St. Mary's Law Journal

Volume 19 | Number 1 Article 3

1-1-1987

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WHITE OIL AND GREENBACK DOLLARS: AN OVERVIEW OF CONTROVERSIES SURROUNDING PRODUCTION OF GAS FROM THE PANHANDLE FIELD OF TEXAS

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I. INTRODUCTION

The giant Panhandle Field area of Texas has long been a fertile ground for controversy surrounding gas production practices.[1] Many of the modern statewide gas production regulations were born out of historical controversies concerning this area. Recently renewed controversy has resulted in substantial litigation in many different forums.[2] This article is intended to provide an overview of many of the

1. The Panhandle Field is the largest gas field and the second largest oil field in Texas. It covers portions of ten counties in the Panhandle region of Texas. The area has been in continuous production since the early 1920's, making it one of the oldest continuously producing regions in the United States. *See generally* TEXAS HOUSE OF REPRESENTATIVES STUDY GROUP, REPORT 69-3 (1985).

2. The controversy has been the subject of many lawsuits filed in both state and federal court, the subject of two prolonged administrative proceedings at the Railroad Commission of

issues raised in the current controversy, in light of the historical background. After a brief overview of the present controversy, the presentation shall generally proceed in chronological order, detailing much of the early controversy surrounding the production practices in the field and discussing how the controversies were eventually resolved, with a focus on those issues most relevant to the present-day controversy. Next, the article shall present an analysis of some of the more salient points which must be decided to resolve the current issues. Finally, the article will briefly discuss the recently reported decisions regarding the white oil and the high perforations issues.

II. THE PANHANDLE FIELD'S PRODUCTION AND REGULATION HISTORY

A. *Overview of the Gas Production Controversy*

The present controversy surrounds the value of the vast gas reserves remaining in the Panhandle Field area. These easily available gas producing reserves, unlike oil pools, were originally distributed uniformly over the entire field area.[3] Most of the significant oil production comes from pools on the flanks of the Panhandle Field reservoir. There has also been some oil production from isolated pools scattered throughout the field area.

The geological structure of the reservoir is highly complex. It is difficult to predict exactly where any oil pool might lie using conventional exploration tools. The producing area is composed of several different formations each which may be hundreds of feet thick, including the dolomite, the arkosic-dolomite, the gray limestone, the granite wash, and the fractured granite geologic formations. All of these structures are in some degree of pressure communication with each other, as evidenced by the original gas and oil pressure being 430 pounds per square inch in all stratum levels. However, the nature and

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Texas, with appeals to the Texas courts, and the subject of an extensive proceeding conducted by the Federal Energy Regulatory Commission, with an appeal of that action. Virtually all of the litigation is still ongoing in one phase or another. *See, e.g.*, Walker Operating Corp. v. Federal Energy Regulatory Comm'n, 33 F.E.R.C. ¶ 61,207 (1985), *appeal docketed*, No. 85-2683 (10th Cir. 1987). Hufo Oils v. Railroad Comm'n of Texas, 717 S.W.2d 405 (Tex. App.—Austin 1986, writ requested); *In re* Stowers Oil & Gas Co., 33 F.E.R.C. ¶ 61,255 (1985).

3. The gas zones do vary in thickness, but they are generally quite thick throughout the reservoir, with an original gas pressure of 430 pounds per square inch across the entire area. *See Special Order Fixing Allowable Production Of Sweet And Sour Natural Gas In The Panhandle District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Dec. 10, 1935).

exact degree of this communication is hotly disputed.[4]

The oil wells in the field's oil pools were, as a general rule, drilled through one or more gas-containing strata before penetrating the highest oil-containing stratum in the Granite Wash. In many instances, the wells were completed so as to produce gas from the highest strata, the Brown Dolomite, along with the oil and gas from the Granite Wash oil stratum, with the result that tremendous quantities of gas have been produced with the oil. This gas was in large part blown into the air, wasting an estimated two trillion cubic feet of gas. Though there has always been some amount of oil production from the Brown Dolomite, it is generally agreed that most of the economic value of the Brown Dolomite formation lies in its vast gas reserves.[5]

Due to various considerations, a unique situation in Texas arose in the early 1900's where oil rights were split from gas rights in much of the Panhandle Field area. Generally, the oil producers received, along with their right to collect oil, the right to produce some volumes of "casinghead" gas. The present Panhandle Field controversy involves the production of gas from wells reported as oil wells, which oil operators claim is "casinghead gas."[6]

The oil operators have generally based their claims on two propositions. First, it is argued that the natural gasoline entrained in the gas is actually oil, so any well producing large quantities of natural gasoline is an oil well.[7] This contention, popularly termed, the "white oil"

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4. There is also a shallower series of formations in the area, the Red Cave formation series, which also have the capability of yielding oil and gas. The Red Cave formations are not believed to be in communication with the deeper Panhandle Field formations, and they have been regulated as separate fields since 1960. A similar controversy has recently arisen concerning production practices in the Red Cave Field. This controversy is outside the scope of this article.

5. The best overview of the structure and early production history of the Panhandle Field is found in a 1935 special order of the Railroad Commission, *Special Order Fixing Allowable Production Of Sweet And Sour Natural Gas In The Panhandle District of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Dec. 10, 1935). This special order tracing the production and marketing history from 1918 to 1935 is reproduced in relevant part in Appendix A.

6. The casinghead is a fitting at the top of a metal pipe, called a "casing," which is used to line a shaft or well with supporting material. The casinghead allows pumping and cleaning of an oil or gas well, and separation of gas from oil. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 346-47 (1966). Casinghead gas is the natural gas rich in hydrocarbon vapors taken from the casinghead without processing. *See id.*

7. All of the gas in the Panhandle Field area is very rich in natural gasoline content. This substance is a gas when it comes out of a well, but it may be condensed into a liquid by using fairly inexpensive refrigeration or compression devices. When liquified it becomes a clear

argument, has been uniformly rejected by the Railroad Commission, the Federal Energy Regulatory Commission, and by state and federal courts.[8]

The second argument is that the entire Panhandle Field interval, the underground space from the top of the Brown Dolomite stratum to the bottom of the Granite Wash stratum, is one common reservoir, so that any gas produced in conjunction with oil from this interval is casinghead gas. Oil operators may legitimately produce small amounts of casinghead gas from the Granite Wash. However, some operators have also perforated their oil wells into the Brown Dolomite formation, which is much higher than the Granite Wash oil zone, producing large volumes of gas from that formation (possibly along with small volumes of oil). The oil operators assert that, under the Texas conservation statutes and the Railroad Commission's rules, they are entitled to commingle this production from different zones within the large interval.

Those oil operators perforating into the Brown Dolomite formation manage to balance their gas and oil production, so that their overall gas/oil production ratios fall within the statutory classifications of an oil well.[9] And, since their wells are classified as oil wells, they claim that all gas produced is casinghead gas. The legal issue surrounding this practice has been commonly referred to as the "high perforations" issue. The oil operators' claim on this issue has been rejected by the Federal Energy Regulatory Commission and by the Amarillo Court of Appeals. Currently, the Railroad Commission and several courts are reviewing the high perforations issue.[10]

The current controversy over production practices in the Panhandle Field is a new flare-up of a dispute which has smoldered for years. A different version of the same dispute arose early in the productive life of the field. This dispute, which resulted in extensive and prolonged litigation, focused on the extent to which the state could use its

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white substance, known as white gasoline. *See* Colorado Interstate Gas Co. v. Hufo Oils, 802 F.2d 133, 134 & n.2 (5th Cir. 1986).

8. *See infra* text accompanying notes 142, 144, and 146.

9. *See* TEX. NAT. RES. CODE ANN. § 86.002(6) (Vernon 1978). The gas/oil ratio is determined by dividing the cubic feet of gas produced by the number of barrels of oil produced. A barrel of oil equals forty-two gallons (42 gal.). This is commonly referred to as "GOR" by the oil industry. Currently, a well must produce less than 100,000 cubic feet of gas per barrel of oil (100 Mcf gas/1 barrel oil) to be classified as an "oil well." *See id.*

10. *See infra* text accompanying 116-125 and notes 120-125.

police power to regulate the property rights of parties owning natural resources. The modern regulation of gas production from both the Panhandle Field and the entire state of Texas was born out of this early controversy.[11]

B. *Early Regulatory Efforts*

The State of Texas has attempted to regulate wasteful gas production since 1899 when House Bill 542 required oil and gas operators to use surface casing to prevent fresh water from "penetrating the oil and gas bearing rock."[12] The bill also required gas wells to be shut-in until the gas could be used for light, fuel or power, and it prohibited wasteful burning of gas. The shut-in provisions did not, however, apply to wells operated for oil.[13]

In 1913, House Bill No. 887 amended the statute.[14] This bill increased the penalties for violating conservation laws and allowed the owner or operator of any neighboring or adjacent land to come onto property and plug or shut-in any wasteful well and to assess the costs against the operator of the well. The problems which might arise from this sort of self-help solution are obvious and this remedy was soon replaced.

In 1919 the enforcement of oil and gas conservation laws was delegated to the Railroad Commission, when the legislature passed Senate Bill No. 350, the first comprehensive oil and gas conservation law in

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11. A wide variety of reports, cases, and publications of the 1930's reveal an intense white oil controversy which developed into a scandal of national dimensions. This controversy focused on Panhandle Field operators who were stripping natural gasoline out of gas and flaring the residue gas, because they had no market for the gas. Vast gas quantities were flared by operators claiming they needed to protect their interests against drainage by offsetting operations of gas pipeline companies who controlled the available gas markets. At first, some operators attempted to avoid restrictions on their strip and flare operations by claiming that their wells were oil wells, but these claims were overruled. *See, e.g.*, Thompson v. Consolidated Gas Utils. Corp., 300 U.S. 55, 80-81 (1937)(gas well owners authorized to contest validity of proration orders); Sneed v. Phillips Petroleum Co., 76 F.2d 785, 785-88 (5th Cir. 1935)(gas well owners sue to enjoin wasteful strip and flare operations); MacMillan v. Railroad Comm'n of Texas, 51 F.2d 400, 400-02 (W.D. Tex. 1931)(citizens of another state sue Texas Railroad Commission to enjoin proration).

12. Act of Mar. 29, 1899, ch. 49, § 1, 1899 Tex. Gen. Laws 68, *codified at* TEX. REV. CIV. STAT. art. 7847 (1911), *amended by* Act of Apr. 2, 1913, ch. 111, § 1, 1913 Tex. Gen. Laws 212.

13. *See id.*

14. Act of Apr. 2, 1913, ch. 111, § 1, 1913 Tex. Gen. Laws 212, *codified at* TEX. REV. CIV. STAT. art. 6014 (1925), *amended by* Act of Aug. 12, 1931, ch. 26, 1931 Tex. Laws, 1st Spec. Sess. 46.

the state.[15] This bill greatly expanded the definition of waste and increased the penalties for violations of the waste laws. The bill further authorized the Railroad Commission to form an infrastructure, publish rules and regulations, and require operators to obtain permits and file reports with the Commission.[16]

In 1929, the 41st Legislature passed House Bill No. 388, which revised the definition of waste in order to give the Railroad Commission jurisdiction to limit the waste of gas produced from an oil well, but it specifically excluded "economic waste" from the definition.[17] This bill also established procedures for the appeal of Railroad Commission rules and regulations.

The Railroad Commission responded to the statutory changes in the definition of waste and its authority by issuing an order prorating production from the Panhandle Field based upon market demand.[18] Several months later, the Commission ordered, for the first time, a statewide reduction in the production of oil, based upon reasonable market demand factors.[19] On December 13, 1930, the Railroad Commission issued another proration order for the Panhandle Field, limiting production from all wells to twenty-five percent of their open flow potential.

In April, 1931, the Railroad Commission entered a proration order applicable to the East Texas Field which was intended to shore up oil market conditions by severely limiting the available supply of oil. The giant East Texas Oil Field had just been discovered and the rapid development of that field caused a collapse in oil prices. That order was appealed to the courts and was overturned as being ultra vires.[20]

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15. Act of Mar. 31, 1919, ch. 155, 1919 Tex. Gen. Laws 285, *amended by* Act of Jan. 12, 1920, ch. 14, 1920 Tex. Gen. Laws 18.

16. The Railroad Commission responded by issuing its first conservation rules applicable statewide. *See* Tex. R.R. Comm'n, Circular 7 (1919); Tex. R.R. Comm'n, Circular 11 (1920). Many of the provisions of this bill have survived until the present with little or no changes, including the basic regulatory functions, which have been expanded. In 1924, the courts ruled that the Railroad Commission was not a constitutional body, limited in jurisdiction to matters specified in the Texas State Constitution, but was instead entitled to exercise any powers authorized by statutes. *See* City of Denison v. Municipal Gas Co., 117 Tex. 291, 301-02, 3 S.W.2d. 794, 798 (1928).

17. Act of Mar. 29, 1929, ch. 313, § 2, 1929 Tex. Gen. Laws 694, *codified at* TEX. REV. CIV. STAT. art. 6014 (1925), *amended by* Act of Aug. 12, 1931, ch. 26, § 1, 1931 Tex. Laws, 1st Spec. Sess. 47-48.

18. *See* Tex. R.R. Comm'n, Order (Oct. 10, 1929).

19. *See* Tex. R.R. Comm'n, Order (Aug. 14, 1930).

20. *See* MacMillan v. Railroad Comm'n of Texas, 51 F.2d 400, 405 (W.D. Tex. 1931)

It was held that the existing statutes specifically excluded consideration of economic waste from the Railroad Commission's jurisdiction. The proration formula, based upon market demand factors related to prices, was construed to be an unauthorized attempt to prevent economic waste.[21]

These conservation statutes were again extensively revised in 1931.[22] Among other changes, the amendments again greatly expanded the definition of waste.[23] The expanded definition indicated a legislative intent to allow the Railroad Commission to conserve gas pressure in a reservoir and to regulate the spacing of wells. The amendments also authorized the Commission to establish maximum gas/oil ratios for wells, and to prevent wasteful utilization of natural gas; however, the utilization of gas from a well producing both oil and gas while manufacturing natural gasoline could not be considered waste.[24] These provisions were interpreted as authorizing the Railroad Commission to enter an order shutting-in most wells in the Panhandle Field which had no markets for their gas, including wells which produced small amounts of crude oil along with large volumes of gas and natural gasoline.[25]

To prevent discrimination in production between producers, the amendments prohibited "waste incident to the inequitable utilization of gas energy . . . resulting from the inequitable withdrawal from any common pool."[26] The same 1931 Legislature also passed the first version of the Common Purchaser Act requiring pipelines to ratably purchase gas from all producers in a field.[27]

These acts were interpreted by the Railroad Commission as author-

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(order limiting oil and gas production beyond commission's authority), *rev'd on other grounds per curiam*, 287 U.S. 576 (1932)(rendered moot by statutory changes).

21. *See id.*

22. *See* Act of Aug. 12, 1931, ch. 26, 1931 Tex. Laws, 1st Spec. Sess. 46-56, *amended by* Act of Nov. 12, 1932, ch. 2, 1932 Tex. Laws, 4th Spec. Sess. 3-10.

23. *See* Act of Aug. 12, 1931, ch. 26, § 1, 1931 Tex. Laws, 1st Spec. Sess. 47-49 (amended 1932). The amendment specifically provided that "the utilization of gas from a well producing both oil and gas, for manufacturing natural gasoline, shall not be construed to be waste." *Id.*

24. *See id.* at 48.

25. *See* F.C. Henderson, Inc. v. Railroad Comm'n of Texas, 56 F.2d 218, 221-22 (W.D. Tex. 1932)(statute requiring shutting-in of wells not violative of due process nor unreasonable exertion of prohibited delegation of legislative power).

26. Act of Aug. 12, 1931, ch. 26, § 1, 1931 Tex. Laws, 1st Spec. Sess. 48-49 (amended 1932).

27. Common Purchaser Act, ch. 36, 1931 Tex. Laws, 5th Spec. Sess. 171, *amended by* Act of Nov. 12, 1932, ch. 2, 1932 Tex. Laws, 4th Spec. Sess. 3-10.

izing it to prorate gas production by those producers who had access to gas markets, in order to prevent the wasteful use of oil and gas by producers who had no market access.[28] The Railroad Commission orders prorating oil production pursuant to these provisions were upheld by state courts, but those attempting to prorate gas production were struck down by federal courts as being unconstitutional.[29]

In May, 1932, the United States Supreme Court upheld an Oklahoma proration statute authorizing oil production proration based upon reasonable market demand and economic waste considerations in *Champlin Refining Co. v. Corporation Commission of State of Oklahoma*.[30] The Court reasoned that the physical waste associated with the storage of excess oil was a sufficient state interest to overcome any incidental anti-competitive price implications of the statute.[31]

A three judge panel for the Western District of Texas distinguished the issues in *Champlin* from those involved in the Railroad Commission's attempt to prorate gas production from the Panhandle Field.[32] The court held that, under the due process and commerce clauses of the federal constitution, the Railroad Commission could not legally interfere with the non-wasteful production and marketing practices of those producers who had developed markets for their gas production, merely to protect the correlative rights of those purchasers without access to markets.[33] The primary distinction made between oil production and gas production was that excess oil production would be

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28. *See Special Order For The Panhandle District—Rules For Application Of The Common Purchaser Act of March 18, 1930 As Amended By The Act Of August 12, 1931, Adding Gas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Oct. 30, 1931).

29. *Compare* Texoma Natural Gas Co. v. Railroad Comm'n of Texas, 59 F.2d 750, 753-54 (W.D. Tex. 1932)(unconstitutional as burdening interstate commerce, taking of private property for public use without just compensation, and impairing the obligation of contracts) *with* Danciger Oil & Refining Co. v. Railroad Comm'n of Texas, 49 S.W.2d 837, 844 (Tex. Civ. App.—Austin 1932, no writ)(oil production proration orders based on market demand not violative of constitution).

