

**SIGNIFICANT CASES IN OIL AND GAS LAW**

**Oil and Gas Report 20**

by

**STRUDWICK MARVIN ROGERS**  
Counsel, Alabama Oil and Gas Board  
Assistant Attorney General

With contributions by

Members of the Council of State Oil and Gas Attorneys  
of the Interstate Oil and Gas Compact Commission

Published by the

**STATE OIL AND GAS BOARD OF ALABAMA**  
and the  
**INTERSTATE OIL AND GAS COMPACT COMMISSION**

Tuscaloosa, Alabama  
2011



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## FIELDWIDE UNITIZATION

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Following model codes drafted by the IOGCC, almost all states have enacted laws providing for unitization of all or part of a field to provide for enhanced recovery operations. In Oklahoma, for example, unitization is addressed in 52 O.S. 287.1, et seq. Unitization in Alabama is addressed in Sections 9-17-80 through 9-17-88 of the *Code of Alabama* (1975).

Unitization is defined as an effort to consolidate all, or a high percentage of the royalty and working interests in a pool to permit the planning and development of a pool. Summers, *Oil and Gas*, § 951.

In order to understand fully the process of unitization, a discussion of the development of the field from the time of drilling the first well through primary operations and unit operations is necessary.

### PRIMARY OPERATIONS

An operator commences an exploration program by drilling an exploratory well in the operator's area of interest. The exploratory well or wildcat well is drilled in accordance with the statewide rules and regulations promulgated by the Commission. If the operator is successful, then additional wells will be drilled and tested to determine the nature and extent of the oil and gas field.

Before wells are produced on a permanent basis, an operator petitions the Commission at a public hearing for the establishment of the field and the adoption of Special Field Rules for the field. A "field" is defined to be "[t]he general area which is underlain or appears to be underlain by at least one pool, and such term shall include the underground reservoir or reservoirs containing crude oil or natural gas or both." *Code of Alabama* § 9-17-1 (5) (1975). The Special Field Rules define the field boundaries and establish various rules that govern all wells drilled in the field, including rules governing well spacing and production allowables. The Special Field Rules for spacing define the spacing or production units for wells in the field. A spacing or production unit is defined in all states to be "the area in a pool that may be drained efficiently and economically by one well." *IOGCC Model Oil and Gas Conservation Act*.

The spacing for the wells in the field is often a governmental section or a division thereof, containing 40, 160, 320, or 640 acres. Under primary operations, wells in the field being produced as new field development wells are being drilled according to the Special Field Rules. During primary operations, mineral interest owners receive production revenues, including royalties, from the oil and gas produced from the well on the unit based on each owner's proportionate interest in the unit.

## UNIT OPERATIONS FOR ENHANCED OR SECONDARY RECOVERY

After wells in a field have produced under primary operations for a length of time, they will cease to produce at a commercial rate unless enhanced recovery operations are initiated. In order to increase the ultimate production from the field, the operator of the wells must, therefore, initiate unit operations to maintain reservoir pressures throughout the field. Unitization of the field is a prerequisite for initiating enhanced recovery operations.

The primary purposes of unitization or unit operations are to prevent the drilling of unnecessary wells and to increase the ultimate recovery of oil and gas, thereby preventing waste and promoting conservation of the oil and gas resources and protecting the coequal and correlative rights of the mineral interest owners. Unitization provides for the efficient and economic operation of the fieldwide unit in order to achieve maximum recovery of oil and gas. The unitization is effected by the combining or pooling of separate tracts of lands frequently having different ownership in order to operate an entire reservoir as a single unit.

The effect of eliminating the individual drainage units and the placing of the mineral interest owners from each of the units into a single fieldwide unit is to alter the amount of production revenues that each mineral interest owner receives. Upon issuance of an order by a conservation agency providing for unit operation, mineral interest owners in the field will cease to receive production revenues based on oil and gas produced from the well on an individual unit and begin receiving revenues based on their proportionate share or interest from all the wells on the tracts in the field unit as determined by an allocation formula approved by the Commission.

At the time of unitization, the field is usually developed and the boundaries of the field are usually well defined, and abundant geological, engineering, and production data have been accumulated by utilizing well data collected since the field was established. A single fieldwide unit allows each mineral interest owner in the field to share in the total production from all wells in the field.

One objective in unitization is to provide for the best allocation system for the equitable distribution of revenue, which is not possible at the time the field is created because less is known about the size and extent of the reservoir. Through the unitization process, potential inequities that exist in primary operations can be corrected, and the correlative rights of the mineral interest owners better protected. The determination of a fair and reasonable allocation formula for the distribution of revenues is the central and most controversial issue in the unitization hearing before the conservation agency.

The unitization of fields allows for the implementation of enhanced recovery operations. These operations include the unitization of energy sources, such as gas for injection into the reservoir in order to increase the ultimate production from the reservoir. In order for such injection operations to be successful, it is necessary to force the oil and gas in the reservoir toward wells where the oil and gas can be efficiently produced. H. Williams and C. Meyers, *Oil and Gas Law*, 276. This requires that the oil and gas migrate across ownership lines, and the creation of a fieldwide unit is necessary to protect correlative rights and to facilitate the

cooperation between mineral interest owners in order to increase the ultimate recovery from the reservoir through unit operations.

