

IN THE OFFICE OF STATE ENGINEER
OF THE STATE OF NEVADA

IN THE MATTER OF APPLICATIONS 64071)
AND 64072 FILED TO CHANGE THE POINT)
OF DIVERSION, MANNER AND PLACE OF)
USE OF UNDERGROUND WATERS)
PREVIOUSLY APPROPRIATED UNDER)
PERMIT 35133, CERTIFICATE 11072,)
WITHIN THE CARSON DESERT)
GROUNDWATER BASIN (101), CHURCHILL)
COUNTY, NEVADA.)

RULING

4743

GENERAL

I.

Application 64071 was filed by Donald R. and Simmie D. Travis on May 1, 1998, to change the point of diversion, manner and place of use of 0.95 cubic feet per second (cfs), not to exceed 50.00 acre-feet annually (afa), of water from an underground source in Churchill County, Nevada. The proposed use is for quasi-municipal and domestic purposes within the NW $\frac{1}{4}$ and the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 24, T.19N., R.28E., M.D.B.&M. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of said Section 24.¹ Application 64071 proposes to transfer a portion of water from an existing, perfected, irrigation right established under Permit 35133, Certificate 11072.

II.

Application 64072 was filed by Donald R. and Simmie D. Travis on May 1, 1998, to change the point of diversion, manner and place of use of 0.95 cfs, not to exceed a total combined duty under this application and Application 64071 of 50.00 afa of water from an underground source in Churchill County, Nevada. The proposed use is for quasi-municipal and domestic purposes within the same place of use as Application 64071. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 24,

¹ File No. 64071, official records in the office of the State Engineer.

T.19N., R.28E., M.D.B.&M.² Application 64072 proposes to transfer a portion of water from an existing, perfected, irrigation right established under permit 35133, Certificate 11072.

III.

The applicants under 64071 and 64072 propose to divert a total of 50.00 afa from two proposed public supply wells located 240 feet apart to serve homes to be developed in the proposed place of use. The new area is some 5 miles from the existing place of use.

IV.

Protests to the granting of the applications were timely filed on September 8, 1998, by the Old River Water Company on the grounds that: (1) the applications will impair and harm, both in terms of quantity and quality, the protestant's water rights under permits 49833 and 49834; (2) the applications will be detrimental to the public interest because they would reduce the quantity and quality of the waters under Permit 49833 and 49834; and (3) the title to the water rights requested for transfer is deficient.

FINDINGS OF FACT

I.

The protestant is the owner and operator of two public supply wells located 1,500 feet east of the location of the proposed wells under the subject applications. The protestant's Well No. 1 is completed to a depth of 308 feet and Well No. 2, located 100 feet to the west, is completed to a depth of 330 feet.³ The protestant presently serves water to homes located in the vicinity and operates under Certificate of Public Convenience and Necessity Number 2097 that was approved by the Nevada Public Service Commission. The protestant is the owner of the unperfected water

² File No. 64072, official records in the office of the State Engineer.

³ Official records in the office of the State Engineer.

rights associated with water right Permits 49833 and 49834 and can potentially serve water up to 220 homes under these rights. Permit 49834 was filed to change the place of use of Permit 29959, therefore, the date of priority of the original quasi-municipal right to serve the 220 homes was the filing date of Permit 29959 or January 30, 1976.⁴ Permit 49833 was filed for a new appropriation. However, Permits 49833 and 49834 were cancelled and when reinstated, were assigned the new priority date of April 27, 1988. Applications 64071 and 64072 propose to change the point of diversion, manner and place of use of Permit 35133, Certificate 11072, therefore, the date of priority of these applications, if approved, will be the filing date of Permit 35133 or March 16, 1978.⁵ Therefore, the State Engineer finds that the applicant is the owner of the senior water right.

II.

The protestant generally claims that the diversion of water contemplated by the applicants will impair and harm, both in terms of quantity and quality, the capacity to serve the customers in the protestant's approved service area and otherwise be detrimental to the protestant's existing water rights. The protestant further claims the proposed applications, if granted, will be detrimental to the public interest of the State of Nevada and alleges the applicant does not have clear title to the base water right to be changed.

The protestant reiterated its concerns in a letter to the State Engineer dated October 1, 1998, and specifically requested that this office investigate an anomalously high arsenic reading in the water quality test conducted on the protestant's well on June 3, 1998.^{1,2} On October 20, 1998, the State Engineer requested

⁴ Permits 29959, 49833 and 49834, official records in the office of the State Engineer.

