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New Values Under Old Oil and Gas Leases: Helium, Who Owns It?

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COMMENTS

NEW VALUES UNDER OLD OIL AND GAS LEASES: HELIUM, WHO OWNS IT?

It is a well known maxim among oil and gas lawyers that "a producing well always clouds a title and a dry hole cures it." A variation of that maxim might be applied to producing wells which may or may not include, as by-products of the primary mineral, other substances that are extractible and valuable. Of course, once production of by-products begins, conveyancers give special attention to these resources, but many instruments executed before such development may be phrased in general terms without specific mention of substances unimportant when the conveyance was made. Even a recent instrument may lack specificity in this regard. Inevitably, as science develops new uses and commercially feasible means of extraction, questions arise concerning ownership of by-products. The feasibility of extracting helium from natural gas, coupled with the critical national need for helium, have occasioned one such dispute. A confused and conflicting history of decisions involving title to other elements and compounds provides the setting for resolving this contemporary issue of ownership.

I. The Problem in Context

A. *Helium Facts and Lease Provisions*

Natural gas, in place and when brought to the surface, consists chiefly of methane. It also contains traces of other elements and compounds.[1] These substances are alternatively considered to be either constituents or impurities of the natural gas. Labeling them, however, is of no particular aid to a determination of rights as between mineral owners and surface owners. Helium,[2] having become a strategic element in the space age, is one of the most valuable of the elements contained in natural gas streams.[3] Small quantities occur in the gas fields of Kansas, Oklahoma, and Texas.[4]

When not extracted from the gas stream, helium is wasted as the fuel gas is consumed. Approximately four billion cubic feet per year are presently so wasted.[5] At that rate, by 1985 the helium reserves of the United States will be insufficient to satisfy demand.[6] Being nonflammable,

1 Sullivan, Oil and Gas Law 15 (1955).

2 Helium is an odorless, inert gas. It is a product of radioactive disintegration of radium. Leven, Done in Oil 607 (1941).

3 The missile program is now using approximately 110 million cubic feet of helium per year. The element is especially useful for maintaining strength and rigidity as fuel is consumed. See *Relieving the Helium Bind*, Chemical Week, Sept. 9, 1961, p. 57.

4 It has been estimated that almost all helium reserves of the western world are located within a 250-mile radius of Amarillo, Texas. *Id.* at 60.

5 Pylant, *Helium: Its Status Today and its Promise for Tomorrow*, Oil & Gas J., Feb. 5, 1962, pp. 98, 106.

6 There is little prospect for discovery of new helium resources. U.S. Bureau of Mines, The Helium Conservation Program 5 (1962).

the helium component actually detracts from the heating capacity of natural gas; extraction, therefore, serves two purposes—conservation of helium for future use and production of a better fuel gas.[7] The current extraction process is based on the science of cryogenics (literally, deep freeze).[8] Although this process has long been known and, in fact, used for the extraction of helium, for over forty years the federal government had a virtual monopoly in the extraction and sale of this valuable element.[9] Realizing, however, that Government operations were not extensive enough to guarantee adequate future supplies, Congress acted to encourage private production. The Helium Act Amendments of 1960[10] authorized the Secretary of the Interior to enter into long-term contracts with private industry for the purchase of helium.[11]

Four private companies have entered into agreements with the Government, and five plants are already in production.[12] Soon after the contracts were signed, questions of title arose.[13] Lessors have asserted that their leases do not convey title to the helium component of the gas stream and that extraction of the gas by the lessee creates liability for conversion. Lessees claim that the helium has been either expressly or impliedly included in the lease. The question has never been directly litigated. Only one reported case has involved title to helium.[14] In that case the parties appear to have assumed that helium was covered by the lease, the question at issue being whether an abandonment of the leasehold had resulted from lessee's shutting down his helium plant.

Although a large number of cases have dealt with questions of title to other incidental products extracted under deeds and leases of various minerals, the courts in deciding such cases have not been consistent and have not contributed to the formation of general principles which can be

7 Tests at Government helium plants have shown that helium extraction raises the BTU content of fuel gas from 850 to 858. *Industry Helps Put Helium to Aerospace Work*, Kansas-Oklahoma Oil Reporter, April 1963, p. 44.

8 See generally Fisher, *Helium in Texas*, 37 TEXAS BUS. REV. 111 (1963). Two other extraction processes have been recently developed; however, neither is currently in large-scale use. One is a process of diffusion through quartz tubes, and the other is based on selective permeability. *New Helium-Recovery Method Holds Promise*, Oil & Gas J., April 22, 1963, p. 76.

9 *Crises in Helium Puffs up a Boom*, Bus. Week, Oct. 7, 1961, p. 160.

10 74 Stat. 918 (1960), 50 U.S.C. § 167 (Supp. IV, 1963).

11 The goal is to have more than fifty-two billion cubic feet of crude helium in storage by 1985. *Government's Helium Program Ready To Roll*, Chemical & Engineering News, July 9, 1962, p. 30. The program is designed to be self-liquidating, for the Government will sell the conserved helium at a price that will recover all the costs of the program. *Billion Dollar Helium Play Starts*, Kansas-Oklahoma Oil Reporter, Nov. 1962, p. 49.

12 National Helium Corp., Northern Helex Corp., Cities Service Helex Inc., and Phillips Petroleum Co. (two plants). *Helium: Its Status Today and Its Promise for Tomorrow*, 60 OIL & GAS J. 98 (1962).

13 Ten law suits are pending in federal and state courts of Kansas and Oklahoma. Approximately 15,000 royalty owners are involved, claiming the right to receive $1 billion. Wichita Eagle, Oct. 18, 1963, p. 1, col. 2.

14 Hoff v. Girdler Corp., 104 Colo. 56, 88 P.2d 100 (1939).

applied with certainty to products other than those giving rise to the particular disputes.[15]

Oil and gas lease provisions which give rise to this type of title litigation typically do not specifically provide for products other than oil, gas, and casinghead gas[16] or gasoline. The conveyancing clauses of leases which were involved in the casinghead gas litigation of thirty and forty years ago read "for the purpose of mining and operating for oil and gas . . . ."[17] The issue presented in those cases was whether casinghead gas and its extractible gasoline was such oil or gas as was intended to be conveyed by the clause. The various jurisdictions have reached conflicting conclusions.

