Marginal Wells and the Doctrine of Production in Paying Quantities

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I. INTRODUCTION

The U.S department of Energy states that there are over 396,500 marginal – or “stripper” – oil wells in the U.S. and over 322,000 stripper gas wells.\(^1\) A stripper well is defined as any well making less than 10 bpd of oil or 60 mcf/day of gas.\(^2\) With so many walls falling into the marginal category, virtually every landman has had – at one time or another – a stripper well within his or her area of responsibility.

Sustaining production from these marginal wells is often good business, and it is beneficial to the nation’s energy needs. Indeed, stripper wells account for nearly ten percent of the country’s oil and gas production.\(^3\) A well (or wells) that becomes unprofitable, however, risks jeopardizing the lease which is held by its production.

This is due to the doctrine of Production in Paying Quantities (or “PPQ”). Stated in its simplest form, “If a well pays a profit, even small, over operating expenses, it produces in paying quantities.”\(^4\) A typical habendum clause will state that “this lease is for a term of ___ years from this date (called the “primary term”) and as long thereafter as oil and gas, or other hydrocarbons are being produced from said land or land with which said land is pooled hereunder.”\(^5\)

It is well settled law – at least in the state of Texas – that the term “produced” when used in an oil and gas lease means substantially the same thing as “produced in paying quantities.”\(^6\) In other words, in the absence of express language to the contrary, in order to maintain a lease beyond its primary term with production, it must be production in paying quantities.\(^7\) As such, and as most oil and gas professionals are aware, an operator may perpetuate the life of such a lease beyond its primary term only by production in paying quantities or by some sort of savings clause such as a shut-in royalty clause, cessation of production clause, etc.\(^8\)

Some have questioned the wisdom or need for such a doctrine, noting that the royalty owner always receives a cost free share of the production regardless of whether such production is in paying quantities. If the operator wishes to continue operating his well at a loss, that’s his

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\(^1\) B.A., University of Texas, 2003; J.D., with honors, University of Texas School of Law, 2007. Landman, Anadarko Petroleum Corporation, Houston, Texas.

\(^2\) Id.

\(^3\) Id.

\(^4\) Garcia v. King, 164 S.W.2d. 509, 511 (Tex. 1942) (citing Gypsy Oil Co. v. Marsh, 248 P. 329, 334 (Okla. 1926)).


\(^6\) E.g., Clifton v. Koontz, 325 S.W.2d 684 (Tex. 1959).

\(^7\) Id.

\(^8\) E.g., Hydrocarbon Mgmt v. Tracker Exploration, 861 S.W.2d 427,432 (Tex. App. 1993).
business, they claim. Others who support the doctrine point to the potential for abuse: enabling operators to hold large tracts of acreage for a pittance of royalty. Allowing a lease to be held with unprofitable production, they claim, denies royalty owners the full benefits of the deal for which they bargained. The debate is all but moot however; the doctrine is the law and it shows no signs of abating. Moreover, it remains a frequent source of contention and litigation between lessee and lessor.

The doctrine is applicable to marginal wells of all types, but disputes appear to be more prevalent in gas wells due to the low cost of natural gas (especially compared to oil) and also due to the fact that lease pooling clauses, farm out agreements, and state regulatory and conservative bodies typically assign more acreage to a gas well than to an oil well - thus increasing the allure of maintaining an unprofitable well for speculative purposes.

The primary purpose of this document is to explore the importance and implications of the doctrine of Production in Paying Quantities, and to highlight some of its complications. Part two provides a simple overview of the case history and development of the doctrine along with an analysis of its basic application. Part three illustrates many of the complications that have developed since the doctrine’s introduction. Part four examines a sampling of some of the exceptions to the doctrine. Part five, conclusion, provides a brief summation of the writer’s recommendations and suggestions.

II. BACKGROUND & ANALYSIS: KING AND KOONTZ

The doctrine that production must be of a certain or sufficient quantity is virtually nationwide. Moreover, this concept is arguably as old as the industry itself. For the purposes of Texas law, however, any examination of the PPQ doctrine must be prefaced with a review of the Texas Supreme Court PPQ case law pillars: Garcia v. King and Clifton v. Koontz.

