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Clare Hochhalter

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CASE COMMENT

MINES AND MINERALS—PROCEDURE BEFORE COMMISSIONS AS TO LOCATION—WHERE EVIDENCE WAS OF QUESTIONABLE VALUE THE NORTH DAKOTA INDUSTRIAL COMMISSION ACTED PROPERLY TO PROTECT CORRELATIVE RIGHTS THROUGH ASSIGNMENT OF STAND-UP UNIT SPACING

Appellants, Amoco Production Company and the Lubkes, appealed a Burleigh County District Court judgment¹ affirming a well spacing order² of the North Dakota Industrial Commission

1. *Amoco Prod. Co. v. North Dakota Indus. Comm'n*, No. 29847 (S. Cent. Dist. N.D. Nov. 24, 1980). A hearing was held on July 24, 1979, before the North Dakota Industrial Commission to consider proper spacing of oil and gas wells for the development of the Duperow Pool of the Rattlesnake Point Field in Dunn County, North Dakota. *Amoco Prod. Co. v. North Dakota Indus. Comm'n*, 307 N.W.2d 839 (N.D. 1981).

The Commission previously had established temporary 320 acre spacing consisting of two adjacent quarter sections within section 11 of township 145 north, range 96 west. At the time Amoco completed a successful well in the northwest quarter of section 11, they had the choice between stand-up or laid-down spacing. Stand-up spacing means that a section is split by a vertical line dividing the section into two 320 acre halves (side-by-side). Laid-down spacing divides a section using a horizontal line separating the section into two 320 acre halves (top half-bottom half). Amoco chose laid-down spacing, which means that the northeast and northwest quarters of section 11 (both partially owned by the Lubkes) composed one spacing unit. Drilling is ordinarily limited to one well per spacing unit. See N.D. ADMIN. CODE § 43-02-03-18(1) (1981). The royalty payments from the well are paid to the subsurface owners of the unit. Because the Lubkes owned an undivided one-half interest in the north half of section 11 the Lubkes were entitled to one-half of all royalties payable to the north-half of the section. If spacing were changed to stand-up, then the Lubkes would receive only one-fourth of all royalties. 307 N.W.2d at 840.

The co-appellee Murphy Trust held the mineral interest in the southwest quarter of section 11. Murphy Trust was not paid royalties from the same well as the Lubkes. Murphy Trust received royalty payments from the Kelling well, located on the southeast quarter of the south-half spacing unit. The Kelling well produced much less oil than did the Lubke well. *Id.* Therefore the royalty payments on the north half exceeded the royalty payments on the south half. The fact that more oil was produced from the Lubke well justified the higher royalties unless the Lubke well was draining a substantial amount of oil from the south unit. If the Lubke well was draining more oil from the quarter included in the south unit (the Murphy unit) than from the adjacent northeast quarter, then the spacing unit needed to be changed to compensate for the loss to the Murphy Trust.

Pursuant to the receipt of new data supporting the above conclusion the Commission changed the spacing on section 11. The Commission ordered stand-up spacing at a hearing on July 24, 1979. *Id.*

2. Well spacing is defined as "regulation of the number and location of wells over an oil or gas reservoir, as a conservation measure." See H. WILLIAMS & C. MEYERS, *MANUAL OF OIL AND GAS TERMS* 829 (5th ed. 1981) [hereinafter cited as *MANUAL*]. Authority for the Commission to set spacing units and to protect correlative rights is found in § 38-08-07 of the North Dakota Century Code. N.D. CENT. CODE § 38-08-07 (Supp. 1981). Other jurisdictions have similar statutes granting power to state agencies. See ARIZ. REV. STAT. ANN. § 27-515 (1976); COLO. REV. STAT. § 34-60-105 (1974); IDAHO CODE § 47-317 (1977); NEB. REV. STAT. § 57-905 (1978); N.M. STAT. ANN. §

(Commission).³ The Lubkes argued that the Commission's order⁴ was not supported by substantial evidence and that the Commission erred in setting an effective date for the allocation of royalties.⁵ Radial drainage means that oil and gas migrates from the reservoir in a circular motion surrounding the point of production.⁶ The existence of radial drainage supports the Commission's stand-up spacing order.⁷ Stand-up spacing divides section eleven into an east half and a west half.⁸ Previously, section eleven had been divided into a north half and a south half, which denotes laid-down spacing.⁹ Spacing was important to the Lubkes since a stand-up spacing order would mean a loss of royalty payments in excess of \$25,000 per year.¹⁰ The court concluded that

70-2-6 (Supp. 1981); WYO. STAT. § 30-5-104 (1981). Some jurisdictions refer to the state agency as a board rather than a commission. See MONT. CODE ANN. § 82-11-111 (1979); S.D. CODIFIED LAWS ANN. § 1-40-9 (1980); UTAH CODE ANN. § 40-6-3 (Supp. 1981).

3. 307 N.W.2d at 840. The Commission has jurisdiction and authority to effectively enforce the provisions of chapter 38-08 of the North Dakota Century Code that control gas and oil resources. N.D. CENT. CODE § 38-08-04 (Supp. 1981).

4. 307 N.W.2d at 840-41. In addition to determining that the spacing should have been east one-half and west one-half, the order of the Commission included other specifications and relevant conclusions:

(4) That due to errors in Amoco's exhibit #1, a structure map contoured on the top of the Duperow Formation, the validity of the exhibit is questionable.

