STATE OF NEVADA

BIENNIAL REPORT

OF THE

STATE ENGINEER

1911=1912

W. M. KEARNEY
State Engineer of Nevada

CARSON CITY, NEVADA
STATE PRINTING OFFICE : : : JOE FARNSWORTH, SUPERINTENDENT
1913

LETTER OF TRANSMITTAL

CARSON CITY, NEVADA, December 31, 1912.

To His Excellency, TASKER L. ODDIE, *Governor of Nevada*.

DEAR SIR: I have the honor to transmit herewith, in compliance with section 4684, Revised Laws of Nevada, 1912, a full summary of the work of the office of State Engineer, a detailed statement of receipts and disbursements, and recommendations touching upon matters which are deemed vital to the continued development of the water resources of the State of Nevada.

Respectfully submitted,

W. M. KEARNEY,
State Engineer.

ACKNOWLEDGMENTS

Acknowledgments are due to the State Board of Capitol Commissioners for their aid in furnishing quarters for this department, permitting the occupancy of the Senate Chamber; to Hon. Joseph Farnsworth, State Printer, and the foreman, Mr. Will U. Mackey, for the promptness and efficiency of the printing work required by this office; and to the public for their moral support of the work of this department.

Elsewhere in this report due acknowledgment has been given the able and loyal assistance of—

Mr. Seymour Case, Assistant State Engineer.
Mr. J. R. Van Nagel, Assistant State Engineer (resigned).
Mr. Richard A. McKay, Chief Clerk.
Mr. Cassius C. Smith, Field Engineer.
Mr. Arthur V. Doane, Field Engineer.
Mr. Parvin P. Jones, Clerk.
Mr. Harvey M. Payne, Assistant to Field Engineer.

Acknowledgments are also due to the many Water Commissioners for their faithful services in distributing water under the direction of this office.

PROPERTY OF

REPORT OF THE STATE ENGINEER

The first biennial report of the State Engineer of Nevada transmitted to the Governor December 31, 1904, pursuant to the irrigation code of 1903, touched only on matters relating to the adjudication of vested water rights.

During the years 1903–1904, covered by the report, our statutes did not provide a proper and sufficient method for acquiring, recording and limiting appropriations of water after an adjudication had been made of the existing rights.

In view of the increasing number of new appropriations, it was apparent that, in a very few years, continued adjudications would be required, unless a method of uniform appropriation and regulation were adopted. Without such uniform method of appropriation, and a central office of record, the same conditions would result that we now have on streams which remain unadjudicated.

The State Engineer made recommendations for legislation to cover this contingency. The following Legislature adopted the law recommended. The wisdom of its action, requiring anyone desiring to appropriate the public waters of the State to make application therefor to the State Engineer before diverting it from the stream, is evident from the very clear and definite record of the rights of water users who have made appropriations under this law.

The statute defining and restricting the method of appropriating water became a law March 1, 1905. On February 26, 1907, this Act was repealed and a more comprehensive one passed. In the year 1909 several sections of the Act of 1907 were amended to meet the growing requirements of the office.

So many requests have been made for pamphlet copies of the water laws of Nevada, and the rules and regulations of the office of the State Engineer, that for convenience of reference the full text of the water code and rules and regulations of the office is here inserted.

An Act to provide for the measurement of streams, the survey of reservoir sites, the determination of the irrigation possibilities, and of the best methods of controlling and utilizing the water resources of the State of Nevada in cooperation with the United States Geological Survey and the United States Department of Agriculture and the Nevada Experiment Station.

[Approved March 16, 1901.]

4706. Creation of state board—To direct expenditures.

SEC. 2. A state board of irrigation is hereby created, to consist of the governor, the surveyor-general and the attorney-general of the State of Nevada, who shall direct the expenditure of the money appropriated by section 1 of this act (Section 1 made an appropriation for the measurement of streams and the survey of sites for storage reservoirs during the years 1901 and 1902), upon plans approved by said board, which the representatives of the United States geological survey

in charge of hydrography, and of the United States department of agriculture in charge of irrigation investigation shall supply.

An Act to provide for the appropriation, distribution and use of water, and to define and preserve existing water rights, to provide for the appointment of a State Engineer, an Assistant State Engineer, and fixing their compensation, duties and powers, defining the duties of the State Board of Irrigation, providing for the appointment of Water Commissioners and defining their duties.

[Approved February 26, 1907.]

4672. Certain waters subject to appropriation.

SECTION 1. All natural watercourses and natural lakes and the waters thereof which are not held in private ownership, belong to the state and are subject to appropriation for beneficial uses.

4673. Existing rights to be respected.

SEC. 2. All existing rights to the use of water, whether acquired by appropriation, or otherwise, shall be respected and preserved, and nothing in this act shall be construed as enlarging, abridging or restricting such rights.

4674. Use of water limited to beneficial purposes.

SEC. 3. There is no absolute property in the waters of a natural watercourse or natural lake. No right can be acquired to such waters, except an usufructuary right—the right to use it, or to dispose of its use for a beneficial purpose. When the necessity for the use of water does not exist, the right to divert it ceases, and no person shall be permitted to divert or use the waters of a natural watercourse or lake, except at such times as the water is required for a beneficial purpose.

4675. No waste of water permitted.

SEC. 4. No person shall be permitted to divert or use any more of the waters of a natural watercourse or natural lake than sufficient, when properly and economically used, to answer the purpose for which the diversion is made; nor shall any person be permitted to waste any such water, and all surface water remaining after use, unavoidable wastage excepted, shall be returned to the channel by the persons diverting the same, without unreasonable delay or detention.

4676. Maximum appropriation allowed.

SEC. 5. The maximum quantity of water which may hereafter be appropriated for irrigation purposes in the State of Nevada, shall be as follows: In all parts of the state where water cannot be beneficially used for irrigation for a greater period than six months each year, the maximum quantity appropriated for each acre shall not exceed three (3) acre-feet per annum. In all parts of the state where water is beneficially used for irrigation for a period of nine months or more in each year, the maximum quantity of water that may be appropriated shall not exceed three (3) acre-feet for the five months beginning May 15th and extending to October 15th of each year, for each acre of land supplied, and the maximum quantity of water that may be appropriated for each acre during the remainder of each year shall not exceed one-half of one acre-foot multiplied by the number of months of each year other than the five months hereinbefore named, during which water is so beneficially used. As amended, Stats. 1909, 31.

4677. Standard of measurement.

SEC. 6. In all measurements of water in this state a cubic foot of water per second of time shall be the standard of measurement.

4678. Prior right, how acquired.

SEC. 7. The prior right to the use of the unappropriated waters of the natural watercourses and natural lakes, as defined in this act, may be acquired in the manner provided in this act, and not otherwise.

4679. Office of the state engineer created—Salary, duties, qualifications.

SEC. 8. The office of state engineer is hereby created. The state engineer shall be appointed by the governor, and shall receive a salary of thirty-six hundred dollars ($3,600) per year, payable in equal monthly installments by the state treasurer, on warrants drawn by the state controller. He shall keep his office at the state capitol. No person shall be appointed as state engineer who does not have such training in hydraulic engineering, and such practical skill and experience as shall fit him for the position. He shall hold his office at the pleasure of the governor, but his successor shall in all cases have the foregoing qualifications and recommendations. As amended, Stats. 1909, 32.

4680. Oath and bond of state engineer.

SEC. 9. Before entering upon the duties of his office the state engineer shall take and subscribe an official oath, such as is provided by law for state officers, before some officer authorized by the law of the state to administer oaths, and shall file with the secretary of state said oath and his official bond in the penal sum of five thousand dollars, with not less than two sureties, to be approved by the governor of the state, and conditioned for the faithful discharge of his official duties, and for the delivery to his successor, or other person appointed by the governor to receive the same, all moneys, books and other property belonging to the state then in his hands and under his control or with which he may be chargeable as such officer.

4681. Further duties of state engineer.

SEC. 10. The state engineer shall perform such duties as are prescribed herein. He shall become conversant with the state and the need of the state as to irrigation matters, and in his reports to the governor he shall make such suggestions as to the amendment of existing laws, or the enactment of new laws, as his information and experience shall suggest; and he shall keep in his office full and proper records of his work, observations and calculations; all of which shall be the property of the state. He shall cooperate with the secretary of the interior in all work of construction, operation, maintenance and management of irrigation works constructed by the secretary of the interior in and for the benefit of Nevada, under an act of Congress of the United States, approved June 17, 1902, entitled "An Act appropriating the receipts from the sale and disposal of public lands in certain states and territories to the constructions of irrigation works for the reclamation of arid lands," and shall in every way facilitate the work of the secretary of the interior in carrying out the provisions of said act in the State of Nevada.

4682. Assistant state engineer—Salary—Other assistants.

SEC. 11. The state engineer shall, when necessary, have power to employ one assistant engineer at a salary of twenty-four hundred dollars

($2,400) per annum, one clerk at a salary of twelve hundred dollars ($1,200) per annum, one stenographer at a salary of nine hundred dollars ($900) per year, and two field engineers at a salary of one hundred and fifty dollars ($150) per month, each. The several respective salaries hereinabove mentioned are hereby made payable in equal monthly installments by the state treasurer upon warrant drawn by the state controller. The state engineer shall, when necessary, also have the power to employ six field men at a compensation not exceeding two dollars and fifty cents ($2.50) per diem each, and such other assistants as may from time to time be necessary, at a total additional expense not exceeding one thousand dollars ($1,000) per annum. The compensation for such field men and such additional assistants shall be paid on the certificates of the state engineer and the approval of the state board of examiners, upon the warrants drawn by the state ontroller upon the state treasurer. The state engineer may also appoint as assistant engineers and as additional assistants, such other persons in the service of the United States reclamation service as may be designated by the secretary of the interior, or director of the United States reclamation service, but such other assistant engineers, and such other additional assistants, shall be entitled to no compensation whatever from the State of Nevada for any service or services that may be rendered by them, and no expense shall be incurred nor paid therefor by the state engineer. As amended, Stats. 1909, 32.

4683. Expense of state engineer and assistant.

SEC. 12. When the state engineer, the assistant engineer, field engineers or field men are called away from the office in the performance of official duty, each of them shall be entitled to his actual traveling and other necessary expenses, which shall be paid on the certificate of the state engineer, approved by the state board of examiners, and the state controller shall draw his warrant on the state treasurer for the payment of such expenses. As amended, Stats. 1909, 33.

4684. To make reports.

SEC. 13. The state engineer shall prepare and render to the governor biennially, and oftener if required, full and true reports of his work, touching all the matters and duties devolving upon him by virtue of his office, which report shall be delivered to the governor on or before the 31st day of December of the year preceding the regular session of the legislature.

4685. State engineer to prepare a list of appropriators—Claimants to present particulars.

SEC. 14. Such state engineer shall prepare for each stream in the state of Nevada a list of the appropriations of water according to priority, and in order to make such list, he shall enclose to each person having a claim to the waters of such stream a blank form, on which said claimant shall present in writing all the particulars showing the amounts and dates of appropriations to the use of water of said stream to which he lays claim; the said statement to include the following:

His best information concerning:

The name and address of the claimant.

The nature of the use on which the claim for an appropriation is based.

The time of the commencement of such use, and if distributing works are required.

The year of beginning of survey.

The year of beginning of construction.

The year when completed.

The year of beginning and completion of enlargements.

The dimensions of the ditch as originally constructed and as enlarged.

The year when water was first used for irrigation or other beneficial purposes, and if used for irrigation, the amount of land reclaimed or irrigated the first year; the amount in subsequent years, with the dates of reclamation, and the amount of land such ditch is capable of irrigating. The character of the soil and the kind of crops cultivated, and such other facts as will show a compliance with the law in acquiring the appropriation and the rank of priority claimed.

4686. Oath of claimant.

SEC. 15. Each of said claimants shall be required to certify to his statements under oath, and any officer authorized to administer oaths is hereby authorized to administer such oaths.

4687. Claimant must make statement within ninety days—Misdemeanor.

SEC. 16. The failure of any claimant to make such a sworn statement within ninety days after notice that such statement is required by the state engineer, shall be punishable as a misdemeanor on the complaint of the state engineer or any of his assistants.

4688. State engineer to make plat of ditches and irrigable lands.

SEC. 17. It shall be the duty of the state engineer, or some qualified assistant, as soon as practicable, to make an examination of such stream and the works diverting therefrom, said examination to include the measurement of the discharge of said stream unless adequate proof is available from the measurements made by the United States government, and of the carrying capacity of the various ditches and canals diverting water therefrom; an examination of the irrigated lands, and an approximate measurement of the lands irrigated, or susceptible of irrigation, from the various ditches and canals, which said observations and measurements shall be reduced to writing, and made a matter of record in his office, and it shall be the duty of the state engineer to make or cause to be made a map or plat, on a scale of not less than one inch to the mile, showing with substantial accuracy, the course of said stream, the location of each ditch or canal diverting water therefrom, and the legal subdivisions of lands which have been irrigated or which are susceptible of irrigation from the ditches and canals already constructed. In performing such work the state engineer or his assistant may avail himself of the works, records and information of the United States geological survey.

The state engineer has issued the following instructions pertaining to the adjudication of water rights and cultural maps:

Before undertaking the work of compiling the various proofs of appropriation in connection with the adjudication of the streams in the State of Nevada as provided by statute, it has been decided that the first step should be the compilation of a hydrographic survey of the stream system, such survey to show the following:

1. The stream from which the supply of water is derived.
2. The ditch or ditches from which the lands are irrigated.

3. The actual acreage under cultivation, and the number of acres in each kind of culture.

4. The outline of the lands owned by the party using water from the source under consideration.

5. Stream measurements covering the entire system.

Under section 17 of the Statutes of 1907, the state engineer is authorized to cause to be made a map or plat, which shows with substantial accuracy the ditches and lands irrigated on the system being adjudicated.

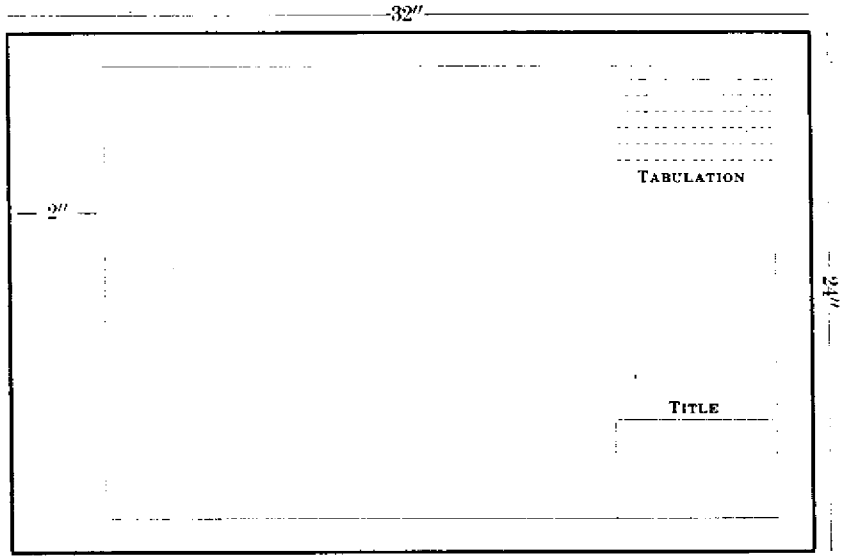
In the preparation of these maps and plats it was deemed advisable to have the lands of each water user shown on a separate map, in order that they may be indexed, and to make as clear as possible the various sorts of culture on each ranch. Nearly every user of water is desirous of having such a map for ready reference and information.

It was also deemed advisable to have the maps of one size for convenient filing, therefore the following rules were adopted with respect to the character of map required.

The maps should show:

1. The outline of the lands owned by the water user adjacent to the source, by legal subdivisions, if on surveyed land, and by traverse with proper tie to some government corner, if on unsurveyed land.

DIAGRAM OF MAP



2. The location of the main and lateral ditches supplying the lands with water. Also, the point of diversion from the main source should be shown. If the point of diversion from the main source is far removed from the land, a disconnected tie showing the source and diversion may be made on the same plat.

3. The size of the main ditch and the principal laterals should be shown, together with the grades of each.

4. The lands should be indicated in forty-acre tracts showing the kind of culture on each parcel. The outlines of the various kinds of crops should be noted when they do not conform to the legal subdivisions. There should be a crayon coloring used to show the different kinds of culture. For convenience and uniformity the following colors have been adopted to show each kind of culture:

a. Alfalfa, color in dark green;
b. Meadow, color in light green;
c. Garden culture of all kinds, color in blue;
d. Sagebrush, color in gray;
e. Grain lands, color in yellow.

All other culture such as willows, etc., should be uncolored, and indicated by letters on the map.

5. The boundary lines of the lands owned by the water user should be shown in heavy black lines. The section lines should be shown in lighter black lines and the smaller subdivisions in red lines.

6. Where separate ditch lines appear on the same plat each should be shown with a different colored ink.

7. The maps should be of uniform size, 24x32 inches, on tracing cloth, with the border line two inches from the left edge in order to leave room for binding. The border lines on the other three sides should be one-half of an inch from the edge, leaving a space within the entire border of 23x29½ inches, for drawing.

8. The scale should be 600 feet to the inch in order to show the details without crowding the work.

On the upper right-hand corner the following table should appear:

Section	Sub-division	Township	Range	Cultivated acreage	Description of culture	Date of first culture*

*This column will be filled in by State Engineer after proofs have been submitted.

9. The title should be in the lower right-hand corner and should give

The name of the water user or owner of the land.

The name of the stream from which the water is derived.

The engineer or surveyor making the survey and map should subscribe to the following oath:

State of Nevada, County of ....., ss.

....., being first duly sworn, deposes and says that the above map is a true and accurate plat of the lands irrigated by ....., as taken from the field notes of a survey made by me (or under my supervision and direction), completed on the.....day of ....., 19....

That the map and survey were made at the instance of .....owner of said lands, and that it truly represents the irrigated lands of said.....

....., Surveyor.

Subscribed and sworn to before me this ..... day of....., 19....

.....,

Notary Public, in and for.....County, Nevada.

If the lands of each party are such that they cannot be shown on a single map of the above dimensions, separate maps of the same size should be made, and the oath attached to the first sheet.

Upon the completion of the hydrographic survey, the cultivated lands will be listed and tabulated in the office of the state engineer, and be open for inspection by all parties.

The next step as provided by statute will be the mailing of a blank proof to each party by registered mail, with instructions that it be properly filled out and filed in the office of the state engineer within ninety days.

The information obtained from the hydrographic survey will be available by each water user, and the state engineer will give all possible aid in the filling out of proofs when called upon to do so.

When the proof of every user is filed, a compilation of the proofs will be mailed to each and every user. Should it be found that any proof or claim does not agree with the facts a protest may be entered against such claim. Such protest

will be made a matter of record, and a hearing held to determine the facts upon which to make a finding.

The finding of the state engineer may be appealed from, within the time provided by statute, and tried de novo by the district court, the same as other civil suits.

4689. State engineer to issue certificates to appropriators and county recorders—Recording at state expense.

SEC. 18. Within thirty days after the preparation of the list of priorities of appropriation of the use of waters of any stream, it shall be the duty of the state engineer to issue to each person, association or corporation, represented in such list, a certificate to be signed by the state engineer, setting forth the name and postoffice address of the appropriator, the priority number of such appropriation, the amount of water appropriated and the amount of prior appropriations, and if such appropriations be for irrigation, a description of the legal subdivisions of the lands to which said water is to be applied. And he shall also send such certified list, by registered mail, to the county recorder of the county in which such appropriations shall have been made, as well as to the county recorder of the county in which the waters appropriated are used, and it shall be the duty of said county recorder, within ten days after the receipt of such certificate, to record the same in a book specially prepared and kept for that purpose, and the fee for such record shall be fixed by the governor, and shall be allowed and paid by the board of examiners out of funds in the treasury applicable thereto.

4690. Parties aggrieved may bring action—Court may employ experts—Costs.

SEC. 19. Any party, or number of parties acting jointly, who may feel themselves aggrieved by the determination of the state engineer, may bring an action in any court having jurisdiction against such state engineer and all persons having interests adverse to the party or parties bringing the action, to have their respective rights determined. Such action must be brought within one year after the record of such list of priorities of appropriation has been recorded. Such action shall be tried as speedily as possible, and the court is hereby authorized to employ a hydraulic engineer or other expert to examine and make report under oath upon any subject-matter in controversy, the cost of such employment to be equitably apportioned by the court and charged against the parties to the suit as costs.

4691. Water commissioners to apportion water—Priorities—Judgment.

SEC. 20. The water commissioners hereafter provided shall make apportionment of the waters of such stream according to the list of priorities recorded as aforesaid, unless such a list be corrected by the judgment of some court having jurisdiction of the subject matter.

4692. State engineer a member and secretary of the state board of irrigation.

SEC. 21. The state engineer shall be a member of the state board of irrigation created by an act of the legislature of the State of Nevada, approved March 16, 1901, entitled "An act to provide for the measurement of streams, the survey of reservoir sites, the determination of irrigation possibilities, and for the best methods of controlling and utilizing the water resources of the State of Nevada in cooperation with the United States geological survey and the United States department of agriculture, and the Nevada experiment station." The said state engineer shall be the secretary of said board of irrigation and shall keep the record thereof in his office.

4693. Powers and duties of state board and water commissioners.

SEC. 22. The state board of irrigation shall divide the State of Nevada into such water divisions or water districts as seem to it advisable, and may change the same from time to time. It may appoint water commissioners, whose duty it shall be to measure and divide amongst the appropriators the water of such streams according to priority of right and the amount to which each is entitled. It may make such rules and regulations as it shall deem advisable for the proper and economical administration of the waters of such streams.

4694. Number and compensation of water commissioners under state engineer.

SEC. 23. The board of irrigation shall determine the number and compensation of the water commissioners appointed under this act, and said water commissioners shall be and act under the direction of the state engineer. The compensation of said water commissioners shall be paid upon the approval of the board of irrigation, by the county in which the work of such commissioners is performed, in the same manner as other county bills are presented and allowed.

4695. Appropriators to obtain permission from state engineer—Application to contain—Defective application corrected—Priority.

