

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

IN THE MATTER OF PROTESTED APPLICATION 61645)
FILED TO APPROPRIATE THE UNDERGROUND WATERS)
OF THE TRACY SEGMENT GROUNDWATER BASIN (83))
WASHOE COUNTY, NEVADA.)

RULING

4402

GENERAL

I.

Application 61645 was filed on October 27, 1995, by Sierra Stone Co., dba All-Lite Aggregate, to appropriate 1.0 cubic feet per second (cfs) and not to exceed 110.2 acre feet annually (AFA) of the underground waters of the Tracy Segment Groundwater Basin, Washoe County, Nevada, for industrial use at a rock crushing plant located within Section 9, T.19N., R.21E., M.D.B.&M. The proposed point of diversion is located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 10, T.19N., R.21E., M.D.B.&M.¹

II.

Application 61645 was timely protested by the Truckee-Carson Irrigation District (TCID) on the grounds that:

This application, if granted will tend to adversely affect existing rights since the diversion will consumptively use water from a groundwater basin which has been fully appropriated and designated by the State Engineer. Records of the State Engineer and the USGS indicate that much of the potential groundwater recharge in the Truckee Canyon is rejected to the surface system (Truckee River) and does not actually reach the groundwater reservoir. Therefore new groundwater appropriations will adversely affect existing downstream Truckee River water right holders which rely on the rejected groundwater to the river.

Therefore, the Truckee-Carson Irrigation District respectfully requests that the application be denied and that an order be entered for such relief as the State Engineer deems just and proper.¹

¹ File No. 61645, Official Records in the Office of the State Engineer.

FINDINGS OF FACT

I.

The State Engineer has issued permits and certificates under which a total of 5,679 acre feet annually (AFA) of water have been appropriated from the underground waters within the Tracy Segment Groundwater Basin.² Of this quantity, 509 AFA of water have been appropriated for mining use, which is considered temporary in nature and will not have a permanent effect on the groundwater resource. The recharge to the groundwater in this basin is estimated to be 6,000 AFA.³ The State Engineer finds that there is additional water available for appropriation within the Tracy Segment Groundwater Basin.

II.

The Protestant asserts that potential recharge to the groundwater actually flows to the Truckee River and any new groundwater appropriation would capture water that would naturally flow to the Truckee River, resulting in a conflict with downstream water rights. This argument appears to have some merit in that the groundwater level in the proposed well is higher than the water surface of the Truckee River, thereby resulting in a positive hydraulic gradient toward the river.⁴ However, the groundwater contribution to the Truckee River flow within the Tracy Segment, is

²Official Records in the Office of the State Engineer.

³Water Resources-Reconnaissance Series Report 57: A Brief Water-Resources Appraisal of the Truckee River Basin, Western Nevada, Prepared cooperatively by the USGS and the Nevada Division of Water Resources, 1973.

⁴See letter dated June 7, 1996, from Resource Concepts, Inc., in File 61645, Official Records in the Office of the State Engineer.

probably very small, because most of the potential recharge enters the groundwater reservoir.⁵

To further analyze any effect on the Truckee River, a mathematical model was used to predict the drawdown of the horizontal static groundwater level, caused by the proposed pumping under Application 61645.⁶ The model predicts that after 10 years of continuous pumping, the drawdown will be 1.2 to 2.6 feet at a distance of 2,500 feet from the well. When this drawdown effect is superimposed on the hydraulic gradient, the impact on the gradient and on groundwater flow near the Truckee River is seen to be minimal. It is extremely unlikely that the hydraulic gradient would be reversed and that Truckee River water would flow toward the well. The positive hydraulic gradient toward the river is expected to remain as long as the groundwater pumping does not exceed the recharge.

After considering the above analysis, the State Engineer finds that the pumping of groundwater as proposed under Application 61645 will have no impact on the flow of the Truckee River. The State Engineer further finds that the approval of Application 61645 will not conflict with existing Truckee River water rights.

⁵The authors of Water Resources-Reconnaissance Series Report 57: A Brief Water-Resources Appraisal of the Truckee River Basin, Western Nevada, stated on page 38 that the potential recharge to the Tracy Segment Groundwater Basin runs off to the Truckee River to a much lesser degree than that which runs off to the river in the Truckee Canyon Segment, where all of the potential recharge probably runs off to the river. The inference here is that the major portion of the potential recharge actually reaches the groundwater reservoir, which is also supported by the 100% increase in groundwater storage in the first 100 feet in the Tracy Segment Groundwater Basin compared to the Truckee Canyon Groundwater Basin.

⁶The model is based on the Cooper-Jacob straight line approximation of the standard Theis non-equilibrium equation. The Transmissivity was taken as 25,000 gpd/ft (from the reference in footnote 3) and Storativity ranged from 0.001 to 0.1.

III.

The nearest well is located about 2,500 feet from the proposed well.⁷ As discussed above, the estimated, long term drawdown at a distance of 2,500 feet is 1.2 to 2.6 feet. The State Engineer finds that the anticipated drawdown caused by the proposed well represents a reasonable lowering of the groundwater level. The State Engineer further finds that the approval of Application 61645 will not conflict with any existing groundwater rights.

IV.

The Applicant proposes to use the water for dust control and processing at a rock crushing plant.¹ Given the above findings that there is unappropriated water and that there is no conflict with existing rights, the State Engineer finds that the use of water as proposed under Application 61645 is in the public interest.

CONCLUSIONS

I.

The State Engineer has jurisdiction over the subject matter of this action.⁸

II.

The State Engineer is prohibited by law from granting an application to appropriate the public waters of Nevada where:⁹

- 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.

⁷Official Records in the Office of the State Engineer.

⁸ NRS 533 and 534.

⁹ NRS 533.370.

III.

It is a condition of each appropriation of groundwater acquired under NRS Chapter 534 that the right must allow for a reasonable lowering of the static water level.¹⁰

IV.

The recharge to the Tracy Segment Groundwater Basin is 6,000 AFA and the quantity of water committed under permits and certificates issued by the State Engineer totals 5,679. The State Engineer concludes that there is unappropriated water available within this groundwater basin.

V.

The pumping of groundwater as proposed under Application 61645 will have no impact on the flow of the Truckee River and on any downstream water rights. In addition, the proposed pumping will not interfere with the closest existing well, located about 2,500 feet away. The State Engineer concludes that the approval of Application 61645 represents a reasonable lowering of the groundwater level and will not conflict with any existing rights.

VI.

The use of water for the proposed rock crushing plant was found to be in the public interest. Considering that unappropriated water is available and that no conflict with existing rights will occur, the State Engineer concludes that the approval of Application 61645 will not prove detrimental to the public interest.

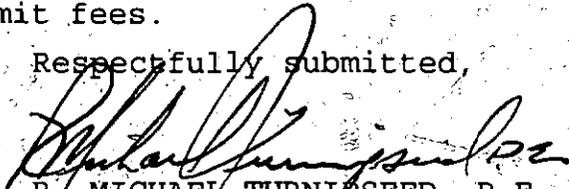
¹⁰NRS 534.110(4).

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The protest to Application 61645 is hereby overruled and said Application is hereby approved subject to existing rights and the payment of the statutory permit fees.

Respectfully submitted,


R. MICHAEL TURNIPSEED, P.E.
State Engineer

RMT/JCP/bk

Dated this 14th day of
August, 1996.