

IN THE MATTER OF APPLICATIONS 33697,  
35026 and 35027 TO APPROPRIATE WATER  
FROM AN UNDERGROUND SOURCE FOR IRRIGA-  
TION AND DOMESTIC PURPOSES BY ARAM  
AND STELLA HAROOTUNIAN WITHIN EAGLE  
VALLEY, CARSON CITY, NEVADA.

S U P P L E M E N T A L  
R U L I N G  
O N  
R E M A N D

INTRODUCTION

Application 33697 1/ was filed on September 22, 1977, by Aram and Stella Harootunian to appropriate 5.4 c.f.s. of water from an underground source for irrigation and domestic purposes within Eagle Valley Designated Ground Water Basin. The point of diversion is described as being within the SW $\frac{1}{4}$  NE $\frac{1}{4}$  Section 7, T. 15 N., R. 20 E., M.D.B.&M., and the place of use is 546 acres within the NW $\frac{1}{4}$ , W $\frac{1}{2}$  NE $\frac{1}{4}$  Section 7; W $\frac{1}{2}$  SE $\frac{1}{4}$ , SE $\frac{1}{4}$  SE $\frac{1}{4}$ , E $\frac{1}{2}$  SW $\frac{1}{4}$ , W $\frac{1}{2}$  NW $\frac{1}{4}$ , SE $\frac{1}{4}$  NW $\frac{1}{4}$ , NE $\frac{1}{4}$  NW $\frac{1}{4}$ , SW $\frac{1}{4}$  NE $\frac{1}{4}$  Section 6, T. 15 N., R. 20 E., M.D.B.&M. The period of use is January 1st to December 31st of each year.

Application 35026 2/ was filed on February 23, 1978, by Aram and Stella Harootunian to appropriate 5.4 c.f.s. of water from an underground source for irrigation and domestic purposes within the Eagle Valley Designated Ground Water Basin. The point of diversion is described as being within the SE $\frac{1}{4}$  SW $\frac{1}{4}$  Section 6, T. 15 N., R. 20 E., M.D.B.&M., and the place of use is 546 acres as described under Application 33697. The period of use is January 1st to December 31st of each year.

Application 35027 3/ was filed on February 23, 1978, by Aram and Stella Harootunian to appropriate 5.4 c.f.s. of water from an underground source for irrigation and domestic purposes within the Eagle Valley Designated Ground Water Basin. The point of diversion is described as being within the SW $\frac{1}{4}$  NW $\frac{1}{4}$  Section 6, T. 15 N., R. 20 E., M.D.B.&M., and the place of use is 546 acres as described under Applications 33697 and 35026. The period of use is January 1st to December 31st of each year.

Application No. 33697 was protested 4/ on June 6, 1978, by Carson City on the grounds:

"The proposed well location is within 600 feet of a Carson City water line. It is also within 3000 feet of Carson City Well #6 which pumps approximately 1177 acre-feet per year and within 4000 feet of Carson City Well #10 which pumps approximately 774 acre-feet per year. It is felt, therefore, that another well in this area may adversely affect Carson City's water rights."

Application 35026 was protested 5/ on June 6, 1978, by Carson City on the grounds:

"The proposed well location falls within 1600 feet of Carson City Well #10 which pumps approximately 774 acre-feet per year and within 2300 feet of Carson City Well #6 which pumps approximately 1177 acre-feet per year. It is felt, therefore, that another well in this area may adversely affect Carson City's water rights."

Application 35027 was protested 6/ on June 6, 1978, by Carson City on the grounds:

"The proposed well location falls within 4000 feet of two Carson City municipal wells, #7 and #10, pumping approximately 407 and 774 acre-feet per year, respectively, therefore, it is felt that a well in this location would adversely affect Carson City water rights."

Applications 33697, 35026 and 35027 became ready for action 7/ on July 15, 1978, after completing the statutory publication and protest periods.

On March 20, 1979, after due notice, a public administrative hearing was held before the State Engineer in the matter of Applications 33697, 35026 and 35027. The transcript of that hearing is available at the State Engineer's Office in Carson City as a matter of public record. 8/

On May 23, 1979, the State Engineer issued a written ruling 9/ denying Applications 33697, 35026 and 35027 on the grounds set forth in the ruling. The ruling is available at the Office of the State Engineer in Carson City as a matter of public record.

On June 22, 1979, the applicants under Applications 33697, 35026 and 35027 filed a notice of petition for review pursuant to NRS 533.450. In addition, a Petition for Review of Ruling of the State Engineer and for a Declaratory Judgement was filed in the First Judicial District Court of the State of Nevada in and for Carson City.

On March 19, 1980, the First Judicial District Court entered a certain order entitled, Decision on Motions 10/ and remanded the matter of the denial of Applications 33697, 35026 and 35027 for additional findings by the State Engineer on the issues of abandonment and/or forfeiture of certain Carson City certificated water rights.

On August 3, 1981, the State Engineer issued a pre-hearing order 11/ #774 setting forth pre-hearing procedures.

In preparation for carrying out the remand order of the court, the State Engineer reviewed the entire record prior to proceeding with administrative action. In addition to the remand order, there were subsequent additional proceedings before the court for purposes of clarification of the remand order. The pre-hearing order was issued by the State Engineer for the express purpose of providing a due process administrative procedure to any holder of a certified water right that might be subjected to a determination of forfeiture or abandonment of that right. The procedure set forth in the pre-hearing order provided substantial time limits for compliance as well as provision for extension of time.

On April 20, 1982, after due notice, a public administrative hearing was set before the State Engineer in Carson City. At this time the hearing was continued because of a difference in opinion 12/ and recollection among the applicant, the protestant and the office of the State Engineer on the issues to be presented and decided on remand.

On October 4, 1982, all parties entered into a stipulation 13/ on the issues and matters to be heard before the State Engineer on remand.

On October 7, 1982, the First Judicial District Court of the State of Nevada under signature of Michael R. Griffen, District Judge, entered an Order 14/ setting the scope of the remand hearing.

Subsequent to several delays, the public administrative hearing, before the State Engineer, was reconvened on November 19, 1982 and concluded on December 15, 1982, at which time a briefing schedule was adopted.

In 1966, Water Resources-Reconnaissance Series Report 39 15/ Hydrologic Appraisal of Eagle Valley, Ormsby County, Nevada, by G. F. Worts, Jr. and G. T. Malmberg, was prepared cooperatively by the Nevada Department of Conservation and Natural Resources and the U. S. Department of Interior, Geological Survey. This report is available in the Office of the State Engineer.

In 1975, Water Resources-Reconnaissance Series Report 59 16/ Water Resources Appraisal of the Carson River Basin, Western Nevada, by Patrick A. Clancy and T. L. Katzer, was prepared cooperatively by the Nevada Department of Conservation and Natural Resources and the U.S. Department of the Interior, Geological Survey. This report is available in the Office of the State Engineer.

In 1978, Open-File Report 79-261 17/ Development of a Relation for Steady-State Pumping Rate for Eagle Valley Ground Water Basin, Nevada, by Freddy E. Arteaga and Timothy J. Durbin, was prepared cooperatively by the Nevada Department of Conservation and Natural Resources, Division of Water Resources, and the U. S. Department of Interior, Geological Survey. This report is available in the Office of the State Engineer.

In 1982, Open-File Report 80-1224 18/ Mathematical Model Analysis of the Eagle Valley Ground Water Basin, West Central Nevada, by Freddy E. Arteaga, was prepared cooperatively by the Nevada Department of Conservation and Natural Resources, Division of Water Resources, and the U. S. Department of Interior, Geological Survey. This report is available in the Office of the State Engineer.

