IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATION 48648) FILED TO APPROPRIATE THE PUBLIC) WATERS OF AN UNDERGROUND SOURCE IN) KINGS RIVER VALLEY, RIO KING SUBAREA,) HUMBOLDT COUNTY, NEVADA.)

RULING

GENERAL

Application 48648 was filed on December 21, 1984, by Albert L. and Barbara Tobiasson to appropriate 3.52 c.f.s. of water from an underground source for irrigation purposes on 299.93 acres of land within the E½ Section 8, T.44N., R.34E., M.D.B.&M. The point of diversion is described as being within the NE¼ NE¼ Section 8, T.44N., R.34E., M.D.B.&M.[1]

Water Resources Bulletin No. 31 entitled "The Effects of Pumping On the Hydrology of Kings River Valley, Humboldt County, Nevada, 1957-64", was prepared cooperatively by the U.S. Department of the Interior, Geological Survey, and the Nevada Department of Conservation and Natural Resources. This report may be reviewed at the State Engineer's office.

FINDINGS OF FACT

I.

The Rio King Subarea forms the northern two-thirds (2/3) of the Kings River Valley drainage basin, in north central Humboldt County, Nevada, and includes about two (2) square miles in Harney County, Oregon. Kings River Valley drainage basin has an area of about 420 square miles, with a north-south length of about 43 miles and an east-west width of about 12 miles.

The Rio King Subarea is defined by the Bilk Creek Mountains on the west and the Quinn River Mountains on the east. These two mountain ranges merge at the northern end of the Rio King Subarea. The southern boundary is defined by the Coyote HIlls, which extend eastward from the Bilk Creek Range more than half way across the valley floor.[2]

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[1] Public record in the office of the State Engineer.

[2] Water Resources Bulletin No. 31.

II.

The perennial yield of a hydrologic system is the maximum amount of water of usable chemical quality that can be consumed economically each year for an indefinite period of time. If the perennial yield is continually exceeded, ground water levels will decline until the ground water reservoir is depleted of water of usable quality or until the pumping lifts become uneconomical to maintain. Perennial yield cannot exceed the natural replenishment to an area indefinitely and ultimately is limited to the maximum amount of natural discharge that can be salvaged for beneficial use.[3]

Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible reversal of ground water gradients which could result in significant changes in the recharge-discharge relationship. These conditions have developed in several other ground water basins within the State of Nevada where storage depletion and declining water tables have been recorded and documented.[3]

III.

By Order No. 740, dated April 2,1980, the State Engineer designated and described Kings River Valley Ground Water Basin (including the Rio King Subarea) under the provisions of NRS 534 (Conservation and Distribution of Underground Waters).[1]

IV.

By Order No. 743, dated April 24, 1980, the State Engineer declared, under the provisions of NRS 534, that within the Kings River Valley Ground Water Basin (including the Rio King Subarea), the irrigation of additional land using underground water is not considered to be a preferred use and ordered that all applications filed after April 24, 1980, for such irrigation use will be denied.[1]

V.

The estimtated perennial yield of the Rio King Subarea is 10,000 acre-feet per year.[2]

VI.

Certificates and Permits have been issued for the appropriation of ground water in the Rio King Subarea which total about 59,000 acre-feet per year.[1]

VII.

Overdraft of a ground water reservoir may be defined as the amount by which the net pumping draft exceeds the perennial yield. Overdraft of the ground water reservoir of the Rio King Subarea has been documented.[2]

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[3] See attached Appendix of References.

APPENDIX OF REFERENCES

Land Subsidence in Las Vegas Valley, 1935-63, Information Series No. 5 U.S.G.S.

State of Nevada, Department of Highways, Report on Land Subsidence in Las Vegas Valley.

Evaluation of the Water Resources of Lemmon Valley with Emphasis on Effects of Ground-Water Development to 1971, J.R. Harrill, Water Resources Bulletin No. 42, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1972.

Hydrologic Response to Irrigation Pumping in Diamond Valley, Eureka and Elko Counties, Nevada, 1950-65, J.R. Harrill, Water Resources Bulletin No. 35, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1968.

Effects of Irrigation Development on the Water Supply Quinn River Valley area, Nevada and Oregon, 1950-1964, C.J. Huxel, Jr., Water Resource Bulletin No. 34, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1966.

Hydrologic Response to Irrigation Pumping in Hualapai Flat, Washoe, Pershing and Humboldt Counties, Nevada, 1960-1967, J.R. Harrill, Water Resource Bulletin No. 37, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1969.

The Effects of Pumping on the Hydrology of Kings River Valley, Humboldt County, Nevada, 1957-1964, G.T. Malmberg and G.F. Worts, Jr., Water Resource Bulletin No. 31, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1966.

Effects of Ground-Water Development on the Water Regimen of Paradise Valley, Humboldt County, Nevada, 1948-1968, and Hydrologic Reconnaissance of the Tributary Areas, J.R. Harrill and D.O. Moore, Water Resource Bulletin No. 39, United States Geological Survey, 1970.

Ground-Water Storage Depletion in Pahrump Valley, Nevada-California, 1962-75, J.R. Harrill, Open File Report 81-635, United States Geological Survey, 1982, prepared in cooperation with Nevada Division of Water Resources.

Development of a Relation for Steady State Pumping Rate for Eagle Valley Ground-Water Basin, Nevada, F.E. Arteaga, T.J. Durbin, United States Geological Survey, 1978, prepared in cooperation with Nevada Division of Water Resources.

Basic Ground-Water Hydrology, Ralph C. Heath, U.S. Geological Survey Water Supply Paper 2220, 1983.

Methods of Determining Permeability, Transmissibility and Drawdown, U.S. Geological Survey Water Supply Paper 1536-1, R.H. Brown, J.G. Ferris, C.E. Jacob, D.B. Knowles, R.R. Meyer, H.E. Skibitzke and C.F. Theis, 1963.

Subsidence in Las Vegas Valley, John w. Bell, Nevada Bureau of Mines and Geology Bulletin 95.

Subsidence in United States due to Ground-Water Overdraft - A Review, J.F. Poland, Proceedings of the Irrigation and Drainage Division Specialty Conference, April 1973, American Society of Civil Engineers.

VIII.

The State Engineer is authorized to deny applications prior to publication when a previous application for a similar use of water within the same basin has been rejected.[4]

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action.[5]

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:[4]

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.

Approval of Application 48648 will result in additional appropriation of ground water for irrigation purposes in excess of the perennial yield of the basin.

RULING

Application 48648 is herewith denied on the grounds that approval thereof would adversely affect existing rights and would be detrimental to the public interest and welfare.

Respectfully submitted,

PETER G. MORROS
State Engineer

PGM/RT/bl

Dated this 4th day of

April, 1985.

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[4] NRS 533.370(3).

[5] NRS Chapters 533 and 534.