

# The Prudent Operator Standard: Does It Include a Duty to Use Enhanced Recovery?

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search or seizure' . . . . It provides that 'any person adversely affected' has standing . . . . The scope of the exclusionary rule is thus enlarged . . . .<sup>71</sup>

Therefore, while the Supreme Court through *Rakas* has reduced the class of persons having "standing," Louisiana has "expanded the class of persons having standing . . . and consequently [has] expanded the scope of [the protection of] the exclusionary rule."<sup>72</sup> This broad divergence between Louisiana's treatment of search and seizure cases and the Supreme Court's treatment has led Louisiana to embrace "an exclusionary rule which would not be available under *Mapp*."<sup>73</sup> Thus Louisiana courts and federal courts are forced even farther apart regarding the interpretation and protection afforded in search and seizure situations. This divergence will require that future Louisiana courts rely almost exclusively upon Louisiana law and jurisprudence in deciding search and seizure cases.

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#### THE PRUDENT OPERATOR STANDARD: DOES IT INCLUDE A DUTY TO USE ENHANCED RECOVERY?

Plaintiff, successor in title to a grantor of an oil and gas lease on an eighty acre tract of land in the Bellevue Field, Bossier Parish, Louisiana, sued to cancel the lease because of the lessee's failure and refusal to put into operation a fireflood program of oil recovery, in addition to primary recovery methods previously used. The trial court cancelled the lease, finding that the lessee had not acted as a reasonable, prudent operator as required by Mineral Code article 122. The Louisiana Second Circuit Court of Appeal affirmed and *held* that a mineral lease may be cancelled for failure to use technologically current methods of enhanced recovery. *Waseco Chemical & Supply Co. v. Bayou State Oil Corp.*, 371 So. 2d 305 (La. App. 2d Cir.), *cert. denied*, 374 So. 2d 656 (La. 1979).

Virtually all oil producing states, including Louisiana, have imposed on the mineral lessee an obligation to develop and operate

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71. Hargrave, *The Declaration of Rights of the Louisiana Constitution of 1974*, 35 LA. L. REV. 1, 23-24 (1974).

72. *The Work of the Louisiana Appellate Courts for the 1975-1976 Term—Pre-Trial Criminal Procedure*, 37 LA. L. REV. 535, 543-44 (1977).

73. *Id.* at 544.

the leased premises in the manner of a "reasonable, prudent operator."<sup>1</sup> By imposing a duty on all lessees to enjoy the thing leased as a "good administrator," Louisiana Civil Code article 2710<sup>2</sup> provided the basis for the creation of obligations in Louisiana similar to the so-called implied covenants created in other jurisdictions.<sup>3</sup> The "good administrator" concept, translated into the field of mineral law as the "reasonable, prudent operator" standard,<sup>4</sup> is expressed as a statutory duty in Louisiana Mineral Code article 122.<sup>5</sup>

Implied covenants were established primarily to protect land-owners,<sup>6</sup> who are frequently at a disadvantage in negotiating mineral lease contracts due to their lack of expertise in the field of mineral production. In contrast, oil operators draw on years of specialized experience in the formulation and use of standardized lease forms which protect their own interests, leaving lessors only the choice of accepting or rejecting their offer.<sup>7</sup> Although under most leases the lessor receives compensation in the form of a mineral royalty based upon the amount of minerals produced from his land,<sup>8</sup> the lessee is given exclusive control of the production

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1. See LA. R.S. 31:122 official comment (Supp. 1974); M. MERRILL, *THE LAW RELATING TO COVENANTS IMPLIED IN OIL AND GAS LEASES* § 122 (2d ed. 1940 & Supp. 1964); 2 W. SUMMERS, *OIL AND GAS* § 414 (perm. ed. 1959 & Supp. 1979); Langdon, *Domestic Crude Oil Production—The FEA Regulatory Framework*, 28TH OIL & GAS INST. 1, 57 (1977).

2. LA. CIV. CODE art. 2710 provides: "The lessee is bound: 1. To enjoy the thing leased as a good administrator, according to the use for which it was intended by the lease. 2. To pay the rent at the terms agreed on."

3. Louisiana jurisprudence prior to the adoption of the Mineral Code in 1974 is very similar to that of common law states in recognizing "the traditional implied covenants or obligations imposed on a mineral lessee whether or not expressly stated in the lease." McCollam, *Impact of Louisiana Mineral Code on Oil, Gas and Mineral Leases*, 22D ANN. INST. MIN. L. 37, 67 (1975).