A. Garcia v. King

Production in Paying Quantities became the law of the land in Texas in 1942 in Garcia v. King. The case involved a lease with six (barely) producing oil wells; wells that were producing so little that the wages paid by the lessee to operate them completely consumed the revenue. The lessors, receiving only 8 cents a day for a lease that spanned 7500 acres, sued to cancel the lease. The habendum clause of the lease stated that it would be for a term of “10

9 See e.g., R. Bledsoe & J. Scott, The Ten Most Regrettable Oil and Gas Decisions Ever Issued By the Texas Supreme Court – And a “Winner,” ADVANCED OIL & GAS LAW SEMINAR, Ch. H (Univ. Tex. 1990).
11 E.g., FORM 675 OIL AND GAS LEASE, supra note 5 at 2-15; Tex. Railroad Comm’n Final Order, Oil and Gas Docket No. 01-0263787 at 2-3.
12 Garcia v. King, 164 S.W.2d. 509 (Tex. 1942); Clifton v. Koontz, 325 S.W.2d 684 (Tex. 1959).
13 King, 164 S.W.2d 509.
14 Id. at 510.
15 Id.
years... and as long thereafter as oil, gas, and other minerals is produced from said land hereunder.”

The primary issue occupying the court’s analysis was whether or not “produced” as it was used in the context of the habendum clause meant “produced in paying quantities”. Indeed, at the outset of the case, the court had already announced that “it is clear that production was not in paying quantities when the primary term expired.” The focus of the court’s analysis then was less on the underlying facts of the particular case and more on general principles of oil and gas lease interpretation. As such, the court devoted the majority of its opinion to a survey of the two competing camps.

In one corner stood jurisdictions such as Illinois, West Virginia and Kentucky which had rendered a strict literal interpretation of the lease, generally holding that mere production was sufficient to maintain the lease. In the other corner were jurisdictions like Oklahoma, Ohio and Montana which interpreted produced to mean produced in paying quantities. One such jurisdiction noted that “the very purpose of the landowner in executing the lease is to have the oil and gas... produced and marketed so that he may receive his royalty therefrom, and the purpose of the lessee is to discover and produce oil and gas in such quantities as will yield him a profit.” This appears to have been the majority rule at the time (as it is now), and the Texas Supreme Court adopted it, terminating the lease.

B. Clifton v. Koontz

*Clifton v. Koontz*, decided seventeen years later, allowed the court to refine the broad strokes it had made in *King*. The case involved a single gas well on a 350 acre lease. The lessor sought cancellation of his lease, alleging a failure to produce in paying quantities by citing a two month period where the well operated at a loss. The court, in affirming the validity of the lease, took the opportunity to promulgate a number of qualifications to the Production in Paying Quantities doctrine.

First, in what has been called the Marginal Well Doctrine, the *Koontz* court indicates that “there can be no arbitrary period for determining the question of whether or not a lease has terminated...”. Since this case, Texas courts have applied the test over a reasonable period of time based on the facts of the case; courts have used time periods as brief as six months or as

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16 Id.
17 Id.
18 Id.
19 Id. at 511.
20 Id. at 510-511; LOWE ET AL., supra note 10, at 189-90 (citing 2 E. Kuntz, A Treatise on the Law of Oil and Gas § 26.5 (1987)).
21 *King*, 164 S.W.2d at 510-512.
22 Id. (citing Gypsy Oil Co. v. Marsh, 248 P. 329, 334 (Okla. 1926)).
23 Id.
25 Id.
26 Id.
27 Id. at 690.
long as two years. Typically, however, courts will not consider periods of less than a year given the fluctuating nature of both production and prices.

Second, while reiterating the King holding, the court made clear that the PPQ doctrine is applied in a two-step manner. The first step strictly looks at revenue in excess of operating expenses over a reasonable period of time. If, after this calculation is made, the well is determined profitable, the analysis is over, and the lease is still in full force and effect. If however the calculation reveals a loss, the analysis proceeds to the second step of the doctrine: whether a reasonably prudent operator would continue to operate the well for the purpose of making a profit and not for speculation.