Although the litigation over casinghead gas ownership resulted in the specific inclusion in conveyancing clauses of that substance and its by-product, casinghead gasoline, these inclusions do not aid in resolving the question of ownership of helium and other non-hydrocarbon gases. Often, the phrase "all other minerals" is also included in the conveyancing clause, but courts usually apply the *ejusdem generis* principle to restrict coverage of the phrase to minerals of the same kind as oil and gas.[18] To avoid such restriction, a parenthetical "(whether similar or dissimilar)" has sometimes been added.[19]

The conveyancing clause which gives the widest gas coverage is the following: "For the purpose of drilling, mining and operating for, producing, and securing all the oil, gas, casinghead gas, casinghead gasoline and *all other gases and their respective constituent vapors* . . . ."[20] This clause, one similarly broad, or a clause which specifically excludes constituents ought to be used if the parties wish to assure that their respective rights will be determined by the lease itself.

When a lease does not have a conveyancing clause which clearly establishes title, the "four corners" rule is usually applied. The royalty clauses are also considered relevant in determining the extent of the grant.[21] The typical "other royalty" clause provides: "Lessee shall pay to Lessor for gas produced from any well and used by the Lessee off the premises, or for the manufacture of casinghead gasoline, gasoline, *or any other product*, as royalty, one-eighth of the market value of such gas at the mouth of the

15 Walker, *Defects and Ambiguities in Oil and Gas Leases*, 28 TEXAS L. REV. 895, 899 (1950).

16 Casinghead gas is gas from an oil well. It is found in the oil strata and supplies what is known as reservoir energy. See generally GLASSMIRE, OIL AND GAS LEASES AND ROYALTIES 228-31 (2d ed. 1938).

17 For a discussion of the development of oil and gas leases, see *id.* at 55-59. The leases herein discussed are variations of the "Producers 88" or "Mid-Continent 88" forms. For examples of those forms, see *id.* at 389-402.

18 The rule of *ejusdem generis* "is stated as follows: 'General words, following particular words, will not include things of a superior class.'" *Id.* at 173.

19 McRae, *Granting Clauses in Oil and Gas Leases: Including Mother Hubbard Clauses*, 2 INSTITUTE ON OIL AND GAS LAW AND TAXATION 43, 82 (1951).

20 Emphasis added.

21 Reynolds v. McMan Oil & Gas Co., 14 S.W.2d 819 (Tex. 1929); McRae, *supra* note 19, at 50.

well."[22] This provision demonstrates the intent of the parties to include all components of the gas stream in the grant, and the coverage of even the most narrow conveyancing clause would probably be extended to helium and other components if such an "other royalty" provision were used.

The gas royalty clause most commonly used, however, does not expressly provide for payments on products other than natural gas. It requires lessees to pay to their lessors one-eighth of the proceeds if sold at the well, or one-eighth of the market value at the well if marketed off the leased premises, as royalty on "gas . . . from each well where *gas only* is found."[23] Lessees' obligation to account to lessors under this clause is determined at the well,[24] and ownership of the full gas stream is for all practical purposes seemingly determined at the well-head.[25] In disputing title to components of the gas stream, lessors must claim that royalties paid under this clause were not intended to cover any product except fuel gas.

B. *Legal Questions*

Under leases which purport to grant only oil and gas, or oil, gas, casinghead gas, and casinghead gasoline, the question is whether helium is included in the "gas" conveyed. An inclusion of "all other minerals" in the conveyancing clause raises the question whether the *ejusdem generis* rule of construction will allow coverage of non-hydrocarbon gases. When the parenthetical phrase "(whether similar or dissimilar)" is also included, there should be no dispute over the ownership of any mineral products.

In most instances of incidental product litigation the realities suggested by two alternative inquiries would resolve the ultimate question of ownership. Crucial to a determination that title remains in the oil and gas lessor is the answer to the question what obligations, if any, owners of the working interest have with respect to development and marketing. If the disputed substances can be developed without interfering with operations for the primary minerals, or if the lessees are under either express or implied duties to develop incidental products, no loss of mineral resources would result from a holding that the lessors do not have title. On the other hand, if the converse of either is true, such a determination would be harmful to the economic interests of all parties and to the policy of encouraging development of natural resources.

The second inquiry determinative of the ownership issue concerns the question of fair compensation. If a holding that title has passed would result in little or no compensation to lessors and large profits to lessees, such a holding would be undesirable. If, however, under the instruments a fair amount in additional compensation would accrue to lessors upon

22 Emphasis added.
23 Emphasis added.
24 Hemler v. Union Producing Co., 40 F. Supp. 824 (W.D. La. 1941).
25 Lone Star Gas Co. v. Harris, 45 S.W.2d 664 (Tex. Civ. App. 1931).

extraction and sale of the incidental products by lessees, there would be little reason for holding that such substances were not conveyed.

Courts, in their attempts to settle the ownership of gas stream components, can look to previous case law relating to incidental products, statutes defining products and setting out what is conveyed by leases and deeds of minerals, and certain rules of construction applicable to oil and gas leases. The remainder of this comment examines these sources of oil and gas law, emphasizing considerations of particular importance to the question of helium ownership.

II. PRESENT STATE OF THE LAW REGARDING INCIDENTAL PRODUCTS

A. *Case Law*

1. *Mineral Deed Cases*

There are several lines of case law which might be considered sufficiently analogous to be decisive. One of these involves the question whether oil and gas are included in a deed of "minerals." The weight of authority is that a deed of "minerals" does include oil and gas unless other language in the instrument restricts the definition,[26] although in the true sense, oil and gas are not minerals, being of biological origin.[27] Some courts which have adopted this view, however, distinguish situations in which, at the time of the conveyance, oil and gas were not known to exist in the area or their value was not then known.[28]

In a substantial minority of jurisdictions it has been held that a grantee under a deed of "minerals" does not have the right to extract oil and gas from the land.[29] Courts which have so held state the question this way: is the substance in question within the common and ordinary meaning of the class reserved or conveyed?[30] If not, specific intent to include the substance must be shown. These courts are concerned with the potentially broad inclusiveness of the grant and (as are some of the courts which hold oil and gas normally included as minerals) with the fact that oil and gas often are not known to exist in an area at the time mineral deeds are executed. Another factor which has led some courts to the non-inclusion holding is the difficulty often encountered in locating grantees of severed mineral interests ancient in origin. If the owners of oil and gas rights cannot be located or ascertained, development is inhibited. A

26 1 WILLIAMS & MEYERS, OIL AND GAS LAW § 219.1 (1962).

