

IN THE MATTER OF APPLICATIONS 45638 )  
AND 46883 FILED TO APPROPRIATE THE )  
PUBLIC WATERS OF AN UNDERGROUND )  
SOURCE IN MASON VALLEY, LYON )  
COUNTY, NEVADA. )

RULING

INTRODUCTION

In 1969, Water Resources Bulletin No. 38, "Water Resources and Development in Mason Valley, Lyon and Mineral Counties, Nevada, 1948-65", by C. J. Huxel, Jr., with a section on surface water by E. E. Harris, was prepared cooperatively by the Nevada Department of Conservation and Natural Resources, Division of Water Resources and U. S. Department of Interior, Geological Survey. This report is available from the State Engineer's office.

FINDINGS OF FACT

I.

Application 45638 was filed on May 7, 1982, by Malcolm S. or Gretchen W. Redwine to appropriate 2.0 c.f.s. of water from an underground source for irrigation purposes on 60 acres of land within the S1/2 SW1/4 Section 14 and NW1/4 NW1/4 Section 23, T.14N., R.25E., M.D.B.&M. The point of diversion is described as being within the NW1/4 NW1/4 Section 23, T.14N., R.25E., M.D.B.&M.<sup>1</sup>

Application 46883 was filed on May 5, 1983, by Nettie C. Glen to appropriate 3.0 c.f.s. of water from an underground source for irrigation purposes on 80 acres of land within the S1/2 NE1/4 Section 26, T.14N., R.26E., M.D.B.&M. The point of diversion is described as being within the SE1/4 NE1/4 Section 26, T.14N., R.26E., M.D.B.&M.<sup>1</sup>

II.

The State Engineer designated and described the Mason Valley Ground Water Basin on January 20, 1977<sup>2</sup> and further amended the described area on September 7, 1977.<sup>3</sup>

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

<sup>2</sup> State Engineer's Order No. 627.

<sup>3</sup> State Engineer's Order No. 691.

III.

The ground water reservoir water table has risen since the advent of farmland irrigation in Mason Valley and the water table is now substantially higher than under natural conditions prior to the initiation of irrigation in the valley. The rise in the water table has now nearly stabilized with water levels close to the surface in most of Mason Valley.<sup>4</sup>

IV.

During the period 1948 through 1965, average annual stream flow diversions in Mason Valley amounted to 140,000 acre-feet.<sup>5</sup> During the period 1980 through 1983, average annual stream flow diversion in Mason Valley amounted to 169,225 acre-feet. (Data provided by U.S. Water Commissioner for Walker River.) The water from these diversions is accounted for by:

1. Consumptive use by irrigated crops.
2. Return flow to the river through canals and drain ditches.
3. Seepage losses from canals and ditches.
4. Evapotranspiration by phreatophytes and open water surfaces.

Return flow to the river is rediverted to satisfy downstream user's rights, both within Mason Valley and in lower sub-basins of the Walker River system.<sup>5</sup>

V.

Pumpage of ground water for irrigation was estimated to be 20,000 acre-feet in 1961,<sup>6</sup> 21,000 acre-feet in 1964,<sup>6</sup> and 46,000 acre-feet in 1976.<sup>7</sup> Ground water pumpage for irrigation is substantially less during years when surface water is available. In addition to irrigation pumpage, the net draft on the ground water reservoir due to pumpage for municipal and domestic use is estimated to be 1,000 acre-feet per year.<sup>8</sup>

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<sup>4</sup> Water Resources Bulletin No. 38, p. 13; p. 15, Figure 5; and p. 36.

<sup>5</sup> Water Resources Bulletin No. 38, pp. 24 and 25.

<sup>6</sup> Water Resources Bulletin No. 38, p. 35, Table 15.

<sup>7</sup> Estimate made in State Engineer's Office.

<sup>8</sup> Water Resources Bulletin No. 38, p. 33.

VI.

The system yield for Mason Valley has been estimated to be 100,000 acre-feet per year.<sup>9</sup> System yield is defined as the maximum amount of surface and ground water of usable chemical quality that can be obtained each year from sources within the system for an indefinite period of time.<sup>10</sup> In Mason Valley, the total available water supply on the average consists of surface water inflow (216,500 acre-feet per year),<sup>11</sup> local runoff (5,900 acre-feet per year,<sup>11</sup> 2000 of which goes to recharge of the ground water reservoir),<sup>12</sup> and ground water inflow (500 acre-feet per year).<sup>12</sup>

This available supply then is used or leaves the valley through:

1. Consumptive use by crops.
2. Evapotranspiration.
3. Surface water outflow.
4. Ground water outflow.
5. Ground water pumpage for municipal, industrial and domestic purposes.
6. Change in ground water storage.<sup>13</sup>

During drought years, much of the water used for irrigation comes from ground water pumpage, with a subsequent depletion of ground water storage. In normal and wet years, excessive surface water flows tend to recharge the ground water storage reservoir. Under this system, average ground water pumpage would be 25,000 acre-feet per year, surface water use would be 75,000 acre-feet per year, and the remaining available supply would be used to make up phreatophyte losses and surface water outflow to lower sub-basins of the system.<sup>14</sup>

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<sup>9</sup> Water Resources Bulletin No. 38, p. 56.