Third, in deciding whether a reasonably prudent operator would continue to operate the well, the court lists a number of factors for consideration: the depletion of the reservoir, the price at which the production is sold, the relative profitableness of other wells in the area, the operating and marketing costs of the lease, the net-profit, the lease provisions, and a reasonable period of time under the circumstances. Fourth, the court points out that the doctrine of PPQ extends beyond production and includes the operator’s capability (or lack thereof) to market the production for a profit. This would seem an obvious conclusion since if the production is not marketed, no revenue can be obtained and profit would be impossible. Nevertheless, Texas courts have been forced to reemphasize this point in cases since Koontz. “Thus, no matter how great the potential production may be or how many million cubic feet of gas may have been flared, there would be no production or production in paying quantities unless there was an available market.”

C. Applying the Test

In applying the test, the burden of proof lies with the lessor to establish a lack of PPQ. Koontz’s two-step test has become the hallmark of PPQ case law, and its satisfaction is necessary to meet one’s burden of proof in any allegation that a lease has terminated for lack of PPQ. Note then that the lessor has the burden of proving not only that the well (or wells) in question is unprofitable, but must also show that a reasonably prudent operator would not continue to operate the well for a profit. In the event of litigation, the issue of whether to apply the paying quantities test is a question of law for the judge. However, once the decision has been made to apply the test, the issue of whether the well at issue is producing in paying quantities is typically

29 LOWE ET AL., supra note 10, at 193.
30 Koontz, 325 S.W.2d at 690; LOWE ET AL., supra note 16, at 191.
31 Id.
32 Koontz, 325 S.W. 2d at 691.
33 Id.
34 Id.
35 E.g., Gulf Oil Co. v. Reid, 337 S.W.2d 267 (Tex. 1960).
36 Id. at 270.
a question of fact for the jury to decide.\textsuperscript{40} It should be noted that it is possible for a court to hold that a well is producing in paying quantities as a matter of law where the lessee-operator can definitively establish a profit from the well.\textsuperscript{41}

Profit over operating expenses sounds simple, but it is worthwhile to examine how it is calculated. Generally speaking, PPQ is determined by measuring the revenue from the sale of the well’s production and deducting therefrom the royalty owed to the lessor(s), severance taxes, and operating expenses.\textsuperscript{42} It should be noted, however, that “sunk” costs such as the lease acquisition costs and the costs of drilling and equipping the well are \textit{not} operating expenses and as such, are not taken into account when determining whether a well is producing in paying quantities.\textsuperscript{43} Therefore, even though the expenses of drilling and equipping may never be recouped and the overall endeavor results in a loss, if the operator-lessee is making a profit over the actual cash he must pay out to continue operating the well, he is entitled to continue operating said well.\textsuperscript{44} It is of course not surprising that in virtually every PPQ dispute between lessor and lessee, when this two-step test is being applied, the lessor seeks to include as many items as possible into the expense column, endeavoring to show the court that the well in question is unprofitable. The lessee in turn will naturally go to great lengths to limit the expenses attributable to the well in question or its production in order to push the well out of red in the eyes of the court.

III. \textbf{ISSUES AND PROBLEMS ENCOUNTERED IN APPLYING THE DOCTRINE}

The doctrine of PPQ works great – except when it doesn’t. Most of the equation is relatively straightforward;\textsuperscript{45} it is the definition of operating expenses, however that warrants elaboration. Much of the analysis involved in defining this term hinges on whether said expense is an ordinary and recurrent expense (as opposed to an extraordinary and/or largely non-recurring expense) and whether said expense is directly associated with the well or production therefrom.\textsuperscript{46} What is and is not included in the PPQ equation – or the question of how one exhaustively defines “operating and marketing expenses” is a litigious issue.

