GROUNDWATER CASE LAW
AND LEGAL ISSUES IN UTAH
presented before the

TASK FORCE STUDYING WATER ISSUES
OF THE UTAH LEGISLATURE
by

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I. INTRODUCTION

This presentation summarizes the major principles of groundwater case law in Utah with regards to the groundwater issues facing the Task Force Studying Water Issues ("Task Force"). There are not many cases with specific answers. But the Utah Supreme Court over the years has established the principles and foundation for groundwater law based on sound public policy and science.

II. SURFACE WATER AND GROUNDWATER AND THE LAW OF PRIOR APPROPRIATION

A key to understanding groundwater law is that the same law of prior appropriation applies to both surface and groundwater, but there is greater difficulty in applying and implementing the law to groundwater.

A. The Utah Supreme Court has stated:

1. Same Rules Should Apply:

> "To our minds the same rule should be applied to underground water as to surface streams. The law of priority of use has been the guide in this state from the beginning. After 50 years our people were so well pleased that they enacted an extensive Code for protection of the prior appropriation of the water of our streams, and, so far as we have learned, there is no one to

complain. The law has proved beneficial and satisfactory. In our judgment the same results would follow if the same rules of law are applied to underground waters." *Justesen v. Olsen*, 40 P.2d 802, 807 (Utah 1935).

2. Challenges with Groundwater

   But in the same 1935 case, the Court recognized the challenges: "But the confusion can be expected. It is because fundamental principles of law are at war with each other, and with rules of nature that war constantly asserting themselves in opposition to these conflicting legal principles." *Justesen*, at 804

3. Underground Waters Cannot Be Observed.

   "Moreover, because underground waters cannot be observed or measured with precision, but must be determined on the basis of geology, physics and hydrology, there are greater difficulties involved in their allocation and regulation than with respect to surface waters." *Wayman v. Murray City*, 458 P.2d 861, 863 (Utah 1969).

B. Examples of Challenges; How resolution of these issues compare between surface and groundwater

   1. "Who's taking my water?"

   2. "That proposed change application will impair my water rights."

   3. "All junior surface and groundwater rights after 1890 must be cut."

   4. "All junior groundwater rights after 1960 must be cut."

III. HISTORY AND EVOLUTION OF UTAH GROUNDWATER CASE LAW

As science and understanding of groundwater advances, so does the evolution of groundwater case law.

A. Known Underground Streams of Water flowing in Well-Defined Channels

   Water flowing in known and defined underground streams and channels has always been subject to appropriation. *Whitmore v. Utah Fuel Co.*, 73 Pac. 764 (Utah 1903).

B. Stream Underflows

Underflows of surface streams were also considered "known and well-defined channels" subject to the laws appropriation. *Howcroft v. Union & Jordan Irr. Co.*, 71 Pac. 487 (Utah 1903).

C. Percolating Water

"Percolating water" is all other groundwater.

1. Prior to 1935

a. Percolating water was first considered to be owned by the owner of the land and not subject to appropriation. *Willow Creek v. Michaelson*, 60 Pac. 943 (Utah 1900).

b. Correlative Rights Doctrine

Between 1921 and 1935, percolating waters were governed by the correlative rights doctrine. Each owner of land "within an artesian basin district is entitled to water in proportion to his surface area, provided he make beneficial use of it." *Horne v. Utah Oil Reining Co.*, 202 Pac. 815 (Utah 1921).

2. After 1935

a. All groundwater, including percolating water (except for water in the "root zone") is subject to the appropriation doctrine and always has been. *Wrathall v. Johnson*, 40 P.2d 755 (Utah 1935).

b. "Root Zone" Exception

In 1949, the Utah Supreme court excluded the water in soil that sustains the beneficial plant life on a landowner's property. This "root zone" water is considered part of the soil owned by the landowner and is not public property subject to appropriation. *Riordan v. Westwood*, 203 P.2d 922 (Utah 1949).