4. LA. R.S. 31:122 official comment (Supp. 1974).

5. LA. R.S. 31:122 (Supp. 1974) provides:

A mineral lessee is not under a fiduciary obligation to his lessor, but he is bound to perform the contract in good faith and to develop and operate the property leased as a reasonably prudent operator for the mutual benefit of himself and his lessor. Parties may stipulate what shall constitute reasonably prudent conduct on the part of the lessee.

For reasons why these obligations are usually left to implication rather than expressed in the lease, see Krieg, *Lease Termination for Breach of the Implied Obligations of the Lessee*, 3 ROCKY MTN. MIN. L. INST. 697, 698-99 (1957).

6. M. MERRILL, *supra* note 1, § 221, at 468-69; Martin, *A Modern Look at Implied Covenants to Explore, Develop and Market Under Mineral Leases*, 27TH OIL & GAS INST. 177, 195 (1976). See *Ferguson v. Gulf Oil Corp.*, 192 Okla. 355, 358, 137 P.2d 940, 943 (1943).

7. M. MERRILL, *supra* note 1, § 221, at 468.

8. *Id.* at 464; Gibbens, *The Effect of Conservation Legislation on Implied Covenants in Oil and Gas Leases*, 4 OKLA. L. REV. 337, 339-40 (1951).

effort.<sup>9</sup> This leaves the lessor with no assurance that he will profit from his conveyance of a very valuable mineral right.<sup>10</sup> Courts have interceded to provide such assurance by formulating implied covenants which require the lessee to act in consideration of the lessor's interest as well as his own.

In Louisiana, the statutory duty found in Mineral Code article 122 imposes upon the mineral lessee the following obligations which are comparable to the implied covenants of other states:<sup>11</sup> the obligation to (1) develop known mineral producing formations; (2) explore and test all portions of the leased premises after discovery of minerals in paying quantities; (3) protect the leased property against drainage; and (4) produce and market minerals discovered and capable of production in paying quantities.<sup>12</sup> The obligation of reasonable development has been stated as follows: "[A]fter production in paying quantities has been obtained from a mineral formation, it is the duty of the lessee to develop the producing formation in the manner of a reasonable prudent operator taking into consideration both his own interests and those of the lessor."<sup>13</sup> Thus, it is incumbent upon the lessee to realize *fully* the mineral potential of the leased premises.<sup>14</sup> This duty arises after initial successful development and protects lessors whose leases remain in force because of such development, yet who otherwise would receive only minimal royalties if the lessee were free to limit his development of the lease.<sup>15</sup>

Nearly all jurisdictions measure the conduct of the lessee by the objective prudent operator standard rather than by a subjective standard of good faith.<sup>16</sup> This standard is more stringent than a good faith standard because even though a lessee has a reasonable belief that he is acting as a prudent operator, a court may find that he is not.<sup>17</sup> Whether a lessee has acted as a prudent operator in develop-

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9. See *O'Neil v. Sun Co.*, 123 S.W. 172 (Tex. Civ. App. 1909); M. MERRILL, *supra* note 1, § 221, at 466; Gibbens, *supra* note 8.

10. Gibbens, *supra* note 8.

11. LA. R.S. 31:122 official comment (Supp. 1974).

12. *Id.*

13. *Id.* See *Gennuso v. Magnolia Pet. Co.*, 203 La. 559, 14 So. 2d 445 (1943); *Coyle v. North American Oil Consol.*, 201 La. 99, 9 So. 2d 473 (1942); *Wadkins v. Wilson Oil Corp.*, 199 La. 656, 6 So. 2d 720 (1942); *Doiron v. Calcasieu Oil Co.*, 172 La. 553, 134 So. 742 (1931); *Caddo Oil & Mining Co. v. Producers Oil Co.*, 134 La. 701, 64 So. 684 (1914).

