STATE OF CALIFORNIA
STATE WATER RIGHTS BOARD

968

In the Matter of Application 17666 of Mojave Public Utility District to Appropriate from Underground Stream Tributary to Cache Creek in Kern County	Micro filmed Decision No. 968

DECISION DENYING JURISDICTION

Application 17666, filed June 20, 1957, proposes the appropriation of two cubic feet of water per second for municipal use from an "underground stream located in Kern County, tributary to Cache Creek." Pursuant to notice of the application, written protests against its approval were submitted by Monolith Portland Cement Company, R. A. Jacobsen, and J. C. Jacobsen, Jr.

The matter was set for public hearing under the provisions of the California Administrative Code, Title 23, Waters, before W. P. Rowe, Member, State Water Rights Board (hereinafter referred to as "the Board"), on Tuesday, May 12, 1959, in Tehachapi, California. The applicant, protestants, and other interested parties were duly notified of the hearing, and the following appearances were entered:

Party	Representative
Mojave Public Utility District	Oran W. Palmer, Attorney Stephen E. Wall, Attorney
Monolith Portland Cement Company	Joseph T. Enright, Attorney
City of Tehachapi) R. E. Jacobsen, Jr.) R. A. Jacobsen)	Philip M. Wagy, Attorney
Tehachapi Valley Citizens Committee	Gale Ellis

After one day of hearing the matter was continued and reconvened on Tuesday, August 25, 1959, for the sole purpose of receiving evidence on whether the water in the source named in Application 17666 is water in a subterranean stream flowing through a known and definite channel and subject to the jurisdiction of the Board. The same parties appeared as at the previous day of hearing. This decision is limited to a discussion of the jurisdictional issue.

The point of diversion named in the subject application consists of a well over 100 feet deep which has been in production for several years. It is contended by applicant that the underground stream stated in the application is an unnamed stream tributary to Cache Creek. The applicant states that although there are channels of more pervious material beneath the surface, the bed and banks of the underground stream consist of the same impermeable material as the adjacent hills, extended underground at approximately the surface slope and containing alluvial detritus through which the underground stream flows (R.T. May 12, 1959, pp. 35, 36. Mojave Exh. 1). It is the contention of protestants that the

water at the point of diversion is percolating, not flowing, and that the area where the well is located is a ground water basin, not an underground stream.

The Board's jurisdiction over applications to appropriate underground water is limited by Water Code Section 1200 "to subterranean streams flowing through known and definite channels." This language involves several interrelated problems of interpretation. When is a given area a stream, and when is it an underground basin? Does the word "flowing" include water that is moving very slowly? When a given area containing slowly moving water has impermeable sides and bottom, must those impermeable sides and bottom be construed as the bed and banks of a stream, or may they be the sides and bottom of a ground water basin? And how solid must the underground banks be to hold water in a known and definite channel within the statutory definition?

51 Cal. Jur. 2d, Waters, S 388 states:

> "The underground waters of California are divided generally into three classes: (1) the underflow of surface streams, (2) definite underground streams with defined channels, beds, and banks that may be undefined to human knowledge, but are subject to reasonable inference from geological and other sources of knowledge, and (3) percolating waters, which are those waters that move through the soil, do not move in a stream but generally are found in a basin under the ground, and do not form a part of the body or flow, surface or underground, of any stream. Percolating waters may either be rain waters slowly infiltrating the soil, or they may be waters seeping from streams that have left a definite stream bed and are no longer a part of the flow thereof."

Since the applicant does not contend the source to consist of the underflow of Cache Creek, the first category

may be disregarded, but it is necessary to examine more closely the other two categories of ground water, and further quotations will be made from sections of Volume 51 of Cal. Jur. 2d, Waters.

