

IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATIONS 37627,
37631, 39666, 39667, 39924 AND 41082 FILED)
TO APPROPRIATE THE PUBLIC WATERS OF)
AN UNDERGROUND SOURCE WITHIN THE)
MERCURY VALLEY GROUND WATER BASIN,)
NYE COUNTY, NEVADA.)

RULING

GENERAL

Application 37627 was filed on April 2, 1979, by Charles E. Feddersen to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the SW1/4 Section 3, T.16S., R.53E., M.D.B.&M. The point of diversion is described as being within the SW1/4 SW1/4 Section 3, T.16S., R.53E., M.D.B.&M.¹

Application 37631 was filed on April 2, 1979, by Ann S. Meyers to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 150 acres of land within the NE1/4 Section 3, T.16S., R.53E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NE1/4 Section 3, T.16S., R.53E., M.D.B.&M.¹

Application 39666 was filed on November 15, 1979, by Ann S. Meyers to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 150 acres of land within the SE1/4 Section 3, T.16S., R.53E., M.D.B.&M. The point of diversion is described as being within the SW1/4 SE1/4 Section 3, T.16S., R.53E., M.D.B.&M.¹

Application 39667 was filed on November 15, 1979, by Charles E. Feddersen to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 160 acres of land within the NW1/4 Section 3, T.16S., R.53E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NW1/4 Section 3, T.16S., R.53E., M.D.B.&M.¹

Application 39924 was filed on December 10, 1979, by Edward L. Brabham to appropriate 5.4 c.f.s. of water from an underground source for irrigation and domestic purposes on 320 acres of land within the N1/2 Section 1, T.16S., R.53E., M.D.B.&M. The point of diversion is described as being within the SE1/4 NE1/4 Section 1, T.16S., R.53E., M.D.B.&M.¹

Application 41082 was filed on April 14, 1980, by Michael R. Sipl to appropriate 5.0 c.f.s. of water from an underground source for irrigation purposes on 150 acres of land within the SW1/4 Section 2, T.16S., R.53E., M.D.B.&M. The point of diversion is described as being within the SW1/4 SW1/4 Section 2, T.16S., R.53E., M.D.B.&M.¹

¹ Public record in the office of the State Engineer.

Water Resources Reconnaissance Series Report No. 54, titled "Regional Ground-Water Systems in the Nevada Test Site Area, Nye, Lincoln and Clark 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. This report is available for review in the Office of the State Engineer.

FINDINGS OF FACT

I.

The principal source of ground water to Mercury Valley is from precipitation on the surrounding mountains.²

Precipitation is estimated at 6 inches and 38,000 acre-feet annually. Of this amount, only 0.7 percent or 250 acre-feet per year is estimated to be recharged to the Mercury Valley aquifer.²

The minimum depth to water is 800-850 feet. This water is contained in a carbonate rock aquifer.²

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.³

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

III.

Pending applications propose to remove 5,450 acre-feet annually of ground water within the Mercury Valley area.¹

² Water Resources Reconnaissance Series Report No. 54.

³ See attached Appendix of References.

IV.

The minimum quantity of ground water necessary to support a single 150 acre Desert Land Entry application for irrigation purposes would be 750 acre-feet annually which is in excess of the 250 acre-feet perennial yield for the Mercury Valley Ground Water Basin.

V.

Information available to the State Engineer indicates that Applications 37627, 37631, 39666, 39667, 39924 and 41082 were filed in support of Desert Land Entry applications.¹

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action under the provisions of NRS Chapters 533 and 534.

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:⁴

- 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 granting of permits under Applications 37627, 37631, 39666, 39667, 39924 and 41082 would result in withdrawal of substantial amounts of ground water in excess of the perennial yield of Mercury Valley Ground Water Basin and would, therefore, be detrimental to the public interest and welfare.

⁴ NRS 533.370(3).

RULING

Applications 37627, 37631, 39666, 39667, 39924 and 41082 are herewith denied on the grounds that the granting thereof would be detrimental to the public interest and welfare.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Peter G. Morros", written over a horizontal line.

PETER G. MORROS
State Engineer

PGM/SW/bl

Dated this 14th day of
August, 1985.

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.

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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.

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