(5) That the Amoco Production #1 Kelling, located 3,300 feet from the north line and 660 feet from the east line of Section 11, Township 146 North, Range 96 West, Dunn County, North Dakota, initially produced 26 barrels of oil per day, and through March 1, 1980 had a cumulative production of 16,647 barrels of oil; that the Amoco Production #1 Lubke, located 2,010 feet from the north line and 660 feet from the west line of Section 11, Township 146 North, Range 96 West, Dunn County, North Dakota, had an initial production of 531 barrels of oil per day, and through March 1, 1980, had a cumulative production of 165,909 barrels of oil, that this indicates that the reservoir characteristics in the area of the Lubke #1 well, located in the W/2 of Section 11, are far superior to the reservoir characteristics in the area of the Kelling #1 well, located in the E/2 of Section 11.

(6) That, assuming radial drainage, the W/2 of said Section 11 will contribute more oil to the total ultimate recovery of the Lubke #1 well than will the N/2 of the section.

(7) That in order to protect correlative rights the W/2 of said Section 11 should be designated the spacing unit for the Lubke #1 well, and the E/2 of said Section 11 should be designated the spacing unit for the Kelling #1 well.

Id.

5. *Id.* at 841.

6. *Id.* at 847 n. 8. Radial drainage is assumed absent proof that the location of the well on the structure causes the reservoir to drain from one direction more than another. *Id.*

7. *Id.* at 848. Because of the location of the Lubke well in the southwest quarter of the northwest quarter of section 11, the Lubke well is closer to subsurface rights controlled by the Murphy Trust. If the reservoir drained in a circular motion (radial drainage) then a circle drawn around the well would include more land under control of the Murphy Trust. The Murphy land would be included in the new spacing order issued by the Commission. Therefore radial drainage supports the Commission's order. *Id.*

8. *Id.* at 840. Stand-up spacing used in this context refers to the creation of two 320 acre tracts of land within the same section. *Id.*

9. *Id.* Laid-down spacing was chosen pursuant to Amoco's available choices for temporary spacing. *Id.* A temporary spacing order can be modified upon the receipt of production or exploration data which indicates that a change is needed for the preservation of correlative rights. N.D. CENT. CODE § 38-08-07 (Supp. 1981).

10. Brief for Appellant at 2, Amoco Prod. Co. v. North Dakota Indus. Comm'n, 307 N.W.2d 839 (N.D. 1981).

stand-up spacing was the proper way to protect the correlative rights¹¹ of the owners and *held* that the evidence submitted by the Commission was substantial and supported radial drainage. *Amoco Production Co. v. North Dakota Industrial Commission*, 307 N.W.2d 839 (N.D. 1981).

Under common law the proprietor of the land was also the sole owner of all things beneath the surface with the exception of gold and silver deposits reserved by the sovereign.¹² This view underwent substantial revision in the United States when mines and minerals became the property of the landowner alone.¹³ Early American decisions treated mineral deposits as though they were wild animals.¹⁴ Accordingly, laws regulating oil, gas, and water resembled early law on the taking of wild animals.¹⁵ The belief that oil and gas moved like wild animals effected the rule of capture.¹⁶ The rule of capture allows mineral owners to drill and capture as much oil and gas as can be reduced to possession.¹⁷

The beliefs expressed in early cases equating oil and gas with a wild animal¹⁸ and the rule of capture that followed resulted in oil fields being developed by drilling wells as close together as

11. 307 N.W.2d at 848. See *supra* note 2 for a definition of well spacing and for authority whereby the Commission must protect correlative rights. The following is the court's definition of correlative rights:

[T]he opportunity afforded, so far as it is practicable to do so, to the owner of each property in a pool to produce without waste his just and equitable share of the oil or gas, or both, in the pool; being an amount, so far as can be practically determined, and so far as can practically be obtained without waste, substantially in the proportion that the quantity of recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas, or both, in the pool, and for such purposes to use his just and equitable share of the reservoir energy.

Id. at 842 n. 4 (quoting NEV. REV. STAT. § 522.020(2) (1979)).

12. See *Del Monte Mining & Milling Co. v. Last Chance Mining & Milling Co.*, 171 U.S. 55, 60 (1898); 1 H. WILLIAMS & C. MEYERS, OIL AND GAS LAW § 202 (1980); 54 AM. JUR. 2d *Mines and Minerals* § 1 (1971).

13. *Shaw v. Kellogg*, 170 U.S. 312, 343 (1898). The Court refers to the fee title, which was the subject of a grant, as "a full, absolute and unconditional title." *Id.* See N.D. CENT. CODE § 47-01-12 (1978).

14. See, e.g., *Ohio Oil Co. v. Indiana*, 177 U.S. 190 (1900); *State v. Ohio Oil Co.*, 150 Ind. 21, 49 N.E. 809 (1898); *People's Gas Co. v. Tyner*, 131 Ind. 281, 31 N.E. 59 (1892).

15. *State v. Ohio Oil Co.*, 150 Ind. at 24, 49 N.E. at 812. The court in *Ohio Oil Co.* held that title to natural gas "does not vest in any private owner until it is reduced to actual possession. . . ." *Id.*

16. 1 E. KUNTZ, OIL AND GAS § 4.1 (1962). See 1 R. MYERS, POOLING AND UNITIZATION § 1.03 (2d ed. 1967).

North Dakota has modified the rule of capture by applying the ownership in place theory. *Bilby v. Wire*, 77 N.W.2d 882, 889 (N.D. 1956). The *Bilby* decision held that adverse possession of the surface of a tract of land does not constitute possession of severed minerals. Therefore, adverse possession of the surface does not allow adverse possession of the minerals since severance "creates two estates which are as distinct as if they contained two parcels of land." *Id.*

17. See MANUAL, *supra* note 2, at 666-67. Williams and Meyers have said that "[t]his rule [of capture] appears equally applicable in all jurisdictions, whatever the theory adopted as to the nature of the landowner's interest." *Id.* at 667. The rule of capture is modified substantially by legislation seeking protection of correlative rights. The modification assures each owner that he will be entitled to his fair share rather than allowing a neighbor to gain a greater share by faster production. See N.D. CENT. CODE §§ 38-08-07, -09.2 (1980 & Supp. 1981).