There are many benefits to unitization. All parties benefit from enhanced recovery<sup>1</sup>. Extraction by primary operation techniques generally recovers ten to thirty percent of the total oil and gas in place. Enhanced recovery methods will usually increase primary recovery by thirty to sixty percent and sometimes by over 100 percent. All parties benefit because their income is stabilized, prolonged, and protected by participation in all the production from all wells in the field rather than reliance upon one well. This stabilization of production has the additional benefit to all parties of making the interest in the fieldwide unit a bankable asset of commodity. P. Martin, *Pooling and Unitization*, § 1.01. The state is a major beneficiary of the conservation of the oil and gas resources and the prevention of waste. *See generally* B. Kramer and P. Martin, *The Law of Pooling and Unitization*, § 17.01-18.04; P. Martin and B. Kramer, *Williams and C. Meyers Oil and Gas Law* § 912.

To avoid confusion, it is important to distinguish the terms “pooling” and “unitization.” Although these terms are sometimes used interchangeably, “pooling” means bringing together small tracts in order to obtain a well permit under spacing rules for primary production, and “unitization” or “unit operations” means the joint operations of all or a portion of an entire reservoir.

#### IOGCC MODEL UNITIZATION STATUTE

The IOGCC has adopted a Model Unitization Statute, which is reproduced in *Exhibit B*. The jurisdictional basis for a Commission’s order is Section A of the Model Unitization Statute:

- A. The oil and gas conservation agency shall issue an order requiring unit operations, if it finds that:
  1. Operation of the pool or any portion thereof is necessary to prevent waste, to increase the recovery of oil or gas, to avoid the drilling of unnecessary wells, and to protect the correlative rights of the owners of the oil and gas;
  2. The unit operation of the pool or any portion thereof is reasonably necessary in order to carry on pressure maintenance or re-pressuring, cycling, water flooding, any combination of these operations, or any other method of cooperative development and operation which increases the ultimate recovery of oil or gas;

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<sup>1</sup> Note that some states’ unitization statutes allow for unitization for purposes other than enhanced recovery operations. The Alabama statute provides that unit operations may be conducted “in order to increase the ultimate recovery by enhanced recovery methods or any other method of cooperative development and operation calculated to increase the recovery of oil or gas.” *Ala Code* § 9-17-81 (1975), as amended. This amendment clarified that unitization may be utilized during primary operations of oil and gas development. Unitization has been utilized for offshore exploration, coalbed gas operations, and horizontal drilling during primary operations.

3. The estimated cost of conducting the unit operation will not exceed the value of the estimated recovery of oil or gas.

Section B sets forth the provisions that are to be included within the Order of the Commission. The issues frequently contested are those related to unit area and the allocation formula. Section B-1 states: "The order issued by the oil and gas conservation agency shall be upon terms and conditions that are just and reasonable for unit operation and shall include: [a] description of the pool or portion thereof, to be so operated, termed the unit area."

### UNIT AREA

The unit area is extremely important because only those tracts and interests included in the unit area will receive revenues from unit production.

Tracts or portions of tracts may be included within the unit area as long as they contribute to unit production. In the decision by the Alabama Court of Civil Appeals in *State Oil and Gas Board v. Anderson*, 510 So. 2d 250 (Ala. Civ. App. 1987), cert. denied 484 U.S. 955 (1987), the Court held that the unit area is not limited "to those areas of the field that have currently producing wells."

### ALLOCATION OR PARTICIPATION FORMULA

One matter that presents great difficulty in the negotiation of the unit agreement is the allocation formula or participation formula. Frequently, the parties cannot agree on the allocation formula, and that issue is contested before the Commission. The allocation formula or participation formula, which is the method by which revenues derived from unit production is distributed, is a matter of crucial concern to royalty interest owners. There is no single method appropriate for all fields, and the allocation formulae that have been approved by the Commission and ratified by the parties vary substantially. Section B-3 of the IOGCC Model Unitization Statute states that a unitization order issued by the Commission shall include a "just and reasonable allocation to the separately owned tracts in the unit area of all oil and gas that is produced and saved from the unit area, being the production that is not used in the conduct of operations on the unit area or not unavoidably lost."

The allocation formula, which is acceptable to the royalty interest owners and to other owners in the field, will vary, depending upon a number of factors. These factors include the development of the reservoir, geologic and reservoir characteristics, production history of the tracts, etc. A tract with greater reserves and greater productive capacity will be given more weight in the unit production than a tract with less reserves having minimum productive capacity.

In the event the parties cannot agree on the allocation formula, the issue must be resolved by the Commission. One of the principal duties of the Commission is to protect the correlative rights of all parties. Further, as stated above, the Commission is bound by the statutory language in Section B-3 of the IOGCC Model Unitization Statute to approve a formula. The IOGCC Model Unitization Statute addresses contributions that each *tract* is expected to make. In *State Oil and Gas Board v. Anderson*, 510 So. 2d 250 (Ala. Civ. App. 1987), the Court held that the

issue is not what a single *well* is expected to contribute but what each entire *tract* will contribute. Thus, the characteristics of a single well—production history, capacity, pore volume, etc.—are only some of the evidence relating to what the entire tract will contribute.

