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*Andrew D. Martin**

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INTRODUCTION

There is none. Or, to answer the titular question more accurately, there is not *just one*; instead, the proper time period to review the sufficiency of production from an oil and gas lease will vary from case to case. Most states that have adopted a requirement of production in paying quantities for the maintenance of an oil and gas lease in its secondary term have converged on a single standard: the analysis must cover a time period that is “reasonable under the circumstances.”¹ Determining whether a period is “reasonable” for a given dispute is vital, as this judgment often decides the outcome of the case. But for all the apparent simplicity of the standard, it has spawned irregular results across the jurisprudence and provoked frustration in litigants and scholars.²

The unpredictability surrounding the accounting period question is unsurprising.³ Like all legal questions premised on a factfinder’s determination of reasonableness, the answers will be multiple and, to some degree, inconsistent. But the open-ended nature of the “reasonableness” evaluation obscures further conceptual complications in fixing a time period. These difficulties are, at least partly, the result of the competing impulses at the heart of the most popular formulation of the modern paying quantities test. This test is found in the Texas decision of *Clifton v. Koontz*.⁴ The court in *Clifton* attempted to weld an objective “mechanical” test to an equitable one. Further confusion has occurred because courts have failed to provide much explanation as to what “reasonable” means in this context. Similarly, courts have declined to identify which “circumstances” should count as relevant to the inquiry.

1. For instance, Bruce M. Kramer, *Lease Maintenance for the Twenty-First Century: Old Oil and Gas Law Doesn’t Die, It Just Fades Away*, 41 ROCKY MTN. MIN. L. INST. 15-1, § 15.06, (1995), *Pshigoda v. Texaco, Inc.* 703 S.W.2d 416, 419 (Tex. App. 1986), and *Clifton v. Koontz* 325 S.W.2d 684, 690–91 (Tex. 1959).

2. 3 PATRICK H. MARTIN & BRUCE M. KRAMER, WILLIAMS AND MEYERS, OIL AND GAS LAW § 604.6(c) (LexisNexis Matthew Bender 2019) (stating that the time period question is “one of the most perplexing problems” in the paying quantities issue).

3. In this Article, as in the caselaw and scholarly work on the issue, the period under analysis in a paying quantities dispute is referred to variously as the “time period,” the “accounting period,” the “timeframe” and so forth.

4. 325 S.W.2d 684, 691 (Tex. 1959).

The stakes of paying quantities disputes can be high, with multi-million-dollar verdicts often hanging in the balance. Given the centrality of the time period question to the results of these cases, it is striking how little direct attention it has attracted. Traditionally, trial court judges and juries are given nearly limitless discretion as to selecting particular time periods, with appellate opinions rarely even discussing, much less overturning, those selections.⁵ However, within the last decade, a few high-profile decisions have overtly turned toward the issue.⁶ Recent scholarship has likewise begun to more directly engage with the reasonable time period standard.⁷ The aim of this Article is to contribute to this trend, both by reviewing the actual applications of the standard by courts and analyzing the factors that ostensibly determine that application.

Part I provides an overview of the production in paying quantities requirement, outlining the history and basic components of the standard. This review is a necessary setup for Part II, which summarizes the important jurisprudence addressing the reasonable time period factor. These decisions are largely clustered in a handful of jurisdictions and so Part II proceeds on a state-by-state basis.⁸ Though none of these decisions are binding on outside jurisdictions, they are often influential; the Texas decision mentioned above, *Clifton v. Koontz*, has been cited by courts

5. As noted by one scholar:

The idea that the concept of paying quantities includes, as its chronological component, a time period of reasonable duration, is thus vital, because it allows, within limits, for an averaging . . . However, the time period, for all its importance, is a factor to which courts generally have given only cursory attention, or have ignored altogether, in their discussions.

Douglas Hale Gross, Annotation, *Meaning of "Paying Quantities" in Oil and Gas Lease*, 43 A.L.R. 3d 8, § 7 (1972).

6. See e.g., *B.P. Prod. Co. v. Laddex, Ltd* 513 S.W.3d 476 (Tex. 2017), *T.W. Phillips Gas & Oil Co. v. Jedlicka*, 615 Pa. 199, 42 A.3d 261 (Pa. 2012), and 94 N.E.3d 73 (Ohio Ct. App. 2017).

7. For instance, see Alex Ritchie, *A Reexamination and Reformulation of the Habendum Clause Paying Quantities Standard Under Oil and Gas Leases*, 3 OIL & GAS, NAT. RESOURCES & ENERGY J. 977, 997 (2017).

8. Two other papers provide excellent state-by-state reviews of aspects of paying quantities law. See Jessica E. McDonald & Zachary M. Wallen, *Defining "Production in Paying Quantities": A Survey of Habendum Clause Cases Throughout the United States*, 90 N.D. L. REV. 383 (2014). See also Morgan L. Simpson, *Should We Cycle Onto a New Analysis: Establishing the Proper Accounting Period for the Paying Quantities Analysis*, 56 WASHBURN L.J. 355 (2017).

nationwide.⁹ This review of the jurisprudence will emphasize the more recent decisions. Then, Part III examines two of the conceptual stumbling blocks for the paying quantities analysis that have tripped up courts: (a) what function does the word “reasonable” have in this context?; and (b) what factual “circumstances” can and should factor into the selection of the appropriate time period in a given dispute? Finally, Part IV offers a modest set of recommendations for developing the issue further. This Article argues that the flexible standard currently employed is useful in serving the broad policy imperatives underlying the paying quantities requirement. However, that standard needs to be given greater shape by courts and litigants for the traditional paying quantities tests to be cogent. Absent any more concrete directives for factfinders when determining the reasonableness of a given accounting span, the paying quantities jurisprudence will continue to be fairly unhelpful in prescribing behavior or predicting results. The prime virtue of the “reasonable time period” standard is that it is elastic and, therefore, fact-sensitive; this feature can unproblematically coexist with at least broadly predictive guidelines. Courts can provide signposts to future factfinders by explicitly articulating what fact circumstances should be considered in determining what counts as a reasonable time period and establishing a baseline range or ranges of reasonableness. Neither change would modify the existing paying quantities tests but would act as useful signals to the interested parties.

I. PRODUCTION IN PAYING QUANTITIES OVERVIEW

Early mineral leases featured a variety of terms. The first commercial lease, from 1857, was for a fixed 15-year period.¹⁰ But fixed-term leases proved to be less than favorable to a lessee; since the lessee faced forfeiture of the lease even if he had successfully obtained production, he had a weak bargaining position in attempting to negotiate a new lease or renew of the prior one.¹¹ Over the next several decades, landowners and operators experimented with a variety of lease terms. Consistent with common law property terminology, provisions governing the duration of the lease were referred to as “habendum” clauses—short for “habendum and tenendum,” Latin for “to have and to hold.”¹² By the early twentieth century, the

9. From California (*Lough v. Coal Oil, Inc.*, 217 Cal. App. 3d 1518 (Cal. Ct. App. 1990)) and Alaska (*Pan Am. Petroleum Corp. v. Shell Oil Co.*, 455 P.2d 12 (Alaska 1969)) to Pennsylvania (*Heath v. Dellich*, No. 239 WDA 2016, 2016 WL 7232426 (Pa. Super. Ct. Dec. 13, 2016)).

10. 3 MARTIN & KRAMER, *supra* note 2, § 601.1.

11. *Id.*

12. *Habendum Clause*, BLACK'S LAW DICTIONARY (11th ed. 2019).

industry settled nearly universally on the “thereafter” habendum clause.¹³ A typical version of this provision reads as follows: “It is agreed that this lease shall remain in force for a term of ten years from date and as long thereafter as oil, or gas of whatsoever nature or kind, or either of them is produced from said land.”¹⁴

Such an arrangement respects the incentives of both the lessor and lessee. For the former, his land is only encumbered for as long as he is receiving a benefit from it; for the latter, he will not be booted from the leased premises if both sides are profiting from his investment.¹⁵ The “thereafter” clause has now been ubiquitous in oil and gas lease forms for over a century.¹⁶

In most states, a mineral lease is understood to convey a fee simple determinable interest, alternatively phrased as an interest subject to a special limitation.¹⁷ That limitation is the failure to produce in paying quantities, pursuant to the habendum clause.¹⁸ Under this conception, the lease terminates automatically once it is no longer producing in paying quantities. Oklahoma is the only state that clearly rejects this view, holding that the lessor merely possesses the power to terminate the lease if the lease fails to produce in paying quantities—the lease does not automatically terminate.¹⁹ In the majority view, continued production in paying quantities is a *condition* of lease maintenance. Lease conditions should be contrasted with the lessee’s various lease *covenants*, such as the covenant of reasonable development, where the lessee is required to behave as a reasonably prudent operator.²⁰ On its face, the habendum clause does not

13. 3 MARTIN & KRAMER, *supra* note 2, § 601.1.

14. *Id.*

15. *Id.* § 601.4.

16. *Id.*; A.W. Walker, Jr., *The Nature of the Property Interests Created by an Oil and Gas Lease in Texas*, 7 TEX. L. REV. 1, 14 (1928).

17. 3 MARTIN & KRAMER, *supra* note 2, § 604; Bruce M. Kramer, *The Temporary Cessation Doctrine: A Practical Response to an Ideological Dilemma*, 43 BAYLOR L. REV. 519 (1991); S. Mark McIntyre, *Lessor’s Options Against Speculative Lessees Who Refuse to Drill*, 43 BAYLOR L. REV. 169 (1991). A fee simple determinable is “an estate that will automatically end and revert to the grantor if some specified event occurs (e.g., “to Albert and his heirs while the property is used for charitable purposes”); an estate in fee simple subject to a special limitation. •*Fee Simple*, BLACK’S LAW DICTIONARY (11th ed. 2019).

18. 3 MARTIN & KRAMER, *supra* note 2, § 604.

19. *Id.*

20. See Keith B. Hall, *Implied Covenants and the Drafting of Oil and Gas Leases*, 7 LSU J. ENERGY L. & RESOURCES 401 (2019) for a succinct summary of the covenant/condition distinction:

prescribe good behavior or proscribe bad motives—it simply requires a specific result.

Beyond its refusal to adopt the “fee simple determinable” picture of the mineral lease, Oklahoma is also distinctive in that it is one of the few states that does not require actual production in paying quantities for maintenance of a mineral lease in its secondary term.²¹ Instead, a mineral lease need only be *capable* of producing in paying quantities for the lease to continue.²² This allows operators to voluntarily shut in wells during periods of low prices without fear that their lease will expire. For the remaining jurisdictions, the proof must be in the pudding: a lease cannot survive without constant, actual production. Still, the question of whether a well or lease is capable of producing in paying quantities can be relevant in those states when the lease contains a “shut-in clause” that contractually allows the lessee to cease production for some short period of time.²³

If a lease continued for as long “thereafter” as minerals were produced, did this mean that a single drop of new oil could keep it alive? Some early courts thought so.²⁴ However, the majority of courts and scholars agreed that a *de minimis* showing of mineral production was not enough.²⁵ Instead, they interpreted “produced” to mean “produced *in paying quantities*.”²⁶ This more expansive requirement gave recognition to the

By definition, lessors generally cannot use lease language to obtain greater protection from implied covenants than is provided by the jurisprudentially-recognized implied covenants. If a lessor uses the lease to expressly impose certain duties, those duties are express covenants, not implied covenants. If a lessor includes in the lease language that provides for automatic termination if a breach of an implied covenant occurs or if a breach is not corrected within a certain time, that language converts the implied covenant into a condition or limitation. Here, by “limitation,” the author refers to an event or circumstance that leads to automatic termination of the lease, without any action of the lessor. A “condition” would be an event or circumstance that makes the lease subject to termination at the option of the lessor.

Keith B. Hall, *Implied Covenants and the Drafting of Oil and Gas Leases*, 7 LSU J. ENERGY L. & RESOURCES 401, 469 n.248 (2019).

21. McDonald & Wallen, *supra* note 8, at 395–97.

22. *Id.*

23. For instance, see discussion *infra* Section II.E (discussing *EnerQuest Oil & Gas, LLC v. Plains Expl. & Prod. Co.*, 981 F. Supp. 2d 575 (W.D. Tex. 2013)).

24. See *e.g.*, *Gillespie v. Ohio Oil Co.*, 260 Ill. 169, 102 N.E. 1043, 1044 (Ill. 1913).

25. 3 MARTIN & KRAMER, *supra* note 2, § 604.5.

26. *Id.*

fact that leasing parties bargain for an arrangement that continues as long as it is mutually profitable.²⁷

The “paying quantities” interpretation of “produced” naturally raised a further question: how much production is *paying* production? The earliest constructions of the phrase took it to require a profit, such that lease revenues had to exceed lease expenses. For example, in the 1899 case of *Young v. Forest Oil Co.*, the Pennsylvania Supreme Court declared: “But if a well, being down, pays a profit,—even a small one, over the operating expenses,—it is producing in ‘paying quantities,’ though it may never repay its cost, and the operation as a whole may result in a loss.”²⁸ Other courts around the country ruled similarly throughout the first half of the twentieth century.²⁹ This national jurisprudential trend was surveyed—and adopted—by the Texas Supreme Court in the 1942 matter of *Garcia v. King*.³⁰

However, the profit-alone requirement was upended by the same court less than two decades later, in *Clifton v. Koontz*.³¹ In that case, the lessor sued their lessee for cancellation of the lease. The lease in question operated at a net loss for certain periods in the 1950s.³² For instance, expenses exceeded revenues by \$216.16 in the 16-month period between June of 1955 and September of 1956.³³ Among other things, the lessor

27. *Id.*

28. *Young v. Forest Oil Co.*, 194 Pa. 243, 250, 45 A. 121, 122–23 (Pa. 1899).

29. *See T.W. Phillips Gas & Oil Co. v. Jedlicka*, 615 Pa. 199, 229, 42 A.3d 261, 280 (Pa. 2012) (Saylor, J., dissenting) (listing several cases following from the *Young* rationale, such as *Gypsy Oil Co. v. Marsh*, 1926 OK 246, 121 Okla. 135, 248 P. 329, 330 (Okla. 1926) and *Barnsdall v. Boley*, 119 F. 191, 198 (C.C.N.D.W. Va. 1902)).