IV. *WAYMAN V. MURRAY CITY* SETS FORTH THE GENERAL POLICIES AND STANDARDS FOR UTAH GROUNDWATER LAW

The 1969 case of *Wayman v. Murray City*, 458 P.2d 861 (Utah 1969), sets forth the water policies and the controlling rule that is followed in allocating and regulating Utah's groundwater resources.

A. Prior to *Wayman*

Two Utah cases held that the "static head pressure" of well owners is entitled to **absolute protection**. Static head pressure is "the height to which the water will naturally rise." *Hanson v. Salt Lake City*, 205 P.2d 255, 256 (Utah 1949).

1. *Hanson v. Salt Lake City*

   A prior appropriator in waters of an artesian basin "obtains a prior right to the use of such water over subsequent appropriators, and that includes his means of diversion as long as such means are reasonably efficient and do not unreasonably waste water. It follows that where a subsequent appropriator draws a sufficient quantity of water out of an artesian basin to lower the static head pressure of a prior appropriator's well so that additional costs are required to lift sufficient water from his well to satisfy his previously established beneficial use of such waters, the subsequent appropriator must bear the additional expense." *Hanson*, at 263.

2. *Current Creek Irr. Co. v. Andrews*, 344 P.2d 528 (Utah 1959)

   In 1959 the court again held:

   "Prior appropriators of this underground water who have beneficially used it through the natural flow of springs or artesian wells are entitled to have the subsequent appropriators restrained from drawing the water out of and lowering the static head pressure of this underground basin unless they replace the quantity and quality of the water by pumping or other means to the prior appropriators at the sole cost of the subsequent appropriators."

B. **After *Wayman*, owners of groundwater rights do not have the absolute right to protection** of their water levels in springs and wells.

C. The facts in *Wayman*

1. Murray City proposed to drill a large municipal well based on its groundwater rights. The city filed a change application with the State Engineer.[1]

2. Five well owners with small diameter wells protested.

3. The State Engineer approved the change application.

4. The five well owners appealed to the district court, which ruled that "the City must at its sole cost permanently replace to the plaintiffs water in amount and quality equal to the level of their prior use." *Wayman*, at 862.

5. The district court also found that the city well did in fact adversely affect the flow in the other wells. The Supreme Court did not disturb that finding. *Wayman*, at 864.

D. The Utah Supreme Court pronounced the "Rule of Reasonableness" and remanded the case back to district court. The Rule of Reasonableness provides guidelines for allocating and regulating the rights to the use of underground water.

> "This [Rule] involves an analysis of the total situation: the quantity of water available, the average annual recharge in the basin, the existing rights and their priorities. All users are required where necessary to employ reasonable and efficient means in taking their own waters in relation to others to the end that wastage of water is

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[1] Section 73-3-3 provides, as quoted in *Crafts v. Hansen*, 667 P.2d 1068 (Utah 1983):

> Any person entitled to the use of water may change the place of diversion or use and may use the water for other purposes than those for which it was originally appropriated, but no such change shall be made if it impairs any vested right without just compensation.

Thus, it is the State Engineer's obligation, before approving a change application, to determine that no vested water right will be impaired by the proposed change. On plenary review, the trial court has the same obligation. This Court has described the standard for that determination as follows:

> If the evidence shows that there is reason to believe that the proposed change can be made without impairing vested rights the application should be approved. The owner of a water right has a vested right to the quality as well as the quantity which he has beneficially used. A change application cannot be rejected without a showing that vested rights will thereby be substantially impaired. While the applicant has the general burden of showing that no impairment of vested rights will result from the change, the person opposing such application must fail if the evidence does not disclose that his rights will be impaired. *Salt Lake City v. Boundary Springs Water Users Ass'n*, 270 P.2d 453, 455 (1954) (citations omitted).

avoided and that the greatest amount of available water is put to beneficial use." *Wayman,* at 865.

