

IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATIONS 39459,) 39460, 39462, 39463, 39466, 40763, 40764,) 40765, 40766, 41019, 41020, 41021, 41022,) 41023, 41024, 41156 AND 41580 FILED TO) APPROPRIATE THE PUBLIC WATERS OF) UNDERGROUND SOURCES IN PILOT CREEK) VALLEY, ELKO COUNTY, NEVADA.)

RULING

GENERAL

I.

Application 39459 was filed on November 1, 1979, by Charla W. Jensen to appropriate 7.4 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the W1/2 Section 28, T.35N., R.69E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SW1/4 Section 28, T.35N., R.69E., M.D.B.&M.¹

Application 39460 was filed on November 1, 1979, by Ronald R. Winegar to appropriate 7.4 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the W1/2 Section 16, T.35N., R.69E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SW1/4 Section 16, T.35N., R.69E., M.D.B.&M.¹

Application 39462 was filed on November 1, 1979, by Marjorie Winegar to appropriate 7.4 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the E1/2 Section 28, T.35N., R.69E., M.D.B.&M. The point of diversion is described as being within the NE1/4 SE1/4 Section 28, T.35N., R.69E., M.D.B.&M.¹

Application 39463 was filed on November 1, 1979, by Vern W. Woodbury to appropriate 7.4 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the E1/2 Section 32, T.35N., R.69E., M.D.B.&M. The point of diversion is described as being within the NE1/4 SE1/4 Section 32, T.35N., R.69E., M.D.B.&M.¹

Application 39466 was filed on November 1, 1979, by Carol A. Dowding to appropriate 7.4 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the W1/2 Section 32, T.35N., R.69E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SW1/4 Section 32, T.35N., R.69E., M.D.B.&M.¹

¹ Public record in the office of the State Engineer.

Application 40763 was filed on February 27, 1980, by Douglas Sherman Moss to appropriate 5.6 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the N1/2 Section 20, T.36N., R.69E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NE1/4 Section 20, T.36N., R.69E., M.D.B.&M.¹

Application 40764 was filed on February 27, 1980, by Walter Sherman Moss to appropriate 5.6 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the S1/2 Section 20, T.36N., R.69E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SE1/4 Section 20, T.36N., R.69E., M.D.B.&M.¹

Application 40765 was filed on February 27, 1980, by Alma D. Eakle, Jr., to appropriate 5.6 c.f.s. of water from an underground source for irrigation purposes on 320 acres of land within the N1/2 Section 4, T.36N., R.69E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 4, T.36N., R.69E., M.D.B.&M.¹

Application 40766 was filed on February 27, 1980, by Arlene H. Eakle to appropriate 5.6 c.f.s. of water from an underground source for irrigation purposes on 295 acres of land within the S1/2 Section 4, T.36N., R.69E., M.D.B.&M. The point of diversion is described as being within the NE1/4 SE1/4 Section 4, T.36N., R.69E., M.D.B.&M.¹

Application 41019 was filed on April 4, 1980, by James L. R. Cahoon to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the N1/2 Section 16, T.37N., R.69E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 16, T.37N., R.69E., M.D.B.&M.¹

Application 41020 was filed on April 4, 1980, by Patricia M. Cahoon to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the S1/2 Section 16, T.37N., R.69E., M.D.B.&M. The point of diversion is described as being within the SE1/4 SE1/4 Section 16, T.37N., R.69E., M.D.B.&M.¹

Application 41021 was filed on April 4, 1980, by Ted R. Cahoon to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the N1/2 Section 10, T.37N., R.69E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 10, T.37N., R.69E., M.D.B.&M.¹

Application 41022 was filed on April 4, 1980, by Penny G. Cahoon to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the S1/2 Section 10, T.37N., R.69E., M.D.B.&M. The point of diversion is described as being within the SE1/4 SE1/4 Section 10, T.37N., R.69E., M.D.B.&M.¹

