

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

IN THE MATTER OF APPLICATIONS)
69878, 69879, 69880, 69881, 69882,)
69883, 69884, 69885, 69886, 69887,)
69888, 69889, 69890, 69891, 69892, AND)
69893 FILED TO APPROPRIATE THE)
UNDERGROUND WATERS OF THE)
DRY LAKE VALLEY AND DELAMAR)
VALLEY HYDROGRAPHIC BASINS)
(181 AND 182) LINCOLN COUNTY,)
NEVADA.)

RULING

5997

GENERAL

I.

Applications 69878 through 69893 were filed on April 18, 2003, by Beverly Joan Jacob to appropriate 27,627 cubic feet per second (cfs) of the "underground, subterranean flows of water in basin deposits and/or solution cavities" of the Dry Lake Valley and Delamar Valley Hydrographic Basins for hydroelectric power generation¹ or municipal² purposes within a place of use identified as "Lincoln County as defined in NRS 243.210 thru 243.225 and in Clark County as defined in NRS 243.035 thru NRS 243.010."³ The remarks sections of the applications indicate that for the sixteen applications filed they are requesting a total combined diversion rate of 27,627 cfs (more or less). The remarks section of Applications 69878, 69879, 69880, and 69881 also indicates that the intent is to first generate hydroelectric power and then to use the water for municipal purposes.

II.

Applications 69878 through 69893 were timely protested by the United States Department of Interior, National Park Service on the grounds that the applications propose withdrawals in the amount of 27,627 cfs, which converts to 20,000,000 acre-feet per year under continuous pumping and this amount far exceeds the perennial yields for these basins

¹ File Nos. 69878, 69879, 69880, 69881, 69883, 69884, 69888, and 69892, official records in the Office of the State Engineer.

² File Nos. 69882, 69885, 69886, 69887, 69889, 69990, 69991, and 69993, official records in the Office of the State Engineer.

³ File Nos. 69878 through 69893, official records in the Office of the State Engineer.

and would mine the ground-water basins. Additionally, the applications propose withdrawals from aquifers in these valleys that are part of a regional ground-water flow system that is informally called the White River ground-water flow system and development of the ground water could divert flow that leaves these valleys to downgradient areas thereby impairing the water rights of the United States in the Muddy River and Lake Mead National Recreational Area thereby also threatening to prove detrimental to the public interest.^{1,2}

Applications 69878 through 69893 were timely protested by the Southern Nevada Water Authority on the grounds that considering the existing ground-water permits and pending applications, the basin would be over-appropriated potentially injuring existing rights and is not in the best interest of the public.^{1,2}

Applications 69878 through 69893 were timely protested by the United States Department of Interior, Bureau of Land Management (BLM) on the grounds that the Applicant does not have a cooperative agreement filed with the BLM for use of the public land, the application for municipal water extraction on public land is inconsistent with the current land use plan, the application for use of ground water for hydroelectric power generation is inconsistent with the current land use plan and the BLM believes the extraction of the waters applied for is greater than the local aquifer can produce.^{1,2}

Applications 69878 through 69893 were timely protested by Luis Ramallo on the grounds that the proposed point of diversion in Dry Lake Valley is adjacent to the basin where his property is located in Pahrangat Valley and excessive pumping could affect water resources in that hydrographic basin, it is unknown what quantity of water can be captured from any underground source without unreasonable and irreversible impacts on other hydrographic basins and the environment and the public waters are not for sale.^{1,2}

Applications 69878 through 69885 were timely protested by Kenneth Lytle and Frank Delmue on the grounds that the use of the water would have an adverse effect on existing springs and wells that are currently used for livestock purposes and the area is experiencing extreme drought conditions and approval of the applications would only worsen that condition.^{1,2}

Applications 69878 through 69893 were timely protested by Lincoln County Water District and Vidler Water Company, Inc., on the grounds that the proposed cost of the works would exceed one billion dollars and the State Engineer should consider whether the Applicant has the financial ability to place the water to beneficial use, similar applications were denied by a related applicant because that applicant failed to provide sufficient information to guard the public interest or prove there were sufficient funds to place the water to beneficial use, and there is no water available for appropriation; therefore, granting the applications would interfere with existing rights, development of the resource would be detrimental to the public interest, and Lincoln County and the Southern Nevada Water Authority have entered into an agreement for development of the water resources of these basins and have applications with senior priority over these applications.^{1,2}