\textbf{A. Overriding Royalty Interests}

It is important to point out that, at least in Texas, any overriding royalties paid from the well are typically credited to the revenue stream in the PPQ equation.\textsuperscript{47} In other words, “the

\begin{footnotesize}
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\item \textsuperscript{40} Evans v. Gulf Oil Corp., 840 S.W.2d 500 (Tex. App. 1992) (recognizing that production in paying quantities is normally a fact question but upholding summary judgment for lessee finding that the well in question was producing in paying quantities as a matter of law).
\item \textsuperscript{41} Id. at 503 (citing Skelly Oil v. Archer, 356 S.W.2d 774, 783 (Tex. 1962); Morgan v. Fox, 536 S.W.2d 644, 650 (Tex. App. 1976) (discussing operator’s summary judgment motion including affidavits and exhibits of production and expense information).
\item \textsuperscript{42} Skelly Oil Co. v. Archer, 356 S.W.2d 774, 780-782 (Tex. 1961).
\item \textsuperscript{43} Id. at 781.
\item \textsuperscript{44} Pshigoda v. Texaco, 703 S.W.2d 416, fn3 (Tex. App. 1986).
\item \textsuperscript{45} Severance tax rates and incentives are beyond the scope of this paper. However, a good synopsis can be found at the Texas Railroad Commission’s website, http://www.rrc.state.tx.us/programs/og/severancetax.php
\item \textsuperscript{46} LOWE ET AL., \textit{supra} note 10, at 191; \textit{see also} Skelly Oil Co., 356 S.W.2d 774; Pshigoda, 703 S.W.2d 416; Lege v. Lea Exploration Co., 631 So.2d 716 (La. App. 1994).
\item \textsuperscript{47} LOWE ET AL., \textit{supra} note 10, at 192.
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entire income attributable to the contractual working interest created by the original lease is to be considered.”

48 As such, when calculating the PPQ equation, an operator-lessee may include in his revenue stream an overriding royalty paid to a third party.

Given this particular aspect of the PPQ analysis, it is theoretically possible – where a well is burdened by an overriding royalty – for an operator-lessee to be losing money on a well but nonetheless maintain the lease by production in paying quantities. 49 One should be cautioned however, against viewing the ORRI as an absolute safe-haven against lease termination. While the Koontz opinion does not expressly say so, it appears that the ORRI at issue was one retained in a lease assignment. Therefore, this expense could conceivably be contributed to a lease acquisition cost. Likewise, overrides carved out in order to compensate a landman, lawyer or geologist could also be dismissed as consideration for costs which would otherwise have been sunk. An ORRI carved out in order to pay a pumper or to otherwise compensate for ongoing lifting expenses is far less likely to avoid the expense column of the PPQ calculation.

B. Depreciation

As a general criterion, depreciation is not included in the PPQ analysis, at least not as that term is used in most accounting and tax parlance. 50 However, it is necessary to elaborate on what kind of depreciation is being referenced. Tax depreciation or book depreciation is not taken into account when determining PPQ. 51 These deductions, while consistent with accepted accounting standards and beneficial for an operator’s tax burden are excluded from the analysis for the simple reason that they do not actually result in any out of pocket expenses for the ongoing operation of the well. 52 In the words of the Koontz court, “depreciation is nothing more than an accounting charge of money spent in purchasing tangible property and if the investment itself [i.e. the sunk cost] is not to be considered… than neither is depreciation.”

The only method or type of depreciation which can possibly be included in the PPQ analysis is “actual physical” depreciation of salvable material. 54 For example, where an item of well equipment has been totally written off and no additional (book) depreciation is being taken, the item in question likely still has salvage value, and the ongoing use of that equipment lessens said salvage value. 55 “The proof may be difficult and the reduction in value may be slight, but the fact remains that there is ‘physical depreciation’ which is properly chargeable to lifting expense.”

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48 Id. at 188; see also Clifton v. Koontz, 325 S.W.2d 684, 692-693 (Tex. 1959).
49 By way of illustration, a well earning $500 per month, with $350 operating expenses, on a lease burdened by a 1/5 lease, a 5% override and $30 in severance taxes would produce a monthly cash flow of -$5, but from a PPQ analysis it would be profitable by $20 per month.
51 Id.
52 Id.
53 Koontz, 325 S.W.2d at 692.
54 Skelly Oil Co., 356 S.W.2d at 781.
55 Id.
C. Overhead

In general, overhead and administrative charges which are directly attributable to a particular well or the expense of its production are considered operating expenses.\(^{57}\) However, one must distinguish this from overhead and administrative costs which exist regardless of whether the well in question is producing.\(^{58}\) “Ordinary business experience would indicate that as the elimination of a single well would not materially reduce such expense, it should not be included as overhead.”\(^{59}\)