14. McCollam, *supra* note 3, at 69.

15. Martin, *supra* note 6, at 194.

16. LA. R.S. 31:122 official comment (Supp. 1974); Krieg, *supra* note 5, at 715.

17. Martin, *supra* note 6, at 199. See *Vonfeldt v. Hanes*, 196 Kan. 719, 414 P.2d 7 (1966); *Stamper v. Jones, Shelburne & Garmer, Inc.*, 188 Kan. 626, 364 P.2d 972 (1961). For a criticism of the objective standard, see Martin, *supra* note 6, at 201-02. Professor Martin feels that there is no sound basis for giving lessors the special protection of the

ing the leased premises must be determined by considering the particular facts and circumstances of each case.<sup>18</sup> A major factor in this determination is the probability of increased production at a profitable level.<sup>19</sup> Also, a breach of the implied covenant of reasonable development can be established by showing that recovery operations could reasonably be expected to be profitable to the lessee and that the lessee failed to undertake such operations.<sup>20</sup> Conversely, if recovery operations would not be profitable to the lessee, he is under no duty to undertake them, even if the lessor would receive some benefit from such operations.<sup>21</sup>

Commentators generally agree that no court has ever found a breach of the duty to act as a prudent operator where the lessee failed to use secondary (or enhanced) methods<sup>22</sup> of oil recovery.<sup>23</sup> A Louisiana court, however, did approach such a holding in *Wadkins v. Wilson Oil Co.*,<sup>24</sup> in which it found that the defendant-lessee had breached an implied covenant to "develop the leased premises according to the recognized custom and progressive practices among

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objective standard while the law of contracts requires only a good faith test under analogous circumstances. The lessor's interest is not more deserving than the lessee's interest because "by the time a suit to cancel a portion of a lease has been brought, the lessee has, in most cases, already invested a great deal more in the leased premises than the lessor." *Id.* at 202.

18. *Carter v. Arkansas Louisiana Gas Co.*, 213 La. 1028, 1035, 36 So. 2d 26, 28 (1948); *Crocker v. Humble Oil & Ref. Co.*, 419 P.2d 265, 275 (Okla. 1965); McCollam, *supra* note 3, at 69.

19. M. MERRILL, *supra* note 1, § 122, at 282-83; § 124, at 291; H. WILLIAMS & C. MEYERS, OIL AND GAS LAW § 815, at 72; § 833, at 236 (1979); Martin, *supra* note 6, at 181-83.

20. Martin, *supra* note 6, at 183. *See, e.g.*, *Gerson v. Anderson-Prichard Prod. Corp.*, 149 F.2d 444, 446 (10th Cir. 1945); *Clifton v. Koontz*, 160 Tex. 82, 325 S.W.2d 684 (1959); *Cowden v. General Crude Oil*, 217 S.W.2d 109, 114 (Tex. Civ. App. 1948).

21. *Brewster v. Lanyon Zinc*, 140 F. 801, 814 (8th Cir. 1905); M. MERRILL, *supra* note 1, § 122, at 281; Krieg, *supra* note 5, at 715.

22. Enhanced recovery is "any method used to recover more oil from a petroleum reservoir than would be obtained by primary recovery." NATIONAL PETROLEUM COUNCIL, ENHANCED OIL RECOVERY 3 (1976). "Primary oil recovery uses natural reservoir energy to drive the oil through the complex pore network [of the reservoir] to producing wells . . . . Eventually, the natural drive energy is dissipated. When this occurs, energy must be added to the reservoir to produce any additional oil." *Id.* at 11.

23. H. WILLIAMS & C. MEYERS, *supra* note 19, § 861.3, at 430; Merrill, *The Modern Image of The Prudent Operator*, 10 ROCKY MTN. MIN. L. INST. 107, 119 (1965); Walker, *Problems Incident to the Acquisition, Use and Disposal of Repressuring Substances Used in Secondary Recovery Operations*, 6 ROCKY MTN. MIN. L. INST. 273, 287 (1961).

This is not to say, however, that the courts have not acknowledged the existence of a duty owed by the reasonably prudent operator to institute enhanced recovery procedures under the proper circumstances. See cases cited in note 41, *infra*.