Consistent with the statute, the parties may propose and the Commission may approve a formula with more than one factor. In *Gilmore v. Oil and Gas Conservation Commission*, 642 P.2d 773 (Wyo. 1982), the Wyoming Supreme Court upheld an allocation formula containing eleven factors. In *State Oil and Gas Board of Alabama v. Seaman Paper Company*, the Alabama Supreme Court upheld a two-factor allocation formula giving “two-thirds weight to Productive Acre Feet, and one-third weight to production for the last six months of 1965.” 235 So. 2d at 870.

The Court in *State Oil and Gas Board v. Anderson*, upheld a formula containing two factors; sixty percent of the formula was based on pore volume, and forty percent of the formula was based upon productivity. Thus, the Commission has broad authority to establish an allocation formula.

## UNIT AGREEMENT

The unit agreement is the contract among the working interest owners, the royalty interest owners and any unleased mineral interest owners. The unit agreement must include all the provisions required by statute. Provisions in the unit agreement must be drafted to be entirely consistent with the applicable statutes. For example, C-2 of the IOGCC Model Unitization Statute states that the unit area may be extended with ratification by a certain percentage of working and royalty interest owners in the area to be added. Any provision to the contrary, such as a provision giving the parties in the present unit a “veto power” over any addition, would be inconsistent with the statute.

The unit agreement addresses the effect of the unitization of oil and gas rights on any leases or agreements previously executed by the parties.

The unit agreement normally will address the unit operator’s right to use unitized substances for unit operations. Generally, unit agreements provide for the use of such substances without a royalty obligation (where the substance is lost or consumed in operations).

Provisions allowing for the expansion of the unit area upon conditions consistent with the applicable statutes of the Commission normally are included in the unit agreement. The unit agreement will address the tract participation in the unit and the method of allocating production among the royalty interest owners and working interest owners.

## RATIFICATION

Under Section C-1 of the IOGCC Model Unitization Statute:

An order requiring unit operation shall not become effective, unless and until a unitization agreement approved by the oil and gas conservation agency has been signed and approved or ratified in writing by the owners of at least \_\_\_ percent as costs are shared under

the terms of the allocation formula and by \_\_\_ percent of the royalty owners excluding the owners of overriding royalties, production payments, and any other interest carved out of the working interest in the unit area as revenues are distributed under the terms of the allocation formula.

The percentages required for ratification vary from state to state. For example, Oklahoma requires sixty-three percent; West Virginia requires seventy-five percent; Montana requires eighty percent.

In the event the order of the Commission providing for unitization is ratified by the required percent of both the working interest owners and the royalty interest owners, the Commission will conduct a hearing and make a finding to that effect.

### EFFECT OF UNITIZATION UPON OIL AND GAS LEASES

The oil and gas lease is modified by the Unit Agreement. By virtue of unitization, the lessor becomes entitled to a royalty interest based upon the share of production attributable to him in the allocation formula, regardless whether the production is from wells drilled on his lands, on a spacing unit that includes his lands, or from other tracts in the unit.

Production from unit operations holds and maintains the lease after the expiration of the primary term of the lease. Further, unless the lease or the unit agreement contains a provision to the contrary, the production from unit operations holds and maintains the lease premises outside the unit area. However, the relationship between the lessor and the lessee remains governed and affected by the express and implied covenants in the lease.

### OTHER CASES ADDRESSING FIELDWIDE UNITIZATION

#### *ALLOCATION FORMULA; FACTORS INCLUDED IN FORMULA*

In *Gilmore v. Oil and Gas Conservation Commission*, 642 P.2d 773 (Wyo. 1982), the Wyoming Supreme Court upheld an allocation formula that contains eleven factors. The formula approved by the Commission had barely received the required ratification of seventy-five percent. The factors were "Useable Wells, First Six Months Production, Peak Rate, Wellbore Net Feet, Last Three Month's Production, Last Six Month's Production, Remaining Primary, Ultimate Primary, Developed Porosity Acre Feet, and Porosity Acre Feet." *Id.* at 775. In upholding the formula, the Wyoming Supreme Court noted that waste would occur by delaying secondary recovery operations. *Id.* The Court stated that "We are faced with a delicate balancing problem between prevention of waste and correlative rights, but prevention of waste is of primary importance. The right to produce one's fair share from the pool is limited by and subject to the practicalities of the situation and the ability to produce without waste." *Id.* at 779.

*DELEGATION; RATIFICATION*

The case of *State Oil & Gas Board of Alabama v. Seaman Paper Co.*, 285 Ala. 725, 235 So. 2d 860 (1970) is an appeal of a unitization order. In affirming the order of unitization, the Alabama Supreme Court ruled on a number of issues. The Court rejected a claim that the Board had “left up to subordinates the responsibility of determining the allocations required to be made by law.” 285 Ala. at 736, 235 So. 2d at 869. The Supreme Court held that the Board had not delegated its responsibilities but had properly addressed the matters before the Board. The Court affirmed the Board’s allocation formula. In rejecting a claim that ratification had not been properly proved, the Court stated:

If a fact to be proven requires an inspection and compilation of numerous and voluminous documents and if inspection and compilation by judge or jury at the trial is unreasonable, impracticable, or impossible; a qualified witness, e.g., an accountant, who has made an examination of such documents may state the result of his computations therefrom if, but only if, the mass of documents is made available to the opponent for inspection.