Application 41023 was filed on April 4, 1980, by Peter John Cahoon to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the S1/2 Section 4, T.37N., R.69E., M.D.B.&M. The point of diversion is described as being within the SE1/4 SE1/4 Section 4, T.37N., R.69E., M.D.B.&M.¹

Application 41024 was filed on April 4, 1980, by Lee Roy Cahoon to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the N1/2 Section 4, T.37N., R.69E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 4, T.37N., R.69E., M.D.B.&M.¹

Application 41156 was filed on April 23, 1980, by Kerry D. Brinkerhoff to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the E1/2 Section 32, T.37N., R.69E., M.D.B.&M. The point of diversion is described as being within the SW1/4 SE1/4 Section 32, T.37N., R.69E., M.D.B.&M.¹

Application 41580 was filed on June 24, 1980, by LaMoyne E. Anderson to appropriate 5.6 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the N1/2 Section 8, T.36N., R.69E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NW1/4 Section 8, T.36N., R.69E., M.D.B.&M.¹

II.

Water Resources-Reconnaissance Series Report 56, titled "Water-Resources Appraisal of the Pilot Creek Valley Area, Elko and White Pine Counties, Nevada", was prepared cooperatively by the Geological Survey, U.S. Department of the Interior, and the State of Nevada, Department of Conservation and Natural Resources, 1971.¹

FINDINGS OF FACT

I.

The State Engineer issued Order No. 841 on April 30, 1984, designating and describing Pilot Creek Valley as a ground water basin coming under the provisions of Chapter 534 NRS (Conservancy and Distribution of Underground Water).²

II.

Pilot Creek Valley has a comparatively flat valley floor and is a well defined ephemeral drainage area that drains south and east to the Great Salt Lake Desert. However, in 1969, this outflow was blocked by road fill and ponds in parts of Sections 31 and 32, T.35N., R.70E., M.D.B.&M. Precipitation comprises a major portion of the inflow into the basin with subsurface inflow from Goshute Valley contributing.

III.

Average annual precipitation within Pilot Creek Valley Hydrologic Basin ranges from more than 20 inches on the mountain peaks to 6 to 8 inches on the valley floor. Two percent of the average annual precipitation of 130,000 acre-feet recharges Pilot Creek Valley, yielding an annual recharge to the ground water system of 2,400 acre-feet per year.

² Order No. 841, dated April 30, 1984, public record in the office of the State Engineer.

IV.

Subsurface inflow from Goshute Valley occurs in consolidated rocks in the Loana Range and northern Goshute Mountains, where sufficiently permeable, on the order of 1,000 acre-feet per year.

V.

Over the long term, inflow and outflow from a ground water system are equal. The total inflow to the Pilot Creek Valley is approximately 3,400 acre-feet annually: 2,400 acre-feet from precipitation and 1,000 acre-feet from inflow from Goshute Valley. The total outflow from the Pilot Creek Valley is approximately 4,900 acre-feet annually: 4,600 acre-feet from evapotranspiration and 300 acre-feet from subsurface outflow to Great Salt Lake Desert.

VI.

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. In Pilot Creek Valley, the perennial yield is estimated to be 4,500 acre-feet annually. A value of 4,500 acre-feet per year was selected to represent natural inflow and outflow because the discharge estimate is considered more accurate than the recharge estimate.

VII.

Permits and certificates have been issued under existing rights for more than 8,700 acre-feet annually of ground water within the Pilot Creek Valley Hydrologic Basin.¹

VIII.

Information available to the State Engineer indicates that Applications 39459, 39460, 39462, 39463, 39466, 40763, 40764, 40765, 40766, 41019, 41020, 41021, 41022, 41023, 41024, 41156 and 41580 were filed in support of Desert Land Entry applications.¹

IX.

The approval of the above-referenced applications would result in the additional withdrawal of 21,660 acre-feet annually compared to a perennial yield of 4,500 acre-feet annually.¹

X.