By Order No. 424, dated February 23, 1972, the State Engineer designated and described the Eagle Valley Ground Water Basin as a critical ground water basin under the provisions of NRS Chapter 534. 19/

#### FINDINGS OF FACT

The mean annual water yield 20/ of Eagle Valley is approximately 9,000 acre-feet. Of this yield 7,800 acre-feet occurs as surface water and 1,200 acre-feet occurs as direct ground water recharge. The total ground water recharge as a result of the residual of inflow to the system minus sewage discharge and consumptive use is estimated at approximately 6,000 acre-feet annually for the period 1967-77. In addition, it is estimated that approximately 700 acre-feet annually enter the ground water system through irrigation of the city golf course for a total of 6,700 acre-feet of recharge annually.

II.

Existing certified and permitted ground water rights 21/ in the Eagle Valley Ground Water Basin for all uses presently total approximately 9,000 acre-feet annually, including the limit of 6,500 acre-feet annually under protestant Carson City's existing rights.

III. DISTINCTIONS BETWEEN ABANDONMENT AND FORFEITURE

The Nevada Supreme Court in entering judgment 22/ in a water right case devoted considerable attention to the basic and fundamental distinctions between abandonment and statutory forfeiture as well as establishing precedent for criteria to be considered in making findings on loss of water rights. The court has clearly held that abandonment is a voluntary matter, the relinquishment of the right by the owner with the intention of forsaking and deserting it. Forfeiture on the other hand is the involuntary or forced loss of the right caused by failure of the holder of appropriation to utilize the resource as required by statute. 23/

The court held that:

"In that statute both the words 'abandonment' and 'forfeiture' are used and said terms are entirely different in their operation."

"Although the terms 'abandonment' and 'forfeiture' are oftentimes used interchangeably, even by the courts, upon the subject of the loss of water rights, and other rights used in connection therewith, there is a decided distinction in their legal significance and one which, in view of the forfeiture clauses enacted by recent legislation should be observed. While upon the one hand, abandonment is the relinquishment of the right by the owner with the intention to forsake and desert it, forfeiture, upon the other hand, is the involuntary or forced loss of the right caused by the failure of the appropriation or owner to do or perform some act required by the statute. Forfeiture is a punishment annexed by law to some illegal act or negligence in the owner of lands, tenements, or hereditaments, whereby he loses all his interests therein."

"The element of intent, therefore, so necessary in the case of abandonment, is not a necessary element in the case of forfeiture. In fact, a forfeiture may be worked directly against the intent of the owner of the right to continue in the possession and the use of the right. Therefore, forfeiture as applied to water rights and other rights in this connection is the penalty fixed by statute for the failure to do, or the unnecessary delay in doing, certain acts tending toward the consummation of a right within a specified time, or, after the consummation of the right, the failure to use the same for the period specified by the statute."

"We think it will be conceded that loss by forfeiture presents a much stricter and more absolute procedure than loss by abandonment."

Both the relinquishment of possession and the intent are essential to a finding of abandonment and are well defined and set in case law of the Western States. 24/ Contrary to the contention 25/ of counsel for the applicants, the State Engineer finds no disparity or confusion in definition. Mere non-use of the water to which an appropriator is entitled under valid rights without substantial and conclusive evidence of intent to abandon and relinquish possession is not sufficient for a finding of abandonment.

#### IV. BURDEN OF PROOF IN DETERMINATION OF FORFEITURE OR ABANDONMENT

There is no requirement in statute or case law that mandates as a condition precedent to denying an application to appropriate that the State Engineer must first determine that prior rights have been forfeited or abandoned, though it may be argued that if grounds for denial are that there are no unappropriated waters in the source, that constitutes a determination that all prior rights are in good standing. This argument is rejected by the basic fact that the avoidance of the chaos which the present water law in this state was designed to prevent, would result, particularly if the act of filing an application to appropriate required in-depth investigation of all prior rights on the source. This squarely places the burden on the applicant to raise the question of possible abandonment or forfeiture to support his application. Revert vs. Ray 26/ clearly establishes that if an applicant or party raises a relevant issue, then a determination should be made. This is not to be misinterpreted as any contention that the State Engineer should not or may not initiate a determination. The burden 27/ is upon whomever seeks the declaration, be it the State Engineer, a private party, or protestant, or an applicant to establish by conclusive and substantial evidence that the act of forfeiture or abandonment has occurred. It then becomes incumbent upon the holder of the right to meet the burden of proof on continuous use.

#### V. ABANDONMENT

There was no substantial or conclusive evidence or testimony 28/ presented at the administrative hearing before the State Engineer to support a finding of abandonment of the existing water rights held by Carson City as set forth in the Remand Order of the court. 29/

#### VI. FORFEITURE

In the case of ground water, a finding of forfeiture would require five successive years of non-use after April 15, 1967. 30/ Additionally, a determination must be made as to what rights the forfeiture statute is applicable. NRS 534.090 (1) would apply the forfeiture provisions to "any right, whether it is an adjudicated right, an unadjudicated right, or permitted", regardless of the date that the right was initiated.

It would then follow that "permitted" rights which are the subject of a certificate are subject to forfeiture. An important statutory procedure 31/ is set forth that provides for certain time periods to show beneficial use under approved applications to appropriate (permits). Cancellation 32/ of a permit may be considered the parallel counterpart to forfeiture and requires not only due diligence but the same policy of beneficial use of the public waters as does forfeiture. A certificated permitted right is then a determined right and becomes subject to the forfeiture statute. 33/ A permit which has not been perfected through beneficial use to a certificate is not subject to a determination of forfeiture.

In Manse the court held that because of the public importance of the resource circumstances of the particular case . . . . .

"Will not cause to be forfeited or taken away valuable rights when the non-use of water was occasioned by justifiable causes. . . ."

To provide defense against a forfeiture on the grounds that circumstances prevent usage would require the circumstance to be such as to apply to all appropriators. The question of whether municipal water purveyors should be allowed justifiable causes related to the very important public interest of water for human consumption and needs that are not available to other appropriators would only serve to create exemptions to the forfeiture statute and weaken the wise policy of beneficial use as the limit and extent of the right. Adherence to an administrative ruling as an example, curtailment of pumping, or enforced discontinuance of the use of water, could serve as a defense against forfeiture of that portion curtailed. Municipal, quasi-municipal and domestic use of water unquestionably is closely associated with the public health and welfare because of the indispensability of water to human life and other activities carried on in communities. It is accepted that in the public interest, purveyors, especially municipalities, may appropriate water for contemplated future reasonable needs. Future growth and an assured water supply are provided for within the permit provisions of the statute 34/ with the public interest in beneficial use of water protected by the due diligence concept. The use of permitted rights to provide for projected growth was recognized by the recent enactment of NRS 533.380 (4) which sets forth considerations to be applied to the request for extension of time to file proof of beneficial use for municipal use. Additionally, the availability of future municipal water supplies is provided for by the preferred use concepts in the statute 35/ within basins where the water supply is being depleted.

Permit 15806, Certificate 5404 36/

Application 15806 was filed on September 17, 1954, by Simone Lompa to appropriate 6.0 c.f.s. of water from an underground source for irrigation and domestic purposes. A permit was issued on January 14, 1955, in the amount of 4.0 c.f.s. not to exceed 4.0 acre-feet per acre of land irrigated. The proof of beneficial use was filed on August 17, 1962, and Certificate 5404 was subsequently issued on November 15, 1962, in the amount of 3.60 c.f.s., not to exceed 1176.0 acre-feet annually for irrigation of 294 acres of land. Carson City gained title of Permit 15806, Certificate 5404, through condemnation proceedings and ownership was reflected in the name of Carson City upon filing of the Final Order of Condemnation with the State Engineer's Office on September 29, 1976.