Applications 69880, 69881, 69890 and 69893 were timely protested by the United States Department of Interior, Fish and Wildlife Service on the grounds that the proposed diversion is almost twice the average annual discharge of the Colorado River below Hoover Dam and questions whether the basins' underground aquifers could support such a large diversion rate without affecting existing and pending permits. Also, that the potential impacts of the proposed diversions on other allocated uses and springs at Pahranaqat and Moapa Wildlife Refuges need to be evaluated.^{1,2}

FINDINGS OF FACT

I.

The State Engineer finds under a diversion rate expanded analysis, which is calculated by multiplying the requested diversion rate by 365 days per year, the applications in total are requesting to appropriate more than 20,000,000 acre-feet annually. The State Engineer finds this is greater than the flow of the entire Colorado River.

II.

Nevada Revised Statute § 533.035 provides that beneficial use shall be the basis, the measure and the limit of the right to the use of water. Nevada Revised Statute § 533.060 provides that the right to use water must be limited and restricted to as much as may be necessary when reasonably and economically used for a beneficial purpose. Nevada Revised Statute § 533.070 provides that the quantity of water that may be

appropriated is limited to such water as shall be reasonably required for the beneficial use to be served. Nevada Revised Statute § 533.340(3) provides that an application for municipal purposes shall contain the approximate number of persons to be served and the approximate future requirement. Nevada Revised Statute § 533.370 requires that an applicant provide the State Engineer with proof satisfactory of his intention in good faith to construct any work necessary to apply the water to the intended beneficial use with reasonable diligence and the financial ability and reasonable expectation to actually construct the work and apply the water to the intended beneficial use with reasonable diligence.

Nevada Revised Statute § 533.370(6) provides that in determining whether an application for an interbasin transfer of ground water must be rejected, the State Engineer shall consider: (a) Whether the applicant has justified the need to import the water from another basin; (b) If the State Engineer determines that a plan for conservation of water is advisable for the basin into which the water is imported, whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out; (c) Whether the proposed action is environmentally sound as it relates to the basin from which the water is exported; (d) Whether the proposed action is an appropriate long-term use which will not unduly limit the future growth and development in the basin from which the water is exported; and (e) Any other factor the State Engineer determines to be relevant.

The Nevada Supreme Court in *Bacher v. State Engineer*, 122 Nev. Adv. Op. No. 95, 146 P.2d 793 (November 22, 2006) held that an applicant can satisfy the “need to import water” requirement of NRS § 533.370(6)(a) by providing evidence of third-party need. The court concluded that an agent may request a water right permit based on the ultimate user’s need for water, but also adopted the anti-speculation doctrine, which requires the agent to have a contractual or agency relationship with the water’s appropriator. The court concluded nearly 100 years ago “that he who applies the water to the soil, for a beneficial purpose, is in fact the actual appropriator.”⁴ In the *Bacher* opinion, the court addressed absolute fundamentals of Nevada water law such as, the right to use water for a beneficial use depends on a party actually using the water, and

⁴ *Prosole v. Steamboat Canal Co.*, 37 Nev. 254, 258-259, 140 P. 720, 722 (1914).

once beneficial use is established, the quantity of water appropriated shall be limited to the amount reasonably required for the beneficial use to be served, and the court found that an applicant's ability to satisfy NRS § 533.370(6)(a)'s requirement by demonstrating third-party need is limited by the "anti-speculation doctrine."

This doctrine precludes speculative water right acquisitions without a showing of beneficial use. Precluding applications by persons who would only speculate on need ensures satisfaction of the beneficial use requirement that is so fundamental to our State's water law jurisprudence. Thus, we agree with this limit on an applicant's showing of third-party need and adopt the anti-speculation doctrine's formal relationship requirement for Nevada. Further, we note that our adoption of this doctrine comports with the language and goals of NRS 533.370(1)(c)(2), which, to protect against speculation, requires the applicant to show both financial ability and a reasonable expectation with respect not only to constructing any work needed to apply the water, but also to "apply the water to the intended beneficial use with reasonable diligence."

