IN THE MATTER OF APPLICATIONS)
40364, 41541, 41542, 43521, 44238,)
46634 AND 47429 FILED TO)
APPROPRIATE THE PUBLIC WATERS OF AN) RULING
UNDERGROUND SOURCE IN DAYTON)
VALLEY, STOREY COUNTY, NEVADA.)

GENERAL

I.

Application 40364 was filed on January 21, 1980, by George Allison and Barbara Allison to appropriate 0.11 c.f.s. of water from an underground source for quasi-municipal purposes in the Stagecoach subbasin of Dayton Valley within the NW1/4 SE1/4 of Section 34, T.18N., R.23E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SE1/4 Section 34, T.18N., R.23E., M.D.B.&M.[1]

Application 41541 was filed on June 19, 1980, by Dallas C. and Carol A. Cook to appropriate 0.3 c.f.s. of water from an underground source for quasi-municipal purposes in the Gold Canyon area of Dayton Valley within a portion of the NW1/4 NW1/4, NE1/4 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, SE1/4 NE1/4, all in Section 22, T.16N., R.21E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NW1/4 Section 22, T.16N., R.21E., M.D.B.&M.[1]

Application 41542 was filed on June 19, 1980, by Dallas C. and Carol A. Cook to appropriate 0.3 c.f.s. of water from an underground source for quasi-municipal purposes in the Gold Canyon area of Dayton Valley within a portion of the NW1/4 NW1/4, NE1/4 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, SE1/4 NE1/4, all in Section 22, T.16N., R.21E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NW1/4 Section 22, T.16N., R.21E., M.D.B.&M.[1]

Application 43521 was filed on April 10, 1981, by Carson City to appropriate 6.0 c.f.s. of water from an underground source for municipal purposes in the Carson City area of Dayton Valley within the Carson City limits or more precisely described as being within all of T.15N., R.20E.; E1/2 of T.15N., R.19E.; Sections 2, 3, 4, E1/2 Section 5, and that portion of the N1/2 NE1/4 Section 6 which lies within Carson City limits, T.14N., R.20E.; Section 31, 32, 33, 34, 35, W1/2 Section 36 and those portions of the E1/2 Section 36 which lie within Carson City limits, T.16N., R.20E.; the S1/2 Sections 34, 35 and 36; NE1/4 Section 36, and those portions of the SW1/4, NW1/4 Section 36 and

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

the S1/2 NE1/4 Section 35 which lie within the Carson City limits, T.16N., R.19E., M.D.B.&M. The point of diversion is described as being within the SW1/4 SW1/4 Section 14, T.15N., R.20E., M.D.B.&M.[1]

Application 44238 was filed on August 6, 1981, by South Comstock Tailings Disposal Company to appropriate 0.70 c.f.s. of water from an underground source for quasi-municipal purposes on 28 five acre lots within the E1/2 E1/2 Section 21, T.16N., R.21E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 21, T.16N., R.21E., M.D.B.&M.[1]

Application 46634 was filed on February 14, 1983, by Ronald Yamamoto and Jane K. Yamamoto to appropriate 1.35 c.f.s. of water from an underground source for supplemental water for irrigation and domestic purposes on 179.96 acres of land within the SW1/4 and portions of the W1/2 SE1/4 Section 17, T.17N., R.23E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SW1/4 Section 17, T.17N., R.23E., M.D.B.&M.[1]

Application 47429 was filed on November 16, 1983, by Julius Bunkowski to appropriate 5.0 c.f.s. of water from an underground source for quasi-municipal and domestic purposes in the Mound House Flat area of Dayton Valley within Sections 19, 20, 29, 30, T.16N., R.21E., M.D.B.&M. The point of diversion is described as being within the SE1/4 NW1/4 Section 7, T.16N., R.21E., M.D.B.&M.[1]

Application 46634 was timely protested on April 1, 1983, by Charles A. Monticelli on the following grounds:

> "My agricultural well, situated in the same valley for which this permit was applied for, for the last 3 years has cavitated in the late summer. Also, the static water level has receded every year for the past 8 years, sice the well was installed."

II.

Water Resources-Reconnaissance Series Report 59 titled "Water Resources Appraisal of the Carson River Basin, Western Nevada", was prepared cooperatively by the Geological Survey, U.S. Department of the Interior and State of Nevada, Department of Conservation and Natural Resources. For the purposes of that report, the Carson River Basin was divided into seven hydrologic subareas; Carson Valley (Nevada part only), Eagle Valley, Dayton Valley, Churchill Valley, Carson Desert, Packard Valley and White Plains[1]

FINDINGS

I.