30. The court stated:

So far as the lessees were concerned, the object in providing for a continuation of the lease for an indefinite time after the expiration of the primary period was to allow the lessees to reap the full fruits of the investments made by them in developing the property. Obviously, if the lease could no longer be operated at a profit, there were no fruits for them to reap. The lessors should not be required to suffer a continuation of the lease after the expiration of the primary period merely for speculation purposes on the part of the lessees. Since the lease was no longer yielding a profit to the lessees at the termination of the primary period, the object sought to be accomplished by the continuation thereof had ceased, and the lease had terminated.

164 S.W.2d 509, 513–14 (Tex. 1942).

31. 325 S.W.2d 684 (1959).

32. *Id.* at 687.

33. *Id.* at 689.

argued that these losses resulted in the termination of the lease under its habendum and “operations” clauses.³⁴ The trial court and appellate court both disagreed, holding that the lease had been maintained.³⁵

The Texas Supreme Court took up the matter in 1959. The court agreed with the *Young* and *Garcia* courts that a profitable well *was* producing in paying quantities but denied that an unprofitable well was ipso facto *not* producing in paying quantities:

If a well pays a profit, even small, over operating expenses, it produces in paying quantities, though it may never repay its costs, and the enterprise as a whole may prove unprofitable.

In the case of a marginal well, such as we have here, the standard by which paying quantities is determined is whether or not under all the relevant circumstances a reasonably prudent operator would, for the purpose of making a profit and not merely for speculation, continue to operate a well in the manner in which the well in question was operated.

In determining paying quantities, in accordance with the above standard, the trial court necessarily must take into consideration all matters which would influence a reasonable and prudent operator. Some of the factors are: The depletion of the reservoir and the price for which the lessee is able to sell his produce, the relative profitableness of other wells in the area, the operating and marketing costs of the lease, his net profit, the lease provisions, a reasonable period of time under the circumstances, and whether or not the lessee is holding the lease merely for speculative purposes.³⁶

The *Clifton* court used the term “marginal well” in a broad enough sense to encompass wells that incurred operating losses. Such a well may still be producing in paying quantities in light of “all matters which would influence a reasonable and prudent operator.”³⁷ The test is broken into two prongs: (1) the objective (or “mechanical,” “mathematical,” etc.) prong, wherein the court calculates whether or not the lease obtained even a small profit, and (2) the subjective prong, where the court considers a multitude of other factors that indicate whether or not the operator was acting as a

34. *Id.*

35. *Id.* at 688.

36. *Id.* at 690–91.

37. *Id.* at 691.

reasonably prudent operator in the face of marginal production.³⁸ The profit requirement of *Young* and *Garcia* remained but was turned inside-out; now a failure to turn a profit was a necessary condition of lease termination, not a sufficient one. A lessor alleging lease termination must prove both a failure to turn a profit and that the lessee was not acting as a reasonably prudent operator during that time. The *Clifton* test is binding law in Texas and has been influential elsewhere, even where it has not been formally adopted.³⁹

At the center of most paying quantities suits are disputes over the amounts and proper classification of lease revenues and expenses. That is, there are fights over whether the lessee survived the first prong of the *Clifton* test by proving that the lease turned a profit. If lease revenues exceed ordinary lease operating expenses, the lease is producing in paying quantities. Extraordinary expenses are left out of the calculation. Courts around the country have grappled with what costs count as ordinary and which as extraordinary, often with differing results.⁴⁰

38. For criticism of the usual “objective” label, see Kramer, *supra* note 1, § 15.03, n.61: “A number of authorities label the two major tests the objective and subjective tests. I prefer to label the test which relies on computations as mathematical, and reserve the terms objective and subjective to describe whether or not a reasonable person or good faith analysis is applied.”

39. State courts in Alaska, California, Kansas, Louisiana, Michigan, Mississippi, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, and West Virginia have all cited to *Clifton*, as have the Fourth, Fifth, Eighth, and Tenth federal circuits.

40. 3 MARTIN & KRAMER, *supra* note 2, § 604.6(b). See also Patrick S. Ottinger, *Production in "Paying Quantities"—A Fresh Look*, 65 LA. L. REV. 635, 643–44 (2005):

[I]t is helpful at the outset to identify the contrary interests of the lessor and of the lessee in disputes over whether a lease is generating production in “paying quantities.” The lessor would want to consider as many items of cost as possible so as to require a greater amount of production before it could be said that current operating costs were being met. Obviously, the lessor is well served to “load it up.” Conversely, from the point of view of the lessee, and so as to permit a smaller amount of production to satisfy the requirement of being in “paying quantities,” it is necessary that fewer items of expense be considered. . . . Clearly, the lessee will challenge certain expenses as not being lifting costs, and, hence, will try to limit or minimize the relevant block of expenses to be measured against revenue. This tug of war is typically at the heart of a production in a “paying quantities” case.

A few cases that have seen courts wrestle with the proper categorization of costs include *Lege v. Lea Expl. Co.*, 631 So. 2d 716 (La. Ct. App. 3d Cir.), *writ denied*, 635 So. 2d 1112 (La. 1994), *Pshigoda v. Texaco, Inc.*, 703 S.W.2d 416, 419 (Tex.

To analyze either prong of the *Clifton* test, a court must first settle on a period of time for review. If the lease provides a particular term, as the lease in *Ridenour v. Herrington* did, there is little controversy because the parties have set the scope themselves, and their agreement will generally not be disturbed.⁴¹ But what should a court do when no period is contractually specified? The *Clifton* court itself forbid an “arbitrary” limitation on the temporal scope of the analysis, stating:

There can be no arbitrary period for determining the question of whether or not a lease has terminated for the additional reason that there are various causes for slowing up of production, or a temporary cessation of production, which the courts have held to be justifiable We again emphasize that there can be no limit as to time, whether it be days, weeks, or months, to be taken into consideration in determining the question of whether paying production from the lease has ceased.⁴²

This prohibition was in response to the lessor’s argument that the determinative time period should be 60 days, in accordance with a 60-day operations clause in the lease at issue.⁴³ Such clauses declare that a lease will automatically terminate within a set number of days after production ceases if the lessee does not engage in re-working operations. With an operations clause, the lessee effectively has a fixed “grace period” within which to prevent termination by re-working the well(s). That clause only had relevance, the *Clifton* court reasoned, if production in paying quantities had already ceased. While rejecting any predetermined “limit” on the analysis—be it days, weeks, or months—the court then went on to list “a reasonable period of time under the circumstances” as one of the factors for the subjective prong of the test.⁴⁴ Importantly, a reasonable period of time is only treated as a *factor* for the latter prong of the analysis in the *Clifton* opinion. However, most courts and commentators have taken

App. 1986), *writ refused* NRE (May 28, 1986), and *Pray v. Premier Petroleum, Inc.*, 233 Kan. 351, 357, 662 P.2d 255, 260 (Kan. 1983).

41. The relevant provision in the lease at issue in that case stated:

The primary term of this lease shall be one year, and after the expiration of one year from the date hereof, paying production as that term is interpreted by Texas law shall be necessary to perpetuate this lease. Cessation of paying production after the primary term for a period of sixty days shall cause this.

47 S.W.3d 117, 119 (Tex. App. 2001).

42. *Clifton*, 325 S.W.2d at 690.

43. *Id.*

44. *Id.* at 691.

this second-prong factor to similarly set the temporal scope for both prongs of the modern paying quantities test.⁴⁵ This includes jurisdictions that have not adopted the *Clifton* test.⁴⁶

Because it establishes the boundaries of the first and second prong of the *Clifton* test, the time period is often outcome-determinative for the entire paying quantities question. If a lease has operated at a net loss for twelve months, but at a net gain when one considers the twenty-four months preceding or subsequent to that period, has it been profitable for a reasonable period of time? If the twelve months is a reasonable period of time under the circumstances, the lessee has failed the first prong of the test; in states following the *Clifton* formulation, the lessee is then forced into the subjective test, where its behavior is more closely scrutinized and it risks being punished for improvident business decisions. In states like Louisiana, the lessee will automatically lose the lease for failure to obtain a profit over that timeframe.⁴⁷ Despite its importance, courts often give the selection of the time period only cursory attention.⁴⁸ The majority of paying quantities appellate opinions are unhelpful, either remaining totally silent on the issue or repeating well-worn bromides: the period must be reasonable, it must not be unreasonably short, and the like. Unsurprisingly, this has resulted in a variety of time periods being used, often in factually-similar disputes. As one scholar has put it: “[t]he accounting period applied varies significantly from case to case and is almost impossible to predict.”⁴⁹

45. For just a small sample, see the following cases and articles: *Pshigoda v. Texaco, Inc.* 703 S.W.2d 416, 419 (Tex. App. 1986) (“Koontz states that the court is to determine profitability over a “reasonable period of time under the circumstances”); *Fleck v. Missouri River Royalty Corp.*, 2015 ND 287, 872 N.W.2d 329, 335 (2015) (“A court must consider whether the well yielded a profit over operating costs over a reasonable period of time”); *Steffey v. Steffey*, No. 2012-CA-001354-MR, 2013 WL 4400728, at *2 (Ky. Ct. App. Aug. 16, 2013) (“Where the original term of a lease expired and no wells are producing in paying quantities, the lease “will ipso facto terminate whenever production or development ceases for an unreasonable period of time” pursuant to the “thereafter” clause.”); *Kramer*, *supra* note 1, at 15-1, § 15.01 (“Most of the courts apply a ‘reasonable period of time’ approach to ascertain the appropriate accounting period.”).

46. Such as *Kansas (Texaco, Inc. v. Fox)*, 228 Kan. 589, 593 (Kan. 1980)), *Ohio (Paulus v. Beck Energy Corp.)*, 94 N.E.3d 73, 94 (Ohio Ct. App. 2017)), and *Louisiana (Wood v. Axis Energy Corp.)*, 899 So. 2d 138, 146 (La. Ct. App. 3d Cir. 2005)), among others.

47. See discussion *infra* Part II.

48. See *supra* source and text accompanying note 5.

49. *Ritchie*, *supra* note 7, at 997.

Most states have added distinctions between temporary and prolonged gaps in production.⁵⁰ In these jurisdictions, a temporary cessation of production will not result in the termination of the lease.⁵¹ This theory is typically invoked in disputes regarding total gaps in production caused by breakdowns in equipment, reworking operations, or mechanical repairs.⁵² Sometimes these “temporary” periods are rather long: for example, the Arkansas Supreme Court held a four-year gap in production to be temporary in *Saulsberry v. Siegel*.⁵³ Further, “production” is widely understood in this context to refer to production in paying quantities.⁵⁴ But most modern leases contain an operations clause, providing that leases that fail to produce for short periods (usually 30, 60, or 90 days) automatically terminate if there are no reworking operations within those time limits. The presence of such a clause in a lease will typically moot the temporary cessation problem. The *Clifton* opinion emphatically separated the effect of the operations clause from the wider paying quantities analysis. For those leases lacking an operations clause, there appears to be an unsettled question as to whether the analysis for determining whether a gap in production is temporary is methodologically identical to the analysis for determining the appropriate time period for a paying quantities analysis. The temporary cessation issue will be discussed herein only to the extent there is clear crossover.

II. STATE-BY-STATE REVIEW

A. Louisiana

Louisiana courts have examined periods ranging from eight months to four years.⁵⁵ The state has always included a profitability requirement for the paying quantities test.⁵⁶ However, for many years the law also

50. See generally Kramer, *supra* note 17.

51. See, e.g., *Midwest Oil Corp. v. Winsauer*, 159 Tex. 560, 563, 323 S.W.2d 944, 946 (Tex. 1959) (holding that a clause allowing for lease survival despite temporary interruptions in production is “necessarily implied” in a mineral lease).

52. 3 MARTIN & KRAMER, *supra* note 2, 604.4.

53. 221 Ark. 152, 252 S.W.2d 834 (Ark. 1952).

54. See Mohan Kelkar, *The Effect of the Cessation of Production Clause During the Secondary Term of an Oil and Gas Lease*, 22 TULSA L.J. 531 (1987).

55. In *Brown v. Sugar Creek Syndicate*, 195 La. 865 (La. 1940), the Louisiana Supreme Court discussed the 8-month period from February to October of 1937. The Louisiana Third Circuit Court of Appeal reviewed a trial court paying quantities determination over a four-year period in *Lege v. Lea Expl. Co.*, Inc. 631 So. 2d 716 (La. Ct. App. 3d Cir. 1994).

56. See, e.g., *Caldwell v. Alton Oil Co.*, 161 La. 139, 142 (La. 1926).

demanded that the amount of royalties paid to the lessor constitute “serious consideration” when compared to amounts of bonus, delay rentals, or shut-in payments.⁵⁷ The Louisiana Mineral Code, adopted in 1975, eliminated the serious consideration requirement.⁵⁸ Instead, the royalty amounts may now only be considered as an evidentiary signal of the reasonableness of the lessee’s expectations.⁵⁹ But Louisiana remains unique in that it appears to be the only jurisdiction where leases producing at a profit are not necessarily producing in paying quantities. For instance, in *Edmundson Bros. Partnership v. Montex Drilling Co.*,⁶⁰ Louisiana’s Third Circuit Court of Appeal stated: “[The defendant’s expert] opined that the lease produced a profit of \$139.00 per month for the 18-month period preceding the filing of suit. The trial judge found, and we agree, that this amount is not sufficient to ‘induce a reasonably prudent operator to continue production.’”⁶¹ In this case, as in most discussed herein, there was no explanation of what made the eighteen months preceding the filing of suit an appropriate time frame.

Louisiana’s Second Circuit Court of Appeal overturned a lower court’s grant of summary judgment in favor of a group of lessors in *Middleton v. EP Energy E & P Co., L.P.*⁶² In their summary judgment pleadings, the lessors argued that their former lease expired in August of 1992, after 12 months of acute operating losses for a marginal natural gas well allegedly holding the lease. However, the lessors alternatively argued that even if a 41-month span was analyzed, the lease had expired at the end of 1994. The district court focused on the longer period instead of the shorter one, without explanation, and ruled in favor of the lessors. The

57. *Id.*; *Noel Estate, Inc. v. Murray*, 65 So. 2d 886 (La. 1953); LA. REV. STAT. §§ 31:124–31:125, and Comments thereto.