The information provided by the Applicant indicates that it is not until the development plan in Phase II that she would be negotiating contracts with water, energy and other potential users of the Nevada Water Project.⁵ In another document provided by the Applicant, it was indicated that target markets include upstream and downstream users of the Colorado River: Utah, Colorado, Nevada, Arizona, California and Mexico.⁶ The Applicant also provided a one paragraph letter from the Lincoln County Water District dated March 19, 2007, that indicates that the District Board voted to move forward with signing on as a beneficial user of the water right applications in Dry Lake Valley; however, that one paragraph did not provide any information on a specific project where water would be beneficially used, did not demonstrate an agency or contractual relationship nor did it dispose of the Lincoln County protests of the Dry Lake Valley applications.

The State Engineer finds the Applicant is misinformed about the process of appropriating water in Nevada. The State Engineer finds the Applicant has not provided any information demonstrating an actual project or beneficial use of the water requested

⁵ *The Nevada Water Project, Water for the West* dated October 12, 2003, p. 6, File No. 69878, official records in the Office of the State Engineer.

⁶ *Nevada Water Project Presented by Beverly Jacob*, p. 7, File No. 69878, official records in the Office of the State Engineer.

for appropriation, has not demonstrated an actual estimated quantity of water that would be placed to beneficial use, has not demonstrated an approximation of the number of persons to be served or an approximate future requirement, has not demonstrated any work that has been undertaken in furtherance of an actual hydroelectric power generation project; and therefore, has not complied with the provisions of NRS § 533.035 (no beneficial use has been demonstrated), 533.060 (right to use water is limited and restricted to as much as may be necessary when reasonably and economically used for beneficial purpose), 533.070 (quantity of water that may be appropriated is limited to such amount as reasonably required for the beneficial use to be served), 533.340(3) (application for municipal purpose shall contain approximate number of persons to be served and approximate future requirement). The State Engineer finds the Applicant did not provide any evidence of an agency or contractual relationship with an ultimate user of the water, did not provide any evidence of the actual beneficial use to be made, and did not provide any evidence that specifically supports the quantity of water applied for under these applications. All that the Applicant provided is that it might be able to find someone to use some water and that is not sufficient under Nevada Water Law.

III.

In a letter dated April 30, 2009, the Applicant indicates that she wants to give the State Engineer information on her technology, schematic and instructions to assemble and operate the technology developed by Robert W. Spencer (a.k.a. Wally Spencer) to locate water, if the information would not be made available to others. The Applicant indicates that she wants to give this to the State as a present and wants the State of Nevada to take over the project. The Applicant indicates that she wants to share information, but not to those identified as Protestants.

The State Engineer finds the Applicant has a fundamental misunderstanding of who develops the water resources in Nevada. The State Engineer is not the “developer” of water rights in Nevada, but rather, the State Engineer is the manager of the water resources. The water belongs to the public (NRS § 533.025) and may be appropriated by persons including those specifically identified in NRS §§ 533.010 and 534.014, which includes the United States, this State, any municipal corporation, power district, political subdivision of this or any state, or an agency of the United States Government. If an

agency of the State of Nevada requested to appropriate water, it would have to show an actual beneficial use and the quantity necessary for that beneficial use just like any other applicant. The State Engineer finds the Nevada Division of Water Resources, Office of the State Engineer is not an entity that actually develops a water project and would not take over the Spencer/Jacobs project and technology. The State Engineer finds the Applicant has filed publically reviewable applications and there are related protests that challenge the applications; thus, if the Applicant truly believes there is a separate new source of water that information has to be made available for public review.

IV.

The Applicant is attempting to convince the State Engineer that the source of water she is requesting to appropriate is distinct from that which is found in the carbonate-rock aquifers of eastern and southern Nevada. On March 24, 2006, the Applicant filed three documents with the Office of the State Engineer. One titled *Dry Lake and Delamar Valleys, Nevada, Groundwater Hydrology and Development Potential* ("Hydrology Report") dated June 30, 2003, another titled *The Nevada Water Project, Water for the West* dated October 12, 2003, and a third titled *Nevada Water Project Presented by Beverly Jacob* ("Nevada Water Project").