"C. UNDERGROUND STREAMS

"393. . . . In determining whether water is part of an underground stream or is percolating water, the fact that the water is under pressure is immaterial. The material fact is whether there is a flow in a defined channel, or whether it is part of a diffused body of water that is without definite bed and banks confining its flow, but it may be moving in a definite direction and still not be a stream. The channel of a subterranean stream is defined when it is confined by impervious sides and beds, and can be bounded by reasonable inference though it may be undefined to human knowledge with exactness. The fact that water is percolating through loose, permeable material filling such a bed does not change its nature as a subterranean stream ...."

"D. PERCOLATING WATERS

"395. The common-law definition of percolating waters as vagrant, wandering drops moving by gravity in any and every direction along the line of least resistance has not been followed generally in this state. In 1903 the supreme court extended the definition of percolating waters to include an artesian basin several square miles in area, well-defined, filled with loose water-bearing detritus, fed from numerous canyons and ravines, and furnishing through wells a large flow of artesian water. While such a bed might not be filled with percolating waters as they were understood at common law, it is fed by percolation and is not a watercourse, and hence the law of percolating waters is applicable. . . .

"The courts have experienced great difficulty in fixing the line beyond which water ceases to be a part of stream flow, and the body of water that actively supports the stream, and becomes percolating water. Underground water is generally presumed to be percolating, and the burden of proof is on the party who asserts that underground water constitutes a part of a watercourse."

At page 44 of Tolman, Ground Water, it is stated:

> "Percolation (Laminar flow) is slow movement of water in interconnected pores of saturated granular material under hydraulic gradients commonly developed underground. . . . Much steeper gradients are necessary to force water through fine material than through coarse material and velocity of percolation decreases in fine material until it becomes inappreciable in fine silt and clay."

The following language of interest is also found at page 384 of Tolman:

> "... No natural ground water basin without discharge exists. The water-table is an inclined surface which slopes toward the discharge area, and pumps draw on water moving in the direction of water-table slope. . . ."

How slow must ground water move for it to be considered as percolating, not flowing? The cases are not clear and consistent on this question. That slowness of movement is an element to be considered is indicated by the following:

"Flow" is defined in part in Webster's New International Dictionary, second edition, as follows:

> "1. To move with a continued change of place among the particles or parts, as a fluid; to change place or circulate, as a liquid; to stream; run; as, rivers flow from springs and lakes; tears flow from eyes."

The word "percolate" is defined in part in the same dictionary as follows:

> "1. To pass through fine interstices; to filter; as, water percolates through porous stone. 2. Hence, to pass as if by filtering; to seep..."

In the case of Katz v. Walkinshaw, 141 Cal. 116, 70 Pac. 663 (1902), 74 Pac. 766 (1903), the court was called upon to decide whether an area in some respects comparable to Cache Creek contained an underground stream or a ground

water basin with percolating water. The area in question was a so-called artesian belt containing alluvial material saturated with water. Testimony was to the effect that the saturated land was fed by the underflow of numerous canyons and ravines, and by rain and flood water absorbed into the soil. The court stated:

> "it is evident that, if there is any flow to this underground body of water thus held under pressure, it is by percolation." (70 Pac. 663, 664.)

In deciding whether the point of diversion named in the application is located at and draws from an underground stream, it is not sufficient that there be evidence of the existence of an underground stream a mile or more away. As Tolman points out, an underground basin may terminate in an underground stream. It is for the Board to decide the ground water status of the point of diversion specified in Application 17666.

The point of diversion named in the application is located in a mountain canyon filled with alluvial detritus and consists of a well known as S-26 from which applicant has been producing water for several years. At this point, underground water is moving slowly in a southerly direction, corresponding in general to the direction of the intermittent surface flow of Cache Creek. Well S-26 is 162 feet deep. In June of 1959, the water table at this location was about 90 feet below the surface of the ground and extended in width about 1,000 feet from impermeable hills on the east to the northerly end of some hills on the west known as

the Knolls. Gaps to the north and south of the Knolls will be described further.

There is one place about a mile and a half to the south and east of well S-26 near Tehachapi Pass where the flow of underground water is concentrated and has the definite and visible characteristics of a small underground stream. At this point, the bedrock walls have constricted the alluvium-filled channel to the extent that surplus water at times has been forced to the surface as rising water.