24. 199 La. 656, 6 So. 2d 720 (1942).

the operators in the field."<sup>25</sup> The lessors sought to have the mineral lease cancelled because of the lessee's failure to fully develop the leased premises "in accordance with the new and successful methods of development used by others in this . . . oil field,"<sup>26</sup> namely, acidization.<sup>27</sup> The case involved an old oil field which had become greatly depleted. About three years prior to the institution of the suit, the "modern" method of acidization had been employed profitably by other lessees in the same field. Evidence considered by the court included testimony concerning the geological characteristics of the oil field in question, the details of operations conducted on surrounding tracts, and the royalties received by the plaintiff-lessors on the tract in question as compared with those received by them on other tracts in the field upon which acidization was employed. Affirming the trial court decision, the supreme court found that the lessee had breached the covenant of further development by its failure to drill new wells using "the modern process which had proved so successful on other leased properties adjoining and in the vicinity of the property in question."<sup>28</sup> While acidization may not be classified as an enhanced method of oil recovery, it was an advanced technological innovation at the time the *Wadkins* case was decided, and, in that respect, *Wadkins* may be seen as a primitive precursor of decisions imposing upon oil operators an affirmative duty to engage in enhanced methods of oil recovery.<sup>29</sup>

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25. *Id.* at 658, 6 So. 2d at 721.

26. *Id.*

27. Acidization consists of drilling new wells into a chalk rock formation, using fresh water in the drilling operations to acidize the wells. The acidization method had been employed profitably by other operators for about three years before institution of the *Wadkins* suit. *Id.* at 659, 6 So. 2d at 721.

28. *Id.* at 668-69, 6 So. 2d at 724.

29. Subsequent treatment of the *Wadkins* decision has not, however, reflected this view. It has been used primarily as authority for the proposition that a putting in default is not necessary when the debtor (lessee) denies the obligation. *Williams v. Humble Oil & Ref. Co.*, 290 F. Supp. 408, 421 (E.D. La. 1968), *aff'd*, 432 F.2d 165 (5th Cir. 1970); *Miller v. R.E. Kellerman*, 228 F. Supp. 446, 463 (W.D. La. 1964), *aff'd*, 354 F.2d 46 (5th Cir. 1965); *Sbisa v. American Equitable Assurance Co.*, 202 La. 196, 217, 11 So. 2d 527, 534 (1942); *West v. Brown*, 131 So. 2d 306, 308 (La. App. 2d Cir. 1961); *Daigle v. Great American Indem. Co.*, 70 So. 2d 697, 704 (La. App. 1st Cir. 1954); *McCullam*, *A Primer for the Practice of Mineral Law Under the New Louisiana Mineral Code*, 50 TUL. L. REV. 732, 812 (1976); *The Work of the Louisiana Appellate Courts for the 1965-1966 Term—Mineral Rights*, 26 LA. L. REV. 542, 548 (1966); *Comment, Implied Covenants in Louisiana Mineral Leases as Affected by Conservation Legislation*, 27 TUL. L. REV. 353, 355 (1953).

Nonetheless, Professor Merrill has noted:

It has long been recognized that the prudent operator is required to keep abreast of the times and to adopt such new methods as may conduce to a greater recovery in the joint interest of the lessor and himself. It required but little sup-

The lease at issue in *Waseco* covered eighty acres (the Scanland property) in the Bellevue Field in Bossier Parish, Louisiana. The field was discovered in 1921 and since that time primary production techniques had resulted in recovery of only five percent of the original oil in place. The residuary oil in the Bellevue Field has not been amenable to production stimulation techniques other than in-situ combustion<sup>30</sup> because of the high viscosity of the oil.<sup>31</sup>

Bayou State acquired the lease on the Scanland property in 1952 and 1953, and, during its management of the lease, production declined from forty-six barrels per day in 1955 to about six barrels per day in 1976. Throughout this period Bayou State did not drill any wells or make any capital expenditure on the leased premises. Significantly, evidence was introduced showing that Bellevue wells can be drilled in about twelve hours with little risk and relatively little expense. The subsurface of the Bellevue Field is well-known because of the age of the field and the extensive drilling and testing which have been conducted on it, and, as the court recognized, the Scanland property "is no better or worse than adjoining properties from which increased production has been obtained for more than a decade."<sup>32</sup> Furthermore, it was shown that the Scanland property contains an estimated three million barrels of oil or more in recoverable reserves.

The court noted the various operations being conducted on several other leases in the Bellevue Field, including the dates that fireflood projects were instituted, the resulting increased production, the number of wells drilled, the widespread use of fireflooding,

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position to arrive at the specific proposition that, in a proper case, the institution of secondary-recovery procedures well might be a duty owed by the reasonably prudent operator to his lessor.

Merrill, *supra* note 23, at 113-14 (footnote omitted).

