IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATIONS 45222) AND 45223 FILED TO APPROPRIATE THE) PUBLIC WATERS OF AN UNDERGROUND) SOURCE IN THE AMARGOSA DESERT) DRAINAGE BASIN, NYE COUNTY, NEVADA.)

RULING

GENERAL

Application 45222 was filed on January 15, 1982, by John W. Burke to appropriate 2.7 c.f.s. of water from an underground source for irrigation and domestic purposes on 160 acres of land within the S1/2 NE1/4 and N1/2 SE1/4 Section 28, T.16S., R.49E., M.D.B.&M. The point of diversion is described as being within the NE1/4 SE1/4 Section 28, T.16S., R.49E., M.D.B.&M.[1]

Application 45223 was filed on January 15, 1982, by John W. Burke 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 NE1/4 NE1/4 Section 28, T.16S., R.49E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 28, T.16S., R.49E., M.D.B.&M.[1]

Water Resources Reconnaissance Series Report 14, "Geology and Ground Water of Amargosa Desert, Nevada-California", by George E. Walker and Thomas E. Eakin, geologists, was prepared cooperatively by the Nevada Department of Conservation and Natural Resources, Division of Water Resources, and the U.S. Department of the Interior, Geological Survey. This report is available from the office of the State Engineer.

FINDINGS OF FACT

I.

By an order dated May 14, 1979, the State Engineer designated and described the Amargosa Desert Ground Water Basin under the provisions of NRS Chapter 534.[2]

II.

In the Memorandum of Decision and Order in Civil Case No. 8801, Marville Stewart et al v. William J. Newman, State Engineer, in the District Court of the Fifth Judicial District of the State of Nevada, in and for the County of Nye, the Order dated May 14, 1979, designating Amargosa Desert Ground Water Basin was affirmed.[1]

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[1] Public record in the office of the State Engineer.

[2] State Engineer's Order No. 724, public record in the office of the State Engineer.

III.

On June 25, 1979, water right Applications 30443, 31962, 31963, 32120, 32323, 32506, 32507, 32508, 32509, 32510, 32511, 32512, 32731, 32732, 32733, 33011, 33156, 33190, 33344, 33345, 34564, 34635, 34878, 35220, 35647, 35648, 35855 and 35893 were denied by the State Engineer. These applications were requests to appropriate additional underground waters in the Amargosa Desert Ground Water Basin.[1]

IV.

On December 15, 1982, 117 additional applications to appropriate ground water for irrigation purposes in the Amargosa Desert Ground Water Basin were denied.[3]

V.

The perennial yield is the maximum amount of water that can be withdrawn from the ground water system for an indefinite period of time without causing a permanent depletion of the stored water or causing a deterioration in the quality of the water. It is ultimately limited by the amount of water annually recharged to or discharged from the ground water system.[4]

VI.

The Amargosa Desert Ground Water Basin is recharged in part by the infiltration of precipitation within the tributary drainage area of about 2,600 square miles, but most is supplied by underflow from beyond the tributary drainage area through Paleozoic carbonate rocks.

The underflow originates in the Nevada Test Site and the ground water is tributary to three discharge areas: 1)Ash Meadows, 2) Alkali Flat (Southern Amargosa Desert), and 3) Oasis Valley between Beatty and Springdale.

The Ash Meadows area consists of the unnamed valley and a spring line. The ground water travels through the lower carbonate aquifer to a hydraulic barrier which is coincidental to a normal fault. The fault extends from Big Spring on the southeast to a point five miles north of Lathrop Wells. The principal annual discharge from the basin (17,000 acre-feet) occurs as a direct result of the southwesterly movement of ground water within the lower carbonate aquifer to the fault controlled spring line. The resultant discharge from an individual spring is as much as 2,800 gallons per minute.[5]

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[3] State Engineer's Ruling No. 2793, public record in the office of the State Engineer.

[4] Water Resources-Reconnaissance Series Report 14, p. 28.