<sup>10</sup> Water Resources Bulletin No. 38, p. 54.

<sup>11</sup> Water Resources Bulletin No. 38, p.21, Table 7.

<sup>12</sup> Water Resources Bulletin No. 38, p. 27.

<sup>13</sup> Water Resources Bulletin No. 38.

<sup>14</sup> Water Resources Bulletin No. 38, pp. 57.

VII.

Estimated consumptive use by crops is approximately 41,000 acre-feet per year.<sup>15</sup> Approximately 57,000 acre-feet of water is lost through evapotranspiration from about 53,000 acres of phreatophytes consisting of salt grass, grease wood, rabbit brush, buffaloberry, willow, cottonwood, tules and marsh plants.<sup>16</sup>

VIII.

Beneficial use has been proved and certificates of appropriation issued for a total pumpage of 129,400 acre-feet per year. Present permitted rights total an additional 34,000 acre-feet per year.<sup>17</sup>

IX.

Surface water appropriations and rights under Decree C-125 from the Walker River system far exceed the average annual flow of 238,500 acre-feet entering Mason Valley from the East and West Walker Rivers, measured from 1948 to 1978.<sup>18</sup>

X.

Applications to appropriate additional surface water from the Walker River Stream System have been denied on the grounds that their granting would tend to impair the value of existing rights, there is no unappropriated water in the source and the granting of the proposed appropriations would be detrimental to the public welfare.<sup>19</sup>

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<sup>15</sup> Water Resources Bulletin No. 38, p. 24 and p. 26, Table 11.

<sup>16</sup> Water Resources Bulletin No. 38, pp. 30, 31 and p. 32, Table 14.

<sup>17</sup> Public records in the office of the State Engineer.

<sup>18</sup> Public record in the office of the State Engineer and United States v. Walker River Irrigation District, et al., United States District Court for the District of Nevada, Equity No. C-125, as amended by the Order of the Honorable A. F. St. Sure, dated April 24, 1940, hereafter called Decree C-125.

<sup>19</sup> Public records in the office of the State Engineer. See denied Applications 27242, 27328, 27572 and 27701.

XI.

The consumptive use of additional ground water to irrigate additional land is not considered to be a preferred use of the limited water resources of the Mason Valley Ground Water Basin.<sup>20</sup>

XII.

Applications to appropriate water from an underground source for irrigation purposes from the Mason Valley Ground Water Basin have been previously denied. See, for example, Applications 30698, 31016, 31017, 31018, 31035, 31067, 31071, 31083, 31092, 31093, 31094, 31095, 31097, 31127, 31129, 31131, 31132, 31155, 31175, 31196, 31210, 31211, 31230, 31241, 31262, 31282, 31283, 31345, 31346, 31392, 31394, 31395, 31413, 31685, 31686, 31742, 31757, 31758, 31825, 31832, 31835, 31861, 31862, 31864, 31875, 31888, 31889, 31899, 31929, 32062, 32172 and 47266.

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action.<sup>21</sup>

II.

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

- 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.<sup>22</sup>

III.

Existing water rights on the Walker River Stream System and the Mason Valley Ground Water Basin far exceed flow in the Walker River Stream System and recharge from precipitation to the Mason Valley Ground Water Basin. To grant irrigation rights that consume large quantities of additional water would adversely affect existing rights and threaten to prove detrimental to the public welfare.

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<sup>20</sup> State Engineer's Ruling 2231.

<sup>21</sup> NRS 533.025 and NRS 533.030, subsection 1.

<sup>22</sup> NRS 533.370, subsection 3.

IV.

If Applications 45638 and 46883 were granted, 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:

- A. would not be replaced resulting in depletion of the ground water reservoir, or
- B. would be replaced by infiltration surface water that otherwise would return to the stream system

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.

V.

The underground water applied for under Applications 45638 and 46883 would diminish return underground and drain flow to the Walker River and would adversely affect the prior rights as set forth in Decree C-125 and would conflict with appropriated rights on the Walker River Stream System and threaten to prove detrimental to the public welfare.

RULING

Applications 45638 and 46883 are herewith denied on the grounds that the appropriation of additional ground water for irrigation purposes from the area described in the applications 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/CT/bl

Dated this 9th day of  
JULY, 1984.