30. 286 U.S. 210, 232-34 (1932)(statute not repugnant to due process or equal protection clauses).

31. *See id.*

32. *Compare* Champlin Ref. Co. v. Corporation Comm'n of State of Okla., 286 U.S. 210, 235-36 (1932)(state regulated oil production, not sale or transportation of crude oil) *with* Texoma Natural Gas Co. v. Railroad Comm'n of Texas, 59 F.2d 750, 753 (W.D. Tex. 1932) (Commission required pipeline carriers to purchase gas without discrimination between producers).

33. *See* Texoma Natural Gas Co. v. Railroad Comm'n of Texas, 59 F.2d 750, 753-54 (W.D. Tex. 1932)(state cannot burden interstate commerce under guise of police regulation).

held in wasteful above-ground open storage by producers who were forced to make excess withdrawals in order to prevent drainage of their reserves, whereas excess gas production could not be placed in storage. So considerations of physical waste were not so closely associated with the drainage of gas.[34]

In a subsequent series of orders and statutory amendments, the legislature and Railroad Commission repeatedly attempted to force the pipeline companies to open their markets to independent producers. To provide all wells in the field access to gas markets and ratable gas production, the Railroad Commission soon ordered all gas wells in portions of the West Panhandle Field to limit their production of gas to only four percent of open-flow from the pipeline companies' wells in the remainder of the West Panhandle Field, forcing the pipelines to begin buying gas from other operators.[35]

With the knowledge gained from previous attempts, the Texas Legislature quickly enacted Senate Bill No. 1, which allowed the proration of oil (but not gas) production based on reasonable market demand, by removing the economic waste exclusion from the definition of waste.[36] The amended statute explicitly gave the Railroad Commission the authority to reasonably apportion and limit the allowable production from a common source of supply among the various producers.

One month later both of these Railroad Commission orders were struck down as being ultra vires.[37] The federal district court held that, under the earlier statute, the Railroad Commission had no jurisdiction to adjust correlative rights of gas owners in the absence of a clear need to prevent waste. Six months later, the court held that the amended statutes still did not confer jurisdiction on the Railroad

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34. *See id.*

35. These orders were entered under the 1931 statutes. *See* Act of Aug. 12, 1931, ch. 26, 1931 Tex. Laws, 1st Spec. Sess. 46, *amended by* Act of Nov. 12, 1932, ch. 2, 1932 Tex. Laws, 4th Spec. Sess. 3; Act of Aug. 12, 1931, ch. 28, 1931 Tex. Laws, 1st Spec. Sess. 58, *repealed by* Act of June 15, 1977, ch. 871, 1977 Tex. Laws 2345, *current version at* TEX. NAT. RES. CODE ANN. §§ 111.081-.097 (Vernon 1978). During this same period, the Railroad Commission also issued an order dated October 13, 1931, requiring casing to be put in wells, to prevent excess withdrawals of gas in the panhandle area.

36. Act of Nov. 12, 1932, ch. 2, 1932 Tex. Laws, 4th Spec. Sess. 3-10, *amended by* Act of Apr. 13, 1935, ch. 76, 1935 Tex. Laws 180-92.

37. *See* Texoma Natural Gas Co. v. Terrell, 2 F. Supp. 168, 170-71 (W.D. Tex. 1932) (orders are taking without compensation; violates due process).

Commission to enter such an order.[38]

The legislature, foreseeing this decision, passed Senate Bill No. 92 allowing gas well operators in very large fields who had no market for their gas to strip and flare up to twenty-five percent of the open-flow potential.[39] This provision was specifically designed to apply to the Panhandle Field, thus giving the independent non-pipeline operators some ability to use their gas.[40]

These proration orders were upheld in *Danciger Oil & Refining Co. of Texas v. Smith*.[41] This case overruled contentions that the Railroad Commission could not limit the oil production from wells which had a market for their production and which were producing within the designated gas/oil ratio. The court held that the proration orders did not arbitrarily and unreasonably limit production of oil, and that any market demand factors in the determination could be supported by the Commission's need to prevent above-ground waste. The plaintiff oil producers had argued that the proration orders were confiscatory because they limited the amount of oil they could produce within a reasonable gas/oil ratio, while at the same time, the stripping permits authorized gas wells to wastefully produce small amounts of oil by using huge amounts of gas, thus causing the wasteful loss of gas pressure. The Railroad Commission countered by noting that "while it is true that the field is, in a very general sense, one gas reservoir, it is also true that for practical purposes the Commission must administer the field in its separate parts."[42] The court held the Commission's

38. *See* Canadian River Gas Co. v. Terrell, 4 F. Supp. 222, 226-28 (W.D. Tex. 1933) (order allocating gas production unauthorized where no actual waste committed or threatened). The orders would have effectively forced the pipelines to buy gas from other gas producers in order to fill their market needs.

39. Act of Apr. 25, 1933, ch. 100, 1933 Tex. Gen. Laws 222, *amended by* Act of Oct. 25, 1933, ch. 88, 1933 Tex. Laws, 1st Spec. Sess. 229. The act provided that if a well was emitting gas into the air it must be capped in order to prevent waste. This would essentially close down large wells. By allowing some of the gas to be manufactured into natural gas, the act provided an alternative to capping wells. *See id.*

40. *See id.* At this time, the gas producing zones in the Panhandle Field were divided by the Railroad Commission into east and west zones, and the sweet gas in the West Panhandle Field was declared a common source of supply. Certain technical corrections were made to this act in House Bill No. 288 of the First Called Session of the same legislature. *See* Act of Oct. 25, 1933, ch. 88, 1933 Tex. Gen. Laws, 1st Spec. Sess. 229, *amended by* Act of May 1, 1935, ch. 120, 1935 Tex. Gen. Laws 318.

41. 4 F. Supp. 236, 238 (N.D. Tex. 1933)(Commission has power to regulate production), *rev'd per curiam*, 290 U.S. 599 (1933)(reversed as moot).

42. *Id.* at 239.

actions were a reasonable exercise of its jurisdiction.[43]

The Railroad Commission soon issued many stripping permits to operators of gas wells authorizing them to strip the natural gasoline from their gas and to flare the residue gas. At about the same time, the Railroad Commission issued orders prorating production from both oil and gas wells, in an effort to allocate market demand in the field. Both the proration orders and the stripping permits were unsuccessfully challenged in the courts.[44]

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43. *See id. Danciger* contains a good discussion of the conditions which were existing in the Panhandle Field in 1933:

> The so-called Panhandle Field is a gigantic geological structure, extending a distance of approximately 125 miles, with an average width of about 15 miles. The entire area constitutes one gas reservoir. Scattered through practically the entire length of that area are more than thirty pools known to be productive of oil, more or less separated by reason of their position in and on the structure, in the sense that there is no migration of oil from one pool to another, but all of the fields are indirectly connected with each other through the formations containing gas. These formations, besides oil and gas, also contain water. In a well drilled within any of the known oil pools, two or more producing formations are often encountered. In such cases, the higher formation usually produces gas only, while both gas and oil are found in the lower formation. By reason of the fact that this field is one gas reservoir more or less intimately connected, production either of gas, or of oil and gas, in any part of the reservoir theoretically affects the pressure all over it. As a practical matter, of course large productions of gas quickly and directly affect the formation in the vicinity of the production. Because of the character of the field, some sections produce gas only, some gas and oil, some sweet gas, some sour gas, because of the fact that for a part of the gas produced only is there an outlet for light and fuel, while for other parts of it there is none, and that the only use that can be made of it is for carbon black for stripping. Because of the fact that some of the so-called oil wells produce a very small quantity of oil and enormous quantities of gas, the commission has found itself, through the diversity which the situation presents, confronted with a disturbed and disturbing condition. The regulations which it has made and undertaken to make, in an effort to conserve the natural resources of the product and energy so richly stored there, while at the same time giving the proper consideration to the rights and interests of the producers and owners, have brought about almost continual litigation and turmoil of a conflicting and changing character. In addition, the commission has had several litigations with gas companies. *See Texoma Natural Gas Co. v. Railroad Comm'n. of Texas*, 59 F.2d 750 (W.D. Tex. 1932) with a stripping plant, *F.C. Henderson, Inc. v. Railroad Comm'n of Texas*, 56 F.2d 218 (W.D. Tex. 1932). The *Henderson* case involved an attempt by the commission to prohibit, as wasteful, the use of natural gas for stripping, after the passage of the then statute. Notwithstanding this suit terminated favorably to the commission, in view of the general chaotic conditions in that section, the commission has latterly been issuing permits, permitting such stripping, while the Legislature has declared that the use to the extent of 25 per cent of the open flow of the wells producing gas is not wasteful, if there is no use for the gas for light or fuel.

Id. at 236 n.1.

44. *See* Sneed v. Phillips Petroleum Co., 76 F.2d 785, 788-89 (5th Cir. 1935)(refusing to enjoin strip and flare operations of producers with stripping permits). The suit had been filed by an owner of adjoining land, who claimed that the permits illegally allowed the wasteful

This background provided the basis for the present proration system. The legislature and the Railroad Commission had finally been able to implement a gas proration system, but only by allowing the wasteful stripping and flaring of enormous volumes of gas. Future efforts concentrated on maintaining the proration system, while finding a means of curtailing the wasteful practices.

C. *1930's Regulatory Scheme*

1. Railroad Commission Circulars 15 and 16B

On June 15, 1932, the Railroad Commission published Circular 15 which codified the revised statewide rules for oil and gas production and the special field rules for certain fields.[45] The special field rules for the Panhandle District were combined and published in Circular 15. These special rules were intended to curb some of the wasteful practices which had occurred in the field. In particular, rule 6 required all oil operators to case and seal-off all gas zones above the oil zone. Most of these rules were incorporated into Circular 16B,[46] published in 1934, which updated Circular 15. With some modifications and additions, the same basic field rules have been incorporated into the present field rules for the Panhandle Fields and the statewide conservation rules of the Railroad Commission.

2. House Bill No. 266

In 1935, the Texas Legislature rewrote many of the existing conservation statutes in an attempt to create an enforceable system of proration which prevents waste and preserves correlative rights. These rewritten statutes, commonly known as House Bill No. 266, were described at that time as the most comprehensive and detailed gas regulatory statutes yet enacted.[47]

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stripping and flaring of gas. The decision was based upon an absence of indispensable parties to the action, but the opinion contained dicta indicating that any such action would not be favorably considered. *See id*; *see also* Danciger Oil & Refining Co. of Texas v. Smith, 4 F. Supp. 236, 237-39 (W.D. Tex. 1933)(Commission empowered to prorate production and to prevent waste by strip and flare operations).

45. Tex. R.R. Comm'n, Circular 15 (1932).

46. Tex. R.R. Comm'n, Circular 16B (1934). Circulars 15 and 16B, also provided the first modern antecedents for the Railroad Commission's present statewide conservation rules.

47. Act of May 1, 1935, ch. 120, 1935 Tex. Gen. Laws 318-27, *codified at* TEX. NAT. RES. CODE ANN. §§ 86.001-.225 (Vernon 1978 & Vernon Supp. 1987). The provisions of House Bill No. 266 form the basis for the present day system of gas proration. They were

House Bill No. 266 was the first legislative effort to authorize a truly comprehensive system of gas proration. The bill contained the first legislative definitions of "sweet gas," "sour gas," "casinghead gas," "dry gas," "oil well," "gas well," "natural gasoline," and "common reservoir."[48] The same definitions have been incorporated into the present statute.[49]

The bill prohibited gas production from an oil well producing from a stratum other than that in which oil is found.[50] Any operator producing both oil and gas from different strata through the same wellbore was required to do so through separate strings of casing, and each casing string was to be considered as a separate well.[51] The production from an oil well of "natural gas found in a horizon productive of natural gas only" was specifically prohibited.[52] The bill provided that where gas and oil were produced from different strata through the same wellbore, the Commission could subtract the casinghead gas produced from the oil stratum in determining the amount of dry gas

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specifically adopted to control the practices which were occurring in the Panhandle Field. *See generally* CHECK, LEGAL HISTORY OF CONSERVATION OF OIL AND GAS (1938).

48. Act of May 1, 1935, ch. 120, § 2, 1935 Tex. Gen. Laws 319, *codified at* TEX. NAT. RES. CODE ANN. § 86.002 (Vernon 1978).

49. *See* TEX. NAT. RES. CODE ANN. § 86.002 (Vernon 1978). For example, this section provides the following definitions:

> (4) "Common reservoir" means all or part of any oil or gas field or oil and gas field that comprises and includes any area that is underlaid or that, from geological or other scientific data or experiments or from drilling operations or other evidence, appears to be underlaid by a common pool or accumulation of oil or gas or oil and gas.
>
> . . . .
>
> (8) "Sour gas" means gas:
>
> (A) containing more than one and one-half grains of hydrogen sulphide per 100 cubic feet;
>
> (B) containing more than 30 grains of total sulphur per 100 cubic feet; or
>
> (C) which in its natural state is found by the commission to be unfit for use in generating light or fuel for domestic purposes.
>
> (9) "Sweet gas" means all gas except sour gas and casinghead gas.

Id. For the statutory definitions of "casinghead gas," "dry gas," "gas well," "natural gasoline," and "oil well" see *infra* note 128.

50. *See* Act of May 1, 1935, ch. 120, § 3, 1935 Tex. Gen. Laws 320, *codified at* TEX. NAT. RES. CODE ANN. §§ 86.012(a)(11) (Vernon Supp. 1987), 86.011 (Vernon 1978).

51. *See* Act of May 1, 1935, ch. 120, § 4(a), 1935 Tex. Gen. Laws 320-21, *codified at* TEX. NAT. RES. CODE ANN. § 86.003 (Vernon 1978).

52. Act of May 1, 1935, ch. 120, § 4(b), 1935 Tex. Gen. Laws 321, *codified at* TEX. NAT. RES. CODE ANN. § 86.097 (Vernon 1978).

allowed to be produced from the gas stratum.[53] In addition, the Commission was authorized to zone a common reservoir and to treat each zone as a separate reservoir for proration purposes.[54]

The production of sweet and sour gas was to be prorated by the Railroad Commission by using a reasonable formula within certain defined parameters set out in the bill.[55] Use of sweet gas was specifically limited to use for light and fuel, for efficient manufacturing of chemicals other than carbon black, or for reinjection into a reservoir.[56] Sour gas—gas containing a high level of hydrogen sulfide—could be stripped of its natural gasoline and its residue used for the manufacture of carbon black.[57] Casinghead gas could be used for any beneficial purpose.[58]

An integral (and hotly debated) part of the new regulatory scheme was the classification of wells. The definitions of "gas well" and "oil well" in their present form first appeared in the Senate revisions.[59] Section 2 of a Senate Committee amendment, substituted for House Bill No. 266, provided:

> (d) The term "gas well" is any well
> [1] which produces natural gas only, or
> [2] which produces more than 100,000 cubic feet of natural gas to each barrel of crude petroleum oil from the same producing horizon, or
> [3] which produces natural gas from a formation or producing horizon productive of gas only encountered in a wellbore through which crude petroleum oil also is produced through the inside of another string or casing.
> (e) The term "oil well" is any well which produces one barrel or more

53. *See* Act of May 1, 1935, ch. 120, § 17, 1935 Tex. Gen. Laws 325, *codified at* TEX. NAT. RES. CODE ANN. § 86.093 (Vernon 1978).

54. *See* Act of May 1, 1935, ch. 120, § 19, 1935 Tex. Gen. Laws 325, *codified at* TEX. NAT. RES. CODE ANN. § 86.095 (Vernon 1978).

55. *See* Act of May 1, 1935, ch. 120, §§ 6-22, 1935 Tex. Gen. Laws 324, *codified at* TEX. NAT. RES. CODE ANN. §§ 86.081-.097 (Vernon 1978 & Supp. 1987).

56. *See* Act of May 1, 1935, ch. 120, § 7(1), 1935 Tex. Gen. Laws 321-22, *codified at* TEX. NAT. RES. CODE ANN. § 86.181 (Vernon 1978).

57. *See* Act of May 1, 1935, ch. 120, § 7(2), 1935 Tex. Gen. Laws 322, *codified at* TEX. NAT. RES. CODE ANN. § 86.182 (Vernon 1978).

58. *See* Act of May 1, 1935, ch. 120, § 7(3), 1935 Tex. Gen. Laws 322, *codified at* TEX. NAT. RES. CODE ANN. § 86.183 (Vernon 1978).

59. *See* Tex. R.R. Comm'n, Circular 16B (1934)(previously defining an oil well in the Panhandle Field as a well producing less than 500,000 cubic feet of gas for each barrel of oil and water).

of crude petroleum oil to each 100,000 cubic feet of natural gas.[60]

Prior to enactment, however, one significant change was made. Subpart (a) of Section 2(d), defining a gas well, was amended from the floor to read: "(a) which produces natural gas not associated or blended with crude petroleum oil at the time of production."[61] This amendment broadened the definition of a gas well and put the definitions of House Bill No. 266 into their final form.

In both the House and the Senate several white oil representatives attempted to amend House Bill No. 266 to allow certain wells to be counted as oil wells by virtue of natural gasoline production, not crude oil production. For example, the following amendment was proposed to allow existing white oil wells a "grandfather" exception to the statutes:

> Sub-sec. 6. This act shall not apply to wells already completed and now producing from a depth of 5,000 feet or more below the surface of the earth from a stratum now producing substantial quantities of water, and which have been operated as oil wells and producing petroleum recovered as a liquid in the separator at the time of production in substantial quantities prior to the passage of this act, and producing not less than two-thirds of a gallon of natural gasoline per 1,000 cubic feet of gas, so long as they produce from the same stratum from which they are now producing and so long as their production of gas does not exceed 50,000 cubic feet of gas per barrel of total petroleum liquid (determined by adding the quantity of liquid produced in the separator to the quantity of natural gasoline manufactured from such gas); and their operation in connection with a gasoline absorption plant is hereby authorized.[62]

This amendment and others confirm that the legislature considered and rejected the contention that wells should be allowed to be classified as oil wells based on natural gasoline production.[63]

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60. S.J. of Tex., 44th Leg., Reg. Sess. 1282 (1935).

