

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

IN THE MATTER OF APPLICATIONS 59588)
AND 59589 FILED TO APPROPRIATE THE)
PUBLIC WATER FROM AN UNDERGROUND)
SOURCE WITHIN THE CARSON DESERT)
GROUNDWATER BASIN (101) CHURCHILL)
COUNTY, NEVADA)

RULING

4275

GENERAL

I.

Application 59588 was filed on December 2, 1993, by Michael A. and Claudia Casey to appropriate 0.09 cubic feet per second (cfs) of water from the underground waters of the Carson Desert Groundwater Basin, Churchill County, Nevada, for quasi-municipal and domestic purposes for use within NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 25, T.19N., R.28E., M.D.B. & M. The point of diversion is described as being located within the NW $\frac{1}{4}$ SW $\frac{1}{4}$ of said Section 25.¹

II.

Application 59589 was filed on December 2, 1993, by Michael A. and Claudia Casey to appropriate 0.09 cfs of water from the underground waters of the Carson Desert Groundwater Basin, Churchill County, Nevada, for quasi-municipal and domestic purposes for use within NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 25, T.19N., R.28E., M.D.B. & M. The point of diversion is described as being located within the NW $\frac{1}{4}$ SW $\frac{1}{4}$ of said Section 25.²

III.

The State Engineer initially described and designated the Carson Desert Groundwater Basin on July 6, 1978, under the provisions of NRS 534.030, as a basin in need of additional

¹ File No. 59588, official records of the Office of the State Engineer.

² File No. 59589, official records of the Office of the State Engineer.

administration.³ On October 4, 1978, the State Engineer subsequently ordered that all applications filed to appropriate groundwater for irrigation of additional land within the Carson Desert Groundwater Basin would be denied.⁴ On August 22, 1995, the State Engineer further ordered, with a few exceptions, that applications filed to appropriate water from the Carson Desert Groundwater Basin would be denied on the basis that the groundwater basin has the potential of being overdrafted causing water level declines, degradation of water quality and possible interference with the surface flow of the Carson River and distribution system in the Newlands project.⁵

The proposed points of diversion under Applications 59588 and 59589 are located within the boundaries of the designated Carson Desert Groundwater Basin.

FINDINGS OF FACT

I.

The perennial yield of a hydrologic basin is the maximum amount of water of usable chemical quality that can be consumed economically each year for an indefinite period of time. The perennial yield cannot exceed the natural replenishment to an area indefinitely, and ultimately is limited to the maximum amount of natural recharge that can be salvaged for beneficial use. If the perennial yield is continually exceeded groundwater levels will decline until the groundwater reservoir is depleted. Withdrawals of groundwater in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping

³ State Engineer's Order No. 716, dated July 6, 1978, official records in the Office of the State Engineer.

⁴ State Engineer's Order No. 722, dated October 4, 1978, official records in the Office of the State Engineer.

⁵ State Engineer's Order No. 1116, dated August 22, 1995, official records in the Office of the State Engineer.

lifts, land subsidence and possible reversal of groundwater gradients which could result in significant changes in the recharge-discharge relationship.

The United States Geological Survey estimates that the perennial yield of the Carson Desert Groundwater Basin is 2,500 acre-feet annually,⁶ excluding any recharge obtained from secondary surface water irrigation. The recharge experienced from surface water irrigation and related delivery systems is declining due to more efficient irrigation practices and improvements to the delivery system.

Existing permits and certificates of record at the State Engineer's Office for groundwater withdrawal within the Carson Desert Groundwater Basin exceed 18,000 acre-feet annually.⁷ The State Engineer finds that the quantity of water already appropriated from the Carson Desert Groundwater Basin exceeds the perennial yield.

II.

The approval of Applications 59588 and 59589 would further increase pumpage from the already over-appropriated groundwater basin. The State Engineer finds that the approval of Applications 59588 and 59589 would conflict with the many existing rights in the basin.

III.

Recent studies of the hydrogeology of the Carson Desert Groundwater Basin delineate three alluvial aquifers and a basalt aquifer in the Fallon area of the Carson Desert. The basalt aquifer is identified as the main source of water for Fallon's

⁶ Nowlin, Jon, GROUND-WATER QUALITY IN NEVADA - A PROPOSED MONITORING PROGRAM, Open File Report 78-768, U.S.G.S., p. 195.

⁷ Hydrographic Basin Abstract, official records in the Office of the State Engineer.

municipal wells.⁸ The groundwater in the Carson Desert varies greatly in quality, and in many places does not comply with drinking water standards established by the State of Nevada.⁹ Studies show that a potential exists for unpotable water from other aquifers to migrate into the basalt aquifer.¹⁰ The future use of the basalt aquifer for the Town of Fallon water supply could be limited if this occurs.¹¹ The State Engineer finds that the additional pumping of the groundwater as proposed in Applications 59588 and 59589 would increase the potential for unpotable water to contaminate the water supply for the Town of Fallon. The State Engineer further finds that the approval of Applications 59588 and 59589 threatens to prove detrimental to the public interest.

CONCLUSIONS OF LAW

I.

The State Engineer has jurisdiction over the parties and the subject matter of this action.¹²

II.

The State Engineer is prohibited by law from granting a permit where:

- A. There is no unappropriated water at the proposed source, or
- B. The proposed use conflicts with existing rights, or

⁸ United States Dept. of Interior, U.S. Geological Survey, HYDROGEOLOGY AND POTENTIAL EFFECTS OF CHANGES IN WATER USE, CARSON DESERT AGRICULTURAL AREA, CHURCHILL COUNTY, NEVADA, Open File Report 93-463, U.S.G.S., p. 32, 45.

⁹ Id. at 37 - 54.

¹⁰ Id. at 41 - 45.

¹¹ Id. at 50.

¹² NRS Chapters 533-534.

C. The proposed use threatens to prove detrimental to the public interest.¹³

III.

The State Engineer concludes that to grant permits for Applications 59588 and 59589 in a basin where the quantity of water under existing appropriations exceeds the perennial yield would conflict with existing rights and be detrimental to the public interest.

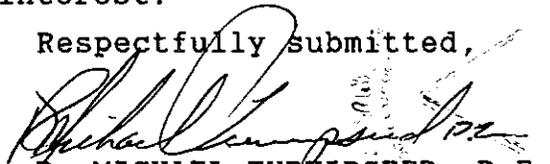
IV.

The State Engineer concludes that the approval of Applications 59588 and 59589 would increase the risk of infiltration of poor quality water into the municipal water supply. The State Engineer further concludes that the approval of Applications 59588 and 59589 is not in the public interest.

RULING

Applications 59588 and 59589 are hereby denied on the basis that granting the applications would interfere with existing rights and be detrimental to the public interest.

Respectfully submitted,


R. MICHAEL TURNIPSEED, P.E.
State Engineer

RMT/SJT/ab

Dated this 29th day of
December, 1995.

¹³ NRS 533.370.