SEC. 24. Any person, association or corporation desiring to appropriate any of the public waters, or to change the place of diversion or manner of use of water now appropriated, shall before performing any work in connection with such appropriation make an application to the state engineer for permission to make the same. Said application shall set forth the name and postoffice address of the applicant, the source from which said appropriation shall be made, the amount thereof, location of proposed works in connection therewith, the purpose for which the appropriation is desired, and if for irrigation a description of the land to be irrigated and the area thereof, and any additional facts required by the state engineer. On receipt of this application, which shall be of a form prescribed by the state engineer and to be furnished by him without cost to the applicant, it shall be his duty to make a record thereof in his office, and to carefully examine the same to ascertain whether it sets forth all facts necessary to determine the nature and amount of the proposed appropriation. If the application be defective it shall be the duty of the state engineer to return the same to the applicant for correction, and sixty days shall be allowed for the refiling thereof. If refiled, corrected in proper form, within such time, the application shall, upon being accepted, take priority as of date of original filing subject to compliance with the further provisions of the law and regulations thereunder.

This and following sections supersede certain sections of the act of 1905, supplementary to the act of 1903.

The state engineer has issued the following rules regarding applications:

Application should be made out in detail on the form prescribed by the state engineer. (See form in appendix.)

An application is not a permit to appropriate water until after its approval by the state engineer. Upon approval (or rejection) of any application, the original application, with such approval or rejection endorsed thereon, will be returned to

the applicant. The terms of the permit will show on the endorsement, and be a guide for the applicant.

The following rules should be complied with in making application:

Rule 1—Under Question No. 1. Where the source of the water desired is from more than one stream, lake, spring or other body of water, separate application must be made out for each source; *provided, however*, that when the numerous sources have their confluence above the point of diversion one application will serve to appropriate the water, by giving the name of the main stream, at the point of diversion. The application should state the name of the stream, including its tributaries.

Rule 2—Under Question No. 2. The amount of water applied for should be limited to the amount that can be put to beneficial use. The statute provides that this amount shall not exceed three acre-feet per annum in districts where irrigation is carried on for the six months beginning April 15th and ending October 15th of each year; and where irrigation is carried on for a longer period each year, one-half of one acre-foot per month for each additional month is the maximum quantity allowed. Therefore, there shall be allowed a continuous flow of one second-foot of water for each one hundred acres of land irrigated. The amount should be stated in cubic feet per second, instead of in miners' inches. (One cubic foot per second equals forty miners' inches.) (One acre-foot of water is equal to 43,560 cubic feet, or the amount of water necessary to cover an acre of ground one foot deep.)

Rule 3—Under Question No. 3. Ordinarily only one use for water can be named in each application. If domestic purposes is included, however, two uses can be named. For instance if the application stated "For irrigation and domestic purposes" it shall be allowed; but if "Power and Irrigation" are named in one application it shall not be allowed, but the application will be returned for correction. In certain cases where water is to be stored in a reservoir, and where the water is conveyed from the reservoir in a ditch owned by the same party, two uses, "Power and Irrigation" might be named, where power can be generated from the ditch, but in such cases it must be clearly shown how the two uses can be completed.

Rule 4—Under Question No. 4. The point of diversion is one of vital importance in the application, as upon the location of the point of diversion depends the question of interference with prior rights. The point of diversion must be stated as being within a forty-acre legal subdivision, or, if on unsurveyed land, it must be tied by course and distance to the nearest corner of a legal subdivision, if such corner is within six miles. If no corner is found within six miles, the point of diversion should be tied to some definite and fixed monument or object.

Rule 5. There shall be named but one point of diversion in each application. The application must be considered as a whole and by reason of the fact that one point of diversion may interfere with prior rights the application would necessarily have to be denied.

Rule 6. The total number of acres of land should be stated with reasonable accuracy. The quantity of water allowed in the application, endorsed thereon by the state engineer is determined by the number of acres to be irrigated as well as the amount of unappropriated water in the stream.

Rule 7. Under description of proposed works, state by what means the water is to be diverted from the stream, whether by dam, ditches, pipe lines or other conduit. Give the size of such ditches, pipe lines, etc., and the proposed grade that each will have from the point of diversion to enable this office to determine the capacity of each. The size of the ditch should be consistent with the amount of water applied for under question No. 2.

If the water is to be stored in a reservoir, give its location with reference to the legal subdivision or subdivisions. If the reservoir is to be located on unsurveyed lands, the rules and regulations of the department of the interior should be followed precisely. Such rules called "Regulations Concerning Right of Way Over Public Lands and Reservations for Canals, Ditches, and Reservoirs," approved by the secretary of the interior, June 6, 1908. The maps and field notes of such reservoir should conform strictly with these regulations and a copy filed with the office of the state engineer.

Rule 8. The time required to construct the works of diversion should be commensurate with the expenditure, in order to be construed as reasonable diligence in the prosecution of the work. The time allowed for completion endorsed on the permit by the state engineer will be based upon the estimate made by the applicant, if such be commensurate with the expenditure.

Rule 9. The affidavit required under section 26, Statutes of 1909, must be filed according to the statute. The permit will be canceled unless good cause can be shown for failure to file this affidavit.

MAPS

Within six months after the approval of a permit a map must be filed showing the location of the works necessary to perfect the appropriation, the source of appropriation, and, if for irrigation, the land upon which the water is to be applied. (Sec. 28, Stats. 1907.)

These maps must be neatly and accurately drawn with India ink, to some convenient scale, preferably 600 feet to 1 inch, on sheets of tracing linen of uniform size, 24x32 inches, two inches on the left of each sheet being allowed for binding. If the scale must be reduced to such an extent that it does now show the details of the drawing, separate sheets of the same size should be used.

The maps must show the location of the point of diversion by course and distance from some government corner. They must show the location of the headgate, also the traverse of the ditch or canal; and, where the government survey lines are crossed, ties to section corners must be shown. Where the appropriation is made to irrigate specific lands, the estimated acreage that can be cultivated should be placed on the map within each forty-acre subdivision. Where the lands are unsurveyed the outlines should be shown by traverse, and tied by course and distance to the point of diversion, which in turn is tied to some government corner.

The maps must show the location and name of the stream or water source from which the appropriation is to be made. The areas to be irrigated should be colored and notated.

All crossings of other canals and ditches and streams should be noted. Different colored ink should be used to show these lines.

Maps must show the name of the ditch, canal or reservoir and the affidavit of the engineer or surveyor must be lettered on the map. The affidavit must state that the survey was made by him in person or under his supervision, and at the instance of the applicant.

The maps of reservoirs must show the area that will be submerged and the intersections with the government section lines, together with sufficient data to compute its capacity.

If water power is to be developed the profile of the river or stream from the point of diversion to the point of use must be platted on profile paper (the size of sheet to be 24x32, the same as mentioned above for filing in connection therewith) to be transmitted with the maps first mentioned. If the data can be shown on one map, separate maps will not be required.

The coloring placed on the tracing cloth should be on the rough side and may be put on with crayons. In case of extensions of beneficial use the new lands should be shown in a different color.

Copies of the detail drawings of the dams, headworks, outlet and wasteways must be filed with the state engineer. A copy of the longitudinal and cross-section of dams must be submitted.

The lettering on the map should set forth the title of the proposed works and refer by number to the application under which it is to be prosecuted.

For fees chargeable by the state engineer, see section 4698.

Remittances should be made by draft or postal money order to the State Engineer, Carson City, Nevada. Where personal check is sent the exchange or charge, if any, of the local bank should be added.

Applications should not be made for more water than can be put to beneficial use.

The commencement of the work, the completion of the work, and the application of water to beneficial use, must be finished within the time set in the permit.

APPENDIX A.

Certificate of Engineer or Surveyor

State of Nevada, County of....., ss.

I .....of..... County of....., State of Nevada, hereby certify that the above map is a true and accurate plat of the..... irrigation or power works, as taken from the field notes of a survey made by me

(or under my personal supervision) on .....191..., and at the instance of.....; that it represents the works described in application No.....,
together with the location of streams and ditches in the immediate vicinity.
....., Surveyor.

4696. Notice of application published at expense of applicant—Protest, reasons stated—Evidence—Vested right reserved.

SEC. 25. If said application is not corrected and refiled within said sixty days, no further proceedings shall be had on such application, in which event the state engineer shall have the power, and it is hereby made his duty, to cancel the said application and all proceedings thereunder. When any application is filed in compliance with this act, the state engineer shall, within thirty days, publish or cause to be published, in some newspaper having a general circulation, and printed and published in the county where such water is sought to be appropriated, a notice of the application, showing by whom made, the quantity of water sought to be appropriated, the stream from which, and the point at which such appropriation is to be made, the use for which and by what means said water is to be appropriated, which notice shall be published in said newspaper once a week for a period of at least four successive weeks; and within ninety days from the time of filing such application there shall be filed in the office of the state engineer an affidavit from the publisher or manager of said newspaper, stating that such publication was had in compliance with said act, the dates of the issues of said newspaper wherein such publications were made, and that such newspaper is a newspaper having a general circulation, and that the affiant is the publisher or manager thereof, as aforesaid. Any person, corporation, or association interested may, at any time within thirty days after the completion of the publication of said notice, file with the state engineer a written protest against the granting of said application, stating the reasons therefor, and thereupon the state engineer shall fix a time for the hearing of such application and protest, and the time so fixed shall not be less than fifteen days after the filing of such protest. Upon such hearing the state engineer may, in his discretion, hear evidence in support of or against such application, and shall take such action thereon as he may deem proper and just; but vested rights to the use of such water shall in no wise be lost, prejudiced or impaired by failure to protest against an application to appropriate under the provisions of this act. As amended, Stats. 1909, 33.

4697. Application, when to be refused, when to be approved—Approval for less amount—Change of place of diversion—Evidence of work—Cancelation of permit.

SEC. 26. If there is no unappropriated water in the source of supply, or if such change of place of diversion or manner of use will in any substantial way invade or impair the rights of other appropriators, the state engineer shall refuse such appropriation, endorse his refusal upon the application, make a record of his refusal and endorsement in his office, and return the application so endorsed to the applicant, who shall not prosecute the work under his application so long as such refusal shall be in force, under penalty of being deemed guilty of and punished for a misdemeanor. If there is unappropriated water in the source of supply named, and the appropriation is not detrimental to the public welfare, or the proposed change of place of diversion and manner of use

will not invade or impair the rights of other appropriators, the state engineer shall approve the application, and set a date prior to which work of diversion and appropriation must be begun, and a date prior to which such work must be completed, endorse such approval upon the application, make a record of such approval and endorsement in his office, and return the application so endorsed to the applicant, who shall, on receipt thereof, be authorized to take such measure as may be necessary to perfect such appropriation; *provided, however*, that the state engineer may approve an application for a less amount of water than that named in the application. Any person changing his place of diversion or manner of use, as specified in this act, shall not thereby lose any priority of right upon the stream he may have heretofore acquired. Any person, association or corporation, who shall receive a permit to appropriate any of the public waters of this state, under the provisions of this act, shall file with the state engineer, within thirty days after the time required by such permit for the commencement of work thereunder, an affidavit stating the time when, the place where, and the amount of such work which has been done under said permit. If such affidavit shall not be so filed, the state engineer shall, unless good cause for extension of time within which to file such affidavit be shown, cancel said permit. As amended, Stats. 1909, 34.

4698. Fees and charges—Publication—Fees to go to state engineer.

SEC. 26a. It is hereby made the duty of the state engineer to charge, and he shall charge, for all services rendered under the provisions of this act, the following fees:

1. For filing application for permit, twenty-five dollars ($25), which shall include the expense of publication and the issuance of such permit, if the same shall issue, and such expense of publication is hereby fixed at the sum of ten ($10), which sum shall be paid on the certificate of the state engineer, approved by the state board of examiners, and the state controller shall draw his warrant on the state treasurer for the payment of such expense of publication.
2. For filing proof of beneficial use, two dollars, which shall include certificate thereof, if the same shall issue.
3. For filing each transfer, agreement, assignment, waiver, release, relinquishment, deed, affidavit (other than affidavit of proof of appropriation) or other paper, one dollar ($1).
4. For copying papers on file or of record in his office, ten cents (10c) per folio, and for each certificate under seal, fifty cents (50c).

All fees collected under the provisions of this act by the state engineer shall be paid by him into the state treasury at least once in each month, and the same shall become a part of the general fund; and at the time of such payment the state engineer shall deliver to the state treasurer an itemized account, duly certified by him, showing the names of the persons by whom such fees were paid, and the purposes for which such payments were made. As supplemented, Stats. 1909, 35.

4699. State engineer to issue certified copies of records—Copies evidence.

SEC. 26b. The state engineer acting for himself or by his assistant, shall have the power, and it is hereby made his duty, upon application of any person, persons, association or corporation, to issue under the seal of his office, at the expense of the applicant, certified copies of all papers

or records which may be on file or of record in his office, and when so certified the same shall be admissable in evidence and shall be prima facie evidence of the facts stated therein. As supplemented, Stats. 1909, 35.

4700. Seal for state engineer.

SEC. 26c. The state engineer is hereby empowered and directed to procure, for his said office, a seal upon which shall appear his official title, and such other suitable inscription as he may deem proper, and such seal shall be affixed upon all official permits, certificates and other documents issued by him under the provisions of this act. As supplemented, Stats. 1909, 35.

4701. Parties may sue within sixty days—Necessary defendants—Appeal.

SEC. 27. Any party feeling himself aggrieved by the action of the state engineer in refusing his application in whole or in part, or in allowing such application against his protest, may bring an action, in any court having jurisdiction of the matter, against the state engineer to compel him to reverse or modify his decision, and all persons having interests adverse to the party or parties bringing such action shall be joined therein with the state engineer as defendants. Such action must be commenced within sixty days after notice in writing of the decision by the state engineer complained of, and shall be begun and prosecuted in all respects like the ordinary civil action in this state, and shall be tried de novo by the court. Any party feeling himself aggrieved by the decision of the court may have the same reviewed, in any court having appellate jurisdiction of such decision, by appeal or writ of error in the manner provided by law.

4702. Applicant must furnish map.

SEC. 28. Upon approval of an application in whole or in part, the applicant shall send to the state engineer within six months thereafter a map on a scale of not less than two inches to the mile, showing the location of the works necessary to perfect the appropriation, the source of appropriation, and if for irrigation, the land upon which the water is to be applied, which map shall be filed in his office.

4703. State engineer to issue certificate—Recording—Fee—Date of priority.

SEC. 29. Upon satisfactory proof being made to the state engineer that any application to appropriate water has been perfected in accordance with the provisions of this act, said state engineer shall issue to the applicant a certificate setting forth the name of the appropriator, date, source, purpose and amount of the appropriation, and if for irrigation, a description of the land to be irrigated, which certificate shall within thirty days after its issuance be recorded in the county in which the point of diversion of the appropriation is, as well as in the county where the water is used, in books especially kept for that purpose, and the fee for such records shall be one dollar ($1), payable by the party in whose favor the certificate is issued. The priority of such new appropriation shall date from the filing of the application in the state engineer's office.

4704. Misdemeanor for interfering with water officers.

SEC. 30. Any person interfering with, obstructing or resisting the state engineer, assistant engineer or any water commissioner, in the performance of his duty or duties as prescribed by this act, or by the rules or regulations adopted by the board of irrigation, shall be deemed guilty of a misdemeanor.

4705. Punishment.

SEC. 31. Any act which is made a misdemeanor by this statute shall be punishable by fine not exceeding five hundred dollars ($500), or by imprisonment in the county jail not more than three (3) months, or by both such fine and imprisonment in the discretion of the court.

4707. Water-users to install headgates and weirs—Plans by state engineer.

SEC. 1. Within ninety days after the passage of this act, it shall be the duty of any person, firm, company or corporation, who is now using or diverting, or may hereafter use or divert any of the public waters of this state under any certificate or permits to appropriate the same, issued by the state engineer, or under any provision of law, to install and maintain at or near the point of use or diversion of said waters, a good and substantial headgate and measuring weir, through which said waters shall flow, and constructed according to uniform plan and specifications prepared and furnished, free of charge, by the state engineer, and it is hereby made the duty of the state engineer forthwith, to prepare and furnish, free of charge, on application therefor, said uniform plan and specifications, accordingly.

4708. State engineer may install if water-users do not.

SEC. 2. If any person, firm, company or corporation mentioned in section 1 of this act, shall fail to comply with the provisions of this act, the water commissioner, acting under the instructions of the state engineer, shall have, and is hereby given, the right to enter in, upon or over any private lands that may be necessary for the purpose of installing any or all such headgates and measuring weirs, as hereinbefore provided for.

4709. Water-user failing to install guilty of misdemeanor.

SEC. 3. If any person, firm, company or corporation mentioned in section 1 of this act, shall fail, neglect or refuse to comply with, or shall fail in any of the provisions of this act, he, she or it shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not exceeding one hundred dollars or by imprisonment in the county jail not exceeding sixty days, or by both such fine and imprisonment.

The law pertaining to the adjudication of vested water rights has been in force for practically ten years. The law defining the method of appropriation has been in force eight years. During that time many questions have arisen concerning the procedure of the office which were not anticipated when the code was enacted. The question of the constitutionality of certain parts of the Act confronted the State Engineer, but most of the points have been settled, in that sufficient precedent has been established through decisions of the Supreme Courts of the States having water codes similar to our own, to permit of a definite course being outlined and rules promulgated for the proper working of the intent of the Act.

There has been little or no difficulty with relation to the procedure in passing upon applications for new rights and the subsequent action during their course of completion.

During the early stages of the administration of the law, a number of people held to the belief that the portion of the Act which conferred upon

the State Engineer power to pass upon and regulate water rights, initiated prior to the adoption of the code, was unconstitutional, and would be so declared by the courts.

At the present time, in my opinion, there is no question regarding the constitutionality of administrative codes conferring upon the State Engineer power to adjudicate and regulate water rights, even though such rights were acquired prior to the adoption of the code. The trend of the many decisions in favor of these codes rendered by the Supreme Courts of the Western States is such that all argument on this point may now be considered superfluous. In every instance where the question has come squarely before the court, even in States where the statutes do not outline any definite course but rather leave it to the discretion of the State Engineer, and where the code is sufficiently clear as to the intent of the Legislature, I believe it has been decided that the powers conferred upon the State Engineer are not such as to render the Act unconstitutional.

The State Engineer has proceeded to adjudicate the rights of the streams in different sections of the State on the theory that, until declared void, the Act should be carried out as intended by the Legislature, or as near its intention as the wording of the text will convey,

As has already been stated the Act authorizing and directing the State Engineer to adjudicate water rights has been in force practically ten years. The first streams in the State to receive the attention of the office were those upon which the United States, through the Reclamation Service, were cooperating with the State toward securing data from which to judge as to the practicability of the proposed reclamation projects then under way.

The Carson River upon which the Government proposed to construct a reservoir received the first consideration of the office. Topographical surveys and maps and stream measurements were made under a joint agreement between the United States and the State of Nevada. The rights of all water users above the present site of the Lahontan reservoir were adjudicated and a certificate or certificates issued to each. These certificates show the amount of land and priority of each farmer, and serve as a basis for the distribution of water.

The water has been distributed and regulated under the adjudication for a period of eight years. The entire absence of litigation during this period is ample evidence of the satisfactory solution of the priorities and acreage of the various parties, aside from the fact that they are cooperating and working in harmonious relations in all matters pertaining to the conservation and use of water, a condition hitherto unusual in large irrigating communities.

Mention is made of this fact as an instance of the value of the office of the State Engineer in aiding the development of the State. Without an administrative system for the adjudication of water rights, the development of the agricultural resources would be stagnated.

The rights of the water users below the site of the Lahontan reservoir have with the exception of a few, numbering seven, transferred their rights to the United States in consideration of an equal right from the system under construction called the Truckee-Carson system. Negotiations are pending for the transfer of the remaining rights.

Court procedures for adjudications of water rights have discouraged small homeseekers where that system prevails. The necessary delays

and expense connected therewith tend to cause the man of small means to hesitate to invest his savings where there is danger of being called into court at any time through insecure title to his water right with the possibility of a complete loss of the investment.

A central office containing complete records of the appropriated waters of all streams provides a sufficient means to the ordinary homeseeker to obtain sufficient information to warrant the investment of his money in reclaiming lands for a home.

It has been argued from time to time that the State Engineer should not be given power to either approve or reject an application to appropriate water; that each and every user should be compelled to take his chances in constructing a dam and ditch to convey the water to his lands without reference to the amount of water already appropriated, and without considering the amount of water actually appropriated, though not at the time of his appropriation, benefically used.

True, there are many features of the argument which are well worthy of consideration. However, the plan as a whole is such that it would, if adopted, preclude the possibility of a homeseeker investing money or labor in agricultural pursuits requiring a new appropriation of water. The fact alone that he may be subjected to a lawsuit at any time to protect his water right from more powerful interests would deter him from investing money to divert the water. It is true that he is confronted with the same condition under the system now in force, but if the State Engineer is careful in passing upon every application for water, and proceeds as directed by statute, there is no reason to fear an appeal to the courts.

While administering the duties prescribed by our code we have met with a few obstacles, but on the whole the hearty cooperation we have received from water users in every part of the State is a source of gratification. The time has arrived when the farmer wishes to know the status of his water right definitely and for all time. He wishes to know his property, to enable him to dispose of something tangible, should he care to sell. At last he has come to realize that an unadjudicated water right, a right not determined in accordance with the law, detracts materially from the price of farm property.

As a result we have found that from all counties of the State water users are aiding in the final determination of their rights. Surveys, maps and stream measurements are being made by them to expedite the work. During the two years last past we have received and filed 153 proofs of appropriation, and 150 maps, exclusive of the Humboldt River system, but have not issued the final certificates on the proofs in all cases, owing to the amount of current work before the office. The filing of the proof, however, protects the right until it is inspected and passed upon by the office.

ADJUDICATION OF VESTED RIGHTS

Prior to the year 1911, adjudications by the State Engineer were completed on the Carson River and its tributaries, above the Lahontan reservoir, and the Muddy River. Certificates were also issued on numerous small streams throughout the State where there was but one user.

The Walker River with its tributaries was taken up for adjudication next. Proofs of appropriation were filed and an abstract made of the claims. Through pending litigation an agreement was reached permitting the State Engineer to continue the adjudication. He was

appointed a Special Master in Chancery in the case, and rendered his findings to the court after hearing objections to claims as listed.

The findings are not yet made final; however, for all practical purposes, the adjudication is complete. The water is distributed in accordance with the decree rendered by the State Engineer, and it meets with general satisfaction.

Work commenced toward the adjudication of the Truckee River, but was never completed. Proofs have been filed for every ditch with the exception of those of a number of users on the Steamboat ditch. The areas were taken from maps prepared by the United States Geological Survey. The abstract of claims was never compiled, owing to the incomplete list of proofs of appropriation. These data still remain in the office and the remaining part of the adjudication can be taken up as soon as conditions will permit. It might be well to add that the areas will need corrections in a great many instances.

