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

IN THE MATTER OF PROTESTED APPLICATION 66503 FILED TO APPROPRIATE THE PUBLIC WATERS OF AN UNDERGROUND SOURCE WITHIN THE PAHRANAGAT VALLEY HYDROGRAPHIC BASIN (209), LINCOLN COUNTY, NEVADA.	)	**RULING** **#5558**

GENERAL

I.

Application 66503 was filed on June 28, 2000, by Cannon Nevada Corp. to appropriate 2.0 cubic feet per second of the underground water from the Pahranagat Valley Hydrographic Basin for the irrigation of 240 acres of land described as being located within the SW¼ NE¼, NW¼ SE¼, NE¼ SW¼, SE¼ NW¼, NW¼ SW¼, and SW¼ NW¼ of Section 14, T.4S., R.60E., M.D.B.&M. The proposed point of diversion is described as being located within the SW¼ NE¼ of Section 14, T.4S., R.60E., M.D.B.&M.[1]

II.

Application 66503 was timely protested by U.S. Fish and Wildlife Service on the grounds that the water is to be pumped from a point of diversion approximately one-half mile east of Hiko, Lincoln County, Nevada, and approximately one-quarter mile north of Hiko Spring, and because of the proximity of the pumping to Hiko Spring the granting of the application would threaten to prove detrimental to the public interest because it may result in loss of habitat for fish species classified by the State of Nevada as a protected and endangered fish with said species also listed as endangered under the Endangered Species Act, and may result in reduced spring discharge.[1]

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[1] File No. 66503, official records of the Office of the State Engineer.

FINDINGS OF FACT

I.

Hiko Spring is described as being located near the NW¼ SE¼ of Section 14, T.4S., R.60E., M.D.B.&M. The right to the use of water from Hiko, Crystal and Ash Springs was decreed by the Pahranagat Lake Decree of October 1929, as amended by the Nevada Supreme Court in *Alamo Irrigation Company, Inc. v. United States of America*, 81 Nev. 390 (1965). Said decree provides that the Hiko, Crystal and Ash Springs are fully appropriated. The State Engineer finds the proposed point of diversion under Application 66503 is less than one-quarter mile north of Hiko Spring and a State Engineer has previously denied an application that had a point of diversion approximately one-half mile from Crystal Springs.[2]

II.

> Ground water in the Pahranagat 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 dominant role in the economy of Pahranagat Valley. The magnitude of the combined discharge, averaging 35.0 cfs (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 1,800 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]

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[2] State Engineer's Ruling No. 3225, dated August 14, 1985, official records in the Office of the State Engineer.

[3] State Engineers Ruling No. 3225, dated August 14, 1985, official records in the Office of the State Engineer and T. Eakin, *Ground-water Resources-Reconnaissance Series Report 21, Ground-water Appraisal of Pahranagant and Pahroc Valleys, Lincoln and Nye Counties, Nevada*, pp. 13-15 (1963).

> That the existing fractures or solution openings have extension 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 opening. Solution openings developed near sources of recharge where carbon dioxide carried by rain water penetrate the rocks, or where organic and other acids derived from decaying vegetation and other sources were carried by water into contact with 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 factures and solution openings, such as those of Ash, Crystal and Hiko Springs in Pahranagat Valley, is a dramatic demonstration that ground water moves through Paleozoic carbonate rocks in this region of Nevada.[4]

Water Resources Reconnaissance Series Report No. 21 provides information as to the occurrence and movement of ground water.

> The occurrence of ground water in Pahranagat and Pahroc Valleys is one of contrast. The depth to ground water in most of Pahroc Valley is generally more than 200 feet. In Pahranagat Valley, however, the depth to water along the White River channel from the vicinity of Hiko Spring to Maynard Lake is at or within a few feet of land surface. Northward from Hiko along the lowland the depth to water increases; at the north end of Pahroc Valley it apparently is on the order of 250 feet or more. In most of Pahranagat Valley the younger valley fill along the White River channel is saturated to or nearly to land surface. Toward the mountains the depth to water increases.[5]

"Thus, based on the potential hydraulic gradients, ground water probably moves from the northwest, north, and northeast toward the principal carbonate springs in Pahranagat Valley."[6]

Present development in Pahranagat Valley is using nearly all of the natural spring discharge of about 25,000 acre-feet per

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[4] State Engineer's Ruling No. 3225, dated August 14, 1985, official records in the Office of the State Engineer and Water Resources Reconnaissance Series Report No. 21, p.11.

[5] Water Resources Reconnaissance Series Report No. 21, p.12.

[6] Id. at 15.

year.[7] The ground water in the Pahranagat Valley is stored and transmitted in the Paleozoic carbonate rocks beneath the valley fill. From this carbonate flow, Hiko, Crystal and Ash Springs issue and play a dominant role in the economy of Pahranagat Valley.[8] The right to use the water of Hiko, Crystal and Ash Springs was decreed by the Pahranagat Lake Decree of October 1929, amended by the Nevada Supreme Court in *Alamo Irrigation Company, Inc. v. United States of America*, 81 Nev. 390 (1965).

The State Engineer finds the hydraulic gradient indicates that groundwater flow is southward from the northern portion of Pahranagat Valley towards the White River Channel along which are located Hiko, Crystal and Ash Springs and Upper and Lower Pahranagat Lake. The State Engineer finds the proximity of the point of diversion under this application to Hiko Spring and the path of the White River Flow System indicates that to grant a permit under Application 66503 would interfere with existing rights and thereby threaten to prove detrimental to the public interest.

CONCLUSIONS OF LAW

I.

The State Engineer has jurisdiction over the parties and subject matter of this action and determination.[9]

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:[10]

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

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[7] Id. at 1.
[8] Water Resources Reconnaissance Series Report No. 21, pp. 13-15.
[9] NRS chapters 533 and 534.
[10] NRS § 533.370(4).

protectible 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.

The State Engineer concludes that to permit the appropriation of ground water under Application 66503 would interfere with existing water rights thereby threatening to prove detrimental to the public interest.

RULING

Application 66503 is hereby denied on the grounds that to permit the appropriation of water under the application would interfere with existing rights and threaten to prove detrimental to the public interest. No ruling is made on the merits of the protests.

Respectfully submitted,

Hugh Ricci, P.E.

HUGH RICCI, P.E.
State Engineer

HR/SJT/jm

Dated this 9th day of

February, 2006.