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## STATUTORY GUIDELINES FOR DETERMINING "FAIR SHARE"

JED B. MAEBIUS, JR.\*

The occurrence of oil and gas reservoirs beneath the surface, without regard to surface ownership boundaries, has presented unique problems in defining the property rights of the surface owners.<sup>1</sup> The simple division of property rights according to surface ownership boundaries, as with hard minerals, cannot be accomplished with fluid minerals such as oil, gas, and water.<sup>2</sup>

Because oil and gas occur beneath the surface, there is the further difficulty of obtaining precise information about factors such as the volume and area of the reservoir and the subsurface movement of oil and gas. In recent years, geological and geophysical exploration and production methods have contributed greatly to the knowledge of the physical nature of oil and gas reservoirs. However, in the early days of the industry, the lack of knowledge about oil and gas caused legislatures and courts great difficulty in defining and characterizing the property rights of owners.<sup>3</sup>

Because of this difficulty in defining property rights in oil and gas, several theories evolved for classifying ownership rights.<sup>4</sup> In Texas and

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<sup>1</sup> The complex status of a landowner is discussed in 1 SUMMERS, OIL AND GAS, § 11 at 24-25 (1954). Concerning what the title to land encompasses, Professor Summers states, referring to A as the owner of Blackacre,

He is vested by the sanction of organized society with a very complex aggregate of legal rights, privileges, powers, and immunities, correlative to which are the respective duties, no-rights, and liabilities of all others. Because he has this complex aggregate of legal relations concerning Blackacre, he is the owner thereof.

This aggregate of jural relations which A has constitutes a legal interest, which is property.

<sup>2</sup> The division of subterranean water among the surface owners presents legal problems similar to those involved in the division of oil and gas. For a discussion of these problems and the doctrines of "reasonable use" and "correlative rights" as applied to water, see 2 KINNEY, *Irrigation and Water Rights*, at 1192 (2d ed.); see also *Canada v. City of Shawnee*, 64 P.2d 694 (Okla. 1936).

<sup>3</sup> See the discussion in Woodward, *Ownership of Interests in Oil and Gas*, 26 OHIO STATE L.J. 353 (1965); see also *Barnard v. Monongahela Natural Gas Co.*, 65 A. 801 (Pa. 1907).

<sup>4</sup> For detailed discussions of these theories, see Greer, *The Ownership of Petroleum Oil and Natural Gas in Place*, 1 TEXAS L. REV. 162 (1923); Hardwicke, *The Rule of Capture and its Implications as Applied to Oil and Gas*, 13 TEXAS L. REV. 391, 400-03 (1935); KULP, OIL AND GAS RIGHTS, § 90.5 (1954); 1 KUNTZ, OIL AND GAS RIGHTS, § 2.4 (1962); SULLIVAN, OIL AND GAS LAW 41 (1955); 1 SUMMERS, OIL AND GAS, § 61 (1954); Walker, *Property Rights in Oil and Gas and Their Effect Upon Police Regulation of Production*, 16 TEXAS L. REV. 370 (1938); 1 WILLIAMS & MYERS, OIL AND GAS LAW, §§ 203-203.4 (1964); Woodward, *Ownership of Interests in Oil and Gas*, 26 OHIO STATE L.J. 353, 357 (1965).

in the majority of states, courts follow the "ownership in place" theory, which is based on the premise that the owner of a tract of land owns the oil and gas in place beneath his tract. However, when the oil or gas under his tract migrates to another tract of land, he loses title. The owner of the land benefiting from the migration becomes the owner of the oil and gas.<sup>5</sup> In all jurisdictions, regardless of the theory of ownership, an owner has the right to drill wells on his land, pursuant to regulations; and he is recognized as the owner of the oil and gas produced from his wells or an equivalent amount.

Before regulatory statutes were passed, an owner was recognized as the owner of all the production from his wells, even though some of the oil and gas may have migrated from under neighboring tracts of land. The Rule of Capture was developed as a matter of necessity to solve this problem of drainage.<sup>6</sup>

The competitive drilling operations that developed under the Rule of Capture caused waste and destruction of minerals vital to the public interest. As a result, conservation statutes were enacted to regulate the number and location of wells and restrict the amount of production. The purposes of these regulations are to minimize waste and to protect the rights of owners.<sup>7</sup> The state has the power to regulate the exploration and production of oil and gas to prevent waste and to protect property rights.<sup>8</sup>

When regulatory commissions were established by statute to provide restrictions on the location of wells and the amount of production, the remedy of self-help available under the Rule of Capture was, to a large extent, removed. It became the task of the state, acting through the regulatory commission, to regulate drilling and production so that each owner would receive his fair share.

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<sup>5</sup> *Stephens County v. Mid-Kansas Oil & Gas Co.*, 113 Tex. 160, 254 S.W. 290 (1923).

<sup>6</sup> For a thorough analysis of the Rule of Capture, see Hardwicke, *The Rule of Capture and its Implications as Applied to Oil and Gas*, 13 TEXAS L. REV. 391 (1935); Interstate Oil Compact Commission's *Standards of Allocation of Oil Production* (1942) and *A Study of Conservation of Oil and Gas* (1964); and Shank, *Present Status of the Law of Capture*, SW. LEGAL FOUNDATION, 6TH INST. ON OIL & GAS LAW & TAX. 257, 321 (1955).

<sup>7</sup> The first conservation statute was passed by Pennsylvania in 1878. It related to the casing and plugging of wells. (LAWS OF PA. 1878 at 56); The location and spacing requirements for wells prevent economic waste by eliminating unnecessary wells and prevent physical waste by eliminating close drilling; see 1 SUMMERS, OIL AND GAS, § 83 at 278 (1954).