58. LA. REV. STAT. §§ 31:124–31:125; according to the Comments to articles 124 and 125, the consideration test was never a true legal requirement and never functioned as more than an evidentiary signal. This claim is dubious, based on the caselaw referenced above—it appears Louisiana courts before the Mineral Code simply inconsistently applied it as a requirement.

59. *Id.*

60. 731 So. 2d 1049 (La. Ct. App. 3d Cir. 1999).

61. *Id.* at 1058.

62. *Middleton v. EP Energy E & P Co., L.P.* 188 So. 3d 263 (La. Ct. App. 2d Cir.), *writ denied sub nom.* *Middleton v. EP Energy E & P Co., L.F.*, 192 So. 3d 773 (La.), and *writ denied*, 192 So. 3d 774 (La. 2016). The matter was remanded to the trial court because the Second Circuit believed there was a fact dispute over whether sales of certain gas by-products had been included in the plaintiffs’ analysis showing a net loss. In full disclosure, the author represents the plaintiffs-lessors in this case. The matter is ongoing, so critical analysis is limited in this summary.

appellate court reversed, stating that the defendants' calculations arguably revealed a slight net profit over the forty-one months. However, in doing so, the court rejected one of defendants' key arguments: that the lower court was required to examine production after the disputed period and consider the well's return to profitability over the 17 years following 1994.⁶³ The court pointed out that the termination of a lease for a failure to produce in paying quantities occurs, if at all, automatically.⁶⁴ As a result, production after the date of alleged termination is irrelevant to whether it was maintained up to that point and lessors are entitled to bring suit many years after this date.⁶⁵

In *Gloria's Ranch v. Tauren Expl., Inc.*, the Louisiana Second Circuit Court of Appeal noted that other courts in the state generally use a 12–18 month period in evaluating the sufficiency of production.⁶⁶ Since then, the matter has twice been taken up by the Louisiana Supreme Court, but the finding that the lease at issue expired for failure to produce in paying quantities has not been disturbed.⁶⁷ Of particular interest for the purposes of this Article is the court's seemingly-innocuous reference to the normal 12-to-18 month span en route to approving the trial court's fixing of the proper time period at 18 months.⁶⁸ With the time period set, the lower court performed the mathematical prong of the test and found that the expenses far outstripped revenues. Under the Louisiana approach to the first prong, that meant the lease automatically terminated. This termination occurred despite the fact that the operator/lessee purportedly had a development

63. *Middleton*, 188 So. 3d at 265–66.

64. *Id.*

65. *Id.* The Middleton court noted that Louisiana's third circuit had considered a period of allegedly-insufficient production from seven to ten years prior to trial in *Lege v. Lea Expl. Co., Inc.*, 631 So. 2d 716 (La. Ct. App. 3d Cir.), *writ denied*, 635 So. 2d 1112 (La. 1994).

66. *Gloria's Ranch, L.L.C. v. Tauren Expl., Inc.*, 223 So. 3d 1202, (La. Ct. App. 2d Cir. 2017), *reh'g denied* (Aug. 7, 2017), *writ granted*, 231 So. 3d 639 (La. 2017), *writ granted*, 231 So. 3d 640 (La. 2017), *writ granted*, 231 So. 3d 642 (La. 2017), *aff'd in part, rev'd in part*, 252 So. 3d 431 (La. 2018), *reh'g granted in part*, 251 So. 3d 392 (La. 2018). For an in-depth discussion of the appellate disposition of this case, see Andrew D. Martin, *Mineral Code Article 206 Liability After Gloria's Ranch: Rights, Remedies, Revolution*, 6 LSU J. ENERGY L. & RESOURCES 377, 405–06 (2018).

67. *Gloria's Ranch, L.L.C. v. Tauren Expl., Inc.*, 252 So. 3d 431, 446 *reh'g granted in part*, 251 So. 3d 392 (La. 2018).

68. *Gloria's Ranch, L.L.C. v. Tauren Expl., Inc.*, 223 So. 3d 1202, 1211 (La. Ct. App. 2d Cir. 2017).

plan in place that would soon result in much greater production.⁶⁹ So the court in *Gloria Ranch* took the mathematical prong seriously—there was not enough production to contemporaneously hold the lease, regardless of how reasonable the lessee’s actions may have been. The lessee could not “pass go” into the second prong because it did not show a profit.

B. Oklahoma

Oklahoma is different. As noted, it is the only state that has openly rejected the simple fee determinable classification for the mineral lease and, thus, the notion of automatic termination. The opinion in *Stewart v. Amerada Hess Corp.* illustrates some of the important ways the state diverges from the mainstream approach.⁷⁰ At the forefront of that decision was whether the depreciation of equipment used in lifting operations should be regarded as an operating expense. The Oklahoma Supreme Court ruled that it should.⁷¹ But that conclusion led that court to reverse the trial court’s determination that the lease at issue failed to produce in paying quantities.⁷² The trial court had arrived at that ruling by performing the mechanical test over a two-year span and finding a net operating loss.⁷³ The propriety of that duration was not disputed, and it appears that the Oklahoma Supreme Court tacitly affirmed its use. But because the trial court failed to include the depreciation costs in its analysis, the Oklahoma Supreme Court decided that “neither party had the opportunity to adduce proof of circumstances surrounding the stoppage of profitable production nor those factors which might afford compelling equitable considerations either in favor of or against lease cancellation.”⁷⁴ The absence of production itself could not result in the termination of the lease. Instead, the question was whether that cessation extended “for a period longer than reasonable or justifiable in light of all the circumstances involved.”⁷⁵

Two years later, the same court extended this logic in *Barby v. Singer*.⁷⁶ There, the trial court analyzed a 14-month period—from February of 1978 to April 18, 1979—with the latter date being the day on

69. Specifically, Tauren had sought out—and eventually found—a partner with the capital necessary to drill the more expensive horizontal wells necessary to exploit the Haynesville Shale formation. *Id.* at 1212–13.

70. 604 P.2d 854 (Okla. 1979).

71. *Id.* at 857–858.

72. *Id.* at 857.

73. *Id.* at 856.

74. *Id.* at 858.

75. *Id.*

76. 648 P.2d 14 (Okla. 1982).

which suit was filed.⁷⁷ That court ordered the lease cancelled if the lessee did not drill a new well within 90 days.⁷⁸ The lessors appealed directly to the Oklahoma Supreme Court, who assigned the case to Division No. 2 of the Oklahoma Court of Appeals.⁷⁹ The appellate court ruled that the lease had terminated for failure to produce in paying quantities and remanded to the trial court for an order to that effect.⁸⁰ The lessees then applied for a writ of certiorari to the Oklahoma Supreme Court.⁸¹ That court affirmed the reasonableness of the trial court's 14-month period.⁸² It also made a cursory reference to the mechanical prong of the *Clifton* calculus, stating that "the real issue is whether a well yields production income in excess of the cost of the production."⁸³ But the court then turned the objective test inside out by turning its attention to "compelling equitable circumstances;" the United States Congress was considering the Natural Gas Policy Act during the 1978–1979 period.⁸⁴ If it passed, this legislation had the potential to increase the price of natural gas.⁸⁵ In light of this possibility, the Supreme Court stated:

The issue thus presented is whether that prospect, as remote and uncertain as it was, saved the lease from termination during a period when profitability was marginal or even when the lease operated at a loss. As we have heretofore pointed out, the failure of the lease to produce a profit does not in and of itself terminate the lease. Compelling equitable considerations may rescue the lease from termination even when well operations are unprofitable.⁸⁶

The reference to *compelling* equitable circumstances spoils any suspense here; the Act passed, the court applied the increased gas prices retroactively, and the lease survived the putatively-mechanical test unscathed.⁸⁷

77. *Id.* at 16.

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.*

82. *Id.* The court borrowed the line that the proper time period is "not measured in days, weeks or months" originally found in *Clifton*, but did not actually cite to that case.

83. *Id.* at 17–18.

84. *Id.* at 17.

85. *Id.* at 17.

86. *Id.*

87. *Id.* at 18.

In the 1991 decision of *Fisher v. Grace Petroleum Corp.*,⁸⁸ Division No. 3 of the Oklahoma Court of Appeals affirmed a lower court ruling that a lease failed to produce in paying quantities after sustaining operating losses for twelve consecutive months. The lessee protested that the lease would have shown a profit if the trial court had considered one additional month.⁸⁹ The lessee additionally argued that the appropriate time span was the entire history of the well.⁹⁰ The appellate court found no error in the trial court's choice, noting that the excluded thirteenth month was the month following a demand for release from the lessors.⁹¹ The court stressed that bounding the time period in this manner was reasonable *in this particular case*, apparently leaving open the possibility that other cases—with different but unspecified facts—might justify consideration of post-demand revenues.⁹² Importantly, the *Fisher* court also took the position that the termination occurred automatically, regardless of the fact that the lessee voluntarily shut in the well at different points during the 12-month period.⁹³ It posited that the “compelling equitable circumstances,” invoked in *Stewart* and *Barby*, could only be relevant if a lease lacked an operations clause.⁹⁴ Because the *Fisher* lease contained such a clause, which modified the habendum clause, there was no need to insert an equitable “temporary cessation” period.⁹⁵ The mere capability of the lease to produce in paying quantities was not enough to save it from automatic termination.

Just three years later, the Oklahoma Supreme Court moved away from the *Fisher* ruling in *Pack v. Santa Fe Minerals*.⁹⁶ In that case, the court reaffirmed the principle that Oklahoma considers “production” in a mineral lease to mean only the capability of production in paying quantities.⁹⁷ Thus, the objective test is always incomplete without evidence regarding the lease's capacity to produce in paying quantities, regardless of whether any marketing actually takes place and regardless of the existence of an operations clause. The mere capacity of a lease to

88. 830 P.2d 1380 (Okla. Civ. App. 1991).

89. *Id.* at 1385–86.

90. *Id.*

91. *Id.* at 1386. A demand for a “release” in this context is a request that the lessee recognize that the lease has terminated. *See Chesapeake Operating, Inc. v. Richardson*, 884 So. 2d 1263, 1264 (La. Ct. App. 3d Cir. 2004).

92. *Fisher*, 830 P.2d at 1386.

93. *Id.*

94. *Id.* at 1387.

95. *Id.*

96. 869 P.2d 323 (Okla. 1994).

97. *Id.* at 326.

produce in paying quantities *was* enough to save it from automatic termination. That this ruling abrogated *Fisher* was confirmed by the Oklahoma Supreme Court in *Hall v. Galmor*.⁹⁸ In that litigation, the lessor argued that the *Pack* rule meant that “a well capable of producing in paying quantities can sit without any actual production for an indefinite period of time, thus rendering the bargained-for cessation of production time restraints null.”⁹⁹ That is, since “production” is required to continue the lease, the cessation of actual production for periods longer than the 60 or 90 days identified in the operations clause should entail automatic termination. The court dismissed this concern by pointing out that the lessor had other mechanisms to induce a lessee to sell production, such as making a demand for the lessee to comply with the implied covenant to market.¹⁰⁰

C. Ohio

Ohio has not fully embraced the *Clifton* test. The Ohio Supreme Court articulated a profit-alone test in *Blausey v. Stein*.¹⁰¹ In *Blausey*, a small operator performed his own labor on a marginally-productive well. Though revenue was low, well costs were even lower; the lessor could only show an operating loss if the calculated value of the operator’s labor was included.¹⁰² The court ruled that the operator’s efforts to keep costs down should inure to his benefit.¹⁰³ Thus, it excluded those labor costs, found a slight profit, and declared the well to be producing in paying quantities.¹⁰⁴ The court looked at a six-year period but did not explain why that period was appropriate.¹⁰⁵

More recently, the Ohio Seventh District (Harrison County) Court of Appeals dealt with the temporary cessation problem in *Dennison Bridge, Inc. v. Resource Energy, LLC*.¹⁰⁶ There, the court drew on Ohio and national jurisprudence to determine that there is no fixed two-year threshold which automatically renders a longer cessation “unreasonable.”¹⁰⁷ Instead, the

98. 427 P.3d 1052, *as corrected* (July 16, 2018), *reh’g denied* (Sept. 10, 2018).

99. *Id.* at 1068–69.

100. *Id.*

101. 61 Ohio St. 2d 264 (Ohio 1980).

102. *Id.* at 266.

103. *Id.*

104. *Id.* at 266–67.

105. *Id.* at 265.

106. 50 N.E.3d 242 (Ohio Ct. App. 2015).

107. *Id.* at 249.

reasonableness of the length of the cessation is a question of fact, which can only be decided on summary judgment in rare cases: those in which reasonable minds could not disagree, based on the fact record.¹⁰⁸ The appellate court saw several open fact questions that made summary judgment inappropriate and, therefore, reversed the lower court.¹⁰⁹

A year later, the Seventh District (Monroe County) Court of Appeals decided *Lang v. Weiss Drilling Co.*¹¹⁰ The operator in that case endured multiple extended periods of operational losses, including the five years between 2003 and 2007. The trial court ruled that the lease failed to produce in paying quantities and the appellate court affirmed. While acknowledging that the lessee has discretion in determining profitability, the court noted the defendant made no assertions of profitability for the 2003 to 2007 period. The defendant did claim that a broken pump explained the lack of profit in 2005 and 2006 and urged the courts to look at a “longer period of time to allow for fluctuation.” But the appellate court adhered to the automatic termination conception, stating: “[A]ny evidence that the Well has been profitable from 2008 to present would be irrelevant because the Lease would have terminated prior to 2008 due to lack of production.”¹¹¹

Thus, termination is something the court fixed at a particular point in time, such that later profit has no effect; the horizon of the inquiry was limited by the end of the five year period of non-profitability, which the court implicitly determined was a reasonable period to adjudge the sufficiency of production.¹¹² However, the court did not offer any explanation of why this particular period was long enough in its paying quantities discussion. It did note, in affirming the trial court’s refusal to apply the temporary cessation of production doctrine, that courts have typically looked to periods of two years or less in determining the reasonableness of a cessation. Again, it is worthwhile to ask how much these inquiries overlap.

