

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

IN THE MATTER OF PROTESTED APPLICATIONS)
58595 AND 58596 FILED TO CHANGE THE)
POINT OF DIVERSION OF THE UNDERGROUND)
WATER HERETOFORE APPROPRIATED IN THE)
CARSON DESERT GROUNDWATER BASIN,)
CHURCHILL COUNTY, NEVADA.)

RULING

4084

GENERAL

I.

Application 58595 was filed on March 9, 1993, by Brown Sand, Inc., to change the point of diversion of 0.69 cubic feet per second (cfs) of water from an underground source for irrigation use, heretofore appropriated under Permit 48418, Certificate 12689.¹ Certificate 12689 was issued on February 22, 1991, for 0.69 cfs of water, not to exceed 258.8 acre feet per annum (AFA), to irrigate 525.1 acres.² Permit 48418 was granted on April 8, 1986, to change the place of use of 1.57 cfs of water previously appropriated under Permit 47592.² Permit 47592 was granted on July 6, 1984, to change the point of diversion and place of use of 1.57 cfs, a portion of the water previously appropriated under Permit 46840.³ Permit 46840 was granted on November 21, 1983, to change the point of diversion and place of use of 1.87 cfs, a portion of water previously appropriated under Permit 35794.⁴ Permit 35794

¹ Exhibit No. 2, Public Administrative Hearing before the State Engineer, July 16, 1993.

² File No. 48418, official records in the office of the State Engineer.

³ File No. 47592, official records in the office of the State Engineer.

⁴ File No. 46840, official records in the office of the State Engineer.

was granted on February 20, 1979, to appropriate 2.7 cfs of water from an underground source for irrigation and domestic purposes.⁵

The proposed point of diversion of Application 58595 is located within the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 31, T.19N., R.27E., M.D.B.&M. The existing point of diversion is located within the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of said Section 31. The place of use of Application 58595 is within 525.1 acres, located in portions of said Section 31.¹

II.

Application 58596 was filed on March 9, 1993, by Brown Sand, Inc., to change the point of diversion of 0.54 cfs of water from an underground source for irrigation use, heretofore appropriated under Permit 48419, Certificate 12690.⁶ Certificate 12690 was issued on February 22, 1991, for 0.54 cfs of water, not to exceed 128.0 AFA, to irrigate the same 525.1 acres as under Certificate 12689.⁷ Permit 48419 was granted on April 8, 1986, to change the place of use of 0.54 cfs of water previously appropriated under Permit 47593. Permit 47593 was granted on July 6, 1984, to change the point of diversion and place of use of 0.54 cfs of water previously appropriated under Permit 46838.⁸ Permit 46838 was granted on November 21, 1983, to change the point of diversion and place of use of 0.54 cfs, a portion of water previously appropriated under Permit 40431.⁹ Permit 40431 was granted on December 9, 1980, to change the place of use of 5.4 cfs of water

⁵ File No. 35794, official records in the office of the State Engineer.

⁶ Exhibit No. 3, Public Administrative Hearing before the State Engineer, July 16, 1993.

⁷ File No. 48419, official records in the office of the State Engineer.

⁸ File No. 47593, official records in the office of the State Engineer.

⁹ File No. 46838, official records in the office of the State Engineer.

previously appropriated under Permit 34879.¹⁰ Permit 34879 was granted on November 9, 1978, to appropriate 5.4 cfs of water from an underground source for irrigation and domestic purposes.¹¹

The proposed point of diversion of Application 58596 is located within the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 31, T.19N., R.27E., M.D.B.&M. The existing point of diversion is located within the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of said Section 31. The place of use of Application 58596 is the same as that for Application 58595.⁶

III.

Applications 58595 and 58596 were each timely protested by Allen R. and Linda Greenhaw on the following grounds:¹²

Through its existing wells, particularly the one good well which is only about 900 feet from our well, applicant is already taking water to which we have prior rights, so that the water level in our one lone irrigation well is consistently down by twenty-five feet or more from its level before applicant's wells, particularly the one well closest to our property, were drilled. Allowing another well or increased pumping from existing wells for irrigating more land by applicant will without questions further deplete our water supply and make our "Prior rights" meaningless.