<sup>8</sup> *Ohio Oil Co. v. Indiana*, 177 U.S. 190, 20 S. Ct. 576, 44 L. Ed. 729 (1900); *Bandini Petroleum Co. v. Superior Court*, 284 U.S. 8, 52 S. Ct. 103, 76 L. Ed. 136 (1931); see the brief discussion in Hardwicke, *The Rule of Capture and its Implications as Applied to Oil and Gas*, 13 TEXAS L. REV. 391, 419 (1935), and Hardwicke and Woodward, *Fair Share and the Small Tract in Texas*, 41 TEXAS L. REV. 75, 79 (1962); *Corzelius v. Harrell*, 143 Tex. 509, 186 S.W.2d 961 (1945), noted in 24 TEXAS L. REV. 97; see also discussion in Pressler, *Legal Problems Involved in Cycling Gas in Gas Fields*, 24 TEXAS L. REV. 19, 27 (1945).

There are numerous cases standing for the proposition that each owner must have an opportunity to produce his fair share of the oil and gas in place beneath his tract, or its equivalent.<sup>9</sup>

If a statute authorizes an order that allows one owner to produce more than his fair share, it violates constitutional protections of due process and equal protection of the laws.<sup>10</sup>

Mr. Hardwicke has made the following observation:

The courts in Texas in many cases have declared what is a "fair share," or what must be done to protect property rights. In substance, it is this: "Subject to reasonable necessities in preventing waste, the regulation should give to each owner a reasonable opportunity to recover or receive an amount substantially equivalent to the recoverable oil and gas in his land, shortly called his fair share, without being required by the regulation to drill unnecessary wells or otherwise to suffer unnecessary burdens as a predicate to getting his fair share."<sup>11</sup>

A variation of this definition is found in *Standards of Allocation of Oil Production*:<sup>12</sup>

Within reasonable limits, each operator should have an opportunity, equal to that afforded other operators, to recover the equivalent of the amount of recoverable oil underlying his property. The aim should be to prevent reasonably avoidable drainage of oil and gas across property lines that is not offset by counter-drainage.<sup>13</sup>

Although stated in different ways, these definitions provide for the same result. Much has been written on the subject of "fair share."<sup>14</sup> The concept has been interpreted by courts for at least seventy years. Abstract definitions, such as those quoted above, have been provided by legal scholars, geologists and engineers. The volume of literature on the subject is an indication of its complexity. Legislatures, too,

<sup>9</sup> See *Atlantic Refining Co. v. Railroad Commission*, 162 Tex. 274, 346 S.W.2d 801 (1961); *Halbouty v. Railroad Commission*, 163 Tex. 417, 357 S.W.2d 364 (1962).

<sup>10</sup> U.S. CONST., amend. XIV; TEX. CONST., art. I, § 19; OKLA. CONST., art. II, § 7.

<sup>11</sup> Hardwicke, *Some Legal and Economic Aspects of Conservation Regulation*, ESSAYS ON PETROLEUM REGULATION (1960) at 99.

<sup>12</sup> Interstate Oil Compact Commission (1942).

<sup>13</sup> Hardwicke, *Some Legal and Economic Aspects of Conservation Regulation*, ESSAYS ON PETROLEUM REGULATION (1960) at 99.

<sup>14</sup> Hardwicke, *The Rule of Capture and its Implications as Applied to Oil and Gas*, 13 TEXAS L. REV. 391 (1935) and *Some Legal and Economic Aspects of Conservation Regulation*, ESSAYS ON PETROLEUM REGULATION (1960); Hardwicke and Woodward, *Fair Share and the Small Tract in Texas*, 41 TEXAS L. REV. 75 (1962); Interstate Oil Compact Commission, STANDARDS OF ALLOCATION OF OIL PRODUCTION (1942) and A STUDY OF CONSERVATION OF OIL AND GAS (1964); Smith, *The Texas Compulsory Pooling Act*, 43 TEXAS L. REV. 1003 (1965-Pt. I) and 44 TEXAS L. REV. 387 (1966-Pt. II); Ungerman, *Oil and Gas—Proration—The Railroad Commission's Authority To Protect Correlative Rights*, 21 Sw. L.J. 368 (1967).

have had difficulty; and the statutes relating to fair share differ greatly. The statutes of the most important oil and gas producing states have been in existence for many years.<sup>15</sup>

The greater understanding of the physical nature of oil and gas reservoirs achieved in recent years makes possible a meaningful analysis of these statutory provisions. It is possible to see how the statutory requirements concerning fair share have affected administrative orders. By analyzing the statutory provisions which determine fair share, conclusions can be reached about the sufficiency of their guidelines.

#### WELL SPACING AND PRORATION STATUTES

##### *Statutory References to Correlative Rights and Fair Share*

Provisions that authorize the protection of correlative rights regulate the location and spacing of wells, production allowables, and unit operations.<sup>16</sup>

There are many variations in the wording of these statutes of the various states. The following proration provision of the Texas statute relating to oil and gas is less detailed than those of most other states. The statute provides that:

In the event any such rule, regulation or order which the Commission may adopt provides for the limitation or fixing of the production of crude petroleum oil, or of natural gas from wells producing gas only, in any pool or portion thereof, the Commission shall

<sup>15</sup> The following states have oil and gas conservation statutes: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Montana, Nebraska, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, and Wyoming.