By letter dated March 3, 2009, the State Engineer ordered the Applicant to provide additional information as to how the water source claimed under Applications 69878 through 69893 is different from the water source commonly known as the carbonate-rock aquifer. The State Engineer finds that on April 29, 2009, the Applicant merely refiled one of the documents already on file with the Office of the State Engineer, that being *Nevada Water Project* along with two maps from 1981 from the MX Missile Siting Investigation.⁷

The *Hydrology Report* is full of discussion of the subsurface inflow from upgradient hydrographic basins though the basins in which the applications are filed to downgradient basins **through carbonate-rock aquifers**.⁸ The *Hydrology Report* notes that these carbonate rocks are highly permeable due to fracture network pathways that have been enlarged by ground-water flow over millions of years. The findings of the

⁷ File No. 69878, official records in the Office of the State Engineer.

⁸ See, Exhibit No. 2.2 in Hydrology Report.

Hydrology Report state that it confirms and extends the findings of previous geohydrology and geologic studies, shows that the Jacobs test wells that found water were located **within the carbonate rock layers**, hypothesizes that the loss of drilling mud in the test wells indicates the presence of laterally and vertically extensive open **limestone solution cavities**, reiterates that the importance of **carbonate rocks as the major aquifers in the area** was recognized by Eakin in the early 1960s, notes that since the end of the last glaciation about 12,000 years ago, major climatic changes have reduced the influx of rainfall and boundary inflows to Nevada from the north, states that the reduced rates of ground-water replenishment have allowed the regional ground-water surfaces to recede hundreds of feet below the ground surface in large areas of Nevada, recognizes that many of the desert springs in southern Nevada derive their flow from distant recharge areas, and that these **carbonate-rock aquifers** are interconnected with aquifers of other rock types and recharge to these aquifers originate in high mountain ranges where snowpack accumulations release water over a sustained period of time.¹

The *Hydrology Report* notes that wells that tap into this **carbonate-rock aquifer system** have the potential for high capacity production of water and suggests that the United States Geological Survey's estimate of total ground-water recharge of 6,000 acre-feet per year probably underestimates basin recharge because ground-water underflow was not considered, that ground-water recharge might be on the order of 254,000 acre-feet per year, that the total amount of ground water in storage is estimated at 200 million acre-feet of which about 22 million acre-feet may be extractable, and that pumping systems of about 200,000 acre-feet per year may be able to operate for many years without exceeding natural rates of recharge.

In the document titled *The Nevada Water Project, Water for the West* dated October 12, 2003, the Applicant claims to have discovered in 1987 water beneath the desert floor of Dry Lake and Delamar Valleys. The State Engineer finds the water resources of the carbonate-rock aquifers of eastern Nevada was documented in 1984 when the Water Resources Division of the United States Department of Interior, Geological Survey proposed a 10-year investigation of the entire carbonate terrane known to exist in Nevada and in 1985 the Nevada Legislature authorized a program for

study and testing of the carbonate-rock aquifer system of eastern Nevada.⁹ But the Applicant believes the source of water she is attempting to tap is an underground river that is different from the carbonate-rock aquifer system, but has yet to provide the State Engineer with information that substantiates the claim that the source is independent of the carbonate-rock aquifer system as it is generally understood. The State Engineer finds the underflow from all the upgradient basins is not the same as the natural recharge from precipitation in a basin to that ground-water basin and the recharge in upgradient basins is counted as appropriable water in those basins.

In the Applicant's document *Nevada Water Project*, the Applicant specifically addresses "Extractable or Recoverable Groundwater Storage" and discusses dewatering layers of the carbonate-aquifers and specifically notes that there is time-limited development of this ground-water source. The State Engineer finds the Applicant has a fundamental misunderstanding about the management of ground water in the state of Nevada. In determining the amount of ground water available for appropriation in a given hydrographic basin (basin), the State Engineer relies on available hydrologic studies to provide relevant data to determine the perennial yield of a basin. The perennial yield of a ground-water reservoir may be defined as the maximum amount of ground water that can be salvaged each year over the long term without depleting the ground-water reservoir. Perennial yield is ultimately limited to the maximum amount of natural discharge that can be salvaged for beneficial use. The perennial yield cannot be more than the natural recharge to a ground-water basin and in some cases is less. If the perennial yield is exceeded, ground-water levels will decline and steady-state conditions will not be achieved. Additionally, withdrawals of ground water in excess of the perennial yield may contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, and land subsidence.¹⁰

In most Nevada basins, ground water is discharged primarily through evapotranspiration (ET). In those basins, the perennial yield is approximately equal to

⁹ See, State Engineer's Order No. 1169, dated March 8, 2002.