61. *Id.* at 1281.

62. *Id.* at 1235.

63. Subsequent attempts to amend prove this point even more clearly. Senator Rawlings first moved that Section 2(e) of House Bill No. 266 be amended to provide:

> (e) The term "oil well" is any well which produces one barrel or more of crude petroleum or petroleum liquid to each 100,000 cubic feet of natural gas.

Id. at 1281-82.

This motion to amend was tabled. After that amendment was defeated, Senator Rawlings then proposed to amend Section 7(e) of the Bill allowing for legal uses of gas well gas, to provide:

The statutes were designed to shut-in sweet gas wells unless the gas was used in the limited fashion designated by the statute.[64] These restrictions were to apply only to sweet gas and not to casinghead gas or to sour gas.[65] If natural gasoline were allowed to be counted as oil in determining the gas/oil ratio, a far greater number of wells producing gas would avoid this limitation on end-use by being classified as oil wells. If they had been successful, gas which contained large amounts of natural gasoline could have thereby become casinghead gas. They were unsuccessful in this attempt.

At the same time, however, the statutes were intended to allow oil production. Thus, casinghead gas—gas indigenous to an oil stratum and produced from that stratum with oil[66]—could be used for any beneficial purpose, including the manufacture of natural gasoline.[67] There was no reason to provide this incentive to wells which produced little or no crude petroleum oil. If those wells were classified as oil wells, large quantities of valuable gas could still have been produced, stripped, and vented, causing the same waste that the bill was intended to prevent. The same result would have applied if the definition of casinghead gas had been expanded beyond that gas necessarily produced in association with oil. The act was clearly intended to limit the volume of gas which was being wastefully stripped and flared by limiting the production of gas as much as reasonably possible.

Wells classified as oil wells were not subject to the proration provisions of House Bill No. 266.[68] Oil wells, therefore, could continue with impunity to drain gas from the gas well operators, who had no

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(e) The extraction of natural gasoline therefrom when the residue is returned to the horizon from which it is produced; provided that wells producing one barrel of petroleum products to 100,000 cubic feet of gas shall be considered an oil well as herein defined.

Id. at 1294. This amendment was also defeated.

64. *See* Act of May 1, 1935, ch. 120, § 7(1), 1935 Tex. Gen. Laws 321-22, *amended by* Act of Apr. 1, 1941, ch. 91, § 2, 1941 Tex. Gen. Laws 118. The act also regulated pressure maintenance or the extraction of natural gasoline when the residue gas was returned to the producing horizon. *See id.*

65. *See id.* Sour gas, due to its content of poisonous hydrogen sulfide, is not usable for light and fuel purposes.

66. *See* Act of May 1, 1935, ch. 120, § 2(i), 1935 Tex. Gen. Laws 319, *codified at* TEX. NAT. RES. CODE ANN. § 86.002(10) (Vernon 1978).

67. *See* Act of May 1, 1935, ch. 120, § 7(3), 1935 Tex. Gen. Laws 322 (amended 1941).

68. *See* Act of May 1, 1935, ch. 120, § 13, 1935 Tex. Gen. Laws 323-24 (amended 1941). However, oil wells became subject to a separate proration system, instituted largely in response to concurrent developments in the East Texas Field. *See* Act of Apr. 13, 1935, ch. 76, 1935 Tex. Gen. Laws 180, *codified at* TEX. REV. CIV. STAT. ANN. art. 6049d (Vernon 1962).

market for their gas. In order to protect the correlative rights of the latter, the legislature limited the number of wells which enjoyed this exemption to those which qualified on the basis of crude petroleum oil production alone, and limited the gas classified as casinghead gas to that *necessarily* produced as a consequence of oil production rather than that which could be produced along with oil.

3. Administrative and Judicial Reactions To House Bill No. 266

The Railroad Commission entered an order in August, 1935, in response to House Bill No. 266.[69] This order reaffirmed the subdivision of the Panhandle Field into two zones, the East Panhandle Field and the West Panhandle Field. The order further subdivided the West Panhandle Field into sweet and sour gas zones, and it prorated gas produced from each zone according to a formula based upon market demand for gas from each zone. This order was appealed to the courts and a temporary injunction was issued preventing its enforcement.[70] A federal district court held that the Railroad Commission still did not have the jurisdiction to prorate non-wasteful gas production by the pipeline companies in order to force them to provide market outlets for their producers.[71]

Meanwhile, the Railroad Commission was holding extensive hearings to develop a comprehensive proration formula for the Panhandle District, and its engineering staff made a thorough study of the field. Two months later, the Commission issued its special order dated December 10, 1935, which essentially followed the earlier order issued in August, but made additional findings to establish that it was intended to prevent waste and protect correlative rights. The special order prorated sweet and sour gas production according to a market demand formula, established a maximum production allowable for the fields, restricted the flaring of casinghead and sour gas, and prohibited the use of sweet gas for the manufacture of carbon black. The special order dealt only with gas production and did not attempt to develop

69. *See Special Order Fixing Allowable Production Of Sweet And Sour Natural Gas In The Panhandle Field District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Aug. 28, 1935).

70. *See* Texas Panhandle Gas Co. v. Thompson, 12 F. Supp. 462, 465-67 (W.D. Tex. 1935).

71. *See id.* (prorating oil production without regarding actual waste invalid as taking of property without due process and denies equal protection of laws).

any oil proration formula for the fields.[72] After numerous attacks this order was appealed to the United States Supreme Court in two companion cases.[73] When the smoke had finally cleared, the basic premises of House Bill No. 266 had passed constitutional muster and most of the provisions of the special order had been affirmed.

The Supreme Court specifically held that the legislature and the Railroad Commission could protect correlative rights, as long as their orders were not confiscatory.[74] The Court distinguished a legitimate proration formula which protected both a state's resources from waste and oil and gas owners from loss of property rights from an unconstitutional formula designed to require private parties to share their market opportunities with those without markets.[75] The Court construed House Bill 266 as an authorized exercise of the state's police power.[76]

However, the particular proration formula established by the special order was held to be confiscatory, because its operation would allow the drainage of gas originally in place beneath certain pipeline

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72. *See Special Order Fixing Allowable Production Of Sweet And Sour Natural Gas In The Panhandle Field District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Aug. 28, 1935). The findings showed a concern over the rapid and uneven withdrawals of gas in the Panhandle Field. These withdrawals resulted in physical waste in the reservoir, by causing channelling and coning of the deeper water in communication with the gas and oil, as well as by causing pressure "sinks," which would reduce the ultimate recovery of gas and oil. There was a specific finding that gas withdrawals in connection with oil production should be strictly controlled, because pressure withdrawals would cause migration of oil into gas strata and reduce the ultimate oil recovery. The Commission established proration units of 160 acres in the East Panhandle Field and 640 acres in the West Panhandle Field. The Commission found that an efficient gas drainage area for each well was 160 acres, but that the West Panhandle field had been developed on larger spacing patterns, so 640 acre spacing was appropriate. Gas wells were to be prorated according to their allocated share of total field market demand, based upon a formula incorporating two factors, the open flow potential of a well (50%), and the acreage assigned to the well (50%). The total market demand was based upon the pipeline companies' demand for gas from the fields. The result was that the pipeline companies could not meet their market needs without buying other producer's gas. Proration units were not established for oil well, but the Commission stated that the gas/oil ratio should be kept as low as possible and should not exceed 10,000 cubic feet (10Mcf) of gas per barrel or oil, without a special Commission permit. *See id.*

73. *See* Henderson Co. v. Thompson, 300 U.S. 258, 264-67 (1937)(Texas statute prohibiting sweet gas use in manufacturing carbon black held not unconstitutional); Thompson v. Consolidated Gas Util. Corp., 300 U.S. 55, 76-77 (1937)(suits by Consol. Gas Utilities Corp. and Texoma Natural Gas Co. considered together; held, state may constitutionally prorate production).

74. *See* Thompson v. Consolidated Gas Util. Corp., 300 U.S. 55, 72-77 (1937).

75. *See id.*

76. *See id.* at 74-76.

company tracts to other areas of the field.[77] In addition, the state could not legitimately force the pipeline companies to share their private markets with other producers in the absence of waste or undue drainage by the pipeline companies.[78] Thus, the particular proration formula was overturned.[79] Nevertheless, the Supreme Court had clearly ruled for the first time that the Railroad Commission could use its police powers to protect correlative rights.[80]

The Railroad Commission continued to conduct extensive studies concerning proper proration practices in the Panhandle Field. In 1937 and 1938, the Commission issued another series of orders prorating production from the Panhandle Field for the purposes of protecting correlative rights and preventing waste. One of the early orders[81] which prorated the production of sour gas was again immediately appealed, but this order was affirmed on the grounds that the Commission could constitutionally protect against drainage of gas.[82]

4. Subsequent Developments in the Panhandle Field Area

The Railroad Commission continued to issue orders prorating production of both oil and gas for the next several years. During this period, the Commission established an overall proration formula for the Panhandle Fields, including proration of oil, casinghead gas, sweet gas, and sour gas.[83] The basic regulatory system, despite attempts to relax regulations, has continued relatively unchanged until the present time.[84] Modifications of some regulations occurred over

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77. *See id.* at 71-72. The Court noted that most drainage had actually occurred away from the pipeline company tracts to other portions of the field, due to "the extravagant production of natural gas from oil wells," as well as wells operating under "strip and flare" permits. *See id.* at 70.

78. *See id.* at 80-81.

79. *See id.* at 76-81.

80. *See id.* at 74-76.

81. *See Basic Order Fixing The Daily Allowable Production And Method Of Allocation Of Sour Dry Natural Gas In The Sour Gas Area Of The West Panhandle Gas Field Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (May 4, 1938). This order prorated the production of sour gas wells, using a formula incorporating well pressures, the acreage assigned to wells, and the open flow potential of wells.

82. *See* Henderson v. Terrell, 24 F. Supp. 147, 151-52 (W.D. Tex. 1938)(prorating daily gas production is reasonable exercise of police power).

83. *See* Appendix B (summary of the Railroad Commission orders from 1938 to 1941).

84. In response to a series of questions asked by the Chief Supervisor of the Oil and Gas Division, the Attorney General of Texas issued an opinion concerning the distinctions between the statutory definitions of casinghead gas, sour gas, and sweet gas under House Bill 266, and the uses which might be made of such gas. *See* Op. Tex. Att'y Gen. No. 0-1760 (1940). The

the years, but the basic framework has remained the same over the last forty-nine years.[85]

Production of oil and gas occurred for many years under the proration rules with little in the way of major controversy. There were many occurrences which influenced the development patterns. Pipelines were extended to most of the field, providing access to markets to those producers who had been without markets for their gas. Development of gas reserves continued at a rapid rate, spurred in part by the availability of markets. Over much of the area, operations for gas production surpassed the oil operations; due in part to the even distribution of the vast gas reserves, which made their development a relatively low risk operation. Many gas operators were unwilling to undertake the risks involved in oil operations because oil pools are found in much more irregular placements. Over the years, gas operators took only gas rights or assigned the oil rights to their lessors or third parties. Thus, an unusual situation occurred in this area where

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opinion found that the statutory definition of casinghead gas overrode the definitions of "sour gas" and "sweet gas," which were limited to gas produced from gas wells. The definition of "casinghead gas" applies only to gas produced from an oil well, i.e., producing less than 100,000 cubic feet of gas per barrel of oil. The opinion found that the Commission did not have the authority to waive the statutory requirements that sweet gas be used only for stated purposes, even if those restrictions will result in loss of the well or waste because of physical conditions in the reservoir. *See id.*

Certain oil operators, and even the current state Attorney General, in a brief filed at the 10th Circuit Court of Appeals on behalf of the Railroad Commission have claimed that language in the opinion supports the oil operators' position on the high perforations issue. *See* Walker Operating Corp. v. Federal Energy Regulatory Comm'n, No. 85-2683 (10th Cir.)(appeal docketed from FERC finding of liability in *Stowers*). The language relied upon, states that casinghead gas must be gas produced from an oil well. There is no legitimate basis for arguing that the attorney general's brief supports the high perforations practices.

85. There have been numerous changes in the regulations over the years, as the Railroad Commission sought to fine tune this proration system. Perhaps the most significant change occurred in 1960, when the Railroad Commission determined that the Red Cave section in the Clearfork formation was a separate reservoir from the rest of the productive zones in the Panhandle Fields, which should be regulated separately. *See, e.g., Special Order Amending Rule 1 Of The Panhandle District Rules Adopted In Special Order No. 10-2898, Issued Effective October 1, 1941, As Amended Applicable To The Panhandle District Fields, Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Nov. 7, 1960); *Special Order Establishing The Red Cave Section Of The Clearfork Formation In The Area Of The West Panhandle Field As The West Panhandle (Red Cave) Field, Moore, Potter, Hutchinson, And Carson Counties, Texas And Adopting Operating Rules For Said Field*, Tex. R. R. Comm'n, Oil and Gas Div., Docket No. 108 (May 30, 1960). Prior to these orders, the Red Cave Zones were regulated in common with the other Panhandle Field zones, even though they were separated by 300 feet of impermeable section. The rules for the Red Cave formations have recently undergone an extensive review at the Railroad Commission. These actions are outside the scope of this article.

the gas rights and oil rights were separately owned.[86]

In 1939, Congress passed the Natural Gas Act (NGA),[87] which subjected gas sold in interstate commerce to utility regulation. Most of the pipeline companies operating in the Panhandle Field became subject to regulation under the act, because they sold gas in interstate commerce. The remaining intrastate pipelines were subject to state regulation under the Cox Act,[88] but those regulations were much less comprehensive than those promulgated under the NGA.[89] The Federal Power Commission (FPC), and later its successor, the Federal Energy Regulatory Commission (FERC), was given the authority to pass and enforce regulations under the NGA.[90] The FPC passed extensive regulations, subjecting the interstate pipelines to the full scale of utility regulation, including regulation of price and conditions of service.[91] Thus, the rates charged by pipelines to their customers were regulated, as was the ability of the interstate pipelines to connect or abandon service to any customer.[92] Pipelines were required to obtain certificates of public convenience and necessity from the FPC covering all of their business operations.[93]

The NGA contained an exception for "the production and gathering of natural gas."[94] In Texas, most of the regulation of gas production occurred through the various spacing and proration regulations instituted by the Railroad Commission. For fifteen years, the FPC undertook to regulate only the interstate pipelines, based upon the assumption that it had no jurisdiction to regulate prices or activities of gas producers. However, in 1954 the United States Supreme Court

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86. *See generally* TEXAS HOUSE OF REPRESENTATIVES STUDY GROUP, REPORT 69-3 (1985).

87. Natural Gas Act, ch. 556, 52 Stat. 821 (1938)(codified as amended at 15 U.S.C. §§ 717-717w (1976)). The Natural Gas Act covered only gas sold or transported in interstate commerce. Gas facilities used only for sales within a state were not brought within the Act's regulations. *See id.* Thus, a dual regulatory system was set up, whereby interstate gas sales were regulated separately from intrastate sales.

88. TEX. REV. CIV. STAT. art. 6050-6066d, § 31 (Vernon 1962).

89. *See* Natural Gas Act, ch. 556, § 717, 52 Stat. 821 (1938)(current version at 15 U.S.C. § 717 (1976)).

90. *See* Natural Gas Act, 15 U.S.C. § 717w (1976).

91. *See* 18 C.F.R. §§ 152.1-260.200 (1987).

92. *See id.* §§ 154.1-.213, 157.5-.301.

93. *See id.* § 157.5.

94. Natural Gas Act, ch. 556, § 717(e), 52 Stat. 821 (1938)(current version at 15 U.S.C. § 717(d) (1976)).

held otherwise. The Court in *Phillips Petroleum Co. v. Wisconsin*[95] held that adequate regulation of the rates charged by interstate pipelines required the FPC to regulate the prices the pipelines paid for gas sales, thus subjecting gas producers to regulation as well.[96] The scope of producer regulation was rapidly expanded to include nearly all aspects of utility regulation affecting interstate pipeline operations.[97]

In particular, all producers selling gas in interstate commerce were required to obtain certificates of public convenience and necessity, dedicating the sales of their gas to interstate commerce.[98] Most certificates issued by the FPC were of unlimited duration, which required the FPC to authorize abandonment of service if sales were to be discontinued by the gas producer.[99] The FPC adopted a policy whereby abandonment would generally not be granted unless the dedicated reserves were so substantially depleted that the further production was not practical.[100]

The FPC also promulgated uniform rates to be charged for all gas produced for certain areas, depending upon various factors such as the area where wells were located, the dates wells were drilled or recompleted, and the contract dates for sales contracts. The uniform area and national rates provided price ceilings applicable to all gas dedicated to interstate commerce, regardless of the particular costs and risks involved in any well.[101]

In the 1970's, several developments occurred which renewed the

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95. 347 U.S. 672 (1954).

96. *See id.* at 682-84 (congressional intent to regulate natural gas at both ends of the interstate transmission system).

97. *See, e.g.*, United Gas Improvement Co. v. Continental Oil Co., 381 U.S. 392, *on remand*, 351 F.2d 670 (5th Cir. (1965).

98. *See* 18 C.F.R. §§ 157.23-.42 (1987)(codified from Order 174-B, 19 Fed. Reg. 8809 (1954)); *id.* §§ 154.91-.103 (1987)(codified from Order 190, 21 Fed. Reg. 7617 (1956)).

99. The FPC's power to declare abandonment and control sales has been upheld. *See, e.g.*, Sun Oil Co. v. Federal Power Comm'n, 364 U.S. 170, 174 (1960)(Commission authorized to issue certificate of unlimited duration); Sunray Mid-Continent Oil Co. v. Federal Power Comm'n, 364 U.S. 137, 141-47 (1960)(requiring Commission to place time limits on certificate would impair control over abandonment); Harper Oil Co. v. Federal Power Comm'n, 284 F.2d 137, 139-40 (10th Cir. 1960)(Commission empowered to force producer to continue gas sales).

