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Oil and Gas--Liability of Lessee for Negligent Operation of Well--Acidation Method

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invest the money and realize a substantial profit therefrom, without liability to account to the landlord,[13] or he might dissipate it so that the landlord would run the risk of the other's solvency during the balance of the lease.[14] In these circumstances, the conclusion seems proper that the tenant was under the duty of utilizing the insurance money to rebuild within a reasonable time after the destruction by fire; and an English court has so held on somewhat analogous facts.[15]

H. P. B., JR.

OIL AND GAS — LIABILITY OF LESSEE FOR NEGLIGENT OPERATION OF WELL — ACIDATION METHOD. — The lessee drilled a well on the fringe of a proven oil field (down the dome), large producers being to the north (up the dome), mediocre ones to the east and west, and either dry holes, salt wells or small producers to the south. The stratum was limestone with a "pay"[1] of approximately two feet in thickness, the oil being forced upward by the hydrostatic pressure of the salt water (which was known to be directly below). The flow being inadequate to justify normal operations, the lessee in good faith employed a chemical company to acidize the well, in order to enlarge the pores in the oil-bearing limestone. Production was greatly increased, but salt brines shortly impregnated the well, and it was abandoned a year or so later after a production of many thousand barrels. The lessor claimed negligence in acidation, having regard to the thinness of the "pay", the known proximity of the brine and the quantity of acid employed. It was testified that prudent development required the use of a "blanket"[2] of calcium chloride, because the acid, amenable to the laws of gravity, attacked

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[13] See majority opinion, p. 137, principal case.

[14] Moses v. Old Dominion Iron & Nail Works Co., 75 Va. 95, 102 (1880): "If the landlord is compelled to wait the expiration of the term before he can sue, he must of course run all the risks of the tenant's continued solvency."

[15] In a lease for 99 years there was a covenant to insure the buildings against loss by fire, and to repair and maintain the premises. Dwelling was struck and destroyed by German bomb. Action was brought to recover damages for breach of the covenant thirty-five years before the term expired and about two years after the destruction of the structure. Recovery allowed. Redmond v. Dainton, (1920) 2 K. B. 256.

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[1] "Pay" in the language of a driller means an oil or gas producing area in the strata.

[2] A "blanket" is an inert liquid forced into the well to resist the action of the acid and to direct it into the "pay". Great weight was given by the court to an advertising illustration of the Dow Chemical Company in 15 FORTUNE 201 (April, 1937). For a more scientific analysis see Putnam, *Development of Acid Treatment of Oil Wells Involves a Careful Study of the Problems of Each*, OIL & GAS JOURNAL, Feb. 23, 1933.

the formation downward to a greater extent than laterally, thus opening the pores to the brines. On the other hand, the lessee contended that its decision to acidize without a "blanket" was the result of studied judgment, made in good faith and in accordance with "established custom and practice." The judge permitted the case to go to the jury, despite the lessee's contention that there was at most only a scintilla of evidence. Following verdict and judgment for the lessor, the lessee appealed. Judgment affirmed. *Held,* that proof of custom of oil operators to acidize without such "blanket" was insufficient to establish here that acidization without such "blanket" was not negligence, and that the care to be exerted by oil operators is what would be reasonably expected of operators of ordinary prudence having regard to the interests of both lessor and lessee.[3] *Empire Oil & Refining Co. v. Hoyt.*[4]

Being the first case decided on the use of acid in the recovery of oil, the decision is of great concern to operators of fringe wells, especially since acidation is good technique and has met with great success throughout the country, having revived depleted wells and stimulated latent producers.[5] Practically, the case presents the question of drainage by large producers up to the dome, the oil being carried before the brine through the open pores in the limestone as fast as the higher producer withdraws his oil. Once the oil is drained, water claims the lower well, there being no impervious layer of clay or shale to separate the two liquids. Under these circumstances, the fringe lessee has three alternatives: First, he can sit idly by, hoping to recover a few thousand barrels before the well is flooded. Second, he can acidize with a "blanket" which will yield success or failure; failure if the "blanket" renders the acid ineffective, success if the acid penetrates into the "pay" and stimulates the oil flow. Third, as in the instant case, he can acidize without a "blanket" and recover as much as possible for the lessor and himself before drainage occurs.

Considering each of the alternatives, the lessee might be liable regardless of the choice. First, if he did not acidize he might be charged with non-diligent development, he being able to prevent

[3] *Accord*: Williams & Goodwin, *Forfeiture of Lease for Failure to Market Gas* (1940) 46 W. VA. L. Q. 271, 273 n. 6 (majority and West Virginia rule of law); 46 *id.* at 274 n. 13 (minority-"good faith" standard of care).

[4] 112 F. (2d) 356 (C. C. A. 6th, 1940).

[5] As to the success of acidation see Transactions (1934) 107 A. I. M. E. 223, 243, 291, 338; (1935) 114 *id.* at 352, 306, 419, 445; REPORT OF INVESTIGATIONS 3251 (Bureau of Mines 1934) 34.

by inexpensive acidation huge drainage from neighboring wells.[6] Second, if he acidized with a "blanket" and entirely prevented the reaction of the acid with the limestone, by filling the well above the "pay", he might be charged with negligent acidation. If he were successful in the acidation with a "blanket", the withdrawal of the oil would yield precisely the same net result as in the third alternative where he did not take the precautionary measure of using a "blanket", because the water would follow close after the oil in a formation where the oil is known to be forced upward by the brine. The court, in holding the lessee liable in the instant case (the third alternative), by implication would seem to declare him liable whenever the water fills the well even though a "blanket" were used. This is hardly a desired result, since the recovery of oil is the principal object in the development of a lease.

The effects of the case are threefold: (1) Operators in fringe fields will now hesitate to acidize where there is any possibility of salt water encroachment. (2) The lessor will be prejudiced by drainage, the lessee lose his investment in such a well, and the state its resources which acid and acid alone can recover from latent wells of high potentiality. (3) But most important, the lessee is made an insurer of a profitable return from a highly speculative venture, acidizing at his peril, or refraining from utilizing this latest method of recovery and subjecting himself to possible liability for non-diligence.

K. W., JR.

REVERSIONS AND REMAINDERS — RECOVERY OF PERMANENT DAMAGES — MEASURE OF DAMAGES. — There being a life estate outstanding, *P*, the remainderman, sued to recover "damages for a wrong, trespass on land." The damage claimed grew out of *D's* drainage of mine water across *P's* land. In an action before a justice it was not clear whether *P* sought permanent or temporary damages. *Held,* that an action for permanent damages was the only one a remainderman could maintain for injuries to land, and

[6] Ordinarily the lessee is the judge as to diligent operation because he bears the cost. Trimble v. Hope Natural Gas Co., 117 W. Va. 650, 664, 187 S. E. 331 (1936). Since a complete acidation can be had for $250, the diligence of the lessee would seem to be determinable by the standard set by the "reasonable man".