We have on file proofs of appropriation of all users on the Humboldt River from a point at Golconda west to the Humboldt Sink. This section of the river includes the Winnemucca and Lovelock Valleys.

The areas given in the proofs were taken from the maps compiled by the United States Geological Survey, but upon checking it was found that conditions had changed and many of the areas were incorrect, some too large and some too small.

The change in the personnel of the office of the State Engineer caused a delay in the final work of adjudication. The hearings were postponed where protests had been filed. It was deemed unwise to continue the work on this stream until accurate surveys could be made to obtain correct data. The work ceased early in 1910.

Proofs of appropriation were filed by the water users on the Little Humboldt River and its tributaries during the years 1909 and 1910. The areas given in these proofs were merely guesses. The same conditions surrounding the proofs on the Humboldt River existed in the proofs of the Little Humboldt River. The work of compilation and that antecedent to the adjudication was dropped about the same time as the Humboldt River proceedings were dropped.

The above references briefly cover the accomplishments of the office in the way of settling vested water rights up to the year 1911.

The Carson River, the Walker River, the Muddy River and the numerous small streams already adjusted as to relative rights, furnish water for approximately one-fifth of the irrigated land of the State.

WHITE RIVER SYSTEM

Upon assuming the duties of the office in the year 1911, proofs of appropriation were called for from the water users of the White River and its tributaries. There had been more or less contention over the existing rights for several years.

Two distinct communities were found to be using water from sources which were tributary to the White River. Each of these settlements was using water from different springs for a portion of their lands, and from the same springs for another portion of the land. They had already formed an amicable arrangement as to the rights in each spring. The sources were, however, tributary to White River, as above stated, and it became necessary to include the springs in the adjudication.

Surveys were executed and the data prepared for submission to the

water users in accordance with sections 14 to 19, inclusive, of the statute of 1907 (sections 4685 to 4690, inclusive, Revised Laws, 1912). The maps showing the irrigated lands were also submitted to the water users.

No protests were entered against the areas as found by the State Engineer. Several protests were filed objecting to the dates of cultivation. Evidence was taken on the subject-matter in controversy, findings were rendered and certificates issued to each water user. The following table shows the areas and priorities of the appropriators who were issued certificates:

Name	*Amount*	*Priority*
Preston Irrigation Company	5.0 acres	1865
Preston Irrigation Company	80.0 acres	1875
Preston Irrigation Company	90.0 acres	1885
Preston Irrigation Company	90.0 acres	1890
Preston Irrigation Company	363.6 acres	1898
Preston Irrigation Company	480.2 acres	1903
Lund Irrigation Company	200.0 acres	1870
Lund Irrigation Company	150.0 acres	1881
Lund Irrigation Company	56.0 acres	1890
Lund Irrigation Company	403.3 acres	1899
Lund Irrigation Company	526.6 acres	1904
Lund Irrigation Company	142.0 acres	1900
Lund Irrigation Company	286.0 acres	1898
Geo. R. Hayden	163.0 acres	1869
Stephen Williams	29.5 acres	1869
James T. McQueen	25.0 acres	1880
James T. McQueen	10.0 acres	1889
James T. McQueen	20.0 acres	1894
James T. McQueen	14.0 acres	1905
Christian & Karen Hermansen	233.5 acres	1881
Adams & McGill	34.0 acres	1890
Adams & McGill	640.0 acres	1898
Andrew Lee	9.4 acres	1892
Total	4,051.1 acres	

This stream is situated in White Pine County, thirty-five miles south of Ely. The stream called White River is a mountain stream depending upon the run-off from the watershed of the White Pine Mountains. There are numerous tributaries to the White River whose sources are deep-seated springs. The following are the principal springs forming tributaries:

Preston Big Spring.
Nicholas Spring.
Cold Spring.
Horsely Spring.
Little Preston Spring.
McQuitty Spring.
Lund Spring.

Of the above, Preston Big Spring and Lund Spring are the principal sources of water supply. The flow of these springs is given under the head of "Stream Measurements" in this report. They flow the entire year with only a slight variance in the supply.

PINE, CHERRY, AND COTTONWOOD CREEKS

Early in the summer of 1912 it became necessary to determine the rights of the users on Pine, Cherry, and Cottonwood Creeks, situated in Nye County, Nevada, which rise in Nye County and cross the Nye-Lincoln county line.

The Cherry Creek Irrigation Company had constructed a reservoir impounding the waters of the three creeks below their confluence. The water users on the separate streams were using water under vested right to a certain extent and under permits issued from this office.

Surveys were executed and maps drawn showing the irrigated area of each farmer's holdings. A compilation was prepared and submitted to each of the interested parties, including the Cherry Creek Irrigation Company, which had acquired rights to the unappropriated waters through a permit issued by the State Engineer.

The area under cultivation on the streams is small, the total amounting to only 109.86 acres. Experiments were carried on during the time the surveys were progressing, to determine the approximate duty of water on the lands under cultivation. This was necessary owing to the fact that the users claimed that the land required an unusually large amount of water to produce crops. Incidentally it was through the low duty of water that the controversy arose and made the adjudication of the rights necessary immediately. The Cherry Creek Irrigation Company claimed that the wasteful methods employed by the farmers farther up on the stream deprived them of the water to which they were entitled.

After hearing evidence on the protested claims, findings were rendered and certificates were issued to the following persons:

Name	*Amount*	*Priority*
CHERRY CREEK		
M. B. Cutler	40.57 acres	1872
G. G. Davis	22.30 acres	1881
M. B. Cutler	4.30 acres	1904
Frenzi Estate	6.99 acres	1886
Total	74.16 acres	
PINE CREEK		
G. B. Welch	13.94 acres	1902
G. B. Welch	17.38 acres	1904
Total	31.42 acres	
COTTONWOOD CREEK		
Indian Bob	4.38 acres	1892

The total amount of land under cultivation allowed vested rights is 109.86 acres. An additional area was claimed under a vested right, but was disallowed, as the proofs clearly show that the rights were initiated subsequent to the year 1905, some of which were subsequent to the rights of the Cherry Creek Irrigation Company. The area disallowed however was only a small part of each ranch and comprised lands that had been placed under cultivation very recently in nearly every instance.

A portion of the land was given a right relating back to the year 1904, as the appropriation was commenced in that year, though the land was placed in cultivation subsequent to the enactment of the water code of 1905.

An experiment relative to the duty of water showed that while a large amount of water was diverted from the stream the conditions were such that the loss was not great. A large portion of it was returned to the stream immediately after leaving the fields. The lands are situated in mountainous country, and water is diverted to both sides of the creek. The slope of the land is so great that the water immediately flows back to the main channel. Measurements taken above and below the irrigated lands, after the water had been flowing over the land for forty-eight hours, showed very little loss. This is due perhaps to the land acting as a reservoir and after becoming saturated furnishes a part of the flow. If this be true in this instance it is partly on account of the contour of the land and its proximity to the stream.

The land under cultivation on these streams other than that holding vested rights is given in the list of appropriations in this report.

In the investigation of the above streams an attempt was made to combine the waters of the three streams for the purpose of ascertaining if the entire flow would be of any benefit to the Cherry Creek Irrigation Company in furnishing water for their reservoir during the low season. With the small flow at the season of the year when the experiment was tried, the result was not satisfactory. The greater portion of the water was lost in transit and only a fraction of a second-foot of the 10.84 second-feet comprising the total of the three streams, reached the reservoir. Pine and Cottonwood did not reach the confluence of the three channels on the dates of the experiment, July 5 to 8, 1912.

LITTLE HUMBOLDT RIVER AND TRIBUTARIES

(Tributaries consisting of Martin Creek, Cottonwood Creek, Indian Creek, Colony Creek, Morey Creek, Dooley Creek, Haviland Creek, Hansen Creek, and Stonehouse Creek.)

The proofs of appropriation on file showing the areas and priority of rights (as claimed by the users) on the little Humboldt River and its tributaries were carefully examined by the State Engineer with a view of proceeding with the work of adjudication. The examination revealed the fact that the proofs were in such shape that amendments would be necessary on practically all of them before the compilation could be worked up.

The relative points of diversion, the areas, and many of the dates were so indefinite that it was deemed best to call for an entire set of new or amended proofs. Additional data were required to be placed in the proofs, a uniform system of filling in the data, and other features which would enable the State Engineer to fully adjudicate the rights were also called for in the instructions to water users who were called upon to file proofs.

Primarily, each ditch taken from a natural source was constructed for a certain parcel of land. We required that the land, which the ditch was constructed to irrigate, be stated.

The old proofs on file showed approximately 90,000 acres of land under irrigation. A careful examination of the premises disclosed that serious errors had crept into the proofs so far as the areas were concerned. The relative position of the points of diversion could not readily be ascertained without an examination on the ground.

As an instance of the anxiety of the water users to have their rights determined, a meeting was called by the farmers of Paradise Valley for the purpose of preparing resolutions to present to the State Engineer to proceed with the work. At the invitation of the committee the State Engineer was invited to attend the meeting, which he accepted.

A general discussion of the condition of the status of water rights was had, and before adjourning each and every water user present pledged his support to aid in the speedy settlement of the rights.

Surveys were immediately made by the farmers, and maps prepared for submission with the proofs. At the time of this writing I am advised

that all of the surveys have been completed. A large majority of the maps have been prepared and submitted to Mr. F. B. Stewart, the representative of this office, whose headquarters are at Paradise Valley while gathering proofs.

The total area of the irrigated lands, as estimated from the surveys already completed, is about 80,000 acres.

The compilation of the proofs will be prepared early in the spring, so as to complete the determinations prior to the next irrigation season. The most difficult portion of the work is now over, as the gathering of these data—areas, subdivisions, locations of diversions etc.—consumes a large amount of time. The proofs are in such shape that they may be segregated by years and names very readily.

The value of a Water Commissioner to distribute the water according to some definite plan was thoroughly and satisfactorily tested in Paradise Valley during the dry season of 1912.

HUMBOLDT RIVER SYSTEM

The task of determining the relative rights of the water users of the Humboldt River and its tributaries is not one of small proportions. The river has its source in Elko County, some 600 to 800 miles from its sink in Humboldt County. The distance in a direct line is much less than given above, but the winding course of the stream is such as to practically double its length in comparison with that of an air line.

Numerous tributaries of large flow enter the river at different points along its course. The principal tributaries in Elko County are Mary's River (which in itself has many tributaries of considerable size), Bishop Creek, Star Creek, Lamoille Creek, South Fork of the Humboldt, North Fork of the Humboldt, and Maggie Creek.

In Eureka County, Pine Creek furnishes a part of the supply for the main river. Rock Creek enters the Humboldt in Lander County, near Argenta. Reese River cannot be considered a tributary of the Humboldt except in years of exceptional precipitation and run-off. During the year 1910 this stream reached the main river for a period of several weeks in early March. The Little Humboldt River rarely flows into the Humboldt. Like Reese River it becomes a tributary only in years of high precipitation and heavy run-off.

Below Battle Mountain, or below the confluence of Rock Creek with the Humboldt, there are no tributaries of any large proportions, though several small streams furnish the river with early flood waters. The normal flow of the small creeks tributary to the river is such that many of them will not reach the river. They are, however, used on ranches near their sources.

Elsewhere in this report we have stated that proofs of appropriation for this system are on file showing the claims of the water users from Golconda west to the Humboldt Sink. Like the proofs filed showing the claims on the Little Humboldt River, they were found to be defective in many instances. As a result it was considered best to call for new or amended proofs. Before preparing the proofs, however, a thorough check was made of the maps made by the United States Geological Survey. (Where surveys were made by the U. S. G. S. we are required by statute to make use of them. The State cooperated with the U. S. G. S. in this work during the years 1903, 1904, 1905, and 1906.)

A corrected map was available to each water user during the preparation of his proof. The majority of the users filed new proofs, though a few allowed the old proofs to remain, and the balance amended the original to agree with the areas as found by the check of the map of the United States Geological Survey.

To facilitate the compilation of claims and priority lists, in the adjudication of the Humboldt River and tributaries, the stream system was divided into eleven districts. Each district was taken geographically, so that separately they may be considered a complete system within themselves.

The description of the districts is given as follows:

District No. 1—Humboldt Sink to Oreana.
District No. 2—Oreana to Pinson's Bridge Crossing.
District No. 3—Pinson's Bridge to Palisade.
District No. 4—Palisade to source at Wells.
District No. 5—Pine Creek and tributaries.
District No. 6—Maggie Creek and tributaries.
District No. 7—South Fork of the Humboldt and tributaries.
District No. 8—Lamoille Creek and tributaries.
District No. 9—Star Valley Creeks.
District No. 10—North Fork of the Humboldt and tributaries.
District No. 11—Mary's River and tributaries, being Currant, Tom Cain, Hanks, Pole, T. and Wild Cat Creeks; also Taber, Burnt, Trout, and Bishop Creeks.

In District No. 1 there are 86 claims for water, all of which have been listed. A compilation has been made and a printed copy delivered by registered mail to each water user in the district.

The following instructions are given in the preface of the pamphlet containing the abstract of claims:

CARSON CITY, NEVADA, November 15, 1912.

The following abstract comprises all of the claims in and to the water of the Humboldt River in District No. 1, which includes that portion of the Humboldt River from Oreana to Humboldt Sink or Lake.

In this compilation we have listed each claim to water in the alphabetical order of claimant's name, giving the year the right was initiated, the amount of land cultivated the first year of initiation of the water right, and the amount of land reclaimed in subsequent years. Also, we have included a compilation showing the number of claimants under each year, from the earliest year shown in any proof, to the present time.

In many cases the area of cultivated land, as shown in the proof, was taken from the maps compiled by the office of the State Engineer, which map was made in checking the cultural map of the United States Geological Survey. In such cases the area is accepted as showing the present condition of the land. In other cases, however, areas are included in the proofs which do not agree with the areas found by the office of the State Engineer, and notes appear in this abstract wherever there is a difference in the area between the proofs and the State Engineer's corrected map.

The areas are subject to correction upon a satisfactory showing to the State Engineer that the areas found in checking the map of the United States Geological Survey are incorrect.

In the event that no showing is made to the contrary, the areas found by the office of the State Engineer will be deemed correct, notwithstanding the claims in the proofs.

A copy of this compilation will be mailed or delivered in person to each and every water user, whose name appears in the abstract, for his consideration.

On or before December 24, 1912, all objections to claims listed in this abstract must be filed with the State Engineer, at Carson City, Nevada.

The objection against a finding for any claim as it appears in the abstract must be in writing, and must clearly and concisely set forth the reasons for such protest. The statement objecting to any claim must be signed and acknowledged before an officer authorized to administer oaths.

A date will be set for the hearing of protests, should such be filed, but such date will not be less than fifteen days after the date for filing protests has elapsed. The parties to the contention will be notified in writing to appear at a date and place designated by the State Engineer, when the claimant shall have the right to furnish evidence concerning the contested claims, and the protestant shall be entitled to produce such evidence as may tend to substantiate his contention.

If it is deemed expedient by the State Engineer, the date and place designated for the hearing of all contests shall be the same, and the hearing will continue from day to day until all protests have been disposed of.

Immediately after the conclusion of the hearings, or as soon thereafter as conditions will permit, the State Engineer will render his findings in an "Abstract of findings to claims" and "List of priorities of appropriation" of the use of waters of this division.

To facilitate the compilation of claims and priority lists, in the adjudication of the water rights of the Humboldt River and its tributaries, the stream system has been divided into eleven separate districts. Each district was separated geographically and so taken that each might be considered a system within itself.

The claims in each district will be compiled separately as the work of adjudication progresses, and the objections disposed of, so far as possible, in each district. The compilation of each district will be submitted to every other district, to enable each appropriator on the entire source to become familiar with the claims of every other appropriator, before the final result of claims is determined.

In making the findings of water rights the State Engineer will observe the following rules, which appear to be the law applicable to the case (rules taken from stipulations as to cause for trial in the case of Pacific Livestock Company v. T. B. Rickey, *et al.*—Walker River):

(a) To constitute a valid appropriation there must be an actual diversion of water from the stream and an actual application of the water to a beneficial use.

(b) The means employed in the diversion of the water and its application to use are immaterial, except that they must be such as to conduce to a reasonable and economical diversion and application, provided that all unused water shall be returned to the stream, where it is practicable.

(c) Every appropriator has the right to change at will the place and means of his diversion and carrying of the water, and the place and character of its use; and he does not thereby lose any priority of right which he may have acquired, except in so far as such change may be prejudicial to the rights of others previously acquired.

For example, one who has appropriated water through a certain ditch may discontinue the use of that ditch, and carry the appropriated water through another ditch, heading at a different point on the stream, without losing his priority, except in so far as such change may deprive another person of a right acquired before the change. But, on the other hand, though one who has appropriated water to run a mill may afterwards use that water for irrigation, he cannot make that change so as to prejudice those who, before he commenced to irrigate, had acquired rights by appropriation. A change in the use of water is not necessarily an abandonment of the appropriation for the first use.

(d) A valid right of appropriation may be lost by abandonment. A mere failure to divert or use the water, however long continued, does not constitute abandonment, unless accompanied with the intent not to again use it. The intent to abandon may be inferred from circumstances, but should not be presumed except from clear evidence. But while mere nonuser does not amount to abandonment, the fact is competent evidence on the question of abandonment, and if continued for an unreasonable period it may indicate an intent to abandon and may warrant the deduction of the fact of abandonment. The presumption, however, is not conclusive and may be overcome by other satisfactory evidence. Mere nonuser, if continued for five years or more, may, however, result in a forfeiture of the right or render the right subservient to the prescriptive right of another.

(e) The notorious, peaceable, exclusive, adverse and continuous use under claim of right, by a user up the stream of water claimed to have been appropriated by another at a point lower down on the stream, gives to such adverse user title to such water by limitation or prescription, but such adverse user must have continued without adverse interruption for a period of five years or more after such prior appropriator had obtained a complete right of action therefor against such upper adverse user.

(f) Where an appropriator of water has prosecuted the work of appropriation with reasonable diligence and brought it to completion within a reasonable time, his right of appropriation relates back to the time when the first step was taken to secure it; but if the work of appropriation is not prosecuted with reasonable diligence and brought to completion within a reasonable time, his right of appropriation does not relate back to the time when work of appropriation was commenced, but is to be deemed to have been acquired only at the time when the work of appropriation was completed and the water actually diverted from the stream and put to beneficial use. The appropriator must have exercised that degree of diligence which will indicate the constancy and steadiness of purpose and labor usual with men engaged in like enterprises, who desire and intend a speedy accomplishment of their designs.

Fifteen objections have been received against claims as listed. The date for taking testimony has not yet been set, but as soon as the protests can be reviewed the matter will receive our first attention.

We have not had an opportunity to commence the taking of proofs in Districts Nos. 2, 3, 5, 6, and 10. However, many have been filed without the assistance of the Field Engineers, who will aid when necessary and when called upon to do so. The maps in these districts have been prepared and the data is ready to be inserted in the proofs.

District No. 5 (Pine Creek and tributaries) is completely surveyed and the maps are on file with the State Engineer.

District No. 7 is practically all surveyed and the maps are on file with the State Engineer.

District No. 8 (Lamoille Creek and tributaries, consisting of Talbot Creek, Rabbit Creek, Conrad Creek, Seitz Creek, Beaver or Thorpe Creek, and Shell Creek) has been completely checked by this office and the proofs of 32 users of the 34 in the district have been filed. The 2 proofs not filed are filled out and ready to be filed, but held pending advice regarding data which is uncertain. The work of compiling and abstracting these proofs will be commenced immediately.

District No. 9 (Star Valley Creeks, consisting of Trout Creek, Herder Creek, Deering Creek, Boulder Creek, Soldier Creek, Stevens Creek, Alles Creek, Ackler Creek, Hall Canyon Creek, Little Hall Canyon Creek, Berger Creek, Star Creek, Blassengame Creek, Monk's Creek, and Secret Creek) has been completely checked by this office, in relation to the irrigated areas. There are 44 separate water users, though some of the users have more than one ranch and on separate creeks. Of the 44 users 31 have filed proofs of appropriation, 6 have not been visited to obtain proofs, and the remaining 7 have the proofs ready to be acknowledged and forwarded to the State Engineer. The preparation of an abstract of claims for this district can commence in a very short time.

The surveys of the irrigated lands in District No. 10 have been filed with the State Engineer where finished, and proofs have been filed by a small number of users without the aid of the Field Engineers.

Proofs showing the claims of the farmers on Mary's River and tributaries (District No. 11) have been filed, together with maps, in nearly every instance. The proofs of the Pacific Reclamation Company are being held for the assistance of the Field Engineer taking proofs in that district.

Summarizing the work on the Humboldt river and its tributaries, it might be stated that 75 per cent of the land under irrigation has been surveyed and mapped, providing the necessary information for the proofs of appropriation. The actual work of obtaining data in relation to the irrigated area is the main feature of the work, especially as regards time.

Greater progress has been made with the work than we anticipated at

the time it was begun. We have been fortunate in enlisting the aid of the majority of the farmers, who, as already stated, are anxious to have the matter settled. Also, we have been given the hearty support of the attorneys and business men of the communities upon which the adjudication will have any bearing. The aid received from the attorneys of the different cities through the advice given their clients, with the moral support lent by them, has rendered it possible to accomplish as much of the task as we have in the short period of time which has been given to it, and the limited funds available for it.

MISCELLANEOUS STREAMS

Proofs of appropriation have been gathered, listed and filed for 153 rights to various small sources in various parts of the State, exclusive of those mentioned above under the head of adjudications.

Under the list of proofs of appropriation filed will be found a complete tabulation of the claims for miscellaneous rights.

As a rule it is not difficult to issue final certificates on the streams where there are but two or three users. The extent of the right can be determined readily by survey, and there is such a division of the water by mutual arrangement that the priorities are merely a matter of form.

We have not, however, issued certificates on all of the 153 proofs, as our time did not permit of an inspection on the premises. Inspections have been made on approximately 50 of the 153 proofs filed, and certificates can issue in the regular course of business.

DEVELOPMENT OF IRRIGATION PROJECTS

TRUCKEE-CARSON PROJECT

The principal irrigation development in the State, and by far the largest enterprise, is being carried on by the United States Government. This project is known as the Truckee-Carson Project and ultimately contemplates the reclamation of 206,000 acres of land.