⁵ Permit 35133, official records in the office of the State Engineer.

water quality records for the protestant's wells from the Nevada Bureau of Health Protection Services. That agency collects periodic water quality samples from public water supply wells and maintains the records for public inspection. These records indicate the water quality for both wells was consistently good with all constituents reading below the limits set forth for a public supply.^{1,2} On June 3, 1998, the arsenic level for the Well No. 1 sample was 0.046 parts per million (ppm) or milligrams per liter. The arsenic level in the Well No. 2 sample taken the same day was only 0.030 ppm. Prior to this sampling, the State Engineer finds from the historical record that the values for arsenic from these two wells was consistently around 0.025 ppm. Under the Federal Safe Drinking Water Act of 1978 as amended, the maximum value for arsenic is not to exceed 0.050 ppm. The samples of water taken historically from the protestant's wells are also consistent in other indicator constituents such as nitrates and total dissolved solids and those values are also consistently below the maximum limits.^{1,2} The State Engineer finds the water quality from both of the protestant's wells remained unchanged for many years with the sole exception of the one anomalous reading for the constituent arsenic.

III.

In response to a request from the applicant, the State Engineer granted a waiver as provided in NRS § 534.050(2)(a) to drill and test an exploratory well at the proposed point of diversion under Application 64071.⁶ The test well was to determine water quality and quantity at the new site. Prior to the drilling of the test well, a nearby existing well, located as described under Application 64072, was reconditioned and rehabilitated and flow tested on January 8, 1998. The test well

⁶ Official records in the office of the State Engineer.

drilling commenced on July 1, 1998. In a letter dated October 20, 1998, the State Engineer requested the applicant provide the results of all well drilling or well rehabilitation and testing data in order to further examine the facts regarding the potential impact the proposed diversions may have on existing rights. The existing well was tested at 70 gallons per minute for three days. The new well was completed with 16 inch diameter casing to a depth of 320 feet and two different flow tests were conducted on this well in November 1998. The first test was at a variable rate between 450 and 550 gallons per minute. The second test was a three-day test at a constant discharge of 150 gallons per minute.⁷ The State Engineer reviewed the results of the flow testing and made recommendations on probable water level impacts based on the results of industry standard well test analyses. The State Engineer finds the applicant complied with the conditions of the waiver and provided the necessary data from the well flow testing.

IV.

The State Engineer analyzed the data generated from the constant discharge flow test conducted on the exploratory well, the well that is the subject of Application 64701 and this ruling.⁸ The State Engineer estimates the aquifer characteristic transmissivity (T) to be 22,400 gallons per day per foot or 3,000 square feet per day. The aquifer storage coefficient (S) is estimated to be 0.000124 based on the test data. The State Engineer prepared estimated water-level drops that can be expected to occur as a result of pumping a well completed in an aquifer with these characteristics. The projected water levels were generated using the standard Cooper-Jacob straight line

⁷ Official records in the office of the State Engineer.

⁸ The analysis of the well testing data is contained in an Office Memorandum prepared by the staff of the State Engineer and dated December 28, 1998, official records in the office of the State Engineer.

approximation of the Theis non-equilibrium equation for water level drawdown that occurs when a well is pumped or flowed. The quantity of water used in the equation to project the water-level drops was the 50.00 afa that is proposed to be produced if the instant applications are approved. The method assumes a homogeneous and isotropic aquifer infinite in areal extent with no recharge. The projected water-level drop at a distance of 1,500 feet from the pumping well, the distance to protestant's well, after pumping the 50.00 afa for twenty years is less than two feet.⁹ The method of analysis and technique for predicted water-level response is completely adequate for estimating water-level response especially for long periods of pumping.¹⁰ Based on the information available regarding the instant applications, the State Engineer finds the projected drawdown impact at the protestant's well as a result of the pumpage of 50.00 acre-feet of water proposed to be developed from the applicant's well is reasonable.

V.

The State Engineer duly considered the claims of the protestant. As provided in NRS § 533.365 (3) and NRS § 533.375, the State Engineer by letter dated February 3, 1999, requested the protestant provide additional evidence in support of the protest and asked that such information be filed not later than March 5, 1999. The protestant was advised in that letter that if the requested information was not provided the State Engineer may consider the matter solely on the record available within his office. On March 8, 1999, the protestant filed an answer that again reiterated his concerns, but did not provide any analysis or study of the water diversion proposed by the applicants. The

⁹ Ibid.

¹⁰ Freeze, R.A. and J.A. Cherry, *Groundwater*, pp. 347-349 (1979).

protestant's response merely requested copies of information that had long since been available in the office of the State Engineer, and requested an extension of the deadline. On March 23, 1999, the State Engineer granted the protestant additional time until April 2, 1999, and provided the information the protestant had requested as an enclosure. The State Engineer again reiterated that if some additional information in support of the protest was not filed the matter would be considered on the record available. On April 2, 1999, the protestant submitted another letter stating its concerns and stating that it cannot make a determination of the potential impacts on the protestant's well unless there is additional flow testing of all of the wells simultaneously.^{1,2} The State Engineer finds the only issue pending before him at this time, regarding the impact of the applicants' proposed diversions on existing rights, is the projected impact of the proposed diversion of 50.00 acre-feet of water from the location described in the pending Applications 64071 and 64072. Neither the applicants nor the protestant has provided any hydrological studies of their own. The State Engineer finds the results of the exploratory well flow test generated as a result of the waiver and analyzed using industry standard techniques provide sufficient information on the aquifer characteristics to make a reasonable determination of potential impacts on existing rights.

