

IN THE OFFICE OF THE STATE ENGINEER  
OF THE STATE OF NEVADA

IN THE MATTER OF APPLICATIONS 57961 AND 58102 )  
FILED TO APPROPRIATE THE UNDERGROUND WATERS )  
OF THE SARCOBATUS FLAT HYDROGRAPHIC BASIN )  
(10-146), NYE COUNTY, NEVADA. )

RULING

# 4940

GENERAL

I.

Application 57961 was filed on August 12, 1992, by Bobbi A. Davis to appropriate 0.25 cubic feet per second (cfs), not to exceed 1.0 million gallons annually (mga), of the underground waters of the Sarcobatus Flat Hydrographic Basin, Nye County, Nevada, for quasi-municipal (domestic) purposes for 3 units located within the SE $\frac{1}{4}$  NE $\frac{1}{4}$  of Section 11, T.8S., R.44E., M.D.B.&M. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$  NE $\frac{1}{4}$  of said Section 11.<sup>1</sup>

II.

Application 58102 was filed on September 17, 1992, by John R. Wellborn to appropriate 0.1 cfs of the underground waters of the Sarcobatus Flat Hydrographic Basin, Nye County, Nevada, for quasi-municipal use for an 18 space mobile home park, mini market, laundromat, and associated landscaping located within portions of the NW $\frac{1}{4}$  SW $\frac{1}{4}$ , SW $\frac{1}{4}$  SW $\frac{1}{4}$ , and SE $\frac{1}{4}$  SW $\frac{1}{4}$  of Section 34, T.7S., R.44E., M.D.B.&M. The proposed point of diversion is described as being located within the NW $\frac{1}{4}$  SW $\frac{1}{4}$ , of said Section 34.<sup>2</sup>

III.

Applications 57961 and 58102 were timely protested by the U.S. National Park Service (NPS) requesting the applications be denied on the grounds that several sources of water within the Death Valley National Monument may be diminished or impaired and additional appropriations would conflict with existing water

<sup>1</sup> File No. 57961, official records in the office of the State Engineer.

<sup>2</sup> File No. 58102, official records in the office of the State Engineer.

rights of the United States as a result of the appropriations proposed under Applications 57961 and 58102.<sup>1,2</sup> However, the protest filed under Application 57961 indicated that it could be approved on the condition that the consumptive use of water not exceed one million gallons per year, and that the well be constructed so that it withdraws ground water that would be lost to evapotranspiration and not diminish groundwater outflow from Sarcobatus Flat to Death Valley National Monument.

**FINDINGS OF FACT**

**I.**

The State Engineer initially designated and described the Sarcobatus Flat Hydrographic Basin on August 18, 1989, under the provisions of NRS § 534.030, as a basin in need of additional administration.<sup>3</sup> The State Engineer finds that the described points of diversion and places of use under Applications 57961 and 58102 are within the designated area described as the Sarcobatus Flat Hydrographic Basin.

**II.**

The amount of the appropriation requested under Application 57961 for three dwellings is at a diversion rate of 0.25 cfs (112.2 gallons per minute (gpm)) with a total duty requested of one million gallons annually, which equates to 3.07 acre-feet annually. Nevada water law provides for an owner of a lot, in an area where water service is not available from an entity engaged in furnishing water to the inhabitants thereof, may drill a well for a single family dwelling for domestic use<sup>4</sup> where the draught does not exceed 1,800 gallons per day without first obtaining a permit from the office of the State Engineer.<sup>5</sup> This amount of water equates to 2.02 acre-feet annually per dwelling and for three dwellings it would be 6.06 acre-feet annually. The State

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<sup>3</sup> State Engineer's Order No. 999, dated August 18, 1989, official records in the office of the State Engineer.

<sup>4</sup> NRS § 534.013.

Engineer finds that the requested appropriation under Application 57961 is for a minimal quantity of water, less than could be appropriated under the domestic well exemption to the Nevada water law for each of the three dwellings.

### III.

The appropriation applied for under Application 58102 is for a diversion rate of 0.1 cfs (45 gpm) with no annual duty specified.<sup>2</sup> In instances where no annual volume (duty) of water is described, a calculation of the duty is necessary based on the beneficial use requested. This type of calculation is based on quantities commonly used by the office of the State Engineer to further define the annual amount of water required. The State Engineer finds that the quantity necessary for the requested use under Application 58102 equates to approximately 8.50 acre-feet annually and that this quantity is a minimal amount of ground water.

### IV.

The proposed points of diversion and places of use of Applications 57961 and 58102 are located approximately 16 and 18 miles north, respectively, from the nearest boundary of the Death Valley National Monument.<sup>6</sup> Using the standard Theis non-equilibrium equation to estimate the drawdown of water levels from the simultaneous pumping of the proposed wells, under Application 57961 at a rate of 112 gpm and under Application 58102 at a rate of 45 gpm, for 24 hours per day, and using conservative values of storativity (0.01) and transmissivity (1,000 SFD), the State Engineer finds after pumping for a period of 10 years the drawdown of the groundwater level at distances of 1,320 and 5,280 feet from the proposed points of diversion would be zero.<sup>1,2</sup> A review of the records of the office of the State Engineer determined that the

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<sup>5</sup> NRS § 534.180.