18. See *State v. Ohio Oil Co.*, 150 Ind. 21, 49 N.E. 809 (1898).

possible.¹⁹ The rationale for the proliferation of wells over a given pool was to capture the mineral before it migrated beneath the land of a neighbor.²⁰ The result of the practice was physical and economic waste due to reduced field pressures and unrestricted production.²¹ Waste threatened the oil industry with economic collapse and caused oil producers "to turn regretfully to the legislatures of the producing states for help."²²

One way state regulation sought to reduce the waste that resulted from the rule of capture was through the formulation of a well spacing unit also known as a drilling unit.²³ Many states have implemented the use of statutory spacing units as a way of regulating the number of wells or well density over a pool of oil.²⁴ One type of statute creates a spacing unit which refers to a prescribed area of land upon which only one well may be drilled.²⁵ However, such a spacing order does not act as an apportionment of production from the unit.²⁶ Production apportionment depends upon the owner's interest in the unit or how much of the unit is owned by a given subsurface owner.²⁷

19. See Harrison, *Regulation of Well Spacing in Oil and Gas Production*, 8 ALTA. L. REV. 357, 357-58 (1970). Three factors suggested as having contributed to the dense development of oil production in the early history of the United States petroleum industry are: (i) Almost total ignorance of the nature of oil and gas reservoirs; (ii) adherence to the Rule of Capture with the consequent introduction of off-set obligations; (iii) the increased demand for crude oil in the period from 1900 to 1925. *Id.* at 358.

20. See *Stevens County v. Mid-Kansas Oil & Gas Co.*, 113 Tex. 160, 254 S.W. 290 (1923). The court stated that owners of adjacent lands have "the right to appropriate without liability, the gas and oil underlying their neighbor's land," and their neighbor has the "correlative right to appropriate, through like methods of drainage, the gas and oil underlying the tracts adjacent to his own." *Id.* at 162, 254 S.W. at 292. Therefore, producers had an additional incentive to get as much oil out of the ground as possible since their neighbor could do the same. The right of the producer to drill as many wells as he pleased in order to gain an advantage over his neighbor resulted in what one commentator has called "an unrestricted race." 1 R. MYERS, *supra* note 16, § 1.03.

21. See 1 R. MYERS, *supra* note 16, § 1.03. Petroleum engineers believe that approximately 15% to 25% of the oil and gas in a pool is produced by customary methods. An additional 80% of reservoir content may be available for production through what are called secondary methods of production. Secondary methods include pressure regulation, water flooding, and cycling. *Id.* § 2.01.

22. 1 R. MYERS, *supra* note 16, § 1.03.

23. See 5 E. KUNTZ, *supra* note 16, § 77.1. To avoid confusion with spacing regulations, spacing units are often referred to as drilling units. See *Schank v. North Am. Royalties Inc.*, 201 N.W.2d 419, 432 (N.D. 1972) (spacing unit and drilling unit are synonymous). A spacing regulation refers to regulation of the distance between wells. A spacing unit refers to rectangular tracts of land upon which only one well may be drilled. 5 E. KUNTZ, *supra* note 16, § 77.1. An advantage of spacing regulation is that it is not restricted by property lines. Therefore spacing regulation may be more suitable to oil and gas pools which do not follow property lines.

24. 5 E. KUNTZ, *supra* note 16, § 77.1.

25. 5 E. KUNTZ, *supra* note 16, § 77.3. The other kind of spacing unit allows a conservation commission to establish production units or proration units. *Id.*

An order establishing spacing units that effectively "pools" or apports production is not a violation of the fourteenth amendment to the United States Constitution. When the common source of supply underlays the entire unit, the commerce clause, due process clause, and equal protection clause are not violated. See *Patterson v. Stanolind Oil & Gas Co.*, 305 U.S. 376 (1939).

26. See *Schank v. North Am. Royalties Inc.*, 201 N.W.2d 419, 422 (N.D. 1972). In *Schank* the court stated that "[a] spacing order standing alone without a pooling order does not operate as a de facto pooling of all fractional interests. . . ." *Id.*

27. See *Amoco Prod. Co. v. North Dakota Indus. Comm'n*, 307 N.W.2d at 840. Pooling is an important concept in the prevention of waste because it allows mineral owners to combine their

Waste was not the only reason for state regulation of the oil and gas industry.²⁸ As the industry progressed so did scientific knowledge and technology. Increased knowledge of the characteristics of oil and gas also contributed to legislation designed to prevent waste and to protect correlative rights.²⁹ Petroleum geologists, geophysicists, paleontologists, and geochemists assisted in gaining data and developing new theories concerning the production of oil and gas.³⁰ The scientists learned that oil and gas do not migrate as wild animals do.³¹ Instead, oil and gas are trapped beneath the ground within porous source rocks.³² Such scientific knowledge resulted in a realization that "the more wells more oil" belief of early producers was not a good rationale for an abundance of wells over a pool of oil.³³ In fact, "the early belief of oil producers was precisely contrary to what in fact happens as a result of drilling further wells."³⁴

When an oil well is drilled, field pressure created by the weight of sedimentary rock strata on porous source rock causes the oil to flow toward the location of the hole or well bore.³⁵ The flow of the oil into the well determines the rate of production.³⁶ Therefore, high field pressure results in higher production since more oil and

mineral interests in a given unit. See N.D. CENT. CODE § 38-08-08(1) (1980); N.D. ADMIN. CODE § 43-02-03-63 (1981).

