

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

IN THE MATTER OF APPLICATION)
85524 FILED TO APPROPRIATE THE)
UNDERGROUND WATERS WITHIN THE)
MARYS RIVER AREA HYDROGRAPHIC)
BASIN (42), ELKO COUNTY, NEVADA.)

RULING

#6365

GENERAL

I.

Application 85524 was filed on October 9, 2015, by W.H. Gibbs, Co. to appropriate 0.0188 cubic feet per second of groundwater for watering 600 cattle from January 1 through December 31 of each year within the Marys River Area Hydrographic Basin. The proposed point of diversion is described as being located within Lot 4 (SW¹/₄ SW¹/₄) of Section 18, T.42N., R.60E., M.D.B.&M. The proposed place of use is described as being located within the SW¹/₄ SW¹/₄ of said Section 18.¹

FINDINGS OF FACT

I.

The proposed point of diversion is located north of the confluence between T Creek (1,360 feet southeast) and Marys River (1,200 feet southwest), which are tributary to the Humboldt River, a fully decreed surface-water source.

Pumping from wells located near a surface-water source can induce recharge in excess of naturally occurring stream infiltration by increasing the hydraulic gradient between the stream channel and the well. This occurs regardless of when the stream is flowing, because groundwater storage depletion caused by pumping in one season will be replaced by enhanced recharge in the following season.

The proposed point of diversion is located close to surface-water sources that are tributary to the Humboldt River; therefore, the amount of any water that may be captured from the stream was estimated using Glover's solution.² For this analysis, transmissivity was estimated to be 900 ft²/day and the hydraulic conductivity and specific yield were estimated to be 5 ft²/day and 0.15 respectively for the proposed point of diversion.³ The State Engineer finds that the Glover's analysis

¹ File No. 85524, official records in the Office of the State Engineer.

² Glover, R. E., and C.G. Balmer, 1954, *River depletion resulting from pumping a well near a river*. Am. Geophysical Union Trans. v. 35; no. 3: 468-470; and see also, Jenkins, C.T., 1968, *Techniques of water-resources investigations of the United State Geological Survey* (Computation of rate and volume of stream depletion by wells). United States Geological Survey. Book 4, ch. D1; p. 17.

³ See Memorandum to file, File No. 85524, official records in the Office of the State Engineer.

demonstrates that after a period of five years, reduction in stream flow caused by pumping from the proposed well under Application 85524 would be approximately 80% of the pumped rate.

CONCLUSIONS OF LAW

I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.⁴

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:⁵

- 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 protectable 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.

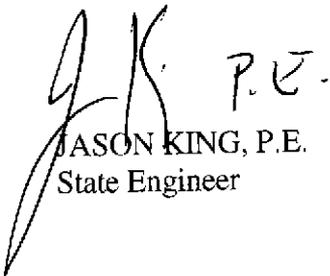
III.

Glover's analysis demonstrates that after five years, a well pumped under Application 85524 would capture approximately 80% of its water from the surface-water source, which has existing senior decreed rights; therefore, the State Engineer concludes that Application 85524 will conflict with existing rights and threaten to prove detrimental to the public interest.

RULING

Application 85524 is hereby denied on the grounds that approval of the application would conflict with existing rights and that it threatens to prove detrimental to the public interest.

Respectfully submitted,


JASON KING, P.E.
State Engineer

Dated this 19th day of

September, 2016.

⁴ NRS Chapters 533 and 534.

⁵ NRS § 533.370(2).