100. *See* 18 C.F.R. § 157.30 (1987).

101. The Panhandle Field gas reserves were subject to maximum area rates established for the Hugoton Anadarko area. *See* FPC Opinion 586, 44 F.P.C. 761 (1970), 18 C.F.R. § 154.106 (1970); *see also* FPC Opinion 770-A, 56 F.P.C. 2699 (1976), 18 C.F.R. § 2.56(b) (1976); FPC Opinion 699H, 52 F.P.C. 1604 (1974), 18 C.F.R. § 2.56(a) (1974).

controversy surrounding production practices in the Panhandle Field to flare up again.[102] For several years, development of gas reserves in the United States had not occurred fast enough to develop gas supplies capable of meeting peak consumer needs. Spot shortages began occurring throughout the country. In Texas, gas producers were allowed to sell their gas to intrastate pipelines at a price higher than the FPC allowed interstate piplines to pay. As a result, most new gas supplies were sold in intrastate commerce for prices which were much higher than the historical range of gas prices. In 1973, oil prices made a dramatic jump in response to international conditions, and shortages of oil developed. The federal government's attention became focused on problems inherent in the supply of oil and gas to consumers. Many legislative proposals were initiated to alter the treatment of supply issues.

In 1978, Congress passed the Natural Gas Policy Act of 1978 (NGPA),[103] which drastically altered the regulatory treatment of gas sold in interstate commerce. Gas produced from qualifying "new wells"[104] was freed from the regulatory constraints of the NGA and was allowed to be sold at higher prices established under the NGPA. Gas produced from older wells dedicated to interstate commerce remained subject to all of the regulatory constraints of the NGA, including the existing price ceilings and the abandonment requirements.

By the end of the decade, the oil rights owners had substantial economic incentives to attempt development of oil and casinghead gas reserves. Oil prices had risen significantly for new wells, so more oil could now be profitably produced than in the past. Even more significantly, due to an increase in gas prices, the potential value of casing-

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102. There was some minor controversy in the mid-1950's as well. Railroad Commission memorandum dated January 31, 1956, addressed to all operators in the Panhandle Field, noted that some oil operators had reportedly perforated their wells in the dry gas zone and were selling the gas as casinghead gas. The memorandum stated this practice was in violation of Commission rules and would be dealt with severely. *See* Memo from Mr. J.G. McClintock, Deputy Supervisor, Oil and Gas Divisionn of Railroad Comm'n of Texas to all operators of oil wells in all fields in the Panhandle of Texas, District #10 (Jan. 31, 1956). In 1957, the Commission noted that the amount of casinghead gas production in the Panhandle Field had undergone a significant increase, and it ordered a comprehensive study of gas/oil ratios in the Panhandle Field to be conducted, beginning October 1, 1957. *See* In re *Conservation of Oil and Gas in the Panhandle Field of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Sept. 16, 1957).

103. Pub. L. No. 95-621, 92 Stat. 3351 (codified as amended in 15 U.S.C. § 3301-3432 (1982)).

104. *See* 15 U.S.C. § 3301(3)(a) (1982).

head gas had drastically increased, thus increasing potential profits from production of casinghead gas. These economic incentives caused many oil rights owners to look for ways to develop their oil rights fully. To do this, it was necessary that the oil rights owners classify as much of the gas as possible as casinghead gas.

Most of the gas rights owners in the area dedicated their gas reserves to interstate commerce, however, gas right's dedication did not cover the rights in casinghead gas which was considered a part of oil rights. Therefore, the oil rights owners claimed the right to sell the casinghead gas at the higher prices being offered for new gas supplies. The oil rights owners claimed that their production of casinghead gas qualified for pricing and deregulation under section 103 of the NGPA which allowed sellers of gas produced from a "new onshore production well" to sell the gas for a relatively high price, free of any dedications imposed under the Natural Gas Act.[105]

A new onshore production well was defined as any well commenced after February 19, 1977, which was not completed into an existing proration unit.[106] The Railroad Commission established gas proration units of either 640 acres or 160 acres for gas wells in the West and East Panhandle Fields. For oil wells in the same Panhandle oil fields the Railroad Commission established much smaller proration units, generally either ten or twenty acres. The oil operators claimed that these smaller units were not "within an existing proration unit" within the meaning of the NGPA, even though they overlapped the same acreage assigned to gas proration units for existing gas wells.[107] Thus, the oil operators claimed that the casinghead gas produced from the oil wells was not produced from an existing proration unit, and would qualify for the benefits of section 103 of the NGPA.[108] They reported their well completions accordingly and sold large volumes of gas at high prices, free of dedications imposed by the gas rights owners.[109] The gas operators claimed that the new oil and casinghead gas operations resulted in the rapid drainage of their gas reserves.[110] Many of the gas operators filed actions to stop these new

105. *See id.* § 3313(b)(1).

106. *See id.* § 3313(c).

107. *See In re* Stowers Oil & Gas Co., 30 F.E.R.C. ¶ 63,017 at 65,026-45 (1985)(recommended decision).

108. *See id.*

109. *See id.*

110. *See id.*

practices.[111]

Oil rights owners engaged in two questionable practices. First, they reported, as oil, any substance (white oil) extracted from their wells' gas stream. These substances were in the gaseous phase in the reservoir and when produced at the wellhead, but were condensed into liquids on the leases where they were produced, generally by the use of small low temperature extraction units (LTX units).[112] The gas operators claimed that this substance was natural gasoline, not oil. The oil operators relied upon a letter by Mr. Fred Young, and addressed to one operator in the field as supporting their position.[113] The gas operators challenged this assertion and pointed out that the Young letter was, at best, ambiguous and contradicted the position announced by the Railroad Commission's engineering staff both before and after it was written.[114] The oil operators also claimed that the substances recovered were liquids under the original conditions of the reservoir, but that they had vaporized as the gas pressure decreased with production. This theory was also challenged by the gas operators. Many oil operators continued to condense fluids to classify their wells, until the Railroad Commission finally ordered the practice to cease in May, 1985.[115]

The second practice involved the high perforations issue.[116] While some quantities of oil might be produced through the higher perforation, the main economic incentive for the operation was the gas that might be produced. The oil operators claim that the entire productive

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111. *See id.*

112. *See Application of Phillips Petroleum Company For Amendment Of Special Field Rules, Panhandle (Osborne); Panhandle, Carson County; Panhandle, Collingsworth County; Panhandle, Gray County; Panhandle, Hutchinson County; Panhandle, Moore County; Panhandle, Potter County; Panhandle, Wheeler County; Panhandle, East; Panhandle West; Panhandle, East (Albany Dolomite, Lower) Fields*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-77,314 at 22-30 (Feb. 1, 1985). These LTX units chilled the gas down to low temperatures and caused the heavier components of the gas to drop out as liquids, which the oil operators claimed to be oil.

113. *See* Letter from Mr. Fred Young, General Counsel of the Texas Railroad Commission's Oil and Gas Division, to Tuco, Inc. (Dec. 30, 1977).

114. A portion of the confusion apparently arose from the fact that the Railroad Commission used reports of gas and liquid production for many purposes, only one of which was the classification of wells, and it required that production be reported in different manners for different purposes.

115. *See* In re *Application of Phillips Petroleum*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-77,314 (1985).

116. *See supra* text accompanying notes 9-10.

interval from the bottom of the Granite Wash to the top of the Brown Dolomite is one common reservoir, or one common source of supply, with good communication throughout. Based upon that analysis, they claim that the entire reservoir interval is one stratum, within the meaning of the Texas statutes, so that any gas produced along with oil production from anywhere in the reservoir is gas produced with oil from an oil stratum, or casinghead gas. They claim that the Railroad Commission has always regarded the Panhandle Field productive interval as one common reservoir, so they should be permitted to commingle gas and oil production from any portion of that interval. The only restriction the oil producers acknowledge is that they cannot produce more than 100,000 cubic feet of gas for each barrel of oil they produce.[117]

The gas operators agrue that, although the Railroad Commission never specifically denoted where the oil zones ended and the gas zones began, the Commission's pattern of regulation showed that zones whose primary commercial value was for production of oil were regulated separately from those zones which were valuable because of their potential for gas production. As a general rule, the line of demarcation between the zones occurred in the Granite Wash formation. The gas operators further claim that, even if the entire productive interval were to be considered as a common reservoir, then the Railroad Commission exercised its statutory right to zone the reservoir and regulate the zones as separate reservoirs. The gas operators rely upon regulations which have been in force since 1931,[118] requiring the oil operators to case off the gas zones and not commingle the gas production with oil production.[119] Finally, the gas operators assert that the term stratum has a much narrower meaning than the terms "common reservoir" and "common source of supply." They claim that a reservoir may consist of several different strata and that some strata may be oil strata, while others may be gas strata.

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117. *See* TEX. NAT. RES. CODE ANN. § 86.002(5)(B) (Vernon 1978). The oil operators claim that the entire Panhandle Field interval has never been regulated as a common source of supply, but that the Railroad Commission has instead, historically regulated the oil zones separately from the gas zones.

118. *See supra* notes 22-68 and accompanying text.

119. At this writing, the high perforations issue is the subject of an extensive ongoing evidentiary hearing at the Railroad Commission. *See* In re *Conservation and Prevention of Waste of Crude Petroleum and Natural Gas in the State of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-87,017 (1986)(commonly known as Panhandle II).

Only gas produced with oil from an oil stratum may qualify as casinghead gas.[120]

The high perforations issue was decided by the FERC against the oil operators,[121] and is now on appeal.[122] The Attorney General for the State of Texas, on behalf of the Railroad Commission, has filed a brief in the case, challenging the FERC's jurisdiction to decide the high perforations issue in the absence of a prior adjudication by the Railroad Commission.[123] Proceedings are now underway at the Railroad Commission concerning the legality of the high perforations practices.[124] Judicial actions on the same subject are also pending.[125] Thus, the longstanding jurisdictional questions associated with the Panhandle Field regulations have continued. At this writing, many of the wells with high perforations continue to operate.

Legitimate oil operators in the area have been given several regulatory advantages over gas operators. Because the field rules allow oil wells to be drilled on much smaller proration units than gas wells, oil operators have been able to complete many times the number of wells that are allowed for gas operators. To avoid limiting the production of oil below its demand, the Railroad Commission has required pipeline companies to take casinghead gas as a higher purchase priority than gas produced from most gas wells.[126] Also the oil operators' wells are prorated based upon considerations of oil market demand rather than gas market demand. In recent years, the market demand factor for oil has been higher than the factor for gas, and much casinghead gas has been taken in preference to gas well gas, which has been severely curtailed. Thus, the oil operators have been able to ex-

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120. *See In re* Stowers Oil & Gas Co., 30 F.E.R.C. ¶ 63,017 at 65,038-40 (1985)(recommended decision).

121. *See In re* Stowers Oil & Gas Co., 32 F.E.R.C. ¶ 61,043 (1985)(Op. No. 239; Opinion and Order).

122. *See* Walker Operating Corp. v. Federal Energy Regulatory Comm'n, 33 F.E.R.C. ¶ 61,207 (1985), *appeal docketed*, No. 85-2683 (10th Cir. 1987).

123. *See* Attorney General of Texas' Brief for Walker Operating Corp., Walker Operating Corp. v. Federal Energy Regulatory Comm'n, 33 F.E.R.C. ¶ 61,207 (1985), *appeal docketed*, No. 85-2683 (10th Cir. 1987).

124. *See* In re *Application and Prevention of Waste of Crude Petroleum and Natural Gas in the State of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-87,017 (1986).

125. *See* Walker Operating Corp. v. Federal Energy Regulatory Comm'n, 33 F.E.R.C. ¶ 61,207 (1985), *appeal docketed*, No. 85-2683 (10th Cir. 1987); Dorchester Gas Producing Co. v. The Harlow Corp., No. 07-86-0024-CV, slip op. (Tex. App.—Amarillo Jul. 23, 1987, n.w.h.).

126. *See* Tex. R.R. Comm'n, 16 TEX ADMIN. CODE § 3.34 (Hart Nov. 1, 1986).

tract much higher volumes of gas from the reservoir than the gas operators. In addition, oil operators have been able to sell this gas for higher prices than the gas operators, because they operate free of many of the regulatory constraints imposed upon gas operators.

Gas operators have not taken this situation lightly. They have filed proceedings with the Railroad Commission, with the FERC, and in both state and federal courts, seeking damages and other relief from the practices of the oil operators.[127] Practically all of these proceedings are still ongoing at one stage or another, and many judicial actions are still awaiting trial. However, opinions have now been rendered in several important cases. Before the most recent cases are summarized the relevant legal issues will be reviewed.

III. LEGAL BASES FOR GAS OPERATORS' CLAIMS

The ongoing white oil and high perforation controversies must address several critical issues in order to be properly resolved. Following is an analysis of many of the critical issues which will require a final resolution.

A. *Statutory Authority for Gas Operators' Claims*

1. Elements of Casinghead Gas Definition

The present controversy in the Panhandle Field is focused on the proper definition of casinghead gas. In contrast to the earlier controversies, the real value in modern white oil operations results from the sale of residue gas, after the liquefiable products have been extracted. In early years, the operators who were without adequate markets for this gas received value only through the sale of liquids stripped out of the gas by processing. The residue gas was flared as an unwanted by-product of the processing operations. The gas conservation statutes were originally designed to control these wasteful practices through a system of prorating production from gas wells. Oil wells were to be subject to a separate pattern of proration, which was primarily concerned with preventing the waste of oil rather than gas. Some gas was necessarily produced along with much of the oil production. This gas

127. *See, e.g.*, Pan Eastern Exploration Co. v. Hugo Oils, No. 87-1033 (5th Cir. 1987); Dorchester Gas Producing Co. v. The Harlow Corp., No. 07-86-0024-CV, slip op. (Tex. App.—Amarillo Jul. 23, 1987, n.w.h.); *In re* Stowers Oil & Gas Co., 33 F.E.R.C. ¶ 61,255 (1985)(Op. No. 247; Opinion and Order); 40 F.E.R.C. ¶ 63,001 (1987)(recommended decision in remedy).

was exempted from the statutory gas proration system and was intended to be governed by the oil proration rules. The definition of casinghead gas was strictly limited to only gas produced as a necessary incident to legitimate oil production. Now, although the purposes of the white oil operators are exactly the opposite of those of old, the same definitions control the proper regulatory pattern applicable to the gas produced by the white oil operators.[128]

The statutory definition of casinghead gas is found in section 86.002(10).[129] This definition may be broken down into three distinct elements, each of which must be present for a substance to qualify as

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128. The most obvious legal source of support for the definitions of gas, oil, and casinghead gas is found in the Texas Natural Resources Code ("Code"). These definitions are recodifications of provisions which were formerly included in article 6008 of the Texas Revised Civil Statutes, as enacted by House Bill 266. The wording of the relevant statutes is virtually unchanged from that originally passed in 1935. Most of the relevant terms are defined in section 86.002 of the Code:

(1) "Oil" means crude petroleum oil.

(2) "Gas" means natural gas.

. . . .

(7) "Dry gas" means gas produced from a stratum that does not produce oil.

. . . .

(10) "Casinghead gas" means any gas or vapor indigenous to an oil stratum and produced from the stratum with oil.

TEX. NAT. RES. CODE § 86.002 (Vernon 1978).

The Code also defines gas wells and oil wells. Although the issues of how wells are to be classified are not automatically determinative of the title issues involved in many white oil cases, the regulatory scheme does illuminate the title issues. Again, section 86.002 of the Code provides the pertinent definitions:

(5) "Gas well" means a well that

(A) produces gas not associated or blended with oil at the time of production;

(B) produces more than 100,000 cubic feet of gas to each barrel of oil from the same producing horizon; or

(C) produces gas from a formation or productive horizon productive of gas only encountered in a wellbore through which oil is also produced through the inside of another string of casing.

(6) "Oil well" means a well which produces one barrel or more of crude petroleum oil to each 100,000 cubic feet of natural gas.

Id.

The Code defines waste in a manner consistent with the other definitions. In particular, the definition of waste includes "the production of natural gas from a well producing oil from a stratum other than that in which the oil is found unless the gas is produced in a separate string of casing from that in which the oil is produced." *Id.* § 86.012(11) (Vernon Supp. 1987). Additionally, waste includes the "operation of an oil well or wells with an inefficient gas/oil ratio." *Id.* § 86.012(1).

129. *See id.* § 86.002(10).

casinghead gas. The first element is that casinghead gas must be *gas* or *vapor*. This element is fairly easily explained as meaning natural gas, including its heavier vaporized elements, such as vaporized natural gasoline.[130]

The next element in the definition is *indigenous to an oil stratum*. The meaning of this element is vague and is one key "distinction" the white oilers have frequently sought to emphasize. However, in view of its historic usage and the context of the present statute, its meaning becomes apparent.

The third element of the definition is *produced from the stratum with oil*. This third element serves to limit the broad definition of the second element, and also helps to focus the entire definition. The key phrases which must be interpreted are: what is oil; what is an oil stratum; what gas is indigenous to an oil stratum; and what gas is produced from an oil stratum.