28. See Harrison, *supra* note 19, at 362.

29. See Harrison, *supra* note 19, at 362-63. Given the increased knowledge of effective drainage and underground migration of oil and gas, the modern trend is toward wider spacing for gas wells. In 1965 more than 18,000 oil wells were completed. If 1946 spacing practices had been in effect in 1965, then 50% to 100% more wells would have been drilled in that year. It has been estimated that if 1950 spacing practices had been applied in 1965 the cost of oil would have been 76 cents higher per barrel. The savings produced by increased scientific knowledge and the legislation that followed amounted to between 17 ½ and 35 cents per barrel in 1965. *Id.*

30. See E. BROSTUEN, *PETROLEUM—A PRIMER FOR NORTH DAKOTA* (North Dakota Geological Survey Educational Series 13, 1981).

31. *Id.* at 1.

32. *Id.* at 3. Source rocks are sedimentary rocks and are believed to be the place of origin of oil and gas. It is believed the sedimentary rocks were deposited in seas which periodically withdrew. *Id.* at 1.

33. Harrison, *supra* note 19, at 357.

34. See Harrison, *supra* note 19, at 359.

35. See E. BROSTUEN, *supra* note 30, at 18. The strata, having worked to form the oil and gas, is the initial source of the energy required to make the oil and gas flow. The energy is derived as follows:

This energy may be derived from one or more of the following mechanisms: by dissolved gas in the oil which expands and escapes, driving the oil through the porous and permeable rock toward the well or wells; a gas cap, which consists of a cap of gas overlying the oil, may expand as the oil is produced, filling the pore spaces occupied by the oil and gas as it is produced; and by water drive resulting from the expansion of water underlying the oil which may expand to fill the reservoir as the oil is produced.

Id.

36. See E. BROSTUEN, *supra* note 30, at 18. Methods of production using the primary recovery mechanisms discussed at *supra* note 35, are capable of pushing only a fraction of the oil and gas into the well casing. Secondary recovery methods may be employed to increase the flow of oil and gas thus making production feasible. Artificial restoration of the reservoir pressure is possible through secondary recovery methods such as injection of gas or fluids into the reservoir. *Id.* at 22.

gas are forced through the permeable source rock to the well.³⁷ The entire process of flow within a pool of oil is known as drainage.³⁸ When there are more wells located within a field than can be supported by the field the result is reduced field pressure.³⁹ When field pressure is reduced drainage occurs at a slower rate and production is reduced.⁴⁰ Drainage usually occurs in a circular motion around the well.⁴¹ Drainage may occur in other ways, however, depending upon the strata formation.⁴² This increased scientific knowledge aided lawmakers in drafting legislation such as statutory well spacing.⁴³ The new data also helped determine how wells should be placed to economically achieve maximum drainage in a field of oil.⁴⁴

Modern legislation pertaining to well spacing depends in theory upon scientific discoveries.⁴⁵ In practice implementation of the legislation is even more dependent upon current data reflecting geological facts of a given region.⁴⁶ This current data is gained

37. See E. BROSTUEN, *supra* note 30, at 3. Permeable source rock refers to porous sedimentary rock connected in a way that allows the oil and gas to flow through connected channels. *Id.*

38. See MANUAL, *supra* note 2, at 202. Drainage is an important concept to understand in the context of the *Amoco* case since the evidence presented was designed to support or refute the establishment of radial or circular drainage. Drainage is defined as the "[m]igration of oil or gas in a reservoir due to a pressure reduction caused by production from wells bottomed in the reservoir. Local drainage is the movement of oil and gas toward the well bore of a producing well. Field drainage . . . is a reservoir-wide migration." *Id.*

39. See Harrison, *supra* note 19, at 357.

40. See Harrison, *supra* note 19, at 359-60.

41. See *Amoco v. North Dakota Indus. Comm'n*, 307 N.W.2d 839, 847-48 (N.D. 1981).

42. *Id.* at 845. The strata formation may support a linear flow as *Amoco* contended. Where strata occurs in an east-west formation the presumption of radial drainage is rebutted because an east-west formation results in east-west drainage rather than radial drainage. *Id.*

43. See Harrison, *supra* note 19, at 362. See *supra* note 2 for a definition of wellspacing and for North Dakota authority for the implementation of well spacing.

44. See Harrison, *supra* note 19, at 357-58. According to Harrison, "[m]odern petroleum technology indicates that one well could drain an entire geologically simple reservoir if the well were located ideally and if time and economics were ignored." *Id.* at 358.

45. See Harrison, *supra* note 19, at 358. *Amoco* and the Commission relied on scientific data to determine whether radial drainage should be presumed. 307 N.W.2d at 847-48. The exhibits offered by *Amoco* and relied upon by the Commission were adjusted to conform to new data gained by seismic exploration and production statistics. *Id.* at 845-46.

46. Harrison, *supra* note 19, at 357-58. Section 43-02-03-18(3) of the North Dakota Administrative Code provides as follows:

Within thirty days after the discovery of oil or gas in a pool not then covered by an order of the commission, a hearing shall be held and the commission shall issue an order prescribing a temporary spacing pattern for the development of the pool. This order shall continue in force for a period of not more than eighteen months at the expiration of which time a hearing shall be held at which the commission may require the presentation of such evidence as will enable the commission to determine the proper spacing for the pool.

During the interim period between the discovery and the issuance of the temporary order no permits shall be issued for the drilling of direct offsets to the discovery well.

