

IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATION 34302 )  
FILED TO APPROPRIATE THE PUBLIC )  
WATERS OF AN UNDERGROUND SOURCE IN )  
DIXIE VALLEY, CHURCHILL COUNTY, )  
NEVADA. )

RULING

GENERAL

Application 34302 was filed on October 20, 1977, by Ben T. and Mary L. Bartlett and Paul P. May to appropriate 1.0 c.f.s. of water from an underground source for irrigation and domestic purposes on 40 acres of land within the W1/2 NW1/4 Section 9, T.21N., R.35E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NW1/4 Section 9, T.21N., R.35E., M.D.B.&M.<sup>1</sup>

Ground Water Resources - Reconnaissance Series Report 23 entitled "A Brief Appraisal of the Ground Water Hydrology of the Dixie-Fairview Valley Area, Nevada", was prepared cooperatively by the Geological Survey, U.S. Department of the Interior, and the Nevada Department of Conservation and Natural Resources. This report is available for review at the State Engineer's office in Carson City, Nevada.

FINDINGS OF FACT

I.

By Order No. 715, dated June 8, 1978, the State Engineer designated and described Dixie Valley Ground Water Basin under the provisions of NRS Chapter 534 (Conservation and Distribution of Underground Waters).<sup>1</sup>

II.

The perennial yield of a hydrologic system is the maximum amount of water of usable chemical quality that can be consumed economically each year for an indefinite period of time. If the perennial yield 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. 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.<sup>2</sup>

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<sup>1</sup> Public record in the office of the State Engineer.

Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible reversal of ground water gradients which could result in significant changes in the recharge-discharge relationship. These conditions have developed in several other ground water basins within the State of Nevada where storage depletion and declining water tables have been recorded and documented.<sup>2</sup>

III.

The proposed point of diversion under Application 34302 lies within an area of concentrated irrigation rights in the southern portion of Dixie Valley south of the Humboldt Salt Marsh. Existing ground water irrigation rights in this concentrated area presently total approximately 9,500 acre-feet per year.<sup>1</sup>

IV.

Estimates of potential ground water recharge to this area are approximately 9,500 acre-feet per year. This figure includes recharge from Fairview, Eastgate, Cowkick, and Stingaree Valleys and approximately one-half of the recharge to Dixie Valley. This potential ground water recharge is the upper limit of the perennial yield of the ground water reservoir.<sup>3</sup>

V.

Previous applications for irrigation use have been denied in this area of concentration.<sup>4</sup>

VI.

Should additional water be allowed for appropriation for the reclamation of lands described under Application 34302 in the concentrated area described and subsequent development of ground water pursuant thereto detrimentally affect prior ground water rights, the State Engineer is required by law to order withdrawals be restricted to conform to priority rights.

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action.<sup>5</sup>

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<sup>2</sup> See attached Appendix of References.

<sup>3</sup> U.S.G.S. Reconnaissance Series Report No. 23, Table 5, pp. 23 - 25.

<sup>4</sup> State Engineer's Ruling No. 2526.

<sup>5</sup> NRS 533.325.

II.

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

- A. there is no unappropriated water in the proposed source, or
- B. the proposed use conflicts with existing rights, or
- C. the proposed use threatens to prove detrimental to the public welfare.<sup>6</sup>

III.

If Application 34302 is approved, additional lands would be irrigated. This would result in additional consumptive use by farmland irrigation. The additional withdrawals and consumption would remove water from the ground water reservoir which would not be replaced resulting in depletion of the ground water reservoir. The additional withdrawals and consumption of underground water for irrigation would, therefore, conflict with existing rights and threaten to prove detrimental to the public welfare.

RULING

Application 34302 is herewith denied on the grounds that the appropriation of additional ground water for irrigation use from the area described in the application would tend to impair the value of existing rights and be otherwise detrimental to the public interest and welfare.

Respectfully submitted



Peter G. Morros  
State Engineer

PGM/RT/bl

Dated this 19th day of  
March, 1985.

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<sup>6</sup> NRS 533.370, subsection 3.

## APPENDIX OF REFERENCES

Land Subsidence in Las Vegas Valley, 1935-63, Information Series No. 5 U.S.G.S.

State of Nevada, Department of Highways, Report on Land Subsidence in Las Vegas Valley.

Evaluation of the Water Resources of Lemmon Valley with Emphasis on Effects of Ground-Water Development to 1971, J.R. Harrill, Water Resources Bulletin No. 42, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1972.

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