent drillers and owners from taking more than this fair share of the gas.

There is a misconception in the minds of some that the AOGC is disproportionately influenced by the producing industry, with the result that the unleased mineral owner is treated unfairly. In fact, a review of its decisions over the years reveals a Commission constantly concerned about the rights of property owners, as between them and the producer, and also as between the mineral owners themselves. Sadly, however, many unleased mineral owners misunderstand their legal rights. The Commission is powerless to give them rights that they do not have. Moreover, few, if any, unleased mineral owners understand their options under the integration order or appreciate the balancing of interests among all of the interest holders. They need our hypothetical lawyer.

Our hypothetical lawyer may also be asked whether the Commission's integration order confers rights of surface ingress and egress as to unleased mineral owners. While there is no statute or case law that directly answers this question, the better argument is that the Commission lacks that authority. The reason for this is complicated, but it also illuminates the constitutional and philosophical principles underlying the entire regulatory scheme, and integration orders in particular.

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214. The lease, generally on the same terms, including bonus as the most favorable terms contracted for by any owner within the unit who leased in an arms-length transaction.

215. But referred to in industry jargon as a "JOA."

216. That standard is a mix of provisions from the AAPL 1982 and 1989 forms, with other modifications appropriate to operations in Arkansas. It is currently available from the AOGC at http://www.aogc.state.ar.us.

The Arkansas Constitution contains a provision proscribing any "corporate" taking without just compensation, as determined in a trial by jury.[217] There is, of course, no jury at the AOGC. Thus, if the integration process is a "taking," the whole system is unconstitutional.

The AOGC's order with respect to the unleased owner's minerals is not a taking, however.[218] The reason for this is that the unleased owner has no vested property right in the minerals to be taken, absent the various statutes creating the integration process.[219] Remember the Rule of Capture, foxes and all that? Were there no unitization and integration statute, no right would be violated by draining oil and/or gas under an unleased tract from an offset well. Therefore, there is nothing unconstitutional about a statute that both creates a right to share in a common pool of oil or gas and, at the same time, conditions the exercise of that right upon making one of several possible elections.

Some might suggest that we should instead allow a single, unleased mineral owner (who might also be the surface owner) to keep her gas (or oil) undisturbed by prohibiting drilling altogether within a certain distance of her property. But, that would unconstitutionally "take" from the other owners their right to produce their minerals. The only constitutionally permissible solution, then, is to allow her gas (or oil) to be captured, but to pay her the going price for it.

However, the Rule of Capture, as mitigated and domesticated by state regulation—"Capture Lite" perhaps—does *not* extend to surface rights. Giving up part of the enjoyment of the surface is *not* the same thing as trading the right to capture fugacious gas for money. And, only in rare instances would the absence of ingress and egress rights significantly impact the productivity of a pool, making the burden disproportionate to the benefit.

XIV. SUMMING UP: FUGACIOUS, INDEED

It will occur to even the most casual of readers that, as much or more than almost any area of law (even including taxation and in stark contrast to most real property law), a good bit of oil and gas law is *made up on the spot.* But, it was made up to deal with myriad, specific, concrete problems and situations for which no established common law solution presented itself. It is this "made-up-ness," perhaps, that makes it so technical and complex, but that is another one of those trade-offs—in order to make the law in an area as scientifically and economically complex as oil and gas workable and predictable, the law itself is necessarily complex.

217. ARK. CONST. art. XII, § 9.

218. *See* ARK. CODE ANN. § 15-71-110 (Michie Repl. 1994).

219. *Id.*

Oil and gas law must also address itself to the intentions and aspirations of ordinary property owners, as well as those of sophisticated operators, scientists, and technicians—hence, the somewhat fluid definition of a mineral and the implied covenants in oil and gas leases. It recognizes that different mineral interests serve different purposes and, therefore, need different names, which requires practitioners to choose words carefully when they draft leases and conveyances. The *Strohacker* Doctrine and the *Duhig* Rule illustrate this need for clarity.

Ordinary conveyancing tools, such as deeds with retained life estates, work differently when mineral rights are involved, as do tax forfeitures and sales and, also, the rules of adverse possession. Rights such as ingress and egress may not correspond to common expectations (on either side), but as the *McFarland* case exemplifies, the rules try to balance those competing interests. This example is the basic purpose of the unit order and other regulatory actions of the AOGC. Otherwise, we would all be subject to the Rule of Capture, a variant of the law of the jungle.

The basic tool of the enterprise, the mineral lease, is not really a "lease" after all, and must be drafted and read with that in mind. It must be much more comprehensive in detailing what is given and what is taken, and it must provide contract solutions for more eventualities[220] than the lease for your first apartment, so that the parties have a clear understanding of their rights and duties.[221] Reading this article, or even the cited articles and cases, will not make you an oil and gas lawyer,[222] but hopefully, it will give you both an introduction to the basic terminology and concepts of the discipline and an appreciation for the thoughtful development of its "good order and workable social arrangements."[223]

220. For example, shut-in gas wells.

221. That, of course, should be the essence of the lawyer draftsman's task—not merely marking up someone else's form.

222. Among other things, real oil and gas lawyers must gain an advanced understanding of the economics of the oil and gas business, the complex relationships between the various interest owners, and the scientific disciplines that are involved in exploration and production.

223. LON L. FULLER, MINERALS AND ENDS: THE PRINCIPLES OF SOCIAL ORDER 47, 48 (Duke University Press 1981).