The commission acting by and through the chief enforcement officer shall have the discretion to determine the pattern location of wells adjacent to an area spaced by the commission, or under consideration for spacing, where there is sufficient evidence to indicate that the pool or reservoir spaced or about to be spaced may extend beyond the

through drilling and seismic work.⁴⁷ Historically, the fact that data depended on drilling and seismic work created a problem. State administrative agencies, vested with authority to implement the law, depended upon production and exploration data when issuing orders regulating production.⁴⁸ Postponing orders pending receipt of the data had the effect of defeating the well spacing order because the wells would already be drilled.⁴⁹ An answer to this problem was the temporary well spacing system.⁵⁰ After a development period in which data could be analyzed, a proper spacing order would issue.⁵¹

Authority to implement the laws governing the oil and gas industry generally is vested in state commissions or boards.⁵² In

boundary of the spaced area or the area anticipated to be spaced, and the uniformity of spacing patterns is necessary to insure orderly development of the pool or reservoir.

N.D. ADMIN. CODE § 43-02-03-18(3) (1981).

47. E. BROSTUEN, *supra* note 30, at 7-11. Seismic surveys or seismographing are the most popular method of exploration. Seismographs are conducted by producing a shock wave at or near the surface and then recording the velocity of the wave as it penetrates rock layers and is reflected back to the surface. *Id.* at 8. Amoco claimed its exhibits proved more oil would be drained from the Lubkes' northeast quarter of section 11 than from the Murphy quarter. 307 N.W.2d at 845-46. Amoco's claim that additional seismic work supported its view was questioned by the Commission. There was no record of any seismic activity and the landowners of the area were not aware of any seismic activity. *Id.* at 846 n.7.

Official production statistics indicate that North Dakota has produced a cumulative total of 555,729,028 barrels of oil since 1951. Further statistics indicating total yearly production show that in 1951, North Dakota produced 26,727 barrels of crude and liquid petroleum. This was the first year of recorded production. In 1971 total production was 23,783,723 while in 1979 production reached 33,158,396 barrels. N.D. GEOLOGICAL SURVEY, PRODUCTION STATISTICS AND ENGINEERING DATA — OIL IN NORTH DAKOTA 314 (Nov. 1980). In 1980 oil production totaled almost 40,000,000 barrels and by 1981 it had reached 46,000,000 barrels. The increase in production was due to a 40% increase in drilling activity. At one point during 1981 there were 120 rigs drilling at an average cost of \$1,000,000 per well. NORTH DAKOTA DIV., ROCKY MTN. OIL & GAS ASS'N, N.D. PETROLEUM COUNCIL, FACTS AND FIGURES, NORTH DAKOTA OIL AND GAS INDUSTRY (1982). An officer of the North Dakota Industrial Commission stated that "[t]he number of wells drilled in the state in 1982 should exceed the 825 to 850 wells drilled in 1981." Bismarck Tribune, March 16, 1982, at 3, col. 2.

The current trend of increased oil production has had significant financial effects on the state, including an increase in income to the State Land Board from lease activity on state lands and from net production royalties on state land. In addition, the five percent gross production tax and the dollar value of oil and gas exploration in the state evidence that the industry is a major factor in the North Dakota economy. Estimates place the value of the industry, in 1978 dollars, at \$800,000,000. An increase of approximately five percent per year over the next several years is projected. *See* L. GERHARD & S. ANDERSON, OIL EXPLORATION AND DEVELOPMENT IN THE NORTH DAKOTA WILLISTON BASIN 14 (1979). Litigation involving the Commission also has increased. In 1970, 38 cases were heard; in 1978, 115 cases were heard. *Id.* at 2.

48. Brief for Appellee at 15, *Amoco Prod. Co. v. North Dakota Indus. Comm'n.*, 307 N.W.2d 839 (N.D. 1981).

49. *Id.*

50. N.D. ADMIN. CODE § 43-02-03-18(3) (1981). *See supra* note 46 for the text of § 43-02-03-18(3).

51. N.D. ADMIN. CODE § 43-02-03-18(3) (1981). Spacing unit is defined in the North Dakota Administrative Code as "the minimum area in each pool within which a well may be drilled." *Id.* § 43-02-03-01(53).

52. *See* ARIZ. REV. STAT. ANN. § 27-514 (1976); COLO. REV. STAT. § 34-60-105 (1974); IDAHO CODE § 47-317 (1977); NEB. REV. STAT. § 57-905 (1978); N.M. STAT. ANN. § 70-2-6 (Supp. 1981); N.D. CENT. CODE § 38-08-04 (1981); WYO. STAT. § 30-5-103 (1977 & Supp. 1981). The following jurisdictions refer to state agencies as state boards. *See* MONT. CODE ANN. § 82-11-111 (1979); S.D. CODIFIED LAWS ANN. § 1-40-9 (1980); UTAH CODE ANN. § 40-6-3 (Supp. 1981). *See generally* Balkovatz, *Practice and Procedure Before Oil and Gas Commissions—Some Nuts and Bolts*, 25 ROCKY MTN. MIN. L. INST. 14-1 (1979) (explaining procedure in Arizona, Colorado, Idaho, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Utah, and Wyoming).

North Dakota power to regulate the oil and gas industry belongs to the Industrial Commission.⁵³ The Commission has authority to set well spacing units⁵⁴ and to modify them to protect correlative rights.⁵⁵ Orders issued by the Commission will be sustained when the Commission acts within its authority and "its findings and conclusions are sustained by the law and by substantial and credible evidence."⁵⁶ Substantial evidence has been defined as that which is adequate to support a conclusion.⁵⁷ Prior to 1977 the substantial evidence test was the applicable test when reviewing all administrative agency decisions in North Dakota.⁵⁸ In 1977 the North Dakota Legislature adopted the preponderance of the evidence test as a general test for review of administrative decisions.⁵⁹ The adoption of the preponderance test, however, did not affect review of decisions by the Industrial Commission⁶⁰ because the statutory standard of review pertaining to orders by the Commission is mandated in a specific statute.⁶¹ When a specific statute conflicts with a general statute the specific statute will control.⁶² Therefore, the substantial evidence test prevails as the

53. N.D. ADMIN. CODE § 43-01-01-01 (1981).

54. N.D. CENT. CODE § 38-08-07 (Supp. 1981). See 25 ROCKY MTN. MIN. L. INST. 14-1 (1979); Kuntz, *Statutory Well Spacing and Drilling Units*, 31 OKLA. L. REV. 344 (1978).