¹⁰ State Engineer's Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13, Oct. 1971.

the estimated ground-water ET; the assumption being that water lost to natural ET can be captured by wells and placed to beneficial use. Many of the basins in the carbonate aquifer terrane discharge most of their ground water via subsurface flow to adjacent basins, that is, there is little or no ET. The amount of subsurface discharge that can be captured is highly variable and uncertain. Perennial yields of these basins have been historically set at one-half of the subsurface discharge. However, when conditions are such that there is subsurface flow through several basins, there is a potential for double accounting and over appropriating the resource if the perennial yield of each basin is equal to one half of the subsurface outflow and basin subsurface inflows are not adjusted accordingly. Therefore, allowances and adjustments are required to the perennial yields of basins in these "flow systems" so that over appropriation does not occur.

Dry Lake Valley and Delamar Valley do not have any natural ground-water ET discharge, rather all ground-water discharge occurs as subsurface outflow to adjacent basins. In basins with minimal ground-water ET discharge or the complete absence of ground-water ET discharge, the perennial yield of the basin must be determined using estimates of recharge and subsurface outflow.

The State Engineer recently held an administrative hearing on requests for substantial appropriations of water from Dry Lake Valley and Delamar Valley and in State Engineer's Ruling No. 5875 dated July 9, 2008,¹¹ fully addressed the water available for appropriation in these hydrographic basins and granted water-right permits for nearly all of the available ground water in both hydrographic basins. In State Engineer's Ruling No. 5993, dated June 4, 2009, the State Engineer granted the bulk of the remaining water available for appropriation in Dry Lake Valley. The State Engineer finds the Applicant has failed to provide substantial publically reviewable evidence to support the appropriation requested under these applications; therefore, the State Engineer continues to rely on the current analysis of the quantity of water available for appropriation in these basins and finds there is no water available to support the applications in the quantities requested for appropriation.

¹¹ Official records in the Office of the State Engineer.

V.

In conversations with the State Engineer, the Applicant asked the State Engineer how he could be convinced about the Applicant's allegation to this underground river as a source distinct from the flows in the carbonate-rock aquifer. The State Engineer indicated that the Applicant could take her information for review by an unbiased entity such as the United States Geological Survey or the Desert Research Institute and see if those entities might review her information and provide an independent report. The State Engineer finds the Applicant did not take that action and the information provided by the Applicant merely indicates the ground-water flow through the carbonate-rock aquifers is the source of water, which the State Engineer manages generally using a perennial yield analysis with concerns about impacts to existing rights on the discharge points in Nevada of this system upon which there are existing water rights.

CONCLUSIONS

I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.¹²

II.

The State Engineer is prohibited by law from granting a permit to appropriate the public waters where:¹³

- A. there is no unappropriated water at the proposed source;
- B. the proposed use or change conflicts with existing rights;
- C. the proposed use or change conflicts with protectible interests in existing domestic wells as set forth in NRS § 533.024; or
- D. the proposed use or change threatens to prove detrimental to the public interest.

III.

The State Engineer concludes the Applicant has not provided adequate evidence to show there is unappropriated water in the source under the system of water management used in Nevada and has not met the statutory requirements under the

¹² NRS chapters 533 and 534.

¹³ NRS § 533.370(5).

provisions of NRS §§ 533.035, 533.060, 533.070, 533.340(3) and 533.370; therefore, to grant the applications would threaten to prove detrimental to the public interest.

RULING

Applications 69878 through 69893 are hereby denied on the grounds that there is no unappropriated water in the source in quantities available to support the applications, the Applicant has not met the statutory criteria for demonstrating beneficial use and to grant the applications would threaten to prove detrimental to the public interest. No ruling is made on the merits of the protests.

Respectfully submitted,



TRACY TAYLOR, P.E.
State Engineer

Dated this 31st day of

July, 2009.