Therefore the protestant requests that the application be denied and that an order be entered for such relief as the State Engineer deems just and proper.

IV.

After proper notice to the parties with standing, a public administrative hearing in the matter of protested Applications

¹⁰ File No. 40431, official records in the office of the State Engineer.

¹¹ File No. 34879, official records in the office of the State Engineer.

¹² Exhibit No's. 5 and 6, Public Administrative Hearing before the State Engineer, July 16, 1993.

58595 and 58596 was held before the Hearing Officer for the State Engineer on July 16, 1993.¹³

FINDINGS OF FACT

I.

The Protestants contend that the Applicant, through Applications 58595 and 58596 is attempting to appropriate additional water beyond that which is already permitted. The Protestants feel that the Applicant will plant new crops and irrigate more land than that already permitted.^{12,14}

Applications 58595 and 58596 are attempting to change the point of diversion of 0.69 cfs and 0.54 cfs, respectively,^{1,6} which represent the exact diversion rates certificated under the base rights.^{2,7} The Applicant has not requested, nor does he intend to expand his acreage beyond the certificated place of use of the base rights.¹⁵ The State Engineer finds that approval of Applications 58595 and 58596 will not result in the diversion of any additional water nor the expansion of any irrigated acreage beyond that which is already appropriated under existing rights.

II.

During the irrigation season, the Protestants claim that the drawdown in their well, caused by the irrigation of the Applicant's property, is so excessive that the Protestants are unable to use their well.¹⁶ According to the Protestants' records for the years 1992 and 1993, the maximum depth to water at the Protestant's well occurred on July 30, 1993 and was found to be 107 feet, 6 inches,

¹³ Exhibit No. 1, Public Administrative Hearing before the State Engineer, July 16, 1993.

¹⁴ Transcript pp. 13-16, 18, 27, Public Administrative Hearing before the State Engineer, July 16, 1993.

¹⁵ Transcript p. 39, Public Administrative Hearing before the State Engineer, July 16, 1993.

¹⁶ Transcript pp. 19-20, 24, Public Administrative Hearing before the State Engineer, July 16, 1993.

down 28 feet, 9 inches from the static groundwater level.¹⁷ The Protestant's well was drilled to a depth of 250 feet¹⁸ and the pump is set at 157 feet.¹⁹ The State Engineer finds that there is ample water in the Protestant's well available to be pumped and used on the Protestant's property. The State Engineer further finds that the maximum drawdown at the Protestant's well represents a reasonable lowering of the groundwater table.

III.

Given the above finding that there is water available for pumping in the Protestants' well, a possible source of their poor pumping history may be their well and related pumping equipment. The water bearing strata contains gravelly sand and fine sand²⁰ and the well is not gravel-packed.²¹ Under these conditions, when the pump is turned on, sand particles can be pulled into the pump, causing serious damage to the pump bowls and bearings. This results in lower pumping efficiency, lower pumping capacity, and higher electrical costs.

The State Engineer finds that the holder of an underground water right is responsible for the design, maintenance, and efficient operation of the well and pump system. Important factors are the physical condition and efficiency of the well, the pump size and setting depth, the casing diameter, screen size, and the design of gravel packing.

¹⁷ Exhibit No's. 9 and 10, and Supplemental Exhibit date August 13, 1993, Public Administrative Hearing before the State Engineer, July 16, 1993.

¹⁸ Well log for Permit 30625, File No. 30625, official records in the office of the State Engineer.

¹⁹ Transcript p. 45, Public Administrative Hearing before the State Engineer, July 16, 1993.

²⁰ Well logs for Protestants' well, File No. 30625, official records in the office of the State Engineer.

²¹ Exhibit No. 7, Public Administrative Hearing before the State Engineer, July 16, 1993.

IV.

Under Applications 58595 and 58596, the Applicant is attempting to change the location of one of his production wells to a point farther away from the Protestant's well.²² There are several factors that influence the drawdown caused by the pumping of a well but it is generally accepted that the drawdown decreases as you go farther from the well.²³ In moving from 2600 feet from the Protestant's well to 2900 feet, the drawdown caused by the new well is about one percent less than that presently observed. The State Engineer finds that the anticipated drawdown observed at the Protestant's well, caused by the proposed well under Applications 58595 and 58596, will be slightly less than that caused by the existing well. The State Engineer further finds that the approval of Applications 58595 and 58596 will present no conflict with any existing rights.