55. N.D. CENT. CODE § 38-08-07(4) (Supp. 1981). See *Amoco v. North Dakota Indus. Comm'n*, 307 N.W.2d at 843. One author has formulated a list of seven possible types of modification which includes:

- (1) The total area affected by the order may be increased or decreased;
- (2) The size of the units may be increased or decreased;
- (3) The shape of the units may be rearranged or altered;
- (4) The permitted location of the well may be changed;
- (5) The producing horizon determined to constitute a single common source of supply may be reclassified by expansion to include other horizons or by narrowing it to exclude particular portions thereof;
- (6) The drilling of additional wells may be authorized for all or some of the established units;
- (7) The reservoir may be reclassified from gas to oil or vice versa.

Harris, *Modification of Corp. Comm'n Orders Pertaining to a Common Source of Supply*, 11 OKLA. L. REV. 125, 140 (1958).

56. 307 N.W.2d at 842 (citing N.D. CENT. CODE § 38-08-14(4) (1980)).

57. *Id.* In *Citizens State Bank v. Bank of Hamilton*, 238 N.W.2d 655, 660 (N.D. 1976), the court "defined 'substantial evidence' as 'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'" 307 N.W.2d at 842 (citations omitted).

The North Dakota Century Code provides that "[o]rders of the Commission shall be sustained if the Commission has regularly pursued its authority and its findings and conclusions are sustained by the law and by substantial and credible evidence." N.D. CENT. CODE § 38-08-14(4) (1980).

58. 307 N.W.2d at 842. Other jurisdictions have applied the substantial evidence test as well. See, e.g., *Old Ben Coal Corp. v. Indiana Bd. of Mine Operations*, 523 F.2d 25, 33 (7th Cir. 1975); *Fasken v. Oil Conservation Comm'n*, 87 N.M. 292, 532 P.2d 588, 590 (1975); *Phillips Petroleum Co. v. Corporation Comm'n*, 461 P.2d 597, 599 (Okla. 1969).

59. N.D. CENT. CODE § 28-32-19 (Supp. 1981).

60. 307 N.W.2d at 841. See N.D. CENT. CODE § 1-02-07 (1975).

61. N.D. CENT. CODE § 38-08-14(4) (1980). The court in *Amoco* referred to § 38-08-14(4) of the North Dakota Century Code as "a specific statute dealing with appeals from the Industrial Commission." 307 N.W.2d at 841.

62. See N.D. CENT. CODE § 1-02-07 (1975).

applicable standard of review of Industrial Commission orders.⁶³ In addition to the test itself, prior North Dakota case law applying the substantial evidence test remains applicable when reviewing appeals from orders of the Commission.⁶⁴

Recognition of correlative rights⁶⁵ and scientific discovery have been an integral part of the development of oil and gas law in North Dakota. Courts have viewed correlative rights as a property right which must be protected.⁶⁶ In addition courts take notice of the demand for conservation and for economically sound development.⁶⁷ The North Dakota Supreme Court has recognized that the legislature has formulated laws to protect correlative rights and prevent waste.⁶⁸ Furthermore, the power to implement the legislation is vested in the Commission.⁶⁹ The court has stated conclusively that the modern test to be applied when reviewing orders of the Commission is the substantial evidence test.⁷⁰

The substantial evidence test was applied in *Amoco* to determine whether the Commission's spacing order should have divided section eleven into east-west spacing units rather than north-south spacing units.⁷¹ The Commission determined at the first hearing that the spacing of section eleven should be changed from north-south to east-west.⁷² This means that the royalty payments from the Lubke well would be paid to the owners of the two west quarter sections of section eleven.⁷³ The royalty payments from the Kelling well located in the southeast quarter of section eleven would be paid to the subsurface owners of the two east

63. 307 N.W.2d at 842.

64. *Id.* The case law was promulgated when the substantial evidence test was used in reviewing all administrative agency decisions. *Id.* The substantial evidence test was applied in *Tenneco Oil Co. v. State Indus. Comm'n*, 131 N.W.2d 722, 724 (N.D. 1964).

65. N.D. CENT. CODE § 38-08-07 (Supp. 1981). *See supra* note 11, for the definition of correlative rights.

66. *See, e.g.*, *Ohio Oil Co. v. Indiana*, 177 U.S. 190 (1900). The United States Supreme Court established the concept of correlative rights as follows:

[A]s to gas and oil, the surface proprietors within the gas field all have the right to reduce to possession the gas and oil beneath. They could not be absolutely deprived of this right which belongs to them without a taking of private property. But there is a co-equal right in them all to take from a common source of supply. . . . Hence it is that the legislative power, from the particular nature of the right and the objects upon which it is to be exerted, can be manifested for the purpose of protecting all the collective owners, by securing a just distribution . . . and to reach the like end by preventing waste.

Id. at 209-10. *See supra* note 11 for the North Dakota version of correlative rights.

67. *See, e.g.*, *Petroleum Exploration v. Commission*, 193 F.2d 59, 62 (4th Cir. 1951); *Alphonzo E. Bell Corp. v. Bell View Oil Syndicate*, 24 Cal. App. 2d 587, 588, 76 P.2d 167, 172 (1938); *Amoco v. North Dakota Indus. Comm'n*, 307 N.W.2d at 842-49.

68. *Amoco v. North Dakota Indus. Comm'n*, 307 N.W.2d 839 (N.D. 1981).