30. Fireflooding, or in-situ combustion, has been defined as [a]n experimental means of recovery of oil of low gravity and high viscosity which is unrecoverable by other methods. The essence of the method is to heat the oil in the horizon to increase its mobility by decreasing its viscosity. Heat is applied by igniting the oil sand and keeping the fire alive by the injection of air. The heat breaks the oil down into coke and lighter oils and the coke catches fire. As the combustion front advances, the lighter oils move ahead of the fire into the bore of a producing well.

H. WILLIAMS & C. MEYERS, OIL AND GAS LAW INDEX VOLUME 292 (1978).

31. *Waseco Chem. & Supply Co. v. Bayou State Oil Corp.*, 371 So. 2d 305, 310-12 (La. App. 2d Cir. 1979).

According to the United States Department of Energy, in-situ combustion was first tested successfully in the Bellevue Field by Getty Oil Company in 1966. DEPT OF ENERGY, BODCAU IN SITU COMBUSTION PROJECT, at ii (SAN/1189-2, February 1979).

32. 371 So. 2d at 311.

and the availability of knowledge concerning use of the technique.<sup>33</sup> Based on those findings, the court concluded that fireflooding is the "only method of producing the Bellevue Field and has been for a number of years . . . the normal [and] efficient method."<sup>34</sup> Applying Mineral Code article 122 to the facts of the case and considering the factors set out in *Vetter v. Morrow*,<sup>35</sup> the court of appeal affirmed the trial court's judgment cancelling the lease<sup>36</sup> and held that the defendant's failure to use the fireflood method of oil recovery constituted a "failure to diligently develop the leased premises as a reasonably prudent operator."<sup>37</sup>

In Louisiana the obligation of further exploration evolved as an extension of the obligation of reasonable development.<sup>38</sup> The instant case similarly extends the obligation of reasonable development to encompass a duty to use an enhanced method of oil recovery, *i.e.*, in-situ combustion. A number of legal scholars have endorsed this extension,<sup>39</sup> and support for finding the existence of an implied obligation to use some form of enhanced oil recovery can be found in a number of court decisions. Significantly, the case of *Ramsey v. Carter Oil Co.*<sup>40</sup> indicates that the use of secondary recovery opera-

33. *Id.* at 311-12. Bayou State itself used fireflooding on another of its leases in the Bellevue Field, the Wyche lease, but it has not expanded its program since 1975 because of financial limitations. Nevertheless, Bayou State recovered its initial investment and operating expenses by 1975, and the lease has continued to be profitable since that time. *Id.*

34. *Id.* at 312. Fireflooding results in sixty percent recovery of oil in place in the Bellevue Field, as compared to five percent recovered under the older method of production. Royalty owners receive more than \$1200 per month for each acre under fireflood recovery, as compared to \$3 per month for each acre under the old stripper method of recovery. *Id.*

35. 361 So. 2d 898, 900 (La. App. 2d Cir. 1978). For the factors considered by the *Vetter* court, see text at note 50, *infra*.

36. The issue of whether the court should dissolve a lease for breach of statutory duty or allow additional time for performance is an important aspect of the lessee's obligation of reasonable development but is not within the scope of this note.

37. 371 So. 2d at 306.

38. LA. R.S. 31:122 official comment (Supp. 1974).

39. *E.g.*, Merrill, *Implied Covenants and Secondary Recovery*, 4 OKLA. L. REV. 177 (1951); Meyers, *The Effect on Implied Covenants of Conservation Laws and Practices*, 4 ROCKY MTN. MIN. L. INST. 463, 495-96 (1958); Walker, *supra* note 23, at 285.

In endorsing this extension of the obligation of reasonable development, Professor Merrill has written:

[S]ince . . . [secondary recovery methods] afford a means of increasing the return to the lessor from oil which would be left in the ground if operations were confined to primary methods, they constitute a part of the general duty of diligent operation of the premises, imposed upon the lessee as an implied covenant.

Merrill, *supra*, at 181.