<sup>16</sup> A definition of the concept of correlative rights, and its relation to the concept of fair share is found in an unpublished essay by Hardwicke:

There is, however, even in the absence of governmental regulation, at least one restriction on the right of each landowner to drill and produce as he pleases. He is under the duty not to develop negligently, and thereby injure his neighbor. It follows that *each owner of land has rights and also duties with respect to other owners*. This is often expressed as "correlative rights." When production is restricted to prevent waste, which is often done by establishing a pool allowable, the allocation among the wells or tracts should be as such as will adjust the correlative rights, or, shortly stated, will give each his fair share of the allowable. Usually, to express the idea, it is said that the allocation should 'protect correlative rights . . .' Hardwicke, "Some Legal and Economic Aspects of Conservation Regulation" *ESSAYS ON PETROLEUM REGULATION* (1960) at 99; the meaning given to "the protection of correlative rights" in the 1959 "Form for an Oil and Gas Conservation Statute," drafted by the Legal Committee of the Interstate Oil Compact Commission, § 1.1.14, is as follows: ". . . the action or regulation by the Commission shall afford a reasonable opportunity to each person entitled thereto to recover or receive the oil or gas in his tract or tracts or the equivalent thereof, without being required to drill unnecessary wells or to incur other unnecessary expense to recover or receive such oil or gas or its equivalent."

distribute, prorate, or otherwise apportion or allocate, the allowable production among the various producers on a reasonable basis.<sup>17</sup>

The only directive to the regulatory commission is the requirement to allocate "on a reasonable basis."

The Texas statute has two other references to the fair share requirement. The provision relating only to allocation of gas is as follows:

Whenever the full production, from wells producing gas only, from any common source of supply of natural gas in this State is in excess of the reasonable market demand, the Railroad Commission shall inquire into the production and reasonable market demand therefor and shall determine the allowable production from such common source of supply, which shall be the reasonable market demand which can be produced without waste, and the Commission shall allocate, distribute or apportion the allowable production from such common source of supply among the various producers on a reasonable basis, and shall limit the production of each producer to the amount allocated or apportioned to such producer.<sup>18</sup>

Another provision of the Texas statute provides as follows:

The monthly reservoir allowable shall be allocated among all wells to produce gas therefrom so as to give each well *its fair share of the gas* to be produced from the reservoir, provided that each well shall be restricted to the amount of gas that can be produced from it without waste. The volume of gas so allocated to each well shall be regarded as the monthly allowable for such well . . .<sup>19</sup> (Emphasis supplied.)

The importance of noting these differences in wording and the extent to which the fair share requirement is enunciated is to determine if there is any difference in effect. An analysis of these provisions of the Texas statute shows that they have the same meaning. Proration on a reasonable basis is proration that will give each owner a reasonable opportunity to produce his fair share.<sup>20</sup>

#### *Statutory References to "Reasonable Opportunity"*

It is important to note that an owner does not have an absolute right to his fair share of the reservoir. He has only a "fair chance" or

<sup>17</sup> TEX. REV. CIV. STAT. ANN. art. 6049c, § 7 (1948).

<sup>18</sup> TEX. REV. CIV. STAT. ANN. art. 6049d, § 4 (1948); art. 6008, § 12 (1948) also provides for the allocation of gas production on a "reasonable basis."

<sup>19</sup> TEX. REV. CIV. STAT. ANN. art. 6008, § 12 (1948).

<sup>20</sup> See Woodward, *The Fair Share Rule*, Address to Interstate Oil Compact Commission, New Orleans, La. (1963).

"reasonable opportunity" to produce or to receive his fair share.<sup>21</sup> "Reasonable opportunity" is the standard because, if an owner has a reasonable opportunity to produce and he refuses or fails to drill or produce, then he should not be given an amount equal to the recoverable reserves in place beneath his tract.<sup>22</sup>

Implicit in the meaning of reasonable opportunity is the principle that an owner must not be required to go to unnecessary expense to recover his fair share of the oil and gas. Requiring an owner to go to unnecessary expense to obtain his fair share results in confiscation just as does the failure to allocate a proper allowable to the owner.

*Statutory References to "Developed Area"*

An important provision which is found in the Interstate Oil Compact Commission's Suggested Form for a statute and many state statutes is the reference to the recoverable oil and gas in the "developed area" of an owner's tract, and the subsequent definition of the "developed area."<sup>23</sup> The purpose of limiting an owner's fair share to the recoverable oil and gas of that part of his tract that is developed is to prohibit the regulatory commission from giving credit for "undrilled acreage," and to ". . . limit allocation to tracts of specified size upon which there is a well capable of producing oil or gas in paying quantities."<sup>24</sup>

Recoverable oil is used as the standard, because nonrecoverable oil should be ignored. An owner should not be given credit in a formula for oil which cannot be recovered by ordinary methods during the life of the field.<sup>25</sup> Since the beginning of the oil industry, no better way has been found to satisfy constitutional requirements than "recoverable reserves in place."<sup>26</sup>

The failure to determine an owner's fair share on the basis of the developed area of his tract has been considered by Hardwicke and Woodward:

If the "developed area" is greater than the "maximum area that can be efficiently and economically drained by one well," then it appears that the problem of credit for acreage not developed is

<sup>21</sup> See *Marrs v. Railroad Commission*, 142 Tex. 293, 177 S.W.2d 941 (1944); *Gulf Land Co. v. Atlantic Refining Co.*, 134 Tex. 59, 131 S.W.2d 73 (1939).

<sup>22</sup> Hardwicke, *Answers of a Lawyer to Questions of an Engineer Relating to Allocation of Production*, an unpublished manuscript (1941).