These distinctions, while seemingly logical, can create difficulties for the operator seeking certainty or the royalty owner seeking termination. Certainly, the salary of a secretary or the electricity bill for the corporate headquarters would be excluded from the calculation.\(^{60}\) Conversely, insurance and transportation costs, as they are traceable to the well, would be included.\(^{61}\) What of the wages for local production support personnel and field foremen? Clearly these costs are attributable to production, but such individuals most often service multiple wells. Simply prorating the sum of their wages over the total number of wells that they service may not be sufficient to warrant a deduction under operating expenses given that the total expense of their wages is unlikely to be affected by the loss of a single well.\(^{62}\)

D. Reworks

A series of Texas Appellate Court cases provides some authority to the effect that “as a matter of law, reworking expenses are excluded in deciding whether a well is profitable.”\(^{63}\) This was the holding in \textit{Pshigoda v. Texaco}, where the Seventh District Court of Appeals affirmed a trial court’s jury instruction to exclude the cost of squeeze cementing a well to repair a casing leak.\(^{64}\)

“A reworking expenditure is analogous, and closely related, to the initial drilling expenses. It is usually a one time, single expense item, that by the [lessor’s] own witness, is treated as a capital investment. Because it is not an ongoing expense, the operator may eventually recover it if the well continues to show a profit above normal operating expenses, just as the operator may eventually recover the initial drilling and equipment costs. Thus, it is logical and consistent with Koontz and Skelly, to permit the jury to exclude reworking expenses…”\(^{65}\)

\(^{57}\) \textit{Id.}\n
\(^{59}\) Ladd v. Eagle, 695 S.W.2d 99, 108 (Tex. App. 1985).\n
\(^{60}\) See \textit{e.g.}, LOWE ET AL., supra note 10, at 192; Hinerary v. Kaiser, 738 P.2d 137 (Okl. 1981).\n
\(^{61}\) Peacock v. Schroeder, 846 S.W.2d 905, 909 (Tex. App. 1993).\n
\(^{62}\) See Ladd v. Eagle, 695 S.W.2d at 108.\n
\(^{63}\) Pshigoda v. Texaco, Inc., 703 S.W.2d 416, 417 (Tex. App. 1986).\n
\(^{64}\) \textit{Id.}\n
\(^{65}\) \textit{Id.} at 418-419.
Since that 1986 holding, the mantra has caught on. “Reworking expenses are part of the capital investment,” has been uttered by the eighth, sixth, and thirteenth district courts of appeals. Even the Fourth District Court could not help but sneak a “nor are reworking expenses included,” remark into the footnote of a case that did not involve a rework. Given that none of these cases after Pshigoda implicated the issue of whether a rework constituted an operating expense, it would be tempting to dismiss their echoes as mere dicta were it not for the sheer number of jurisdictions parroting the phrase.

The holding is a potential source of confusion for a number of reasons. First, many if not most rework operations are not capital expenditures; rather, under modern accounting methods, such costs are usually considered operating expenses. The Pshigoda case, therefore, stands out due to the fact that witnesses for both the lessee-Texaco and the lessor-Pshigoda stipulated that the rework at issue was a capital expenditure. In light of this stipulation, one is forced to question whether a rework – if it is expensed under the operator’s accounting methods – remains excluded in determining whether a well is producing in paying quantities. Is the infrequency of the operation sufficiently dispositive to exclude it from the profitability analysis despite the fact that said operation will be expensed? If a proposed workover to restore or improve production would knowingly cost more than the present value of the estimated remaining recoverable reserves, can the well accurately be described as producing in paying quantities?

In Lege v. Lea Exploration Company, Inc., a 1994 case from Louisiana’s Third Circuit Court of Appeal, the court, relying heavily on the Koontz and Pshigoda cases, closely analyzes the general classification of expenses under the PPQ doctrine. The expenditure at issue in the Lege case was not a rework but the installation of a saltwater disposal system. While echoing the mantra that a rework is not included in the PPQ analysis, the court confirms that any analysis of whether a cost is to be included as an "operating expense" should harmonize with generally accepted accounting standards. The cost of the saltwater disposal system then was found to be a capital expense and excluded from the PPQ analysis thereby keeping the well profitable and the lease alive. This is not surprising for in such a context, financial accounting would dictate that the acquisition of this equipment would be treated as a capital expenditure.