285 Ala. at 744, 235 So. 2d at 877.



250 Ala.

510 SOUTHERN REPORTER, 2d SERIES

**The STATE OIL AND GAS BOARD  
OF ALABAMA, Dr. Ralph Adams,  
as chairman, etc., et al.**

v.

Arden A. ANDERSON, et al.

Civ. 5403-X.

Court of Civil Appeals of Alabama.

Jan. 14, 1987.

As Corrected on Denial of  
Rehearing Feb. 18, 1987.

Certiorari Denied July 10, 1987  
Alabama Supreme Court 86-735.

Certiorari Denied July 17, 1987  
Alabama Supreme Court 86-719.

Oil company petitioned state Oil and Gas Board to unitize a gas condensate reservoir. The Board found that unitization should be implemented and that oil company should redetermine tract participation in accordance with formula based 60 percent on pore volume and 40 percent on productivity. Three groups of interest owners appealed from Board's order. The Circuit Court, Mobile County, Edward B. McDermott, J., upheld order with regard to inclusion of productivity factor, but found that productivity definition was unreasonable and unsupported by evidence. Owners appealed. The Court of Civil Appeals, Bradley, J., held that: (1) Board's unitization formula was reasonable and supported by evidence; (2) inclusion of certain tracts in oil field was supported by evidence and reasonable; and (3) denial of discovery request did not result in denial of procedural due process.

Reversed and remanded.

**1. Mines and Minerals** ¶92.79

Absent any allegation that State Oil and Gas Board acted without or in excess

of its jurisdiction in issuing unitization order or that order issued was unconstitutional or procured by fraud, appellate court was restricted to examination of whether Board's order was reasonable and supported by evidence. Code 1975, § 9-17-15.

**2. Mines and Minerals** ¶92.79

State Oil and Gas Board's decision, in entering unitization order, to attribute to each tract within a gas condensate reservoir the best month in a well's history was reasonable, where productivity factor in analysis was not designed to reflect whether single well would contribute to future production, but to be an indicator of what entire tract would contribute.

**3. Mines and Minerals** ¶92.79

State Oil and Gas Board's use of formula of 60 percent pore volume and 40 percent productivity in determining appropriate participation formula for unitization of gas condensate reservoir was reasonable and supported by evidence where productivity factor was designed to reflect contribution of entire tract and there was expert testimony that productivity factor would result in fair participation formula.

**4. Mines and Minerals** ¶92.79

Oil and Gas Board's alternatives with regard to defining productivity of oil field for which unitization order was sought were not limited to those proposed by participants at hearing. Code 1975, § 9-17-7(f).

**5. Mines and Minerals** ¶92.79

State Oil and Gas Board's decision to include in unit areas certain sections of gas condensate reservoir was supported by evidence and reasonable; record was replete with expert testimony that no portion of field should be mapped as constituting separate reservoir, which was supported by geological maps and expert testimony that

**STATE OIL AND GAS BD. OF ALABAMA v. ANDERSON Ala. 251**

*Cite as 510 So.2d 250 (Ala.Civ.App. 1987)*

tracts would contribute to unit production and that two tracts were underlain with recoverable hydrocarbons.

**6. Constitutional Law** ¶305(3)

State Oil and Gas Board's denial of discovery request did not result in denial of due process where, even if information withheld by oil company would give credence to party's position that gas condensate reservoir field consisted of separate mappable reservoirs, extensive testimony was given and numerous supporting documents were offered into evidence to support finding of single reservoir and thus, requested information would merely have been cumulative of other supporting information. Code 1975, § 9-17-83(3); U.S.C.A. Const.Amends. 5, 14.

**7. Mines and Minerals** ¶92.79

Sufficient evidence supported State Oil and Gas Board's decision not to adjust pore volume factor allocated to portion of gas condensate reservoir; expert testimony was presented indicating well's liquid yield was not good determinate of underlying tract's contribution and that liquid yield was not good indicator of contribution as condensate yield could be affected by location of well perforation.

**8. Mines and Minerals** ¶92.79

State Oil and Gas Board's refusal to make any adjustment to pore volume factor comprising 60 percent of formula for unitization of gas condensate reservoir based on remaining recoverable reserves was reasonable where determination that field consisted of one reservoir was reasonable and complaining party's own expert testified that Board formula was appropriate if field were one reservoir.

S. Marvin Rogers, Tuscaloosa, for appellant State Oil and Gas Bd. of Alabama.

Conrad P. Armbrrecht II, David E. Hudgens, and Duane A. Graham of Armbrrecht, Jackson, DeMouy, Crow, Holmes & Reeves, Mobile, for appellant Getty Oil Co.

William T. Watson of Watson & Harrison, Tuscaloosa, and E. Kim King, New Orleans, La., for appellee Exxon Corp.

Norton Brooker, Jr., of Lyons, Pipes & Cook, Mobile, for appellants Bd. of School Com'rs of Mobile County, and Paul M. Brown, et al.

