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State Management of Ground Water Mining: A System Based on Policy, Fact and Theory - Fundingsland v. Colorado Ground Water Com'n

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CASE NOTES

STATE MANAGEMENT OF GROUND WATER MINING: A System Based on Policy, Fact and Theory. Fundingsland v. Colorado Ground Water Com'n, 468 P.2d 835 (Colo. 1970).

Fundingsland filed an application with the Colorado Ground Water Commission for a permit to drill a water well. His application was denied by the commission on the basis that there was over appropriation in the Northern High Plains Designated Ground Water Basin in Kit Carson County where the well was to be drilled.[1] After rejection from the commission, Fundingsland carried his case to the district court, but his application was again denied. His appeal was heard in the Supreme Court of Colorado.

The Commission based its denial of Fundingsland's permit on a test which determined how much water could be taken from the ground which would result in a 40% depletion of the available ground water over a period of 25 years. The test determined that to achieve the 40% depletion in a time span of 25 years, water could be extracted at the rate of 17,000 gallons per minute. At the time the plaintiff's application was filed, there was already a registered yield in the area of 29,700 gallons per minute. Since this amount exceeded the ideal maximum yield of 17,000 gallons per minute, the commission denied Fundingsland's permit. An expert testifying for the plaintiff disputed the holdings of the commission. Relying on this testimony, the plaintiff argued that the decision of the court was contrary to the evidence.

All parties concerned, including the courts, recognized that this case involved an area about which little was known. While the commission's test for determining the maximum rate of water withdrawal was by no means infallible, it was the best test available and took into account all of the considera-

1. COLO. REV. STAT. § 148-18-6(4) (Supp. 1965).
   If after the commission has given a hearing on the application "it shall appear that there are no unappropriated waters in the designated source, or that the proposed appropriation would unreasonably impair existing water rights from such source, or would create unreasonable waste, the application shall be denied . . ."

tions specified in the statute.[2] Therefore, the results of the test were accepted as general findings of fact. These findings, based partly on data and expert opinion and partly on policy, served as a yardstick to compute the effect of a given well on the water level from a common source of supply.[3]

Ground water gained importance as a usable resource due to modern well construction techniques, and the availability of inexpensive electric power for pumps. Traditional rules for appropriating water were not satisfactory for ground water appropriation. The English Rule of Absolute Ownership gave the landowner the ownership and right to everything beneath the surface of his land. The American Rule of Reasonable Use premitted uses on the overlying land but prevented the water from being transported for use in other areas. The English Rule provided no protection for a well owner from an adjacent well owner, while the American Rule provided the well owner little protection from his neighbor.[4] Cities posed another danger because of their capability of pumping water at a high rate of extraction. In many areas they could lower the water table to the point where water could not be economically extracted by the individual landowner.[5] In effect, these traditional rules, if applied, created a competition for landowners to grab as much water as possible while it was available. As many owners were dependent upon their physical supply of water, it became imperative to modernize the water laws.[6]

Creating new water laws to meet modern needs is much easier to discuss in theory than to have accepted in practice. Illustrative of this point is the fact that in many cases an

2. COLO. REV. STAT. § 148-18-6(5) (Supp. 1965).
In ascertaining whether a proposed use will create unreasonable waste or unreasonably affect the rights of other appropriators, the commission shall take into consideration the area, and geologic conditions, the average annual yield and recharge rate of the appropriate water supply, the priority and quantity of existing claims of all persons to use the water, the proposed method of use, and all other matters appropriate to such questions.

3. Fundingsland v. Colorado Ground Water Com'n, ___ Colo. ___, 468 P.2d 835 (1970).

4. Trelease, *Desirable Revision of Western Water Laws, in* RESOURCES DEVELOPMENT: FRONTIERS FOR RESEARCH, 203, at 211 (F. Pollack ed. 1960).

5. Olson v. City of Wahoo, 124 Neb. 802, 248 N.W. 304 (1933); Forbell v. City of New York, 164 N.Y. 522, 58 N.E. 644 (1900); Canada v. City of Shawnee, 179 Okla. 53, 64 P.2d 694 (1936).

6. Trelease, *supra* note 4.

overdraft (withdrawal in excess of recharge) has developed before the policy against such is formulated. In other situations, by the time an area is found to have an overdraft situation, many of the water users have become dependent upon the amount which they are extracting. Furthermore, there is a natural sentiment among landowners that they should have the right to use the water under their land. In many areas, the supply of water is so great that the overdraft conditions may continue for a long time before any effect is felt by the water user. When no economic hardships are felt, public sentiment heavily favors the individual and his natural right to the water under his land.[7]