<sup>23</sup> Hardwicke and Woodward, *Fair Share and the Small Tract in Texas*, 41 TEXAS L. REV. 75, 85 (1962).

<sup>24</sup> *Id.*

<sup>25</sup> *Id.* at 86.

<sup>26</sup> Other standards have been suggested such as "potential" and "acreage" but each can be shown on an engineering basis not to satisfy constitutional requirements. (Conversation with Robert E. Hardwicke, Fort Worth, Texas, September 1, 1967.)

minimized but not necessarily avoided. However, giving credit to acreage not developed would result in an allowable higher than that applicable to a unit without credit for nondeveloped acreage, permitting the owner who receives the credit to produce the oil or gas in his unit at a faster rate than others, and would increase the probability of drainage from other tracts in the pool. This might result in unjustified discrimination.<sup>27</sup>

Several statutes do not specifically provide for determining fair share in terms of the "developed area" of an owner's tract. Some statutes contain a standard which can be equated to the "developed area" standard. A provision of the Texas statute refers to "efficient drainage area,"<sup>28</sup> and the New Mexico statute refers to "the area that can be efficiently and economically drained and developed by one well."<sup>29</sup> These appear to be workable standards having the same meaning as "developed area."

Certain other statutory provisions would seem to have the effect of preventing the commission from giving credit to "undrilled acreage." The Kansas statute specifies factors that the regulatory commission must consider in promulgating proration orders; among the factors to be considered is the "acreage reasonably attributable to each (well) . . ."<sup>30</sup> The Oklahoma statute provides for the commission to give ". . . due regard to the acreage drained by each well" in issuing proration orders for gas fields.<sup>31</sup> However, the separate provision in the Oklahoma statute governing proration orders for oil fields contains no language that is equivalent to "developed area." The statutes of Arizona, Arkansas, Colorado, Iowa, Louisiana, North Dakota, and Washington contain no language which has the effect of limiting the commission's consideration to the developed area of each owner's tract in issuing proration orders. The effect of omission of this language is not to preclude the commission from considering each owner's fair share in terms of the developed area of his tract. However, the omission in the statute creates the possibility of the commission's issuing a proration order which is discriminatory.

#### *Statutory References to Reservoir Factors*

Several statutes go one step beyond providing that fair share must be determined on the basis of the recoverable reserves in place beneath

<sup>27</sup> Hardwicke and Woodward, *Fair Share and the Small Tract in Texas*, 41 TEXAS L. REV. 75, 86 (1962).

<sup>28</sup> TEX. REV. CIV. STAT. ANN. art. 6008, § 13.

<sup>29</sup> N. MEX. STAT. ANN. § 65-3-14(b).

<sup>30</sup> KAN. GEN. STAT. ANN. § 55-603 (1965).

<sup>31</sup> OKLA. STAT. ANN. tit. 52, § 239 (1941).



each owner's tract. They direct the regulatory commission to consider certain reservoir factors in determining the recoverable reserves in place.

A provision of the Oklahoma statute providing for proration of gas production states:

. . . any person, firm or corporation, having the right to drill into and produce gas from any such common source of supply, may take therefrom only such proportion of the natural gas that may be marketed without waste, as the *natural flow of the well or wells* owned or controlled by any such person, firm or corporation bears to the *total natural flow of such common source of supply* . . . .<sup>32</sup> (Emphasis supplied.)

This provision is illustrative of an attempt to provide the commission with a standard to follow which actually prohibits the commission from making a correct determination of reserves in place. It is doubtful that the "natural flow" of a well has a direct correlation to reserves in place beneath the owner's tract. The natural flow of a well is the rate at which the well would produce if production were unrestricted. Since the variability of this factor depends upon other reservoir factors, it is not necessarily indicative of recoverable reserves in place.

The Alabama statute provides that:

In determining each producer's just and equitable share of the production authorized for the pool, the board is authorized to give due consideration to the productivity of the well or wells located thereon, as determined by flow tests, bottom hole pressure tests, or any other practical method of testing wells and producing structures, and to consider such other factors and geological or engineering tests and data as may be determined by the supervisor to be pertinent or relevant to ascertaining each producer's just and equitable share of the production and reservoir energy of the field or pool.<sup>33</sup>

Although certain factors are mentioned in this statute that are not necessarily determinative of reserves in place, such as well productivity, the commission is not limited to a consideration of these factors.

A more helpful guideline containing particular factors to be considered is found in the Kansas statute for proration of gas production. The statute provides:

In promulgating rules, regulations and formulas, to attain such results the commission shall give equitable consideration to acre-

<sup>32</sup> OKLA. STAT. ANN. tit. 52, §§ 239, 274 (1941).

<sup>33</sup> ALA. CODE tit. 26, § 179(35)D (1958).

age, pressure, open flow, porosity, permeability and thickness of pay, and such other factors, conditions and circumstances as may exist in the common source of supply under consideration at the time, as may be pertinent . . . .<sup>34</sup>

This statute provides specific factors for the commission to consider that are relevant to a determination of recoverable reserves in place. At the same time, the statute does not prohibit the commission from considering other pertinent factors not enumerated.