James C. Johnston of Johnston & Johnston, Mobile, for appellant Hazel Hinson Butler.

Isaac P. Espy of Gray, Espy and Nettles, Tuscaloosa, and John Grower of Brunini, Grantham, Grower & Hewes, Jackson, Miss., for appellees/cross-appellants Arden A. Anderson, et al.

Frank McRight of McRight, Jackson, Myrick & Moore, Mobile, for cross-appellee George Radcliff.

Harry Riddick and David A. Boyett III of Hamilton, Butler, Riddick, Tarlton & Sullivan, Mobile, for appellees/cross-appellants Hatters Alabama Co., Leboc Mobile Co., and Sabine Corp.

BRADLEY, Judge.

This is a State of Alabama Oil and Gas Board case.

On May 31, 1982 Getty Oil Company (Getty) first petitioned the State of Alabama Oil and Gas Board (the Board) to unitize Hatter's Pond field, a gas condensate reservoir located in Mobile County. Unitization was sought by Getty as unitization is a precondition to the implementation of secondary recovery operations in a field.

Secondary recovery involves the recovery of hydrocarbons by artificially maintaining pressure throughout the reservoir. Secondary recovery, as compared to primary recovery, is desirable because through pressure maintenance more hydrocarbons can be retrieved from the reservoir. Additionally, interest owners like Getty, operating in a unitized field and engaging in secondary recovery, are allocated revenues pursuant to a participation formula rather than according to the amount of hydrocarbons retrieved from their individual well or wells.

Pursuant to section 9-17-83(3), Code 1975, a participation formula adopted in response to a petition for unitization must be:

252 Ala.

510 SOUTHERN REPORTER, 2d SERIES

"An allocation among the separately owned interests derived from or associated with tracts in the unit area of all the oil or gas, or both, produced from the unit pool within the unit area, and not required in the conduct of such operation or unavoidably lost, such allocation to be based on the relative contribution which each such tract or interest is expected to make during the course of such operation, to the total production of oil or gas, or both, so allocated."

Evidence was presented to the Board in an initial set of hearings by the various interest owners in the field concerning the need for unitization and the appropriate unitization plan. Getty proposed a participation formula for unitization based entirely on pore volume, and the unit area initially proposed by Getty did not include sections 21 and 28, T2S, R1W. The Board issued order No. 88-170, in response to the evidence and unitization petition, on July 29, 1983.

For purposes of appeal, the pertinent findings of the order were, in summary: (1) unitization should be implemented to prevent unnecessary loss of hydrocarbons in the field; (2) the appropriate participation formula for the field should not be based entirely on pore volume, but rather sixty percent on pore volume and forty percent on productivity; (3) the productivity factor of the formula should be defined in terms of a tract's average daily production rate, average daily production being a well's best month of production on the tract; (4) no adjustments to pore volume should be made to reflect pressure-production history, remaining recoverable reserves or present worth of unitized substances; (5) the SE/4 of section 8 and a portion of the NW/4 of section 11, T2S, R1W should be included in the unit area; (6) the SW/4 of section 27 and the S/2 of section 28, T1S, R1W should be included in the unit area; (7) whether any part of sections 28 and 38, T2S, R1W, would be included in the unit area should be determined only after further review by a committee of experts.

Pursuant to these findings the order directed Getty "to immediately prepare a uni-

tization proposal including a Unit Agreement, a Unit Operating Agreement and Special Field Rules." The Board further ordered, inter alia, that: (1) a committee of experts be formed to further map sections 21, 22, and 28; T2S, R1W; (2) Getty should redetermine tract participations in accordance with the 60/40 formula; (3) Getty should promptly submit a new petition for unitization to the Board.

In accordance with the Board's order, an expert committee was formed which met from September 14, 1983 until December 15, 1983. Tract participations were redetermined pursuant to the 60/40 formula, and Getty filed its new unitization petition on February 10, 1984.

Pursuant to the new petition, the Board heard more evidence and reviewed the data prepared by the expert committee. It was also during these proceedings that appellees asked the Board to exercise its subpoena power and require Getty to produce some specified documents.

In response, the Board promulgated order No. 84-382 with the following findings, inter alia: (1) sections 21, 28, and the NW/4 of section 22, T2S, R1W should be included in the unit area; (2) the 60/40 participation formula was supported by substantial evidence; (3) the productivity factor, comprising forty percent of the formula, should be determined from a tract's average daily production rate, average daily production being a well's best month of production on the tract through September 30, 1984, which was the last full month of production before the order's issuance; (4) the appellees' proposed productivity factor, encompassing a shorter time frame than that adopted by the Board, was inappropriate as it failed to consider all the factors necessary in creating a fair productivity factor; (5) earlier findings that adjustments to pore volume not be made should be reaffirmed; (6) no evidence was received which indicated the existence of separate mappable reservoirs in the field; (7) the SE/4 of section 8, T2S, R1W; the NW/4 of section 11, T2S, R1W; a portion of section 22, T2S, R1W; the SW/4 of section 27, T1S, R1W; and the S/2 of section 28, T1S,

## STATE OIL AND GAS BD. OF ALABAMA v. ANDERSON Ala. 253

Cite as 510 So.2d 250 (Ala.Civ.App. 1987)

R1W should be included in the unit area; (8) the discovery requests filed by appellees should be denied.