2. What is Oil?

Since casinghead gas must be produced with oil from an oil stratum, it is dependent upon the presence of oil. Oil is defined as crude petroleum oil. This definition would not be expected to create any uncertainties. Virtually every Texan is familiar with the legendary "black gold" which has been produced for decades. This common sense definition is the most appropriate, and it is consistent with all of the authorities on point.[131] However, for various economic reasons,

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130. *See id.* Gas does not exist as casinghead gas in the earth, and the legal nature of gas does not become fixed until the time of production. Further, there can be no specific real property rights in casinghead gas except those purely incidental to oil rights. Instead, casinghead gas exists as a legal concept only as personal property, because all gas becomes personalty when it is produced. *See* Bender v. Brooks, 127 S.W. 168, 170 (Tex. 1910)(minerals become land owner's property as soon as it is extracted). Thus, any legal right to produce casinghead gas can exist as a real property right only insofar as it arises as a necessary incident of the right to produce oil. There can be no vested real property rights in casinghead gas. This distinction helps to explain away the "vaporized crude oil" theory propounded by some of the white oil operators. This theory basically asserts that much of the gaseous substances now being produced were, theoretically, in the liquid phase under original conditions in the reservoir, and the gas is consequently casinghead gas. The theory has been rejected by the Railroad Commission in the *Phillips* proceeding, and by the FERC in the *Stowers* proceeding. *See Final Order, Application Of Phillips Petroleum Company*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-77,314 (May 13, 1985); *In re* Stowers Oil & Gas Co., 32 F.E.R.C. ¶ 61,043 (1985)(Op. No. 239; Opinion and Order).

131. *See, e.g.*, Colorado Interstate Co. v. Hufo Oils, 626 F. Supp. 38, 45 (W.D. Tex. 1985)

different operators through the years have attempted to claim that natural gasoline is in fact oil.

Although they have consistently lost this argument, it continues to be revived. The modern manifestations are the claims to white oil produced from the Panhandle Field.

(a) The Legislature Decided that White Oil is Natural Gasoline

The Texas legislature determined that white oil is in fact natural gasoline, defined in the Natural Resources Code as being an element of gas.[132] The Senate Journal with the legislative history of House Bill 266 graphically illustrates that the senators recognized that oil did not include petroleum liquids extracted from gas.[133] The representatives for the white oil lobby at the time of House Bill 266's enactment made a concerted attempt to have the definitions broadened to include these terms, but they were completely unsuccessful.[134] The code expressly recognizes that plant operators may extract the natural gasoline content from both "dry" and casinghead gas streams, and the code specifically regulates the use of these plants.[135]

The LTX units and similar plants used to manufacture white oil are undeniably natural gasoline plants within the meaning of the code, and therefore, the plant products must necessarily be natural gasoline.[136]

(b) Railroad Commission's Definition of Oil

Under sections 85.041 and 85.042 of the Natural Resource Code, the Railroad Commission has been granted specific authority to issue rules and orders necessary to enforce the provisions of the Code and to prevent waste.[137] The Railroad Commission specifically excluded "hydrocarbon liquids . . . formed by condensation from a gas phase"

(crude petroleum oil means liquid oil in the ground); Clymore Production Co. v. Thompson, 13 F. Supp. 469, 470-71 (W.D. Tex. 1936)(oil means liquid in ground as oil).

132. *See* TEX. NAT. RES. CODE ANN. § 86.002(11)(Vernon 1978).

133. *See* S.J. of Tex., 44th Leg., Reg. Sess. 1281-96 (1935).

134. *See id.*

135. *See* TEX. NAT. RES. CODE ANN. §§ 87.091-.174 (Vernon 1978)(regulates plants extracting natural gasoline).

136. *See id.* at § 87.092.

137. *See* Act of Apr. 13, 1935, ch. 76, § 10, 1935 Tex. Gen. Laws 187, *codified at* TEX. REV. CIV. STAT. ANN. art. 6046, 6049e(10) (Vernon 1962), *current version at* TEX. NAT. RES. CODE ANN. §§ 85.041-42 (Vernon 1978).

from an inverse definition of crude petroleum oil in its definition of "gas well" under its Statewide Rule 79(7): "crude petroleum oil shall not be construed to mean any liquid hydrocarbon mixture, or portion thereof, which is not in the liquid phase in the reservoir, removed from such reservoir in such liquid phase, and obtained at the surface as such."[138]

(c) Judicial Definition of Oil

Courts have recently reviewed the white oil issue in several cases.[139] In each case, the court properly reasoned that white oil condensed from gas after production is natural gasoline and is not crude petroleum under the relevant statutory definitions. As one federal district court noted, if the rule were otherwise, the statutory definitions of oil and gas wells would be based upon meaningless criteria.[140] Further, no gas production would fall within the statutory meaning of "gas not associated or blended with oil at the time of production," and white oil operators could adjust their gas/oil ratios at will to qualify their wells as either gas or oil wells as they choose.[141] The recent cases

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138. Tex. R.R. Comm'n, Rule 79(7)(1939). The Railroad Commission's general rules should be construed in the same manner as statutes. *See* Lewis v. Jacksonville Bldg. & Loan Ass'n, 540 S.W.2d 307, 310 (Tex. 1976)(valid administrative rules construed as statutes); Trapp & Shell Oil Co., 145 Tex. 323, 347-49, 198 S.W.2d 424, 439 (1946)(duly authorized Commission order or rule should be considered like act of legislature). Rule 79 was first published as *General Order Classifying Gas Wells Producing Condensate In The State Of Texas*, dated January 19, 1939, following the decision in *Clymore Production Co. v. Thompson*, 13 F. Supp. 469 (W.D. Tex. 1936).

139. *See, e.g.*, Colorado Interstate Gas Co. v. Hufo Oils, 626 F. Supp. 38 (W.D. Tex. 1985), *aff'd*, 802 F.2d 133 (5th Cir. 1986)(gas well lessee's declaratory judgment suit regarding its rights and oil well lessee's rights); Hufo Oils v. Railroad Comm'n of Texas, 717 S.W.2d 405 (Tex. App.—Austin 1986, writ requested)(oil producers filed administrative appeal after commission determined that natural gasoline was not oil).

140. *See* Colorado Interstate Gas Co. v. Hufo Oils, 626 F. Supp. 38 (W.D. Tex. 1985).

141. The courts held that white oil was not oil shortly after passage of House Bill 266. In *Clymore Prod. Co. v. Thompson*, 13 F. Supp. 469 (W.D. Tex. 1936) the plaintiffs claimed that a water-white liquid accumulated in a separator attached to a choke should be counted as oil to turn a gas well into an oil well. Alternatively, the plaintiffs claimed that the gas was casinghead gas. The court resoundingly rejected both arguments:

> We think it perfectly obvious that the statutory definition of an oil well was never intended to cover wells of this character, which normally produce gas and can only be made to produce oil by the use of manufacturing process, however crude, at the head of the well. Furthermore, it is our opinion that, regardless of the question of the manner of production, the water-white liquid caught and saved in the separator is not crude oil within the sense of the statute defining oil wells.
>
> We believe that there enters into the definition of crude oil in all applicable statutes, the

merely follow the historical line of cases deciding the issue.

(d) Recent Regulatory Cases Defining Oil

The Railroad Commission recently held lengthy hearings and reviewed extensive evidence concerning the white oil produced from the Panhandle Field. The Commission concluded that the white oil was natural gasoline, not oil, and could not be used to classify gas wells as oil wells.[142] This reaffirms the historical interpretation that crude oil must be liquid in the reservoir, in the wellbore, *and* at the wellhead, and that Statewide Rule 79(7) has always applied to the Panhandle Field.[143] The District Court of Travis County, in an appeal by defendant Hufo Oils, entered a declaratory judgment "that the Railroad Commission correctly interpreted the substantive law of Texas as prohibiting the use of natural gasoline as crude oil for well classification purposes."[144] This decision was subsequently upheld by the Austin court of appeals.[145]

The FERC similarly held lengthy hearings on the issue of the drainage of gas in the Panhandle Field. After reviewing extensive evidence, the FERC also concluded that white oil was natural gasoline—

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proposition that the substance referred to should lie in the bed or reservoir as oil and as oil being produced from it. It was certainly never intended to cover distillates such as those involved here when the statute speaks of the production of crude petroleum oil . . . . We think it manifest that the Legislature in speaking of crude petroleum oil meant a liquid existing in the ground as oil and as such produced from it. It is our opinion that this condensate or distillate caught in complainants' separators is not crude petroleum within the contemplation of the statute.

What has been said disposes of complainants' alternative contention that the gas is casinghead gas. The statute provides that casinghead gas shall mean any gas and/or vapor indigenous to an oil stratum and produced from such stratum with oil.

While we are of the opinion that complainants' gas is wet and has at some point contacted oil, it is most certainly not at this time produced from an oil stratum, nor is it produced with oil.

Id. at 470-71.

142. *See Final Order, Application of Phillips Petroleum Company*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-77,314 (May 13, 1985); *Proposal for Decision, Application of Phillips Petroleum Company*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-77,314 (Feb. 1, 1985).

143. *See id.*

144. Hufo Oils v. Railroad Comm'n of Texas, No. 382,447 (Dist. Ct. of Travis County, 250th Judicial Dist. of Texas, Oct. 9, 1985).

145. *See* Hufo Oils v. Railroad Comm'n. of Texas, 717 S.W.2d 405, 409 (Tex. App.—Austin 1986, writ requested).

not oil—and belonged to the owners of the gas and gas rights.[146] The FERC further found that, in those wells where there exists legitimate oil, all perforations by the oil rights owners of intervals lying above the gas-oil contact were illegal and in violation of the rights of the owners of the gas and gas rights.[147]

Recently, the Railroad Commission has conducted further hearings exploring the legality of high perforations operations.[148] These hearings are still ongoing and no decisions have yet been rendered. A crucial issue to be decided in these hearings is whether all zones in the Panhandle Field area can be considered as one stratum. How this issue is decided will determine whether wells may be legally completed in both oil zones and gas zones within the field.

3. What Is An Oil Stratum?

Under the statutory definitions, casinghead gas must be both indigenous to and produced from an oil stratum. To determine what constitutes casinghead gas, one must determine what is an oil stratum. This aspect of the definition causes the most serious question in the present high perforations controversy. The Texas Natural Resources Code generally prohibits the downhole commingling of oil produced from one stratum with gas produced from a different stratum as being a wasteful practice. However, the Railroad Commission may allow the commingling of oil and gas from multiple stratigraphic accumulations, if after notice and hearing the Commission finds that commingling will prevent waste, promote conservation, or protect correlative rights.[149]

(a) Panhandle Field Regulations

On December 10, 1935, the Railroad Commission in Docket No. 108 entered Special Order Fixing Allowable Production of Sweet and Sour Natural Gas in the Panhandle District of Texas, which prorated gas production from the Panhandle Field.[150] The Railroad Commission

146. *See In re* Stowers Oil & Gas Co., 32 F.E.R.C. ¶ 61,043 at 61,132 (1985)(final order); 30 F.E.R.C. ¶ 63,017 at 65,026 (1985)(recommended decision).

147. *See id.*

148. *See* In re *Conservation and Prevention of Waste of Crude Petroleum and Natural Gas in the State of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-87,017 (1987).

149. *See* TEX NAT. RES. CODE ANN. § 86.012(a)(11), (b) (Vernon Supp. 1987).

150. *See Special Order Fixing Allowable Production of Sweet and Sour Gas in the Panhandle District of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (1935). This

specifically stated:

> The oil wells in the oil pools in the field were, as a general rule, drilled through one or more gas-containing strata before entering the oil-containing stratum, and, in many instances, the wells were so completed as to cause production of gas from the gas strata along with the oil and gas from the oil stratum, with the result that tremendous quantities of gas have been produced with the oil, large portions of it coming from gas-producing strata above the oil-producing strata. This gas was in large part blown into the air, and it has been estimated that in excess of two trillion cubic feet of gas produced in this manner has been wasted into the air.[151]

This order indicates that in 1935 the Railroad Commission interpreted the term stratum to apply to a specific zone within the Panhandle Field, and not to the entire reservoir structure. The Railroad Commission had already enacted regulations to stop oil operators from completing their wells in both the gas stratum and the oil stratum. The Commission again specifically declared "that no gas well or oil well be permitted to produce gas from different levels, sands or strata at the same time through the same string of casing."[152] This order illustrates the understanding that oil production is limited to extraction from an oil stratum located below the separate gas strata. Because casinghead gas can only be found incident to oil production, there could be no legitimate claim that gas produced from the upper gas strata is casinghead gas. This interpretation was issued contemporaneously with the passage of House Bill 266, and it reflects the understanding of the meaning of the terms at that time.[153]

(b) Early Regulatory Usage

The terms stratum and sand were used interchangeably in numerous places in Senate Bill No. 350 of the 1919 State Legislature, which was the first comprehensive oil and gas regulatory statute.[154] The terms were also used and defined in Railroad Commission Circulars 7

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special order was entered the same year House Bill 266 passed, and it contains an extensive discussion of past practices in the Panhandle Field.

151. *See id.* at 1.

152. *Id.* at 12.

153. *See id.*

154. Act of Mar. 31, 1919, ch. 155, §§ 1-5, 1931 Tex. Gen. Laws 285-87 (codified 1925).

and 11, the Railroad Commission's first statewide rules.[155] These statutes were principally designed to prevent the waste of gas, and have formed the backbone of the basic regulatory framework which has existed to the present day.[156]

(c) Meaning of Rules

The meaning of the early rules is obvious. If a particular formation, sand, or stratum was capable of producing gas in commercial quantities, without commercial quantities of oil, then it was a gas stratum. All gas strata had to be protected. Only those intervals where oil could be found in commercial quantities were to be considered as oil strata. Gas operators had no more right to perforate gas zones near an oil stratum than they did to perforate water zones which might flood a nearby oil stratum. The only gas which would be considered as casinghead gas would be gas dissolved in oil or found in gas pockets in high points in strata recognized as oil strata. The white

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155. *See* Tex. R.R. Comm'n, Circular 11 at 3-15 (1920); Tex. R.R. Comm'n, Circular 7 at 3-9 (1919).

156. *See* Act of Mar. 31, 1919, ch. 155, 1919 Tex. Gen. Law 285, *amended by* Act of June 12, 1920, ch. 14, 1920 Tex. Gen. Laws 18. In article 1 of Senate Bill No. 350, "waste" was defined in part as:

> (a) Escape of natural gas in commercial quantities from a stratum recognized as a natural gas stratum; but this is not intended to have application to gas pockets in high points in strata recognized as oil strata. . . .

Id. at 285-86.

Identical language was found in rule 2 of Circular 11. Both the bill and Circulars 7 and 11 refer to "gas stratum," "sand," and "casinghead gas" in numerous places, showing that such terms had established meanings. The terms stratum and sand were used interchangeably. *See* Tex. R.R. Comm'n, Circular 11 at 3-15 (1920); Tex. R.R. Comm'n, Circular 7 at 3-9 (1919). A "gas stratum" was a sand area from which commercial quantities of gas could be produced. Operators were required to confine all oil and gas to their original strata, except during drilling operations allowed under rule 3 of Circular 11.

Rule 15 of Circular 11 provided that "[n]o wells shall be permitted to produce oil and gas from different strata unless it be in such a manner as to prevent waste of any character to either product and in accordance with Rule 3." *See* Tex. R.R. Comm'n, Circular 11, Rule 15 (1920). This rule was reinforced by Rule 16, providing that, subject to Rule 3, "[n]o well shall be drilled through or below any oil, gas or water stratum, without sealing off such stratum or the contents thereof, after passing through the sand . . . . " *Id.* Rule 3.

Rule 21 required the use of approved separating devices "where oil and gas are found in the same stratum and it is impossible to separate the one from the other . . . . " *Id.* Rule 21. In its context, rule 21 clearly evidenced that oil and gas were to be produced together only when it was "impossible to separate the one from the other." *Id.* This could occur only when gas was in solution in or in very close association with oil in the oil stratum. *See* Tex. R.R. Comm'n, Circular 15 (1932); Tex. R.R. Comm'n, Circular 16B (1934). These rules existed in substantially the same form at the time House Bill 266 was passed.

oilers should be hesitant to claim that the entire Panhandle Field (over 1.5 million acres) is, a single gas pocket above the various isolated oil pools in the area. The same understanding reflected by these rules was incorporated into the definitions of House Bill 266.[157]

(d) Industry Usage

The meaning of a stratum in the early rules is also consistent with accepted industry usage and technical terminology. The United States Bureau of Mines has defined "stratum" as "a bed or layer of rock . . . ."[158] A petroleum reservoir is a rock capable of containing gas, oil or water.[159] Under certain circumstances, a reservoir may consist of more than one stratum or sand. Thus, various strata, or layers of rock, may hold accumulations of gases or fluids which may be in communication with each other, but which lie in separate strata. These statutory definitions reflect understandings consistent with industry usage.[160]

4. What Gas is Indigenous to an Oil Stratum?

Under the statutory definition of casinghead gas, it must not only

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157. *See* Act of May 1, 1935, ch. 120, §§ 2-3, 1935 Tex. Gen. Laws 319-20 (codified 1962).

158. UNIVERSITY OF TEXAS AT AUSTIN, PETROLEUM EXTENSION SERVICE, FUNDAMENTALS OF PETROLEUM 37 (1979)(stratigraphy is study of composition, distribution, and succession of rock strata, which are distinct, generally parallel beds of rock). *See generally* U.S. DEPT. OF INTERIOR, BUREAU OF MINES, A DICTIONARY OF MINING, MINERAL AND RELATED TERMS (1968).

159. *See* UNIVERSITY OF TEXAS AT AUSTIN, PETROLEUM EXTENSION SERVICE, FUNDAMENTALS OF PETROLEUM 10 (1979). A reservoir is described as "a natural underground container of liquids, such as oil or water and gases. In general, such reservoirs were formed by local deformation of strata, by changes in porosity, and by intrusions . . . rock formations having productive possibilities, the pay section." U.S. DEPT. OF INTERIOR, BUREAU OF MINES, A DICTIONARY OF MINING, MINERAL AND RELATED TERMS (1968).