For the period covered by this report a noted advancement has taken place in the development of the entire undertaking.

Through the courtesy of Mr. D. W. Cole, Project Engineer, the following data has been supplied for this report. The statistical matter relating to the project is taken from the report of this office for the years 1909 and 1910, and amended to comply with the present advanced stage of the development where necessary.

It is noted that the project is now 71 per cent completed, whereas in 1910 it was but 57 per cent completed. The maintenance charge has increased from 60 cents per acre to 75 cents per acre.

State: Nevada.
Counties: Churchill, Storey, and Lyon.
Townships: 17 and 18 N, Rs. 17 to 30 E; 19 N, Rs. 26 to 31 E; 20 N, Rs. 22 to 31 E, Mount Diablo base and meridian.
Railroad: Southern Pacific.
Railroad Stations: Fernley, Hazen, and Fallon.
Average elevation of irrigable area: 4,000 feet above sea-level.
Average annual rainfall in irrigable area: 4 inches.
Range of temperature on irrigable area: 0° F. to 105° F.

WATER SUPPLY

Source of water supply: Truckee and Carson Rivers.
Area of drainage basin: 3,450 square miles.
Average elevation of drainage basin: 8,000 feet above sea-level.
Average annual rainfall on drainage basin: 25 inches.
Average annual run-off of drainage basin: 1,000,000 acre-feet.

ENGINEERING DATA FOR COMPLETE PROJECT

Reservoirs: Lake Tahoe—Area, 125,000 acres; capacity, 750,000 acre-feet; length of spillway, 85 feet; elevation of spillway, 6 feet above stream bed. Alkali Flat—Area, 8,500 acres; capacity, 228,000 acre-feet. Carson (now called Lahontan)—Area, 11,000 acres; capacity, 290,000 acre-feet.

STORAGE DAMS

Lake Tahoe—Type, concrete sluiceway regulator; maximum height, 14 feet; length of crest, 109 feet; contents, 425 cubic yards.

Carson—Earth dam with concrete spillways, maximum height, 125 feet (see later reference under head of new construction).

Alkali Flat—Designs in course of preparation.

DIVERSION DAMS

Truckee River—Type, concrete sluiceways; maximum height 22 feet, 4 inches; length of masonry, 171 feet; length of earth fill, 1,160 feet.

Carson River—Type, concrete sluiceways; maximum height, 20 feet, 9 inches; length of masonry, 240 feet.

Designs for others in course of preparation.

LENGTH OF CANALS

Length of canals in first unit: 104 miles with capacities greater than 300 second-feet; 79 miles with capacities less than 300 second-feet and greater than 50 second-feet; 487 miles with capacities less than 50 second-feet.

Aggregate length of tunnels, 2,840 feet.

Aggregate length of dykes, 50,000 feet.

WATER POWER

About 8,000 horsepower available; plant of 1,000 KW was installed in 1911, and is used for operating purposes at Lahontan Dam, and for commercial purposes at Fallon and vicinity.

The construction of the project was authorized March 14, 1903.

Per cent completed: Entire project, 71.

STATUS OF LANDS

During the years 1911–1912 the greater portion of unsettled lands covered by the ditches of the first unit have been withdrawn from entry pending the completion of the Lahontan Reservoir which will provide a sufficient water supply for such lands. During these years the irrigated area has comprised about 35,000 acres; a few additional farm units on both public and private lands have been entered and supplied with water during this period of withdrawal, and a number of sales and assignments have been made whereby the ownership has shifted into new and usually stronger hands. There has thus been a substantial growth in the agricultural population and in land values. The Lahontan Reservoir is expected to be sufficiently advanced so that the lands now withdrawn from entry can be reopened in the fall of 1913, and a water supply furnished for them from the new reservoir during the season of 1914.

WATER SUPPLY

There was an abundant water supply for this project during the year 1911, following the ample snowfall of the previous winter; but the season of 1912 was restricted as to its water supply owing to the scarcity of precipitation and limited yield of the streams in the early part of the year. The entire available supply of water in Carson River, after diversion in the upper valley, was used on the project as far as it would go and this was supplemented by all available water from Truckee River not used for irrigation in the Reno Valley. In the latter portion of the season the natural flow of Truckee River at Reno was practically all absorbed by local irrigation, and it became necessary for the Reclamation Service to draw upon its storage supply in Lake Tahoe through cooperation with the Truckee-River General Electric Company. Finding it difficult to conduct this water in the river channel past the irrigation district of Reno the reclamation officials called upon the State Engineer for his assistance in the apportionment of Truckee River water so as to insure its rights of storage and delivery of stored water through the natural channel of the river to the diversion works near Derby. In cooperation with the State Engineer the Reclamation Service was enabled to secure harmonious action of the Reno Valley water-users, providing for noninterference with the water belonging to the Reclamation Service by right of storage in Lake Tahoe.

CROP YIELDS

Alfalfa was practically the only crop cultivated previous to the advent of the Reclamation Service. With only the summer flow of the Carson River then available, the harvest was confined to one or two cuttings of alfalfa, yielding two to four tons of hay per acre. This staple crop is now being cut three or even four times in the season with yields of five to seven tons as an average and ten tons in some cases, with a constant approach to the latter figure by expert cultivators.

In addition to this main crop there have been added, with better water supply, crops of barley, oats and wheat, yielding thirty to sixty bushels per acre, potatoes producing three hundred bushels and upwards, onions with yields as high as twenty tons per acre.

Deciduous and small fruits of all sorts, with a variety of melons, have been tried with success and will undoubtedly become a feature of the cultures on the project, and possibly may become of first importance.

The very important and promising crop of sugar beets made encouraging returns during the season of 1912, when approximately 5,000 tons were raised on the project and in the adjacent irrigated districts. The sugar mill situated at Fallon was thus able to make a good demonstration of its ability to turn out a high grade of sugar from the excellent quality of beets raised on the project lands. Yields as high as forty tons per acre were reported in exceptional cases, and a number of yields of twenty tons per acre were actually harvested over considerable area; the gross returns per acre being as high as $111, with net profit of $80 per acre under favorable conditions, and this very encouraging exhibit is expected to be a stimulus for enlarged acreage and yields next year.

MAINTENANCE AND OPERATION

The project is being maintained at a high standard of efficiency, all structures and ditches being kept in good repair, with such enlargements and extensions as from time to time become necessary. The operation is carried on in a systematic manner through the employment of a sufficient number of ditch riders who distribute water to individual users. Careful records are kept of the use of water, and full statistics are compiled showing the cost of the work, as well as exhibiting the total acreage and value of crops, with numbers of live stock and all related matters which are reported annually to the Washington office of the Reclamation Service.

NEW CONSTRUCTION

Besides a considerable number of new structures in canals for the handling of water, including a considerable concrete check structure in the main canal near Fernley, the preeminent feature of construction during the past two years has been the Lahontan Dam.

This dam is situated near Lahontan Station, a point on the Tonopah branch of the Southern Pacific Railway, about seven miles south of Hazen. After thorough preliminary investigation the work of construction by the government forces was authorized by the Secretary of the Interior on the 31st of December, 1910. The establishment of a construction camp was immediately thereafter undertaken, and the first work of building the dam was begun in the spring of 1911.

An adequate organization of men and equipment has been continuously engaged up to the present time. The maximum force of men employed has numbered about two hundred and seventy-five, the average force being about two hundred and fifty men and forty to fifty head of animals.

The total cost of the reservoir, when completed, is estimated at about one and one-half million dollars. It is expected that the work will be finished during 1914, and that the dam will serve to make storage water available for that season.

The reservoir will have a capacity of approximately 290,000 acre-feet, which is more than half the total average annual run-off of the Carson River. In seasons of low water the supply of water for storage in the reservoir will be supplemented by Truckee River water diverted through the Truckee Canal into this new reservoir above Lahontan Dam.

The type of dam under construction is in general an earthen embankment provided with a concrete cut-off wall and extensive concrete spillways. The cut-off wall extends to a depth of sixty feet below the bed of the river and well into the abutting hillsides with the design of intercepting all underflow which could possibly menace the stability of the embankment. The embankment is composed in its down-stream portion of pit-run gravel found near the site, while the up-stream portion is composed of mixture of same gravel with a surface soil having the characteristics of silt, which, when mixed with gravel in equal proportions, is found to possess remarkable watertight properties. These materials are placed in the dam by depositing in thin layers, wetting to a suitable consistency and rolling with heavy traction engines in addition to the large amount of travel of teams and wagons. There is thus produced an embankment of great compactness and density, the water side of which is to all intents and purposes impervious, while the outer or down-stream side is sufficiently porous to carry off any possible percolations of water which may gradually seep through from the reservoir. This embankment will be built to a maximum height of one hundred and twenty-nine feet from the lowest place in the river bed. It will have a top width or thickness of twenty feet at a height of twelve feet above the crest of the concrete spillway.

A concrete spillway two hundred and fifty feet in length is being constructed at each end of the embankment proper, thus giving a total length of overfall weir measuring five hundred feet, which will carry a flood of 30,000 second-feet when flowing at a depth of six feet over the weir or six feet below the top of the embankment. Such a flood is nearly double in volume the greatest flood of record; namely, that of 1907.

These spillways are built of massive concrete walls, reinforced with steel where necessary and divided into channels which converge in sweeping curves and descend by massive steps to the so-called spillway pool, two hundred and twenty feet in diameter in the bed of the river at the toe of the dam. This pool is designed to receive the flood coming down through the 120-foot drop from the reservoir and to absorb the enormous energy of the falling water, so that the discharge out into the river channel below the dam will have such a moderate velocity as will cause no erosion of the natural river channel, which at this point is in tough clay.

The outflow of water from the reservoir for irrigation purposes will be taken through a double nine-foot diameter concrete conduit extending through the base of the dam and discharging into the pool. At the upper end of this double conduit there will be ample installation of large and powerful sluice gates bedded in the concrete of the gate tower which will extend vertically to a height level with the top of the embankment and in which will be placed mechanical equipment for the adequate manipulation and control of the several gates.

The completion of the reservoir will mark one of the greatest achievements in the development of Nevada's resources. The water supply available from this source will make possible homes for thousands of people.

PACIFIC RECLAMATION COMPANY

This project is located in Elko County, Nevada, about seven miles northwest of Wells, a town on the main line of the Southern Pacific Railroad.

A branch line of the Southern Pacific road has been constructed to the town of Metropolis, from a point on the main line called Tulasco about six miles west of Wells. A daily train service is maintained over this branch.

The general elevation of the lands in the project is 5,600 feet above sea-level. The temperature at the nearest station recorded by the United States Weather Service ranges from 0° F. to 100° F. The lands are situated in Townships 38 and 39 N, Ranges 61 and 62 E, M. D. B. & M.

Through the promotion of this enterprise the town of Metropolis has sprung into existence. Many substantial buildings have been erected in the years 1911–1912, notably among which is a modern two-story brick hotel.

A large number of farmers who have taken up lands adjoining the project lands are experimenting with dry-farming methods with more or less success.

CONSTRUCTION WORK

During the years 1911–1912 the Pacific Reclamation Company has constructed an impounding dam in the main channel of Bishop Creek, Elko County, Nevada. The capacity of the reservoir thereby is given as 30,000 acre-feet. Bids for construction closed April 15, 1911.

For the season of 1912 there was stored approximately 5,000 acre-feet of water which was used in connection with the normal flow of the stream to irrigate lands reclaimed during the year and lands which had been acquired by the company and heretofore irrigated.

The dam is of the earth-fill type with a rubble facing on the up-stream side which is lined with reinforced concrete. A reinforced concrete conduit is constructed through the base of the dam, provided with suitable gates regulated from a tower, to permit of the control of the outflow of the reservoir.

On the north end of the dam a concrete weir has been installed as a spillway, the overflow of which is carried through a canal of ample size to a point several hundred feet down stream from the toe of the dam, where it is intended the overflow from the reservoir will waste without damage to the embankment.

The capacity of the reservoir is such that there is ample storage room for any of the floods of record, so there will probably be no occasion to expect any continued period of overflow from a sudden rise in the creek.

The stored water is permitted to flow in the natural channel of Bishop Creek for a distance of about three miles below the reservoir before it is diverted into the main irrigation canal.

The diversion dam is a substantial concrete structure with a thirty-foot spillway. Three headgates set in concrete provide a means of regulation for the flow into the canal.

The total area contemplated to be supplied with water is given as 25,000 acres. Of this area there are 10,246.02 acres withdrawn and segregated under the Carey Act, being the even-numbered sections in the tract. The remaining 15,000 acres or less are owned privately by the company, having been purchased from the Central Pacific Railway Company, and comprising the odd-numbered sections of the tract.

CROPS

The principal crops in this project up to the present time have been alfalfa, barley, oats and wheat, potatoes and other garden vegetables.

The experiment farm maintained by the company demonstrated the fact that staple fruits can be grown with success.

The project is yet in its infancy and a thorough demonstration in relation to the nature of crops which can be grown has not been made.

On the whole, a remarkable growth has taken place on this project, considering that the work of reservoir construction commenced only about two years ago. The impetus resulting in the growth of adjoining farm districts is naturally due to the efforts of this company.

HUMBOLDT-LOVELOCK IRRIGATION, LIGHT AND POWER COMPANY

The undertaking of the construction of two reservoirs and a diversion dam and canal, by the Humboldt-Lovelock Irrigation, Light and Power Company, is one which brings to light the energy of individuals seeking to upbuild that section of the State.

It may be stated that the enterprise has been carried on by private capital and now is in sight of successful completion.

Mr. W. C. Pitt is president of the company, John G. Taylor secretary, and John Holmstrom treasurer, all of Lovelock, Nevada.

This project required the construction of a concrete diversion dam in the Humboldt River, of the sluiceway type, a canal of three hundred cubic feet per second capacity, twelve and one-half miles in length, two earth embankments for the reservoirs, together with the outlet gates and conduits.

The diversion dam and about four miles of the canal were completed prior to the year 1911. Since that time the canal and the embankment on Reservoir No. 1 have been practically completed. The embankment on Reservoir No. 2 will permit of the storage of 10,000 acre-feet of water.

The reservoirs are situated near Mill City, Nevada, and being apart from the river permit of storage during the progress of the work. Expensive spillways are dispensed with, as there is no occasion of preparing for floods.

The total capacity of the reservoirs when completed is given as 57,000 acre-feet. The diverting canal, as above stated, has a capacity of three hundred second-feet.

The water supply is to be used in the Lovelock Valley on lands owned by the individuals who have invested the funds required to complete the enterprise, and the surplus, if any, sold to other irrigators in the district.

It will be necessary to use the natural channel of the Humboldt River to convey the waters stored in the reservoir to the place of use in Lovelock Valley, some thirty miles distant. The diversions in the Lovelock Valley are ample under the present system to utilize the impounded water. It therefore can be considered as complete when the embankments of the reservoirs have been built to the proposed height, and the conduits, etc., are ready for permanent operation.

WALKER RIVER CANAL AND POWER COMPANY

The Walker River Canal and Power Company, operating under the provisions of the Carey Act, have completed surveys and determinations on a project situated in Mineral and Lyon Counties, Nevada, looking toward the reclamation of 55,973 acres of land. Mention is made of the project under the head of Carey Act applications, but the progress made during the past year in the way of canal locations, reservoir surveys, determinations relative to impounding dams, etc., warrants a few remarks along

the line of reclamation developments in that the plans for construction have been reported as accepted, and the project is now ready for actual construction work. It can be stated that a small amount of work has been done in clearing the location line of the canal.

ELLISON RANCH COMPANY

Like the Walker River Canal and Power Company, the Ellison Ranch Company have completed plans for the construction of impounding dams, canals, etc., for the reclamation of Carey Act lands situated in Quinn River Valley, Humboldt County, Nevada. Actual construction work has not begun, however, owing to a delay in having the final segregation approved.

TRUCKEE RIVER GENERAL ELECTRIC COMPANY

The Verdi plant of the Truckee River General Electric Company has been completed during the period covered by this report. This plant is capable of generating 3,000 horsepower, and is used for electrical purposes.

The diversion dam is a timber crib, overflow spillway type, with sheet piling in the river bed and wings to prevent underflow. The headgates are of concrete and built to withstand the immense floods of the Truckee River.

The canal has a bottom width of thirteen feet and a width of thirty-six feet at the water line. Its capacity is 400 second-feet and a static head of 101 feet is available. The plant is in operation and is utilizing the 400 second-feet of water for which a final certificate has been issued.

There are many projects both for power and irrigation on the Carson, Walker, and Humboldt Rivers which are being promoted, but their development is yet too uncertain to go into detail other than to state in passing that it is not at all unlikely within the succeeding two years at least three or four of these projects will be under course of construction. The cost of the smallest will probably reach $1,000,000.

The experiment farm maintained by the company demonstrated the fact that staple fruits can be grown with success.

The project is yet in its infancy and a thorough demonstration in relation to the nature of crops which can be grown has not been made.

On the whole, a remarkable growth has taken place on this project, considering that the work of reservoir construction commenced only about two years ago. The impetus resulting in the growth of adjoining farm districts is naturally due to the efforts of this company.

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The water supply is to be used in the Lovelock Valley on lands owned by the individuals who have invested the funds required to complete the enterprise, and the surplus, if any, sold to other irrigators in the district.

It will be necessary to use the natural channel of the Humboldt River to convey the waters stored in the reservoir to the place of use in Lovelock Valley, some thirty miles distant. The diversions in the Lovelock Valley are ample under the present system to utilize the impounded water. It therefore can be considered as complete when the embankments of the reservoirs have been built to the proposed height, and the conduits, etc., are ready for permanent operation.

WALKER RIVER CANAL AND POWER COMPANY

The Walker River Canal and Power Company, operating under the provisions of the Carey Act, have completed surveys and determinations on a project situated in Mineral and Lyon Counties, Nevada, looking toward the reclamation of 55,973 acres of land. Mention is made of the project under the head of Carey Act applications, but the progress made during the past year in the way of canal locations, reservoir surveys, determinations relative to impounding dams, etc., warrants a few remarks along

the line of reclamation developments in that the plans for construction have been reported as accepted, and the project is now ready for actual construction work. It can be stated that a small amount of work has been done in clearing the location line of the canal.

ELLISON RANCH COMPANY

Like the Walker River Canal and Power Company, the Ellison Ranch Company have completed plans for the construction of impounding dams, canals, etc., for the reclamation of Carey Act lands situated in Quinn River Valley, Humboldt County, Nevada. Actual construction work has not begun, however, owing to a delay in having the final segregation approved.

TRUCKEE RIVER GENERAL ELECTRIC COMPANY

The Verdi plant of the Truckee River General Electric Company has been completed during the period covered by this report. This plant is capable of generating 3,000 horsepower, and is used for electrical purposes.

The diversion dam is a timber crib, overflow spillway type, with sheet piling in the river bed and wings to prevent underflow. The headgates are of concrete and built to withstand the immense floods of the Truckee River.

The canal has a bottom width of thirteen feet and a width of thirty-six feet at the water line. Its capacity is 400 second-feet and a static head of 101 feet is available. The plant is in operation and is utilizing the 400 second-feet of water for which a final certificate has been issued.

There are many projects both for power and irrigation on the Carson, Walker, and Humboldt Rivers which are being promoted, but their development is yet too uncertain to go into detail other than to state in passing that it is not at all unlikely within the succeeding two years at least three or four of these projects will be under course of construction. The cost of the smallest will probably reach $1,000,000.

DUTIES OF THE STATE ENGINEER IN RELATION TO CAREY ACT LAND APPLICATIONS

To fully explain the duties of the State Engineer in connection with applications for land withdrawals and disposals under the Act of Congress called "The Carey Act," it will be necessary to first give a brief outline of the laws relating to, and the purposes of, the so-called "Carey Act."

Much of the matter herein contained will undoubtedly be a repetition of the data contained in the reports of the Bureau of Industry, Agriculture and Irrigation and the State Register of Lands under the Carey Act, but it becomes necessary by reason of the separate duty of this office in passing upon all land withdrawals before action is taken by the Commission.

In referring to the laws and regulations, I shall confine the report to the pertinent sections only, so as to minimize the repetitions.

Section 4 of the Act of August 18, 1894, entitled "An Act making appropriation for sundry civil expenses of the Government for the fiscal year ending June 30, 1895, and for other purposes" (28 Stat. 372–422) is herewith reproduced:

SEC. 4. That to aid the public-land States in the reclamation of the desert lands therein, and the settlement, cultivation, and sale thereof in small tracts to actual settlers, the Secretary of the Interior, with the approval of the President, be, and hereby is, authorized and empowered, upon proper application of the State, to contract and agree, from time to time, in each of the States in which there may be situated desert lands as defined by the Act entitled "An Act to provide for the sale of desert land in certain States and Territories," approved March third, eighteen hundred and seventy-seven, and the Act amendatory thereof, approved March third, eighteen hundred and ninety-one, binding the United States to donate, grant, and patent to the State free of cost for survey or price, such desert lands, not exceeding one million acres in each State, as the State may cause to be irrigated, reclaimed, occupied, and not less than twenty acres of each one hundred and sixty-acre tract cultivated by actual settlers, within ten years after the passage of this Act, as thoroughly as is required of citizens who may enter under the said desert land law.

Before the application of any State is allowed or any contract or agreement is executed or any segregation of any of the land from the public domain is ordered by the Secretary of the Interior, the State shall file a map of the said land proposed to be irrigated which shall exhibit a plan showing the mode of the contemplated irrigation and which plan shall be sufficient to thoroughly irrigate and reclaim said land and prepare it to raise ordinary agricultural crops and shall also show the source of the water to be used for irrigation and reclamation, and the Secretary of the Interior may make necessary regulations for the reservation of the lands applied for by the States to date from the date of the filing of the map and plan of irrigation, but such reservation shall be of no force whatever if such map and plan of irrigation shall not be approved. That any State contracting under this section is hereby authorized to make all necessary contracts to cause the said lands to be reclaimed, and to induce their settlement and cultivation in accordance with and subject to the provisions of this section; but the State shall not be authorized to lease any of said lands or to use or dispose of the same in any way whatever, except to secure their reclamation, cultivation and settlement.

As fast as any State may furnish satisfactory proof according to such rules and regulations as may be prescribed by the Secretary of the Interior, that any of said lands are irrigated, reclaimed, and occupied by actual settlers, patents shall be issued to the State or its assigns for said lands so reclaimed and settled; *provided*, that said States shall not sell or dispose of more than one hundred and sixty acres of said lands to any one person, and any surplus of money derived by any State from the sale of said lands in excess of the cost of their reclamation, shall be held as a trust fund for and be applied to the reclamation of other desert lands in such State. That to enable the Secretary of the Interior to examine any of the lands that may be selected under the provisions of this section, there is hereby appropriated out of any moneys in the treasury, not otherwise appropriated, one thousand dollars.