In accordance with these findings, the Board decreed, inter alia, that the 60/40 formula should be adopted with productivity being a tract's average daily production rate, average daily production rate being a well's best month of production through September 30, 1984.

In its third order regarding Hatter's Pond, the Board acknowledged ratification of the unit agreement and unit operating agreement by the statutorily required percentage of interest owners. Consequently, the Board directed that unit operations commence May 1, 1985.

Pursuant to sections 9-17-15 and 41-22-20, Code 1975, three groups of interest owners appealed from the Board's order to the Circuit Court of Mobile County. For purposes of this appeal, the two pertinent groups and their contentions were, in summary: (1) Arden A. Anderson, et al., who represented owners in section 28, T2S, R1W and one owner in section 35, T1S, R1W, maintained that the Board-adopted formula failed to meet the statutory requirements of section 9-17-83(3), Code 1975; and (2) Hatter's Alabama, et al., who owned an interest in section 28, T2S, R1W as well as other sections, also alleged that the Board formula failed to follow the statutory directive in section 9-17-83(3), Code 1975.

We have previously stated that in order to unitize Hatter's Pond field it was necessary for the State Oil and Gas Board to develop a participation formula. Initially, Getty proposed a participation formula based entirely on pore volume. Getty supported the proposal with expert testimony and exhibits. Although experts for most of the other parties agreed that pore volume was a valid indicator of a tract's future production, they supported the adoption of a participation formula which included other factors in addition to pore volume. These experts maintained that the additional factors would result in a formula more protective of the coequal and correlative rights of the interest owners.

Several alternative formulas were proposed by the parties, including formulas based: (1) 50% on pore volume and 50% on historical average daily production; (2) on at least 50% productive capacity; (3) on past average daily production; (4) 50% on pore volume and 50% on productive acreage; (5) 100% on cumulative production; (6) 50% on pore volume and 50% on well tests; and (7) 50% on "highest tested capacity" and 50% *adjusted* pore volume. The participation formula ultimately adopted by the Board was based on two factors. The first factor, comprising sixty percent of the allocation formula, was based on pore volume. The second factor was based on productivity and accounted for the remaining forty percent of the formula. Further, the Board defined productivity as a tract's average daily production, average daily production being a well's best month of production on the tract.

Although the circuit court upheld the Board's order with regard to the inclusion of a productivity factor, the court found that productivity as defined by the Board was unreasonable and was unsupported by the evidence. Appellants support the productivity factor as defined by the Board and have appealed the circuit court's holding.

We first note the flexibility afforded the State Oil and Gas Board in issuing relief pursuant to a petition for unitization:

*"Entry of Rules, Regulations, and Orders.* During or after conclusion of any hearing, including continued sessions thereof, the Board shall promptly take such action as it may deem appropriate concerning the subject matter being considered by the Board...." (emphasis added)

Rule 400-1-12-.23, State Oil and Gas Board of Alabama Administrative Code.

The rule further provides the Board is not bound to grant the specific relief asked for in a petition but may amend or take "other appropriate action regarding the petition." Rule 400-1-12-.23, *supra*. Likewise, section 9-17-7(f), Code 1975, gives the Board great flexibility in fashioning relief:

254 Ala.

510 SOUTHERN REPORTER, 2d SERIES

"[T]he Board . . . shall take such action with regard to the subject matter thereof as it may deem appropriate." (emphasis added)

[1] Our review of an order issued by the Oil and Gas Board pursuant to these provisions, as was the review by the Circuit Court of Mobile County, is governed by section 9-17-15, Code 1975. Absent any allegation that the Board acted without or in excess of its jurisdiction in issuing the order or that the order issued was unconstitutional or procured by fraud—and there was none,—we are restricted to an examination of whether the order was reasonable and supported by the evidence. § 9-17-15, Code 1975.

In examining the reasonableness of the order, we have previously stated that "[a] determination by an administrative agency is not . . . 'unreasonable' where there is reasonable justification for its decision." *Hughes v. Jefferson County Board of Education*, 370 So.2d 1034 (Ala.Civ.App.1979). Further, the Board's orders "are presumed to be prima facie correct" and, if we determine that evidence was offered which supports the order, then we must affirm. *Roberts v. State Oil & Gas Board*, 441 So.2d 909 (Ala.Civ.App.1983). The statute does not mandate that there be substantial evidence. *State Oil & Gas Board v. Seaman Paper Co.*, 285 Ala. 725, 295 So.2d 860 (1970). We simply determine whether the evidence supports the Board's orders. *Seaman, supra*.

We cannot substitute our judgment, nor could the circuit court, substitute its judgment, for the Board's with regard to these findings of fact, and we consequently attach no presumption of correctness to the circuit court's ruling. *Seaman, supra*.

Although expert testimony was presented supporting a participation formula based entirely on pore volume, other experts testified that the heterogeneity of Hatter's Pond made a single factor formula unreliable. As a result, the Board heard evidence supporting the inclusion of a second factor. Alternative two-factor formulas were proposed, including several that added a productivity factor. Several experts testified

that the inclusion of such a factor would result in a participation formula more protective of correlative rights. The Board accepted this position and adopted a participation formula which was based in part on productivity.

