

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

IN THE MATTER OF APPLICATION 56980)
FILED TO APPROPRIATE THE WATERS OF)
AN UNDERGROUND SOURCE WITHIN THE)
PIUTE VALLEY GROUND WATER BASIN,)
CLARK COUNTY, NEVADA.)

RULING
3915

GENERAL

I.

Application 56980 was filed by Gary Wells on December 6, 1991, to appropriate 2.0 c.f.s. of water from an underground source for quasi-municipal and domestic purposes within the Piute Valley ground water basin. The point of diversion is described as being within the SE1/4 NE1/4, of Section 35, T.28S., R.63E., M.D.B.&M. The well is to supply water for 250 homes located within the NE1/4 SE1/4, Section 35, T.28S., R.63E., M.D.B.&M.¹

II.

Water Resources Reconnaissance Series No. 36, titled "Ground Water Appraisal of the Eldorado-Piute Valley Area, Nevada and California", was prepared cooperatively by the Geological Survey, U.S. Department of Interior and the Nevada Department of Conservation and Natural Resources.

FINDINGS OF FACT

I.

The State Engineer issued Order No. 964 on February 4, 1988, designating and describing the Piute Valley Ground Water Basin as a ground water basin coming under the provisions of Chapter 534, Nevada Revised Statutes.²

II.

The perennial yield of a hydrologic groundwater reservoir may be defined as the maximum amount of water of useable chemical quality that can be withdrawn and consumed economically for an indefinite period of time and can be determined by a comparison

¹ Public record in the office of the State Engineer, filed under Application 56980.

² Public record in the office of the State Engineer, filed within Order Index Book #7.

analysis of groundwater recharge (inflow) and maximum natural discharge (outflow) available for recapture.

III.

The majority of the recharge to the Piute Valley Basin comes from precipitation. Average annual precipitation within the Piute Valley Hydrologic Basin ranges from 0.42 inches on the valley floor to 1 inch in the higher elevations. Rush and Huxel estimated that less than 0.71 percent of the average annual precipitation of 240,000 acre-feet recharges the basin, yielding an annual recharge of approximately 1700 acre-feet.³

Additional recharge from adjacent Lanfair Valley outflow through the basin alluvium into the Piute Valley Hydrologic Basin is estimated to be 700 acre-feet annually.³

Accordingly, the amount of inflow into Piute Valley is approximately 2400 acre-feet annually; 1700 acre-feet from precipitation and 700 acre feet from Lanfair Valley outflow. The Nevada portion of this inflow is approximately 1200 acre-feet, with an equal amount occurring in California.⁴

IV.

The components of outflow from Piute Valley are evapotranspiration, spring discharge, subsurface outflow and man developed consumptive uses. Only a minor amount of groundwater is discharged by transpiration of phreatophytes within the basin, and while springs are found in the higher elevations their accumulative discharge into the basin is minimal. Subsurface outflow from Piute Valley in a southerly and easterly movement occurs in such a manner that only a "few hundred acre feet" of the outflow can be salvaged.⁵ Thus, the State Engineer finds that the amount of water which represents the perennial yield of the system, is by definition, also limited to a few hundred acre feet.

³ Water Resources Reconnaissance Series No. 36, "Ground Water Appraisal of the Eldorado-Piute Valley Area, Nevada and California, Rush and Huxel, 1966, page 14. (Hereinafter referred to as Reconnaissance Series No. 36).

⁴ Reconnaissance Series No. 36, page 15.

⁵ Reconnaissance Series No. 36, pages 17-19.

V.

The committed ground water resource in the form of permits and certificates issued by the State Engineer is in excess of 6500 acre-feet annually, with the majority of the use, approximately 4660 acre-feet annually, classified as quasi-municipal or municipal. Mining and Milling rights account for an additional 1778 acre-feet annually.⁶ The State Engineer finds that the approval of Application 56980 would result in the additional withdrawal of 280 acre-feet annually, compared to a perennial yield estimated to be a few hundred acre-feet annually.

VI.

If the perennial yield of a hydrologic system is continually exceeded, ground water levels will decline until the ground water reservoir is depleted of water of usable quality or until the pumping lifts become uneconomical to maintain. The State Engineer finds the the perennial yield cannot exceed the natural replenishment to an area indefinitely, and ultimately is limited to the maximum amount of natural discharge that can be salvaged for beneficial use.

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action and determination.⁷

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:⁸

- A. There is no unappropriated water at the proposed source, or
- B. The proposed use conflicts with existing rights, or
- C. The proposed use threatens to prove detrimental to the public interest.

⁶ Public record in the office of the State Engineer, Piute Hydrographic Area Summary.

⁷ NRS Chapter 533.

⁸ NRS Chapter 533.370.

III.

Current potential withdrawals from the Piute Valley Basin greatly exceed the perennial yield for the ground water basin. The potential for ground water quality degradation and adverse effects upon existing water rights would become greater with any additional ground water appropriation. The State Engineer concludes that the approval of Application 56980 would allow an additional 280 acre-feet annually to be pumped in a ground water basin where ground water quality within the basin is generally considered to be marginal for municipal use. Therefore, increased withdrawals could have a significant impact on water of already poor quality.

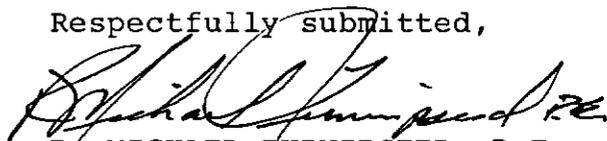
IV.

The State Engineer concludes that the granting of a permit under Application 56980 would result in the withdrawal of a substantial amount of ground water, in excess of perennial yield of the ground water basin, and would, therefore, adversely affect existing rights and be detrimental to the public interest and welfare.

RULING

Application 56980 is hereby denied on the grounds that the granting thereof would adversely affect existing rights and would be detrimental to the public interest and welfare.

Respectfully submitted,



R. MICHAEL TURNIPSEED, P.E.
State Engineer

RMT/MDB/pm

Dated this 22nd day of
December, 1992.