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66 Abraxas Petroleum Corp. v. Hornburg, 20 S.W.3d 741, 756 (Tex. App. 2000) (citing Pshigoda v. Texaco) (involving a dispute between parties to a Joint Operating Agreement; case did not involve lease termination or the issue of whether a rework constituted an operating expense).
71 Pshigoda, 703 S.W.2d at 417.
72 631 So.2d 716 (La. App. 1994).
73 Id. at 718.
74 Id. at 718-719.
75 Id.
76 WRIGHT & GALLUN, supra note 70, at 181.
The treatment for reworks under accounting standards is different, however. Under applicable oil and gas accounting methods, “workover costs are expensed as production expense, specifically lease operating expense”.

An examination of many publicly traded E&P companies’ recent Form 10-K filed with the Securities and Exchange Commission confirms that workovers are considered operational, not capital expenses. It is true that accounting methods, even at the publicly traded level, are not perfectly uniform. Nonetheless, workovers appear to be designated as operating expenses regardless of whether the filing entity is using Successful Efforts or Full Cost methods of accounting.

Second, it must be noted that “rework” is a notoriously vague term, and neither the *Pshigoda* court, nor any other court to comment on a rework’s applicability to PPQ has attempted to define the term. Indeed, even within oil and gas contracts, the precise meaning of the word remains elusive. Many oil and gas instruments which use the term do not define it at all; even where a definition is provided, it is often so vague as to be rendered useless. The ’89 version of the AAPL model form Joint Operating Agreement, for example, defines “rework” as “an operation conducted in the wellbore of a well after it is Completed to secure, restore, or improve production in a Zone which is currently open to production in the wellbore.” Such an ambiguous description arguably encompasses virtually anything one would wish to do to a well. In contrast and by way of illustrating the myriad of operations which are potentially encompassed by the term, the Oklahoma Tax Commission Rules include a detailed (and as such quite rare) definition which states in part,

“‘Workover’…. includes, but is not limited to, acidizing, reperforating, fracture treating, sand/paraffin removal, casing repair, squeeze cementing, installation of compression on a well or group of wells or artificial lifts on oil, gas, or oil and gas, wells, including plunger lifts, rod pumps, submersible pumps and coiled tubing velocity strings; downsizing existing tubing to reduce well loading; downhole commingling; bacteria treatments; upgrading the size of pumping unit equipment; setting bridge plugs to isolate water productive zones from oil or gas productive zones, or any combination thereof.”

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77 Wright & Gallun, supra note 70, at 156.
78 The terms “workover” and “rework” are used synonymously in this paper as they are used synonymously and/or interchangeably throughout the industry and oil and gas case law; see e.g., El Paso Production Co. v. Valence Operating Co., 112 S.W.3d 616 (Tex. App. 2003); Abraxas Petroleum Corp. v. Hornburg, 20 S.W.3d 741 (Tex. App. 2000).
80 Id.
81 Am. Ass’n of Prof’l Landmen, FORM 610 MODEL FORM OPERATING AGREEMENT – 1989, Article I Definitions, reprinted in Lowe et al., FORMS MANUAL, supra note 5 at 5-22 (the definition continues, “Such operations include, but are not limited to, well stimulation operations, but exclude any routine repair or maintenance work or drilling, Sidetracking, Deepening, Completing, ReCompleting, or Plugging Back of a well.”).
Moreover, not all reworks are a “one time, single expense item” as the *Pshigoda* court maintains. They rework because of the same reasons they were reworked before: paraffin buildup, for example, are often recurring. Thus, it would strain credulity, and an operator would be ill-advised, to assume that all reworks regardless of their nature are excluded from the PPQ calculation.

**E. TCOP**

It must be noted that the PPQ analysis has no relevance when it is alleged that a lease has terminated due to a complete lack of production. This distinction is important in light of the holding of *Koontz* and subsequent cases that require the PPQ analysis to be based on a well’s production over a reasonably period of time, often a year or more. This has led to confusion and litigation where the well holding a lease has completely ceased producing for a period of time longer than permitted by the lease or, in the absence of a specific provision in the lease, longer than that permitted under the Temporary Cessation of Production Doctrine.