E. With regards to protecting the static head pressure (water levels), the Court ruled:

> "We perceive **nothing** in our statutory law inconsistent with this "rule of reasonableness" just discussed, nor which **compels a conclusion that owners of rights to use underground water have any absolute right to pressure**. On the contrary, when our statutes are considered in the light of the policy considerations herein discussed, it seems more in harmony with the major objective of the law to conclude that **the means of diversion must be reasonable and consistent with the state of development of water in the area and not such as to abort the declared purpose of the law of putting all of available water to use.**" *Wayman,* at 105.

F. The Court referred to the following factors and policies in adopting the Rule of Reasonableness. The Task Force should consider these factors and policies as it formulates a groundwater management act:

1. Water is of vital importance in this arid region.

2. The water policy of Utah is to insure the highest possible development of water and to place as much water to beneficial use with as little waste as possible.

3. The Salt Lake Valley underground basin still had an abundant supply of water not being used as measured by the total amount of water being discharged annually from the basin.

4. Where there is an abundant supply of water in the basin, senior appropriators are not being deprived of water, but of a reduction in pressure.

5. The district court's ruling that the City must **permanently** replace the five well owners' water in amount and quality was tantamount to requiring that the City insure those owners 100% of their water forever.

6. The district court's ruling is not reasonable given the lack of exact knowledge concerning numerous factors involved in underground water basins, including unpredictable variations in

future conditions, such as the annual precipitation and recharge of the basin, the movement of waters in aquifers, the drainage, both above and below ground, and unforeseeable changes in any of the foregoing.

7. Balancing the overriding purpose of Utah water law of seeing that all available water is put to beneficial use, with the rights of water users, is perplexing with no precise answer.

8. But the circumstances of each case require the balancing of individual water rights in relationship to each other with the policy of placing available water to beneficial use.

9. The rights of each individual should be to some degree subordinate to and correlated with reasonable conditions and limitations that are established by law for the general good. Otherwise, the ruthless insistence of individual rights will simply result in competitive drilling of deeper and deeper wells.

10. The right of a senior groundwater appropriator to have the well water level maintained might seriously curtail the fullest utilization of the water resource.

11. The legislature, aware of the complexities involved in using and regulating groundwater, has "recognized that it is essential to have the benefit of the expertise of the State Engineer and his staff who are professionally qualified. . ."

V. SOME GROUNDWATER ISSUES BEFORE THE TASK FORCE

A. Groundwater Mining and Safe Yield

1. The "safe yield" of a groundwater basin has been described by the Utah Supreme Court as a reasonable standard for regulating groundwater rights in a specific basin:

   1949 case, *Hanson*, at 270 (Justice Wolfe concurring opinion): "I realize that first in time is first in right both as to surface and ground waters. But I agree with Mr. Justice LATIMER that first in right does not mean that antiquated means of diversion is a part of that prior right.

   Ground waters, unlike surface waters, are hidden. Geologists tell us that it is possible to determine the distribution, location and the density of the water-impregnated underground materials

in a subterranean reservoir (really not a reservoir as commonly meant but in great part an extended mass of gravel, sands, clays, etc., impregnated with water which, because of the frictional resistance to flow is slowly forced by pressure between the particles of sand, etc.) and to obtain a fairly accurate inventory of our underground resources either flowing in underground rivers or existing in the interstices of a vast mass of water-impregnated substances.

In order that the state may obtain the widest possible use of waters it is necessary that these underground resources should be determined and inventoried and that as much empirical data as possible be preserved and in view of such data **the number and use of wells be regulated in order that depletion does not out run replenishment or recharging. A time may be expected to arrive when depletion and replenishment must be in balance or slowly the reservoir will disappear and all the users suffer or some of the subsequent users may have to give way to prior users. This point has been called the safe yield point**. So long as water in this underground valley reservoir is still seeping to waste from the west and north sides of the underground basin into the Jordan River and Great Salt Lake, it should be further exploited. However, if the time comes when the withdrawals of water from the reservoir continue to exceed the recharges which come through seepage from the canyon streams, rain and snowfalls on the mountains and bench terraces, we may expect much trouble, hardship and litigation."