27 2 AMERICAN LAW OF PROPERTY § 10.6 (Casner ed. 1952).

28 *E.g.*, Missouri Pac. R.R. v. Strohacker, 202 Ark. 645, 152 S.W.2d 557 (1941); Barker v. Campbell-Ratcliff Land Co., 64 Okla. 249, 167 Pac. 468 (1917).

29 A recent case held natural gas not included in a clause reserving "oil, coal, fire clay and minerals of every kind and character," even though at the time the deed was executed, it was well known that natural gas was frequently found with oil. Bundy v. Myers, 372 Pa. 583, 94 A.2d 724 (1953).

30 Dunham & Shortt v. Kirkpatrick, 101 Pa. 36 (1882).

holding that title remains in the landowner often promotes development, since surface owners are usually much easier to find.[31]

The circumstances surrounding the mineral deed cases are not the same as those surrounding the present controversy over helium, and many of the considerations which led some courts to non-inclusion holdings in the former cases are here absent. Helium exists in the same physical state as fuel gas, while the oil and gas disputed in the mineral deed cases existed in different physical states from the hard minerals which were the primary object of the conveyances. This dissimilarity is manifested most strikingly in the manner of extraction. Helium is brought from the ground by the same means as the primary substances under oil and gas conveyances, while oil and gas require different means from those used when hard minerals are produced. A party equipped to operate for oil and gas cannot avoid bringing helium to the surface also, while a party primarily interested in hard minerals cannot, without changing methods drastically, extract substances in liquid and gaseous states. Further distinguishing the mineral deed cases is the fact that there would be no problem in locating lessee owners should the courts hold that title to helium is conveyed by leases covering "gas." Oil and gas leases are usually for primary terms[32] and thereafter only for so long as a well on the premises is producing. Thus, lessees are not difficult to locate, for after the primary term expires the only way they can keep the leases alive is by activity looking to production from the leased premises.

2. *"Wet Gas" Cases*

A second line of cases the courts might consider relevant is that involving condensate or drip gasoline, substances often specifically provided for by modern leases. These cases arose because some wells produce "wet gas," from which it is possible to manufacture gasoline. As with the mineral deed problem, courts have split on whether all condensate or drip gasoline passes to gas lessees. Some courts have considered these products constituent parts of the gas and, as such, covered by the leases.[33] The ground assigned by one court which so held was that when lessees sell the gas without extracting the gasoline, the lessors can claim a royalty only on the price received, without taking account of the value of the extractible gasoline.[34] Thus, the court reasoned, to hold that lessors own the gas only if extracted would be to make title depend on the purpose to which the gas

[31] The public interest in development of oil and gas reserves is served by such a holding. 1 WILLIAMS & MEYERS, *op cit. supra* note 26, § 219.

[32] Typically, the primary term runs for ten years, during which time the lessee has exclusive rights to explore for and develop oil and gas. Until the primary term has ended the mineral estate will not be forfeited for non-production.

[33] McCoy v. United Gas Pub. Serv. Co., 57 F. Supp. 444 (W.D. La. 1932); Lone Star Gas Co. v. Stine, 41 S.W.2d 48 (Tex. 1931); Blocker v. Christie, Mitchell & Mitchell Co., 340 S.W.2d 320 (Tex. Civ. App. 1960).

[34] McCoy v. United Gas Pub. Serv. Co., *supra* note 33, at 446.

is put. One jurisdiction has taken the position that lessors retain title to any condensate or gasoline taken from the "wet gas" before it passes through the meter, but that after metering it all belongs to the lessees.[35]

Although factually the "wet gas" cases are more similar to the helium controversy than are the mineral deed cases, they, too, ought not to be controlling. Again the situations are distinguishable. The primary substances and the incidental products involved in the "wet gas" litigation were all hydrocarbons. The helium dispute centers on an incidental product which is not a hydrocarbon. Another distinction is significant. The physical state of the incidental product involved in "wet gas" litigation is liquid when brought to the surface, while the primary substance contemplated by the such leases is gaseous. Helium, however, is gaseous both in place and when brought to the surface, as is the fuel gas contemplated by the leases. The first of these distinguishing features supports the contentions of lessors that helium was not conveyed; however, the second argues in favor of the claims of lessees.

3. *Casinghead Gas Cases*

The strongest authority for lessors' claims to helium and other non-hydrocarbon gases is found in the Oklahoma casinghead gas cases. It has been held by the Supreme Court of Oklahoma that casinghead gas, when not contemplated by the parties at the time the lease is executed, remains the property of the lessor.[36] This holding is based on a finding that casinghead gas is neither oil nor gas within the contemplation of a lease which makes no reference to it. In the first cases dealing with this problem, the Oklahoma courts held lessees to an accounting on one-eighth of the manufactured gas, not as a gas or oil royalty, but as a fair measure of damages for takings not covered by contract.[37] Later, recovery was limited to the value of the product converted, rather than a portion of the net value of the commercial product into which it was made.[38] The present standard of recovery appears to be based on the full value of all converted gas (not a fraction, as in the early cases), less reasonable and necessary production and marketing expenses.[39] The present state of Oklahoma casinghead gas law has received a mixed response. One noted oil and gas authority sees these holdings as illustrative of the modern trend as to all incidental products.[40] The results and rationale of the cases have also

35 Mid-Continent Petroleum Corp. v. Blackwell Oil & Gas Co., 159 Okla. 35, 15 P.2d 1028 (1932); Phillips v. Henderson Gasoline Co., 101 Okla. 277, 225 Pac. 668 (1924).

36 This principle was first announced in Hammett v. Gypsy Oil Co., 95 Okla. 235, 218 Pac. 501 (1921). It is still the law in Oklahoma.

37 Hammett v. Gypsy Oil Co., *supra* note 36; George v. Curtain, 108 Okla. 281, 236 Pac. 876 (1925).

38 Mullendore v. Minnehoma Oil Co., 114 Okla. 251, 246 Pac. 837 (1926).

39 Drilling expenses and capital investment, however, may not be taken account of in the computation. Ludey v. Pure Oil Co., 157 Okla. 1, 11 P.2d 102 (1931).