Most modern leases include a cessation of production provision. For example, many leases provide that “...if after discovery and production of oil or gas, the production thereof should cease from any cause, this Lease shall not terminate if lessee commences drilling operations or reworking operations within ninety (90) days thereafter…” Thus, if after the expiration of the primary term, production ceased on a theretofore producing well and neither production nor drilling or reworking operations were commenced within 90 days, the lease would terminate regardless if production were restored or operations commenced a few weeks later even if the well showed a profit for the year.

Contrast this to a scenario wherein a marginal well is shut-in for a few weeks to build up pressure, then produces for a short period of time, and then shut in again. Here, the cessation of production does not exceed (or even approach) the 90-day mark; the cessation of operations clause is not implicated. In such a case, a PPQ analysis is indeed warranted in order to determine if such sporadic production is profitable.

**F. Minimum Royalties**

Another source of potential confusion lies in leases containing minimum royalty provisions. Such provisions often provide that upon obtaining production, in the event the royalties paid thereon do not meet or exceed a specified dollar amount (usually a set amount per acre), the lessee is required to pay the difference to the lessor. Such a provision, without further clarification, is susceptible to speculation that the payment of the minimum royalty can be construed as production in paying quantities. Alternatively, it may be supposed that an express

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87 *AM. ASS’N OF PROF’L LANDMEN, TEXAS LANDOWNER’S OIL & GAS LEASE, reprinted in LOWE ET AL., FORMS MANUAL, supra* note 5 at 2-11, 2-16.
88 *Bachler v. Rosenthal*, 798 S.W.2d at 650.
provision such as this would work to exclude the implied requirement of production in paying quantities.

The author is unaware of any case (at least any Texas case) which addresses the issue. While the interpretation of any lease is predicated on the exact language of that particular lease, generally speaking, it is unlikely that such a provision would excuse an operator from its obligation to produce in paying quantities. In Texas, an oil and gas lease is essentially the conveyance of a fee simple determinable from the lessor to the lessee with the lessor retaining the possibility of reverter. The lessee also receives, of course, any rights bargained for in the contract. There is a distinction, therefore, between those obligations contained within the lease that are conditions of title and those that are covenants of the bargained contract. Production in paying quantities is a condition of the fee simple determinable while a minimum royalty (at least as it is worded as illustrated herein) like a typical royalty is a mere covenant, a debt owed. The difference of course being that when the condition is violated it effects a termination of the lease, but when a covenant is breached it merely gives rise to a claim for damages. Therefore, an operator would have difficulty arguing that the payment of a minimum royalty would excuse him for the failure to maintain production in paying quantities. On the contrary, such a minimum royalty provision would likely only exacerbate the already thin profit margin of the well in question.

IV. EXCEPTIONS TO THE RULE

There are instances where the doctrine of Production in Paying Quantities will not apply or where the phrase “paying quantities” may not necessarily implicate the doctrine as outlined above. First, it must be pointed out that whatever is implied can always be expressly denied. While courts will read “in paying quantities” into a lease that provides merely for “produced” or “production”, many attentive lessees have expressly drafted their leases to state that production of any kind is sufficient to perpetuate the lease. For example, the lease will provide that it will be for a term of three years and "as long thereafter as operations, as hereinafter defined, are conducted upon said land with no cessation for more than ninety (90) consecutive days." The term “operations” is thereafter defined to include, among other things, “production of oil, gas, sulphur or other mineral, whether or not in paying quantities.”

Where a lease is drafted in such a manner, the express provisions will control. For example, in Anadarko v. Thompson, the Texas Supreme Court went so far as to give effect to the express language of a habendum clause stating, “This lease shall remain in force for a term of

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89 Jupiter Oil Co. v. Snow, 819 S.W.2d 466, 468 (Tex. 1991).
91 Stanolind Oil & Gas Co. v. Barnhill, 107 S.W.2d 746, 748 (Tex. App. 1937).
92 Concord Oil Co. v. Pennzoil Exploration & Prod., 966 S.W.2d at 460.
93 Id.
94 See e.g. Ice Bros. v. Bannowsky, 840 S.W.2d 57, 58 (Tex. App. 1992).
95 Id.
one (1) year and as long thereafter as gas is or can be produced.”97 The express language in that lease allowed the operator to escape a PPQ analysis, permitting the perpetuation of the lease not with production, but the mere capability of production in paying quantities.98