160. *See* TEX. NAT. RES. CODE ANN. § 85.001(a) (Vernon 1978). The Natural Resourses Code defines "pool," "common pool," "field," "common source of supply," and "common reservoir" as synonymous terms meaning "an underground reservoir connecting a connected accumulation of crude petroleum oil, or natural gas, or both." *Id.* A similar definition of common reservoir is set out in § 86.002(4). *See id.* § 86.002(4). These definitions are much broader than the concept of a stratum or sand, which are not interchangeable with the terms pool or common reservoir. *See* Tex. R.R. Comm'n, Circular 7; Tex. R.R. Comm'n, Circular 11; Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE §§ 3.69(5), (7)(a), (10), 3.26(a) (Hart Nov. 1, 1986); *see also In re* Stowers Oil and Gas Co., 32 F.E.R.C. ¶ 61,043 at 61,135-36 (1985)(final order); 30 F.E.R.C. ¶ 63,017 at 64,046-48 (1985)(recommended decision); *Proposal For Decision, Application Of Phillips Petroleum Co.*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-77,314 (Feb. 1, 1985)(finding of fact no. 36 on pages 11-12).

be "produced from" an oil stratum with oil, it must also be "indigenous to" such oil stratum.[161] Essentially, the indigenous requirement merely restates the obvious necessity that the gas not be introduced into the oil stratum by artificial or mechanical means, such as by gas lift or injection.

There does not appear to be any precise legal definition of the term "indigenous." The most appropriate dictionary definition is "native, produced naturally in a country or region."[162] Perhaps the closest analogy is found in the laws relating to wild animals (the fabled "ferae naturae"), which may be native to a region but are also migratory across property lines.[163] These ferae naturae are subject to the law of capture in a manner similar to casinghead gas, so that the property owner may acquire rights in them only by reducing them to possession.[164] This analogy is particularly appropriate in the present controversies, since the oil rights owners can obtain no property rights in casinghead gas until it is actually produced with oil from the oil stratum.

In the recent decision of *Dorchester Gas Producing Co. v. The Harlow Corp.*,[165] the court held that, as a matter of law, the Brown Dolomite formation was a gas-indigenous formation under the lands in issue. This opinion provides a thorough and well-reasoned approach to the meaning of the definition of casinghead gas.

5. What Gas is Produced from an Oil Stratum?

The definition of an oil stratum clearly implies that the stratum must contain commercially producible quantities of oil. The requirement for commercial quantities has long been implied in oil and gas matters. For instance, the 1919 statutes and regulations, which provided a foundation for the current statutes, defined gas stratum by reference to stratum containing commercial quantities of gas.[166] In

161. *See* TEX. NAT. RES. CODE ANN. § 86.002(10) (Vernon 1978).

162. WEBSTER'S NEW UNIVERSAL UNABRIDGED DICTIONARY 931 (2d ed. 1983).

163. *See* Bowers v. Edwards County Appraisal Dist., 697 S.W.2d 528, 530 (Tex. App.—San Antonio 1985, no writ)(wild deer and wild turkey indigenous to state); Wiley v. Baker, 597 S.W.2d 3, 5-6 (Tex. Civ. App.—Tyler 1980, no writ)(ferae naturae legitimate prey once property line crossed).

164. *See* Elliff v. Texon Drilling Co, 146 Tex. 575, 580-82, 210 S.W.2d 558, 561-62 (1948) ("law of capture" applies to landowner producing gas which migrates from adjoining land).

165. No. 07-86-0024-CV, slip op. (Tex. App.—Amarillo, July 23, 1987, n.w.h.).

166. *See* Act of Mar. 31, 1919, ch. 155, § 2, 1919 Tex. Gen. Laws 286 (codified 1925).

other contexts, even under the strictest of interpretations, a well has been defined to be productive of gas only unless it is capable of producing liquid products in paying quantities, so that it would be economically practical to operate the well to produce liquid condensate alone.[167] Thus, an oil stratum can only be a limited subsurface bed of rock where commercially producible quantities of oil lie.

6. Must an Oil Stratum be Produced Through an Oil Well?

The quantity of dissolved or associated gas within an oil stratum must be low enough that the gas/oil ratio of any production from the stratum will fall within the parameters for classifying wells as oil wells, i.e., less than 100,000 cubic feet of gas per barrel of oil (100 Mcf/bbl). Otherwise, the statutes would allow the incongruous result of certain gas wells producing only casinghead gas from an oil stratum. This result is clearly not intended by the Natural Resources Code. There are no classifications for casinghead gas wells; there are only statutory oil wells and statutory gas wells. Casinghead gas must, by definition, be produced through an oil well, since "oil stratum" necessarily implies the potential for commercial oil production through an oil well.[168] Using this definition certain oil operators have attempted to claim that any gas produced through an oil well must necessarily be casinghead gas. However, their reliance upon language in cases stating that casinghead gas is gas produced from an oil well is misplaced, since all those cases contemplate only wells which are properly completed as oil wells, without the commingling of gas produced from different strata.[169] Gas produced from a well improperly classified as an oil well would not automatically become casinghead gas, nor would gas produced from a gas stratum through an improp-

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167. *See* Duke v. Sun Oil Co., 320 F.2d 853, 863 (5th Cir. 1963)(well producing liquid condensate in paying quantities not "gas-only well" under Texas law); Vernon v. Union Oil Co. of Cal., 270 F.2d 441, 446 (5th Cir. 1959)(well must produce liquid condensate in paying quantities to be not considered producing "gas-only well"); *cf.* Garcia v. King, 139 Tex. 578, 582-85, 164 S.W.2d 509, 511-12 (1942)(yield of twenty-four barrels of oil per month failing to produce profit over operating costs not "producing in paying quantities").

168. *See* Read v. Britain, 422 S.W.2d 902, 903 (Tex. 1967)(casinghead gas produced simultaneously with oil from oil well).

169. Gas produced from a properly completed and classified oil well would necessarily be casinghead gas, since it would be produced from the oil stratum with oil. Any gas produced from a gas stratum through the same wellbore should ordinarily be produced through a separate string of tubing, and it would be considered as being produced from a different well. *See* TEX. NAT. RES. CODE ANN. §§ 86.002(4)(c), 86.012(a)(11) (Vernon 1978 & Supp. 1987).

erly completed "oil well" become casinghead gas; a well must properly be classified as an oil well, and the gas must be indigenous to the oil stratum and produced from the oil stratum with oil in order to be casinghead gas.

A properly classified oil well should not produce gas which is not casinghead gas. Since 1919, the Railroad Commission has prohibited the production of commingled oil and gas produced from different strata.[170] House Bill 266 incorporated this prohibition against commingling into its definition of waste, and the statutory prohibition remains in the code.[171] The code's prohibition against the commingling of gas and oil from different strata has been consistently interpreted to prevent commingling of associated gas and oil, even where the two are in communication. Any perforations above a gas-oil contact are in violation of the Railroad Commission statewide and Panhandle Field rules.

Railroad Commission Statewide Rule 13(6)(4)(B) requires operators to determine the gas-oil contact in any well where gas lies in close

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170. *See* Act of Mar. 31, 1919, ch. 155, § 2, 1931 Tex. Gen. Laws 213 (codified 1925); *see also* Tex. R.R. Comm'n, Rule 10; Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE § 3.10 (Hart Nov. 1, 1986); Tex. R.R. Comm'n, Circular 11, Rule 15 (1920).

171. *See* TEX. NAT. RES. CODE ANN. § 86.012(a)(11) (Vernon Supp. 1987). The Railroad Commission, after notice and hearing, may permit the commingling of oil and gas produced from multiple stratigraphic or lenticular accumulations, if such commingling will prevent waste, promote conservation nor protect correlative rights. *See id.* § 86.011(b) (Vernon 1978). It is possible that the Commission, as a result of the current hearings, may do so. However any basis on which the Commission might presently act is questionable, at best. Historically, the Commission has been able to overrule its previous orders only upon finding changed conditions. While conditions may have changed during the 50 years since the proration formula was established, it is questionable whether any new orders would come within the purposes of § 86.012(11).

Commingling oil and gas production from different zones in the Panhandle Field certainly will not promote conservation, as the result would be the rapid drainage of gas reserves. Likewise, it would be hard to argue that correlative rights would be protected by such an order, which would allow rapid drainage of gas owners' properties. Presumably, the Commission could find that commingling would prevent waste of oil, by allowing the oil operations an additional economic incentive to drill for oil. However, the consequence of that decision would be to allow the rapid depletion of the gas pressure in the reservoir, an evil which the Commission has historically sought to prevent. *See Special Order Fixing Allowable Production Of Sweet And Sour Natural Gas In The Panhandle District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 at 4-7 (1935)(rapid reduction of gas pressure results in waste as more energy expenditure required to extract gas). The purpose of § 86.011(b) was to prevent the unnecessary drilling of multiple wells into small lenticular traps, to counter the decisions in *Railroad Comm'n of Texas v. Graford Oil Corp.*, 557 S.W.2d 946 (Tex. 1937), and *Gage v. Railroad Comm'n of Texas*, 582 S.W.2d 410 (Tex. 1979). Commingling of production in the Panhandle Field would accomplish the opposite result.

association with oil and to perforate production casing only below the gas-oil contact.[172] This rule carries forward the standards which were set out in Railroad Commission Circular 11, Rules 3 and 16, and has been specifically incorporated in the Railroad Commission's special field rules for the Panhandle Field.[173]

The Railroad Commission has specifically prohibited the commingling of gas produced from the oil and gas strata in the Panhandle Field.[174] The Commission, on October 13, 1931, ordered that "when wells are to be completed as oil wells at a depth below the lime gas, one string of casing must be set and cemented with sufficient cement to effectively seal off the lime gas formation from other formations . . . ."[175]

This rule has remained in force to the present. Any perforations during the production of oil above the gas-oil contact are illegal.[176] Gas produced from the "lime gas formation" must necessarily be produced from a gas stratum and cannot be casinghead gas, even if the gas is illegally produced from an oil well that has been perforated into the gas-bearing stratum.[177]

Thus, under the relevant statutory and regulatory provisions, casinghead gas must be gas which is produced along with true "crude oil" from a well validly classified as an oil well and from the same limited subsurface interval where the crude oil lies in commercially producible quantities. The crude oil must be liquid in the ground, in the wellbore, *and* at the wellhead. The casinghead gas must be either in solution with the oil or in such close association with it that it is impossible to segregate it from the oil zone by normal completion techniques.

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172. *See* Tex R.R. Comm'n, 16 TEX. ADMIN. CODE § 3.13 (Hart Nov. 1, 1986)(casing, cementing, drilling, and completion requirements).

173. *See Special Order Fixing Allowable Production Of Sweet And Sour Natural Gas In The Panhandle District of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 at 11-12 (1935).

174. *See* TEX. NAT. RES. CODE ANN. § 86.012(a)(11) (Vernon Supp. 1987).

175. Tex. R.R. Comm'n, Circular 15, Panhandle Field Rule 6 at 78 (1932). The "lime gas" was a name given to the Brown Dolomite formation at that time.

176. *See In re* Stowers Oil and Gas Co., 32 F.E.R.C. ¶ 61,043 at 61,132 (1985)(final order); 30 F.E.R.C. ¶ 63,017 at 65,026 (1985)(recommended decision).

177. *See* Op. Tex. Att'y Gen. No. 0-1760 (1940) which construed House Bill 266 to limit "casinghead gas" to mean gas produced with oil from an oil well, and that it must be produced as a necessary incident to the production of oil from an oil well.

IV. Case Law Supporting Operators' Claims

A. *Earliest Cases Equated Natural Gasoline With Oil*

Several cases decided in the mid-1920's have been relied upon by various oil operators as supporting their position. The earliest cases were, at best, confusing about whether natural gasoline was the same as oil.[178] However, by the late 1920's, the courts had generally adopted the modern view that gas is indeed gas, including all constituents thereof. Two early cases construed antiquated lease forms providing for little or no royalties on gas production but standard one-eighth royalties on oil production.[179] These cases illustrate the maxim "hard cases make bad law." In each case, the lessors would have received little or no royalties on gas production, while the lessees received large incomes by processing the gas for the removal of natural gasoline. These cases relied upon expert testimony that the natural gasoline was in the liquid phase in the ground and was absorbed out of oil by casinghead gas in solution in the oil. The courts then reasoned that casinghead gas was a constituent of oil, and the lessor was entitled to his royalty share of oil production.[180]

In 1928, the Commission of Appeals of Texas decided three cases dealing with this question in one week. In two cases, *Magnolia Petroleum Co. v. Connellee*[181] and *Magnolia Petroleum Co. v. Akin*,[182] the Commission found that natural gasoline contained in casinghead gas was gas, under a lease specifically providing for royalties on casinghead gas. The other case, *Reynolds v. McMan Oil & Gas Co.*,[183] held that natural gasoline extracted from gas produced from oil wells was oil, under a lease which provided for no specific royalties on casinghead gas.[184] It was noted in both *Reynolds* and *Connellee* that the

178. *Compare* Magnolia Petroleum Co. v. Connellee, 11 S.W.2d 158, 162-63 (Tex. Comm'n App. 1928, judgm't adopted)(natural gasoline is neither oil or gas) *with* Livingston Oil Corp. v. Waggoner, 273 S.W. 903, 906 (Tex. Civ. App.—Amarillo 1925, writ ref'd)(natural gasoline constituent of oil).

179. *See* Gilbreath v. States Oil Corp., 4 F.2d 232 (5th Cir.), *cert. denied*, 268 U.S. 705 (1925); Livingston Oil Corp. v. Waggoner, 273 S.W. 903 (Tex. Civ. App.—Amarillo 1925, writ ref'd.).

180. *See* Gilbreath, 4 F.2d at 235 (casinghead gas part of oil within meaning of oil and gas lease); Waggoner, 273 S.W.2d at 908 (casinghead gas element of oil).

181. 11 S.W.2d 158 (Tex. Comm'n App. 1928, judgm't adopted).

182. 11 S.W.2d 1113 (Tex. Comm'n App. 1928, holding approved).

183. 11 S.W.2d 778 (Tex. Comm'n App. 1928, holding approved).

184. The precedental value of these cases is highly questionable, because the court found the same substance to be either "gas" or "oil" because of differences in royalty clauses. Never-

substances had been dissolved in oil and were in the liquid phase in the reservoir, but were in the gaseous phase when produced.[185] Apparently, the legal character of the substances changed depending upon whether the lessors would receive royalties under the leases at issue.[186] More recent cases have distinguished between these earlier cases on various grounds. Two cases have held that *Reynolds* is valid only for purposes of interpreting lease royalty clauses, but does not extend to issues such as well classification.[187]

B. *Modern Cases Support Gas Operators' Claims*

In 1929, the Commission decided *Guffey v. Stroud*.[188] In *Guffey*, the defendants owned the oil rights and drilled a gas well. The plaintiffs, owners of gas rights, sued to enjoin defendants from producing gas from the well, but the trial court held that the plaintiffs must pay for half the drilling costs to obtain the injunction.[189] The Commission of Appeals of Texas held that the plaintiffs were entitled to an injunction without paying any such costs.[190] The court noted:

> The right to take the oil carried with it by implication the right to tap the gas pockets and to bring to the surface so much of the oil as was necessary in the proper drilling for oil. The grant of the oil carried with

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theless, these cases have been cited by both sides in the present day controversy, as supporting their positions.

185. *See* Reynolds, 11 S.W.2d at 783 (casinghead gas produced as vapor or artificially extracted); Connellee, 11 S.W.2d at 160 (casinghead gas emitted from well as gas).

186. *See* Lone Star Gas Co. v. Harris, 45 S.W.2d 664, 670 (Tex. Civ. App.—Eastland 1931, writ ref'd)(Funderburk, J., dissenting in part)(discussing palpable absurdity inherent in the result). The dissent was "forced to admit that apparently the Supreme Court recognizes some kind of distinction, which, because perhaps of natural limitation upon my intellectual powers, I am wholly unable to see or understand." The majority opinion held that *Reynolds* was overruled or materially modified by *Stine*. *See id.* at 667; *see also* Lone Star Gas Co. v. Stine, 41 S.W.2d 48 (Tex. Comm'n App. 1931, judgm't adopted); *Reynolds v. McMan Oil & Gas Co.*, 11 S.W.2d 778 (Tex. Comm'n App. 1928, holding approved).

187. *See* Hufo Oils v. Railroad Comm'n of Texas, 717 S.W.2d 405, 408-09 (Tex. App.—Austin 1986, no writ)(*Reynolds* valid for royalty lease interpretation not well classification); *see also* Southland Royalty Co. v. Pan American Petroleum Co., 378 S.W.2d 50, 56-58 (Tex. 1964) (*Reynolds* involved royalty lease). The recent case of *Dorchester Gas Producing Co. v. The Harlow Corp.* cited both *Reynolds* and *Connellee* for the proposition that casinghead gas is, in fact, gas, but it passes along with the oil rights under state property law. *See Dorchester Gas Producing Co. v. The Harlow Corp.*, No. 07-86-0024-CV, slip op. at 11-14 (Tex. App.—Amarillo, July 23, 1987, n.w.h.).

188. 16 S.W.2d 527 (Tex. Comm'n App. 1929, opinion adopted).

189. *See id.* at 528.

190. *See id.*

> it a grant of the way, surface, soil, water, gas and the like essential to the enjoyment of the actual grant of the oil . . . . But the well having been a failure as an oil well, the Plaintiffs in error have no right to use it as a means, or permit it as an occasion, for the taking of Defendants in error's gas.[191]

Guffey indicates that casinghead gas should be limited to gas which is unavoidably produced along with crude oil production.