Immediately upstream and to the northwest of this constricted area, the distance between bedrock walls gradually increases to about Proctor Gap, the outlet from Tehachapi Valley, just to the south of the Knolls. The undisputed evidence shows this reach of the Cache Creek channel is an artesian basin where flowing wells occurred before the water table was lowered by pumping. This "artesian body of water" is an underground water basin, known locally and in court decisions as "Monroe Meadows".

Above the artesian rim of Monroe Meadows, there is a typical intake or forebay area in which flood waters of Cache Creek can be absorbed. This reach of the river is a typical mountain underground water basin offering cyclic storage space for the absorbed water. The basement complex hills apparently form a well-defined left (east) bank the full length of the basin.

The right (west) bank of the basin is neither continuous nor well defined due to the breaks at North Gap and

Proctor Gap where the water-bearing materials are contiguous to and in contact with similar deposits in Tehachapi Valley. These offer a means for flow of ground water to or from Tehachapi Valley ground water basin depending on the hydraulic gradient.

The following criteria indicate that there is an underground basin along Cache Creek, at least from the junction of Sand, Horse, and Oil Canyons in the northeast quarter of aforesaid Section 15 for a distance of about four miles to the lower end of Monroe Meadows where there is, or was, an underground stream.

1. Cache Creek Valley below the confluence of Sand, Cache, and Oil Canyons has widths on the surface between bedrock walls of at least 1,600 feet at the southernmost well of Mr. Jacobsen in Section 22 (well S-20); at least 2,000 feet opposite the North Gap; and at least 3,000 feet opposite Proctor Gap. It has no defined width at either of the "Gaps".

2. Monroe Meadows is "an artesian body of water" (Mojave Exh. 26A, p. 31.3) and the "outlet of said artesian body of water is narrow and obstructed." In other words, Monroe Meadows is a typical artesian water basin (on a small scale) terminating in a small underground stream formed by the constriction.

3. The east bank of Cache Creek is shown as well defined (Mojave Exh. 1, and Monolith's Exh. 5), but the west bank is not well defined because of breaks in the banks at both the North and Proctor Gap.

Mr. Jacobsen testified that all 22 wells drilled on his property abutting Cache Creek encountered water. This includes a well in the southeast corner of Section 15 which he stated was on a side hill in the basement complex. This well was drilled in the side hill forming the left (east) bank of the geological feature and suggests that even this bank is not well defined as a boundary. The 22 wells explored the basin for its full width of 1,600 feet on Mr. Jacobsen's land (Exh. J-1).

5. Although the water table gradient is fairly steep in the area near well S-26 (Mojave Exh. 7), nevertheless, tests conducted indicate, and the Board finds, the rate of movement of the ground water in this area to be substantially less than 100 feet a day. A possible textbook explanation of this slow rate of movement despite the slope of the water table is the passage from Tolman regarding percolating water:

> "Much steeper gradients are necessary to force water through fine material than through coarse material ...."

The Board is mindful, not only of the above evidence and considerations but of the presumption that underground water is percolating, and finds that the applicant has not sustained the burden of proving that the source named in the application is an underground stream at the applicant's point of diversion. It follows that the application must be denied for lack of jurisdiction without considering whether there is unappropriated water subject to appropriation by applicant.

ORDER

Application 17666 having been filed for the appropriation of unappropriated water from an "underground stream located in Kern County, tributary to Cache Creek," but the Board finding that the underground water is not an underground stream but is percolating ground water,

IT IS HEREBY ORDERED that Application 17666 be, and it is, denied for lack of jurisdiction.

Adopted as the decision and order of the State Water Rights Board at a meeting duly called and held at Sacramento, California, this 30th day of June, 1960.

Kent Silverthorne
Kent Silverthorne, Chairman

W. P. Rowe
W. P. Rowe, Member

Ralph J. McGill
Ralph J. McGill, Member