V.

The State Engineer has previously ruled that certain wells drilled on the Applicant's place of use shall be equipped with a solid casing with no perforations, to a depth of 100 feet below ground surface.²⁴ This provision is to prevent the pumping of surface water that may percolate from any ditches or canals within the Truckee Carson Irrigation District. The State Engineer finds that it is in the public interest to continue to prevent the possible pumping of surface water in any new wells on the Applicant's place of use.

²² Transcript p. 61, Public Administrative Hearing before the State Engineer, July 16, 1993.

²³ Todd, D.K., Groundwater Hydrology, 2nd ed., John Wiley and Sons, New York, 1980. Assuming the pumping rate and the soil parameters of Storativity and Transmissivity remain constant, the drawdown at a particular time, observed a distance from a well, is proportional to $\log(1/r^2)$.

²⁴ Ruling No. 3334, dated April 8, 1986, official records in the office of the State Engineer.

VI.

The State Engineer has previously ruled that the groundwater level in the vicinity of the Protestant's and Applicant's properties shall be monitored.²⁵ The State Engineer finds that groundwater level monitoring should continue. Additionally, in order to alleviate concerns by the Protestants that water in excess of the permitted quantity is being withdrawn by the Applicant, the State Engineer finds that groundwater withdrawals on the Applicant's property should also be monitored.

CONCLUSIONS

I.

The State Engineer has jurisdiction over the subject matter of this action.²⁶

II.

The State Engineer is prohibited by law from granting a permit under an application to change where:

1. The proposed change conflicts with existing rights,
or
2. The proposed change threatens to prove detrimental to the public interest.

III.

The approval of the proposed changes under Application 58595 and 58596 will not result in the withdrawal and use of additional water, beyond that which has been appropriated under existing water rights.

IV.

The anticipated drawdown at the Protestant's well, is projected to be slightly less under Applications 58595 and 58596, than that observed under existing permits.

²⁵ Ruling No. 3204 dated June 19, 1985, official records in the office of the State Engineer.

²⁶ NRS Chapter 533 and 534.

V.

There is ample water in the Protestants' well that is available for use under the Protestants' water right. The State Engineer concludes that the approval of Applications 58595 and 58596 will not conflict with existing rights.

VI.

The State Engineer concludes that 28 feet, 9 inches of drawdown is not an unreasonable lowering of the water table.

VII.

There is no evidence in the record indicating that the approval of Applications 58595 and 58596 would prove detrimental to the public interest.

VIII.

In order to prevent the possible pumping of surface water, the casing in the proposed well under Applications 58595 and 58596 shall have a concrete seal to a depth of 100 feet.

IX.

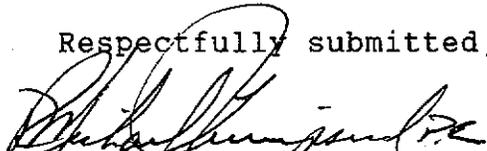
The groundwater level at the Protestants' well should continue to be monitored. A representative of the State Engineer will measure the water level at least twice each calendar year. In addition, the Applicant should keep accurate records of the quantity of water pumped each month from the proposed well under Applications 58595 and 58596 and from all the other wells on the Applicant's property. The Applicant should submit to the State Engineer an annual report of the monthly pumping records from all of his groundwater pumping activity.

RULING

The protests to the granting of Applications 58595 and 58596 are hereby overruled and Applications 58595 and 58596 are approved subject to the following:

1. The Permittee is required to pay the statutory fees;
2. The Permittee is required to submit an annual report to the State Engineer, due on December 31, of the pumping year, of the quantity of water pumped from all of the wells located on the Permittee's property.
3. The casing for the proposed well under Permit 58595 and 58596 shall have no perforations above the 100 foot level.

Respectfully submitted,



R. MICHAEL TURNIPSEED, P.E.
State Engineer

RMT/JCP/pm

Dated this 20th day of
January, 1994.