69. *Id.*

70. *Id.* at 842.

71. *Id.* at 847.

72. *Id.* at 840-41.

73. *Id.* at 840.

quarter sections of section eleven.⁷⁴ Because the Lubke well was a much better producer than the Kelling well,⁷⁵ the interest owners of the Lubke well spacing unit would receive substantially greater royalty payments than would the interest owners of the Kelling well spacing unit.⁷⁶ The Lubkes owned an undivided one-half mineral interest in the northeast and northwest quarters of section eleven.⁷⁷ The co-appellee Murphy Trust held all the mineral interest in the southwest quarter.⁷⁸ If the spacing remained north-south, the Lubkes would receive one-half of the royalties from the Lubke well.⁷⁹ If the Commission's order, which changed the spacing to east-west was sustained, then the Lubkes would receive only one-fourth of the royalties from the Lubke well spacing unit.⁸⁰ The Murphy Trust would receive one-half of the Lubke well spacing unit royalties under the east-west spacing order.⁸¹

The Lubkes appealed the order of the first hearing to the district court.⁸² The district court remanded the Commission's order for further findings on the issue of correlative rights and to allow the parties to present additional evidence on that issue.⁸³ A hearing on remand was held and more evidence was submitted.⁸⁴ The Commission affirmed its first order which changed the spacing from north-south to east-west.⁸⁵ The Lubkes appealed the order of the second hearing to the district court where the order was sustained.⁸⁶ An appeal to the North Dakota Supreme Court followed.⁸⁷ The Lubkes' appeal claimed that the district court "erred in affirming the Commission's order" and that the order was not supported by "substantial and credible evidence."⁸⁸ The

74. *Id.*

75. *Id.* at 841. The Commission found the Kelling well initially produced 26 barrels of oil per day. The Kelling well had a cumulative production of 16,647 barrels of oil. The Lubke well produced 531 barrels of oil per day and had a cumulative production of 165,909 barrels of oil. *Id.* See *supra* note 4 for the Commission's production findings.

76. 307 N.W.2d at 841.

77. *Id.* at 840.

78. *Id.*

79. *Id.*

80. *Id.* See *supra* note 10 and accompanying text.

81. 307 N.W.2d at 841.

82. *Id.* at 840.

83. *Id.*

84. *Id.* at 840-41.

85. *Id.* at 841.

86. *Id.*

87. *Id.*

88. *Id.* The Lubkes opposed a motion by Amoco to dismiss its appeal. The Lubkes had allegedly relied on Amoco's brief to address the issue of an allocation date. During oral argument, counsel for the Lubkes agreed not to oppose Amoco's motion if the Lubkes could rely on Amoco's brief. The Murphy's did not oppose the proposal by the Lubkes. *Id.* The Commission was agreeable, provided Amoco would be bound by any subsequent forced pooling order and assuming Amoco would be bound by the district court decision. Brief for Appellee at 65, 307 N.W.2d 839.

At the time of the appeal to the supreme court Amoco had "litigated and re-litigated [the] case for nearly two years." *Id.* During litigation, royalty payments were withheld. *Id.*

Lubkes also asserted that it was error for the Commission to set an effective date for production allocation.⁸⁹ The production allocation date issue was dismissed on appeal since it was not raised at the hearing.⁹⁰ The court applied the general rule that consideration of issues not presented to the agency usurps the power of the agency involved.⁹¹ Therefore, the court would not consider the issue of whether it was error for the Commission to set an effective date for allocation of royalties.⁹²

Testimony at the second hearing revealed a number of inconsistencies between data produced by Amoco⁹³ and data presented by the Commission.⁹⁴ Amoco's evidence, supported by expert testimony, was offered to prove that an east-west formation existed which would drain more oil from the Lubkes' top half of section eleven.⁹⁵ The Commission offered proof, supported by credible portions of Amoco's exhibits and by its own expert's testimony, that more oil would drain from the Murphy's southwest quarter of section eleven.⁹⁶ All experts testified that radial drainage was to be presumed in the absence of evidence to the contrary and that the southwest quarter, the Murphy quarter, of section eleven was being drained.⁹⁷ The *Amoco* court found that the evidence submitted by Amoco was of "questionable value."⁹⁸ Included in this determination were the following: Amoco had drawn three

89. 307 N.W.2d at 841. The effective date for allocation of royalty payments was set at the first hearing on July 24, 1979. For the purpose of production allocation, the modified spacing unit order was to be effective at 7:00 a.m. on September 1, 1979. *Id.* at 840.

90. *Id.* at 848-49.

91. *Id.* The general rule is as follows: "[A]n appellate court will consider only such questions as were raised and reserved in the lower court," and the rule "applies on review by courts of administrative proceedings." *In re. Wheatland*, 77 N.D. 194, 219, 42 N.W.2d 321, 335 (1950). administrative proceedings." *Petition of Wheatland*, 77 N.D. 194, 219, 42 N.W.2d 321, 335 (1950). The general rule is supported by reasoning which declares that consideration of issues not presented to the agency in effect "usurps [the] agency's function." *United States Dep't of Labor v. North Am. Coal Corp.*, 626 F.2d 1137 (3d Cir. 1980). *But see Aurora Enters., Inc. v. State Dep't of Business Regulation*, 395 So. 2d 604 (Fla. 1981) (departure from the general rule was reasonable when litigation can be shortened and the ends of justice are served (minority rule).

92. *Amoco v. North Dakota Indus. Comm'n*, 307 N.W.2d at 849.