Application 43523 37/ to change the point of diversion, manner and place of use of Permit 15806, Certificate 5404, was filed on April 10, 1981, by Carson City. A permit was granted on July 8, 1982, in the amount of 3.60 c.f.s., not to exceed 383.20 million gallons annually (1176.0 acre-feet). The terms of the permit set the times for filing the Proof of Completion of Work and Proof of Beneficial Use as August 8, 1983 and August 8, 1986, respectively. Permit 15806, Certificate 5404, has been totally abrogated by the approval of Permit 43523.

Permit 43523 is not subject to a forfeiture determination and no evidence was established in the record to support a determination of forfeiture on Permit 15806, Certificate 5404, prior to the issuance of a permit under application to change 43523.

Permit 19564, Certificate 5718 38/

Application 19564 was filed on February 13, 1961, by Carson Water Company, Inc. to appropriate 2.5 c.f.s. of water from an underground source for municipal and domestic purposes. A permit was granted on May 26, 1961, for 1.0 c.f.s. The Proof of Beneficial Use was filed on December 16, 1963, and Certificate 5718 was issued on April 8, 1964 for 1.0 c.f.s., not to exceed 235.905 million gallons annually (723.97 acre-feet). Title of Permit 19564, Certificate 5718, was transferred to Carson City on August 20, 1976 on the records of the State Engineer.

On July 21, 1977, Application 32878 was filed to change a portion of the point of diversion of water heretofore appropriated under Permit 19564, Certificate 5718. A permit was granted on June 22, 1978, in the amount of 0.554 c.f.s., not to exceed 130.691 million gallons annually (401.08 acre-feet), thereby abrogating a portion of Permit 19564, Certificate 5718. The Proof of Completion and Beneficial Use are due on January 22, 1984.

On August 19, 1981, Application 44311 was filed 39/ to change the point of diversion, manner and place of use of the remaining portion under Permit 19564, Certificate 5718. A permit was granted on July 8, 1982, in the amount of 0.446 c.f.s., not to exceed 105.214 million gallons annually, (322.89 acre-feet) thereby abrogating the remaining portion of Permit 19564, Certificate 5718.

The times for filing the Proofs of Completion and Beneficial Use were set as August 8, 1983 and August 8, 1986, respectively. The record 40/ shows a period of five years of continuous non-use of water under Permit 19564, Certificate 5718, for that portion (322.89 acre-feet) not changed by Permit 32878 and prior to the approval of Permit 44311. The record 41/ reflects that 1.86 acre-feet were placed to beneficial use during the period 1977 thru 1981. The portion changed by Permit 32878 (401.08 acre-feet) is not subject to a determination of forfeiture since no record of continuous non-use was established prior to the change. 42/

Permit 23672, Certificate 6471 43/

Application to change 23672 was filed on February 3, 1967, by Carson Water Co., Inc. to change the point of diversion of water from an underground source previously appropriated under Permit 22706. The manner of use is described as municipal and domestic. Permit 22706 changed the place and manner of use of water that was previously appropriated under Permit 20585. Ownership of Permit 23672 was reflected in the name of Carson City on August 20, 1976 on the records of the Office of the State Engineer. A permit was granted under Application 23672 on August 21, 1967, for 0.25 c.f.s., not to exceed 120.0 acre-feet of water annually. The Proof of Beneficial Use was filed on September 20, 1967 and Certificate 6471 was issued on January 17, 1968, in the amount of 0.25 c.f.s., not to exceed an annual duty of 120.0 acre-feet.

Pumpage records 44/ submitted into evidence support continuous use of the certificated amount of water under this right.

Permit 23673, Certificate 6472 45/

Permit 29906, Certificate 9635 46/

Application 23673 was filed February 3, 1967, by Carson Water Company, Inc., to change the point of diversion of water heretofore appropriated under Permit 22705 for municipal and domestic purposes. A permit was granted on September 18, 1967. The Proof of Beneficial Use was filed on September 20, 1967, and Certificate 6472 was issued on January 17, 1968, for 5.0 c.f.s., not to exceed 1.179 billion gallons annually (3618.22 acre-feet).

On January 13, 1976, Application 29906 to change the point of diversion and place of use of a portion of the water heretofore appropriated under Permit 23673, Certificate 6472, was filed and a permit subsequently granted on March 3, 1978 for 2.0 c.f.s., not to exceed 471.81 million gallons annually (1447.93 acre-feet). The Proof of Beneficial Use was filed on June 20, 1981, and Certificate 9635 was issued on November 12, 1981, for 2.0 c.f.s., not to exceed an annual duty of 1447.94 acre-feet. A review of the Proof of Beneficial Use filed under Permit 29906 indicates that the annual duty granted on Certificate 9635 was erroneously computed and should have been 1219.39 acre-feet annually based on the metered readings 47/ submitted with the Proof of Beneficial Use over a continuous 12-month period. A corrected certificate will be issued under Permit 29906.

On July 21, 1977, Application 32879 was filed to change the point of diversion of an additional portion of water heretofore appropriated under Permit 23673, Certificate 6472. A permit was granted on June 22, 1978, for 1.245 c.f.s., not to exceed an annual duty of 293.702 million gallons (901.34 acre-feet). The Proof of Completion of Work and Proof of Beneficial Use are due on January 22, 1984. There remains under Permit 23673, Certificate 6472, 1.755 c.f.s., not to exceed 1270.26 acre-feet annually.

Pumpage records 48/ submitted into evidence for period 1974 thru 1981 indicate that in the year 1978, 1,056.85 acre-feet were pumped which would indicate that portion of the right remaining under Permit 23673, Certificate 6472, (202.10 acre-feet) was subject to a period of five years of continuous non-use.

The permit granted under 29906 on March 3, 1978, abrogated a portion of the right under Permit 23673, Certificate 6472, with the requirement that beneficial use be shown. Therefore, Permit 29906 is not subject to a determination of forfeiture since a continuous five-year period has not elapsed subsequent to the filing of the Proof of Beneficial Use.

Prior to the granting of Permits to change 29906 and 32879, the evidence does not establish a period of continuous non-use to meet forfeiture on Permit 23673, Certificate 6472 or any portion thereof.

Permit 15758, Certificate 6605 49/

Permit 29002, Certificate 9904 50/

Application 15758 was filed on August 4, 1954, by Carson Water Company to appropriate 3.0 c.f.s. of water from an underground source for municipal purposes. A permit in the amount of 3.0 c.f.s. was granted on August 26, 1963. The Proof of Beneficial Use was filed on February 2, 1968, and Certificate 6605 was issued on March 28, 1968 with a diversion rate of 3.0 c.f.s. (2172.0 acre-feet). Transfer of title under this permit was made on August 20, 1976, on the records of the State Engineer's Office to Carson City.

Application 29002 to change the point of diversion and place of use of a portion of Permit 15758, Certificate 6605, was filed on December 6, 1974. 2/ A permit was subsequently granted on May 21, 1975, changing 2.443 c.f.s. (1765.6 acre-feet) for municipal purposes. The Proof of Beneficial Use 3/ was filed on December 30, 1981 and Certificate 9904 was issued on April 5, 1982, in the amount of 1.93 c.f.s., not to exceed 1396.93 acre-feet annually. No evidence was provided at the administrative hearing on amounts of water diverted to beneficial use prior to the year 1974. Pumpage records 51/ have been maintained by Carson City during the years 1978, 1979, 1980 and 1981 and submitted into evidence.