The next year, the same court was again called upon to decide whether natural gasoline was oil.[192] There, the plaintiff claimed oil royalties on natural gasoline which could have been extracted from gas produced from a gas well. The court found that the well was one where gas only is found, so no additional royalties were due.[193]

In 1931, the other division of the Commission of Appeals of Texas issued its decision in *Lone Star Gas Co. v. Stine*,[194] holding that natural gasoline produced from a gas well was gas and belonged to the owners of gas rights, not the owners of oil rights.[195] Lone Star claimed title under a deed conveying "all natural gas" in certain lands and had entered into an operating agreement with the oil rights owners. Lone Star produced this gas and ran it through a plant to extract the natural gasoline content. The oil rights owner sued, claiming that the natural gasoline was oil. He lost. "The legal effect of the deed was to convey all natural gas, and by the term 'natural gas,' is meant all the constituent elements composing the same."[196] The court discussed certain earlier cases which held that natural gasoline could be oil.[197] The court noted irreconcilable conflicts in the earlier cases and held that those earlier decisions stating that gas could be oil were limited to their own facts and "frankly" admitted that it "had not at-

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191. *Id.*

192. *See* Humble Oil & Refining Co. v. Poe, 29 S.W.2d 1019 (Tex. Comm'n App. 1930, holding approved).

193. *See id.* at 1020. Oil operators in *Dorchester Gas Producing Co. v. The Harlow Corp.* have claimed that language in *Poe* supports their claim that all gas produced from an oil well is casinghead gas. The decision, taken as a whole, cannot support such a claim. The court did not have before it any question of completion practices or commingling of gas produced from different zones. Instead, the question was whether natural gasoline should be considered as oil for royalty purposes. In its context, the language used by the court was correct, but it should not be stretched to include matters which were not being contemplated by the court in the opinion.

194. 41 S.W.2d 48 (Tex. Comm'n App. 1931, holding approved).

195. *See id.* at 49.

196. *Id.*

197. *See id.* (discussing *Poe* and *Connellee*).

tempted to harmonize" all that was said in the various cases.[198] The court stated that while

> a correct conclusion was reached, as applied to that contract construed in the light of that record, there is nothing said in the *Reynolds* case which was necessary to a decision of that case that can be construed as announcing a rule that would give Stine any interest in the natural gasoline manufactured from the natural gas taken from the wells in the instant case.[199]

This language was soon interpreted as either overruling or materially modifying *Reynolds*.[200]

Stine was soon followed by *Lone Star Gas Co. v. Harris*,[201] which reached the same conclusions. The court held that gas was indeed gas and natural gasoline extracted from the gas stream was gas not oil. The court specifically noted that earlier vaporized oil analyses had been materially modified, if not entirely overruled.[202]

A subsequent decision addressed the specific question of whether wells completed in the Panhandle Field were gas wells or oil wells.[203] The Railroad Commission had entered orders restricting the flaring of gas produced from gas wells in the area, but those orders did not apply to oil wells.[204] F.C. Henderson, Inc. was the operator of a large plant which extracted natural gasoline from gas and then flared the residue gas. Henderson claimed that the wells were oil wells, in order to justify its flaring the residue gas.[205] The court noted that the Henderson wells produced only small quantities of oil while producing large amounts of gas containing extractable quantities of gasoline, as did "95% of the gas produced in Texas," but that they were producing no oil at the time of trial, when operated in accordance with Rail-

198. *Id.* at 50.

199. *Id.*

200. *See* Lone Star Gas Co. v. Harris, 45 S.W.2d 664, 667 (Tex. Civ. App.—Eastland 1931, writ ref'd). The Eastland Court of Appeals found no need "to undertake to discuss the alleged conflicts in the opinions to be found in the *Reynolds* and *Connellee* cases. If the *Stine* case does not overrule the *Reynolds* case, it certainly modifies it in material respects." *Id.*

201. 45 S.W.2d 664 (Tex. Civ. App.—Eastland 1931, writ ref'd).

202. *See id.* at 666.

203. *See* F.C. Henderson, Inc. v. Railroad Comm'n of Texas, 56 F.2d 218, 220 (W.D. Tex.)(wells must follow standard method of production to determine if oil well or gas well), *appeal dismissed*, 287 U.S. 672 (1932).

204. *See* Tex. R.R. Comm'n, Circular 9 (1919).

205. *See* F.C. Henderson, Inc. v. Railroad Comm'n of Texas, 56 F.2d 218, 220 (W.D. Tex. 1932).

road Commission regulations.[206] The court concluded that wells producing small quantities of oil and large quantities of gasoline-saturated natural gas were gas wells not oil wells, so the residue gas could not be flared.[207]

Shortly afterwards, the legislature passed House Bill 266, incorporating the by-then accepted concepts of oil, gas, casinghead gas, and natural gasoline. The next year, a federal district court in *Clymore Production Co. v. Thompson*[208] again held that natural gasoline was not crude oil.[209] Several years later, the United States Court of Appeals for the Fifth Circuit again rejected the concept that gas produced with oil was a part of the oil.[210]

The decisions discussed above sufficiently explain the general understanding of the legal nature of oil, gas, and casinghead gas at the time of the passage of House Bill 266 and thereafter. By 1931, at the very latest, the meaning of the terms were consistent with modern concepts.

C. *Recent Cases Concerning Practices in the Panhandle Field*

A number of cases have been filed concerning recent activities in the Panhandle Field. Following is a synopsis of reported decisions which have resulted from several of these cases.

1. *Colorado Interstate Co. v. Hufo Oils.*[211] This case involved construction of an operating agreement covering a tract where Colorado Interstate Gas Company (Colorado) owns the gas rights and Hufo Oils (Hufo) owns the oil rights. Under the operating agreement, Colorado retained the right to purchase any casinghead gas produced by Hufo.[212] Colorado accepted an offer from Hufo to purchase casinghead gas produced on the properties, but advised Hufo that use of an LTX unit to maintain the well's classification as an oil well was not permitted under the operating agreement.[213] Hufo considered this

206. *See id.*

207. *See id.*

208. 13 F. Supp. 469 (W.D. Tex. 1936).

209. *See id.* at 470-71 (wet gas not oil).

210. *See* Dunn v. Republic Natural Gas Co., 124 F.2d 128, 131 (5th Cir. 1941)(gas produced in excess of gas/oil ratio not constituent of oil), *cert. denied*, 315 U.S. 821 (1942).

211. 626 F. Supp. 38 (W.D. Tex. 1985), *aff'd*, 802 F.2d 133 (5th Cir. 1986).

212. *See id.* at 40.

213. *See id.* at 41-42.

proposal a counter-offer and rejected it.[214] Colorado then brought a declaratory judgment action seeking a declaration that it had accepted Hufo's offer, and that Hufo could not use liquid hydrocarbons condensed from gas in an LTX unit in order to classify a well as an oil well under both the operating agreement and Texas statutes.[215] The district court rendered summary judgment, holding that liquids condensed out of natural gas in an LTX unit could not be counted as oil under Texas statutes in order to classify a well as an oil well.[216] The opinion also held that Hufo's offer to sell gas to Colorado violated the operating agreement, because it authorized Hufo to operate gas wells which produced gas other than casinghead gas.[217]

The United States Court of Appeals for the Fifth Circuit affirmed the district court decision.[218] The court held that the terms of the Texas statutes were incorporated into the operating agreement, so that determinations of what constituted gas and what constituted oil under the statutes also applied under the operating agreement.[219] The court held that substances condensed out of gas in an LTX unit could not be considered as gas under either theory.[220]

2. *Hufo Oils v. Railroad Commission of Texas*.[221] This case affirmed the Railroad Commission's orders in a gas producers' proceeding regarding well classification.[222] The Railroad Commission had considered whether to amend the field rules for the Panhandle Field to specifically state that the substances condensed out of natural gas by refrigeration or compression could not be considered as oil for purposes of well classification.[223] The Railroad Commission decided that an amendment of the field rules was not necessary, because those substances could not be counted as oil for well classification purposes under the existing field rules and never had been considered oil under

214. *See id.* at 42.

215. *See id.*

216. *See id.* at 46.

217. *See id.*

218. *See* Colorado Interstate Co. v. Hufo Oils, 802 F.2d 133, 141 (5th Cir. 1986).

219. *See id.* at 138-40.

220. *See id.* at 141.

221. 717 S.W.2d 405 (Tex. App.—Austin 1986, writ requested).

222. *See Final Order, Application Of Phillips Petroleum Company*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 10-77,314 (May 13, 1985).

223. *See* Hufo Oils v. Railroad Comm'n of Texas, 717 S.W.2d 405, 406-07 (Tex. App.—Austin 1986, writ requested).

any accepted Commission practice.[224] The Railroad Commission disposed of all the oil operators' claims that white oil should be considered in determining whether a well was an oil well or a gas well.[225]

The Commission also ordered all wells in the Panhandle Field which were using LTX units to be retested and to submit reports showing whether they could be classified as oil wells without the use of LTX liquids.[226] All wells which did not pass that test were to be either reclassified as gas wells or, if they could not meet applicable Commission rules concerning gas wells, they were to be shut-in.[227] The District Court of Travis County, Texas, affirmed the Railroad Commission order on these points.[228] The Court of Appeals of Texas of Austin in turn affirmed the District Court's order and held that white oil was natural gasoline and not crude oil, and that the substance could not be used to maintain a well's classification as an oil well.[229]

3. In re *Stowers Oil & Gas Co.*[230] The *Stowers* case was a regulatory proceeding before the Federal Energy Regulatory Commission. The issue under consideration was whether certain oil and casinghead gas operators in the Panhandle Field had violated the Natural Gas Act and attendant regulations.[231] An administrative law judge conducted extensive hearings on the case and found that thirty seven oil operators had unlawfully diverted gas which was dedicated to interstate commerce and had sold the gas for a price in excess of the maximum lawful price under the NGPA. The administrative law judge ruled against the oil operators on both the white oil and the high perforations issues.[232] The judge found that virtually all sections of the

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224. *See id.*

225. *See id.*

226. *See* Letter from Mr. J.H. Morrow, Director of Oil and Gas Division of the Texas Railroad Commission to All Operators in the Panhandle Fields (July 8, 1985).

227. *See id.*

228. *See* Hufo Oils v. Railroad Comm'n of Texas, No. 382,447 (Dist. Ct. of Travis County, 250th Judicial Dist. of Texas, Sept. 6, 1985), *aff'd*, 717 S.W.2d 405 (Tex. App.—Texarkana 1986, writ requested).

229. *See* Hufo Oils v. Railroad Comm'n of Texas, 717 S.W.2d 405, 408-09 (Tex. App.—Texarkana 1986, writ requested).

230. 33 F.E.R.C. ¶ 61,207 (1985)(Op. No. 247; Opinion and Order); 32 F.E.R.C. ¶ 61,043 (1985)(Op. No. 239; Opinion and Order); 30 F.E.R.C. ¶ 63,017 (1985)(Recommended Decision).

231. *See In re* Stowers Oil & Gas Co., 30 F.E.R.C. ¶ 63,017 at 65,026-27 (1985)(recommended decision).

232. *See id.* at 65,043-49.

Panhandle Field which were presently located above sea level were gas strata, not oil strata, so casinghead gas could not be produced from any of these zones.[233] Casinghead gas could be produced only from zones below a gas-oil contact. Nearly all of the Brown Dolomite formation was found to occur above this gas-oil level.[234] Thus, the administrative law judge found that virtually all gas produced from the Brown Dolomite formation was not true casinghead gas, but was instead natural gas which had been dedicated to interstate commerce by the gas operators.[235]

Further, the administrative law judge found that the gas in question had not been released by the NGPA from its dedication under the Natural Gas Act.[236] The oil operators had claimed that their wells were exempt from Natural Gas Act dedication, because they had qualified under section 103 of the NGPA.[237] The administrative law judge disagreed, finding that gas which properly qualifies under section 103 of the NGPA must be produced from an area which is not within an existing proration unit which was applicable to the reservoir from which the gas was produced.[238] The administrative law judge interpreted the Railroad Commission rules to state that the oil proration units applied only to zones lying below the gas-oil contact, and did not apply to any gas produced above the gas-oil contact.

These findings raise significant jurisdictional questions concerning the extent to which the FERC is authorized to make implied findings concerning how the Railroad Commission should interpret Texas statutes. These questions call for rather fine distinctions regarding the principles of comity, federalism, and delegation of administrative jurisdiction under the Natural Gas Act and the NGPA.

The FERC, nevertheless, approved virtually all of the findings of the administrative law judge, ordered all of the oil operators to cease selling natural gas from their wells in violation of the Natural Gas Act, and ordered its enforcement staff to take all necessary action to accomplish the cessation of the violations.[239] The proceeding was remanded to the administrative law judge to consider remedies to rec-

233. *See id.*
234. *See id.* at 65,048-49.
235. *See id.*
236. *See id.* at 65,043-49.
237. *See id.* at 65,033-43.
238. *See id.* at 65,043-49.
239. *See In re* Stowers Oil & Gas Co., 32 F.E.R.C. ¶ 61,043 at 61,136-37 (1985).

tify the previous violations.[240] The oil operators have appealed the *Stowers* decision on liability to the United States Court of Appeals for the Tenth Circuit.[241] Various parties have intervened, including the State of Texas and the Railroad Commission of Texas, who have entered the litigation on behalf of the oil operators. The Attorney General of Texas has filed a brief in the federal court challenging the jurisdiction of the FERC to rule on matters of Texas proration practice which are alleged to be within the primary jurisdiction of the Railroad Commission. This appeal is still pending.

Meanwhile, the FERC's administrative law judge continued with the remedial stage of the proceeding. On July 1, 1987, the administrative law judge recommended that the thirty-seven gas operators in the *Stowers* case be required to refund to the interstate pipeline companies, for flow through to their customers, all revenues which they received for unlawful sales of gas produced from wells in the Panhandle Field.[242] The administrative law judge estimated that these revenues, with interest to August 12, 1986, would amount to approximately $113 million dollars.[243] The Commission has not yet acted on this recommendation.

4. *Amarillo Oil Co. v. Energy-Agri Products.*[244] This case is the first of two cases recently decided by the Texas Court of Appeals of Amarillo dealing with claims by the gas operators that the oil operators were appropriating non-casinghead gas. The *Energy-Agri* case is an appeal from a jury finding that the oil operators' wells were legitimate oil wells, producing casinghead gas. The court upheld the defendants' contention that the plaintiffs' suit was a collateral attack upon a valid order of the Railroad Commission which had classified the wells as oil wells under the statutes and rules governing such classifications.[245]

The court noted that the Railroad Commission does not have juris-

240. *See id.* In previous statements, the Commission had indicated the *Stowers* proceeding was to be a test case to establish the law and the remedies which would be applicable to other white oil operators. Interventions were solicited, and the Commission evidently intends to use the *Stowers* decision as a precedent since they stayed any action in *Colorado Interstate* until after the *Stowers* decision.

241. *See* Walker Operating Corp. v. Federal Energy Regulatory Comm'n, 33 F.E.R.C. ¶ 61,207 (1985), *appeal docketed*, No. 85-2683 (10th Cir. 1987).

242. *See In re* Stowers Oil & Gas Co., 40 F.E.R.C. ¶ 63,001 at 65,001-23 (1987).

243. *See id.* at 65,015-23.

244. 731 S.W.2d 113 (Tex. App.—Amarillo 1987, writ granted).

245. *See id.* at 117-18.

diction to determine title to oil or gas, but stated that the Railroad Commission has primary jurisdiction to determine the classification of all wells involved in the litigation.[246] The court apparently assumed that if the Railroad Commission allowed a well to be classified as an oil well, then that classification necessarily meant that all gas produced from the well was casinghead gas within the meaning of the title documents. The rationale for this decision is unclear. The case does not discuss the exact terms of the relevant title documents in issue, so it is difficult to make a precise analysis of the correctness of the decision. However, it appears that the court misunderstood the effect of the "self-classification" procedures set by the Railroad Commission, whereby an operator reports to the Commission whether his well should be classified as an oil well or a gas well, and the Commission administratively accepts such filings unless they are challenged.[247] The mere fact that an operator reports his wells as oil wells at the Railroad Commission should not ordinarily be assumed to automatically give him title to all substances produced from those wells.

Further, the action does not appear to be a collateral attack on the Railroad Commission's classification of wells, unless the title instruments in issue specifically gave the defendants the rights to all substances produced from any wells classified as oil wells by the Railroad Commission. Otherwise, the nature and extent of the parties' property rights were properly within the court's jurisdiction as was the determination of whether any gas produced was casinghead gas within the meaning of the title documents.

Nevertheless, the court ordered the plaintiffs' suit dismissed for lack of jurisdiction.[248] Justice Dodson, dissenting on the jurisdictional issues, argued that the case was a dispute as to the ownership and title to substances, which was within the primary jurisdiction of the court, not the Railroad Commission.[249] In a decision rendered only two months later, the same court reached the conclusion

246. *See id.*

247. *See* Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE §§ 3.6, .16, .28, .49, .51, .53 (Hart Nov. 1, 1986). The Commissioner's rules require an operator to file a W2 form if claiming oil well status or a G1 form if claiming gas well status. The operator has the responsibility to test the well's gas/oil ratio for well classification. The Commission accepts the operator's classification and will not test the well's gas/oil ratio unless a complaint is filed. *See id.*

248. *See id.* at 118.

249. *See id.* at 118-20 (Dodson, J., dissenting).

presented by the dissent in this case.[250]

5. *Dorchester Gas Producing Co. v. The Harlow Corp.*[251] This case is the second case decided by the Court of Appeals of Amarillo concerning title disputes between owners of gas and gas rights and owners of oil and oil rights in the Panhandle District of Texas. The plaintiff, a gas rights owner, obtained a jury verdict for damages on a finding that some defendants had converted natural gas by claiming it to be casinghead gas. The opinion is quite comprehensive, and contains a thorough and well-reasoned analysis of the current state of the law. The appeals court upheld the finding that the defendants were liable for converting the plaintiff's natural gas.[252]

The court of appeals held that the Brown Dolomite formation was a gas-indigenous formation under the property in question, as it had been producing natural gas from those lands for many years before the assignments of the oil rights were executed. The court held that the laws in effect at that time were essentially incorporated into the terms of the assignment.[253] These laws were the same as most of the relevant current laws, including those discussed above. The court further held that gas produced from a gas-indigenous stratum does not become casinghead gas, even if it has been commingled with true casinghead gas produced from an oil-indigenous formation.[254] Thus, the court ruled against the oil operators on the high perforations issue.