93. *Id.* at 844. Testimony at the May 20, 1980, rehearing revealed that the Murphy "A" dry hole shown in the southeast quarter of section 10 of Amoco's exhibit #1 should have been located farther south in that quarter. *Id.* The misrepresentation of the Murphy "A" dry hole was important in determining the flow of the existing pool. Correct placement of the Murphy dry hole would mean more drainage from the southwest quarter of section 11. In addition to the incorrect placement of the dry hole, the Commission questioned Amoco's assertion that it had conducted additional seismic work in the area. *Id.* at 846 n.7.

94. *Id.* at 848. The Commission selectively relied on evidence pertaining to a recently drilled well northwest of the Lubke well. The new well was the Murphy Unit B well located in the northwest quarter of section 10. This well was located structurally higher on the formation. Amoco's expert testified that the location of the Murphy "B" well supported north-south spacing. The Commission's expert testified that the evidence still supported the Commission's order of stand-up spacing. *Id.* at 845.

95. *Id.* at 845-46.

96. *Id.* at 846. A consulting geologist for the Commission testified that he thought the evidence submitted by Amoco supported stand-up unit spacing. *Id.*

97. *Id.* at 848.

98. *Id.*

separate contour maps;⁹⁹ Amoco had misplaced the Murphy Unit A well on a prior exhibit; all expert testimony was to the effect that the southwest quarter of section eleven was being drained; and radial drainage was presumed unless rebutted.¹⁰⁰

The court applied the test set forth in *Bank of Hamilton v. State Banking Board*¹⁰¹ to determine that the Commission's spacing order was correct. Included in the *Hamilton* test are three areas of inquiry: "(1) Are the findings of fact supported by substantial evidence? (2) Are the conclusions of law sustained by the findings of fact? (3) Is the agency decision supported by the conclusions of law?"¹⁰² The *Amoco* court reasoned that the Commission's conclusion that the west half of section eleven would contribute more oil to the Lubke well than would the north half was sustained by facts.¹⁰³ In addition the court found the facts to be supported by substantial evidence.¹⁰⁴

The ruling of the *Amoco* court makes it clear that the substantial evidence test will be applied when a North Dakota court reviews an order of the Industrial Commission.¹⁰⁵ When appealing orders of the Commission, much expense and effort may be saved if the litigant is careful to consider whether the Commission can present evidence of a kind that a reasonable mind might accept as adequate to support a conclusion.¹⁰⁶ If the Commission can present evidence that a reasonable mind might accept, then its burden of proving substantial evidence is met.¹⁰⁷ If the Commission has met its burden, then orders issued by the Commission likely will be sustained.¹⁰⁸

The *Amoco* court reaffirmed the following general principles applicable in proceedings before the Commission and in appeals of the Commission's decisions. It is important to raise issues at the hearing. Failure to do so in North Dakota leaves the appellate court

99. *Id.* at 846-48.

100. *Id.* Amoco's experts believed the evidence presented by Amoco supported a view that most of the oil would not drain in a radial pattern. However, the experts did believe there could be an interpretation that would support radial drainage. *Id.* at 845. Amoco asserted that the diagrams submitted had changed periodically due to new information. The most recent information was included on the map presented at the rehearing. *Id.* at 844-45. Amoco's evidence failed to prove that a particular directional (nonradial) permeability existed. Therefore the "finding of the Commission" was supported. *Id.* at 848.

101. 236 N.W.2d 921 (N.D. 1975).

102. *Bank of Hamilton v. State Banking Bd.*, 236 N.W.2d 921, 925 (N.D. 1975).

103. 307 N.W.2d at 848.

104. *Id.*

105. *Id.* at 842.

106. *Id.* Note that even though the "possibility of drawing two inconsistent conclusions from the evidence" may exist, that possibility still will not "prevent an administrative agency's finding from being supported by substantial evidence." *Citizens State Bank v. Bank of Hamilton*, 238 N.W.2d 655, 660 (N.D. 1976). That Amoco's exhibit could have been interpreted to support a particular directional permeability may be immaterial when the Commission presents substantial evidence that satisfies the *Citizens State Bank* definition. See 307 N.W.2d at 848.

107. 307 N.W.2d at 842.

108. *Id.*

free to dismiss the contention.¹⁰⁹ The *Amoco* court, quoting an earlier North Dakota Supreme Court decision,¹¹⁰ reaffirmed the general rule that pooling and spacing are separate concepts and that a spacing order alone does not affect a de facto pooling of interests.¹¹¹ The Commission may modify spacing units to prevent waste and protect correlative rights. Such modification includes changing spacing units from east-west to north-south.¹¹² And, the test to be used in reviewing the Commission's orders is the substantial evidence test.¹¹³

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109. *Id.* at 849.

110. *Schank v. North Am. Royalties Inc.*, 201 N.W.2d 419 (N.D. 1972).

111. 307 N.W.2d at 849 (quoting 201 N.W.2d at 422).

112. 307 N.W.2d at 848. The court in *Amoco* accepted the Commission's conclusion, which was based on a theory recognized by *Amoco*. The theory was that, absent proof to the contrary, radial drainage should be presumed. The court held that "the evidence did not establish any drainage other than radial drainage." *Id.* The court "concluded that a well draining in a radial pattern will drain more oil and gas from its immediate area than from a tract further away." *Id.* Since the Lubke well was closer to the Murphy quarter than it was to the Lubkes' northeast quarter and because radial drainage was presumed, "the Commission acted properly to protect correlative rights by ordering stand-up spacing." *Id.*

113. *Id.* at 842. See *Consolo v. FMC*, 383 U.S. 607, 620 (1966) (substantial evidence "is something less than the weight of the evidence"); *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938) ("remote hearsay" and "mere rumor" do not constitute substantial evidence); *NLRB v. Columbian Enameling & Stamping Co.*, 306 U.S. 292, 300 (1939) (substantial evidence "must be enough to justify, if the trial were to a jury, a refusal to direct a verdict").