Western states have lead the way for the changes that have been made in ground water law. The early 1900's saw a trend for specifically including ground water within state administrative procedures for acquiring and administering appropriative rights. A series of more comprehensive ground water enactments has occurred since 1927, when New Mexico and Oregon replaced their ground water laws. The 1930's saw Utah and Nevada updating their statutes. Following close behind, statutes were revamped in Kansas and Washington in 1945; Wyoming, 1947; Arizona, 1948; Oklahoma and Texas, 1949; Idaho, 1951 and 1953; Colorado, 1953; North Dakota, South Dakota and Oregon, 1955; and Colorado, Kansas, and Wyoming again in 1957. In all of these states, with the exception of Arizona and Texas, statutory restrictions are based on priority of appropriation.[8] Since 1957, many states have revamped and rewritten their water laws, with Colorado presently operating under statutes implemented in 1965.[9]

The evolution of Colorado's ground water laws can readily be traced. In early cases, the presumption was that underground waters were tributary to a natural stream and subject to all prior appropriations from the stream.[10] As ground water gained in importance, courts began to recognize that ground water might not be tributary to a stream. The courts,

7. Bagley, *Water Rights, Law and Public Policy Relating to Ground Water "Mining" in the Southwestern States*, 4 J. LAW & ECON. 144 (1961).
8. Hutchins, *Ground Water Legislation*, 30 ROCKY MT. L. REV. 416, at 419 (1958).
9. COLO. REV. STAT. §§ 148-18-1 through § 148-18-38 (Supp. 1965).
10. Karl F. Hehl Eng'r Co. v. Hubbell, 132 Colo. 96, 285 P.2d 593 (1955); Nevius v. Smith, 86 Colo. 178, 279 P. 44 (1929).

however, placed the burden of proof on the one asserting that the ground water was not tributary, and that burden had to be met with clear and satisfactory evidence.[11] By way of dictum, the court in *Safranek v. Town of Limon*[12] speculated as to what they would do if the plaintiff established that the water was non-tributary, and determined that since there was not statutory law on the point, an adequate answer could not be given. The Ground Water Act of 1957 helped solve the dilemma faced by the *Safranek* court. The Act was interpreted in *Whitten v. Coit*[13] as providing an equitable and efficient use of non-tributary ground water not pursuant to any theory of appropriation.

The primary purpose of Colorado's Ground Water Act was to protect ground water, and to prevent waste in its production, distribution and use. The Act authorized the state engineer to administer water not visible on the surface of the ground under natural conditions. Affirmed was the traditional policy of requiring the water of the state to be devoted to beneficial use in reasonable amounts through appropriation. The doctrine of prior appropriation, however, was modified to permit the full economic development of ground water.[14] To accomplish this, a water commission consisting of 12 members was authorized by the statute. Ground water rights are obtained through application to this authority. The commission will grant the application if: 1) it determines that existing rights from the same source are not impaired; 2) there would not be unreasonable waste.[15] Wells exempt from the ground water commission's decisions are those with discharge of 2 inches or less used for stock watering or domestic use, and all artesian wells with discharge pipes not exceeding 3 inches in diameter.[16]

Since both the Colorado courts and legislature have wrestled with the problem of the necessity of establising separate regulations for the control of ground water and sur-

11. Cresson Consol. Gold Mining & Mill Co. v. Whitten, 139 Colo. 273, 338 P.2d 278 (1959); De Hass v. Benesch, 116 Colo. 344, 181 P.2d 453 (1947).
12. 123 Colo. 394, 228 P.2d 975 (1951).
13. 153 Colo. 157, 385 P.2d 131 (1963).
14. COLO. REV. STAT. § 148-18-1 (Supp. 1965).
15. COLO. REV. STAT. § 148-18-6 (Supp. 1965).
16. COLO. REV. STAT. § 148-18-4 (Supp. 1965).

face water, the question naturally arises as to why each should have a different type of administration. In many instances the water which is not tributary to a surface flow is not a self-replenishing, but an exhaustible resource similar to petroleum or any other mineral. Large quantities of ground water are found in several areas of Colorado. In these areas, any replenishment of water is insignificant. Runoff is not considered an important factor because of the impermeability of the surface materials. Withdrawal of the ground water from such areas does not increase the inflow of new water. As the water is extracted through wells, the total supply is depleted and the situation of overdraft occurs. Perennial overdraft is often referred to as ground water mining.[17]

Such traditional concepts as the doctrine of prior appropriation must be modified in order to deal with a mining situation. Each well has a limit on its potential production. Each new well adds an additional user to the non-replenishable supply of water and reduces it in amount and in time of use. This naturally affects the supply available to all prior appropriators, causing a subsequent decline of water tables, higher pumping costs and lower yields.[18]

These are the same problems the court was faced with in *Fundingsland.* The regulation of underground water is much more difficult than the regulation of surface water. Underground water cannot be observed nor measured with precision. Therefore, allocation must be determined on the basis of geology, physics and hydrology. The court was attempting to carry out the legislature's intention of putting the underground water to an equitable an efficient use, not pursuant to any previous theory of appropriation.[19]