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. 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.³

³ See attached Appendix of References.

XI.

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.³

XII.

Should additional water be allowed for appropriation under new applications and subsequent development of ground water pursuant thereto detrimentally affect prior existing rights, the State Engineer is required by law to order withdrawals be restricted to conform to prior rights.⁴

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action and determination.⁵

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:⁶

- 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.

III.

The granting of permits under Applications 39459, 39460, 39462, 39463, 39466, 40763, 40764, 40765, 40766, 41019, 41020, 41021, 41022, 41023, 41024, 41156 and 41580 would result in the withdrawal of substantial amounts of ground water in excess of the perennial yield of the Pilot Creek Valley and would, therefore, adversely affect existing rights and be detrimental to the public interest and welfare.

⁴ NRS 534.100(c).

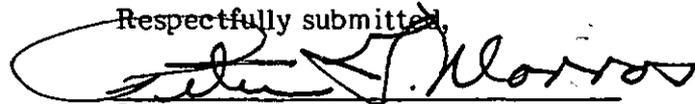
⁵ NRS Chapters 533 and 534.

⁶ NRS 533.370(3).

RULING

Applications 39459, 39460, 39462, 39463, 39466, 40763, 40764, 40765, 40766, 41019, 41020, 41021, 41022, 41023, 41024, 41156 and 41580 are herewith 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,



PETER G. MORROS
State Engineer

PGM/JO/bl

Dated this 29th day of
January, 1986.

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.

Hydrologic Response to Irrigation Pumping in Diamond Valley, Eureka and Elko Counties, Nevada, 1950-65, J.R. Harrill, Water Resources Bulletin No. 35, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1968.

Effects of Irrigation Development on the Water Supply Quinn River Valley area, Nevada and Oregon, 1950-1964, C.J. Huxel, Jr., Water Resource Bulletin No. 34, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1966.

Hydrologic Response to Irrigation Pumping in Hualapai Flat, Washoe, Pershing and Humboldt Counties, Nevada, 1960-1967, J.R. Harrill, Water Resource Bulletin No. 37, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1969.

The Effects of Pumping on the Hydrology of Kings River Valley, Humboldt County, Nevada, 1957-1964, G.T. Malmberg and G.F. Worts, Jr., Water Resource Bulletin No. 31, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1966.

Effects of Ground-Water Development on the Water Regimen of Paradise Valley, Humboldt County, Nevada, 1948-1968, and Hydrologic Reconnaissance of the Tributary Areas, J.R. Harrill and D.O. Moore, Water Resource Bulletin No. 39, United States Geological Survey, 1970.

Ground-Water Storage Depletion in Pahrump Valley, Nevada-California, 1962-75, J.R. Harrill, Open File Report 81-635, United States Geological Survey, 1982, prepared in cooperation with Nevada Division of Water Resources.

Development of a Relation for Steady State Pumping Rate for Eagle Valley Ground-Water Basin, Nevada, F.E. Arteaga, T.J. Durbin, United States Geological Survey, 1978, prepared in cooperation with Nevada Division of Water Resources.

Basic Ground-Water Hydrology, Ralph C. Heath, U.S. Geological Survey Water Supply Paper 2220, 1983.

Methods of Determining Permeability, Transmissibility and Drawdown, U.S. Geological Survey Water Supply Paper 1536-1, R.H. Brown, J.G. Ferris, C.E. Jacob, D.B. Knowles, R.R. Meyer, H.E. Skibitzke and C.F. Theis, 1963.

Subsidence in Las Vegas Valley, John w. Bell, Nevada Bureau of Mines and Geology Bulletin 95.

Subsidence in United States due to Ground-Water Overdraft - A Review, J.F. Poland, Proceedings of the Irrigation and Drainage Division Specialty Conference, April 1973, American Society of Civil Engineers.

Ground-Water Hydraulics, S.W. Lohman, U.S. Geological Survey Professional Paper 708, 1979.