Fairfield Irrigation Company v. White, 18 Utah 2d 93, 99-100 (1966) (majority opinion)

"It must be realized that underground water basins do not emerge from some mysterious inexhaustible source. They are replenished only from natural precipitation and surface waters. **Prudent management of water resources requires that only the average annual recharge be withdrawn**. To do otherwise simply results in competitive chasing the water level down by ever deeper wells. Due to the demonstrated interrelationship of the wells in question in this same underground basin, **it is necessary that there be close supervision and control of the withdrawal of such waters**. This can best be accomplished by the use of the measuring devices ordered placed in defendant White's wells which were sunk after the plaintiffs' rights were established. In such circumstances where either the state engineer, who is charged with the duty of the administration of water rights in this state, or the District Court in a proper proceeding, finds

it necessary in order to protect already established rights, it is proper that the user be required to install measuring devices."

Wayman:
The policies and Rule of Reasonableness enunciated in *Wayman* support the safe yield standard. See above.

Section 73-5-1(5) provides, in part:
"the state engineer may, at any time, hold a hearing . . . to determine whether the underground water supply within [an] area is adequate for the existing claims. . . (c) If the findings show that the water supply is inadequate for existing claims, the state engineer shall divide, or request that the water commissioner divide, the water supply among the claimants entitled to the water in accordance with their respective rights."

B. Local Interference Between Wells [revised 10-22-04]

A basic premise of the prior appropriation doctrine is that a senior appropriator's water rights may not be impaired by a junior appropriator. However, no Utah case provides specific guidelines as to what constitutes legal impairment of the water rights or well water levels of a senior groundwater appropriator. Each case must be examined based on the individual facts and circumstances to determine whether the cone of influence and the quantity of water pumped by the junior appropriator legally impairs the senior's rights.

1. The Rule of Reasonableness in *Wayman* may be used as a guide.

2. Regarding the "cone of influence," the Court made the following statements:

Hanson, at 262:
"Generally, each well has a tendency to lower the static head pressure, or the height to which the water will naturally rise, of all the wells, in the basin. But since pressure is required to force the water through the strata of pervious materials and the movement of the water is slow, the direct effect of one well upon another cannot be traced for more than a distance of two and a half miles and then only where there are no natural interferences between the two wells in the artesian basin. Each well is said to have a **cone of influence**, or that within a circular shaped area around the well, in the absence of natural interference, each well tends to directly effect the static head pressure of all other wells within a distance in some cases as far from the well as two and

one half miles. The closer the wells are together the greater the effect one has on the other, and where one well is upstream, or the course of the movement of the waters of the basin is from it toward the other well, the upper well in the flow of the waters has a greater effect and effects the other for a greater distance away than where the conditions are reversed. There also may be pockets in the basin or natural interferences in the flow of the water from one to the other, so that two wells might be relatively close to each other without either exerting any appreciable effect on the other."

Current Creek Irr. Co.
"This basin upon which all of the wells are situated is classified as a sensitive "**cone of influence**," because the wells readily affect each other. That is, when the Andrews' pump well is started, the water level drops and the pressure ceases in Andrews' other wells, and in the wells owned by Fowkes; when the pump well is turned off the level pressure rises in the others."

3. There are no Utah cases that establish hard and fast rules with regards to how many feet of drawdown per year constitutes well interference or impairment of the water rights.

C. Groundwater Quality

The quality of groundwater is part of the water right subject to protection:

> The owner of a water right has a vested right to the quality as well as the quantity which he has beneficially used. *Salt Lake City v. Boundary Springs Water Users Ass'n*, 270 P.2d 453, 455 (Utah 1954).

D. Priority Dates

No Utah case specifically addresses whether groundwater rights may be cut off other than by priority date. Section 73-3-1 states, in part: "as between appropriators, the one first in time shall be first in rights."

The Rule of Reasonableness in *Wayman* includes as part of the analysis to consider existing rights and their priorities. The Court also suggests at page 867:

> "What is desirable is the best possible adjustment of the rights of these parties in relationship to each other, and without undue or unreasonable burden upon either, and at the same time serve the desideratum of our water law of putting and keeping to the beneficial use the greatest possible amount of available water."