By the Act approved June 11, 1896 (29 Stats. 413–434), the following provision attaches to lands withdrawn and being reclaimed under the Carey Act, and is made a part of the Act:

That under any law theretofore or hereafter enacted by any State, providing for the reclamation of arid lands, in pursuance and acceptance of the terms of the grant made in section four of an Act entitled "An Act making appropriations for the sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and ninety-five," approved August eighteenth, eighteen hundred and ninety-four, a lien or liens is hereby authorized to be created by the State to which such lands are granted and by no other authority whatever, and when created shall be valid on and against the separate legal subdivisions of land reclaimed, for the actual cost and necessary expenses of reclamation and reasonable interest thereon from the date of reclamation until disposed of to actual settlers; and when an ample supply of water is actually furnished in a substantial ditch or canal, or by artesian wells, or reservoirs, to reclaim a particular tract or tracts of such lands, then patents shall issue for the same to such State without regard to settlement or cultivation; *provided*, that in no event, in no contingency, and under no circumstances shall the United States be in any manner directly or indirectly liable for any amount of any such lien or liability, in whole or in part.

Section 3 of the Act entitled "An Act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and two, and for other purposes," approved March 3, 1901 (31 Stat. 1133–1138), amending section 4 of the original Act of August 18, 1894, reads as follows:

SEC. 3. That section 4 of the Act of August eighteenth, eighteen hundred and ninety-four, entitled "An Act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and ninety-five, and for other purposes," is hereby amended so that the ten years' period within which any State shall cause the lands applied for under this Act to be irrigated and reclaimed, as provided in said section as amended by the Act of June eleventh, eighteen hundred and ninety-six, shall begin to run from the date of approval by the Secretary of the Interior of the State's application for the segregation of such lands; and if the State fails within said ten years to cause the whole or any part of the lands so segregated to be irrigated and reclaimed, the Secretary of the Interior may, in his discretion, continue said segregation for a period of not exceeding five years, or may, in his discretion, restore such lands to the public domain.

The original so-called "Carey Act" was further amended by the Congressional Act of March 15, 1910, which provides as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That to aid in carrying out the purposes of section four of the Act of August eighteenth, eighteen hundred and ninety-four, entitled "An Act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and ninety-five, and for other purposes," it shall be lawful for the Secretary of the Interior, upon application by the proper officer of any State or Territory to which said section applies, to withdraw temporarily from settlement or entry areas embracing lands for which the State or Territory proposes to make application under said section, pending the investigation and survey preliminary to the filing of the maps and plats and application for the segregation by the State or Territory; *provided*, that if the State or Territory shall not present its application for segregation and maps and plats within one year after such temporary withdrawal, the lands so withdrawn shall be restored to entry as though such withdrawal had not been made.

REGULATION OF THE SECRETARY OF THE INTERIOR WITH RESPECT TO THE FOREGOING ACTS

3. The second paragraph of section 4, before quoted, provides that before the application of any State is allowed or any contract or agreement is executed or any segregation of any of the land from the public domain is ordered by the Secretary of the Interior, the State shall file a map of the land selected and proposed to be irrigated, which shall exhibit a plan showing the mode of contemplated irrigation and the source of the water. In accordance with the requirements of the Act, the State must give full data to show that the proposed plan will be sufficient to thoroughly irrigate and reclaim the land and prepare it to raise ordinary agricultural crops; for which purpose a statement by the State Engineer of the amount of water available for the plan of irrigation will be necessary. The other data required cannot be fully prescribed, as it will depend upon the nature of the plan submitted. All information necessary to enable this office to judge of its practicability for irrigating all of the land selected must be submitted. Upon the filing of the map showing the plan of irrigation and the lands selected, such lands will be withheld from other disposition until final action is had thereon by the Secretary of the Interior. If such final action be a disapproval of the map and plan, the lands selected shall, without further order, be subject to disposition as if such disposition had never been made; and the local officers will make the appropriate notations on the tract books and plat books, opposite those previously made, in accordance with the requirements of paragraph 7.

The above regulations refer to the original Act of August 18, 1894. Supplemental regulations of the Secretary of the Interior apply to the amendatory additional Act of March 15, 1910, and read, in relation to the duties of the State Engineer, as follows:

2. To obtain the benefits of this amendatory Act, the State or Territory, through its proper official, will be required to file in the local land office in the land district within which lands sought to be withdrawn lie, an application therefor (see appended Form B[1]), which shall set forth the name of the individual or corporation proposing to reclaim the lands; that all of the forms and conditions imposed by the state law upon such proposer prior to segregation have been complied with; that from the showing made by the proposer (or state other source of information) it is believed that sufficient water to irrigate the whole of the lands asked to be withdrawn, over and above prior appropriations, is available; and that the proposer has either acquired title to such water or applied for same, and that the lands are desert in character.

Appended to the application should be a list of the lands asked to be withdrawn. If the lands are unsurveyed, the fact should be set forth, together with a statement that an application for the survey thereof has been filed in the office of the Surveyor-General.

[1] For Form B, see U. S. Land Office rules.

STATE LEGISLATION ACCEPTING THE TERMS OF THE GOVERNMENT GRANT IN THE ACT OF AUGUST 18, 1894, AND SUPPLEMENTAL ACTS

By the Act of the Nevada Legislature approved March 23, 1909, the State of Nevada accepted the terms of the Congressional Act and prescribed ways and means for procedure through which lands might be obtained under the Carey Act.

Advantage was taken of the law in many instances and the lands were reserved by the State for a period of six months in order that the applicant might have time to prepare the data required by the Secretary of the Interior. The reservation, however, was only in the state offices and had no bearing on filings that might be entered in the United States Land Office.

The Act of March 17, 1911, supersedes the Act of March 23, 1909, and the portions thereof relating to the duties of the State Engineer are given in full below:

SEC. 3. Any person or persons, association, company or corporation constructing, having constructed, or desiring to construct, impounding dams, canals, ditches or other irrigation works, pumping plants or artesian wells, to reclaim lands under the provisions of this Act, may file with said Commission an application for the temporary withdrawal of such lands under the provisions of the Act of Congress of March fifteenth, nineteen hundred and ten (Public 87) designating the same by legal subdivisions. Such application shall be prepared and submitted in accordance with such rules and regulations as the Commission may adopt and prescribe, and which shall be in conformity with any rules and regulations of the Department of the Interior, and shall be accompanied by the certificate of the State Engineer that application for permit to appropriate water therefor has been filed in his office.

SEC. 5. All such applications, prepared and submitted in accordance with the rules and regulations of the Commission and of the Department of the Interior, shall be referred to the State Engineer, who shall submit a written report thereon, and which shall cover such information regarding water supply, feasibility of project, status of water right, and such other data necessary to enable the State Register of Lands under the Carey Act to make proper application and certification required by the General Land Office in such cases. No application on which the State Engineer has reported adversely shall be approved by the Commission, but if the State Engineer report favorably thereon, said Commission shall, at its earliest convenience, consider the same, and if a majority of the members approve the application (or a modification of such application, in which case, on the acceptance by the applicant of such modification), said Commission shall direct the State Register of Lands under the Carey Act to file in the local U. S. land office a request for the temporary withdrawal of the lands described.

SEC. 6. Immediately after any application has been approved by the Commission and prior to the filing of the request for the temporary withdrawal in the U. S. Land Office, said applicant shall deposit with the Commission a sum which, according to the estimate of the State Engineer, will cover the entire cost of the surveys, determinations, maps and plats required by the Secretary of the Interior before approving a segregation and allotment of such lands to the State. Such deposit shall be for a guarantee that all such surveys, determinations, maps and plats shall be properly and in good faith made on the part of the applicant, and completed and filed with said Commission for its examination at least ninety days prior to the termination of the temporary withdrawal, and also to cover any fees and expenses of the State Engineer authorized by law to be collected and charged against the applicant in such cases; and said State Engineer is hereby empowered to supervise such surveys and determinations. From time to time as such surveys, determinations, and the preparation of such maps and plats progress, and on requisition of the State Engineer, said applicant shall be reimbursed from such deposit for the accrued costs of the same; *provided*, that any such applicant, desiring to relinquish and abandon such project prior to the completion of such surveys and determinations, who shall serve a written notice to such effect upon the Commission, accompanied by a relinquishment to the State of his application for a water right, shall be reimbursed the unexpended balance of his deposit.

SEC. 7. Any applicant who shall submit his application for a segregation in a form complying with the requirements of the Commission and the Secretary of the Interior in respect to surveys, determinations, maps, plats, water rights, etc., and which shall be approved by the State Engineer and by the Commission, may waive request for a temporary withdrawal and, on payment to the Commission of a fee of one cent per acre, and any fee required by the State Engineer for any verification thereof; and any applicant who has completed the requirements of a temporary withdrawal in respect to such fees, surveys, determinations, maps, plats, water rights, etc., and who shall pay the segregation fee required by the U. S. Land Office, the State Register of Lands under the Carey Act by direction of the Commission, shall file a request on the part of the State for a segregation of the lands embraced in such approved application.

SEC. 27. The services of the State Engineer shall be compensated for by such fees and expense allowances as are authorized by law to be assessed against an applicant for a water right and for his inspection, supervision and report upon the proposed irrigation works of such applicant, and all other services of the State

Engineer, if the expense thereof is not covered by existing law, shall be assessed against the applicant, and shall be required in advance, and the State Engineer shall render a statement to the Commission therefor, showing the disposition thereof; but, except in special cases and for unusual services, the work of the State Engineer in connection with the Carey Act shall be taken care of under the fee and compensation system of the office. He shall be the authorized agent of the State to make desert land selections under the Carey Act, and may deputize an engineer under his office to act in his stead.

SEC. 29. The State Register of Lands under the Carey Act at the close of each fiscal year shall submit a detailed report of the transactions of his department to said Commission, and on its approval, such number of copies thereof shall be printed for gratuitous distribution as the Commission may direct; *provided*, that all pending proceedings before the Commission and the State Engineer, except the application for permit for a water right, shall not be made public or be open to public inspection until the application for temporary withdrawal or a segregation is filed in the U. S. Land Office.

The above sections are drafted so as to conform to the requirements of the Department of the Interior and the Congressional Acts, already quoted.

The rules and regulations of the State Commission of Industry, Agriculture and Irrigation, adopted April 27, 1911, are herewith quoted wherein they have any bearing on the duties of the State Engineer:

CHAPTER II

RULE 3. The sum deposited with the Commission to cover the cost of surveys, determinations, maps and plats, as provided by section 6 of said Act, shall immediately be deposited by the State Register of Lands under the Carey Act, as a separate deposit, in some approved bank. From time to time as such surveys, etc., progress, said applicant may certify such work to the State Engineer, requesting to withdraw an amount from such deposit proportional thereto, and on approval thereof by the State Engineer he shall issue a requisition upon said State Register of Lands under the Carey Act to forward to said applicant, from such deposit, the amount expressed in said requisition. The said surveys, etc., referred to, shall be such as required by paragraphs 3, 4, and 5 of the department regulations, approved April 9, 1909 (pages 8, 9), and by paragraphs 6, 7, and 8 of the regulations applying to the supplemental Act of Congress of 1910 (page 13).

It is not the purpose of the Commission, in carrying out this provision of the Act, to cause the applicant any unnecessary annoyance or delay in the active use of the sum deposited. The purpose of the deposit is to insure that proper surveys, in accordance with the department requirements, will be made, and the State must presume that the applicant for a temporary withdrawal, possesses at least means to make such surveys and pay the state and government filing fees.

RULE 4. The word "determinations" as used in section 6 of said Act is hereby interpreted and construed to include in its meaning a determination, as accurately as may be estimated, of the entire cost of the proposed irrigation system and works; the water supply available for the project, and the acreage which may be reclaimed thereby.

RULE 7. The stipulations of the contract provided for in section 8 of said Act, relative to the quantity of water per acre sold the settler as a perpetual water right, shall be sufficient to thoroughly irrigate and reclaim the land which he has entered and shall be subject to such conditions of delivery, with respect to continuous flow or rotation of delivery during the irrigation season, as will enable the most beneficial use thereof. Sufficient flexibility must be allowed in the contract stipulations as to permit of the adoption, by direction of the State Engineer or on approval of the State Engineer, of such regulations with respect to the use and delivery of water as experience may suggest as effecting the best results.

RULE 11. In all cases requiring field investigations and examinations by the State Engineer, not provided for by law with respect to reimbursing the State for the expenses thereof, the State Engineer shall estimate the expense of such field investigations and examinations, and shall require the parties interested to advance the same for his use, or the use of any engineer he may designate to perform the same.

CHAPTER III

RULE 2. All applications to appropriate the underground waters of the State for the reclamation of Carey Act lands shall be in accordance with and subject to the provisions of the rulings of the State Engineer of April 20, 1911, and shall further be subject to the provisions of section 8 of the Act approved March 17, 1911.

RULE 4. The Commission will hold that the contracting applicant of an approved segregation may not abandon any portion of his irrigation project, without defaulting his bond, except in cases where the good faith of the contractor is shown and it appears to the satisfaction of the State Engineer that the probable available water supply of the underground watercourse or lake, under the general provisions of the rulings of the State Engineer of April 20, 1911, is exhausted.

RULINGS OF THE STATE ENGINEER WITH RESPECT TO UNDERGROUND WATERS

The following rulings of this office, approved by the State Board of Irrigation, as applying to general applications to appropriate the underground public waters of the State, and by the State Commission of Industry, Agriculture and Irrigation as applying to like applications for the reclamation of Carey Act lands, shall be hereafter in force:

RULE 1. In all applications to appropriate the underground public waters of the State, the State Engineer will assume the existence of such waters by virtue of the application and such examination as he may make, but the quantity thereof, subject to appropriation, being invisible and incapable of measurement, will not be definitely declared or stated in any approval of the application. The applicant may apply for as many second-feet flow from such underground watercourse or lake as he may be able to put to beneficial use, and each second-foot flow, or fraction thereof, which he may demonstrate from time to time upon the surface, by means of artesian wells or pumped wells tapping the supply, will be deemed a perfected unit of the application. Upon satisfactory proof of the measurement of the flow of such perfected unit, together with proof of beneficial use, the State Engineer will issue the applicant a certificate therefor, under the provisions of section 29 of the Act approved February 26, 1907; and from time to time as such units are perfected and proof of beneficial use made, the State Engineer will issue such certificates, and the priority of all such water-right units of the application shall date uniformly from the filing of the application in the State Engineer's office. The State Engineer, in approving an application to appropriate such underground waters, will reserve to his office full authority to determine when the unappropriated waters of such underground watercourse or lake are exhausted, and on notification thereof to the applicant, the several perfected units of irrigation works, on the date such notification takes effect, will be deemed to comprise the complete perfected application, and all further authority of the applicant to appropriate water from such underground natural watercourse or lake, by virtue of such application, shall terminate.

RULE 2. Where more than one application is approved to appropriate the waters of a common underground natural watercourse or lake, the notification by the State Engineer that the unappropriated waters thereof are exhausted will be served upon each of such appropriators and shall take effect simultaneously, whereupon the priority of the perfected water rights of each applicant shall be in the order of the filing of the respective applications in the State Engineer's office.

RULE 3. The State Engineer, from such determinations as may be made by measurements of the flow of artesian or pumped wells, withdrawing water from a common underground watercourse or lake, and from all other information as seems to him pertinent, will estimate the quantity of water that may be annually withdrawn therefrom, without diminishing the quantity available for succeeding seasons; and where in his opinion the annual supply is adequate for all existing or for additional wells, a junior applicant will not be enjoined from the enjoyment of the flow of his wells, in the first instance, or from sinking additional wells, in the second instance, even though the same may diminish the natural flow of the wells of a senior applicant; for the reason that a diminution of the natural flow of a senior artesian well must be expected as additional wells are sunk, even prior to the time of the actual appropriation of all the available waters of such underground watercourse or lake—the State assuming, as a matter of public policy, to insure the largest beneficial use of the natural supply, that the

burden is upon the owner of the artesian well, ultimately, to protect its flow by means of some artificial lift.

RULE 4. The approval by the State Engineer of any application to appropriate the underground waters of the State shall contain a stipulation that all bored or driven wells must be encased with such kind and quality of pipe, and to such relative depth in each well, as he may require, in order to conserve the underground supply from waste due to run-off or leakage through any intervening sand or gravel stratum between the source of the underground supply and the surface, as well to enable such wells to be capped during the nonirrigation season.

Primarily the Carey Act was designed to aid in the reclamation of arid lands by making it possible to obtain capital to construct any works necessary to deliver water to desert lands. At the time the Carey Act law was passed by Congress the smaller irrigation projects, which were within reach of the means of the ordinary settler, had been taken up, especially those offering any attractive features. In a large number of the western streams there was unappropriated water, which, if conserved, and works constructed to convey it to arable lands, could be utilized in such a way as to provide homes for thousands of people, and from a financial standpoint produce handsome returns on the capital invested in the enterprise.

It was not possible to interest capital in an irrigation project to supply water to homestead or desert entrymen for several reasons. It is apparent that without any protection against speculators, who could enter the lands proposed to be reclaimed after determinations regarding the feasibility of the project had commenced, parties with capital to invest would look upon such a scheme dubiously.

As a result of the urgent need of water for the irrigation and colonization of western lands, millions of acres of which were extremely fertile and capable of producing crops, it became possible, through the operation of the Carey Act law to withdraw the selected lands from public entry for a stated period of time during which the applicant was protected from interference with his plans by speculators. In a measure the project could be carried out along the lines of an enterprise where the lands were held entirely in private ownership. The lands were held under a lien as security for the payment of water rights and capital was at once available for the most attractive projects.

As a means of more fully protecting an applicant for Carey Act lands, the law of March 15, 1910, permitted the lands to be temporarily withdrawn from public entry, during a period of a year in which the applicant was required to prosecute with due diligence determinations relative to the feasibility and practicability of the project.

The State Act of 1909 committed the State of Nevada to act as agent for any person, persons, company, association or incorporated company desiring to avail themselves of the privileges of the Carey Act.

Under the laws of 1909, the State Engineer was directed to perform certain duties in passing upon the feasibility of each project in so far as the engineering features were concerned. The engineering features included the passing upon the availability of a sufficient supply of water to properly irrigate the land sought to be withdrawn.

Rules were adopted by the State Register of Lands in conformity with the law of 1909, but in as much as the law was repealed by the law of March 17, 1911, I shall not reproduce them here or go further into detail in explanation of them.

The Act of March 17, 1911, is very comprehensive. It deals with the withdrawal, reclamation, entry, sale, and terms of sale of lands and water rights, prescribes ways and means for adopting rules and regulations in regard to applications and procedure for their completion.

Rules have been adopted by the Commission, which outline the duties of the State Engineer very clearly. The rules have been taken up elsewhere in this report, each rule affecting this office being reproduced in full. Under these rules the State Engineer has adopted a course of procedure as follows:

Upon application properly filed with the State Register of Lands under the Carey Act, a request is made upon the State Engineer for a written report on the feasibility and practicability of the project according to the plan outlined in the application. The request is accompanied with a list and description of the lands selected for withdrawal, together with a reference naming the particular water application which has been dedicated to the lands for the reclamation thereof.

Ordinarily the water filing can be verified from the records, but the data for a report must be obtained from an inspection and study of the premises. The expense of the examination is estimated and the applicant notified that a sum of money must be deposited with the State Engineer to offset the expense of such examination and report.

Upon receipt of the deposit the inspection is made and report rendered. Usually it is found that there is little of value to be obtained for the preparation of a report in cases where artesian or underground waters are to be developed for the irrigation of the lands. The character of the land is one of the features which must be taken into consideration, but this phase can be obtained from the land office records when the returns of the deputy surveyor are filed. As a consequence this office has seen fit to recommend practically every withdrawal applied for, to enable the determinations to be made.

The State Register of Lands takes appropriate action on the application upon receipt of the report from this office.

In certain instances an inspection was not made before filing the report, for the reason that the office was familiar with conditions, generally, in the vicinity of the tract sought to be withdrawn, and in addition had a report filed by the applicant's engineer, submitted under oath.

The report of the State Engineer contains an estimate of the amount of money which should be deposited with the Commission, as a guarantee for the proper determination of matters required by the Secretary of the Interior. Also, an outline of the system required to determine the available water supply, capacity of reservoirs, cost of construction of dams, canals or other works of conservation and distribution, is included in the report.

The applicant is advised of the requirement of the office before presenting an application for final segregation of the lands temporarily withdrawn. The data must be compiled in such form as to be readily understood, and capable of being embodied in the report to be filed with the U. S. Land Office. If the application for final segregation of the lands is properly filed with accompanying maps, etc., the State Register of Lands transmits an application for final report to the State Engineer.

After receiving the money estimated by the State Engineer to cover the actual expense of a thorough examination of the lands, reservoir

sites, canal locations and other necessary works, the examination is made and a report rendered in accordance with the facts, as determined by the State Engineer.

It may be stated at this time that the examination and study of conditions before preparing the report for final segregation is very thorough. This office has taken the position that it is not a wise policy to permit the final segregation of Carey Act lands, unless the feasibility and practicability of the plan is beyond question of doubt. I believe that the public interest demands this course. There is every opportunity to cause everlasting injury to credulous settlers, where lands are permitted to be sold under Carey Act projects, which, though presumed to be past the stage of development where success seems assured, are really doomed to failure through lack of water supply or other features which make it impracticable.

After the filing of the report by the State Engineer and the withdrawal of the lands in the U. S. Land Office, under permanent segregation, the duties of the State Engineer are ended, except as noted in the regulations, wherein he acts as a member of the Commission in passing upon the contracts for regulation and disposal of the lands and water rights.

The Department of the Interior has made an independent investigation on all projects reported by this office for final segregation. The office of the State Engineer has supplied the department engineers with the data upon which the report was based for the purpose of bringing to light any discrepancies.

APPLICATIONS REPORTED UPON

Reports on the following applications have been filed by this office during the years 1911 and 1912:

State List No. 034, filed by the Moapa Land and Water Company of No. 39 Canyon Road, Salt Lake City, Utah, was examined and a report rendered on April 18, 1911.