Application 43522 to change the point of diversion and place of use of a portion of Permit 15758, Certificate 6605, was filed on April 10, 1981. A permit was subsequently granted in the amount of 0.557 c.f.s. on July 8, 1982 and setting the times for filing the Proofs of Completion and Beneficial Use as August 8, 1983 and August 8, 1986, respectively. Permit 15758, Certificate 6605, has been totally abrogated by Permits 29002 and 43522.

Pumpage records 52/ indicate that the maximum amount of water pumped under Permit 29002, Certificate 9904, (Well #11) was 809.78 acre-feet during the year 1981. A corrected certificate will be issued to reflect the actual amount of water placed to beneficial use. Permit 29002, Certificate 9904, is not subject to a determination of forfeiture since a five-year period has not elapsed since the filing of the Proof of Beneficial Use on December 30, 1981.

The issuance of a permit under application to change 43522 allowed the change of point of diversion and place of use of the remaining portion of Permit 15758, Certificate 6605 (0.557 c.f.s.). Pumpage records 53/ indicate a period of five continuous years of non-use of a portion of this right during the years 1974 thru 1981 in the amount of 325.79 acre-feet.

Permit 24986, Certificate 7366 54/

Application 24986 was filed on March 31, 1969, by Carson Water Company, Inc. to appropriate 4.0 c.f.s. of water from an underground source for municipal and domestic purposes. A permit was issued on July 2, 1969, for 4.0 c.f.s. and the Proof of Beneficial Use was filed on February 24, 1970. Certificate 7366 was issued on May 29, 1970 for 1.34 c.f.s. (968.42 acre-feet) for municipal and domestic purposes. Ownership of Permit 24986, Certificate 7366, was transferred to Carson City on August 20, 1976 on the records of the State Engineer.

On July 21, 1977, Application 32880 was filed to change the point of diversion of water heretofore appropriated under Permit 24986, Certificate 7366. A permit was granted on June 22, 1978 in the amount of 0.226 c.f.s., not to exceed 53.315 million gallons annually (163.617 acre-feet). The Proof of Completion of Work and Proof of Beneficial Use are due on January 22, 1984. Since this portion of Permit 24986, Certificate 7366, was abrogated by the issuance of Permit 32880 and the Proof of Beneficial Use is not due until January 22, 1984, this permitted right is not subject to a determination of forfeiture. The remaining portion of water under Permit 24986, Certificate 7366, (804.803 acre-feet) is reflected in the record 55/ as being partially placed to beneficial use during the period 1974 thru 1981 in the amount of 415.97 acre-feet; 388.833 acre-feet are subject to five continuous years of non-use.

Permit 24619, Certificate 8214 56/

Permit 27022, Certificate 8218 57/

Application 24619 was filed on August 2, 1968, by M. W. and Alicia Beck to appropriate 1.0 c.f.s. of water from an underground source for irrigation and domestic purposes. A permit was granted on January 21, 1969, for 0.5 c.f.s. with an annual duty of water not to exceed 4.0 acre-feet per acre. On September 17, 1973, the Proof of Beneficial Use was filed and Certificate 8214 was issued for 0.07 c.f.s., not to exceed an annual duty of 50.66 acre-feet on 14.5 acres of land on January 8, 1974.

Prior to the issuance of a certificate under Permit 24619, Application 27022 was filed by M.W. and Alicia Beck to change the manner of use of a portion of the water heretofore appropriated under Permit 24619. A permit was granted on March 5, 1973, in the amount of 0.0027 c.f.s. for stockwatering and domestic purposes (50 cattle and 200 goats). The Proof of Beneficial Use was filed on September 20, 1973 and Certificate 8218 was issued on February 1, 1974 for 0.0027 c.f.s., or water sufficient to water 50 cattle and 200 goats.

On November 22, 1978, Application 36193 was filed by M. W. and Alicia Beck to change the point of diversion, manner and place of use of Permit 27022, Certificate 8218. A permit was granted on April 6, 1979 for 0.0027 c.f.s., not to exceed 0.66 million gallons annually (2.03 acre-feet) for municipal purposes. The time for filing the Proof of Beneficial Use was set as November 6, 1983. This permit is not subject to a determination of forfeiture.

Ownership of Permit 24619, Certificate 8214, Permit 27022, Certificate 8218, and Permit 36193 were transferred to Carson City on June 24, 1980, on the records of the State Engineer.

No evidence or testimony was provided at the administrative hearing to show cause why a determination of forfeiture should be made on Permit 24619, Certificate 8214 and Permit 27022, Certificate 8218.

Permit 26581, Certificate 9622 58/

Application 26581 was filed on February 23, 1972, by Carson City to appropriate 3.0 c.f.s. of water from an underground source for municipal purposes. A permit was granted on August 10, 1972 for 3.0 c.f.s. The Proof of Beneficial Use was filed in the State Engineer's Office on April 9, 1979, and a certificate was issued on October 27, 1981, in the amount of 0.7 c.f.s., not to exceed 132.7 million gallons annually (407.2 acre-feet). This certificated right is not subject to a determination of forfeiture since a five-year period has not elapsed since April 9, 1979. Additionally, the record 59/ reflects that the full amount of water under this certificate was placed to beneficial use in 1976.

Permit 25667, Certificate 9866 60/

Application 25667 was filed on June 16, 1970, by Carson Water Company, Inc. to appropriate 3.0 c.f.s. of waters from an underground source for municipal and domestic purposes. A permit was granted on January 27, 1971 in the amount of 3.0 c.f.s. The Proof of Beneficial Use was filed on October 23, 1978 and Certificate 9866 was issued on March 11, 1982 in the amount of 0.68 c.f.s., not to exceed 153.2198 million gallons annually (470.21 acre-feet). This certificated right is not subject to a finding of forfeiture since a five-year period has not elapsed since October 23, 1978. Ownership of Permit 25667 was transferred to Carson City on August 20, 1976 on the records of the State Engineer.

Pumpage records 61/ submitted into evidence indicate that 467.35 acre-feet of water was pumped under this right in 1978.

Permit 26582, Certificate 9623 62/

Application 26582 was filed on February 23, 1972, by Carson City to appropriate 3.0 c.f.s. of underground water for municipal purposes. A permit was granted on August 10, 1972 for 3.0 c.f.s. Proof of Beneficial Use was filed on April 9, 1979 and Certificate 9623 was issued on October 27, 1981 for 2.6 c.f.s., not to exceed an annual duty of 383.9 million gallons (1178.14 acre-feet).

Pumpage records 63/ submitted into evidence clearly support continuous use of the certificated amount of water under this certificate.

Permit 27314, Certificate 9871 64/

Application 27314 was filed by Carson City on March 1, 1973, to appropriate 3.0 c.f.s. of water from an underground source for municipal purposes. A permit was granted on May 1, 1973 for 3.0 c.f.s. and the Proof of Beneficial Use was filed on December 30, 1981. Certificate 9871 was issued on March 11, 1982 for 2.45 c.f.s. of water, not to exceed an annual duty of 1,773.17 acre-feet. This certificated right is not subject to a determination of forfeiture since a five-year period has not elapsed since December 30, 1981. Pumpage records 65/ reflect that the maximum amount of water placed to beneficial use was 465.34 acre-feet in 1981. A corrected certificate will be issued under this permit reflecting an annual duty of 465.34 acre-feet.

