

IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATIONS 42688)
AND 43598 FILED TO APPROPRIATE THE)
PUBLIC WATERS OF AN UNDERGROUND)
SOURCE IN PAHRANAGAT VALLEY GROUND)
WATER BASIN, LINCOLN COUNTY, NEVADA.)

RULING

3225

GENERAL

Application 42688 was filed on October 20, 1980, by Duane and Alice Davis to appropriate 0.07 c.f.s. of water from an underground source for irrigation and domestic purposes on 8.4 acres of land within the E1/2 W1/2 NE1/4 Section 10, T.5S., R.60E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NE1/4 Section 10, T.5S., R.60E., M.D.B.&M.¹

Application 43598 was filed on April 27, 1981, by Bryan K. and Dawn N. Hafen to appropriate 1.7 c.f.s. of water from an underground source for irrigation and domestic purposes on 80 acres of land within the SE1/4 NE1/4 Section 10 and SW1/4 NW1/4 Section 11, T.5S., R.60E., M.D.B.&M. The point of diversion is described as being within the SW1/4 NW1/4 Section 11, T.5S., R.60E., M.D.B.&M.¹

Water Resources Reconnaissance Series Report No. 21, entitled "Ground-Water Appraisal of Pahrnagat and Pahroc Valleys, Lincoln and Nye Counties, Nevada, October 1963", by Thomas E. Eakin, was prepared cooperatively by the U.S. Geological Survey and the State of Nevada, Office of the State Engineer. This report is available in the Office of the State Engineer.

FINDINGS OF FACT

I.

The location of Crystal Springs is described as being within the SE1/4 NW1/4 Section 10, T.5S., R.60E., M.D.B.&M.² Crystal Springs has existing water rights by Claim No.s 01548, 01794 and 01825 under the Ash Springs/Pahrnagat Lake Decree of October 14, 1929, in the Tenth Judicial District Court of the State of Nevada in and for the County of Lincoln, as further amended on July 15, 1965, in the Seventh Judicial District Court of the State of Nevada in and for the County of Lincoln.¹ Said decree states that Crystal Springs is fully appropriated. The State Engineer has also denied a previous application on that basis.²

¹ Public record in the office of the State Engineer.

² See Application 7663, public record in the office of the State Engineer.

II.

The proposed point of diversion under Application 42688 is more fully described as being within the SW1/4 NE1/4 Section 10, T.5S., R.60E., M.D.B.&M., or at a point from which the W1/4 corner of said Section 10 bears S. 70° 53' 04" W., a distance of 3696.45 feet.¹ This description locates said point of diversion approximately 500 feet due west from Crystal Springs.

The proposed point of diversion under Application 43598 is more fully described as being within the SW1/4 NW1/4 Section 11, T.5S., R.60E., M.D.B.&M., or at a point from which the N1/4 corner of said Section 11 bears N. 35° 40' 56" E., a distance of 2438 feet.¹ This description locates said point of diversion approximately 2400 feet due east from Crystal Springs.

III.

Ground water in the Pahrnagat Valley Basin is stored and transmitted in the Paleozoic carbonate rocks beneath the valley fill. Hiko, Crystal and Ash Springs issue from the Paleozoic carbonate rocks and play a dominate role in the economy of Pahrnagat Valley. The magnitude of the combined discharge, averaging about 35.0 c.f.s. (25,000 acre-feet annually), is far in excess of the amount that might be supplied by recharge from precipitation within the defined surficial area of the valley (estimated average 1800 acre-feet annually). This indicates that much of the ground water discharged by the springs is derived from beyond the drainage divide of the valley. The general hydraulic gradient tends to slope southward and towards the White River Channel, of which Ash, Crystal and Hiko springs are located along said course.³

That the existing fractures or solution openings have extensive hydraulic connection throughout the area, is demonstrated by the regional hydrology. Ground water movement through carbonate rocks in this region occurs through both fractures and solution openings. Solution openings developed near sources of recharge where carbon dioxide carried by rain water penetrated the rocks, or where organic and other acids derived from decaying vegetation and other sources were carried by water into contact with the carbonate rocks. The principle significance of solution openings is that they greatly facilitate movement of ground water through carbonate rocks. Certainly, the large quantity of ground water issuing from fractures and solution openings, such as those of Ash, Crystal and Hiko Springs in Pahrnagat Valley, is a dramatic demonstration that ground water moves through Paleozoic carbonate rocks in this region of Nevada.³

IV.

Chemical analysis performed on or about September 3, 1984, on water samples from both Crystal Springs and the existing domestic well covered by Application 42688 was submitted to this office on May 28, 1985, by the applicant, Duane Davis.¹ The results of the analysis indicate that the well is drawing from the same source as Crystal Springs.

³ Water Resources Reconnaissance Series Report No. 21.

CONCLUSIONS

I.

The State Engineer has jurisdiction of 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, or
- B. The proposed use conflicts with existing rights, or
- C. The proposed use threatens to prove detrimental to the public interest.

III.

Information available to the State Engineer indicates that appropriation of water from the underground well locations described under Applications 42688 and 43598 could result in the interception of source water to Crystal Springs, a fully appropriated source, and therefore conflict with existing rights.

RULING

Applications 42688 and 43598 are herewith denied on the grounds that the points of diversion are in close proximity to Crystal Springs and analysis has shown that the source of water would be the same as Crystal Springs which is fully appropriated. Any further appropriation of water would conflict with the existing rights on Crystal Springs and threaten to prove detrimental to the public welfare.

Respectfully submitted,


PETER G. MORROS
State Engineer

PGM/SHF/bl

Dated this 14th day of
August, 1985.

⁴ NRS Chapters 533 and 534.

⁵ NRS 533.370(3).