40 MERRILL, COVENANTS IMPLIED IN OIL AND GAS LEASES 198-200 (2d ed. 1940).

been severely questioned and have often been distinguished by the Oklahoma courts.[41] In several cases the Oklahoma Supreme Court has refused to hold lessees accountable for gasoline produced from casinghead gas under leases which expressly conveyed the latter substance.[42] The lessors' claims that casinghead gas was not known to be valuable for gasoline purposes at the time the leases were executed was deemed irrelevant by the court, which held that by conveying the gas the parties included the extractible gasoline. The distinguishing features adopted are the time and manner of separating the incidental product from the primary substance; that is, casinghead gas is by nature separated from the oil at the well-head, while casinghead gasoline is separated by a manufacturing process off the leased premises. It should be noted that this difference is also relevant to gaseous non-hydrocarbons which come from the well in a coadunated stream with fuel gas and must be separated off the leased premises.

Other jurisdictions, notably Texas, have held that casinghead gas is included in a lease of oil and gas.[43] Originally, Texas allowed lessors royalties for the manufactured casinghead gasoline under the oil royalty clauses of their leases, the theory being that casinghead gasoline was in fact oil.[44] Subsequent cases, however, have disallowed any royalty for the gasoline (unless expressly covered in the lease) and have restricted recovery to payment for the casinghead gas under the gas royalty clause.[45] In a leading case the court explained this result by saying, "Such recovery would be in the nature of a double recovery for an element of gas theretofore sold in its entirety, together with the right of disposal."[46] This principle was reaffirmed in a recent case involving distillate produced from a gas well.[47]

At the present time under Texas law there is no restriction on the use of gas by lessees once they have bought and paid for it, and no additional royalty exposure arises from new, more profitable uses. The case law of Texas also establishes a conclusive presumption that parties to a contract know and understand its subject matter.[48] Thus, parties to a lease of "gas"

41 See BROWN, OIL AND GAS LEASES 103-04 (1958). In Broswood Oil Co. v. Sand Springs Home, 178 Okla. 550, 62 P.2d 1004 (1936), the Supreme Court of Oklahoma, though adhering to the principle of the *Hammett* case (because it was firmly established), declared that *Hammett* had been wrongly decided and that casinghead gas was a component of oil.

42 Mussellem v. Magnolia Petroleum Co., 107 Okla. 183, 231 Pac. 526 (1924); *accord*, Wilson v. King Smith Ref. Co., 119 Okla. 256, 250 Pac. 90 (1926); *cf.* Application of Martin, 321 P.2d 659 (Okla. 1956).

43 Gilbreath v. States Oil Corp., 4 F.2d 232 (5th Cir.), *cert. denied*, 268 U.S. 705 (1925); Wemple v. Producers' Oil Co., 145 La. 1031, 83 So. 232 (1919); Reynolds v. McMan Oil & Gas Co., 11 S.W.2d 778 (Tex. 1928).

44 Reynolds v. McMan Oil & Gas Co., *supra* note 43.

45 Lone Star Gas Co. v. Harris, 45 S.W.2d 664 (Tex. Civ. App. 1931); *cf.* Southland Royalty Co. v. Pan Am. Petroleum Corp., 354 S.W.2d 184 (Tex. Civ. App. 1962).

46 Lone Star Gas Co. v. Harris, *supra* note 45, at 667.

47 Southland Royalty Co. v. Pan Am. Petroleum Corp., 354 S.W.2d 184 (Tex. Civ. App. 1962).

48 "In the absence of fraud, accident or mistake, it will be conclusively presumed that

would be presumed to know the content of that gas, and if it contained a fractional amount of helium this presumption might logically give rise to another—intent to convey the helium. Language in the Texas cases referring to constituent elements appears to be broad enough to include gaseous non-hydrocarbon products.

Again, although the casinghead gas cases might be helpful to the courts in determining title to helium, it would be more advisable for them to chart an independent course, rather than to view these cases as controlling.[49] Determination of modern problems should not turn on old principles developed under dissimilar circumstances. The history of casinghead gas litigation shows that the courts have there been faced with the task of bending facts and rules of law in order to afford relief to lessors who were being grossly under-compensated by the gas payment provisions of their leases.[50] Old leases typically provided only small, flat-sum payments to lessors for gas when it was used off the premises. This resulted from the fact that when the leases were drawn up, gas was an unwanted nuisance product. When gas became more valuable and casinghead gas became productive of liquids having a market comparable to crude oil, there was such a difference in the respective amounts realized by lessors and lessees that the former began to search for ways and means to remedy the situation. In that search they were aided by sympathetic courts who put strained interpretations on royalty clauses in order to allow lessors to realize at least a portion of the vastly increased value of gas and its incidental products.

It would not be difficult for the courts to avoid these precedents and to strike out on a new course with gaseous-contained elements such as helium, for the physical facts and economic circumstances are quite different from those which were important in the casinghead gas cases. Helium has the same physical state as the primary product of the well—a gas—while casinghead gas comes from a well whose primary product is in a liquid state.[51] Casinghead gas, because it comes from the well separated from the oil, can be independently dealt with by lessors on the leased premises, while helium and other gaseous products of gas wells are not separated from the gas by nature, but must be separated artificially at some

the parties to a contract were familiar with and understood the subject-matter about which they have contracted . . . and that the terms used by them were intended to be given their ordinary and popular meaning." Magnolia Petroleum Co. v. Connellee, 11 S.W.2d 158, 159 (Tex. 1928).

49 For an opposing view, see Holland, *Is Helium Covered by Oil and Gas Leases?*, 41 TEXAS L. REV. 408 (1962).

50 See generally BROWN, *op. cit. supra* note 41, at 103-04. A holding that helium is covered by a conveyance of "gas" does not create the same hazard of under-compensation. Extractible helium enhances the value of the gas stream, and the dollar amount of the lessors' fractional interest rises proportionately.

51 Helium, in fact, is the most difficult of all elements to liquify. Chopey, *Liquid-Helium Plant Tackles Gas That's Hardest of all To Liquify*, Chemical Engineering, Oct. 1962, p. 76.

central point along the transmission lines. It may well be impossible to "produce, save and take care of" the fuel gas (as leases require of lessees) without saving and taking care of the helium constituent. This is the same physical fact noted earlier which has led the Oklahoma courts to distinguish their earlier holdings.[52] The manner of measurement provides another distinguishing feature. Casinghead gas can not be measured by the same means as oil from the same well; the former must be metered, while the latter is measured by the barrel. Helium and fuel gas must both be metered, and they are measured in thousand-cubic-feet units (Mcf's). Finally, under-compensatory, flat-fee payments do not appear in modern leases,[53] and thus the economic imbalance which influenced many of the casinghead gas decisions is not present.