Permit 27320, Certificate 9872 66/

Application 27320 was filed on March 9, 1973, by Carson City to appropriate 3.0 c.f.s. of water from an underground source for municipal purposes. A permit was issued on May 18, 1973 in the amount of 3.0 c.f.s. The Proof of Beneficial Use was filed on December 30, 1981 and Certificate 9872 was issued on March 11, 1982 for 1.75 c.f.s., not to exceed 1266.55 acre-feet annually. This certificated right is not subject to a determination of forfeiture since a five-year period has not elapsed since December 30, 1981. Pumpage records 67/ submitted into evidence indicate the maximum amount of water placed to beneficial use was 218.65 acre-feet in 1981. A corrected certificate will be issued reflecting an annual duty of 218.65 acre-feet.

Permit 30441, Certificate 9878 68/

Application 30441 was filed on July 30, 1976, by Carson City to change the point of diversion of underground water heretofore appropriated under Permit 27657. A permit was granted under 30441 on March 3, 1978, totally abrogating Permit 27657. The Proof of Beneficial Use was filed under Permit 30441 on July 24, 1980, and Certificate 9878 was issued on March 11, 1982 for 3.0 c.f.s., not to exceed 2171.91 acre-feet annually for municipal purposes. This certificated right is not subject to a determination of forfeiture since a five-year period has not elapsed since July 24, 1980. Pumpage records 69/ indicate that 1755.54 acre-feet of water were beneficially used under Permit 30441 in 1980. A corrected certificate will be issued under this permit reflecting an annual duty of 1755.54 acre-feet.

VII. ROTATIONAL USE OF WATER

Rotational use of water is not precluded by statute 70/ and should not be prohibited by forfeiture. The court has found 71/ that reasonable and economical use of water is the announced policy of the state. In addition, the court has found 72/ that "the conservation of the waters in this state is the order of the day and will increase the population and wealth and is for the public good." Rotational use of water has long been accepted as a conservation and efficient management practice. Comparison can be drawn from rotational cultivation of irrigated acreages where economics or hydrologic conditions may dictate rotational use of acreages, crops or wells. In the case at hand, Eagle Valley is a relatively small and hydrologically complex 73/ ground water basin. The municipal water supply is made up of a combination of surface water and ground water diversions under water rights held by Carson City. Yield and availability of these water sources are effected to a great degree by hydrologic and climatic conditions. 74/ Yield and effects of sustained pumping of wells throughout the basin are of critical importance not only to the domestic users on the municipal system, but because of the effects on other existing rights. 75/ Flexibility in rotating pumping of the municipal wells is not only in the public interest and welfare but in the best interest of minimizing adverse effects of sustained pumping which may create cones of depression and associated effects in any one area. The protestant's existing groundwater rights within the basin are limited to a combined annual duty of 6,500 acre-feet by order 76/ of the State Engineer. Additionally, each individual right 77/ is restricted to a diversion rate and annual duty that may not be

exceeded under that right. Rotational diversion of water under the existing hydrologic conditions in Eagle Valley is reasonable and technically sound and is a water-management alternative for the distribution of ground water pumping to avoid the detrimental effects of excessive water level declines in any one area. Any discussion of the existence of ground water withdrawals available to Carson City within Eagle Valley above 6,500 acre-feet annually is futile since they do not exist.

VIII. EFFECT OF APPLICATIONS 33697, 35026 and 35027  
ON EXISTING RIGHTS

Considerable testimony and evidence have been provided on the effect of pumpage under the Harootunian applications on existing rights. In addition to testimony by expert witnesses 78/ for both the applicant and protestant, hydrologic and computer model reports 79/ were introduced into evidence concerning the projected effects of withdrawals of ground water under 1978 pumping levels. The record 80/ establishes that present conditions in Eagle Valley are such that significant declining water tables exist due to withdrawal of ground water under existing rights. The State Engineer has recognized this and has taken administrative action 81/ to curtail further withdrawals to more closely balance with the presently identified resource available on a replenishment basis. The record 82/ further establishes that annual ground water pumpage for municipal use within Eagle Valley has increased 16-fold from 300 acre-feet in 1964 to about 4,700 acre-feet in 1978 and in excess of 5,400 acre-feet in 1982. Significant cones of depression 83/ have developed as a result of this pumpage. Both expert witnesses for the city and the applicant Harootunian concurred on the methodology 84/ used for computing the effect of pumpage under the Harootunian applications on the city municipal wells in the area. The witnesses further concurred on the computed effects of this one year of projected pumpage with the result of additional lowering of water tables 85/ in the area 86/ of the municipal wells and in an area of declining water tables under existing conditions. (Note: Exhibit No. 1 is attached to and made a part of this ruling and reflects corrected computations made by George Ball, expert witness for protestant Carson City. The corrected computation reflects the projected effects of pumpage under the Harootunian wells on the water tables at Carson City's wells and are consistent with projections made by applicant Harootunian's expert witness, William Nork.) Adverse effects of declining water tables contribute to 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. 87/

Under 1978 pumping withdrawals the water levels within the basin will ultimately decline in the western part of the valley by 350 feet and by 150 feet at the year 2000. 88/ These declines will significantly affect the existing rights of the protestant Carson City as well as other existing rights. It is also significant to note that the 1978 pumping withdrawals are presently being exceeded 89/ under existing rights held by the protestant. The fact is clear and supported by a preponderance of hydrologic and technical data and evidence that the granting of Applications 33697, 35026 and 35027 would adversely affect existing rights.

### CONCLUSIONS

#### I

The State Engineer has jurisdiction of the parties and the subject matter of this action and determination. 90/

#### II

The State Engineer is prohibited by law 91/ from granting a permit under an application to appropriate the public waters where:

- (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 welfare.

#### III

The combined annual withdrawal of water under permitted and certified ground water rights held by Carson City within the Eagle Valley Designated Ground Water Basin is limited to 6,500 acre-feet by order of the State Engineer. 92/

#### IV

Existing certified and permitted ground water rights in the Eagle Valley Ground Water Basin for all uses presently total approximately 9,000 acre-feet annually, including the limit of 6,500 acre-feet annually under protestant Carson City's existing rights. 93/

V

Existing certified and permitted ground water rights within the Eagle Valley Designated Ground Water Basin exceed the estimates of ground water system yield available on a replenishable basis. 94/

VI

The record 95/ clearly establishes that static ground water levels are declining significantly within the Eagle Valley Ground Water Basin due to present withdrawals and use.

VII

The State Engineer may declare preferred use of water within a designated ground water basin 96/ and has declared that irrigation is not a preferred use of water within the Eagle Valley Designated Ground Water Basin. 97/

VIII

Applications to appropriate ground water for irrigation and other uses have been denied in the Eagle Valley Ground Water Basin. 98/

IX

There is no substantial or conclusive evidence to support a finding of intent to abandon or relinquish possession of any existing rights held by Carson City as set forth in the Remand Order of the court. 99/

X

The record establishes a period of five years of continuous non-use of a portion of some rights held by Carson City as set forth in the Findings of Fact VI and constitutes a forfeiture of those portions as set forth in the findings. The maximum allowable combined pumpage under all rights held by Carson City within the Eagle Valley Ground Water Basin has been administratively reduced by order 100/ to 6,500 acre-feet annually, a reduction in an amount of water that is substantially more than the amount subject to a finding of forfeiture. Therefore, the finding of forfeiture does not result in additional ground water becoming available for appropriation.

XI

Corrected certificates of appropriation will be issued under permits 29906, 29902, 27314, 27320, and 30441, as set forth in Findings of Fact VI.