The application sought to withdraw 21,564.84 acres of land situated in T. 13 S, R. 66 E, and T. 14 S, Rs. 65 and 66 E, M. D. B. & M. The water supply for the project is embraced in Application No. 1853, for 60 cubic feet per second of water from Cane Springs and Meadow Valley Wash.

A favorable report was rendered permitting temporary withdrawal, to allow the applicant sufficient time to make surveys and measurements of water supply.

The request for final segregation was not made within the year.

State List No. 035, filed by the Carey Act Reclamation Association of Elko, Nevada, was examined and a report rendered on May 11, 1911.

The application sought to withdraw 23,327.92 acres of land situated in Ts. 37, 38 and 39 N, R. 60 E, M. D. B. & M. The water supply for these lands is embraced in applications No. 1838, 1839 and 1893, for waters of Mary's River, Hank's Creek and Mary's River, respectively. Application No. 1838 covers 1,500 cubic feet per second, Application No. 1839 covers all the water of Hank's Creek, and Application No. 1893 covers 60,000 acre-feet of the water of Mary's River.

A report was rendered permitting the temporary withdrawal. The report requires the applicant to make certain determinations within the year of temporary reservation of the lands.

The request for final segregation was filed with the State Engineer on March 5, 1912. On March 7 Mr. E. C. McClellan, manager of the Carey Act Reclamation Association, was notified of the request made by the State Register of Lands under the Carey Act, explaining that the data relative to stream measurements and determinations as to the feasibility of the project should be filed with the State Engineer immediately.

The data submitted by the applicant was incomplete, and as the office of the State Engineer did not have the data required to make a complete report, a recommendation, suggesting that the Commission of Industry, Agriculture and Irrigation make an application for extension of time to the Department of the Interior, was filed in lieu of a report.

The Commission immediately filed the request for a delay on the part of the Department of the Interior in any action toward the cancelation of the entry. It remains without action at the present time.

The lands embraced in the above withdrawal are adjacent to the lands now under segregation to the Pacific Reclamation Company. The question of water rights for the lands of the latter are now being fought in the courts, therefore any action on the part of this office will be in conformity with the result of determinations comprising the entire stream system, of which Mary's River and Hank's Creek are tributaries, and which may be effected by the diversion of water by this association.

State List No. 036, filed by the Penoyer Valley Land and Irrigation Company of San Francisco, California, was reported upon March 15, 1911, without an examination on the premises.

The application sought to withdraw 172,282.16 acres of land situated in Kawich Valley in central Nye County, Nevada. The report was made before the adoption of the present Carey Act law, and permitted only a six months' reservation by the State. The entry was allowed.

State List No. 037, filed by the Kawich Land and Irrigation Company of San Francisco, California, was reported upon March 15, 1911, without an examination on the premises.

The land embraced in the entry amounted to 143,861.94 acres situated in central Nye County. The withdrawal was permitted by the State Engineer.

State List No. 038, filed by the Railroad Valley Land and Irrigation Company of San Francisco, California, was reported on March 29, 1911, without having visited the lands. The report permitted the land to be withdrawn.

The entry embraced 91,438.28 acres situated in central Nye County, and contemplated reclamation by means of conserving the surface run-off, also by developing underground waters.

The entry was relinquished April 16, 1912.

State List No. 039, filed by The Humboldt Lovelock Light and Power Company and The Lovelock Land and Development Company, was reported upon December 21, 1910, prior to the commencement of the period covered by this report.

State List No. 040, filed by the Western Developing Company of McGill, Nevada, was reported upon December 30, 1910.

State List No. 041, filed by the American Securities Company of Spokane, Washington, expired before a report was necessary.

State List No. 042, filed by the Tonopah and Goldfield Land and

Development Company of Goldfield, Nevada, expired under the six months' reservation without a report from this office.

State List No. 043, filed by the Associated Land and Reclamation Company, Postal Telegraph Building, San Francisco, California, was reported upon March 29, 1911. The report was favorable for temporary withdrawal.

This entry embraces 80,333.13 acres of land situated in Railroad Valley in central Nye County, and the proposed method of reclamation is through conservation of the surface waters and development of the underground waters. The report was made without an examination on the premises, for the reason that nothing of a definite nature could be ascertained before experiments were performed.

The entry was relinquished April 24, 1912.

State List No. 044, filed by the South Land Irrigation Company of Goldfield, Nevada, was reported upon June 24, 1911. The temporary withdrawal was allowed.

This application sought to withdraw 14,397.68 acres of land situated in T. 15 S, R. 56 E, M. D. B. & M. The land is practically level. The water supply is to be derived from artesian wells bored on the premises.

On July 16, 1912, a request for the report for final segregation was called for by the State Register of Lands under the Carey Act.

The data submitted by the applicant did not permit a favorable report to be rendered. As a consequence a recommendation was filed asking for further time in which to make determinations. The entry is pending action at the present time.

State List No. 045, filed by the Reveille Valley Land and Reclamation Company of San Francisco, California, embraces 55,020 acres of land. The entry expired without any demonstration and a report was unnecessary.

State List No. 046, filed by Chas. A. Evans of Reno, Nevada (W. H. Earl, Engineer), embraces 23,882 acres of land. The entry was canceled without the necessity of filing a report.

State List No. 047, filed by John G. Taylor of Lovelock, Nevada, under the six months' state reservation, expired without action by this office.

State List No. 048, filed by the Nevada Irrigation Land and Development Company of Oakland, California, was examined and reported upon, May 20, 1911. The report for temporary withdrawal was favorable.

This application contemplates the irrigation of 29,231.98 acres of land situated in T. 9 N, Rs. 65 and 66 E, M. D. B. & M. The original entry embraced 34,712.30 acres of land. The development of this enterprise is to be carried out by means of pumping water from Edwards Springs in Lincoln County, Nevada, to the lands above mentioned.

Water applications covering this project have been filed and bear serial numbers 1932, 2064, and 2066. The report for final segregation has not been called for to date.

State List No. 049, filed by the Western Land and Irrigation Syndicate of McGill, Nevada, was examined and a report filed June 16, 1911. The report permitted the temporary withdrawal of the lands.

Reclamation of the lands in this entry is to be accomplished by storing the flood waters of Steptoe Slough, in White Pine County, Nevada. The lands lie in Ts. 21 and 22 N, Rs. 63 and 64 E, M. D. B. & M., comprising a total of 5,005.88 acres.

Water has been appropriated under serial number 2033, reserving for the project 15,000 acre-feet. The request for final segregation has not been filed to date.

State List No. 050, filed by Archie H. Jones, of Millers, Nevada, was examined and a report filed on May 12, 1911. The report was favorable for temporary withdrawal of the lands.

Artesian wells is given as the source of water supply for the project which embraces 5,118.62 acres of land situated near Millers, Nevada, in Ts. 4 and 5 N, R. 40 E, M. D. B. & M. Water Application No. 2025 for 50 cubic feet per second of underground water was filed to meet the requirement of the law.

On the expiration of the year of withdrawal, demonstrations did not warrant the filing of an application for final segregation. The lands were restored to entry on September 18, 1912.

State List No. 051, filed by The Esmeralda Land Company of Oakland, California, was examined and a report filed for temporary withdrawal on May 27, 1911. The report was favorable.

The Esmeralda Land Company contemplated the reclamation of lands amounting to 108,279.53 acres through the storage of the waters of Peavine Creek, supplemented by the underground supply of Big Smoky Valley. The underground water was to be pumped by means of electric power. The lands are situated in Ts. 3, 4 and 5 N, R. 40 E, Ts. 1, 2, 3, 4, 5 and 6 N, R. 41 E, M. D. B. & M.

Owing to the large number of acres applied for in this withdrawal a rather careful investigation was made of conditions. A well at Miller's Station on the Tonapah and Goldfield Railroad served as a criterion for future development. On the whole it did not appear as though the entire tract could be developed, but a favorable report was rendered for the purpose of permitting the applicant to select the most favorable portion, after making determinations, when applying for a final segregation.

On behalf of the company, application No. 1836 for 1200 cubic feet per second of water from Peavine Creek was filed and dedicated to the Carey Act Lands. The inspection showed conclusively that the development of the lands must be largely from underground sources, if at all.

The entry was relinquished May 18, 1912, without making application for final segregation.

State List No. 052, filed by The Clover Valley Land and Stock Company of North's Ranch, Nevada, was examined and a report filed on June 23, 1911. The source of water supply was said to be underground, therefore the entry was recommended for withdrawal to permit of determinations regarding such supply.

The lands, amounting to an acreage of 4,932.29, are situated in T. 37 N, Rs. 42 and 43 E. and T. 38 N, R. 43 E, M. D. B. & M., are fertile and readily susceptible of cultivation.

Water Application No. 2050 for 51.2 cubic feet per second of the underflow of the townships above mentioned was filed and dedicated to the Carey Act project.

A request for final segregation has not been filed to date.

State List No. 953, filed by Alex. Brown of No. 1337 W. San Joaquin street, Stockton, California, was examined and a report filed July 6, 1911. The report permitted the withdrawal of the lands.

The lands in this project are situated in a secluded valley in Ts. 5 and 6 N, R. 31 E, M. D. B. & M. The area listed for withdrawal is 7,125.28 acres.

The proposed development in this instance is from underground sources. Application No. 2103 was filed asking for all of the flow developed under the lands embraced in the entry.

A request for final segregation has not been filed, and the entry was finally canceled.

State List No. 054, filed by Chas. A. Evans of Reno, Nevada (W. H. Earl, engineer and agent), was examined and a report filed July 18, 1911. The report was favorable and permitted the temporary withdrawal with the condition that the applicant make certain measurements during the year succeeding.

The lands lie in Ts. 36, 37, 38, and 39 N, R. 25 E, M. D. B. & M., comprising a total of 7,280 acres. The water supply available is indefinite. Application No. 1977, for 1500 cubic feet per second from Soldier Creek, and Application No. 1990 for 500 cubic feet per second from High Rock Lake were filed and dedicated to the project.

The entry was canceled without progressing far enough for an application for final segregation.

State List No. 055, filed by F. W. Kerns of San Francisco, California (transferred to the Oasis Land Company of Oakland, California), was reported upon without an examination on the premises. The report was based upon data already in the office, and information furnished by Mr. Kerns, who had made some extended investigations on the land. The report permitted the withdrawal of the land.

In this withdrawal 11,105 acres of land are listed, situated in T. 21 S, R. 53 E, M. D. B. & M. The mode of reclamation as proposed is by means of the development of underground water supply. A portion of the water supply, however, is to be obtained from Trout and Lees Creeks. Two applications have been filed for waters from the above sources, viz.: No. 2098 for 100 cubic feet per second from Trout Creek, and No. 2099 for 50 cubic feet per second from Lees Creek. It is proposed to generate power from these sources and later use the water for irrigation. The power developed will be used to pump underground waters, and for general use should the project be consummated.

On June 18, 1912, a request for a report for final segregation was filed with this office. Immediately after securing the deposit for expenses a representative of this office proceeded to the premises in Pahrump Valley, for the purpose of examining the project in detail.

The experiments carried on during the year of temporary withdrawal did not develop a sufficient supply of water to demonstrate the feasibility of the undertaking. An unfavorable report was rendered, but a recommendation was made suggesting that the Department of the Interior be petitioned for delay toward cancelation of the entry. The year of temporary withdrawal did not permit of extended experiments.

State List No. 056, filed by Dillon Roberts of Wells, Nevada, was examined and a report filed July 6, 1911. The report was favorable.

The original application listed 2,320 acres of land situated in T. 37 N, R. 62 E, M. D. B. & M. The amended application, or the list filed with the U. S. Land Office was reduced to 1,680 acres.

The water for reclamation is proposed to be stored in a reservoir above the land, diverting from the stream during flood season.

Application No. 2109 applies for all the flood and surplus water of Angel Creek and its tributaries. The application enumerated the land to be irrigated as identical with the Carey Act list.

State List No. 057, filed by G. B. Stannard of Hawthorne, Nevada, was examined and a report filed with the State Register of Lands on July 7, 1911. The report was favorable for temporary withdrawal.

List No. 057 comprises a total of 2,479.82 acres, as filed in the U. S. Land Office, although the original entry covered 2,639.82 acres. The land is situated in Ts. 5 and 6 N, R. 51 E, M. D. B & M. The proposed development of water supply is from underground sources.

Application for final segregation has not been filed.

State List No. 058, filed by the American Securities Company of Spokane, Washington, was examined and a report filed with the State Register of Lands on September 26, 1911. The report was favorable and the entry was approved by the General Land Office.

The application was filed for the withdrawal of 4,164.43 acres of land situated in Ts. 36 and 37 N, R. 18 E, M. D. B. & M. The proposed development of water supply is from Wall Canyon Creek, Lost Creek, Rye Patch Creek and Tuledad Creek. Applications Nos. 1888, 1889, 1890, and 1891 were filed and dedicated to the Carey Act lands. The total amount of water appropriated is 800 cubic feet per second.

The entry was relinquished September 9, 1912, without application for final segregation.

State List No. 059, filed by W. Mont Ferry of Salt Lake City, Utah, was taken up and a report rendered to the State Register of Lands under the Carey Act on July 31, 1911. The recommendation was identical with the recommendation under List No. 034, as the lands were identical for the greater part of the tract and the water development contemplated was also the same.

This list covers 25,084.55 acres of land situated in T. 13 S, R. 66 E, and T. 14 S, Rs. 65 and 66 E, M. D. B. & M. The water source is given as Cane Springs and Meadow Valley Wash, of which Application No. 2152 appropriated 300 cubic feet per second.

No application for final segregation has been filed.

State List No. 060, filed by Walter E. Tanner of Sparks, Nevada, was examined and a report filed September 22, 1911. The report was favorable.

In this withdrawal 7,535.66 acres are listed, situated in Ts. 21 and 22 N, R. 22 E, T. 22 N, R. 21 E, and T. 23 N, R. 20 E, M. D. B. & M. The valley in which this land lies is known as Warm Springs Valley.

The proposed development of water supply for the project is from underground sources, for which application No. 2168 was filed with the State Engineer.

The entry remains without any action having been taken toward final segregation.

State List No. 061, filed by Fred A. Hazzard, was reported upon without an examination on the premises, as the writer had been on the land many times prior to the date of the report. The entry was recommended for withdrawal.

The land withdrawn embraces 1,280 acres, in T. 16 N, R. 44 E, M. D. B. & M. Water for reclamation is proposed to be obtained from Kingston Creek, for which Application No. 2203 was filed.

The entry was canceled without being filed in the U. S. Land Office.

State List No. 062, filed by C. A. Haskell, C. W. Kinney and G. B. Williams of Fallon, Nevada, was examined and a report filed on October 3, 1911. The entry was allowed.

The land, amounting to 19,752.82 acres, lies in Ts. 19 and 20 N, Rs. 37 and 38 E, M. D. B. & M. The water supply is to be developed from underground sources. Application No. 2215 for 200 cubic feet per second of underground water was filed on September 21, 1911, to meet the requirement of the law and rules of the Commission of Industry, Agriculture and Irrigation.

Application for final segregation has not been filed to date.

State List No. 063, filed by G. Scott, Frank Powers, C. F. Brown and C. C. Norton of Buffalo Meadows, Nevada, was examined and a report filed on December 4, 1911. The report permitted the land to be withdrawn. The application, however, has never been filed in the U. S. Land Office owing to the failure of applicants to meet the requirement of the state law.

The entry embraces 1,603.22 acres of land situated in Ts. 35 and 36 N, Rs. 19 and 20 E, M. D. B. & M. The water supply is to be derived from Burnt Willow and Garden Lakes, all of which are to be used as reservoirs.

This list was finally canceled on October 30, 1912.

State List No. 064, filed by F. W. Kerns (transferred to the Oasis Land Company of Oakland, Cal.), of San Francisco, California, was reported without an examination. This filing covers lands adjoining the land enumerated in List 055 and the conditions are identical. The report permitted the withdrawal pending investigations.

This list embraces 1,305.88 acres of land situated in T. 21 S, R. 54 E, M. D. B. & M., and is designated to be reclaimed in conjunction with List No. 055. The water rights are the same.

Reference is made to the remarks under No. 055 given above, with regard to the final segregation of this entry. This list, like List No. 055, was not favorably considered for final segregation.

State List No. 065, filed by Walter G. Silver and Hugh L. Berkey of Rhyolite, Nevada, was examined and a report rendered to the State Register of Lands under the Carey Act on November 15, 1911. The report was not favorable. Undoubtedly the applicants intended to reclaim 2,500 acres of land in their original application, and dedicated thereto 25 cubic feet of water per second, under Application No. 2149. The list presented for report embraced 24,320 acres of land situated in T. 12 S, R. 46 E, T. 13 S, Rs. 46 and 47 E, and T. 14 S, R. 47 E, M. D. B & M.

With the proposed source of water supply given as the Amargosa River, and no reference made relative to development by means of artesian wells it did not appear within the bounds of reason that the entry should be allowed.

The entry was finally canceled on July 19, 1912.

State List No. 066, filed by the Walker River Power Company of Sweetwater, Nevada, was reported upon from information furnished by the engineer for the company, supplemented by data on file in the office of the State Engineer and a previous knowledge of a portion of the land. The report was favorable.

The project of the Walker River Power Company is one of merit. It embraces 55,813.65 acres of land lying in Ts. 10, 11, 12, and 13 N, R. 25 E, Ts. 7, 10, 11, 12, 13, 14, and 15 N, R. 26 E, and Ts. 9 and 10 N, R. 27 E, M. D. B. & M. The water supply for this enterprise is to be derived from the East Fork of the Walker River, for which Application No. 1907, appropriating 123,780 acre-feet was filed December 15, 1910.

The water supply for this project is, beyond question of doubt, ample to properly reclaim the greater portion of the lands listed, if proper storage is provided. It is known that several feasible sites are available, and it is hoped that the determinations during the year of temporary withdrawal will demonstrate the entire practicability of the undertaking.

The final segregation has not been applied for to this date.

State List No. 067, filed by The Continental Lake Irrigation Company of Winnemucca, Nevada, has not been examined by this office. A deposit is required by the rules of the Commission of Industry, Agriculture, and Irrigation, to meet the expense of the investigation, which has not been forwarded. A report favorable to the withdrawal was made from data on file in the office December 21, 1912.

The Continental Lake Irrigation Company proposes to reclaim 8,419.46 acres of land situated in T. 47 N, R. 30 E, M. D. B. & M., by means of conserving the waters of Continental Lake. Nothing of a definite nature has been submitted to this office in relation to the practicability of the scheme.

State List No. 068, filed by the Land Development Company of Los Angeles, California, was examined and a favorable report for temporary withdrawal filed on March 20, 1912.

The entry covers 7,152.73 acres of land lying in the Battle Mountain Valley, in T. 34 N, Rs. 44 and 45 E, M. D. B. & M. The proposed reclamation of this tract of land contemplates the boring of artesian wells and surface wells, from which the water will be pumped to the surface.

Application No. 2379, for 72 cubic feet of water per second was filed March 11, 1912, for the underground waters of the area embraced in the Carey Act List.

The determinations relative to water supply are being carried on at present.

State List No. 069, filed by William B. Thompson, of Los Angeles, California, was not examined by this office. A report rendered by Mr. Corrin Barnes, engineer for Mr. Thompson, was accepted as showing the actual conditions and a favorable recommendation for withdrawal was filed with the State Register of Lands under the Carey Act.

Mr. Thompson proposes to reclaim 68,447.43 acres of land, or as much thereof as proves feasible. The tract is situated in Ts. 1 and 2 S, R. 34 E, Ts. 1, 2, and 3 S, R. 35 E, Ts. 1 and 2 S, R. 36 E, M. D. B & M.

Application No. 2407, for 750 cubic feet per second of water from Fish Lake and tributaries, was filed April 12, 1912, and dedicated to this project.

Application No. 2408, for 100 cubic feet per second of water for power, from Chiatovich Creek, was filed April 12, 1912, for the contemplated generation of power for pumping purposes.

The temporary withdrawal is pending.

State List No. 070, filed by E. L. Fletcher of Tonopah, Nevada, was reported without an examination, as from a prior investigation the data was available to permit of a report being filed. The entry was recommended for withdrawal for the year.

Two sources of water supply are named in the application. The surplus water of Duckwater Creek is to be stored in a reservoir to supplement a supply proposed to be developed from underground sources. A tract of 56,407.25 acres of land is proposed to be irrigated which lies in Ts. 12 and 13 N, R. 55 E, Ts. 10, 11, 12, and 13 N, R. 56 E, Ts. 10 and 11 N, R. 57 E, M. D. B. & M.

Nothing of a definite nature is available showing the success of the experiments conducted thus far.

State List No. 071, filed by M. C. Quin, A. Tetrault, and W. F. Kane of Millers, Nevada, was reported favorably to permit the applicants to conduct experiments toward the development of a supply of water.

The entry, consisting of 5,118.62 acres, is practically identical with the forfeited entry bearing List No. 050. The lands are situated in Ts. 4 and 5 N, R. 40 E, M. D. B. & M., near Millers, Nevada.

The proposed development is from underground sources, particularly artesian.

It will be noted that practically all of the applications for temporary withdrawal have been allowed by this office. This is made necessary on account of the impossibility to predict the success of determinations for water supply. The lands in each and every application filed are susceptible of cultivation. No particular difficulties have presented themselves in relation to the engineering features, but by reason of the fact that there are practically no stream measurements available on the smaller streams in the State, the applicant was given an opportunity to hold the lands from entry, pending the determinations of water supply.

In addition to the foregoing applications for temporary withdrawal and segregations, reports have been filed on the following applications for final segregation. (The report for temporary withdrawal in these cases was filed prior to the year 1911.)

State List No. 026, being the withdrawal of E. C. McClellan, consisting of 16,988.79 acres, was submitted to this office for report on June 13, 1911.

The stream measurements taken by the applicant were submitted to this office to be made a part of the report for final segregation. The surveys of the proposed reservoir and canals were filed, together with estimates of the cost of construction.

After an examination of the premises, a very careful estimate of the run-off was calculated from the information available. A comparison was made between the measured run-off for the year, and the estimated run-off deduced from rainfall and evaporation data. A set of measurements were also taken by the United States Geological Survey giving, in a measure, what might be expected in the way of available supply. The three sets of figures varied so greatly that it was impossible to state with any degree of accuracy what the flow of the creek, appropriated for the water supply of the project, really was. The measurements taken by the Carey Act applicant were much greater than the measurements of the United States Geological Survey.

The application for segregation embraced, as above stated, 16,988.79 acres of land. My report recommended that the segregation be allowed, but that it was impossible to irrigate more than 10,000 acres of land from the water supply, assuming a duty of 2½ acre-feet per acre per annum.