As determined by previous adjudication,[20] and echoed by statute,[21] appropriations are given for direct and immediate application to beneficial use. To secure beneficial use, the *Fundingsland* court was faced with putting a time dimension on the use of the water field. In view of this, appropriation is

17. Bagley, *supra* note 7.
18. Mathers v. Texaco Inc., 77 N.M. 239, 421 P.2d 771 (1966).
19. Whitten v. Coit, *supra* note 13.
20. City of Colorado Springs v. Bender, 148 Colo. 458, 366 P.2d 552 (1961).
21. COLO. REV. STAT. § 148-18-1 (Supp. 1965).

allowed until conditions are such that maximization of the economic value of the field will be realized at the end of the time period. This is precisely what must be achieved in order to have beneficial use.

Mathers v. Texaco Inc.,[22] a leading case on ground water mining, introduced the concept of putting a time dimension on the use of the water basin. In this case, the trial judge had held that any lowering of the water basin amounted to an impairment of existing rights. In a non-replenishable basin, every appropriator lowers the water level to some degree. The trial court therefore found that all appropriation permits issued subsequent to the initial one were issued wrongfully and unlawfully, since the right of the initial appropriator had been impaired. The New Mexico Supreme Court reversed the lower court and held that in order to put the water to beneficial use and to have more than a single appropriator, a time dimension must be placed on the economic life of the water field. Given a length of time for which the water is to be economically extracted, every lowering of the water level does not mean the impairment of existing rights.

In *Mathers,* the court applied the test that the maximum economic value of the water field would be achieved if one third of the water was left in storage after 40 years. At the termination of the 40 year period, it was determined that the only value of water would be for domestic uses. No arguments were presented questioning the fact that this method of administration would secure the maximum beneficial use of the water for the public.

No specific reasons were given in the opinion as to why the 40 year time period was chosen, except to say that it was arrived at only after extensive studies and calculations. But presumably this was the average period of time needed to amortize a farm loan. The *Fundingsland* court, on the other hand, applied a 25 year time dimension, basing this period on the average time in which a loan for the construction of well facilities would have to be repaid. *Fundingsland* also differed with *Mathers* as to the percentage of water that could econo-

22. Mathers v. Texaco Inc., *supra* note 18.

mically be removed from the aquifier—40% in *Fundingsland* compared with 66⅔% in *Mathers*. This difference, however, could arise from the different geographical and geological conditions in the two ground water areas.

The administration and control of ground water mining is in its infancy. The boundaries of ground water areas cannot accurately be establish. Variations in future conditions such as annual precipitation, which helps to recharge a basin, the movement of water in the ground, and any drainage which might occur create the possibility of imprecise measurements. Since the use of these factors is important in arriving at a decision, appropriation of ground water is based on educated predictions. It therefore follows that the possibility of imperfect decisions lead to some uneconomic exploitation of ground water supplies.

Because the court must work with incomplete facts, its decision must be a combination of theory, policy and fact. The overriding objective of water law is the desirability and necessity of insuring the highest possible development and the most continuous beneficial use of all available water, with as little waste as possible.[23] This is not to imply that water should not be preserved for use in the future. The application for depletion of the supply should be weighed against the advantages of leaving it alone. Theoretically, water should be kept in storage if the future use promises benefits, which, when discounted to today's values, are greater than those of today's uses.[24]

Working with underground water which cannot be observed nor measured with exact precision, the court must arrive at a final outcome which will insure that a proposed change will not impair the rights of other appropriators. Because decisions are based on measurements subject to question, the tendency is to identify with the individual as compared to the state. But it must be realized that the rights of the individual could not exist except for the assurance of the state.

23. Wayman v. Murray City Corporation, 23 Utah 2d 97, 458 P.2d 861 (1969).
24. For excellent discussions concerning factors applicable to water depletion see: Trelease, *Policies of Water Law: Property Rights, Economic Forces, and Public Regulation*, 5 NATURAL RESOURCES J. 1 (1965); Bagley, *supra* note 7.

To achieve the general good it is necessary for the individual to be subordinate to the state. If state rules and regulations are wisely applied, the end result will better serve the individual and society in general. If group rights are neglected, the result will be a dog-eat-dog competitive digging of deeper and deeper wells. A prime example is in Southern Arizona where wells are drilled to 600 or 700 feet.[25]

The Colorado ground water statute seems to incorporate local and state administration and court control into a workable situation which should conserve Colorado's ground water and insure its beneficial use. The *Fundingsland* court was content to presume that the Ground Water Commission had used the best methods available in arriving it its decision. It was therefore unwilling to overturn the decision unless Fundingsland could offer more reliable information in computing the actual water yield in the area. In this area of law where there are no concrete rules, the courts will likely continue approving the commission's decisions, unless an objector can successfully introduce evidence which convincingly refutes the commission's findings.

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25. Wayman v. Murray City Corporation, *supra* note 23.