B. *Statutes*

Various state statutes might also be considered by the courts; however, only North Dakota attempts to set out definitively what passes under a mineral lease. A statute of that state provides that "No lease of mineral rights . . . shall be construed as passing any interest to any minerals except those . . . set forth by name in the lease."[54] A subsequent sentence qualifies the strict rule so that by-products of any named mineral and, with oil and gas, all associated hydrocarbons in either liquid or gaseous state are deemed included in the grant.[55] It seems this statute would exclude helium and other non-hydrocarbons when they are not named in an oil and gas lease; however, they might conceivably be considered included as by-products of the named minerals.

A Texas statute which defines gas wells might be of some help to the courts of that state when they deal with a royalty clause covering "gas from a gas well only."[56] The statute, however, defines a gas well in terms of proportionate production of natural gas and oil, and it is not concerned with components of the gas stream. An Oklahoma statute defines "gas" to be "all natural gas, including casinghead gas, and all other hydrocarbons not defined as oil . . . ."[57] It might be argued that this statute impliedly, if not expressly, excludes all non-hydrocarbon substances, but the phrase "all natural gas" would seem to allow a broader reading. No reported case has dealt with this problem under any of these statutes.

52 See cases cited note 42 *supra.*

53 Only leases executed prior to the 1920's contain flat-fee gas clauses; thus the vast majority of leases should be considered "modern." Almost all lands covered by the old leases have been depleted and are not involved in present-day oil and gas litigation.

54 N.D. CENT. CODE § 47-10-24 (1960).

55 "For the purpose of this paragraph any mineral so named shall be deemed to include the by-products of such mineral and in the case of oil and gas, all associated hydrocarbons produced in a liquid or gaseous form so named shall be deemed to be included in the mineral named." *Ibid.*

56 TEX. REV. CIV. STAT. art. 6008, § 2(d) (1948).

57 OKLA. STAT. tit. 52, § 86.1(f) (1961).

C. *Rules of Construction*

1. *Intent of the Parties*

Besides case law and statutes, the courts are likely to look to certain rules of construction in their attempt to settle the question of title to helium. As it is usually said that the primary object of all rules of interpretation and construction is to arrive at and give effect to the mutual intent of the parties as expressed by their contract,[58] the courts try to place themselves in the position of the parties at the time the contract was entered into and discover what coverage they intended.[59] Before extrinsic evidence of the intent of the parties may be admitted, however, it must first be determined that the language of the contract is ambiguous.[60] It is difficult to predict what language is sufficiently ambiguous to justify introduction of parol evidence.[61] Buttressing the intent of the parties rule in Oklahoma is a statute which provides that a contract extends only to those things concerning which it appears the parties intended to contract, no matter how broad its terms may be.[62] This statute would seem to make it very difficult to argue that a substance has been impliedly conveyed. Nonetheless, it has not prevented Oklahoma courts from holding that casinghead gasoline is conveyed by a grant of casinghead gas, even when there is no evidence that the parties contemplated it at the time the lease was executed.[63]

The courts have looked for specific intent to convey the particular elements in question.[64] If, in the case of helium, they search for such intent, it is likely they will be forced to decide that helium and other non-fuel components of the gas stream are not included in the grant. However, the use of the specific intent test to determine the disposition of substances unknown at the time the contract was entered into, or known substances considered to have no intrinsic value at that time, is subject to criticism.[65] This is especially true when the parties to a lease probably had no intent at all as to the substance in question, and, had they contemplated the problem, would have either specifically dealt with it or would have considered the elements covered by other terms of the instrument.[66] While the intent test

58 See GLASSMIRE, *op. cit. supra* note 17, at 171; Annot., 82 A.L.R. 1304 (1933).

59 Carder v. Blackwell Oil & Gas Co., 83 Okla. 243, 201 Pac. 252 (1921).

60 It has been held that a grant of "all Minerells Paint Rock &c" is not ambiguous, and that oil and gas are included in such a conveyance. Anderson & Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800 (1940).

61 In Oklahoma a lease which has terms with accepted meanings is not considered ambiguous. Carroll v. Bowen, 180 Okla. 215, 68 P.2d 773 (1937).

62 OKLA. STAT. tit. 15, § 164 (1961).

63 See note 39 *supra* and accompanying text.

64 See generally Kuntz, *The Law Relating to Oil and Gas in Wyoming*, 3 WYO. L.J. 107 (1949).

65 See generally 1 WILLIAMS & MEYERS, *op. cit. supra* note 26, § 219. *But cf.* Holland, *supra* note 49, at 418-19.

66 When extrinsic evidence is allowed in the search for intent, it may relate to such matters as the following: (1) the normal business activities of the party claiming to be

ought not to be abandoned, it should be modified so that the search is for *general* intent, rather than a supposed, but unexpressed, specific intent. This general intent should be discovered not by defining and redefining the terms used, but by considering the purposes of the grant in terms of respective manner of enjoyment of surface and mineral estates.

Applying this suggested general intent test to the problem of contained gaseous elements, it should probably be assumed that the parties intended to dispose of all elements that come from the well in a gaseous state by providing for "gas." The grant would be construed to convey all gaseous substances presently valuable, whether their presence is known or not, as well as all gaseous substances which subsequently become valuable. This result would be reached because the general intent of the parties was that the lessee's estate should consist of the right to drill for and take all substances which are metered at the surface and that the estate reserved to lessor should consist of enjoyment of the surface, all hard minerals, and whatever liquids are not conveyed by other terms of the lease. A general intent test probably conforms more closely to the original intention of the parties than does the test of specific intent, and it has the further advantage of achieving certainty. Discovery of new substances, valuable in themselves, would not serve to "expand the grant," but would only make more certain the specific object of a general grant.