The application was relinquished on May 9, 1912, after an examination was made by the Department of the Interior, though no formal notification has been given this office of the report filed by the investigating engineer. The withdrawal of the application probably obviated the necessity of filing the report.

State List No. 031, filed by the Ellison Ranch Company, of Salt Lake City, Utah, was submitted for a report for final segregation October 1, 1911.

Under a prior report for temporary withdrawal 50,184.16 acres were passed upon favorably. The year in which determinations were made, however, brought forth certain data which induced the company to list for final segregation only 37,309 acres.

The measurements of run-off of Quinn River and its tributaries, which stream is the proposed source of supply, as submitted by the company, show sufficient water for the irrigation of approximately 25,000 acres. The estimated cost of the reclamation on this basis is $34.14 per acre, which is about the average reclamation cost per acre in the West.

At the present time the segregation is pending in the United States Land Office, awaiting a report on additional stream measurements taken during the year 1911–1912.

On all Carey Act projects filed for action during the years 1911–1912 reference is made to the action of this office on the final segregation under the list number of each as they appear in numerical order.

The department of the State Engineer has been self-sustaining in relation to the work connected with examination and reports of Carey Act projects. The applicant was called upon to deposit sufficient money to defray the actual expenses of the State Engineer, if the examination was made by him personally, or an additional amount to cover the salary of an engineer, if made by a special man deputized for that purpose.

The actual work in the compilation of the data showing the feasibility and practicability of the project and the preparation of the report were taken care of by the State Engineer as a part of the regular office work, without compensation of any kind. The actual time consumed in making investigations and calculations for the report for final segregation consumed from three to five days for each entry.

As heretofore permitted, the applicant deposits sufficient funds with the Commission to guarantee the actual cost of determinations required by the Secretary of the Interior.

In many instances the measurements of water supply are incomplete and unsatisfactory in so far as they have a bearing on the feasibility of the scheme. The different records vary so greatly, where two sets of records have been taken, that I am constrained to recommend that stream measurements be taken by and under the supervision of the office of the State Engineer, in order that the system of obtaining records of flow will be uniform in all instances.

The deposit required for that purpose can be made sufficient to

entirely cover that branch of the determinations and should be set aside for the payment of the expense thereof.

As a rule the question of water supply is the most vital in passing upon any Carey Act project. The lands withdrawn are usually such that there is no question as to their fertility. The engineering features in the projects so far undertaken are not difficult to overcome. The principal question, then, is there sufficient water in the source of supply to properly irrigate the lands sought to be withdrawn?

In the region of the Great Basin, the run-off from the watersheds of the various streams varies greatly from year to year. Data obtained during a year of small precipitation may show that a project is not feasible, and on the other hand the measurements taken in a year of unusually high precipitation will show that there is ample water for the purpose desired.

The year allowed for determination is not, under conditions prevailing in Nevada, sufficient to obtain data upon which large capital can be induced to invest. I would therefore recommend that the period of temporary withdrawal be two years instead of one as we now have. This, I realize must be brought about by a Congressional Act, and in view of the many failures of Carey Act projects, it would be difficult to induce Congress to pass such an amendment. Fewer failures would result, however, should a longer period of temporary withdrawal be given.

The government projects require many years of study before finally agreeing upon the feasibility. The magnitude of many of the Carey Act projects compares favorably with the government reclamation enterprises. I believe there would be no serious harm done any one through adopting a law permitting a temporary withdrawal of two years.

ACCOUNT OF DEPOSITS

The following moneys have been deposited and expended by the State Engineer in reporting upon Carey Act projects:

No.	*Name*	*Amount received*	*Amount disbursed*	*Amount returned*
08	James P. Sprunt	$110.00	$88.35	$21.65
026	E. C. McClellan[1]	40.00	31.00	9.00
048	Nevada Irrigation Land and Development Company	153.50	153.50	
049	Western Irrigation Syndicate	100.00	100.00	
050	Archie H. Jones[1]	28.75	28.75	
051	Esmeralda Land Company[1]	100.00	82.60	17.40
052	Clover Valley Land and Stock Company	45.00	41.20	3.80
053	Alexander Brown	41.55	41.55	
054	W. H. Earl[1]	32.25	31.90	.35
058	American Securities Company	100.00	93.00	7.00
060	Walter E. Tanner	28.50	28.50	
062	C. A. Hascall, et al.	30.00	3.50	26.50
064	F. W. Kearns	113.75	113.75	
063	G. Scott, et al.	100.00	77.05	22.95
065	W. G. Silver, et al.	10.00	3.00	7.00
068	Land Development Company	51.15	51.15	
070	E. L. Fletcher	5.00	2.00	3.00

[1]Denotes where office engineers made examination and paid from state fund on salary account.

The following amounts were held and paid to engineers taking the place of office engineers during their absence:

No. 051—5 days at $5	$25.00
No. 026—2 days at $5	10.00
No. 050—2 days at $5	10.00
No. 054—2 days at $5	10.00
Total	$55.00

GENERAL AND INCIDENTAL DUTIES PERFORMED BY THE OFFICE OF STATE ENGINEER

Upon assuming the duties of the office of the State Engineer plans were being prepared for the new prison authorized to be constructed by the Legislature of 1909.

A pencil copy of the plans had been approved by the Board of State Prison Commissioners, and the detail drawings, together with the final copies of the original, were still incomplete on April 1, 1911. A draughtsman was detailed entirely for this work, and as nothing definite toward the construction of the prison was known, on account of the dissatisfaction over the contract already approved for steel cells, it was deemed best to continue with the work of drawing plans in that they were so near complete. On May 1, 1911, the work was discontinued by order of the Board of State Prison Commissioners. The uncompleted plans are available should it be decided by the board or the Legislature that the work be taken up again.

ORPHANS' HOME WATER SUPPLY

In the Act approved March 20, 1911, entitled "An Act to provide for the improvement and furnishing the State Orphans' Home, appropriating money therefor, and other matters relating thereto," section 2 directs that a steel tank be installed and connected with the state water supply for furnishing water for fire and domestic purposes for the State Orphans' Home.

The Board of Directors of the State Orphans' Home requested the State Engineer to prepare plans and specifications for a pneumatic water supply plant to be installed under the provisions of the above Act.

Plans were prepared for a ten-thousand gallon steel tank, boiler type, pump, compressor, shafting, motor, etc., together with drawings for a galvanized sheet-steel building. Specifications were drafted and submitted to the board, which were approved and the contract let.

A summary of the specifications is as follows: One 10,000-gallon steel tank, 7 feet diameter by 35 feet long, tested to 150 pounds pressure and guaranteed to withstand a working pressure of 100 pounds per square inch. Tank is to be fitted with a manhole in end, and all necessary fittings for pipe connections.

One vertical single-action water-cooled air-compressor capable of delivering 7 cubic feet of free air per minute, speed 150 R. P. M., together with all necessary connections.

One 7½-H. P. three-phase, 60-cycle, 220-volt, 1125 R. P. M. G. E. or Westinghouse or equally good electric motor, with base rails, pulley, starter, etc.

One guaranteed automatic electric starter.

One 4x6-in. single-acting triplex plunger pump, 50 R. P. M., 150 pounds working pressure, equipped with tight and loose pulleys.

Concrete foundations of approved concrete.

One 10-foot countershaft of 1⅞-inch cold-rolled steel, fitted with—

3 double-brace drop hangers, ring oiling, 14-inch drop.

2 shaft collars to fit.

1 24-in. dia. by 5-in. face split wood pulley, crown facing, for 1⅞-in shaft.

1 14-in. dia. by 8-in. straight face split wood pulley.

1 6-in. dia. by 5-in. straight face split wood pulley, both for 1⅞-in. shaft.

58 feet of 4-in. leather belting and 38 feet of 3-in. leather belting.

All pipe connections, valves, etc., to connect with state water supply.

2 transformers 4 K.W. each, voltage 2200 to 110 and 220, including hangers and G. E. cut-outs.

1 35-foot cedar pole with preservative for ground end, with cross-arms and pins, etc., complete.

540 feet No. 8 insulated weather-proof copper wire, including all cut-outs, fuse blocks, switches, etc., required to operate the plant.

Erection plans were to be submitted by the contractor with his bid and a bond given for the faithful performance of the work.

BUILDING FOR PLANT

The specifications for the building are as follows:

Building 45 feet long by 20 feet wide and 9 feet high to eaves, "A" roof, 7 windows and frames, concrete foundation, galvanized sheet-iron sides and roof, 2x4 studding and plates, 2x6 rafters and 4x4 and 6x6 supports for shafting. The window frames and sashes, doors and door frames are to be painted with two coats of approved paint.

The contract for the building was let separate from the plant contract.

FILING-CASES FOR OFFICE OF THE CLERK OF SUPREME COURT

By an Act approved March 24, 1911, the Board of Capitol Commissioners was authorized to purchase steel filing-cases for the office of the Clerk of the Supreme Court. The State Engineer was requested to prepare plans and specifications upon which bids could be called for.

Pursuant to the request of the board the State Engineer prepared the following specifications after measuring and platting the shape and dimensions of the room:

One metal filing cabinet not to exceed 150 inches in length, 100 inches in height above floor. This case must have 26 box drawers 11 inches wide by 16½ inches high by 24 inches deep, provided with rollers and supports to permit of the drawers being opened full length, and paper supports inside. Also, in the upper section there must be 130 box drawers 5¼x11x15 inches. The sides must be 8 inches high. All drawers must have metal indexing plates, and drawer pulls. The shelf shown in drawing (plans submitted with specifications) must be a part of the two sections of the case.

Case No. 2 shall be 63 inches in length, 90 inches in height, and have a depth of 16 inches. It must contain 34 drawers 3x14x18 inches, with 17 on each side as shown in the drawing, equipped with steel partition, indexing plates and drawer pulls. Also the case must have 32 pigeon-hole files 5x6x12 inches, covered with a metal roll-curtain. Also 4 drawers 9x14x30 inches equipped with index plates and pulls and supporting rolls. Three drawers 12x14x20 inches equipped same as above. Two sliding shelves at bottom of set of 3x18x14-inch drawers.

Case No. 3 shall be 180 inches long, height 105 inches, depth 16 inches. This case must contain 256 box drawers 5¼x11x15 inches equipped with drawer pulls and index plates. Drawer sides must be 18 inches high and constructed identical with top section of case No. 1. Three sliding shelves are to be placed on the top of the third tier of drawers, one in the center of the case and the others 24 inches from each end.

Case No. 4 must contain 30 roller book shelves 20x5x16½ inches as shown in drawing, and provided with a metal roll-curtain capable of being locked.

The metal used in all cases must be of standard weight and grade and samples submitted with the bids.

A proper bond was provided to insure faithful performance of the contract.

CONCRETE FLOOR IN BASEMENT OF STATE LIBRARY

The Act approved March 2, 1911, authorized the State Board of Capitol Commissioners to cause to be laid a concrete floor in the basement of the State Library.

In conformity with this Act the State Engineer was requested to prepare specifications and estimates of the cost, together with notices for bids.

A standard set of specifications was drafted and measurements taken of the room. Bids were called for and the contract let by the board. The State Engineer inspected the work and approved the contract when completed.

ELECTRIC WIRING AND FIXTURES FOR STATE CAPITOL BUILDING

The State Board of Capitol Commissioners requested the State Engineer to make an estimate of the cost of installing electric lights in the main Capitol building, after thoroughly examining the condition of the present gas system.

It was found upon inspection that the gas system was very unsatisfactory and dangerous in the extreme on account of the condition of pipes and mantles. A report was made to the board and an estimate submitted of the cost of wiring the building with both an open and conduit system of wiring.

The conduit system was approved by the board and the State Engineer ordered to draft complete specifications both for wiring the building and for furnishing and installing fixtures.

The bids were called for and contracts let to be installed under the supervision of the State Engineer. The engineer of the Public Utilities Commission, being an expert electrical engineer, aided in the supervision of the installation and with the State Engineer approved the work when completed.

The installation is giving satisfaction, especially in that it is such an improvement over the old and unsatisfactory gas system, both in cost of light and service.

FURNISHINGS FOR SENATE AND ASSEMBLY ROOMS

Pursuant to the Act approved March 18, 1911, the State Board of Capitol Commissioners requested the State Engineer to prepare a plan of the Senate and Assembly chambers, showing the present position of the presiding officers' desks, dais, etc., to submit with specifications in calling for bids for new furnishings.

The plans were prepared and prints made to accompany each set of specifications.

ROAD WORK BY CONVICT LABOR

The Act approved March 16, 1911, entitled "An Act authorizing and relating to the employment of convicts on the public roads and highways, providing a general road fund in the State Treasury to defray the expenses thereof, and for other purposes," delegated to the State Engineer general supervision and direction of all road work approved under the provisions of the Act.

The Act is herewith given in full as it contains but a few sections:

SECTION 1. The sum of twenty thousand dollars is hereby appropriated out of any money in the state treasury not otherwise apppropriated which shall constitute a fund known as the general road fund.

SEC. 2. The Board of State Prison Commissioners is hereby authorized and directed to detail for work on the public highways of the State any male convict in the State Prison who, on the recommendation of the Warden, and in the opinion of said board, may be properly so detailed, excepting prisoners under a sentence of death; *provided*, that such detail shall be voluntary on the part of the convict and shall not be caused by any form of compulsion.

SEC. 3. Convicts detailed to road work under the provisions of this Act shall, while so engaged, and without the confines of the State Prison, be under the general direction of the Warden, and guards appointed by him, and shall be subject to such rules and regulations with respect to their hours of labor, conduct

and control as said board shall establish. They shall not be required to wear stripes, and for infractions of the rules the maximum punishment of any convict shall be his summary return to confinement in the penitentiary and forfeiture of credits.

SEC. 4. In addition to the time-off for good behavior from the term of sentence now allowed by law, convicts so detailed for work upon the public roads shall be allowed ten days time-off for each month's faithful work and compliance with such rules and regulations; and in addition thereto each convict so detailed shall be allowed the sum of twenty-five cents for each day's labor, and which shall accumulate as a fund to be paid the convict on the termination of his sentence, or on his release by pardon or parole, and which shall be in addition to the sum of money ordinarily given to discharged convicts; *provided*, that on petition of any such convict, said board, in its discretion, may pay out from any sum to the credit of any convict a portion or all thereof in support of the dependent wife, children or parent of such convict, in distress.

SEC. 5. Said board on the recommendation of the State Engineer, or County Surveyor of each county, is hereby authorized and empowered to determine upon what public roads convicts so detailed shall be employed; whether on the improvement of existing roads or the construction of new roads, and shall pass upon and approve or reject the plans and specifications of the State Engineer or the respective County Surveyors in respect thereto. The State Engineer shall have general supervision and direction of all road work so approved. No road work, under the provisions of this Act, shall be instituted in any county prior to an agreement with the County Commissioners of such county with respect to the survey, character and construction of such road, and an agreement by such county to construct at its own expense all bridges or other structures of wood, iron, concrete or stone, requiring skilled labor, and no convict shall be employed thereon; and such county may be required by said board to contribute in part toward the expense of maintenance of convicts on such road work.

SEC. 6. All disbursements for expenditures arising under the provisions of this Act, including for road-making tools and implements, horses, wagons, tents, bedding, clothing, tobacco, medicine, and commissary utensils and supplies, shall be on warrants certified to by the officer or engineer in charge of said road work, and by the chairman of said board, and which, on approval by the State Board of Examiners, shall be paid on warrants drawn by the State Controller by the State Treasurer from the following funds, respectively, in the state treasury, to wit: From said general road fund in every instance, except for part payment for clothing and commissary supplies, an amount not exceeding fifty cents per day per convict, for the total number of days detailed, which shall be paid from any appropriation hereafter made for the support and maintenance of the State Prison.

About May 1, 1911, preparations were made to commence the work of construction of a road between Carson City and Reno. The Board of County Commissioners met with the State Board of Prison Commissioners, and approved the selection of the right of way of the road proposed to be constructed. It might be stated here that the route followed a road already constructed and being used, but numerous cut-offs and improvements were contemplated.

An engineering corps was immediately ordered to the field to make the surveys necessary to plat the right of way for submission to the Board of County Commissioners of Washoe County. Upon completion the plans showing the right of way, the different character of proposed construction, the necessary bridges and culverts, was submitted to the Board of County Commissioners and approved by them and later approved by the State Board of Prison Commissioners.

It was necessary to purchase supplies for road camps before the work could commence. This was done in company with Mr. R. T. Baker, Warden of the State Penitentiary.

It was also necessary to purchase tools, machinery, horses, wagons, etc., before anything could be accomplished.

Estimates were prepared by the State Engineer and specifications drafted for machinery. Bids were called for, but the material was finally purchased in open market owing to the delays that accompany advertising and the necessity for the work to commence at once. Before the purchases were made, however, the prices of the various houses were submitted to the Prison Board and the Warden, who concurred in the purchase of the machinery from the A. L. Young Machinery Company of San Francisco, Cal., who had submitted the lowest price.

The commissary equipment consisted of a complete kitchen outfit, a complete dining-room outfit, together with tents for the prisoners and guards and overseers.

The machinery equipment consisted of the following:

One 25-horsepower Fairbanks-Morse portable engine (purchased from Fairbanks-Morse Company at Reno, Nevada).

One portable rock crusher, with a 22-foot elevator, trommel screen and fittings complete.

Five Watson dump wagons complete.

One Indiana road drag.

Two wheel scrapers.

Two double-bottom drag scrapers.

A complete blacksmith outfit was purchased from the Nevada Hardware and Supply Company at Reno, Nevada.

A contract was made with Ormsby County, by the terms of which the State of Nevada leased a ten-ton Kelly-Springfield road roller, one hard-pan plough, one steel road harrow, and other road equipment for a period of a year, for the sum of $500. Payment was to be made through the employing of convict labor on Ormsby County roads at the rate of $1 per day of 8 hours.

This contract obviated the necessity of purchasing a steam road roller for the work, a necessity in constructing macadam roads.

As heretofore stated, the County Commissioners of Washoe County approved the type of road construction submitted by the State Engineer's office. The first section of the road proposed was of standard macadam construction, having a width of 14 feet of macadam.

It was found that numerous delays were entailed in the commencement of the work, owing to conditions which seemed impossible to control. Delays in the shipment of the machinery caused additional delays after the road was prepared for the macadam.

About one-half mile of substantial macadam road was constructed, when it became necessary to change the method of operation. The law required the State Engineer to supervise and give general direction to the work approved by the county board. The Warden of the State Prison had full and complete charge of, and was responsible for the care and safety of, the prisoners. The law was found to impose duties upon the State Engineer which were inconsistent with conditions that obtain for best results, therefore the following letter was written to the State Board of Prison Commissioners on August 2, 1911.

CARSON CITY, NEVADA, August 2, 1911.

To the Honorable State Board of Prison Commissioners, Carson City, Nevada.

GENTLEMEN: Since the meeting of your honorable board on the 1st instant, at which I was present in the interest of the road work being carried on by convict labor, I have given the matter considerable thought, especially with regard to the apparent ambiguity of the statute in the division of the authority in the execu-

tion of the work. Section 3 of the Act reads: "Convicts detailed to road work under the provisions of this Act shall, while so engaged and without the confines of the State Prison, be under the general direction of the Warden and guards appointed by him, and shall be subject to such rules and regulations with respect to their hours of labor, conduct and control as said board shall establish."

Section 5 of the same Act reads in part: "The State Engineer shall have general supervision and direction of all road work so approved."

The ambiguity of the statutes in respect to the above causes me to offer a suggestion for your consideration as follows:

Inasmuch as the Warden has general direction of the convicts in addition to the appointment of guards, and is responsible for them, and no authority is given the State Engineer to direct the convicts or guards, I would suggest that each guard act as a foreman for the crew he is overseeing, under the direction of a general guard or foreman appointed by the Warden. This places the authority in the hands of one department for the execution of the work.

Under section 5 of this Act, the State Engineer could then draw plans and specifications and do the engineering work in general as required from time to time, as the work progresses, without interfering in any way with the direction of convicts; such plans and specifications to be turned over to the Warden for execution in the field. The office of State Engineer would then act in the capacity of architect, and the Warden's office would execute the work with prison labor. The above suggestion, if carried out, would obviate the necessity of employing extra subforemen to direct the work of each crew, since the guards could then act in that capacity, being under the direction of the Warden. Moreover, the centralization of authority in this manner tends to increase the efficiency of the men, and I feel confident that progress will be hastened.

Respectfully submitted, W. M. KEARNEY,
State Engineer.

An order was entered by the board relieving the State Engineer of the direct supervision of the work, and imposing upon the office only such engineering duties as were necessary from time to time to properly carry out the work.

From the date of this order the State Engineer performed only the purely engineering work required. All records that had been kept by the State Engineer were turned over to the Warden of the Prison, therefore it is impossible to give any detailed costs of the work without procuring the data from the prison officials. It is probably unnecessary, as such detailed statement will undoubtedly be embodied in the report prepared by the Warden.

IRRIGATION DISTRICTS

On March 20, 1911, an Act entitled "An Act to provide for the organization and government of drainage, irrigation and water storage districts, to provide for the acquisition of water and other property, and for the distribution of the water thereby for irrigation purposes, and for other matters properly connected therewith," was approved by the Governor.

This Act is very lengthy and will not be reproduced here, except the sections which require the State Engineer to make suggestions regarding the district and to file a report approving or rejecting the plans submitted by the board of directors of the district.

SEC. 20. At least as often as once a year after the approval of said plans, the board of directors shall make a report to the State Engineer of the progress of the work of construction and reclaiming, and whether or not the plan of irrigation formulated under the provisions of this Act is being successfully carried out and whether or not, in the opinion of the board, the funds available will complete the proposed works. Upon receipt of such reports by the State Engineer, he shall make such suggestions and recommendations to such board of directors as may be necessary to conserve the best interests of the district.

SEC. 23. (In part.) All such surveys, examinations, maps, plans and estimates shall be made under the direction of a competent irrigation engineer and certified by him. Said board shall then submit a copy of the same to the State Engineer, and within ninety days thereafter the State Engineer shall file a report upon the same with said board, which report shall contain such matters as, in the judgment of the State Engineer, may be desirable.

On July 1, 1911, this office received from The Fort Halleck Irrigation District, maps, plans, determinations, etc., required by section 23 of the above Act, to be passed upon by the State Engineer.