XII

The granting of permits under Applications 33697, 35026 and 35027 would adversely affect and impair the existing rights held by the protestant Carson City as set forth in the Findings of Fact VIII.

XIII

The granting of permits under Applications 33697, 35026 and 35027 in a ground water basin where existing rights exceed the ground water system yield available on a replenishable basis would be detrimental to the public interest and welfare.

RULING

I

The State Engineer's ruling of May 23, 1979, is hereby affirmed and the protests to the granting of Applications 33697, 35026 and 35027 are hereby upheld. Applications 33697, 35026 and 35027 are herewith denied on the grounds that the granting would adversely affect and impair existing rights, would be detrimental to the public interest and welfare and that the allowance of additional appropriation of ground water for irrigation of land is not a preferred use of the limited and committed ground water resource within the Eagle Valley Ground Water Basin.

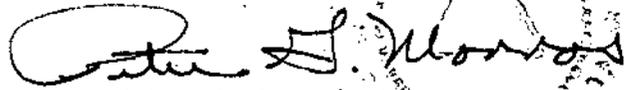
II

No existing ground water rights, as set forth in the remand order, held by Carson City have been abandoned.

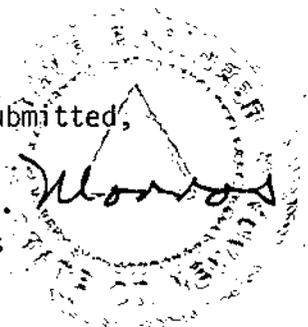
III

The record establishes a period of five years of continuous non-use of a portion of some rights held by Carson City as set forth in the Findings of Fact VI and Conclusion X and constitutes a forfeiture of those portions as set forth in the findings and conclusions. The maximum allowable combined pumpage under all rights held by Carson City within the Eagle Valley Ground Water Basin has been administratively reduced by order 100/ to 6,500 acre-feet annually, a reduction in an amount of water that is substantially more than the amount subject to a finding of forfeiture. Therefore, the finding of forfeiture does not result in additional ground water becoming available for appropriation on the grounds that existing certified and permitted ground water rights within the Eagle Valley Designated Ground Water Basin exceed the estimates of ground water system yield available on a replenishable basis.

Respectfully submitted,



Peter G. Morros  
State Engineer



PGM/br

Dated this 15th day of  
APRIL, 1983.

## FOOTNOTES

- 1/ State of Nevada Exhibit No. 2, Administrative hearing March 20, 1979.
- 2/ State of Nevada Exhibit No. 3, Administrative hearing March 20, 1979.
- 3/ State of Nevada Exhibit No. 4, Administrative hearing March 20, 1979.
- 4/ State of Nevada Exhibit No. 2, Administrative hearing March 20, 1979.
- 5/ State of Nevada Exhibit No. 3, Administrative hearing March 20, 1979.
- 6/ State of Nevada Exhibit No. 4, Administrative hearing March 20, 1979.
- 7/ Public record - Office of the State Engineer.
- 8/ Transcript of Administrative hearing available in State Engineer's Office - Public record.
- 9/ Protestant exhibit "I", Administrative hearing November 19, 1982.
- 10/ State of Nevada exhibit No. 3, Administrative hearing April 20, 1982.
- 11/ State of Nevada exhibit No. 1, Administrative hearing April 20, 1982.
- 12/ Transcript of Administrative hearing of April 20, 1982 available in State Engineer's office - public record.
- 13/ State of Nevada exhibit No. 4, Administrative hearing November 19, 1982.
- 14/ State of Nevada exhibit No. 5, Administrative hearing November 19, 1982.
- 15/ State of Nevada exhibit No. 7, Administrative hearing March 20, 1979.
- 16/ State of Nevada exhibit No. 8, Administrative hearing March 20, 1979.
- 17/ State of Nevada exhibit No. 9, Administrative hearing March 20, 1979.
- 18/ State of Nevada exhibit No. 9, Administrative hearing December 15, 1982.
- 19/ State of Nevada exhibit No. 6, Administrative hearing March 20, 1979.  
Protestant's exhibit "G", Administrative hearing November 19, 1982.
- 20/ State of Nevada exhibit No. 9, Administrative hearing December 15, 1982,  
open-file report 80-1224.  
State of Nevada exhibit No. 9, Administrative hearing March 20, 1979,  
open-file report 79-261.
- 21/ State of Nevada exhibit No. 7, Administrative hearing November 19, 1982.  
Protestant's exhibit "J", Administrative hearing, November 19, 1982.
- 22/ In re Manse Spring and Tributaries, 60 Nev. 280, 286-287, 289, 290, 108  
Pac. (2nd) 311 (1940).
- 23/ NRS 534.090.

- 24/ McFarland v. Alaska Perseverance Min. Co., 3 Alaska 308, 337 (1907).  
Gila Water Co. v. Green, 29 Arizona 304, 306, 241 Pac. 307 (1925).  
Wood v. Etiwanda Water Co., 147 Cal. 228, 234, 81 Pac. 512 (1905).  
Beaver Brook Res. and Canal Co. v. St. Vrain Res. and Fish Co., 6 Colo.  
App. 130, 136, 40 Pac. 1066 (1895).  
Hawaiian Commercial and Sugar Co. v. Wailuku Sugar Co., 15 Haw. 675,  
691 (1904).  
Union Grain and Elevator Co. v. McCammon Ditch Co., 41 Idaho 216, 223,  
240 Pac. 443 (1925).  
Atchison v. Peterson, 1 Mont. 561, 565 (1872), affirmed, 87 U.S. 507 (1874).  
State v. Nielsen 163 Nebr. 372, 381, 79 N.W. (2d) 721 (1956).  
In re Manse Spring and its Tributaries, 60 Nev. 280, 286-287, 289, 290,  
108 Pac. (2d) 311 (1940).  
Borman v. Blackmon, 60 Oreg. 304, 308, 118 Pac. 848 (1911).  
Edgemont Improvement Co. v. N.S. Tubbs Sheep Co., 22 S. Dak. 142, 145,  
115 N.W. 1130 (1908).  
Anson v. Arnett, 250 S.W. (2d) 450, 454 (Tex. Civ. App. 1952, error  
refused n.r.e.).  
Desert Live Stock Co. v. Hooppiana, 66 Utah 25, 32, 239 Pac. 479 (1925).  
Sander v. Bull, 76 Wash. 1, 6, 135 Pac. 489 (1913).  
Campbell v. Wyoming Dev. Co., 55 Wyo. 347, 400, 100 Pac. (2d) 124, 102  
Pac. (2d) 745 (1940).  
Valcalda v. Silver Peak Mines, 86 Fed. 90, 95 (9th Cir. 1898).  
Franktown v. Marlette, 77 Nev., 354 Ped 1069 (1961).  
Revert v. Ray, 95 Nev. 783, 786 Pwd 262 (1979).
- 25/ Transcript Administrative Hearing, November 11, 1982, p. 217.
- 26/ Revert v. Ray, 95 Nev. 782, 606 p. 2d 262 (1979).
- 27/ Thomas v. Ball, 66 Mont. 161, 168, 213 Pac. 597 (1923).  
Ward v. Monrovia, 16 Cal. (2d) 815, 820-821, 108 Pac. (2d) 425 (1940).  
Lema v. Ferrari, 27 Cal. App. (2d) 65, 73, 80 Pac. (2d) 157 (1938).  
Cline v. McDowell, 132 Colo. 37, 42, 284 Pac. (2d) 1056 (1955).  
Pouchoulou v. Heath, 137 Colo. 462, 463, 326 Pac. (2d) 657 (1958).  
Carter v. Territory of Hawaii, 24 Haw. 47, 55 (1917).  
Smithfield West Bench Irr. Co., v. Union Cent. Life Ins. Co., 113 Utah  
356, 363, 195 Pac. (2d) 249 (1948).  
Miller v. Wheeler, 54 Wash. 429, 436, 103 Pac. 641 (1909).  
Laramie Rivers Co. v. LeVasseur, 65 Wyo. 414, 449, 202 Pac. (2d) 680 (1949).  
Lake DeSmet Res. v. Kaufmann, 75 Wyo. 87, 102, 292 Pac. (2d) 482 (1956).  
Franktown v. Marlette, 77 Nev. 354, P. 2d 1069 (1961).  
Revert v. Ray, 95 Nev., 783, 786, 95 Nev. p. 2d 262 (1979).
- 28/ Transcripts of Administrative hearings March 20, 1979, April 20, 1982,  
November 19, 1982" and December 15, 1982.
- 29/ State of Nevada exhibit No. 5, Administrative hearing November 19, 1982.
- 30/ NRS 534.090.
- 31/ NRS 533.380.