In relation to the question of intent of the parties, it has been suggested that under a lease having a "free gas" clause, helium is probably not granted.[67] This conclusion rests upon the supposition that, since helium is not useful as a fuel gas, the parties could not have intended that the gas contracted for should include helium. If helium occurred in nature as the major product of certain gas wells that conclusion would be sound; however, helium occurs only as a very minor component of natural gas wells. It does not necessarily follow that, by providing for free gas, lessors intend to exclude from the grant all minor non-combustible components of the gas stream, for over the years of their leases many lessors have accepted the natural gas as it comes from the ground, including all impurities, as free gas.

2. *Realistic Construction*

A second applicable rule of construction is that a realistic, rather than an unrealistic, interpretation should be given where such interpretation will make the lease lawful, operative, definite, reasonable, and capable of being carried into effect.[68] Lessors almost never claim title to by-products

the owner, (2) whether at the time of the conveyance commercial quantities of the disputed substance were known to exist in the area, (3) whether prior or contemporaneous instruments executed by the parties or by either of them were more specific as to the disputed substance. 1 WILLIAMS & MEYERS, *op. cit. supra* note 26, § 219.5.

67 Holland, *supra* note 49, at 413.

68 Diggs v. Cities Serv. Oil Co., 241 F.2d 425 (10th Cir. 1957); Clymore Prod. Co. v. Thompson, 13 F. Supp. 469 (W. D. Tex. 1936); Mussellem v. Magnolia Petroleum Co., 107 Okla. 183, 231 Pac. 526 (1924).

until they become valuable and extraction begins, and then they claim only the particular substance being extracted and sold. With a substance such as helium they place themselves in a situation whereby they seek to except an element they can not drill for and produce themselves. To accept such a claim would be to place upon a lease an unrealistic construction, which would make it inoperative rather than operative. Lessees, on the other hand, owning the dominant estate when the purpose is to mine for and produce oil and gas, can realistically claim title to component gases and produce or extract them.

Where the lease in question provides for royalties on gas when it is from a well where "gas only" is found, it would seem that the courts should also apply this rule of construction. Under such a lease the lessors' contentions that non-hydrocarbon gases are not included in a lease of "gas" would, if successful, take the wells out of the royalty clause covering wells where "gas only" is found. The result would be that lessees could take the fuel gas, since the conveyancing clause clearly grants it, but they would be under no obligation to pay royalty on it since it would not be from a "gas only" well. Application of the rule of realistic construction would probably lead to the inclusion of non-hydrocarbon gases in both the conveyancing and royalty clauses, thus preventing this absurd and inequitable result.

3. *Other Applicable Rules of Construction*

Contrary to the rule applied to ordinary leases, oil and gas leases, when ambiguous, are construed against lessees and in favor of lessors.[69] If a lease of "gas" is considered ambiguous as to coverage of non-hydrocarbon gases, a court applying this rule would determine the controversy in favor of lessor. Three reasons have been assigned for the rule: (1) the moving consideration for the lease is the immediate development of lessor's premises, (2) the lease contract is prepared and submitted by the lessee, and (3) the fugitive nature of oil and gas presents the hazard of drainage.[70]

The rule has often been criticized as illogical and unwarranted under modern conditions.[71] The first basis for the rule is no longer valid, for under modern leases bonuses and delay rentals are provided which often replace prospective royalties as the major inducement for the execution of leases. Also, modern lease forms are standardized, and the usual terms are a matter of common knowledge, especially among landowners in petroleum producing regions. It has been said that the average landowner in oil and gas regions is unusually well-informed regarding the terms and conditions

69 Beatty v. Baxter, 208 Okla. 686, 258 P.2d 626 (1953). In the construction of mineral deeds, however, the general rule applied to land grants (construction in favor of grantees) has been adopted. GLASSMIRE, OIL AND GAS LEASES AND ROYALTIES 171 (2d ed. 1958).

70 Veasey, *The Law of Oil and Gas*, 18 MICH. L. REV. 652 (1920).

71 See GLASSMIRE, *op. cit. supra* note 69, at 171-72; Veasey, *supra* note 70.

of oil and gas leases, as well as the usages of the business.[72] The drainage problem can be dealt with by reading in an implied covenant to protect from drainage. Despite criticism, however, courts have continued to construe ambiguous oil and gas leases against lessees, so it appears the only way in which lessees can avoid the sometimes harsh results arrived at is to argue the absence of ambiguity.

The *ejusdem generis* rule of construction is often applied in connection with those leases which purport to grant "other minerals" without attaching the parenthetical "(whether similar or dissimilar)."[73] In applying the rule, however, there arises a problem of determining which respective characteristics of fuel natural gas and helium should be considered controlling. There are at least five categories: (1) physical state—both gaseous; (2) chemical content—hydrocarbon vis-à-vis inert gas; (3) end use—fuel and energy as opposed to others; (4) manner of extraction from the ground —drilling of wells in both cases; and (5) manner of measurement—both measured in Mcf's by metering. A court might require that a disputed substance be identical with fuel natural gas in all of these characteristics, and in such case helium and many other components of the gas stream would not be held to have been conveyed under the "other minerals" clause. The most important characteristics would seem to be physical state, end use, and manner of measurement. On the basis of helium's likeness to fuel gas in two of these respects—physical state and manner of measurement—one commentator has concluded that it and like substances would pass by the clause.[74]

A final rule of construction especially applicable to the problem of determining coverage of oil and gas leases is that where the parties to a contract have given it a practical construction by their conduct, such construction is entitled to great weight in determining its proper meaning.[75] While this rule has general acceptance, it is impossible to say with certainty what acts of the parties may be held to effect a practical construction of the lease. The rule might be applied to royalty payments and their acceptance under the gas royalty clause. If the gas stream has consisted in part of non-hydrocarbon gases ever since production began, and the lessor has accepted royalty for many years on the full stream as metered, a court could conceivably hold that the parties have construed the lease by their conduct and that by mutual understanding the term "gas" in the royalty clause covers all substances coming from the well in gaseous form.[76]

72 GLASSMIRE, *op. cit. supra* note 69, at 172-73.

73 See Wolf v. Blackwell Oil & Gas Co., 77 Okla. 81, 186 Pac. 484 (1920).

74 GLASSMIRE, *op. cit. supra* note 69, at 295.

75 Lambertz v. Builders, Inc., 183 Kan. 602, 331 P.2d 559 (1958); Tate v. Stanolind Oil & Gas Co., 172 Kan. 351, 240 P.2d 465 (1952); Superior Oil Co. v. Stanolind Oil & Gas Co., 150 Tex. 317, 240 S.W.2d 281 (1951).