*The Effect of the Omission of a Reference to Fair Share*

At least one state has a conservation statute that makes no mention of correlative rights.<sup>35</sup> The only stated purpose of the Montana statute is to prevent waste. However, although the statute does not direct the commission to protect correlative rights, the Commission does have a duty to see that each owner receives his fair share. In a recent case decided by the Montana Supreme Court, the question involving the commission's duty to consider correlative rights was squarely presented.<sup>36</sup> The petition alleged that the order of the Commission was unreasonable and inequitable because it allowed Plaintiff's gas to be drained away without his being able to protect himself with a well. The court found that the order discriminated against Plaintiff. The decision of the court correctly recognizes the nature of the rights involved and the fact that there need be no specific mention in the statute of "correlative rights" in order for the Commission to have the duty to protect property rights. The court stated that,

. . . Unless the Montana Act is flexible enough to permit the Commission to make orders with an eye to the interests of adjacent landowners in sharing in the common supply the legislation would have to be held unconstitutional as a deprivation of property without due process of law . . . .<sup>37</sup>

STATUTES AUTHORIZING UNIT OPERATIONS

Unitization is defined as the unified operation of all or part of an oil and gas reservoir as a geologic unit; by consolidation of the oil and gas leases and other mineral interests, there is a single plan of drilling and production. Unitization usually encompasses an entire field, whereas pooling denotes the uniting of small tracts to qualify for a single well

<sup>34</sup> KAN. GEN. STAT. ANN. § 55-703 (1964).

<sup>35</sup> MONT. REV. CODES ANN. § 60-124 (1947)—§ 60-128 (1947).

<sup>36</sup> *Pattie v. Oil and Gas Conservation Commission*, 402 P.2d 596 (Mont. 1965).

<sup>37</sup> *Id.* at 599.

under spacing regulations.<sup>38</sup> Unitization is recognized as the most efficient method of producing oil and gas.

Nineteen states now have statutes providing for compulsory unitization.<sup>39</sup> A number of important oil and gas states have no provision for compulsory unitization, including Texas.<sup>40</sup> Twenty-nine states, including Texas, have provisions for voluntary unitization.<sup>41</sup> But whether the statute is a pooling statute for small drilling units or a unitization statute for fieldwide units, the principles for determining each owner's fair share under the statutes are the same.<sup>42</sup>

As with the statutes previously discussed, some pooling and unitization statutes are so general as to say only that the production must be distributed in a fair, reasonable, and equitable manner. Others, such as Oklahoma's, provide specific factors which are to be considered by the Commission in reaching an allocation formula.

A separately-owned tract's fair, equitable and reasonable share of the unit production shall be measured by the value of each such tract for oil and gas purposes and its contributing value to the unit in relation to like values of other tracts in the unit, taking into account acreage, the quantity of oil and gas recoverable therefrom, location on structure, its probable productivity of oil and gas in the absence of unit operations, the burden of operation to which the tract will or is likely to be subjected, or so many of said factors, or such other pertinent engineering, geological, or operating factors, as may be reasonably susceptible of determination.<sup>43</sup>

The above-quoted provision gives adequate guidelines to the regulatory commission; it is directed to consider all relevant factors for determin-

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<sup>38</sup> MYERS, *THE LAW OF POOLING AND UNITIZATION: VOLUNTARY, COMPULSORY* at 216 (Supp. 1965).

<sup>39</sup> Alabama, Alaska, Arizona, Arkansas, California, Florida, Georgia, Kansas, Louisiana, Michigan, Mississippi, Nebraska, Nevada, New York, North Dakota, Ohio, Oklahoma, Oregon, Washington; also Alberta, Manitoba, Saskatchewan.

<sup>40</sup> Texas allows voluntary unitization; *see* TEX. REV. CIV. STAT. ANN. art. 6008b. Wyoming also has no compulsory unitization statute.

<sup>41</sup> Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Louisiana, Mississippi, Montana, Nebraska, Nevada, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, South Dakota, Utah, Washington, Wyoming.

<sup>42</sup> In 1966, the Texas Legislature enacted the Mineral Interest Pooling Act, TEX. REV. CIV. STAT. ANN. art. 6008c (Supp. 1970), which provides for compulsory pooling. The Act provides for allocation of production to be on an acreage basis, ". . . unless the Commission finds that allocation on a surface-acreage basis does not allocate to each tract its fair share . . ." (sec. 2(d)). For a discussion of the effects of the Act, *see* Smith, *The Texas Compulsory Pooling Act*, 43 TEXAS L. REV. 1003 (1965-Pt. I) and 44 TEXAS L. REV. 387 (1966-Pt. II). *See also*, *Coleman v. Railroad Commission*, 445 S.W.2d 790, 796-797 (Tex. Civ. App.—Texarkana 1969, no writ).

<sup>43</sup> OKLA. STAT. ANN. § 52-287.4(b) (1969).

ing allocation of production. At the same time, it is broad enough to give the commission adequate discretion. It does not limit the commission's consideration to certain factors that could result in a discriminatory order.

*The Mississippi Statute*

The Mississippi Conservation Statute dealing with the allocation of unit production prevents the commission from protecting each owner's fair share in many instances. It provides:

Except where otherwise provided, *any allocation or apportionment of production shall be made on the basis of and in proportion to the surface acreage content of the drilling units prescribed for the producing horizons for the pools* so that each such prescribed unit shall have equal opportunity to produce the same daily allowable, and any special unit of less than the prescribed amount of surface acreage shall be allowed to produce only in the proportion that the surface acreage content of any such special unit bears to the surface acreage content of the regular prescribed unit; . . .<sup>44</sup> (Emphasis supplied.)

In *Humble Oil & Refining Co. v. Welborn*,<sup>45</sup> appellees sought to prove in a hearing before the Commission that the sands underlying their lands were thicker and therefore contained more oil and gas than adjoining lands. It was contended that the order should allocate a larger share of production to their acreage in each unit than to other acreage in the unit. Appellees were attempting to show that in this case allocation according to surface acreage was not a fair division of the production. If the evidence, in fact, proved what appellees were contending, then they were being deprived of their property without due process of law. In 1953, the state of reservoir knowledge was such that sand thickness could be determined with little difficulty. It would have been a proper factor to be used as a basis for an allocation order. The Supreme Court of Mississippi upheld the discriminatory order.