Nevertheless, the court held that casinghead gas should generally be considered as a part of the oil rights, as that is the customary understanding and was so at the time the title documents were executed.[255] However, the court noted the strict statutory requirements for casinghead gas and held that they could not legitimately be expanded to include all gas produced from any well classified as an oil well.[256] This case further held that the action was not within the primary jurisdiction of the Railroad Commission, but was a matter for the courts to consider.[257]

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250. *See* Dorchester Gas Producing Co. v. The Harlow Corp., No. 07-86-0024-CV, slip op. (Tex. App.—Amarillo, July 23, 1987, n.w.h.).

251. No. 07-86-0024-CV, slip op. (Tex. App.—Amarillo, July 23, 1987, n.w.h.).

252. *See id.* at 39.

253. *See id.* at 8.

254. *See id.* at 12.

255. *See id.* at 12-14.

256. *See id.*

257. *See id.* at 14-18.

It is very difficult to distinguish this case from the same court's previous decision of two months earlier, which reached the opposite result on the jurisdictional issues. The result reached in *Dorchester* appears to be correct, because property actions for conversion are matters which are within the jurisdiction of the courts, not the Railroad Commission. Any questions concerning the Railroad Commission's orders were, at most, incidental to the matters in issue in this action.

The court held that the measure of damages was the full amount received by the defendants for the converted gas, even though these amounts were based upon higher prices than the plaintiffs could have received for the same gas under the federal pricing regulations.[258] The court held that the defendants should not be entitled to retain the difference, because by doing so they would profit from their wrongdoing.[259]

V. CONCLUSION

The Panhandle Field has contributed much to the law and theory of conservation of natural resources in Texas. The jurisdictional limits of administrative regulation have repeatedly been tested, and this testing continues. The seemingly basic distinction between oil and gas has repeatedly been challenged, and much of the modern understanding of the legal nature of such substances has resulted from these challenges. The economic incentives to challenge accepted theories continue to drive oil producers to test the limits of this legal understanding. A thorough examination of the accepted concepts reveal that they should still be adequate to survive the recent challenges.

There is little legal basis for the oil operators' position, which was considered and rejected fifty years ago when development of the field was in its early stages. No further developments have occurred which warrant changing the rules which have been laboriously fashioned. Natural gasoline cannot properly be treated as oil if there is to be any legal distinction between oil wells and gas wells. If natural gasoline is considered oil, then practically every gas well in the state could be turned into an oil well at the operator's whim. Similarly, the entire Panhandle interval should not be considered as one stratum. The gas

258. *See id.* at 27-28.
259. *See id.* at 28-29.

producing zones have always been treated separately from the oil producing zones. The gas rights owners and the oil rights owners clearly understood the distinctions when they segregated their rights in the various tracts. The oil operators have attempted to ignore the historical distinctions in order to encroach on the property rights assigned to the gas rights owners. While their economic incentives are obvious, their legal rights to do so are dubious.

The giant Panhandle Field interval is composed of numerous different formations, and it certainly contains more than one stratum. The oil strata are different from the gas strata, and the oil operators should not be allowed to blur the distinctions between the two. Instead, the historical distinctions should be reaffirmed.

APPENDIX A

Excerpt from *Special Order Fixing Allowable Production of Sweet and Sour Natural Gas in the Panhandle District of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Dec. 10, 1935)

The best overview of the structure and early production of the Panhandle Field is found in *Special Order Fixing Allowable Production Of Sweet And Sour Natural Gas In The Panhandle District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Dec. 10, 1935), which traces the production and marketing history of the Panhandle Field from 1918 until 1935. Selected portions of this order are reprinted below:

The Panhandle oil and gas field structure lies along a buried mountain range known geologically as the Amarillo Arch, that extends along the length of the field, continuing in a southeasterly course into the southwesterly portion of Oklahoma, where it comes to the surface as the Wichita Mountains, at an elevation of approximately 1000 feet above sea level. The field is a belt lying in a southeasterly northwesterly direction and extends from eastern Wheeler County to northern Moore County, Texas. It is approximately 124 miles in length with an average width of approximately 20 miles, containing 1,504,386 acres; there being 1,066,662 acres of sweet gas and 437,724 acres of sour gas territory. The field is located in the counties of Hartley, Moore, Hutchinson, Potter, Carson, Gray and Wheeler. The oil producing area covers a belt about 90 miles in length lying on the northeast flank of the structure.

The oil and gas so far encountered in the Panhandle Field has been found, with minor exceptions, in four separate strata, namely: the dolmite [sic], the arkosic-dolmite [sic], the gray limestone and the granite wash. These four formations overlie one another, and though they are normally separated one from another by impervious strata, they are interconnected as is shown by the fact that the virgin pressure of the oil and gas from all of them was 430 pounds per square inch at sea level, regardless of the location in the field.

Gas was first discovered in northern Potter County, Texas, in December, 1918, and was encountered at a depth of 2,605 feet. The gas production for several years was developed only incidentally in the search for oil. The first important oil was discovered in 1925 and the major oil pools were developed in 1926 and 1927. The development of the gas field became prominent about 1926, and continued until 1929 when it was temporarily halted by the "depression". Since 1933, the gas field has been developed at a very rapid rate.

The oil wells in the oil pools in the field were, as a general rule, drilled through one or more gas-containing strata before entering the oil-containing stratum, and, in many instances, the wells were so completed as to cause production of gas from the gas strata along with the oil and gas from the oil stratum, with the result that tremendous quantities of gas have been produced with the oil, large portions of it coming from gas-producing strata above the oil-producing strata. This gas was in large part blown into the air, and it has been estimated that in excess of two trillion cubic feet of gas produced in this manner has been wasted into the air.

Coincident with the development of the Borger pool, casinghead gasoline plants were erected therein in which considerable portions of the gas produced therein were processed for the extraction of the gasoline content thereof, and, there being no market for the stripped gas, called "residue gas", resulting from

the operations of said plants, the bulk of such residue gas was wasted into the air. In varying degrees, the same is true of the other oil pools as they were developed and operated.

The Panhandle Field is so far removed from centers of population and industrial activity that little value was at first placed upon the enormous quantities of gas therein found, but, due to the development of the casinghead gasoline plants and the resultant abundant supply of cheap residue gas that was being wasted into the air, the carbon black industry was attracted to the area, and in September, 1926, the first carbon black plant was completed. It was located in the Borger pool, and proceeded to burn considerable quantities of such residue gas for the manufacture of carbon black.

Thirty additional carbon black plants have since been built and placed in operation in the field. The combined throughput capacity of said plants is approximately 570,000,000 cubic feet of gas daily. In excess of 70 per cent of the carbon black manufactured in the United States is being manufactured in the Panhandle Field.

There are, at the present time, 1090 natural gas wells in this field. These wells have a total daily open-flow potential of 17,231,183 M. C. F. Of this total 225 wells produce sour gas and these wells have a total open-flow potential of 2,099,985 M. C. F. Daily [sic]. In the oil producing belt there are 2,527 oil wells producing from 27 different pools.

Development throughout the Panhandle Field has long since proved it to be the largest known reserve of natural gas in the United States. The demand for gas for light and fuel uses was local and was relatively small, prior to 1926.

The construction of pipe lines began in January, 1926, when the Northern Texas Utilities Company started transporting gas to towns in northern Texas, the principal one of which was Wichita Falls. In July of 1927, the Lone Star Gas Company started running gas in Northern Texas, principally into Ft. Worth and Dallas. In the early part of 1928, the South Plains Pipe Line Company and the Cities Service Gas Pipe Line Company started transporting gas from this field, the former into towns south of Amarillo in West Texas and the latter to Kansas City, Missouri. In June of that year, the Canadian River Gas Company began transporting gas into Colorado, principally into the cities of Denver and Pueblo. In November of that year, Texas Panhandle Gas Company began using its line to transport gas into Oklahoma and to Wichita, Kansas. There was relatively little development by pipe lines from this time until June of 1931, when the Panhandle Eastern Pipe Line Company began transporting gas through its line as far as Indianapolis, Indiana.

In October of 1931, the Texoma Natural Gas Company began its operations. The gas transported by this line was carried to markets in Nebraska, Iowa, and Illinois, the principal market being Chicago and its vicinity. In May of 1932, the Northern Natural Gas Company began its operations in which it transported gas into Nebraska and Iowa, principally into the towns of Des Moines, Iowa, and Minneapolis and St. Paul, Minnesota.

The total length of these nine major pipe lines approximates 4,425 miles and the total capacity thereof is approximately 1,000,000,000 cubic feet of gas per day. A daily average of approximately 300,000,000 cubic feet of gas was transported from the Panhandle Field through these lines during the year 1933 and a daily average of approximately 400,000,000 cubic feet of gas was being trans-

ported through said lines during the year 1934; and the daily average amount being transported there through at the present time [1935] is approximately 450,000,000 cubic feet.

These major pipe line companies acquired and now hold under lease approximately 850,000 acres of land, which is about 61 per cent of the total gas-producing area in the Panhandle Field, each such company separately owning and operating its own leases. Of the total area proven productive of sweet gas, these major companies own approximately 80 per cent. They have not and are not taking or transporting sour gas through their lines. Unless such gas is treated, it is not suitable for light, fuel and domestic uses. The demand for sour gas for light and fuel uses is restricted to isolated lease purposes.

Six or seven of the major pipe line companies have produced and transported to the markets gas produced from only their own gas leases (or the leases of their respective affiliated or subsidiary companies), and have not purchased gas from other lease owners in the field. Prior to and since the passage of said Act, many of the unconnected lease-owners have repeatedly endeavored to induce these companies to purchase gas from their lands, but without avail. Some of these companies have been and are willing to purchase gas ratably in the field, if all the others would do so, and two companies, have made thirty (30) new connections and are taking ratably from these connections.

In addition to the major pipe lines there are ten additional pipe lines of lesser capacities serving local towns and cities in the immediate vicinity of the field with a throughput capacity of approximately only 65,000,000 cubic feet of gas per day. For the most part, these small pipe line companies own their own leases and supply their requirements therefrom, although some of them purchase some of their requirements from other lease owners. Nevertheless, a very large number of separately owned leases have remained without connections with market outlets. In fact, there are more than 90 gas wells that have never had a connection. The pipe line companies, large and small, have taken up all the markets economically and practically available for sweet gas from the Panhandle Field, and their control thereof constitutes a virtual, if not an actual, monopoly of said markets.

The policy of most of the pipe line companies operating in this field to take gas from only those wells which they owned, to the exclusion of the other operators in the field has resulted in a protracted controversy between them and those operators in this field without a market. This controversy resulted in the passage by the Legislature of the State of Texas of a number of bills, all of which had as their purpose the protection of the right of those operators to sell their gas. In 1931, the Forty-second Legislature passed what is known as the Common Purchaser Act. This law required that pipe line companies taking gas in the state should be considered as a common purchaser and should take gas ratably under conditions which should be prescribed by the Railroad Commission of Texas. As a result of this Act, the Railroad Commission issued orders which had the effect of requiring the distribution of the markets of the pipe line companies among the various producers in the field in proportion to the daily open-flow potentials of the wells owned by these producers. This law was attacked by several of the gas pipe-line companies in the United States District Court for the Western District of Texas and the statute and the orders of the Railroad Commission issued thereunder were stricken down.

As a result of the failure of the Common Purchaser Act, the Second Called Session of the Forty-Second Legislature passed an Act which provided that the Railroad Commission should determine the market demand for any particular field and should allocate the production in this field among the various producers to meet this market demand. The Orders entered by the Railroad Commission as a result of this Act were again attacked by the same pipe line companies in the United States District Court for the Western District of Texas and were stricken down.

As a result of the failure of these Legislative attempts to obtain ratable production, there was passed by the First Called Session of the Forty-third Legislature a bill known as the Stripping Law or the Sour Gas Bill. This bill, in effect, gave to the Railroad Commission the power to permit the use of natural gas for any beneficial purpose. Before the passage of this bill, it had been the policy of the Railroad Commission to permit the use of casinghead gas only in stripping operations, but after its passage, the Railroad Commission began issuing permits to strip dry natural gas. As a result of the issuing of these permits, a number of gasoline plants were built and began to operate in the field.

During the fall of 1933 and the year of 1934, five gasoline extraction plants were built and began operation. In addition, most of the gasoline plants which had been operating entirely on casinghead gas were converted into stripping plants. As a result of these developments, by the fall of 1934, in excess of one billion cubic feet of gas was being blown into the air daily. These operations so rapidly depleted the gas field that it soon became evident that some other solution of the problem must be obtained. Hence, in the spring of 1935, the Forty-fourth Legislature passed a comprehensive conservation statute known as House Bill No. 266, the purpose of which was to prevent waste and compel ratable production.

APPENDIX B

A Summary of Texas Railroad Commission Orders Affecting the Panhandle Field from 1938 to 1941

Many of the orders prorated oil and casinghead gas production from the Panhandle Fields. The orders concerning oil and casinghead gas production were generally separate from those prorating gas in the Panhandle Fields. By order dated October 2, 1937, the Commission continued to hold hearings and study the conditions in the field. On October 13, 1938, the Commission ordered all wells producing more than 100,000 cubic feet of gas per barrel of oil to be classified and prorated as oil wells. *See Special Order Setting Out Rules And Regulations Concerning The Panhandle Field Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Oct. 13, 1938). This order followed the statutory mandate. Previously, wells had been able to aggregate their production of water with the oil production to be classified as oil wells.

By a 1938 order, the Commission abandoned its efforts to prorate casinghead gas production by applying a maximum gas/oil ratio. *See Special Order Limiting The Volume Of Gas That May Be Produced From Any Well Producing Both Gas And Oil In The Panhandle District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Nov. 25, 1938). The Commission found that the average gas/oil ratio of oil wells then operating in the Panhandle Field was 6,100 cubic feet (6.1 Kcf) of gas per barrel of oil. The Commission had previously adopted a maximum gas/oil ratio of 10 Kcf of gas per barrel of oil. (By contrast, current "oil" operators in the fields have claimed the right to produce up to 100 Kcf of gas per barrel of oil.) The Commission decided to instead, place a maximum daily limit of casinghead gas production of 500 Mcf per oil well.

The 1938 special order also directed that the gas/oil ratio be kept as low as possible in each well, and that the Commission's deputy supervisor in the Panhandle district keep track of and report the gas/oil ratio in all wells, so that the gas/oil ratio of the field as a whole should be kept as low as possible. *See Special Order Amending The Special Order Limiting The Volume Of Gas That May Be Produced From Any Well In The Panhandle District Of Texas, Issued November 25, 1938*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Jan. 14, 1939). The order did not specifically discuss the reason for changing from the gas/oil ratio to a daily gas production limit, but it has the effect of limiting gas production from most of the oil wells, which were producing more than five barrels of oil per day. As the average well was already producing at a ratio well below the statutory maximum, the effect of the order was to limit the overall production of casinghead gas from the fields.

By this amendment of the 1939 order, the maximum gas production per oil well was raised to 775 Mcf of gas per day, but it was again lowered by the order dated November 13, 1941, to 500 Mcf. *See Special Order Amending The Special Order No. 10-548 Permitting The Volume Of Gas That May Be Produced From Any Oil Well In The Panhandle District Of Texas Issued January 14, 1939*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Nov. 13, 1941). By order dated April 4, 1942, the Commission allowed aggregate testing of the gas/oil ratio of oil wells, so long as total casinghead gas production from any lease was under 500 Mcf of gas per day. *See Special Order Amending Special Order Dated November 25, 1938, Limiting Gas Production From Oil Wells In The Panhandle*

District Of Texas, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Apr. 4, 1942).

In a 1939 general order, the Commission stated that all wells producing both oil and liquids produced by condensation from the gas phase should be classified as gas wells, unless they produced more than one barrel of crude petroleum oil for each 100 Kcf of gas. *See General Order Classifying Gas Wells Producing Condensate In The State Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 20-550 (Jan. 19, 1939). Substances were not to be considered as crude petroleum oil, unless they were liquid in the reservoir and in the wellbore and were obtained as liquids at the surface.

The Commission in 1940, instituted a comprehensive set of regulations prorating oil in the Panhandle Fields. *See Special Order Amending Rules 1 and 3, Section I, Division (2), Oil And Gas Circular No. 16-B, And Rescinding The Order Of November 22, 1935, Pertaining To The Method Of Taking Potential Of Oil Wells Operating Under Water Injection In The Panhandle District Of Texas, And Rescinding The Order Of August 6, 1935, Changing The Method Of Taking Potentials In The Panhandle District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Jan. 11, 1940). These regulations did not attempt to prorate casinghead gas, except that, for wells with high gas/oil ratios, the oil allowable was to be set by dividing the displacement factor set for the field by the wells' operating gas/oil ratio. This factor limited the oil allowable for wells with high gas/oil ratios, thus discouraging production of casinghead gas. The order specifically provided that the provisions of the proration rule "shall apply to Moore county field, Osborne Area, and to the panhandle proper, each of which shall be prorated as a separate unit." It thus appears that the Commission was exercising its authority to zone a common reservoir into separate oil zones and gas zones.

This order was soon amended, and by special order dated March 28, 1940, the Railroad Commission amended its oil proration formula to include an acreage factor. *See Special Order Amending Section I, Division (2), Oil And Gas Circular No. 16-B, Insofar As It Pertains To The Panhandle District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Mar. 28, 1940). At that time, oil wells were to be prorated according to a maximum acreage factor of 10 acres per well. This acreage was increased to 20 acres per well by special order dated August 29, 1941. *See Special Order Amending Section I, Division (2), Oil And Gas Circular No. 16-B, Insofar As It Pertains To The Panhandle District Of Texas*, Tex. R.R. Comm'n, Oil and Gas Div., Docket No. 108 (Aug. 29, 1941). Both of these orders continued to include the language indicating that each field in the Panhandle District was to be prorated as a separate unit.