VI.

The State Engineer specifically requested the protestant to provide some additional water quality analysis for samples taken from their wells subsequent to the June 3, 1998, sampling done by the Bureau of Health to determine if the one time high arsenic reading could be repeated. No data was submitted to corroborate or refute the anomalously high arsenic reading. In fact, the only water-quality data in this record is from the Bureau of Health on

various wells in the vicinity or from a private lab that conducted analyses on the water samples taken from the applicants' wells. The water quality records available to date indicate the applicants' well water quality is less than 0.020 ppm arsenic. The State Engineer finds that the one-time higher arsenic reading from one of the protestant's wells is neither confirmed nor refuted in this record and, therefore, will not be used as grounds to support the protests.

VII.

As provided in NRS § 533.360(3)(a), the applicants mailed notices to the owners of real property containing a domestic well within 2,500 feet of the wells proposed under Applications 64701 and 64702. Several letters of concern were submitted subsequent to this mailing and those individuals generally expressed the same concerns as those of the protestant.^{1,2} The State Engineer finds the applicants complied with the statutory noticing requirement.

VIII.

The State Engineer finds there is no evidence to date of a deficiency in title to the applicants' water rights.

CONCLUSIONS

I.

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

II.

The State Engineer is prohibited by law from granting an application to appropriate the public waters where:¹²

- A. there is no unappropriated water at the proposed source;

¹¹ NRS Chapters 533 and 534.

¹² NRS § 533.370(3).

- B. the proposed use conflicts with existing rights; or
- C. the proposed use threatens to prove detrimental to the public interest.

III.

The State Engineer analyzed the data generated from the constant discharge flow test conducted on the exploratory well, the well that is the subject of Application 64071 and this ruling. The State Engineer prepared estimated water-level drops that can be expected to occur as a result of pumping a well completed in an aquifer with these characteristics. The projected water levels were generated using the standard Cooper-Jacob straight line approximation of the Theis non-equilibrium equation for water-level drawdown that occurs when a well is pumped or flowed. The method of analysis and technique for predicted water-level response is completely adequate for estimating water-level response especially for long periods of pumping. Based on the information available regarding the instant applications, the State Engineer concludes the projected drawdown impact at the protestant's well as a result of the pumpage of the 50.00 acre-feet of water proposed to be developed is reasonable.

IV.

The State Engineer duly considered the claims of the protestant. The State Engineer requested the protestant provide additional evidence in support of its protests. The protestant was advised that if the requested information was not provided the State Engineer may consider the matter on the record available. The protestant did not provide any analysis or study of the water diversion proposed by the applicants. The protestant's response merely requested copies of information that had long since been available in the office of the State Engineer and requested an extension of the deadline. The State Engineer again reiterated

that if some additional information in support of the protest was not filed that the matter would be considered on the record available. The protestant submitted another letter stating its concerns and stating that it cannot make a determination of the potential impacts on the protestant's well unless there is additional flow testing of all of the wells simultaneously. The State Engineer disagrees and concludes the only issue pending before him at this time, regarding the impact of the applicants' proposed diversion on existing rights, is the projected impact of the proposed diversion of 50.00 acre-feet of water from the locations described in the pending Applications 64071 and 64072.

V.

Neither the applicants nor the protestant provided any hydrological studies of their own. The State Engineer concludes the results of the exploratory well flow test generated as a result of the waiver and analyzed using industry standard techniques provide sufficient information on the aquifer characteristics to make a reasonable determination of potential impacts on existing rights.

VI.

As provided in NRS § 533.360(3)(a), the applicants mailed notices to the owners of real property containing a domestic well within 2,500 feet of the wells proposed under Applications 64071 and 64072. Several letters of concern were submitted subsequent to this mailing and those individuals generally expressed the same concerns as those of the protestant. The State Engineer concludes the applicants complied with the statutory noticing requirement.

VII.

Nevada water law provides that the right of each appropriator of ground water must allow for a reasonable lowering of the static

water level at the appropriator's point of diversion.¹³ Nevada law does not prevent the granting of permits to appropriate ground water to applicants later in time on the ground that the diversions under the proposed later appropriations may cause the water level to be lowered at the point of diversion of a prior appropriator, so long as the rights of holders of existing appropriations can be satisfied. The State Engineer concludes that the water rights of the protestant can be satisfied under such express conditions.¹⁴

VIII.

Based on the record of evidence available, the State Engineer concludes that approval of Applications 64071 and 64072 to change the point of diversion, manner and place of use of 50.00 acre-feet of water will not conflict with existing rights nor threaten to prove detrimental to the public interest.

RULING

The protests to Applications 64071 and 64072 are hereby overruled and said applications are hereby approved subject to existing rights and the payment of statutory permit fees.

Respectfully submitted,



R. Michael Turnipseed, P.E.
State Engineer

RMT/TKG/cl

Dated this 10th day of
June, 1999.

¹³ NRS § 534.110(4).

¹⁴ NRS § 534.110(5).