<sup>6</sup> USDI Bureau of Land Management 1:100,000, State of Nevada Land Status Map, 1978.

diversion under Applications 57961 and 58102 are approximately 3,000 feet and 1,320 feet, respectively.<sup>7</sup>

The State Engineer further finds that the quantities of water applied for under Applications 57961 and 58102 are minimal, and the distance to the Death Valley National Monument is great enough that the chances of interference with the protestant's water rights or any other existing water rights is nil.

V.

Nevada Revised Statute § 533.365 (3) provides that it is within the State Engineer's discretion to determine whether a public administrative hearing is necessary to address the merits of a protest to an application to appropriate the public waters. The State Engineer finds a hearing is not necessary to consider the merits of the protests filed by the NPS.

VI.

The perennial yield of a groundwater reservoir may be defined as the maximum amount of ground water that can be salvaged each year over the long term without depleting the groundwater reservoir. Perennial yield is ultimately limited to the maximum amount of natural discharge that can be salvaged for beneficial use. If the perennial yield is continually exceeded groundwater levels will decline.<sup>8</sup>

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 lift, land subsidence and possible reversal of groundwater gradients which could result in significant changes in the recharge-discharge relationship. The United States Geological Survey estimates that the perennial yield of the Sarcobatus Flat Groundwater Basin is approximately 3,000

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<sup>7</sup> Official records in the office of the State Engineer.

<sup>8</sup> State Engineer's Office, WATER FOR NEVADA, STATE OF NEVADA WATER PLANNING REPORT NO.3, p. 13, October 1971.

acre-feet.<sup>9</sup> The committed groundwater resource in the form of permits and certificates issued by the State Engineer to appropriate underground water from the Sarcobatus Flat Hydrographic Basin is approximately 1,200 acre-feet annually.<sup>10</sup> The State Engineer finds that there is unappropriated underground water available in the Sarcobatus Flat Hydrographic Basin. The State Engineer further finds that the approval of Applications 57961 and 58102 for the requested minimal amounts of ground water would not alter the groundwater basin's recharge-discharge equation or interfere with existing water rights nor be detrimental to the public interest.

#### CONCLUSIONS

##### I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.<sup>11</sup>

##### II.

The State Engineer is prohibited by law from granting an application to appropriate the public waters of Nevada where:<sup>12</sup>

- A. There is no unappropriated water at the proposed source;
- B. The proposed use conflicts with existing rights; or
- C. The proposed use threatens to prove detrimental to the public interest.

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<sup>9</sup> Malmberg, Glenn T., and Eakin, Thomas E., Water Resources-Reconnaissance Series Report 10, Ground-water Appraisal of Sarcobatus Flat and Oasis Valley, Nye and Esmeralda Counties, Nevada, United States Geological Survey and State of Nevada, Division of Water Resources, pp. 1, 18, and 19 (1962).

<sup>10</sup> Water Rights Database for Sarcobatus Flat Hydrographic Basin, office of the State Engineer, May 22, 2000.

<sup>11</sup> NRS chapters 533 and 534.

<sup>12</sup> NRS § 533.370.

**III.**

It is a condition of each appropriation of ground water acquired under NRS Chapter 534 that the right of the appropriator relates to a specific quantity of water and that the right must allow for a reasonable lowering of the static water level at the appropriator's point of diversion.<sup>13</sup>

**IV.**

The drawdown analysis indicates that the pumping of ground water as proposed under Applications 57961 and 58102 will have no impact on the sources of water located within Death Valley National Monument. The State Engineer concludes that the approval of Applications 57981 and 58102 will not conflict with the protestant's water rights or any other existing water rights.

**V.**

The committed resource of the Sarcobatus Flat Hydrographic Basin currently does not exceed the estimate of the groundwater basin's perennial yield. The State Engineer concludes that the points of diversion and places of use under Applications 57961 and 58102 are within the designated area described as the Sarcobatus Flat Hydrographic Basin. The State Engineer further concludes that there is sufficient unappropriated underground water available in said basin to satisfy the minimal quantities requested and that the approval of Applications 57961 and 58102 do not threaten to prove detrimental to the public interest.

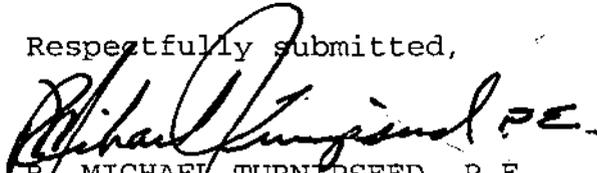
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<sup>13</sup> NRS § 534.110(4).

**RULING**

The protests to Applications 57961 and 58102 are hereby overruled and Applications 57961 and 58102 are hereby approved subject to existing rights and the payment of the statutory permit fees.

Respectfully submitted,



R. MICHAEL TURNIPSEED, P.E.  
State Engineer

RMT/RKM/cl

Dated this 16th day of  
June, 2000.