The same court spoke more directly to the time period for a paying quantities analysis the following year in *Paulus v. Beck Energy Corporation*.¹¹³ There, the court conceded that the *Blausey* opinion did not import the second step of the *Clifton* analysis into Ohio law, but claimed that a paying quantities analysis “still involves various equivalent [good faith] considerations in determining a reasonable base period for the

108. *Id.* at 251.

109. *Id.*

110. 70 N.E.3d 625 (Ohio Ct. App. 2016).

111. *Id.* at 632.

112. *Id.* at 629–30.

113. 94 N.E.3d 73 (Ohio Ct. App. 2017).

equation in a particular case.”¹¹⁴ In *Paulus*, unlike *Blausey*, the reasonableness of the period for the profit test was contested: the lessors showed no profit for a three-year period from 2012 through 2014, while the lessee countered that the seven years from 2007 to 2014 resulted in a profit.¹¹⁵ The appellate court noted that the trial court was the factfinder whose job was to determine the reasonableness of the base period to be used. But that recognition did not prevent the court from engaging in a detailed review of the trial court’s determination. The opinion sketched out an overall downward trend in profitability—the lessee’s longer period allowed earlier profits to offset later losses.¹¹⁶ It also pointed to the fact that the lease was still in its primary term during two of the earlier years offered by the lessee. The court did not explicitly state that primary term profitability could not be included in the calculation; instead, it declared:

Considering the totality of the particular circumstances existing in this case, a trier of fact could reasonably begin the time period for the paying quantities equation with 2010, when the lease entered its secondary term. Using the five-year period of 2010-2014 would render a loss of \$551.51 [T]he trial court’s judgment finding the lease terminated due to a lack of paying quantities is upheld.¹¹⁷

Though the *Paulus* opinion delves much deeper into the time period question than many others discussed herein, it leaves open several essential questions, including the significance of the primary term production amounts. Does the opinion imply that profitability (or a lack thereof) during the primary term is never relevant to the paying quantities analysis? Or was it only “reasonable” of the trial court to exclude those years due to some specific feature of this fact scenario? Part IV discusses this issue.

D. Kansas

In *Reese Enterprises, Inc. v. Lawson*, the lessee obtained 125 barrels of oil during an 18-month period.¹¹⁸ The lessee apparently took several steps to keep costs down during this time frame and claimed that he was

114. *Id.* at 91–92.

115. *Id.* at 95–96.

116. *Id.*

117. *Id.* at 96.

118. 553 P.2d 885, 890 (Kan. 1976).

able to operate at a small profit.¹¹⁹ The trial court disagreed with the lessee's argument and declared that the lease terminated for a failure to produce in paying quantities.¹²⁰ The lessor argued on appeal that, in addition to his efforts to keep costs down, he attempted to fruitfully develop the lease in other ways. The Kansas Supreme Court affirmed the lower court ruling and such an affirmation is notable for its wholesale rejection of the subjective test, despite a reference to *Clifton*. It stated:

The question here presented does not relate to the steps reasonably necessary to bring the lease into better production for the benefit of both the lessor and the lessee or to further develop the lease. Rather, the question is whether the lease has expired by its own terms.

[Under a subjective standard] the test actually becomes one of determining what a reasonably prudent operator would do for the purpose of making a profit and not for purposes of speculation. In our opinion the better approach is to follow the innumerable cases which apply an objective test, where the determination of 'paying quantities' turns upon a mathematical computation This approach recognizes the interest of both the lessor and the lessee, and it gives the lessor some protection when the burdens of the lease far exceed the meager royalty payments, when they fall below the customary delay rental.¹²¹

The court then went through various costs, both actual and imputed, and confirmed that the lease failed to turn a profit. Almost as an afterthought, the court noted that it was not fixing eighteen months as the only appropriate period and that "[t]he time factor in the formula heretofore discussed is a question we leave open."¹²²

The Kansas Supreme Court revisited the paying quantities issue in *Texaco v. Fox*.¹²³ At issue was the simultaneous maintenance of a mineral reservation and a mineral lease, with the former requiring production in "commercial quantities" after a primary term and the latter requiring merely "production."¹²⁴ The court found the terms to be synonymous, such that maintenance of either interest was sufficient for maintenance of the

119. *Id.* at 893.

120. *Id.* at 894.

121. *Id.* at 895–97 (internal citations omitted).

122. *Id.* at 899.

123. 228 Kan. 589 (Kan. 1980).

124. *Id.* at 590–91.

other.¹²⁵ In determining whether the reservation and lease were so maintained, the court employed the objective test as enunciated in *Reese v. Lawson*.¹²⁶ The trial court determined that production was not in paying quantities after examining Texaco's annual accounting statements for each year of a thirteen-year time period.¹²⁷ The Kansas Supreme Court rejected this method as unreasonable, stating:

Regarding the thirteen-year period: it is generally accepted that profitability on an oil and gas lease should be determined over a relatively long period of time in order to expose the operation to the leveling influences of time. The arbitrary use of a short period of time while a well is down for a workover is obviously untenable. On the other hand, the use of an unreasonably long period would entail using past glories during flush production to determine a lease's present condition, which would give a distorted result not reflective of the current status of the lease. The better rule precludes the use of a rigid fixed term for determination of profitability and uses a reasonable time depending upon the circumstances of each case, taking into consideration sufficient time to reflect the current production status of the lease and thus to "provide the information which a prudent operator would take into account in whether to continue or to abandon the operation." We find the thirteen-year accounting period was an unreasonably long period of time.¹²⁸

This formulation is both helpful and deceptive. On one hand, the court provided guidance that is lacking in other major opinions by stating that the ultimate goal of the fixing of an individual time period is to look to a window that provides the information necessary to make a prudent operational decision provides. But the court did not explain what made thirteen years inappropriate for such a window. Further, the court admitted that its finding that this span was unreasonably long was dicta, since "any combination of years will show production in paying quantities."¹²⁹

125. *Id.* at 592.

126. *Id.* at 593–94.

127. *Id.* at 592–93.

128. *Id.* at 593 (citing to 2 KUNTZ, A TREATISE ON THE LAW OF OIL AND GAS § 26.7(u) (1964) and Douglas Hale Gross, Annotation, *Meaning of "Paying Quantities" in Oil and Gas Lease*, 43 A.L.R. 3d 60–62 (1972)).

129. *Id.* at 594.

The trial court in *Buehler v. Angle*¹³⁰ determined that the lease in question was capable of producing in paying quantities and that a cessation of production was temporary, rather than permanent. The temporary cessation in this case lasted from August of 2000 to December of 2001. On appeal, the lessor argued that the trial court only used a 2-month period to determine daily oil production by looking at weekly lease reports from April and May of 2002.¹³¹ According to the lessor, a period that short is *per se* unreasonable.¹³² But the appellate court stated that the lower court had not confined itself to that span. Instead, the trial judge had considered a total of nine months; seven of these months preceded the temporary cessation and then the April and May of 2002 span following the cessation.¹³³ According to the appellate court, this period constituted a “reasonable time period” under the circumstances of the case because looking at evidence of production from late 2001 to 2002 would have “skewed” the average daily production; though it was being produced, oil was not measurable prior to April of 2002 because it had not accumulated in sufficient quantities to spill into the stock tanks.¹³⁴

E. Texas

Texas is the home of the influential *Clifton* decision, but more recent cases are also relevant to the focus of this article. For instance, in *Pshigoda v. Texaco, Inc.*,¹³⁵ the Amarillo Court of Appeals affirmed a lower court’s consideration of two distinct time frames. The trial court instructed the jury to make separate findings on profitability on (1) the twenty-three and a half months preceding the filing of suit, from January 1, 1981 to December 12, 1982, and (2) the seventeen months between the filing of suit and the beginning of trial, from December 12, 1982, to March 1, 1984.¹³⁶ The jury determined that the lease was profitable over the earlier period and unprofitable over the later period, but that a reasonable operator would have continued operating under the circumstances despite the losses.¹³⁷ The appellate court approved of the trial court’s bifurcation, stating:

130. *Buehler v. Angle*, 79 P.3d 1093 (Kan. Ct. App. 2003).

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.*

135. 703 S.W.2d 416 (Tex. App. 1986).

136. *Id.* at 419.

137. *Id.*

The first time period, encompassing the two years immediately preceding the filing of the suit is sufficient to give a picture of profitability over a reasonable length of time uninfluenced by the litigation. The second time period, slightly over a year and encompassing the period when litigation was pending, is also long enough to accurately reflect a profitability period and additionally provide a contrast with pre-suit performance.¹³⁸

Spreading the accounting period over two separate spans operated as one way around the equitable problem referenced earlier, wherein a lessee might lose a lease by scaling back on operating costs while under siege from its lessor. But it is not clear that this was the only way around this dilemma, or the best one. If the jury was willing to give the lessee a pass for the unprofitable second period, why would it not have done so if the entire three-year time span were considered as one? Further, the two-term approach is inconsistent with a literal reading of *Clifton* and its offspring, which reference a singular reasonable time period.

In *Dreher v. Cassidy Ltd. Partnership*,¹³⁹ the Eastland Court of Appeals overturned a trial court's summary judgment that a lease expired for failing to produce in paying quantities. The lessor successfully showed that the lease was not profitable for the eight months between September of 1998 and April of 1999. But, according to the appellate court, the lessor "produced no evidence to show why the 8-month period was a reasonable period of time."¹⁴⁰ As a result, the lessor failed to even meet the first prong of the paying quantities test, much less established that a reasonably prudent operator would not have continued operations under those circumstances.¹⁴¹ Despite overturning the summary judgment at least partially because the lessor had not established eight months as the proper period, the court in *Dreher* did not offer any explanation of *how* the lessor might have done that. Unfortunately, this silence is as predictable as it is unhelpful. But it is notable that an appellate court overturned a trial court's implicit determination that a particular time period was reasonable. The reviewing court put the blame on the lessor for failing to put forth evidence on this point, which entails that the necessary evidence was not contained anywhere in the summary judgment record. What sort of evidence would that be? Could the lessor have possibly met his summary judgment burden, at least as to the first prong of the test?

138. *Id.*

139. 99 S.W.3d 267 (Tex. App. 2003).

140. *Id.* at 269.

141. *Id.*

The lease at issue in *EnerQuest Oil & Gas, LLC v. Plains Exploration & Production Co.* featured a voluntary shut-in clause which allowed the lessee to cease producing for a period, provided the lessee paid shut-in royalties to the lessor and the lease was capable of producing in paying quantities.¹⁴² The parties disputed, among other things, whether the purportedly shut-in well at issue was capable of producing in paying quantities.¹⁴³ The court noted that such capability required that the lessee have a reasonable basis for the expectation of profitable returns.¹⁴⁴ Importantly, the reasonableness of the expectation must be determined based solely on the information available to the lessee at the end of the primary term.¹⁴⁵ But the court was unable to determine the answer to that question based on the record before it because there was no evidence as to what the appropriate window of time would be for a return to profitability, and thus noted:

[T]here is still a genuine issue of material fact as to whether EnerQuest would have recouped its operating and marketing costs within a “reasonable” period of time. At a rate of \$27,000 every six months, EnerQuest would have recouped the cost of the pipeline hookup in approximately two years. But is this a “reasonable” period of time? The court has no way of making that determination, because the Parties have presented no evidence as to what is a reasonable amount of time over which to recoup operating and marketing costs. Perhaps it is common for oil and gas companies not to recoup the cost of a pipeline hookup for five years. On the other hand, it may be that in the oil and gas industry there is consensus that a “reasonable” period of time to recoup such costs is, for example, a year or less. The court simply cannot interpose its own view one way or the other without an adequate and credible foundation upon which to determine what constitutes a “reasonable” period of time.¹⁴⁶

The court’s reasoning here mirrors the *Dreher* opinion, to which it cited.¹⁴⁷ It is interesting to note the court’s apparent belief that the typical *industry* expectations for recouping costs are relevant to determining what span is “reasonable.”

142. 981 F. Supp. 2d 575, 582 (W.D. Tex. 2013).

143. *Id.* at 583.

144. *Id.* at 594.

145. *Id.*

146. *Id.* at 596–97.

147. *Id.* at 597.

Another recent Texas decision of interest is *B.P. Production Co. v. Laddex, Ltd.*¹⁴⁸ There, a jury looked at a 15-month period from August 1, 2005, to October 31, 2006, and determined that the lease failed to produce in paying quantities. The appellate court reversed, deciding that a jury charge on the paying quantities issue was improper. That charge contained separate questions and instructions for each prong of the *Clifton* analysis and read, in pertinent part:

From August 1, 2005 to October 31, 2006, did the Mahler D-2 Well fail to produce in paying quantities?

You are instructed that where production is sufficient to yield a return in excess of operating and marketing costs over a reasonable period of time, the well is producing in paying quantities even though drilling and equipment costs may never be repaid and the undertaking as a whole may ultimately result in a loss.

. . .

Do you find that, under all the relevant circumstances, a reasonably prudent operator would not continue, for the purpose of making a profit and not merely for speculation, to operate the Mahler D-2 Well in the manner in which it was operated between August 1, 2005 to October 31, 2006?

You are instructed that in deciding whether a prudent operator would not continue, for profit and not merely for speculation, to operate the well in the manner in which it was operated, you must take into consideration all matters which would influence a reasonably prudent operator. Some of the factors are: . . . [*Clifton* factors].¹⁴⁹

The appellate court held that this charge was erroneous because it limited the jury's consideration to the particular 15-month span where production was weak and therefore prevented it from considering the fact that the well subsequently returned to profitability.¹⁵⁰ The appellate court therefore

148. 513 S.W.3d 476 (Tex. 2017).

149. *Id.* at 483.