- 32/ NRS 533.390, 533.395, 533.410.
- 33/ NRS 534.090.
- 34/ NRS Chapters 533 and 534.
- 35/ NRS 534.120.
- 36/ Public record - Office of State Engineer. See also applicant's Exhibit No. 16, Administrative hearing of November 12, 1982.
- 37/ Public record - Office of State Engineer.
- 38/ See footnote 36.
- 39/ See footnote 37.
- 40/ Applicant's exhibits No. 14, No. 15, No. 21, Administrative hearing November 19, 1982.
- 41/ See footnote 40.
- 42/ See footnote 40.
- 43/ See footnote 36.
- 44/ See footnote 40.
- 45/ See footnote 36.
- 46/ See footnote 36.
- 47/ See footnote 40.
- 48/ See footnote 40.
- 49/ See footnote 36.
- 50/ See footnote 36.
- 51/ See footnote 40.
- 52/ See footnote 40.
- 53/ See footnote 40.
- 54/ See footnote 36.
- 55/ See footnote 40.
- 56/ See footnote 36.
- 57/ See footnote 36.
- 58/ See footnote 36.

- 59/ See footnote 40.
- 60/ See footnote 36.
- 61 See footnote 40.
- 62/ See footnote 36.
- 63/ See footnote 40.
- 64/ See footnote 36.
- 65/ See footnote 40.
- 66/ See footnote 36.
- 67/ See footnote 40.
- 68/ See footnote 36.
- 69/ See footnote 40.
- 70/ NRS 533.075.
- 71/ Kent v. Smith, 62 Nev. 30, 39, 140 Pac. (2d) 357 (1943).
- 72/ Tonkin v. Winzell, 27 Nev. 88, 99, 100, 73 Pac. 593 (1903).
- 73/ See footnotes 15, 16, 17 and 18.
- 74/ See footnotes 17 and 18.
- 75/ See footnotes 17 and 18.
- 76/ Protestant's Exhibit "F", Administrative hearing November 19, 1982.
- 77/ State of Nevada exhibit No. 7, Administrative hearing November 19, 1982.
- 78/ Administrative hearing transcript November 19, 1982 and December 15, 1982,  
Vol. I, pages 82 thru 156. Vol. II, pages 243 thru 319.
- 79/ See footnotes 15, 16, 17, 18.
- 80/ See footnotes 17 and 18.  
Applicant's exhibit 17, Administrative hearing November 19, 1982.
- 81/ See footnote 76.
- 82/ See footnote 18, pages 35-37.  
Applicant's exhibit No. 21, Administrative hearing November 19, 1982.

- 83/ See footnote 18, page 39.
- 84/ See footnote 78.
- 85/ See footnote 78, footnote 18.
- 86/ Protestant's exhibit "D", Administrative hearing, November 19, 1982.
- 87/ See footnote 17, 18.
- 88/ See footnote 17, 18.
- 89/ Applicant's exhibit No. 21, Administrative hearing November 19, 1982.
- 90/ NRS Chapters 533 and 534, NRS 232.100.
- 91/ NRS 533.370 (3).
- 92/ Protestant's exhibit "F", Administrative hearing November 19, 1982.
- 93/ State of Nevada exhibit No. 7, Administrative hearing November 19, 1982.  
Protestant's exhibit "F", Administrative hearing November 19, 1982.
- 94/ See footnotes 15, 16, 17, 18, State of Nevada exhibit No. 7,  
Administrative hearing November 19, 1982.
- 95/ See footnote 80.
- 96/ See footnote 35.
- 97/ Protestant's exhibit "I", Administrative hearing November 19, 1982.
- 98/ See footnote 97, Protestant's exhibit "C", Administrative hearing  
November 19, 1982.
- 99/ See footnote 28.
- 100/ See footnote 93.

# Hill Cassas deLipkau and Erwin

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THOMAS R. ERWIN  
ROBERT E. MCCARTHY  
JOHN O. SWENDSEID\*  
FRANK W. THOMPSON  
\*Admitted only in Colorado

December 22, 1982

Mr. Peter G. Morros  
Nevada State Engineer  
Capitol Complex  
201 South Fall Street  
Carson City, Nevada 89701

Re: Harootunian - Carson City Matter

Dear Mr. Morros:

I enclose herewith the new Exhibit "H" for the above entitled matter. In essence, Carson City's hydrologist, George Ball, made an error in the transmissivity figures. We certainly apologize for this oversight, as does Mr. Ball. Thus, we accept the figures of Mr. Nork, which are basically the same as our new Exhibit "H".

Please accept this as my apology for this oversight. I am sending a copy of this letter, together with Exhibit "H" to Mr. Abbott.

Very truly yours,

HILL CASSAS de LIPKAU and ERWIN

By Ross E. de Lipkau  
Ross E. de Lipkau

RED/kh  
Encl.

cc: George Abbott (w/encl.)  
Larry Werner (w/encl.)

**WATERESOURCE  
Consulting Engineers, Inc.**

28 Vine Street  
RENO, NEVADA 89503  
(702) 322-9443

JOB Harootunian Hearing 7836.01

SHEET NO. 1 OF \_\_\_\_\_

CALCULATED BY GWB DATE 2/26/82

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE G.W. Influence Calculations

1. References:

- a. Map by Carson City showing their wells and Harootunian application locations.
- b. Johnson's "Ground Water & Wells".
- c. Evaluation of wells 3, 6 & 10 by Vasey, et al.
- d. U.S.G.S. open file Report 79-261 - Eagle Valley Steady State Pumping Rate.
- e. U.S.G.S. open file Report 80- Math Model Analysis of Eagle Valley.
- f. W.F. Guyton Jan. 1967 Report Vicinity Carson City.

2. Statement of Objectives:

To ascertain effect on existing permitted Carson City wells in Eagle Valley (specifically wells No. 3, 5, 6, 10 and possible 7) by development and pumping of the 3 proposed Harootunian wells. (diversion rate = 5.4 cfs each, duty = 2184 AFY total).

3. Reference Review:

(a) Well 3, 6 & 10 evaluation -

Well 6 = water level decline = 8.5 ft./yr.

Well 10 = water level decline = 8-10 ft./yr.

(b) U.S.G.S. Report - Math Model of Eagle Valley

Transmissivity estimate for wells (figure 9 & Table 5).