We note, however, that appellees object not to the addition of a productivity factor, but to the time frame from which the productivity factor was obtained. Appellees' experts espoused a much shorter and more recent time period as being the appropriate yardstick for measuring productivity. However, as expert testimony indicated that to select a shorter time frame would not take into account the varying conditions of the wells in Hatter's Pond, the Board opted for a more expansive time frame.

Evidence suggested that the wells would be at varying stages of physical deterioration within the more recent time frame. However, productivity as defined by the Board takes into account this factor by expanding the time frame from which a well's productive capability is determined. We opine that this decision was reasonable and reflected the Board's desire to eliminate from the formula any possibility of skewed production figures due to the age of a well, the corrosion within it, the salt buildup within it, as well as other time related factors.

The need for an accurate well production factor is obvious. An older well with salt buildup, corrosion, etc., might not produce at full capacity. As a result, it could inaccurately reflect an underlying tract's ability to produce. An expansive time frame, however, would put all the wells, regardless of age, on equal footing, because each well's best month of production would be used as the critical factor. Such an allocation factor would put each well in its best light and thus would be nondiscriminatory. Therefore, the Board reasonably concluded that a well's best month of production was a better indicator of the underlying tract's ability to produce in the future than was a month within the more limited time frame, making the Board's order concerning this

## STATE OIL AND GAS BD. OF ALABAMA v. ANDERSON Ala. 255

Cite as 510 So.2d 250 (Ala.Civ.App. 1987)

issue not without reasonable justification as required by *Hughes, supra*.

[2] We note that the productivity factor is not designed to reflect what a single well will contribute to future production but is to be an indicator of what the *entire tract* will contribute. In light of this fact, the Board was not unreasonable in attributing to each tract the best month in a well's history.

[3, 4] Further, as experts testified that a productivity factor would result in a fairer participation formula, the Board's decision to include such a factor is not unsupported by the evidence. We also note that the Board's alternatives with regard to defining productivity are not limited to those proposed by the participants in the hearings. § 9-17-7(f), Code 1975; *see also*, Rule 400-1-12-23, *supra*. Consequently, it was within the province of the Board to define productivity in a manner not *specifically* proposed by the hearing participants. So long as the formula was reasonable and supported by the evidence, we may not substitute our judgment for that of the Board. *Seaman, supra*. We find that the formula meets these requirements.

Appellants also asserted as error the circuit court's directive that a revised participation formula be developed and applied retroactively. As we have upheld the Board's original formula, review of this issue is not required.

The Board determined that the SW/4 of Section 27, the S/2 of Section 28, T1S, R1W, and the SE/4 of Section 8, T2S, R1W should be included in the unit area. However, the circuit court asked the Board to reconsider on remand whether these three tracts should be included in the unit. We find this direction incongruous with the court's finding: "The Court does not find that the inclusion of these tracts in the unit is not supported by the evidence or is not reasonable...."

[5] We agree with the circuit court's determination that the Board's inclusion of these tracts is supported by the evidence and is reasonable. First, the record is replete with expert testimony that no portion

of Hatter's Pond should be mapped as constituting a separate reservoir. This position was further supported by geological maps introduced at the hearings. The significance of such a determination is that all tracts that are a part of a single reservoir are necessarily in communication with the others. Although contradictory expert testimony suggested that these tracts were not in communication with the Hatter's Pond reservoir (suggesting the existence of separate reservoirs), the Board heard this evidence and resolved the controversy in favor of the experts supporting the single reservoir concept.

In addition, there was expert testimony that these tracts will contribute to unit production. Specifically, O'Dell, an expert for Getty, testified that hydrocarbons are located in Tracts 800, 2700, and 2800, and that these tracts will contribute to unit production. Other engineers supported his position.

As we cannot substitute our judgment for that of the Board's, *Seaman, supra*, and the decision to include the tracts is not unreasonable or unsupported by the evidence, we affirm the Board's inclusion of Tracts 800, 2700, and 2800 within the unit area.

We also note that appellee Anderson maintains that these three tracts, as well as two additional tracts, Section 11, T2S, R1W (Tract 1100) and Section 22, T2S, R1W (Tract 2200), should not be included because they are not developed and at the time of unitization had no producing wells on them. To support this contention, Anderson relies on section 9-17-12(d), Code 1975. Appellees' reliance on this section is misplaced as this particular Code section deals with allocation during primary production.

On the other hand, allocation during secondary recovery is governed by sections 9-17-80 through -88, Code 1975. This article of the Oil and Gas chapter deals with unit operations as compared to the article cited by appellee Anderson which deals with conservation and regulation of production. Pursuant to section 9-17-82, Code 1975, the Board is authorized to unitize "an

256 Ala.

510 SOUTHERN REPORTER, 2d SERIES

entire field . . . to prevent waste or to avoid the drilling of unnecessary wells." This section does not limit unitization to those areas of the field that have currently producing wells.