150. The Amarillo Court of Appeals stated:

Because the undisputed evidence established that the Arrington lease had resumed profitable production, the jury question, which isolated a fifteen-month period that was not reflective of the true profitability of

ordered a remand for a new trial because the evidence would have “allowed a reasonable jury to differ as to whether the lease produced in paying quantities when a reasonable period of time is considered,” but declined to determine what would be a reasonable period in the case.¹⁵¹

The lessee, BP, argued to the Supreme Court that the appropriate decision would have been a rendition in its favor, rather than a remand; according to BP, a “reasonable time period” would include at least the 27 months preceding the filing of suit, which would have encompassed several months before and after the slowdown of production.¹⁵² In contrast, Laddex argued that the jury charge was proper in that it specifically instructed the jury that the 15-month period must be adjudged a reasonable one to necessitate an affirmative answer to the first question.¹⁵³ Further, Laddex pointed out that, as a fee simple determinable interest, the lease would have *automatically* terminated following a reasonable period of unprofitable production. That sort of automatic termination would moot consideration of subsequent profitability.¹⁵⁴

The Texas Supreme Court disagreed with both sides, ruling that the jury could not be directed to *any* particular period of time in making its determination.¹⁵⁵ This conclusion was drawn from a hyper-literal interpretation of the *Clifton* pronouncement that there could be “no limit as to time” in considering the sufficiency of production.¹⁵⁶ According to the *Laddex* Court, any charge that specified a particular time span would “not permit the jury to appropriately discharge its fact-finding duties” because it would unduly influence the jury and violate *Clifton*.¹⁵⁷ This did not mean that the parties were barred from focusing the court toward

the lease, limited the jury’s consideration to a period of time that was not reasonable to assess whether the lease had ceased to produce in paying quantities.

BP Am. Prod. Co. v. Laddex, Ltd., 458 S.W.3d 683, 688 (Tex. App. 2015), *aff’d*, 513 S.W.3d 476 (Tex. 2017).

151. *Id.* at 689.

152. *Prod. Co.*, 513 S.W.3d at 484.

153. *Id.*

154. *Id.*; see also Laddex, Ltd.’s Response to Petitioner’s Brief On the Merits, BP America Prod. Co. v. Laddex, Ltd., (No. 15-0248), 2016 WL 5795604 (Tex.) at *8: (stating “Texas law is clear: production occurring after a lease has automatically terminated is immaterial to the question of whether the lease previously terminated because of a failure to produce in paying quantities.”) (available on WestLaw).

155. *Prod. Co.*, 513 S.W.3d at 486–87.

156. *Id.* at 486 (citing to *Clifton v. Koontz*, 325 S.W.3d 684, 690 (Tex. 1959)).

157. *Id.*

particular durations through argument and evidence—just that this focusing could not be reduced to the jury charge.¹⁵⁸

F. Pennsylvania

Pennsylvania was one of the early incubators of paying quantities law but saw very little judicial activity on the issue during the twentieth century.¹⁵⁹ The shale explosion of the early 2000s changed that, with the development of the Marcellus Shale sparking a renewal in lease litigation.¹⁶⁰ These new controversies forced a long-due reckoning in the legal space between *Young* and the newer, more-forgiving offspring of *Clifton*. It came in 2012 with *T.W. Phillips v. Jedlicka*.¹⁶¹

In *Jedlicka*, both the lessor and the lessee staked their arguments on *Young*. Phillips argued that the *Young* decision demanded consideration of an operator's good faith in every paying quantities analysis, while Jedlicka claimed that the precedent required an objective calculation of profits and losses.¹⁶² The court agreed with Phillips. In doing so, it declared that even "setting a reasonable time period necessarily implicates the operator's good faith judgment."¹⁶³ The court stressed repeatedly that determining what counts as reasonable is a fact-specific question.¹⁶⁴ But it declined to identify any of the specific sorts of facts that could affect that determination. The court favorably cited to *Texaco v. Fox* for the proposition that profitability "should be determined over a relatively long period of time" but did not explain what that length is "relative" to.¹⁶⁵ The majority opinion stressed the age of the lease (which was 80 years old at trial) and the fact that the one unprofitable year identified by the lessor was 40 years before trial.¹⁶⁶ The concurrence also took issue with the lessor's

158. *Id.*

159. *Id.*

160. The Marcellus is a large gas-bearing shale formation that lies beneath several eastern states, most notably Pennsylvania, Ohio, and West Virginia. GEOLOGY.COM, <https://geology.com/articles/marcellus-shale.shtml> [<https://perma.cc/EXF4-P337>] (last visited Feb. 20, 2020).

161. 615 Pa. 199 (Pa. 2012).

162. *Id.* at 214–15.

163. *Id.* at 216.

164. For instance, the majority cited favorably to an Arkansas decision for the proposition that the "appropriate period for determining profitability depends 'upon the facts of the particular case and the specific reasons production waned or ended.'" *Id.* at 223 (citing to *Ross Expls., Inc. v. Freedom Energy, Inc.*, 340 Ark. 74, 81, 8 S.W.3d 511, 516 (2000)).

165. *Id.* at 223.

166. *Id.* at 224.

choice of an older time period, stating that “scouring the 80-year history of a well and finding a 12-month period where expenses were greater than revenue is false accounting for lease purposes and cannot be rewarded.”¹⁶⁷ But neither the majority nor the concurrence explained the legal relevance of the identification of an older time period, nor what fact conditions might have made one year more than “false accounting.”

The dissent inveighed against the majority’s departure from *Young* despite framing its ruling as consistent with the older decision.¹⁶⁸ It noted that inserting a subjective, good-faith test into the objective prong—by requiring such an inquiry before even setting the time period for analysis—meant that the separately-stated good faith prong was fairly redundant.¹⁶⁹ This would seem to make the paying quantities analysis functionally indistinguishable from the reasonably prudent operator analysis. But the most important part of the *Jedlicka* dissent, for this Article’s purposes, is its recognition that the trial court did not make clear what was actually considered as a reasonable time period under the circumstances at all. Instead, it looked at the one-year period offered by the lessor and ruled that the “evidence indicates that the lessees were operating the wells in good faith” and therefore had produced in paying quantities.¹⁷⁰ The majority implied that this was equivalent to making good faith a part of the time period selection, but it instead clearly indicates that the accounting period question was simply irrelevant. By failing to remand so that the trial court could fulfill its fact-finding function under the new “subjective good faith reasonable time period” test it constructed, the majority did not appear to take its own test seriously.¹⁷¹

167. *Id.* at 226 (Eakin, J., concurring).

168. *Id.* at 227–42 (Saylor, J., dissenting).

169. *Id.* at 240–41.

170. *Id.* at 225.

171. As Justice Saylor stated in his dissent:

For one, the lease is silent as to the relevant time period to determine if the lease is producing in “paying quantities,” and it is not clear from the trial court’s opinion what, if any, period it used to perform this analysis

The nature of the loss suffered by the lease in 1959 is also not apparent from that decision.

Id. at 241–42.

III. ANALYSIS

A. Reasonableness

The paying quantities analysis is generally supposed to be made over a period of time that is “reasonable under the circumstances.” Even if some outside boundaries can be established—somewhere between the date of leasing and the date of trial—what counts as “reasonable” for the actual analysis is difficult because the case law does not make it clear how the term reasonable is meant to be applied in this context.

To begin with, the legal dictate—that a fact finder is to determine profitability or objective good faith over a reasonable period of time under the circumstances—is a standard, rather than a rule. A rule is a rigid directive that commands the enforcing party to respond in a determinate way to a set of defined factual circumstances.¹⁷² On the other hand, a standard is a requirement that refers directly to one of the overarching objectives of the legal order (such as fairness or reasonableness) and its application requires the decider to both “discover the facts of a particular situation and to assess them in terms of the purposes or social values embodied in the standard.”¹⁷³ In practice, legal commands often include mixtures of rules and standards and can often have varying degrees of “ruleness” or “standardness.”¹⁷⁴ Both have drawbacks and benefits, with rules tending to reduce legal uncertainty and costs of decision-making, but tending to increase the error costs because of their inelasticity.¹⁷⁵ Standards are cheaper to promulgate and more open to variable fact scenarios but have less value in guiding behavior or predicting results.¹⁷⁶ Directing trial courts to determine the sufficiency of production over a reasonable period of time under the circumstances, as the jurisprudence usually does, is the issuance of a archetypical standard; it contains a direct reference to a substantive objective of the law and lacks guidance for application.

172. Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1687–88 (1976).

173. *Id.*

174. Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 561–62 (1992); Frederick Schauer, *Rules and the Rule of Law*, 14 HARV. J.L. & PUB. POL'Y 645, 650 (1991); H.L.A. HART, THE CONCEPT OF LAW 126–31 (1961).

175. Kaplow, *supra* note 174; Adrian Vermeule, *Interpretive Choice*, 75 N.Y.U. L. REV. 74, 91 (2000).

176. *Id.*

Yet, the reasonable time period standard is different from other reasonableness standards in important ways. In other legal and non-legal contexts, people are often attempting to discern the reasonableness or unreasonableness of someone's *behavior*.¹⁷⁷ In the context of paying quantities, however, the question is not about any party's behavior but about the time period itself—it is about setting a “reasonable” temporal frame for (a) performing a mechanical calculation, under the objective prong, or (b) evaluating behavior, under the subjective prong.¹⁷⁸ Even under the latter prong, the evaluation of behavior is distinct from the borders of that evaluation. This is why *Jedlicka's* claim that “setting a reasonable time period necessarily implicates the operator's good faith judgment” is so immediately counterintuitive. The time period *sets the scope* of the evaluation and therefore has to be *analytically prior* to that evaluation. As an illustration, imagine that an operator was holding a marginal lease in bad faith for one year but then was replaced with new management that produced in good faith, though still at a loss, for the following two years. The later good faith of the operator is relevant to setting the time period if and only if the temporal window is wide enough to encompass those next two years. Even if a court determined that the only chronological boundaries are the inception of the lease and the beginning of trial—the present-tense, *Laddex*-type interpretation of *Clifton*—those are still boundaries that set evaluations of good faith, rather than being dependent on those evaluations.

Buttressed by his own empirical research, legal scholar Kevin Tobia has pointed out that ordinary evaluations of reasonableness tend to be hybrid judgments; that is, they are a mix of (1) descriptive judgments of perceived statistically average or normal behavior; and (2) prescriptive judgments of how parties should behave.¹⁷⁹ People usually determine reasonableness to be somewhere in between a perceived “is” and “ought.” As an example, Mr. Tobia's sample estimated that people watch an average of four hours of television a day but believed the ideal time to be

177. For example, in tort law the relevant standard to avoid negligence liability is that one must act as a “reasonable man under like circumstances.” See, RESTATEMENT (SECOND) OF TORTS § 283 (1965). See, generally, David Zaring, *Rule By Reasonableness*, 63 ADMIN. L. REV. 525 (2011).

178. See discussion in Part I herein regarding the general applicability of the “reasonable time period” standard to both the mechanical and subjective prongs in all jurisdictions who have paying quantities jurisprudence, whether those jurisdictions follow *Clifton* or not.

179. Kevin P. Tobia, *How People Judge What Is Reasonable*, 70 ALA. L. REV. 293, 329 (2018).

2.34 hours.¹⁸⁰ The sample fixed the “reasonable” number of hours per day between those two numbers at 3.19.¹⁸¹ Similarly, the sample believed the average contract offer was accepted in 14.68 days, that the ideal delay was 10.52 days, and that a reasonable delay was 12.21 days.¹⁸²

What this kind of research demonstrates is that people, when ascribing “reasonableness” in behavior-evaluative contexts, are playing a certain type of language game, with broad rules governing how they use the term.¹⁸³ The playing of the game in this way requires implicit reference to beliefs regarding certain fact circumstances—how long people may take to accept contracts, what consequences result from taking too long or too short to accept them, how those consequences are shared between the parties, amongst other concerns. Individuals also share, to some degree or another, certain normative commitments relating to the subject matters at issue. Because people have at least minimally-shared beliefs about the relevant facts and values, they can meaningfully talk about what is “reasonable” behavior and why. So, in many contexts, people can and do make reasonableness ascriptions within a fairly narrow and predictable range.

One likely reason the paying quantities reasonable time period question is so perplexing is that it is difficult to determine how it fits in with the usual way people use the term “reasonable” in other contexts. For one thing, the subject matter of paying quantities disputes is foreign to most jury members and judges. There is thus usually a steep learning curve for the factfinder in a paying quantities dispute. Confusion and inconsistency can follow, as the factfinder is simply not familiar enough with the terminology and concepts of oil and gas law to meaningfully identify the relevant facts and the relations between them. It is difficult for people to determine what counts as “reasonable” in thoroughly exotic circumstances.

180. *Id.* at 359.

181. *Id.*

182. *Id.*

183. Mr. Tobia has noted, in correspondence with the author, that not all reasonableness ascriptions converge in the middle of the ideal and perceived average; in some circumstances, people have good reason to favor one end of the spectrum or the other (for instance, in Mr. Tobia’s experiments the “reasonable” percentage of school students bullied hewed closely to the ideal). Further, there is likely more variation in the legal conceptions of reasonableness than in the lay context. However, people’s expectations of how “reasonable” is used in more familiar contexts will obviously shape or shade their application of that term in the legal context.

Many other areas of law feature a similar learning curve. The bigger problem for the paying quantities time period issue is that it is not obvious how one would make the hybrid prescriptive-descriptive judgment normally applicable to questions of reasonableness. What is the descriptive end of the evaluation supposed to be? Factfinders are surely not fixing the descriptive prong based on what operators actually *do* in periods of low production; the paying quantities doctrine exists because operators often do tolerate losing periods based on speculation. As Williams & Meyers puts it:

The basis of the majority position is not that the parties intended to require that the production be sufficient so that a prudent lessee would continue to operate the lease. A prudent lessee, attuned to economic realities, would often continue to operate a lease that was not producing in paying quantities in the hope of increasing production or of making a new discovery on the lease, or of seeing the value of the lease increase due to new explorations on adjacent tracts.¹⁸⁴

Lessees rarely simply forfeit a lease *sua sponte* if the losses are mild, so the descriptive prong cannot simply be how often operators actually do abandon marginally-productive leases. Instead, it appears that factfinders are implicitly being asked to fix the “descriptive” end of the equation on what a prudent operator who is not acting for speculative purposes only would do.¹⁸⁵ Given that all continued operations during periods of economic loss are premised on a hope that expenses fall or prices rise, there is clearly some tolerable level of speculation, and so some threshold where the lessee’s purposes are *too* speculative.¹⁸⁶ This in turn implies that the erstwhile descriptive end of the reasonableness judgment here is actually premised on a prescriptive judgment: whether a given expectation is *impermissibly* speculative. The typical process for determining reasonableness therefore appears largely inapplicable to the production in paying quantities time period inquiry.

184. 3 MARTIN & KRAMER, *supra* note 2, § 604.5.