Harootunian Well 1 =  $7070 \text{ ft}^3/\text{day/ft}$  = 52,884 gpd/ft

Harootunian Well 2 = 11,000 = 82,280

Harootunian Well 3 = 100 = 748

CWC Well 5 = 1,000 = 7,480

CWC Well 3 = 4,000 = 29,920

CWC Well 6 = 11,000 = 82,280

CWC Well 10 = 11,000 = 82,280

STATE

Storage Coef.

Since dealing with artesian aquifer use  $S = .001$  as preliminary estimate.

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4. Calculate drawdown on CWC wells by Harootunian Wells:

Assume this non-equilibrium equation applies.

time of pumping:

for one well pumping 5.4 cfs (2423+ gpm) will take 204 days to pump 2184 AFY where as irrigation season is 182.5 days ∴ assume 2 wells pump irrigation water. Since Harootunian Well 3 is in poor, hydrogeologically place - use Harootunian wells 2 & 3 initially.

Wells 2 & 3 pumping 5.4 cfs each will take 102 days.

(a) effect of Harootunian No. 1 on:

CWC No. 5  $r = 1900'$

$$u = 1.87 r^2 S = 1.87 (1900)^2 .001 = .00125 = 1.25 \times 10^{-3}$$

$$.0094 = 9.4 \times 10^{-3}$$

$Tt = \frac{-7070 \times 102}{52,884}$

$$W(u) = \frac{4.099}{6.109} \quad \text{(Table XIV - Johnson)}$$

$s$  = drawdown at Well CWC 5 caused by pumping 5.4 cfs at Harootunian Well No. 1 for 102 days.

$$s = \frac{114.6Q}{T} W(u) = \frac{114.6 (2423)}{-7070} \times \frac{6.109}{4.099}$$

= 161 feet

32.1 FT

NOTE: It is realized that because of varying aquifer transmissivity from Harootunian Well 1 to CWC Well 5 the value would change somewhat, but this provides an order of magnitude of the influence, i.e., if

"T" were say 4000 (average of 7000 & 1000) then  $s = 244$  ft. 51.4 ft.

29920

52,360 & 7480

24118

53,600

4. (a) cont'd.

CWC No. 3 r = 3550 ft.

$$u = .033 = \frac{3.3 \times 10^{-2}}{4.37 \times 10^{-3}} \quad W(u) = -2.867 \quad 4.853$$

then s = ~~113 ft.~~  $\frac{25.5 \text{ FT.}}{25.5}$

CWC No. 6 r = 3800 ft.

$$u = .037 = \frac{3.7 \times 10^{-2}}{5.06 \times 10^{-3}} \quad W(u) = -2.756 \quad 4.726$$

then s = ~~108 ft.~~  $\frac{24.7 \text{ FT.}}{24.7}$

CWC No. 10 r = 4400 ft.

$$u = .050 = \frac{5.0 \times 10^{-2}}{6.71 \times 10^{-3}} \quad W(u) = -2.468 \quad 4.435$$

then s = ~~97 ft.~~  $\frac{23 \text{ FT.}}{23}$

(b) effect of Harootunian No. 2 on:

CWC No. 10 r = 2000 ft.

$$u = \frac{1.87 (2000)^2 .001}{11,000 \times 102} = \frac{.0067}{82,280} = \frac{6.7 \times 10^{-3}}{8.91 \times 10^{-4}}$$

$W(u) = -4.435 \quad 6.448$

then s =  $\frac{114.6 (2423) \cdot 4.435}{11,000 \cdot 82,280} = \frac{112 \text{ ft.}}{21.8 \text{ FT.}}$   $\frac{21.9}{21.8}$

CWC No. 6 r = 2200 ft.

$$u = .0081 = \frac{8.1 \times 10^{-3}}{1.08 \times 10^{-3}} \quad W(u) = -4.247 \quad 6.236$$

then s = ~~107 ft.~~  $\frac{21.0 \text{ FT.}}{21}$

CWC No. 3 r = 3750 ft.

$$u = .023 = \frac{2.3 \times 10^{-2}}{3.13 \times 10^{-3}} \quad W(u) = -3.218 \quad 5.202$$

then s = ~~81 ft.~~  $\frac{17.6 \text{ FT.}}{17.6}$

CWC No. 5 r = 4350 ft.

$$u = .032 = \frac{3.2 \times 10^{-2}}{4.22 \times 10^{-3}} \quad W(u) = -2.897 \quad 4.90$$

then s = ~~73 ft.~~  $\frac{16.5 \text{ FT.}}{16.5}$

\* if used avg. "T"  $\frac{11,000 + 1000}{2} = 6000$  s = ~~108 ft.~~  
 $\frac{82,280 + 7480}{2} = 44,880 \quad 26.5$

4. cont'd.

(e) effect of Harootunian Well No. 3 on

CWC #7 r = 3850 ft.

$$u = \frac{1.87 (3850)^2 .001}{\frac{1000}{7480} \times 102} = \frac{2.7 \times 10^{-1}}{3.63 \times 10^{-2}} \quad W(u) = \frac{-.985}{2.783}$$

$$\text{then } s = \frac{114.6 (2423) \times \frac{2.783}{.985}}{\frac{1000}{7480}} = \frac{274 \text{ feet}}{103.3 \text{ FT}} = 103' \text{ (handwritten)} \quad 103'$$

CWC #10 r = 4000 ft.

$$u = \frac{3.92 \times 10^{-2}}{2.9 \times 10^{-1}} \quad W(u) = \frac{-.931}{2.706}$$

$$\text{then } s = \frac{259 \text{ ft.}}{100.5} = 106' \text{ (handwritten)}$$

Comment: We observe that similar adverse drawdowns are imposed on existing, permitted Carson City Well Water sources of supply. Such impacts, as discussed in summary, are unacceptable from a feasible/rational groundwater management/utilization point of view.

\* used T=1000 since T=100 is representative of a poor well location from hydrogeological point of view. Further, a short distance to the south, on Harootunian property, T values increase to in order of T=5000 (U.S.G.S. Report).

CIVIL ENGINEERING 37,400

35 2.33 0311

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5. Summary.

(a) It must be realized that these are preliminary calculations and that refinement can be incorporated; however, this analysis provides a reasonable order of magnitude for comparative purposes, i.e., evaluate the severity of the impact on Carson City wells from pumping the Harootunian proposed wells at 5.4 cfs.

(b) Obviously, influence on CWC Wells 6 & 10 is very impactful when pumping the Harootunian Wells No. 1 and 2. From preliminary calculations the cumulative drawdown impact on

Well 6 is = ~~215~~<sup>45.8</sup> ft. — 45.8 ft.  
Well 10 is = ~~209~~<sup>45.1</sup> ft. — 44.9 ft.

These are the effects on the water surface without either Well 6 or 10 pumping. When considering the drawdown in these wells when pumping and further the annual water level decline of 8 to 10 feet it is readily apparent that the impact of the proposed Harootunian wells would be disastrous on CWC Wells 6 & 10.

(c) Therefore, without even considering the question of available unappropriated groundwater within Eagle Valley, we see that the impact on existing Carson City groundwater rights by the proposed Harootunian wells is adverse due to the fact that it creates excessive aquifer water level drawdown thereby, at best, creating exaggerated pumping levels if not, at worst, rendering the subject Carson City wells worthless. This would result due to the wells construction (pump cannot be lowered in well) and more importantly, depth of water bearing strata being significantly reduced, i.e., if water level depth reduced, the amount of water bearing strata available to the well which can be screened is reduced to a point where the yield of the well is adversely altered or terminated.

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