In 1958, the Mississippi court again ruled on a unit allocation order issued by the Board.<sup>46</sup> The court again upheld allocation on an acreage basis only. Oddly enough, before reaching this decision, the court cites authority for the proposition that "[t]he formula of participation based on surface acreage has the merit of simplicity and certainty, but is entirely fair only in the rare cases where formations are uniform in

<sup>44</sup> Miss. CODE ANN. § 6132-21(d) (Supp. 1968).

<sup>45</sup> 62 So.2d 211 (Miss. 1953).

<sup>46</sup> *Corley v. Mississippi State Oil and Gas Board*, 105 So.2d 633 (Miss. 1958).

quality and thickness throughout the unit with each tract having beneath it the same amount of reserves per acre."<sup>47</sup>

The unit allocation provision of the Mississippi statute which was the subject of consideration in the *Welborn* and *Corley* cases was amended, but was not substantially changed.<sup>48</sup>

In 1964, the Mississippi court had occasion to consider the amended statutory provision.<sup>49</sup> The McComb Oil Field had been voluntarily unitized and the Board adopted an allocation formula based on surface acreage.<sup>50</sup> The Supreme Court of Mississippi again upheld allocation on an acreage basis, in the face of evidence that showed that allocation should have been on a different basis.

The Mississippi allocation provision illustrates how a statutory provision can violate the fair share requirement. The Mississippi Supreme Court's view of its duty of statutory interpretation is a narrow one. A court is under a duty to examine statutes and determine whether they comply with constitutional requirements.<sup>51</sup>

This statute complies with constitutional provisions only in the rare cases where all other conditions in a reservoir are so constant that surface acreage gives to each owner the equivalent of his recoverable reserves. The Mississippi statute should be amended to permit the commission to consider all relevant factors which determine reserves in place.

### *The Common Source of Supply*

In the section on proration statutes, it was seen that it is necessary to determine fair share in terms of the "developed area" of each tract. This is also true in reaching the proper formula under unitization statutes. Defining the limits of the reservoir accurately, or the lesser part thereof to be included, is a difficult problem. The accuracy with

<sup>47</sup> *Id.*, at 639 citing MYERS, THE LAW OF POOLING AND UNITIZATION, § 4.02 (1957); see also *Coleman v. Railroad Commission*, 445 S.W.2d 790, 796-797 (Tex. Civ. App.—Texas 1969, no writ); and The Mineral Interest Pooling Act of Texas, TEX. REV. CIV. STAT. ANN. art. 6008c, § 2(d) (Supp. 1966).

<sup>48</sup> MISS. CODE ANN. § 6132-21(d) (Supp. 1968).

<sup>49</sup> *Barnwell, Inc., v. Sun Oil Co.*, 162 So. 2d 635 (Miss. 1964).

<sup>50</sup> *Id.* at 639.

<sup>51</sup> Within the Mississippi statute, there is also the question of inconsistency between two of the statutory provisions. See MISS. CODE ANN. §§ 6132-9(d) and 6132-11(a). Section 9(d) prescribes the mandatory acreage basis for allocation of production. Section 11(a) directs the Board to allocate production "among the producers in the pool on a reasonable basis so as to prevent reasonably avoidable drainage, and so that each producer will have the opportunity to produce or receive his just and equitable share . . . ." In addition to ignoring constitutional provisions for protecting property rights, the court has also ignored an important and irreconcilable part of the statute, thereby further failing to meet its duties of statutory construction.

which the geological boundaries of the pool are defined is directly proportional to the state of development in the field. As more wells are drilled, more geological and geophysical data will be obtained, and it is possible to delineate the boundaries of the field with more accuracy.

Under the Oklahoma Unitization Act, a unit must be limited to a "common source of supply," or some part of it; but the Act does not define a common source of supply.<sup>52</sup> In *Palmer Oil Corp. v. Phillips Petroleum Co.*,<sup>53</sup> the court applied the definition of "common source of supply," which is contained in the pooling statute to the Unitization Act.<sup>54</sup> The term is defined as follows: "The term 'Common Source of Supply' shall comprise and include that area which is underlaid or which, from geological or other scientific data, or from drilling operations, or other evidence, appears to be underlaid by a common accumulation of oil or gas or both; . . ."<sup>55</sup>

In *Spiers v. Magnolia Petroleum Co.*,<sup>56</sup> the evidence showed that all parts of the sand were "permeably connected" so that there was migration from one portion of the common supply to another; therefore, there was a common source of supply underlying the entire unit. In *Jones Oil Company v. Corporation Commission*,<sup>57</sup> the Commission's order was challenged on the basis that the area comprised by the unit included three separate common sources of supply. In upholding the Commission's order, the court gave weight to the fact that oil was being produced from three sands through the same well-bore. It was shown that all three sands were found in the unit area, which comprised 3663 acres. When the plan of unitization had been circulated, it had been approved by 83 percent of the lessees and 72.5 percent of the royalty owners, which is in excess of the statutory requirement.<sup>58</sup> The court approved the Corporation Commission's order which stated that since the oil from all three sands was produced through the same well-bore, it was being commingled. The court went on to state that it would violate the spirit of the Unitization Act to require the making of three units.<sup>59</sup> For purposes of secondary recovery, it would be imprac-

<sup>52</sup> OKLA. STAT. ANN. tit. 52, § 287.5 (1969).