185. *Id.* The authors state: “Rather, the basis of the majority rule is that the parties to the lease intended that a lessee should not be permitted to hold a lease after the expiration of the primary term for speculative purposes only.”

186. Ritchie, *supra* note 7, at 1009–10 (correctly pointing out that “speculation” is a broad term and proposes a conceptual line between permissible and impermissible speculation). Courts have been loath to clarify what speculation means in this context. There is therefore a layered conceptual problem in paying quantities analysis, where factfinders are given essentially no guidance on two central standards (speculation and reasonableness).

Texaco v. Fox contains one of the clearer judicial articulations of the game a factfinder is being asked to play in fixing a reasonable time period: he is to pick a span long enough to “expose the operation to the leveling influences of time.”¹⁸⁷ Further, the time period should be long enough to “provide the information which a prudent operator would take into account in whether to continue or abandon the operation.”¹⁸⁸ A lay member of a jury given this direction might well understand that this precludes fixing the analysis for an oil lease over a single month’s span, if sales occur on a monthly basis, because a single data point cannot be “leveled.” But a juror will likely have less confidence about whether “leveling” is more appropriate over a one- or five-year time period. In questions involving, say, the reasonableness of accepting a contract after ten days, an ordinary factfinder will have some familiarity with the sort of game he is playing; he will consider how long he believes it normally takes people to accept a contract, how long he thinks is optimal for accepting, and place reasonableness somewhere between those points. On the other hand, he is adrift without familiar points of reference on the accounting period question. He is unlikely to be acquainted with any technical aspects of mineral operations. More importantly, he will not have any clear idea how long a *prudent* operator would wait to make a production decision, or how far in the future counts as impermissible speculation in this context. What if the operator believes, in good faith and with objectively reasonable data, that the lease will turn a profit after five more years—is that too far-sighted to be “reasonable”? Courts have simply not done much work in communicating the object of the game, likely because it is not entirely clear to courts either.

B. What Circumstances?

So, *what* circumstances do courts look to when determining what counts as a reasonable period to review in a paying quantities case? Appellate courts show no qualms about reviewing the fact conditions around other components of the paying quantities question. For instance, in the many accounting battles over whether wells were turning a profit for a specific interval, courts have often looked into the circumstances

187. *Texaco, Inc. v. Fox*, 228 Kan. 589, 593 (Kan. 1980). Looking at a longer period of time “levels” any aberrational short periods of very high or very low production. The obvious problem with this notion is that “leveling” can occur over shorter or longer periods of time; the factfinder still must determine what counts as sufficient leveling.

188. *Id.*

determining the propriety of the fact findings.¹⁸⁹ But in construing what counts as a reasonable time period, the courts have been remarkably reluctant to specify which circumstances a factfinder should look to in adjudging the sufficiency of production. The easy answer is that the determination must be made under *all* circumstances. This is unhelpful in any practical sense because there are innumerable circumstances that are facially irrelevant to the inquiry; whether a stock tank is black or gray is a fact circumstance but is not one that could not plausibly affect the reasonability of a two-year analysis. The price of oil, on the other hand, *may* be a relevant circumstance. Unfortunately, courts have not attempted to explicitly spell out whether and why it should or should not be. The review of the case law in Part II, above, emphasizes just how deep the judicial agnosticism on the relevant “circumstances” runs. Those decisions feature some of the most detailed discussions of the reasonable time period standard, but there are scant references to the particular facts that should matter.

Reading between the lines, it seems that the circumstances being hinted at are just those implicating market conditions: the objective economic circumstances that shift the timeline for profitability for a given lease.¹⁹⁰ This means that in tight times—periods of low prices or high operating costs—the proper period for a paying quantities analysis is a longer one.¹⁹¹ The influential Williams & Meyers treatise even proposes basing the entire analysis on whether a lease *would* be profitable in a normal price environment:

189. For instance, see *Mason v. Ladd Petroleum*, 630 P.2d 1283 (Okla. 1981), where the Oklahoma Supreme Court engaged in a detailed review of whether district expenses, administrative overhead, depreciation of casing, and depreciation of line heater and separator could be counted as ordinary operating expenses for the mechanical test. Similarly, see *Lege v. Lea Expl. Co.*, 631 So. 2d 716, 719 (La. Ct. App. 3d Cir.), *writ denied*, 635 So. 2d 1112 (La. 1994), where the Louisiana Third Circuit Court of Appeal conducted a thorough examination of whether the cost of converting a well to a saltwater disposal system should be counted.

190. See Simpson, *supra* note 8, at 374–75 (2017): “Within [the timeframe selected] are the facts and circumstances that impact profitability . . . a reasonably prudent operator considers market conditions when deciding how to operate a well—after all, lessees drill oil and gas wells to make money and profitability is largely dictated by market price.”

191. *Id.*; See also Richard H. Bartlett, *The Effect of Low Oil and Gas Prices on Freehold Oil and Gas Leases: A Problem of Interpretation*, 29 ALTA. L. REV. 1, 12 (1991): “A fall in prices is a factor to be considered in determining whether a reasonably prudent operator would continue to hold the lease. It will likely cause the termination of the lease if the fall is temporary and the loss is substantial.”

The lessee has a fairly strong argument for holding the lease by nonpaying production during a period when temporary depression prevents paying production. Clearly the lessee is not holding the land merely for speculative purposes, since under normal conditions the lease is presently producing in paying quantities. If the lessor is receiving a financial benefit from production, and if present production under normal conditions would be in paying quantities, and if the lessee in good faith decides that he can better himself financially in the long run from production at the present rate, the better rule would seem to be to allow the lessee to continue to hold the lease, despite a current loss due to depressed market conditions. Such a rule would not only avoid conflict with the policy against holding leases for purely speculative purposes, but in periods of sharp depression in the oil and gas industry, it would provide essential relief to all operators.¹⁹²

Note that the Williams & Meyers conception differs slightly from the *Clifton* picture: for the editors of the treatise, a lease is not producing in “paying quantities” if it is producing at a loss, but should still be held effective if it could produce at a profit under normal conditions. Under *Clifton*, on the other hand, a lease that operates at a loss may, in some cases, be producing in paying quantities. The editors of the treatise note that other writers have expressed doubts as to the coherence of a “normal” price environment because there is always a real prospect that prices never return to the pre-downturn levels.¹⁹³

At least one author has tried to more specifically tie particular fact circumstances to the reasonable time period question. Attorney Morgan L. Simpson has suggested that courts consider the price cycles of oil in determining a reasonable time period for marginally-productive oil wells.¹⁹⁴ Economists have identified a number of overlapping, predictable swings in the price of oil. These include annual seasonal cycles, as well as longer cycles of approximately two, ten, and twenty-seven years.¹⁹⁵ By noting where in a given price cycle an unprofitable period of an oil lease falls, and looking at the realistic prospects for a price bounce, courts can

192. 3 MARTIN & KRAMER, *supra* note 2, § 604.6(c).

193. *Id.* (citing to Bartlett, *The Effect of Low Oil and Gas Prices on Freehold Oil and Gas Leases: A Problem of Interpretation*, 29 ALTA. L. REV. 1, 12 (1991)).

194. Mr. Simpson is presently an attorney at Baty Otto Coronado PC. While at Washburn University School of Law, he authored *Should We Cycle Onto A New Analysis: Establishing the Proper Accounting Period for the Paying Quantities Analysis*, 56 WASHBURN L.J. 355 (2017).

195. *Id.* at 375–79.

determine “whether there has been a sufficient amount of time for the lessee to consider the market conditions and make an informed production decision.”¹⁹⁶

There appears to be less long-term certainty for natural gas price cycles. The shale boom of the mid-2000s, following the innovations in fracking technology, dramatically altered domestic gas supply. This may ultimately make relatively-lower market conditions the “new normal.”¹⁹⁷ This might result in a less volatile market over the extended term, with prices bouncing within a narrower range on a year-to-year basis. But the impact of the United States’ potential as an exporter of liquefied natural gas, riding on technological and geopolitical changes, could alter this trajectory as well.¹⁹⁸ On the other hand, the annual seasonal swings of natural gas prices are fairly well-known.¹⁹⁹ Courts can and should take this information into account when determining what counts as a more or less reasonable time period for a gas lease.

Although lessees are understandably concerned about “market conditions” *vis a vis* periods of decreased prices, those market considerations might also cut in the other direction. For example, the costs of drilling and operating certain types of wells have decreased as technology has improved.²⁰⁰ If periods of low prices should lengthen the

196. *Id.* at 380.

197. Some commenters see the current glut of natural gas as more-or-less permanent; because shale gas is both abundant and now relatively inexpensive to capture and demand is unlikely to rise sufficiently to meet that oversupply, prices will remain lower than before the shale boom. ENERGYDIALOGUES.COM: SPEAKER Q&A SERIES (Aug. 15, 2017), <https://energy-dialogues.com/blog/2017/08/15/speaker-qa-series-greg-vesey-managing-director-ceo-lng-limited> [<https://perma.cc/B7J6-AYJX>] (“It is not easy to see an end to this cycle, but more likely we are experiencing a new normal. North America’s robust reserves create a unique global opportunity to manage price volatility.”).

198. On the LNG revolution, see SUSAN L. SAKMAR, ENERGY FOR THE 21ST CENTURY: OPPORTUNITIES AND CHALLENGES FOR LIQUEFIED NATURAL GAS (LNG) (Edward Elgar Pub. (2013)).

199. Residential and commercial demand for gas rises during the winter, usually causing a spike in prices. See *Natural Gas Explained, Factors Affecting Natural Gas Prices*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/energy-explained/natural-gas/factors-affecting-natural-gas-prices.php> [<https://perma.cc/S7NG-E8WP>] (last visited Dec. 23, 2019).

200. For example, see a 2016 report from the Energy Information Administration:

Over time, these costs have changed. For example, drilling and completion cost indices . . . from 2006 to 2012 demonstrate the effect of rapid growth in drilling activity. Since then, reduced activity as well as

appropriate time span for a paying quantities analysis, it seems natural that decreases in operating costs, or increases in prices, should shorten it.

Another fact to consider in fixing a time period is the internal practices and policies of lessees. In *Texaco v. Fox*, the court rejected the notion that the lessee's accounting procedures should bear on the time period actually employed by the court.²⁰¹ Similarly, the *Laddex* appellate court did not agree with the lessor that the lessee's annual reviews of which wells should be plugged was relevant to the question.²⁰² While both courts were correct that these internal procedures should not be treated as determinative fact circumstances, they can serve as useful proxies. If one of the aims in setting a reasonable time period is giving the lessee sufficient time to make an "informed production decision," its own timelines for making financial or operational decisions is one piece of evidence as to what amount of time is sufficient.

Overall, the relevant fact circumstances in this inquiry are probably limited to those that impact price and costs. These can be varied, depending on the particulars of the time and place. For instance, the impending possible passage of the Natural Gas Act in *Barby v. Singer* was a relevant condition in fixing a time horizon for a paying quantities analysis: it certainly gets at the reasonableness of a belief that a lease will return to profitability within a foreseeable time span. However, even accurately identifying these circumstances cannot determine which time period is "reasonable." At best, such an identification provides a basis for a *relative* fixing of such spans: a tougher price environment means a longer period, a more forgiving environment a shorter one. There is still an embedded policy question of "longer than *what*?" That is, a factfinder still

improved drilling efficiency and tools used have reduced overall well costs. Changes in cost rates and well parameters have affected plays differently in 2015, with recent savings ranging from 7% to 22% relative to 2014 costs.

U.S. ENERGY INFO. ADMIN., TRENDS IN U.S. OIL AND NATURAL GAS UPSTREAM COSTS 3 (2016), <https://www.eia.gov/analysis/studies/drilling/pdf/upstream.pdf> [<https://perma.cc/LX2U-C8DP>]

201. *Texaco, Inc. v. Fox*, 228 Kan. 589, 593 (Kan. 1980) ("Although there is a general business custom of using fixed annual accounting periods for purposes of determining profit and for tax purposes, there is no reason production of oil and gas in paying quantities should be determined in that manner.").

202. From the *Laddex* brief cited earlier: "BP's own team of engineers, conducting their annual review of the D2, reached the same conclusion as the jury, opining that the D2 was a 'poor well,' and should be plugged and abandoned because of its inability to produce profitably." *Laddex, Ltd.'s Response to Petitioner's Brief On the Merits, BP America Prod. Co., v. Laddex, Ltd.*, (No. 15-0248), 2016 WL 5795604 (Tex.) at *7.

must decide how to set a normal window before they can observe how the particular fact circumstances stretch or constrict that window; and that is an issue that cannot be resolved simply by analyzing past decisions, as there is no stable conception of such a normal window even within any state. It is an open policy choice.

IV. DEVELOPMENT

Some of the confusion regarding the paying quantities time period question is endemic and insoluble: it is a “reasonableness” standard that lacks any apparent descriptive point of reference. The combination of this problem and the judicial reluctance to specifically identify the relevant factual circumstances that should go into determining the appropriateness of an accounting span has resulted in unpredictable outcomes to paying quantities disputes. This Part examines a well-crafted proposal that attempts to get around the unpredictability and wasted costs caused at least partially by the reasonable time period standard, by reforming the *Clifton* test. While this proposal accurately identifies some of the problems with certain aspects of the paying quantities test, it does not successfully avoid the time period issue. As a result, the reasonable time period standard must be given greater sense regardless of whether a jurisdiction employs a subjective, objective, or two-prong test. However, to facilitate this development trial and appellate courts must focus more explicitly on their decision-making processes in identifying what counts as a reasonable time period. Courts also must recognize and embrace the reality that such an identification is, to at least some degree, an exercise in rulemaking.

A. The Necessity of the Reasonable Time Period Standard

Professor Alex Ritchie argues that the two-prong test should be downsized.²⁰³ According to him, the mathematical prong is either vestigial or harmful; it no longer serves any beneficial function and should thus be amputated.²⁰⁴ The first prong is the putatively mechanical one, but there is hardly anything mechanical about a cost/revenue calculation without a time period.²⁰⁵ Absent almost any guidance, factfinders are expected to

203. Ritchie, *supra* note 7, at 977. Professor Ritchie is presently the Executive Director of the Rocky Mountain Mineral Law Foundation and an adjunct faculty member at the University of Colorado Law School.