Finally with regard to the inclusion of Tracts 1100 and 2200, experts testified that both tracts were underlain with recoverable hydrocarbons. Simply because these tracts have no producing wells they are not excludable from the unit area. Pursuant to section 9-17-83(3), Code 1975, Tracts 1100 and 2200 must be allocated a portion of the revenues "based on the relative contribution which each such tract or interest is expected to make." The Board has complied with this mandate, and we affirm the tracts' inclusion.

Appellants further assert that the circuit court erred when it directed the Board on remand to afford "procedural due process as pertains to discovery" to the parties involved in the controversy. Appellees have interpreted this statement as reflecting a finding by the circuit court that appellees were indeed denied procedural due process. Appellants argue that this is not the case. They maintain that the court was simply issuing a directive to insure that on remand all parties would be afforded procedural due process with regard to discovery.

Accepting as true appellees' contention that the circuit court found appellees were denied procedural due process in the hearings before the Oil and Gas Board, we first review whether our oil and gas statutes afford participants a constitutional right to pretrial discovery in proceedings before an administrative agency.

We note that in the case of *Dawson v. Cole*, 485 So.2d 1164 (Ala.Civ.App.1986), we stated: "It has been generally recognized that there is no basic constitutional right to prehearing discovery in administrative proceedings." Appellants assert that this statement forecloses any further inquiry into this issue. We disagree.

A closer reading of our opinion in *Dawson, supra*, discloses our acknowledgement that "the denial of prehearing discovery as applied in a particular case" could result in

a due process violation. Thus, we must examine whether the Board's denial of appellees' discovery request did in fact result in a denial of procedural due process.

[6] We have examined the record and are satisfied that it did not. Throughout these proceedings, appellees have maintained that separate reservoirs exist in Hatter's Pond field. Appellees maintain that the information they requested but to which they were denied access would support their contention. However, numerous experts testified and maps were presented refuting this position.

Thus, even accepting as true appellees' argument that the information withheld by Getty would give credence to their position that the field consisted of separate mappable reservoirs, extensive testimony was given and numerous supporting documents were offered into evidence to support the Board's finding of a single reservoir. At most, therefore, the requested information would have been merely cumulative of that evidence supporting appellee's position that separate reservoirs existed in the field. The Board would still have been required to make a decision based on conflicting evidence. In other words, the required production of the information sought by appellees would not necessarily have changed the Board's decision. Consequently, we do not find a due process violation by the Board in this aspect of the case.

[7] In its cross appeal Hatter's Alabama contends that because the value of full well stream gas in Section 17 is lower than the value of the gas produced by the other sections, the circuit court erred by not directing the Board to adjust its formula to reflect this difference. We have examined the record and find that the Board's original decision not to adjust the pore volume factor allocated to Section 17 is supported by the evidence.

Recognizing once again that the Board's orders are presumed valid, *Roberts, supra*, and that we cannot substitute our judgment for the Board's, *Roberts, supra*, we cannot say that the decision not to make an adjustment is either unsupported by the

## GREENE COUNTY BD. OF EDUC. v. PERRY

Ala. 257

Cite as 510 So.2d 257 (Ala.Civ.App. 1987)

evidence or unreasonable. Thus, we affirm its decision not to make an adjustment.

Expert testimony was presented that indicated that a well's liquid yield was not a good determinant of the underlying tract's contribution. For example, an expert for Getty testified that two wells had been drilled on one particular tract—only one hundred and ninety feet apart, and a sixteen percent difference in the condensate yield from the wells resulted.

Additional expert testimony showed that liquid yield was not a good indicator of contribution as condensate yield could be affected simply by the location of the well perforation. We hold this is sufficient evidence from which the Board could reasonably conclude that an adjustment to pore volume based on liquid yield would not result in a more accurate participation formula.

Finally, Anderson asserts in his cross appeal that the Board should be directed to make adjustments to the pore volume factor that comprises sixty percent of the formula. Anderson maintains that without an adjustment to pore volume based on the remaining recoverable reserves left in a tract, the participation formula will have no reasonable relation to each tract's expected contribution to future unitization. Anderson then advocates conducting bottom hole pressure tests for determining these remaining recoverable reserves. Anderson contends that it is "elementary" that the amount of pressure in a container is indicative of the amount of gas in it.

The Board, however, rejected this argument and found that conducting bottom hole pressure tests was both unnecessary and unwarranted. O'Dell, a Getty expert, testified that seven years of production and pressure in Hatter's Pond made additional bottom hole pressure tests useless. O'Dell, adopting a position advocated by Exxon, also testified that too much pressure variation existed for the tests to be reliable, and they would not prove the existence of separate reservoirs within the field. More importantly, the evidence indicated that this type of testing was of value only if Hat-

ter's Pond consisted of more than one reservoir.

[8] We have already pointed out that the Board determined Hatter's consisted of one reservoir and that such a determination was reasonable. An expert for appellees testified that the Board formula was appropriate if Hatters' were one reservoir. Thus, appellees' own expert supports the Board's refusal to make any adjustment to pore volume based on remaining recoverable reserves.

Based on the evidence and the guiding standard of review, we reverse the order of the circuit court and remand it for the entry of an order affirming the orders of the Oil and Gas Board.

REVERSED AND REMANDED WITH INSTRUCTIONS.

WRIGHT, P.J., and HOLMES, J., concur.