40. 74 F. Supp. 481 (E.D. Ill. 1947), *aff'd*, 172 F.2d 622 (7th Cir. 1949).

tions may comprise "reasonable diligence" in developing the premises and that the lessee has both the right and the duty to use such methods.<sup>41</sup> These far-reaching statements, however, were dicta, and the court did not find a breach of duty to engage in enhanced oil recovery.<sup>42</sup>

The formulation of a duty to use enhanced methods of oil recovery appears attractive. While the United States relies heavily on oil as an energy source,<sup>43</sup> domestic crude oil production is insufficient to meet the needs of the nation.<sup>44</sup> Primary methods of production are inefficient and result in recovery of only twenty percent or less of the original oil in place. While secondary methods increase production, more than two-thirds of the original oil in place may still remain in the reservoir absent use of tertiary methods of recovery.<sup>45</sup> Under favorable technical and economic conditions, enhanced methods of recovery could result in an estimated production of up to thirty-three billion additional barrels of oil.<sup>46</sup> Moreover, since enhanced recovery occurs "in areas which have already experienced the impacts of petroleum operations," it would affect the environment less than the opening of new areas for exploration and development, and the finding risk inherent in leasing an unknown and undeveloped area would be eliminated.<sup>47</sup> The increased cost of

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41. *Id.* at 482. See also *Carter Oil v. Dees*, 340 Ill. App. 449, 92 N.E.2d 519 (1950). A number of other cases have used this implied covenant concept to uphold the right or privilege of the lessee to engage in secondary recovery. See *Gulf Oil Corp. v. Walton*, 317 S.W.2d 260 (Tex. Civ. App. 1958); *Miller v. Crown Cent. Pet. Corp.*, 309 S.W.2d 876 (Tex. Civ. App. 1958).

42. While several other cases also contain dicta stating that the lessee must use due diligence in commencing a secondary recovery program, it is notable that in none of them has a lessor obtained relief for his lessee's breach of such duty. See *Utilities Prod. Corp. v. Carter Oil Co.*, 72 F.2d 655, 659 (10th Cir. 1934); *Wolfson Oil Co. v. Gill*, 309 P.2d 282 (Okla. 1957); *In re Shailer's Estate*, 266 P.2d 613, 616-17 (Okla. 1954); *Meyers*, *supra* note 39, at 495-96. Some authorities have suggested "the next natural step to be, that a landowner might be able to compel the lessee to enter into unit operations with others for the maintenance of a secondary recovery program." Walker, *supra* note 23, at 287-88. See Merrill, *supra* note 39, at 187; Shank, *Pooling Problems*, 28 TEX. L. REV. 662, 675 (1950).

43. As Professor Merrill so aptly stated: "We have developed an industrial and transportation system vitally dependent upon these minerals. Success in war and prosperity in peace well may rest upon the amplitude of such resources." Merrill, *Implied Covenants, Conservation and Unitization*, 2 OKLA. L. REV. 469, 470-71 (1959) (footnotes omitted).

44. Of the 14,896,000 barrels of crude oil now consumed by the United States each day, 6,190,000 barrels are imported. DEPT OF ENERGY INFORMATION, Dec. 11, 1979, at 9.

45. Martin, *Enhanced Recovery—Institutional and Other Aspects*, 24TH ANN. MIN. L. INST. (unpublished). See NATIONAL PETROLEUM COUNCIL, *supra* note 22, at 12.

46. NATIONAL PETROLEUM COUNCIL, *supra* note 22, at 6.

47. See Martin, *supra* note 45, at 2. But see NATIONAL PETROLEUM COUNCIL, *supra* note 22, at 19 ("the physical and financial outcomes of most present EOR [enhanced oil recovery] attempts may well be at least as uncertain as conventional exploration").

production that might result from delay in implementing enhanced recovery<sup>48</sup> points toward a policy of encouraging enhanced recovery now rather than at some future time.

Despite the arguments in favor of encouraging a policy of enhanced recovery, judicial recognition of such a policy has been cautious. This judicial reluctance perhaps arises from a fear that further expansion of the duty to develop would expose the lessee to an onerous liability. In a discussion of the controversy over recognition or adoption of the covenant of further exploration, Professor Patrick Martin has noted:

The danger lies in the tendency of ideas to be carried step by step to their logical extreme. Once it is accepted that a lessee has a duty to explore and that the public has an interest in exploration, the lessor will need to show relatively little else to convince judge or jury that the lessee is not fulfilling that duty in a disputed case.<sup>49</sup>

The same reasoning could be applied to the duty to use enhanced recovery methods; thus, the lessee could be found liable for breach of this duty simply based upon the lessor's assertion that such a duty exists.