76 *Cf.* Lackey v. Ohio Oil Co., 138 F.2d 449 (10th Cir. 1943); Southland Royalty Co. v. Pan Am. Petroleum Corp., 354 S.W.2d 184 (Tex. Civ. App. 1962). The four corners rule would extend the construction to the conveyancing clause. See text accompanying note 21 *supra*.

III. SUGGESTED CONTROLLING CONSIDERATIONS

There is a distinct necessity for the courts to settle upon a definite and generally applicable answer to the question of title to natural gas stream components.[77] Past litigation dealing with what is included in a deed of minerals or a lease of oil and gas has not produced any general principles which can be applied with certainty,[78] and the resulting uncertainty naturally causes reluctance upon the part of either party to a lease or deed to invest in the expensive equipment required to extract from the gas stream such valuable elements as helium. Delay bred by this uncertainty causes huge quantities of such components to be lost irretrievably each day.

Contributing to the uncertainty is the confusion that exists in many jurisdictions as to the question of the lessees' duty to produce and market incidental products. There is a general implied obligation imposed upon every lessee, in the absence of stipulation otherwise, to develop the premises with reasonable diligence;[79] however, this obligation might only apply to the primary products contemplated by the lease. Some early Texas casinghead gas cases seemed to indicate that lessees were under a duty to manufacture casinghead gasoline.[80] That conclusion was reached, in part, because of the holding that casinghead gasoline was oil, and the duty was confused with the duty to develop and market oil under the lease. Later Texas cases repudiated the implied duty to extract gasoline and held that lessees are not obligated to extract it.[81] It has been suggested that there is a duty to develop newly discovered minerals unless the lease contains a "one-mineral" clause and the particular product is shown to have been within the contemplation of the parties.[82] It is doubtful, however, that any court would extend this obligation to require lessees to transport the raw gas stream off the leased premises and to erect and operate at great expense a plant to extract components, unless by such activity the lessee would realize a profit above investment and operating expenses.[83] Above all, the determination of the duty question should not rest solely on the characteristics of the particular substance in question, for the future development of other elements and compounds may depend upon the solution the courts apply to the helium controversy.

If a court implies a duty to extract components of the gas stream, it

77 See generally 1 WILLIAMS & MEYERS, *op. cit. supra* note 26, § 219.

78 Walker, *Defects and Ambiguities in Oil and Gas Leases*, 28 TEXAS L. REV. 895, 899 (1950).

79 Texas Pac. Coal & Oil Co. v. Barker, 117 Tex. 418, 6 S.W.2d 1031 (1928); GLASSMIRE, *op. cit. supra* note 69, at 244.

80 See Hardwicke, *Evolution of Casinghead Gas Law*, 8 TEXAS L. REV. 1, 29 (1929).

81 Lone Star Gas Co. v. Stine, 41 S.W.2d 48 (Tex. 1931); Humble Oil & Ref. Co. v. Poe, 29 S.W.2d 1019 (Tex. 1930); Lone Star Gas Co. v. Harris, 45 S.W.2d 664 (Tex. Civ. App. 1931); *accord*, Maddox v. Texas Co., 150 F. Supp. 175 (E.D. Tex. 1957).

82 MERRILL, *op. cit. supra* note 40, at 200-01; Merrill, *Lease Clauses Affecting Implied Covenants*, 2 INSTITUTE ON OIL AND GAS LAW AND TAXATION 141 (1951).

83 *Cf.* Matzen v. Hugoton Prod. Co., 182 Kan. 456, 321 P.2d 576 (1958); Empire Gas & Fuel Co. v. Haggard, 152 Okla. 35, 3 P.2d 675 (1931); Hardwicke, *supra* note 80, at 29.

probably must continue to restrict its holdings to the particular elements in question. An "across the board" duty to extract would carry the potential of great inconvenience and expense to lessees and would also lead to future litigation concerned with the circumstances under which the duty arises. A duty to extract limited to the elements litigated, on the other hand, would do nothing to cure the problem of waste associated with uncertainty of ownership and duty to develop. It seems that it would be more desirable to insist that the duty to market be confined to the product in the state in which it is produced at the well, and not include any duty, at lessees' sole expense, to increase its value by processing.[84]

Some lease forms have attempted to deal with this problem. One such form gives lessees the option to develop new products and provides that lessors can require development by giving notice. If, after notice, the lessee decides against developing the newly discovered mineral, he must surrender to lessor the right to such mineral. This form, though it is preferable to having the situation left completely untouched by the lease, presents some problems of its own, for an element such as helium can not be effectively exploited apart from operations for gas. Also, when waste is imminent, the option period[85] is harmful to the interest of lessors.

Besides the economic interests of lessors and lessees, the national need for the extraction of otherwise wasted products should be given consideration. A component such as helium is strategic to the nation's security, and, due to the enormous daily waste, the time factor is crucial.[86] Certainty, achieved by setting out generally applicable principles, would encourage faster development of extraction apparatus in the future, as other components of either oil or gas streams become valuable. The national interest would also be best served by a holding in favor of the party best able to develop the component elements, especially since the duty question remains unsettled. Usually the party best able to establish extraction processes would be the lessee.

The enormous initial expense required to construct a cryogenic extraction process would make it virtually impossible for an individual landowner to extract gaseous elements; thus, some sort of cooperative effort among lessors would be required. Such cooperative action might well come in conflict with the antitrust laws of either state or federal governments. Texas statutes deal expressly with the rights of landowners to unitize.[87] These statutes require certification by the Railroad Commission before

84 This follows, since the well-head is the point at which the gas is "captured" and metered, title vests, and lessee's royalty obligation is measured. See Siefkin, *Rights of Lessor and Lessee With Respect to Sale of Gas and as to Gas Royalty Provisions*, 4 INSTITUTE OF OIL AND GAS LAW AND TAXATION 181, 184-201 (1953).

85 After receipt of notice the lessee is given an option period (typically twelve months) during which time he may decide whether or not he will develop the product.

86 Letter from Secretary Udall to FPC Chairman Joseph C. Swidler, Dec. 10, 1961; see text accompanying notes 5-11 *supra*.