204. *Id.* at 981.

205. *Id.* at 996 (stating “[T]he mathematical first prong of the Koontz paying quantities analysis is inherently elusive. Commentators and courts often label this first prong as the ‘objective’ prong and wrongly label the second Koontz prong as

conjure up an accounting span that is uniquely fixed to undefined “circumstances” and then to calculate profits and losses.²⁰⁶ It is no wonder, then, that the results are all over the map.²⁰⁷ For Ritchie, this uncertainty needlessly duplicates costs and is therefore economically intolerable.²⁰⁸ Further, it is unfair to lessees, who bear the real financial risks of lease operations.²⁰⁹ Much of the problem can be traced directly to the absence of a predictable accounting period.²¹⁰ As an alternative to the usual two-prong test, Ritchie suggests abandoning the mathematical prong entirely and making the standard only about the lessee’s good faith: whether the lessee is holding the lease for the purpose of making a profit and not merely for speculation.²¹¹

Judicial treatment of the reasonable time period standard in regard to the objective test is, at best, erratically applied and, at worst, meaningless. Recent decisions indicate that some jurisdictions retain only a perfunctory nod towards any time limitation at all. If there are no temporal limits for the mechanical test (as suggested by *Laddex*), that test necessarily encompasses the entire productive history of a lease. If courts must make a determination of subjective good faith prior to setting the limits of an objective test (as in *Jedlicka*), courts are, in reality, performing only a subjective good faith test. Several jurisdictions have already moved in the direction Professor Ritchie suggests. The collapse of the condition-covenant distinction, and concomitant rejection of the concept of automatic termination, is less of a betrayal of the *Clifton* two-prong test and more of a natural realization of its inherently inconsistent foundations.

However, eliminating the objective prong would not obviate the basic problem—there still must be a span over which to evaluate the good faith of the lessee or lessees. If a lessee is holding the lease for merely speculative purposes for a 2-month portion of a distressed period, but

the subjective prong, but the mathematical prong arguably is the more unpredictable and subjective prong.”).

206. *Id.*

207. *Id.*

208. *Id.* at 1007.

209. *Id.* at 984.

210. Mr. Ritchie states:

Of all of the risks in the calculation previously discussed, perhaps the most troubling when the market turns south is the lack of a set accounting period. Without a predictable period, a lessee cannot analyze if it should or should not hold on to a lease that begins to operate at a loss after a price drop.

Id. at 1003.

211. *Id.* at 1007.

thereafter obtains information that makes holding the lease reasonable (perhaps regarding a newly-discovered producing formation, or impending legislation, as in *Barby*), did the lease expire during the short bad-faith span, or was that too abbreviated a period to count? This thought experiment could also spread across two lessees; if the first lessee was in bad faith for a short period and then assigned it to the second, who was in good faith for a longer span, how wide should the temporal window be? Professor Ritchie suggests that eliminating the mechanical prong at least increases predictability for the lessee by guaranteeing that the window lasts exactly as long as the lessee remains in good faith about the future—i.e., as long as his view of the future prospects for profitability of the lease is not overly speculative. But a similar problem arises even from only a forward-facing perspective: how far into the “foreseeable” future represents a permissible peek? Knowing that oil price swings are fairly predictable, an oil lessee during a down period may reasonably believe that the lease will return to profitability by the next supercycle peak, in a decade. Is that too far in the future?

Further, the forward-facing and backwards-facing inquiries are substantively identical, even if framed differently: when looking backwards, one can be seen as asking whether the actual duration of unprofitability (or of impermissible speculation) would have been unreasonable at the beginning of the period. The problem remains that someone must always fix a chronological horizon for an analysis, whether we are looking backwards or forwards. If the parties do not perform that horizon-fixing in the lease contract, it is up to a court to make a policy decision.

Additionally, making the test a purely subjective one is unlikely to reduce costs. In a *Clifton* state, the mechanical prong can provide the lessee with a cheap filter for claims that are unlikely to succeed at trial. If faced with a paying quantities claim for a lease that failed to produce a profit over only a short period of time—e.g., six or seven months—the lessee has the ability to get the claim dismissed through the summary judgment procedure. The lessee would argue that the relevant circumstances show that this time frame is not a reasonable one and that the lease passes the objective test when examined over a longer period of time. The claim can then be dismissed. Similarly, a lessor in a state like Louisiana or Kansas can prevail without the substantial expense of trial if the dry revenue or cost calculation shows an operating loss over a four- or five-year period. The difficulty in such cases is why the chosen time spans are reasonable or unreasonable, a task that the next Part argues is not intractable and can be made from a fairly removed, evidence-light position. A court can look at prior decisions and make a broad *a priori*

determination of the reasonableness of a given period, subject only to minor individual tweaks. On the other hand, under a purely subjective test there is little possibility of a pre-trial dismissal of a case because the analysis requires the factfinder to look at *every* potentially relevant circumstance to determine whether the lessee had good motives. This is an evidence-intensive job, and thus one that greatly increases the cost of decision-making. Prior decisions will have reduced precedential value, since each demands a case-by-case evaluation of a lessee's intentions.

Though Professor Ritchie accurately notes many of the problems with it, the mechanical test is worth keeping. Further, because the time period issue applies to either a subjective or objective test, it needs to be given greater sense regardless of whether or not the prong is eliminated. This development is jurisprudentially possible. It is also desirable, because the broad reasonable time period standard is well-suited to the realities of oil and gas production. However, at present the paying quantities requirement is substantively underdetermined and therefore is fairly unhelpful in predicting results of prescribing behavior.

The mechanical prong is reflective of the basic structure of the mineral lease, especially the habendum clause. So is the concept of automatic termination. Both should be understood as features of the convergence of intent of the original leasing parties: they wanted the lease relationship to continue for as long as it was mutually-rewarding and no longer than that. What counts as "rewarding" might diverge at times for each party, and so both parties bore certain risks due to the other's incompatible incentives. The common ground, however, was at least profitable production, split at the rate spelled out in their contract.²¹² When this stopped for a sufficient period of time, the relationship was simply over without the requirement of any additional formalities. Beyond that, the behavior of the parties was constrained by express or implied covenants, with penalties for non-compliance. But an involuntary or voluntary cessation of production for a sufficient period of time did not require punishment; it simply meant the end of the lease. What counts as a "sufficient period of time" is the difficult part, but the idea that the lease termination is self-operative should not be. This understanding of contractual intent is to some degree both inferential and artificial, but personal experience indicates that it is also a fair understanding of how leasing parties actually think at the commencement of the relationship. Lessors, when asked, typically do not think that the lessee is entitled to stay on the property forever, regardless of how much

212. See 3 MARTIN & KRAMER, *supra* note 2, § 601.4. See also discussion *supra* Part I.

or little production is obtained from it.²¹³ This expectation is reflected in the restrictive language of the standard habendum clause, which explicitly premises continuation of the lease on the objective fact of production. The consistent judicial enforcement of a “paying quantities” requirement even when that phrase is not explicitly used in the lease forms part of the contractual expectations at the time of leasing. Crucially, the parties do not bargain for the lease continuing “as long thereafter as the operator remains prudent.” It is about a good result, rather than good behavior or motives.

There are few incentives to contractually fix the “reasonable period of time” and so it rarely happens. When it does, as in *Ridenour v. Herrington*, the proper accounting period becomes a rule rather than a standard. Similarly, there are species of self-terminating mineral interests whose lifespans are fixed by statutory rule; for example, the mineral servitude in Louisiana has a firm ten-year clock that starts and stops when production or operations occur on the encumbered land. No state legislatures have not shown any interest in creating similar rules for mineral leases in the secondary term. Nor have courts, instead opting only to adopt and apply the reasonable time period standard. Leaving it to a standard is the best way to apportion the various costs of rulemaking and decision-making.

The Louisiana mineral servitude has a rule limiting its non-productive lifespan, giving the servitude-owner a hard boundary but with the benefit of an entire decade of leeway on production. Because of this forgiving span and the minimal requirement of any production at all, there is little reason to sift through different fact scenarios to determine what counts as *sufficient* production. But with a mineral lease, the production condition demands contemporaneous and profitable production. And there are at least some factual circumstances which suggest that the proper time span for calling production “contemporaneous” is variable. As a pair of examples, oil and gas are sold with varying frequency, bringing in revenue at different rates, and some types of wells demand regular maintenance on different sorts of schedules, incurring costs at different rates, and so on.²¹⁴

213. The author of this Article has negotiated many mineral leases, generally on behalf of lessors, and finds this to be a common expectation among lessors.

214. Oil is typically stored in tank batteries near the well and is often sold out of those batteries to a transporter, who moves the oil to a market by truck. Gas, on the other hand, cannot be stored and so must be immediately diverted from the well to a pipeline to reach a market. As a result, the schedules and contracts for selling the two different products can differ significantly. For instance, gas is often sold to a “gathering” company or interstate pipeline at a fixed price over short durations through “spot” sales arrangements, while oil is more often sold to a transporter on a regular weekly or monthly basis, at whatever the current market rate. See 3 MARTIN & KRAMER, *supra* note 2 § 103. See also MARTIN & KRAMER,

Varying combinations of even these two factors implicate different possible ascriptions of “contemporaneous” in the vernacular, non-technical usage. Facially, this suggests a fact-sensitive approach is appropriate. Courts must employ *some* time frame for either a subjective or objective test, and the reasonable time period standard can be fashioned into a more useful guide for selecting that time frame.

B. Setting the Outside Boundaries

The *Clifton* court forbid a focus on an “arbitrary” time period for the objective prong, but some time period obviously still must be employed—even if it is simply the entire life of the lease. The case law reveals that courts have struggled mightily with determining the possible outside boundaries of any such time period. This problem precedes *Clifton* but the two-prong test in *Clifton* aggravated the confusion. This Subpart analyzes both the earliest and latest possible points of the inquiry.

Should the profitability of the lease prior to the end of the primary term ever be used in the analysis?²¹⁵ The *Paulus* decision in Ohio intimated that revenues and expenses before the secondary term are irrelevant.²¹⁶ However, it is not clear that this is necessarily the case under the basic framework of the paying quantities question. If a lease is producing only marginally at the end of the primary term, there is an open question of whether a secondary term even exists; after all, the typical habendum clause only allows for such a term if there is production in paying quantities by the end of the primary term. So *that* sort of paying quantities question necessarily looks to the production up to the end of the primary term. What is the relevant difference between this question and the *Paulus* problem, where the lessee wished to count part of the primary term period into the mechanical evaluation of profitability? The lease could not terminate for failure to produce during the primary term, but that is a separate issue from whether any actual production during that period “counts” as part of a broader window of current production. Stated another way, if pre-secondary term production could conceivably count against a lessee (in evaluating whether there was sufficient production at the end of the primary term), why should it never conceivably count for the lessee (in a *Paulus* situation)? There may be factual circumstances that render primary term production irrelevant in particular cases, but there does not

WILLIAMS & MEYER, MANUAL OF OIL AND GAS TERMS (“spot purchases (or sales) of gas”).

215. See discussion *supra* Part I (discussing the distinction between the primary and secondary term of a mineral lease).

216. 94 N.E.3d 73, 96 (Ohio App. Ct. 2017).

appear to be any *a priori* reason to confine the analysis to secondary term production in *all* cases.

The terminal point of the analysis has received more attention.²¹⁷ When should the evaluation of profitability (under the objective prong) and the efforts of the operator (under the subjective prong) end? Should profits or losses incurred after the suit is filed count? Several courts have considered such periods, such as the *Pshigoda* court in Texas.²¹⁸ The problem with including post-suit lease performance is that lessees often rationally scale back on efforts to maintain or increase profitability from a lease whose validity is under attack.²¹⁹ Why invest money and effort into increasing profits now if the lessor is alleging that the lease terminated twenty years ago? On the other hand, the lessor might be similarly prejudiced by post-filing performance—if the lessee ramps up efforts after the suit is filed, the lessee might be able to persuade the court that the recent productivity is more reflective of the lease’s current status.

The best answer to this problem is that the “back end” boundary of the analysis should be fixed by the date which the lessor alleges is the day the lease terminated. Post-lawsuit or post-demand lease performance is irrelevant to the question of whether the lease terminated on some date prior to the filing of the lawsuit.²²⁰ Further, all production after the date of alleged termination—whether prelawsuit or post—is irrelevant. Both Louisiana and Pennsylvania have taken this approach in *Middleton v.*

217. As in the discussions of the *Pshigoda*, *Laddex*, or *Middleton* decisions herein.

218. *Pshigoda v. Texaco, Inc.*, 703 S.W.2d 416, 419 (Tex. App. 1986) (stating “The second time period, slightly over a year and encompassing the period when litigation was pending, is also long enough to accurately reflect a profitability period and, additionally provide a contrast with pre-suit performance.”).

219. For instance, *see Noel v. Amoco Prod. Co.*, 826 F. Supp. 1000, 1015 (W.D. La. 1993) (stating “The court concludes that the institution of suit by the lessor for the total cancellation of the Noel leases prevented, for all practical purposes, the lessee and its operator from maintaining and repairing the producing wells on the leases.”).

220. Other authors agree that post-demand or post-petition performance should be excluded:

Should the period between the time of a lawsuit is filed challenging the perpetuation of a lease and the date of trial be included? Normally, it is clearly error by a court to inquire into the post-petition financial performance of a lease when the petition amounts to unequivocal repudiation of the lease. . . .

See Thomas P. Battle, *Lease Maintenance in the Face of Curtailed/Depressed Markets*, 32 ROCKY MT. MIN. L. FOUND. INST. 14, § 14.05 (1986).

*EP*²²¹ and *Lang v. Weiss*,²²² respectively. Such an approach takes the habendum clause seriously, by providing for a possible date of *automatic* termination without the possibility of a subsequent equitable “cure” for that termination. Sometimes lessors are intentionally or unintentionally ambiguous about when that termination occurred, but the negative consequences of such ambiguity can cut both ways.²²³ As a result, the clarity provided by more specific pleas of past termination accrues to the advantage of all litigants and to the court deciding the issue.