This artful drafting is a doubled-edged sword however with savvy lessors adding their own modifications. Clauses defining production in paying quantities as revenue from a well exceeding "the well’s operating costs by at least fifteen percent (15%) over any given consecutive six (6) month period."99 Here the lessor has not only expanded the margin of profitability that the operator must maintain but has also limited what would otherwise have been a "reasonable period of time," to a mere six months.100

Additionally, there may be instances in which the PPQ analysis is not appropriate every time the phrase, “production in paying quantities” is used in a lease. “That phrase has different meanings under different situations.”101 Specifically, where the phrase is used outside of the habendum clause, it is possible that the standard analysis as outlined above may not be implicated.

For example, it is not unusual for a sophisticated lessor to request an “off-set well” provision in his lease, obligating the lessee to drill off-setting wells, release acreage, or compensate the lessor in the event, “a well or wells producing oil or gas in paying quantities should be brought in on adjacent land and within offset distance ... and draining the leased premises, or acreage pooled therewith...”102 Similarly, a provision in an oil and gas lease obligating the lessee to drill additional wells in the event oil or gas is found in paying quantities may not necessitate the kind of PPQ analysis demonstrated herein. In scenarios such as these, the provisions are not necessarily triggered if the expenses of a well exceed its revenue. Rather, the analysis centers on whether the production that is obtained is “in such quantities as would, taken in connection with other conditions, induce ordinarily prudent persons in a like business to expect a reasonable profit on the whole sum required to be expended....”103

In other words, when “production in paying quantities” is used in this context, it is unlikely that one excludes the “sunk” cost of drilling and equipping the well in determining whether the well in question (either the operator’s own or the offset) is producing in paying quantities. The basis for this distinction of analysis is that, in a traditional habendum clause PPQ analysis, the well has already been drilled, and the question is only whether the production thereafter is sufficient to continue its operation.104 In a separate context like that seen here, the

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97 94 S.W.3d. 550, 553 (Tex. 2003).
98 Id.
100 Id.
104 Shell Oil Co. v. Stansbury, 401 S.W.2d 623 (Tex. App. 1966); and see Ottinger, Production in “Paying Quantities”, supra note 90 at 671-672.
subsequent well has not yet been drilled and a proper accounting of paying quantities will include the drilling and equipping costs.\textsuperscript{105}

The necessity and importance of this distinction are paramount. In the case of a marginal well holding a lease which expressly obligates its lessee to further develop the premises in the event oil or gas is found in paying quantities, this distinction can be crucial not for the purposes of maintaining the lease but in order to excuse the operator from the costly expense of being compelled to drill an unprofitable well. Likewise, in the case of a lease provision triggered by the drilling of an offset well in paying quantities, this distinction can enable an operator to avoid the compulsion of drilling unprofitable offset wells, paying costly compensatory or releasing acreage.

V. CONCLUSION

This article is in no wise intended as an exhaustive list of every item that may be attributed (or excluded) from a Production in Paying Quantities analysis. It is however, intended as an explanatory and relatively concise overview of the challenges and potential pitfalls facing operators (or royalty owners for that matter) of marginal wells. Due to the nature of the industry, the landman is often the least informed with regards to the revenue and expenses from aged marginal wells. In contrast, production engineers and revenue accountants are often the least educated regarding the perils of lease termination.

Rarely is an operator timely aware that some long forgotten well has slipped into the red. Too often, an operator’s first indication that a marginal well has become unprofitable is a lawsuit from a disgruntled royalty owner or a top-lease and subsequent demand for release from a competitor. Production and expense data for marginal wells should be closely monitored. A periodic evaluation of marginal wells to determine their level of profitability can enable an operator to consider the possibility and advisability of a rework, recomplete or additional drilling while the lease (or leases) in question are still in full force and effect. Such a process should not only boost an operator’s bottom line but will likely serve as a useful mechanism to avoid a great deal of heartache and frustration.

\textsuperscript{105} Id.