[5] Geological Survey Professional Paper 712-C, Hydrogeologic and Hydrochemical Framework, South Central Great Basin, Nevada-California with Special Reference to the Nevada Test Site. U.S. Government, 1975, p. 126.

The average annual ground water discharge from Amargosa Desert by evapotranspiration and outflow is estimated to be 24,000 acre-feet. Of this amount, 17,000 acre-feet is available on a perennial basis from the springs in Ash Meadows. Most of the remainder (7,000 acre-feet) is available to wells in the valley fill northwest and northeast of the springs.[6]

VII.

Certificates have been issued for underground water permits which could be exercised to divert 30,288.29 acre-feet of water per year from the Amargosa Desert Ground Water Basin. Permits have been granted which could be used to develop an additional 23,900.66 acre-feet per year of ground water from the basin.[1]

VIII.

Since 1962, the level of water in Devils Hole has been measured with reference to a copper washer. In 1969, the water level in Devils Hole was 2.3 feet below the copper washer with a continued lowering of the water level to 3.93 feet in 1972.

On June 5, 1973, the District Court, by Chief Judge Roger D. Foley, entered a preliminary injunction limiting the pumpage of selected wells to return the water level in Devils Hole to not more than 3.0 feet below the copper washer.[7]

On March 23, 1978, an order modifying the final decree was filed April 9, 1974, to limit the pumpage of selected wells to maintain the water level in Devils Hole to a daily mean water level of 2.7 feet below the copper washer.[8]

IX.

The State Engineer, in cooperation with the U.S. Geological Survey, has conducted ground water level measurements and pumpage inventories in the Amargosa basin for the purpose of monitoring ground water withdrawals and long-term effects on ground water levels and storage depletion. The results of this monitoring effort indicate that ground water levels are declining in the Amargosa basin.[9]

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action.[10]

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[6] Water Resources-Reconnaissance Series Report 14, p. 40.

[7] Cappaert v. United States, 426 U.S. 128 (1976).

[8] United States v. Cappaert, Civ. No. LV-1687, March 3, 1978.

[9] Public record in the office of the State Engineer.

[10] NRS 533.025 and NRS 533.030, subsection 1.

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:[11]

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 welfare.

III.

The State Engineer shall determine if there is unappropriated water in the area affected and may issue permits only if such determination is affirmative.[12]

IV.

If Applications 45222 and 45223 are granted, an additional 200 acres of land would be irrigated. This would result in additional consumptive use by farm land irrigation of 1000 acre-feet per year. The additional withdrawals and consumption would remove water from the ground water reservoir which:

A. Would not be replaced resulting in depletion of the ground water reservoir, or

B. Would be replaced by infiltrating surface water that would otherwise remain in or return to the stream system.

The additional withdrawal and consumption of underground water for irrigation would, therefore, conflict with prior existing rights and threaten to prove detrimental to the public welfare.

V.

Existing water rights exceed the estimated average annual recharge to the Amargosa Desert Ground Water Basin. The potential exists for additional pumpage under existing ground water permits which have not yet been fully developed.

VI.

The State Engineer is authorized and directed to designate preferred uses of water within the respective area so designated by him such as the Amargosa Desert Ground Water Basin.[13] The consumptive use of ground water to irrigate additional land is not considered to be a preferred use of the limited ground water resources of the Amargosa Desert Ground Water Basin.

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[11] NRS 533.370. subsection 3.

[12] NRS 534.110, subsection 3.

[13] NRS 534.120, subsection 2.

VII.

Evidence available to the State Engineer indicates that ground water levels within the Amargosa Desert Ground Water Basin are declining and there is active storage depletion.

RULING

Applications 45222 and 45223 are herewith denied on the grounds that the appropriation of underground water for irrigation purposes, as applied for, would conflict with and tend to impair the value of existing rights and be detrimental to the public interest and welfare.

Respectfully submitted,

PETER G. MORROS
State Engineer

PGM/KN/bl

Dated this 28th day of June, 1985.