In the instant case, the court considered the following factors in making its determination: (1) geological data; (2) number and location of wells drilled on leased lands and adjoining properties; (3) productive capacity of producing wells; (4) costs of drilling operations as compared with profits; (5) time interval between completion of the last well and the demand for additional operations; and (6) acreage involved in the disputed lease.<sup>50</sup> These factors, however, were inappropriate and inadequate to determine the profitability of enhanced recovery operations on the Scanland property. The royalties received by lessors of adjoining tracts which were under fireflood recovery did not reflect profitability to the lessee, since royalties are usually computed on the basis of gross production and are thus cost-free. Another factor that would make the profitability comparisons used by the court unreliable is that a neighboring operation is funded by the United States Department of Energy, which will fund a maximum of \$3,102,122,<sup>51</sup> thus lowering costs to the lessee

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48. "The cost of enhanced recovery might be substantially increased by delay, because of plugging of wells and abandonment of surface facilities." NATIONAL PETROLEUM COUNCIL, *supra* note 22, at 8.

49. Martin, *supra* note 6, at 189-90 (footnote omitted).

50. 371 So. 2d at 312, citing *Vetter v. Morrow*, 361 So. 2d 898, 899-900 (La. App. 2d Cir. 1978).

51. DEPT OF ENERGY, *supra* note 31, at i.

and resulting in a higher rate of return than would be the case without such funding.

Although the court demonstrated that fireflooding results in greater production than primary methods used,<sup>52</sup> a showing of increased production alone does not establish profitability. For example, the continuing uncertainty surrounding federal price controls is a serious obstacle to enhanced recovery operations,<sup>53</sup> and, therefore, it is also an obstacle to finding the breach of an implied covenant to engage in such operations. Under the price controls, the oil being produced from a property could be classified as lower tier oil, upper tier oil, stripper well oil, heavy oil, marginal well oil, newly discovered crude oil, or incremental crude oil produced from qualified tertiary enhanced recovery projects, with the price level for the oil depending on its classification.<sup>54</sup> Therefore, the profitability of other operations would not necessarily reflect the profitability that could be expected of enhanced recovery operations on the lease under consideration, as oil produced on it would not necessarily qualify to be sold at the same price level as oil produced on surrounding tracts. There is no indication that the court in the instant case considered the effects of federal price controls on profitability.

Although a duty to develop should not be imposed on a lessee when there is no probability of profitable production, profitability alone should not mandate the imposition of such a duty. The courts' preoccupation with profitability in deciding whether to impose a duty on a lessee<sup>55</sup> may be outmoded considering the political and economic background against which oil developers must operate. While the courts are enforcing maximization of short-term profits,<sup>56</sup> such maximization does not always coincide with the public interest, a factor which corporations are being forced to consider in making their business decisions, often with the result that immediate profit must be given second place.<sup>57</sup> The emphasis placed on profitability, as reflected in the factors the courts currently consider in determining breach of duty,<sup>58</sup> places the oil industry under constraint,

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52. 371 So. 2d at 312.

53. Martin, *supra* note 45, at 9. See NATIONAL PETROLEUM COUNCIL, *supra* note 22, at 8 ("Policies which artificially depress oil price will diminish the number of reservoirs to which EOR [enhanced oil recovery] can be economically applied.").

54. See generally 10 C.F.R. § 212 (1979). For detailed treatment of crude oil pricing, see Langdon, *supra* note 1; Langdon, *FEA Price Controls for Crude Oil and Refined Petroleum Products*, 26TH OIL & GAS INST. 55 (1975); Wakefield, *Allocation, Price Control and the FEA: Regulatory Policy and Practice in the Political Arena*, 21 ROCKY MTN. MIN. L. INST. 257 (1975).

55. See text at note 19, *supra*.

56. Martin, *supra* note 6, at 207.

57. *Id.* at 203.

58. *Id.* at 181-83.

preventing it from adapting to changing political and economic developments and from considering long-term as well as short-term profitability. The end result will be increasing judicial regulation of the lessee's functions, which will not necessarily better serve the interests of the lessor and the nation.<sup>59</sup>

Even if an in-situ combustion project could be shown to be profitable both in the short term and the long term, perhaps a "reasonable, prudent operator" would not embark on such an operation because of the experimental nature of the technique. While the number of enhanced recovery projects in the United States increased between 1970 and 1975, the number of projects involving in-situ combustion decreased from thirty-eight in 1970 to twenty-one in 1975.<sup>60</sup> According to the *Oil & Gas Journal*, "[r]ecovery with combustion has not proved as promising as had earlier been hoped."<sup>61</sup> Additionally, one of the operations relied upon by the *Waseco* court for comparison purposes has been described as a "pacesetter"<sup>62</sup> in combustion operations rather than as the norm.