The potential estimated ground water recharge to Dayton Valley by precipitation is 7,900 acre-feet per year. An additional 1,545 acre-feet is added from subsurface inflow through alluvium from Eagle Valley and Carson Valley.[2] Therefore, the perennial yield of Dayton Valley is 9,445 acre-feet per year.[1]

Well logs and hydrographs assembled by the U.S. Geological Survey indicate a dramatic drop of the water table in the Stagecoach Subbasin of Dayton Valley.[1]

Water levels in wells close to or within agricultural areas located south and southeast of the mouth of Six-Mile Canyon were highly variable. The general trend has been a decrease in the water levels up to the 1982 and 1983 water years.[1]

The slight increase in water levels during the 1982-1983 water years is directly attributable to extreme precipitation and runoff within the Carson River system combined with decreased ground water pumpage by ranchers in Dayton Valley.[3, 1]

Interviews with owners of the major ranches documented in the Dayton Valley Ground Water Pumpage Survey (March, 1984), indicated nonuse of supplemental ground water rights during the 1982 and 1983 growing seasons.[1] Their only source of water was from Carson River rights during the aforementioned growing seasons[1]

During an average to below average water year, supplemental ground water rights were estimated to be used a minimum of 50% of the growing season.[1]

II.

The Geological Survey, U.S. Department of Interior, in cooperation with the State of Nevada, Department of Conservation and Natural Resources, is currently conducting an ongoing study of the effects of ground water flow on surface water by use of a modular three-dimensional finite difference ground water flow model. The information developed for the model has assisted in the identification and quantification of the effects of ground water pumpage on surface water flow.[4]

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[2] Water Resources-Reconnaissance Series Report 59, public record in the office of the State Engineer.

[3] U.S. Geological Survey Water Data Report NV-82-1.

[4] Information available in the office of the State Engineer and

III.

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 than can be salvaged for beneficial use.[4]

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.[5]

IV.

Estimates of pumpage of ground water in Dayton Valley have been made by the Division in 1977, 1979 and 1984. These years represent a below average water year, an average water year and a good water year, respectively.[1]

The 1977 inventory estimated total pumpage to be 14,300 acre-feet in Dayton Valley while the 1979 inventory estimated that pumpage to be 15,930 acre-feet. The methodology used in deriving the estimates consisted of well power readings supplied by Sierra Pacific Power Company converted to pumpage of water.[1]

The 1984 pumpage of ground water in Dayton Valley including the Stagecoach sub-basin was determined to be approximately 6,000 acre-feet. This estimate was based on a survey of the houses, mining activity, water systems, and irrigated acreage in Dayton Valley. The Stagecoach sub-basin is more difficult to estimate because of the rapid change over from agricultural use to quasi-municipal use taking place. A rough estimate of the water use in the Stagecoach sub-area is 1600 acre-feet per year. Therefore, the total pumpage in Dayton Valley in 1984 is estimated to be 7600 acre-feet. This figure is almost 50% less than was estimated in the average water year of 1979. The decrease of pumpage in above average water years is substantiated in Dayton

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[5] See attached Appendix of References.

Valley by the increase in static water level detected during the same time frame. During average and below average water years, more of a demand is placed on ground water since the surface water source is diminished.[1] In areas such as the Stagecoach sub-basin where very few surface water rights are involved, the amount of pumpage continues to increase with continued development. The ground water level is not noticeably influenced by differences in water flow and has continued to decline.[1]

V.

Permits and certificates have been issued under existing rights for more than 22,500 acre-feet annually of ground water within Dayton Valley.

VI.

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 priority rights.[6]

VII.

The State Engineer may declare preferred uses of the limited ground water resource within ground water basins where the resource is being depleted.[7]

VIII.

Approved ground water appropriations in the Dayton Valley Ground Water Basin exceeds the perennial yield of the basin.

IX

The State Engineer has previously denied applications to appropriate ground water from Dayton Valley for irrigation, quasi-municipal and municipal uses on the grounds that "withdrawal of additional ground water in a basin in which appropriations of ground water substantially exceed the perennial yield of the basin would, therefore, adversely affect existing rights and be detrimental to the public interest and welfare".[8]

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[6] NRS 534.100(6).

[7] NRS 534.120.

[8] See Rulings 1996, 2064, 2168, 2173, 2220, 2226, 2322, 2323, 2436, 2493, 2539, 2588, 2593 and 2630, public record in the office of the State Engineer.

CONCLUSIONS

I.

The State Engineer has jurisdiction under the provisions of NRS Chapters 533 and 534.

II.

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

A. there is no unappropriated water at the proposed source,

B. the proposed use conflicts with existing rights,

C. the proposed use threatens to prove detrimental to the public welfare.[9]

III.

The granting of permits under Applications 40364, 41541, 41542, 43521, 44238, 46634 and 47429 would result in the withdrawal of additional ground water in a basin in which appropriations of ground water substantially exceeds the perennial yield of the basin and would, therefore, adversely affect existing rights and be detrimental to the public interest and welfare.

RULING

The protest to Application 46634 is herewith upheld and Applications 40364, 41541, 41542, 43521, 44238, 46634 and 47429 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/SW/bl

Dated this 4th day of SEPTEMBER, 1984.

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[9] NRS 533.370.

APPENDIX OF REFERENCES

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