<sup>53</sup> 231 P.2d 997 (Okla. 1951).

<sup>54</sup> OKLA. STAT. ANN. tit. 52, § 86.1 (1969).

<sup>55</sup> *Palmer Oil Corp. v. Phillips Petroleum Co.*, 231 P.2d 997, 1008 (Okla. 1951).

<sup>56</sup> 244 P.2d 843 (Okla. 1951).

<sup>57</sup> 382 P.2d 751 (Okla. 1963), *cert. denied*, 375 U.S. 931 (1963).

<sup>58</sup> *Id.* at 752. See OKLA. STAT. ANN. tit. 52, § 287.5 (1969). The statute provides for approval by lessees of record of not less than 63 percent of the unit area affected thereby and by owners of record of not less than 63 percent.

<sup>59</sup> *Jones Oil Company v. Corporation Commission*, 382 P.2d 751; 753 (Okla. 1963), *cert. denied*, 375 U.S. 931 (1963); OKLA. STAT. ANN. tit. 52, § 287.1 (1969) is a general statement of the purposes of the Unitization Act.

tical and uneconomical to separately operate and produce each sand. Therefore, it was properly designated a common source of supply to best secure the greatest ultimate recovery, to best prevent waste, and to best protect correlative rights.<sup>60</sup> This leaves open the question of whether under primary recovery, three such separate sands should be designated a common source of supply. Since under primary recovery the energy of the reservoir itself is ordinarily used to lift the oil, the reasons for operating them as a unit would not be as compelling as in the case of secondary recovery.

In the case of *Jones v. Continental Oil Company*,<sup>61</sup> the Commission designated twenty-one sand "stringers" as a common source of supply. In these twenty-one producing sands, it was found that some of the wells were producing from one or more, some from as many as fourteen or fifteen, but none from all twenty-one. The total area involved was 1230 acres. The Commission's order was attacked as not providing for a single common source of supply. In the natural formation, there were twenty-one separate sources. The court found the findings of the Commission to be supported by substantial evidence and affirmed the order. The court stated that,

In nature there was little, if any, effective communication between the various stringers of the Pennsylvania sand in the field. However, as a result of the completion and producing practices over many years, such Pennsylvania Sand stringers are now in direct and/or indirect pressure communication with each other and the pressures within the stringers have equalized so as to create and constitute, for all practical purposes, a single Pennsylvania Sand common source of supply of oil and gas.<sup>62</sup>

The provision of the statute that each unit shall be confined to an area which is underlaid by a common accumulation of oil and gas is not necessarily limited to a common accumulation as it is found in nature. Therefore, if several sands are in "pressure contact" with each other, even though they do not all underlie every portion of the unit area, they will be treated as a common source of supply.

In the *Jones* case, drilling and production operations had caused the various sand stringers to come into contact with each other. Therefore, they effectively became one reservoir. For production purposes, they could no longer be produced separately.

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<sup>60</sup> *Jones Oil Company v. Corporation Commission*, 382 P.2d 751, 753 (Okla. 1963), cert. denied, 375 U.S. 931 (1963).

<sup>61</sup> 420 P.2d 905 (Okla. 1966).

<sup>62</sup> *Id.* at 908-909.

The constitutional question that can be raised is whether someone's oil is being unjustly taken since each of the "stringers" does not underlie the whole unit area.<sup>63</sup> Since they are connected, these differences in amounts of hydrocarbons can be thought of as simple variations in thickness that occur in almost every reservoir. These differences in amounts, because of the different stringers, will be compensated for by a proper allocation formula.

#### AMENDMENT OF ALLOCATION FORMULAS AND UNIT AREAS

Few conservation statutes specifically provide for amendment of an allocation formula for oil or gas. However, a commission's power to regulate oil and gas both in the interests of preventing waste and of protecting property rights is a continuing one, and its allocation orders are subject to modification or amendment at any time.<sup>64</sup> In the light of new evidence which clarifies reservoir conditions, it would seem that a commission would have a duty to amend an allocation order if it would prove to be discriminatory otherwise. This is true in making allocation to wells in a field that is not pooled or unitized, as well as in a field that is pooled or unitized.

The type and weight of evidence necessary to justify amendment of an allocation formula is illustrated by *Cornelius v. Arkansas Oil and Gas Commission*.<sup>65</sup> Appellant wanted his acreage to be included in the unit and also wanted a permit to drill a well. Appellant's expert geologist testified that the well proposed would produce oil and gas from the same pool as that produced in the unit. The expert engineer testified that there was no doubt that the Cornelius tract had been drained by the wells in the unit of \$429,000 and was still being drained at a monthly income of \$1,000. He estimated the future drainage the tract would incur would amount to \$275,000, if the tract were not included in the unit. The Commission refused to enlarge the unit to include the Cornelius tract, saying that the well on the Cornelius tract would damage the pressure for the whole pool.

The court recognized the force of the appellant's argument that they were being denied adequate protection and that they were not

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<sup>63</sup> *Jones Oil Company v. Corporation Commission*, 382 P.2d 751 (Okla. 1963); see also *Railroad Commission v. Shell Oil Company*, 380 S.W.2d 556 (Tex. Sup. 1964).

<sup>64</sup> *Railroad Commission v. Humble Oil & Refining Co.*, 193 S.W.2d 824 (Tex. Civ. App.—Austin 1946, writ ref'd n.r.e.); see also Note, *Oil and Gas—Proration—The Railroad Commission's Authority to Protest Correlative Rights*, 21 Sw. L. J. 368 (1967); 5 SUMMERS, OIL AND GAS, § 977 (1966).