The judicially developed prudent operator duty has served an important function in the past and will continue to do so in the future. As older oil fields become depleted by many years of primary development and enhanced recovery becomes the only method of continuing production, the prudent operator duty may be the subject of much litigation resulting from lessors' efforts to compel additional development through technologically innovative methods. According to Williams and Meyers, an effort to impose a duty to utilize secondary recovery operations should be accompanied by a heavy burden of proof.<sup>63</sup> However, the manner in which the courts have applied the prudent operator duty to primary recovery cases in the past, and to the instant case, would not satisfy that burden or recognize the experimental nature of the enhanced recovery process. Moreover, unless the courts are cognizant of the changing economic, political, and technological environment in which the oil industry functions today, an extension of the prudent

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59. Even accepting the theory that sound policy demands exploration and development now in light of domestic shortages does not answer the questions as to where and at what rate such exploration and development should take place. *Id.* at 208. According to the National Petroleum Council: "Investment in EOR [enhanced oil recovery] processes will have to compete for available funds with other activities, such as oil exploration, which also have the potential to increase domestic petroleum resources." NATIONAL PETROLEUM COUNCIL, *supra* note 22, at 10.

60. *Enhanced Recovery Action is World Wide*, OIL & GAS J., April 5, 1976, at 107.

61. *U.S. Thermal Recovery Activity Growing Steadily*, OIL & GAS J., April 5, 1976, at 108, 114.

62. *Id.* at 119.

63. H. WILLIAMS & C. MEYERS, *supra* note 19, § 861.3, at 431.

operator duty to encompass an obligation to engage in enhanced recovery could result in an impractical requirement unsuited to the times, thereby hindering national efforts to foster exploration and development in various areas.<sup>64</sup> "It would seem, when all factors are considered together, that implied covenants no longer embody a correct approach to the problem of oil and gas leases."<sup>65</sup> Perhaps the courts should reexamine the entire concept of the prudent operator duty before extending it further.

*Cynthia M. Frazier*

CONSTITUTIONAL COLLISION COURSE:  
FAMILY AUTONOMY AND THE RIGHTS OF MINORS  
IN VOLUNTARY COMMITMENT PROCEEDINGS

Appellees, teenage boys<sup>1</sup> under the age of fourteen, each of whom had been institutionalized in Georgia mental hospitals for at least five years, alleged in a class action that Georgia's provisions for voluntary<sup>2</sup> commitment by parent or guardian constituted a deprivation of the liberty of all persons under the age of eighteen held for observation and diagnosis or detained for care and treatment at any facility within the state.<sup>3</sup> The District Court for the

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64. Martin, *supra* note 6, at 208-09.

65. Gibbens, *supra* note 8, at 341-42, quoting Kyle, *Conservation of Oil and Gas, Kansas 1937-1948*, in CONSERVATION OF OIL AND GAS 149 (1949).

1. At the time the action was brought in the district court, J.R. was thirteen years old and J.L. was twelve. *J.L. v. Parham*, 412 F. Supp. 112, 136-39 (M.D. Ga. 1976). Pending review by the Supreme Court, J.L. died; notwithstanding his death, the Court considered his claim because it formed the basis of the district court's decision. *Parham v. J.R.*, 99 S. Ct. 2493, 2496 n.1 (1979).

2. Although the admission procedures whereby a minor patient is admitted by his parents are considered to be voluntary, in fact the children are, with few exceptions, unable to secure their own release. Voluntarily committed patients often enter the hospital under pressure of involuntary confinement and may be held there against their will for the statutory period, during which time they may be converted to involuntary status. Ellis, *Volunteering Children: Parental Commitment of Minors to Mental Institutions*, 62 CAL. L. REV. 840, 846 (1974). See also T. SZASZ, *LAW, LIBERTY AND PSYCHIATRY* 40 & 83 (1963).

3. The class action was brought under 42 U.S.C. § 1983 (1976) which provides:

Every person who, under color of any statute, ordinance, regulation, custom or usage, of any State or Territory, subjects, or causes to be subjected, any citizen of the United States or other person under the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the Constitution and laws,