87 TEX. REV. CIV. STAT. art. 6066c (1948).

construction and operation of facilities for conserving and utilizing gas, including facilities for extraction, and approval is forbidden unless the arrangement is in the interest of conservation. Agreements for cooperative marketing of crude petroleum, condensate, distillate, gas, or any by-products are prohibited. Extraction facilities for helium would qualify for approval, since such extraction is certainly in the interest of conservation. The marketing problems associated with helium, however, might require the proscribed cooperative action. The validity of unitized operations under federal antitrust laws has been the subject of much speculation; however, there have been no reported cases dealing specifically with the problems presented by contained gaseous elements.[88]

Several other considerations lead to the conclusion that it would be preferable for the courts to hold that components of a gas stream are all granted by a lease of "gas." First, a holding that such elements are not covered would result in non-recovery for some owners within unitized tracts and disproportionately large recoveries for other unitized owners. Unitization agreements normally do not deal specifically with component elements; thus, only those landowners having producing wells on their premises would be entitled to recover for converted by-products under the rule of capture.[89] This would be the case even though it is likely such land owners might believe themselves fully unitized by providing for pooling of gas, oil, casinghead gas, and casinghead gasoline. A holding that non-hydrocarbon components are not granted by the leases would defeat their intent and purpose.

Second, even if a court adheres to the specific intent test instead of adopting the suggested test of general intent,[90] a holding that helium is conveyed to lessees is not precluded. The gaseous state in which helium remains when brought to the surface makes it difficult to store and transport. These are the two characteristics which gave rise to the gas royalty and shut-in well provisions of modern leases; thus, it would seem that helium is the type of substance clearly contemplated by the gas clauses. Also, most of the elements have been known to be present in natural gas streams for many years. Helium, for example, was discovered to be a fractional component of some natural gas wells in 1905,[91] and Congress, in the Mineral Leasing Act of 1920,[92] provided for the reservation to the federal government of helium processing rights on public domain lands. Parties who entered into gas leases after 1905 (and certainly those who

88 See generally HARDWICKE, ANTITRUST LAWS, ET AL. v. UNIT OPERATION OF OIL OR GAS POOLS (rev. ed. 1961); Searls, *Antitrust and Other Statutory Restrictions of Unit Agreements*, 3 INSTITUTE ON OIL AND GAS LAW AND TAXATION 63 (1952).

89 *Cf.* GLASSMIRE, *op. cit. supra* note 69, at 107.

90 See text accompanying notes 63-67 *supra*.

91 Seaton, *The Challenge of Helium Conservation*, 8 Bus. Topics (Mich.), Spring, 1960, p. 21, 22.

92 41 Stat. 437 (1920), as amended, 30 U.S.C. § 181 (Supp. IV, 1963). See also HOFFMAN, OIL AND GAS LEASING ON THE PUBLIC DOMAIN 33 (1951).

entered into such leases after 1920) may be presumed to have known that helium was included in the gas stream. To claim an exception or reservation of helium, they should be required to exhibit specific language in the lease indicating that such was the intent.

Third, the primary object of natural gas leases is the production of fuel gas,[93] and the owner of the gas rights therein has the dominant estate. The right to take natural gas carries with it the right to bring to the surface as much of the other gaseous elements as is necessary and proper,[94] since no method has yet been devised for separating the gases in place. The general rule is that one who owns the minerals or mineral rights in land has, as incidental to that ownership, the rights and privileges necessary for the profitable production of such minerals.[95] The broad extent of application of this rule is illustrated by an early Pennsylvania decision disallowing an action of trover for petroleum which had risen naturally with water from salt wells on land leased for the manufacture of salt.[96] After it had reached the surface, the petroleum was separated from the salt water and sold by the lessee. Though the grant did not include petroleum, the court stated that, since lessees could not raise the water without raising the petroleum, severance of the oil as an inevitable incident to the grant was lawful, as was lessees' possession of it after it reached the surface.[97]

Finally, the relative equities of the parties dictate a conclusion that lessees are the rightful owners of gas stream components.[98] If the Oklahoma casinghead gas decisions are followed,[99] the result in the case of helium will be substantial unfairness to lessees. Though the courts in the casinghead gas cases allowed lessors to recover in the amount of the market value of all casinghead gas rather than a fraction, lessees were nonetheless able to realize a profit from their extraction operations, since the value of the manufactured products was greater than the value of the crude casinghead gas at the well-head. Helium, however, can have no value at the well-head, for it is a coadunated quantity with the fuel gas and has no market until separated. Thus, any relief afforded lessors must be based on the value of the extracted helium. If such relief is given in accordance with that allowed in the casinghead cases, no profit would be left for lessees, the parties who provide the capital for extraction apparatus. In addition, a holding that

93 GLASSMIRE, *op. cit. supra* note 69, at 170.

94 Guffy v. Stroud, 16 S.W.2d 527 (Tex. 1929) (dictum).

95 Holt v. Southwest Antioch Sand Unit, Fifth Enlarged, 292 P.2d 998 (Okla. 1955) (lessee may take salt water for secondary recovery of oil); B. L. McFarland Drilling Contractor v. Connell, 344 S.W.2d 493 (Tex. Civ. App.), *rev'd on other grounds*, 162 Tex. 345, 347 S.W.2d 565 (1961) (oil and gas lessee may take *caliche*); Stradley v. Magnolia Petroleum Co., 155 S.W.2d 649 (Tex. Civ. App. 1961) (water may be taken to assist drilling operations).

96 Kier v. Peterson, 41 Pa. 357 (1862).

97 The court further stated: "[I]t must belong to the lessee, who must separate it from the salt, and either let it run to waste or prepare it for the market." *Id.* at 362.

98 See generally Walker, *The Nature of the Property Interests Created by an Oil and Gas Lease in Texas*, 10 TEXAS L. REV. 291 (1932).

99 See notes 36-40 *supra* and accompanying text.

title to components of a gas stream passes to lessees under a lease of "gas" adequately protects lessors. Modern leases do not have under-compensating, flat-fee clauses;[100] thus, lessors receive a fraction of the value of the gas stream. As a practical matter, when the royalty is based on a fraction of the market value of the gas, lessors indirectly benefit from the products manufactured, since the market value or market price at the well will be greater where products can be manufactured from the stream. Lessors are indirectly paid a royalty on the products extracted because the value of such products is reflected in the price for which the gas is sold by lessees and on which the royalty is calculated.

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[100] See text accompanying note 50 *supra*.