Unfortunately, the *Clifton* decision, and *Laddex*’s recent gloss on it, seems to threaten this commonsense solution. In *Clifton*, the court framed the question as to whether “paying production from the lease *has* ceased”—in the present tense—and barred consideration of any “arbitrary period” of time.²²⁴ The *Laddex* court appeared to take this reasoning to its logical end, agreeing with BP that “evaluating the question with respect to any particular time period violates *Clifton*.”²²⁵ It thus explicitly dispensed with the reasonable time period limitation for the first prong, and pointed out that the reasonable time period reference in *Clifton* was only as a factor in the second prong.²²⁶ Taken strictly, this implies that the “mechanical” test applies to the entire history of the lease up to the point it is submitted to the factfinder; a lease only fails that test if it operates at a net loss over its entire lifespan. It is unlikely that the *Laddex* court intended such a far-reaching result and did not explicitly say as much. However, the fact that this is even arguably a consistent extension of the court’s rationale is troubling. If post-“slowdown” profitability is always relevant to a determination of paying quantities evaluation, no matter how long, it is difficult to conceive of a real role for the first prong of the *Clifton* test. Does this not mean that later production can revive a lease that might otherwise have terminated *during* a long slowdown in profitability?

Still, it is important to note that the *Laddex* court did not expressly state that the analysis must be performed as of the date of trial, though BP did argue that this was the only sensible way to construe the “no limitation” conception. There is room for a future Texas court to get around *Laddex* because of this silence. Further, the court’s rejection of any

221. *Middleton v. EP Energy E & P Co.*, L.P 188 So. 3d 263 (La. Ct. App. 2d Cir.), *writ denied sub nom. Middleton v. EP Energy E & P Co.*, L.F., 192 So. 3d 773 (La.), and *writ denied*, 192 So. 3d 774 (La. 2016).

222. 70 N.E.3d 625 (2016).

223. These problems were present in the *Gloria’s Ranch v. Tauren* matter. See *Martin*, *supra* note 66, at 405.

224. 325 S.W.2d 684, 690 (1959) (emphasis added).

225. 513 S.W.3d 476, 485 (2017).

226. *Id.* at 486, n.10.

temporal limitation on the mechanical prong could be construed as dicta.²²⁷ For this Article's purposes, the issue is important insofar as it highlights the conceptual problems wrought by refusing to firmly fix the analysis at the point of alleged lease termination. Whatever the appropriate period of time leading up to October 31, 2006, it was that date which the lessor claimed was the day the lease terminated. Analyzing any profitability after that date implicitly means that the lease did not terminate on October 31, 2006—but that is a conclusion that can only come *after* an analysis of everything up to that point.

C. Development of the Reasonable Time Period Standard

A flexible standard is meaningless if it is not actually being flexed to different circumstances in broadly-predictable ways. It is hollow if there is no way of correlating, even in a very general way, those fact circumstances to actual time periods. The way to make those correlations is by having criteria for what does count and does not count as a correct application for a “reasonable” time period here. These criteria can come through courts explaining exactly what made a particular period of time reasonable in light of the particular facts of a given case. Practically speaking, it will also require appellate determinations that the lower court's fixing of the period was unreasonable in at least some cases. If no one is ever wrong about applying the label “reasonable” in a given context, it can be fairly said to be an empty label in that context.

Legal reasoning proceeds by use of categories and analogies, sometimes whether or not apt.²²⁸ A helpful way of looking at the time

227. The first line of attack by the court was that the jury charge improperly served to focus the jury” on the 15-months, by implying that this was *the* reasonable time period to consider. If the problem was just a faulty jury instruction which conflated a particular period with a reasonable period, the rest of the court's ruling may be dicta. Laddex originally alleged a lease termination due to a complete cessation of production from 2001 to 2002. It then amended several times to allege both complete cessation of production and failure to produce in paying quantities over various periods, before ultimately settling on October 31, 2006 as the termination date. Perhaps making an unequivocal claim of that date at the inception of the suit would have forced the court's hand.

228. OIL AND GAS LAW FOR A NEW CENTURY: PRECEDENT AS PROLOGUE 98, 102 (Patrick H. Martin ed., Matthew Bender 1997) (Go to Chapter Four, The Joint Operating Agreement-An Unsettled Relationship?, by Patrick H. Martin). Professor Martin emphasizes the unique role of analogy in law by stating: “Perhaps only lawyers can explain why a water pond is like a dynamite blast or an errant animal.” *Id.* (referencing *Rylands v. Fletcher*, 3 H. & C. 774, 159 Eng.

component of the paying quantities test is through an analogical category of reasonableness time limitations: waiting periods for “unreasonable” searches and seizures under Fourth Amendment jurisprudence. The Supreme Court’s method in *U.S. v. Banks* is instructive.²²⁹ The police in that case, suspecting Mr. Banks was selling cocaine from his home, obtained a warrant to search the apartment.²³⁰ Upon arrival, they knocked on the door loudly and announced their presence.²³¹ Mr. Banks was showering and did not answer. After 15–20 seconds, the officers used a battering ram and broke down the door.²³² They discovered cocaine and other contraband. Mr. Banks argued that the officers waited an unreasonably short period of time before entering his home and therefore violated his Fourth Amendment right. The Ninth Circuit crafted a four-part classification scheme for vetting knock-and-announce entries, claiming that such a system would aid in the resolution of the question of whether the entry was reasonable under the circumstances.²³³ The Supreme Court reversed, emphasizing that the jurisprudence on unreasonable searches consistently looks to the totality of circumstances of each case and eschewed bright-line rules.²³⁴ But this did not force the Court to shy away from those circumstances. To the contrary, Justice Souter’s opinion for the unanimous Court reviewed the totality of facts with particularity and in light of the overarching point of the game: protecting citizens against unreasonable searches.

In *Banks*, some of the factual circumstances were not relevant to the reasonableness of the delay; for instance, that Mr. Banks was in the shower at the time of the entry was irrelevant because that fact was not known to the police at the time.²³⁵ On the other hand, some of the circumstances were relevant: the police suspected Banks of having cocaine, which could be quickly disposed of if they tarried for very long.²³⁶ Had it been a piano, perhaps 15 seconds would not have been reasonable. As the Supreme Court stated, “Attention to cocaine rocks and pianos tells a lot about the chances of their respective disposal and its bearing on reasonable time.

Rep. 737 (1865), *rev’d in*, *Fletcher v. Rylands*, L.R. 1 Ex. 265 (1866), *aff’d in*, *Rylands v. Fletcher*, L.R. 3 H.L. 330 (1868)).

229. 540 U.S. 31 (2003).

230. *Id.* at 33.

231. *Id.*

232. *Id.*

233. *United States v. Banks*, 282 F.3d 699, 704 (9th Cir. 2002).

234. *Banks*, 540 U.S. at 36.

235. *Id.* at 39.

236. *Id.* at 40.

Instructions couched in terms like ‘significant amount of time,’ and ‘an even more substantial amount of time,’ tell very little.”²³⁷

Thus, the relevant factual circumstances should dictate how to determine reasonableness in light of our purpose. And the relevance of some sets of facts will be dependent on the existence or nonexistence of other sets of facts; they are interrelated and interdependent. That these are all circumstances of fact, rather than of law, does not render them unsusceptible to judicial scrutiny. Under the Court’s logic, a ten-second delay after knocking in a stolen piano case with broadly-similar factual circumstances to *Banks* would be unreasonable, even if the factfinder had determined otherwise.

The *Banks* opinion illustrates how the reasonable time period analysis should work out in the paying quantities domain: a court need neither construct artificial sets of putatively necessary or sufficient conditions, nor offer overbroad platitudes.²³⁸ Instead, courts should explicitly identify which particular circumstances were relevant to the reasonableness or unreasonableness of a given period. Related to this, appellate courts must collectively tie these circumstances to particular periods of time. This will unquestionably require a set of policy choices; as argued herein, a time period can only be “reasonable” in light of prescriptive objectives. But if and when courts within a given jurisdiction can coalesce around those choices, the interested parties (lessors and lessees) will be able to better understand the legal limits of their relationship.

This Article takes the position that, for a paying quantities analysis, the relevant fact conditions are few enough in type and effect that the range of possible time periods should be relatively narrow under most normal possible conditions. That is, there will not be many conceivable sets of circumstances that would make one year appropriate for one lease and six years appropriate for another lease. That is because this Article takes a relatively wide-apertured and rough-grained approach to the question as more consistent with the fundamental contractual and policy imperatives behind automatic termination. But in any case, the most important way to give greater sense to the issue is for courts to explain why they think particular fact circumstances are relevant. This is a greater necessity for a reasonableness standard of this sort than in other contexts: people have significantly more familiarity with the background values and fact scenarios implicated by cocaine busts or contract acceptance.

237. *Id.* at 42.

238. *Id.* (“Instructions couched in terms like ‘significant amount of time’ . . . tell very little.”).

Appellate courts can give shape to how fact circumstances should matter in fixing a reasonable time period in general by deciding and discussing what fact circumstances actually did matter in fixing a particular period under consideration. In *Dreher v. Cassidy Ltd. Partnership*, for instance, the appellate court remanded to the trial court because the parties purportedly did not present evidence of why eight months was a reasonable period of time under those circumstances. The court could have, instead, specified what *kind* of evidence that might be, given the factual record it did have on summary judgment. There were certain facts already in the record: the age of the lease, the location, the year of alleged termination, presumably the type of mineral produced, and so forth. What further relevant fact conditions needed to be proven to show that eight months was or was not reasonable? Simply pointing out why these fact circumstances, and the relations between them, were insufficient in *that case* would have provided explanatory guidance without transforming the standard into a rule. While this elucidatory opportunity is most obvious in a dispute like *Dreher*, it is available to courts and litigants at nearly every stage of a paying quantities fight. Courts can therefore give substance to the reasonable time period standard by explicitly correlating factual and legal circumstances to the time periods employed in specific cases. This would necessitate a more direct narration of the reasons why certain periods were or were not reasonable, whether during reversal or affirmance of a factfinder's decision.

The *Banks* decision is again instructive: given certain fact conditions, it is possible to say that 15 seconds is unreasonable for a pilfered Steinway but reasonable for a cocaine bust. It may be impossible to meaningfully distinguish between 15 and 30 seconds for the latter, and affirming courts can note whether and why it is a close call on appeal. The same narrative process is available to appellate courts reviewing a paying quantities case: "here's what the relevant facts were, here's the time period those circumstances suggested as reasonable, and here's why the lower court was right, wrong, or right enough in light of the ultimate purpose of the standard." Right now, statements of this sort are conspicuously absent from the jurisprudence.

To this end, courts would be wise to pick a baseline range that is usually applicable in light of the most widely-shared factual circumstances. For example, Louisiana's Second Circuit Court of Appeal noted in *Gloria's Ranch* that the state's courts tend to make the paying quantities evaluation over a 12-month to 18-month span.²³⁹ This is a judicial observation, not a rule or even a standard, but it will have an

239. 223 So. 3d 1202, 1211 (2017).

impact on how lessors and lessees behave in the face of litigation or potential litigation. If a lessor knows that he will be unlikely to establish an operating loss for more than twelve months in normal conditions, and he and his lawyer see nothing making the lease conditions abnormal, that lessor is much less likely to file suit in the first place. An operator who sees operating losses on a certain lease for three straight years will be more willing to bargain with the lessor for a settlement, if the operator understands that the normal range tends to be capped at around half that time. This influence will exist, to some degree, whether the second prong can save an unprofitable lease (as in Texas) or can kill a barely profitable one (as in Louisiana). A lessee in a Texas-type jurisdiction recognizes that its falling outside of profitability for much longer than a “baseline” range means that it will be unlikely to win the easy way and may be more willing to settle than attempt to win the harder way. By providing at least some degree of predictability, a more constricted range of time periods for the paying quantities analysis can reduce or prevent the costs of litigation.

Identifying a “normal” range of plausible dates seems difficult when the actual range of accounting periods chosen in past cases varies wildly and there is little apparent rhyme or reason to those periods, but this is when courts must embrace their policy-fixing, or at least policy-framing, power. Ultimately, a court with precedential authority in a given jurisdiction should affirmatively choose a span of time that operates as a “center of gravity” for the analysis. And though it is a policy choice, it does need to be a wholly arbitrary selection. The 12-month to 18-month span referenced in *Gloria’s Ranch* is both short enough and long enough to comport with the broad guiding principles enunciated in the jurisprudence and implicit in the lease contract: it is long enough to encompass the seasonal cycles for natural gas and oil, takes into account tax considerations for the lessee, and does not require a look down the road that far exceeds ordinary notions of contemporaneity. Simpson has proposed a similar approach, arguing that courts should look simultaneously to the yearly seasonal cycle and the two-year cycle for oil wells.²⁴⁰ There are varying horizons for what counts as “current” in our everyday lives, but few people think of possible happenings, say, a seven years down the line as being anything but speculation. That an oil company might have a seven-year plan for profitability or might one day reasonably think that the market is turning after seven bad years, is probably not an expectation shared by the parties at the beginning of the lease relationship. Certain factual circumstances will alter these considerations in one direction or another, and those circumstances should be articulated by courts facing them. This approach recognizes that the issue is not in

240. Simpson, *supra* note 8, at 382.

identifying one platonically-correct time period, or a time span that is somehow inherent to the concept of “reasonableness.” Neither exists. Instead, it is about giving sense to an existing but underdetermined facet of a legal standard.

CONCLUSION

The basic thesis here is not that appellate judges are solely responsible for further developing the accounting period standard. Instead, it is a task that should develop through courts as broader institutions, with litigants initially selecting periods and providing reasons to trial courts, who make the fact-finding decisions, and with appellate judges specifically articulating what made the chosen periods reasonable or unreasonable. Subsequent litigants and courts then have the benefit of an explicit rationale for a time period under a given set of facts, which can be compared or contrasted with the facts of a future dispute. That this sort of continuous clarification has not happened yet is likely the result of an odd feedback loop: courts have typically refrained from directly discussing the time period issue, giving litigants little legal precedent to base their arguments on and resulting in less judicial discussion of relevant legal conflicts. For a long time, the time period issue was nearly hidden in plain sight. Evolution occurs through a combination of selective pressures and chance. With the spike in lease litigation after the shale explosion of the mid-late 2000s, a few high-profile decisions implicating the appropriate time period resulting from that litigation, and increased scholarly scrutiny of the issue, the environment may be ripe for development.