<sup>65</sup> 402 S.W.2d 402 (Ark. 1966).



being given any opportunity to protect themselves contrary to the provisions of the Arkansas Constitution.<sup>66</sup> The Supreme Court of Arkansas reversed the Commission's order and added the 13.8 acre Cornelius tract to the unit and assigned to it its fair share of the production.

In unit operations, when new geological information becomes available because of further drilling which shows either that the reservoir extends beyond the original unit or that a part of the area that was included within the unit has been proved to be nonproductive, it is necessary to amend the original order. If part of the unit is shown to be nonproductive, it will be reformed to eliminate the unproductive area. Of course, where secondary recovery operations are used, fluid injection will cause the tracts closest to the point of injection to become drained while tracts further away are still producing. In this situation the tract will not be excluded, because its participation in the allocation is based on the recoverable oil originally beneath it. The fact that a production method is used, which causes the oil to be drained or produced from some tracts in the unit before others, does not affect the validity of the allocation.

Until such time as the unit is reformed, the original unit continues to have its legal existence as to all tracts.<sup>67</sup> Decisions by the supreme courts of both Louisiana and Oklahoma have confirmed the power of a state commission to enlarge or reduce compulsory units.<sup>68</sup>

In *Spiers v. Magnolia Petroleum Co.*,<sup>69</sup> the Commission's order amending the original Chitwood Spiers Sand Area by decreasing the area was challenged. Three wells and additional data revealed that the pay zone was not as extensive as originally thought. Section 11 of the Oklahoma Act gave the Commission the power to amend the plan of unitization from time to time, and section 12 gave the power specifically to enlarge the unit.<sup>70</sup> It was argued that the two construed together with the specific mention of power to enlarge, and no mention of the power to decrease, necessarily means that the power to decrease the size of the unit is excluded. However, the court held that the statute authorized a decrease in size of the unit. Since one of the objectives of the Act is to protect correlative rights, it would be unjust to allow one

<sup>66</sup> *Id.* at 406; ARK. CONST. art II, § 22.

<sup>67</sup> Lewis, *Effective Date of Forced Unitization Orders*, 27 TUL. L. REV. 457, 465 (1953).

<sup>68</sup> *Alston v. Southern Production Co.*, 21 So. 2d 383 (La. 1945); *Spiers v. Magnolia Petroleum Co.*, 244 P.2d 852 (Okla. 1951).

<sup>69</sup> 244 P.2d 852 (Okla. 1951).

<sup>70</sup> These provisions are now found in OKLA. STAT. ANN. tit. 52, § 287.10 (1969).

whose land was included in the original unit, but later found to have no oil or gas, to participate in production. A statutory provision authorizing amendment could be worded to avoid this problem.

In this same case, the court also upheld the power of the Commission to amend the allocation formula under the general amendment section.<sup>71</sup> The original formula allocated production according to surface acreage; the amended order changed this to an acre-foot basis.

Specific statutory guidelines providing for amendment of allocation orders and the size of unit operations would aid the regulatory commissions in their work. If new information becomes available which clarifies reservoir conditions, or if there are actual physical changes in a reservoir, a commission has a duty to amend, whether authorized by statute or not.

#### CONCLUSION

Examples of many statutory provisions prescribing standards for determining an owner's fair share have been considered. It is possible to better understand the meaning of fair share by analyzing and comparing statutory provisions. In light of regulatory commission orders issued pursuant to the statutes and many years of judicial interpretation of the statutes, such an analysis allows certain conclusions to be reached concerning the validity of these statutes.

Any statutory provision that relates to an owner's fair share must have the effect of providing each owner an opportunity to realize an amount substantially equivalent to the recoverable reserves beneath his tract. This conclusion applies to allocation provisions for unit operations as well as to those for individual wells in a field.

Such provisions must meet constitutional requirements and must be specific enough to provide adequate guidelines for the commission to follow. However, they should be broad enough to give the regulatory commission enough flexibility within which to use its expertise. No limitations should be imposed that would require the commission to promulgate a discriminatory order.

The listing of factors that should be considered by a regulatory commission in arriving at an allocation formula is helpful. Such listing should be suggestive of the types of factors to be considered. If a statute limits the commission's consideration to one or a few factors, such

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<sup>71</sup> *Spiers v. Magnolia Petroleum Co.*, 244 P.2d 852 (Okla. 1951); OKLA. STAT. ANN. tit. 52, § 287.10 (1969). "... or the plan of unitization may be otherwise amended . . . ."

as surface acreage only,<sup>72</sup> the resulting proration orders may be discriminatory.

A statute providing specific guidelines to follow is more helpful than one providing for allocation simply "on a reasonable basis." There is no question that each has the same meaning and that each meets the constitutional fair share requirement.

The constitutional fair share requirement would seem to compel the use by the commission of the greatest amount of information available at the time an allocation formula is determined. Implicit in this requirement would be the additional requirement that the latest scientific equipment be used in determining reservoir conditions. Since an allocation order is based on the best evidence available at the time, it is subject to amendment if additional information shows it to be incorrect at a later date.

Conservation statutes would better comply with constitutional requirements if they contained guidelines providing for amendment of both allocation orders and the size of units, if justified by new evidence. At a time when production by unit operation is more prevalent than ever before, adequate amendment provisions for allocation formulas and size would be helpful to regulatory commissions.

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<sup>72</sup> See MISS. CODE ANN. § 6132-21(d) (1948), and TEX. REV. CIV. STAT. ANN., art. 6008c, § 2(d) (Supp. 1966).