The data presented by the District Engineer, Mr. Harry A. Storrs, of the Field, Fellows and Hinderlinder Engineering Company of Denver, Colorado, was carefully reviewed, and a report rendered to the directors of the above district, covering such features as were deemed pertinent to the success of the undertaking.

Since that time no further reports have been presented to the State Engineer as provided by section 20 of the Act, and it is presumed that delays occurred to prevent the immediate formation of the district.

PROPERTY OF NEVADA STATE ENGINEER

DISTRIBUTION OF WATER

The season of 1911 was one of normal precipitation and it became unnecessary to employ water commissioners to distribute and prevent the waste of water until late in the season. There were, however, commissioners appointed on the streams which have a normal flow and require the services of a distributer during the entire season on account of the rotation system in force.

The Muddy River and Genoa Creek are the two principal ones in this class.

On May 24, 1911, Mr. I. H. Jacobs was appointed by the State Board of Irrigation to act as water commissioner for the Muddy River district in Clark County.

The appointment of Martin Canonica as commissioner for Genoa Creek was made on May 3, 1911, and was supposed to take effect July 1, 1911.

On June 19, 1911, F. B. Hauck was appointed to act as commissioner in the Lovelock Valley. His duties were to regulate gates for the prevention of waste of water. On the same date C. F. Davis was appointed to act as commissioner for Lovelock District with duties as ditch rider.

On August 11, 1911, Hans Anderson was appointed to act as commissioner for the district of the West Fork of the Carson River.

On August 22, H. C. Jessen was appointed to act as commissioner for the district of the East Fork of the Carson River.

The above commissioners served until October 1, 1911, when the necessity for their services ceased.

The winter of 1911 was one of low precipitation, hence the season of 1912 required additional supervision and more careful distribution of water.

On March 16, 1912, Mr. Henry E. Monheim was appointed to act as a commissioner for Pine, Cherry, and Cottonwood Creeks in Nye County, Nevada. He served 16 days before being relieved by Harvey M. Payne on May 15, 1912.

On April 9, 1912, Mr. R. O. Gibson of Overton, Nevada, was appointed by the State Board of Irrigation to act as commissioner, without pay, until the regular commissioner could arrive.

On April 12, 1911, Martin Canonica of Genoa was appointed by the State Board of Irrigation to act as commissioner on Genoa Creek. The appointment took effect on May 1, 1912.

Mr. Hans Anderson was appointed to act as commissioner for the district of the West Fork of the Carson River. The appointment took effect on April 16, 1911.

Mr. J. G. McVicar was appointed to act as commissioner on the West Fork of the Walker River, the appointment to take effect as soon as conditions warranted. His services commenced on April 18, 1912.

Mr. F. B. Stewart was appointed to act as commissioner for the district of Paradise Valley. His appointment took effect April 22, 1912.

Mr. J. M. Huston was appointed to act as commissioner on the East Fork and main Walker River in Lyon County, Nevada. His appointment took effect April 18, 1912.

At a meeting of the State Board of Irrigation, May 11, 1912, T. E. O'Brien was appointed to act as commissioner for the district of the East Fork of the Walker River in Mineral County. His appointment took effect May 13, 1912.

Mr. Harvey Payne was appointed to act as commissioner for Cherry, Pine, and Cottonwood Creeks, in Nye County, Nevada, to relieve Mr. Henry E. Monheim, who was appointed on March 15, 1912 and had served but 16 days. Mr. Payne's appointment took effect on May 15, 1912.

On June 20, 1912, at a meeting of the State Board of Irrigation, Mr. W. E. Blackwell was appointed to act as commissioner for the districts of Duckwater and Currant Creeks. His appointment for Duckwater Creek was forwarded to Hon. Mark R. Averill, Judge of the Fifth Judicial District for Nevada, for approval as per the terms of a decree rendered by that court.

On August 3, 1912, Ruel Lothrop was appointed by the board to act as commissioner for the district of the Carson River in Lyon County.

On August 6, 1912, Mr. W. A. Van Dorn was appointed to act as commissioner for the Carson River district in Ormsby County, and served until September 15, 1912, as an emergency distributer on the Mexican Mill ditch.

On August 12, 1912, Mr. E. S. Hopson, Supervising Engineer, and Mr. D. W. Cole, Project Engineer of the Reclamation Service, called upon the State Engineer relative to the difficulty in obtaining the stored water of Lake Tahoe which had been released by the Government in cooperation with the Truckee River General Electric Company. A general shortage of water supply existed at this period of the irrigation season, and the users on the Truckee Meadows were not advised in advance of the release of the extra flow from Lake Tahoe. As a consequence their ditches diverted all of the surplus, their headgates being opened at the time to take all of the then scanty supply.

The necessity for immediate action caused the Water Users Association at Fallon to take the matter up with your Excellency, and upon receipt of a wire from you to use every effort to aid in the saving of crops through cooperation with the farmers in the Truckee Meadows, the State Board of Irrigation appointed Mr. D. W. Hays, on recommendation of the reclamation officials, to act as commissioner without pay from the State or Washoe County.

A meeting of the Truckee River water users in Reno Valley was called, and they willingly and readily adopted a system of rotation to permit the stored water to pass on to Fallon. They even closed their ditches for a period to permit the entire flood to hasten the irrigation on the government project, thereby saving the crops.

The commissioners served until October 1, which date is considered the end of the irrigation season in most parts of the State. After that date there is so little water being used for irrigation that the services of men to distribute the supply are unnecessary.

The water users of the districts in which men were employed to divide and regulate the supply of the various ditches aided in every way to facilitate the work of the commissioners. Heretofore it has been the custom for a water user to open his waste gate when he no longer has use for water for irrigation and permit it to flow into sloughs or waste in the sands. This practice no longer exists in the majority of irrigation districts of Nevada. Usually it is found that the waste is unintentional and not with the idea to injure his neighbor, but following the lines of least

resistance, the waste gate is easier to regulate than the headgate, being nearer the land. The farmers, as a rule, are so busy during the irrigation season that they can ill afford to spend time to travel from three to five and six miles to regulate their headgates after irrigating their lands. Too, they have an advantage in having the water in the ditch ready to use again without traveling to the headgate to reopen it.

Under the system of regulation the users notify the commissioner when they are through irrigating, even calculating on the time it would require the head of water in the ditch to flow onto their lands. The commissioners were very conscientious in their work, and upon notification of the requirement of water by the users exercised every care to have the water available for irrigation at the appointed time.

The farmers, being satisfied that the water would be available when they required it, had no occasion to unnecessarily detain the supply during each period of use.

When the supply became so short that the priorities could not be preserved with any degree of efficiency to the farmer, meetings were held in the various districts as the occasion arose, and a system of rotation was agreed upon and adhered to as strictly as conditions would permit.

The priorities were disregarded and traded in a measure for the entire flow of the stream for a stated period of time. Usually, however, the time of use was graduated in accordance with the acreages under each ditch and better results obtained. Gradually a higher duty is being secured for a given quantity of water, and in many instances, by force of circumstances, excellent crops are being raised with an amount of water considerably below the recognized standard.

The standard salary for the water commissioners was placed at $5 per day, but in some instances owing to the area of the district, and the conditions existing therein, and upon petition to the Board of Irrigation by the County Commissioners, departures were made from this standard.

Considering that the water commissioner must provide himself with a means of conveyance, and attend to the ditches at any time called upon to do so, besides keeping in touch with the condition of the irrigated lands, $5 per day under such circumstances seems but reasonable for the service.

He is at times compelled to spend the night away from home, entailing more or less expense for hotels, if his district covers a large area. A standard salary should be fixed in all cases where the commissioner is required to provide a conveyance at his own expense.

In every instance where the services of a water commissioner have been fairly tested, the users have been satisfied, to the end that many petitions have been filed requesting commissioners to serve to prevent waste and regulate gates on unadjudicated streams. In these instances the commissioner has been permitted to use his own judgment regarding economical use of water, resulting in almost unanimous verdict in favor of the system.

FIELD OPERATIONS

The field operations of the office cover two distinct branches of work.

First, inspections are now required on almost every source for which an application is filed to appropriate water. Gradually the surplus or unappropriated water is being acquired by private individuals and reclamation associations and companies.

To properly protect vested rights, and at the same time not to retard the development of the State, a careful measurement of both the water supply and irrigated lands from each source is required.

For this work we have attempted to use economy, by detailing one of the Field Engineers in the vicinity, if such engineer were in the vicinity, to inspect and report upon the facts and conditions. Otherwise the inspection is made by the State Engineer personally, or the Assistant Engineer, which requires a special trip to the premises.

These inspections are delayed from time to time with a view of investigating as many applications as possible at one time, thereby reducing the expense and obviating the necessity of a second trip immediately.

During the two-year period the State Engineer and the Assistant Engineer have made inspections numbering every county in the State, including those made by Field Engineers and their assistants. The expense connected with this work amounts to a considerable sum each year, though relatively infinitesimal compared with the saving to the water applicants and users.

Before a decision is rendered in any case we make it a point to satisfy ourselves that the order is as near correct and just as may be arrived at under the conditions. True, our decisions do not always meet with the approval of both parties, and can hardly be expected to, else there would be no contest.

We find a very common condition prevailing among some users as follows: An application is filed to appropriate water. A protest is entered and upon investigation we find the protestant breaking up new land for cultivation without even having made an application therefor, and subsequent to the filing of the application by the contestee. Such contests of course must, on the face of the above facts, fail.

A record of stream measurements is kept of the intermittent gagings taken on these inspection trips.

Second, by far the most important work of the Field Engineers and of the department is the checking of irrigated areas, measurement of ditches and streams, and the taking of proofs of appropriation where vested rights are concerned.

During the two-year period the following men have been occupied with such work:

In the year 1911, Mr. Seymour Case (now Assistant State Engineer) checked the irrigated lands in the White River Valley, White Pine County, Nevada, and obtained proofs of appropriation on all claims of right.

The adjudication was held, pending incomplete data, until 1912, when it was finally disposed of. Elsewhere reference is made to this work and the areas listed.

Immediately after completing the work in the White River Valley the work commenced toward the final check of the U. S. Geological Survey map in the Lovelock Valley. Mr. Case was occupied on the work for several months alone, and later assisted by a second party under Mr. H. T. Jones. The work consumed several months' time and after platting and noting the corrections, proofs of appropriation were called for. The taking of the proofs consumed several months' additional time, principally on account of the work being done in the summer season when the farmers are busy with irrigation and crops.

Mr. C. C. Smith and Mr. Arthur Doane both had parties checking up the lands and aiding in the filling out of proofs for the season of 1912. The work of the above Field Engineers was confined to the Humboldt River system, as it is now the most important to be adjudicated.

The work of the Field Engineers is progressing rapidly, and it is hoped that the entire system can be completely checked within the coming year.

RECEIPTS AND DISBURSEMENTS

The actual expense to the general fund for the maintenance of the State Engineer's department for the years 1911-1912 was $17,860.55. The appropriation made for the support of irrigation by the Legislature of 1911 was $30,000. The fees collected and paid to the State Treasurer amounted to the sum of $12,139.45.

The actual expense of $8,930.28 per year to the State to maintain this department, a large part of which sum was expended for furnishings and office materials, shows that with a proportional charge for the water appropriated in applications will make the department entirely self-supporting. I believe there would be a substantial surplus turned into the State Treasury each year under such a system.

An application for one-fortieth of a cubic foot per second costs the same as an application to appropriate 1,000 second-feet of water. It is apparent that the State is obtaining nothing for a large part of the public resources.

There is nothing in the law to prevent an association of people, each owning separate lands, taken under the homestead or desert land laws, to make a joint application for water, thus depriving the State of the separate fee which might be exacted under a different system.

The rules adopted by the State Engineer in 1911 made this impossible in a measure, in that each applicant must name but one point of diversion and but one source. It is impossible to cover the existing inequalities by rules, as the law itself will not permit of such a course.

I strongly recommend a change in the system of fees, to enable the State to collect proper tariffs on its resources. A suggested change is given in the code recommended in this report.

It will be noted that the expenditure for stamps and stationery amounts to $855.11 for the two-year period. Approximately 15,000 letters have been written and forwarded from the office, exclusive of 2,500 pieces of mail, such as pamphlets of rules and regulations, reports, blank forms, etc. Of the 15,000 letters and pieces of first-class mail, 1,100 were registered.

The law requires all certificates and matter of importance to be sent by registered mail. We have adopted the system of forwarding all permits by registered mail to insure proper notice and have the return card as evidence of service.

The increase in the fees for the period is due partially to the fact that a strict compliance regarding the filing of proofs under permits was exacted, and partially due to the increased number of copies of instruments furnished by this office.

Segregated Statement of Fees Collected by State Engineer from January 1, 1911, to December 31, 1912

Month	Applications	Proof of commencement of work	Proof of application of water to beneficial use	Protests	Clerical work	Totals
1911						
January	$400.00	$8.00	$12.00	$6.00	$22.50	$448.50
February	675.00	11.00	4.00	7.00	5.00	702.00
March	725.00	4.00	12.00	4.00	26.40	771.40
April	850.00	22.00	6.00	7.00	24.25	909.25
May	1,425.00	10.00	8.00	14.00	12.00	1,469.00
June	950.00	31.00		12.00	10.00	1,003.00
July	700.00	36.00	12.00	11.00	29.00	788.00
August	609.00	23.00	28.00	3.00	28.25	682.25
September	850.00	25.00	14.00	9.00	24.00	922.00
October	900.00	42.00	10.00	11.00	98.50	1,061.50
November	500.00	28.00	32.00	7.00	33.50	600.50
December	1,000.00	24.00	20.00	10.00	51.85	1,105.85
Totals	$9,575.00	$264.00	$158.00	$101.00	$365.25	$10,463.25
1912						
January	$625.00	$16.00	$14.00	$16.00	$15.00	$686.00
February	875.00	3.00	6.00	6.00	17.75	907.75
March	725.00	3.00	8.00	1.00	18.25	755.25
April	550.00	5.00	10.60	10.00	40.10	615.00
May	400.00	27.00	6.00	18.00	28.60	479.60
June	725.00	12.00	6.00	2.00	43.00	788.00
July	325.00	11.00	2.00	8.00	37.50	383.50
August	550.00	28.00	14.00	7.00	15.00	614.00
September	450.00	18.00	10.00	2.00	11.50	491.50
October	550.00	17.00	8.00	2.00	21.50	598.50
November	650.00	11.00	16.00	7.00	11.00	695.00
December	925.00	48.00	4.00	7.00	18.00	1,002.00
Totals	$7,350.00	$199.00	$104.00	$96.00	$277.20	$8,016.20
Grand totals	$16,925.00	$463.00	$262.00	$197.00	$642.45	$18,479.45

Fees Received and Disposition of Same

Month	Fees received	Paid publications	Deposited in general fund
1911			
January	$448.50	$250.00	$298.50
February	702.00	430.00	342.00
March	771.40	210.00	591.40
April	909.25	210.00	579.25
May	1,469.00		869.00
June	1,003.00	640.00	623.00
July	788.00	420.00	508.00
August	682.25		442.25
September	922.00	770.00	582.00
October	1,061.50	340.00	701.50
November	600.50		360.50
December	1,105.85	410.00	705.85
Totals	$10,463.25	$3,680.00	$6,633.25
1912			
January	$686.00	$400.00	$436.00
February	907.75	350.00	557.55
March	755.25	490.00	465.25
April	615.10		395.10
May	479.60	460.00	319.60
June	788.00		498.00
July	383.50		253.50
August	614.00	300.00	394.00
September	491.50	270.00	311.50
October	598.50		338.50
November	695.00	540.00	475.00
December	1,002.00	100.00	632.00
Totals	$8,016.20	$2,910.00	$5,076.20
Grand totals	$18,479.45	$6,590.00	$11,709.45

Amount turned into State Treasurer on account of applications canceled before publication	$430.00
Total amount fees turned into State Treasurer from all sources	$12,139.45

NOTE: The apparent discrepancy between the monthly fee receipts and the sums of the amounts paid for publication and the amount deposited in the General Fund, is due to the practice of the office to hold out each month the total amount which might be required to pay for the publication of all the applications filed during such month. Applications returned for correction and not refiled within the statutory period are not published, and the fund held for this purpose was turned over to the Treasurer on December 31, 1912, less ten dollars publication fee, which was turned in to the State Treasurer in the settlement of December 30, 1910, which publication fee was paid in the year 1911, and ten dollars retained on account of a republication of Application No. 1806 by former State Engineer and for which no amount was deducted in his settlement with the State Treasurer on December 31, 1910, but which fee was paid during the year 1911. In the settlement of December 31, 1912, with the State Treasurer, the sum of $670 was retained by the State Engineer for the payment of publication of 67 notices of application, for which affidavits of publishers have not yet been filed.

Segregated Expenditures from Appropriation for Support of Irrigation During Period Covered by this Report

Month	Traveling expenses	Salaries	General expenses	Stationery	Equipment	Team	Extraordinary	Totals
1911								
January	$6.20	$851.05	$31.93	$53.34				$942.52
February	2.50	696.25	23.62	10.35	$6.88			738.60
March		563.90	33.66	20.10	28.54			646.20
April	40.65	682.47	54.60	33.30	54.90			865.92
May	106.05	934.67	98.88	39.00	211.69			1,390.29
June	180.30	962.50	77.16	29.70	33.10			1,282.76
July	219.20	955.00	36.51	37.28		4.00		1,251.99
August	212.50	1,003.75	25.67	29.75	41.00	15.50		1,328.17
September	211.60	1,015.00	14.72	40.75	114.20	34.00		1,430.27
October	431.45	1,272.50	7.00	38.35	.75	5.00		1,755.05
November	125.80	1,238.50	3.35	27.45				1,395.10
December	115.25	1,246.07	1.70	67.96	52.40			1,483.37
Totals	$1,651.50	$11,420.66	$408.80	$427.32	$543.46	$58.50		$14,510.24
1912								
January	$44.85	$947.70	$15.93	$20.40	$18.90		$3.00	$1,050.78
February	47.17	800.08	50.14	69.05				966.44
March	240.95	972.95	50.01	22.55			16.90	1,303.36
April	116.25	756.50	66.28	27.45	20.68		22.00	1,009.16
May	16.85	860.22	18.71	45.40	4.28	8.80	1.00	955.26
June	243.75	1,058.30	2.55	35.90	72.30	10.65	7.00	1,420.45
July	283.33	1,147.70	12.47	15.90	12.00			1,471.40
August	376.30	1,327.80	12.87	65.09	1.50		3.00	1,786.56
September	428.00	1,222.55	6.42	18.95	5.00		6.00	1,686.92
October	277.65	906.16	10.60	46.25				1,240.66
November	311.90	1,142.50	9.63	45.85		35.00		1,544.93
December	31.90	996.94		15.00				1,043.84
Totals	$2,418.95	$12,139.40	$255.61	$427.79	$134.66	$54.45	$58.90	$15,489.76
Grand totals	$4,070.45	$23,560.06	$664.41	$855.11	$678.12	$112.95	$58.90	$30,000.00

APPLICATIONS AND PERMITS, INCLUDED IN SERIAL NUMBERS 1 TO 1921, FILED PRIOR TO JANUARY 1, 1911, THAT ARE STILL OPEN FOR ACTION BY THE STATE ENGINEER

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
17	9 26 05	John G. Taylor	Chino, Wolf and Chimney Cks.	Irrigation	App 3 24 06	290 c. f. s.	C. (Ac. P.)
18	9 26 05	John G. Taylor	Chino Creek	Irrigation	App 3 24 06	13 c. f. s.	C. (Ac. P.)
19	10 1 05	W. T. Jenkins Co.	Rock Creek	Irrigation	App 3 24 06	2.4 c. f. s.	F. P. 4 6 10
59	3 26 06	Mrs. J. W. Fapp	Springs	Irrigation	App 8 1 06	All flow	F. P. 11 6 08
82	4 15 06	William Hunter	Humboldt River	Irrigation	App 9 28 07	12 c. f. s.	F. P. 5 23 10
101	5 24 06	Alfred Lester, et al.	Springs	Mining and domestic	App 8 27 06	All flow	
133	6 22 06	A. G. McAllister	Slaughter House Canyon	Mining and milling	App 10 31 06	¼ c. f. s.	C. (Ac. P.)
150	7 7 06	G. B. Williams	Skul and Road Canyon	Irrigation	App 11 1 06	All flow	F. P. 8 25 10
182	8 12 06	C. H. Asbury	Walker River	Irrigation	App 12 29 06	150 c. f. s.	F. P. 11 9 10
190	8 27 06	Tramp-Con. Mining Co.	Springs	Power and mining	App 12 29 06	4 c. f. s.	C. (Ac. P.)
191	8 27 06	Tramp-Con. Mining Co.	Springs	Power and mining	App 12 29 06	2 c. f. s.	C. (Ac. P.)
213	9 28 06	Pat Keegan	Blue Mass Creek	Irrigation	App 8 3 07	5 c. f. s.	F. P. 5 6 10
216	9 29 06	Joseph C. Tognoni	Big Warm Spring	Irrigation	App 9 15 08	16.36 c. f. s.	(1)
221	10 6 06	L. O. Ray	Spring	Mining and milling	App 1 22 07	5 c. f. s.	F. P. 11 22 09
222	10 6 06	L. O. Ray	Spring	Mining and milling	App 1 22 07	8 c. f. s.	F. P. 11 22 09
223	10 6 06	L. O. Ray	Spring	Mining and milling	App 1 22 07	3 c. f. s.	F. P. 11 22 09
291	11 22 06	Leander A. Ruppe	Springs	Irrigation	App 3 16 07	1 c. f. s.	C. (Ac. P.)
292	11 22 06	Leander A. Ruppe	Springs	Irrigation	App 3 16 07	2 c. f. s.	F. P. 10 29 09
296	11 26 06	The Tonopah Liberty Mining Co.	Spring	Mining and milling	App 2 7 07	¼ c. f. s.	F. P. 4 4 10
321	12 26 06	John A. Magnuson	Indian Creek	Irrigation	App 3 20 07	7 c. f. s.	F. P. 4 12 10
337	1 16 07	The Nevada United Mining Co.	Tule Canyon	Mining and milling	App 5 2 07	10 c. f. s.	F. P. 4 6 10
338	1 19 07	Ely Townsite Co.	Murry Creek	Irrigation	App 5 4 07	12 c. f. s.	C. (Ac. M. P.)
339	1 19 07	Ely Townsite Co.	Murry Creek	Irrigation	App 5 4 07	15 c. f. s.	C. (Ac. P.)
347	1 24 07	The White Pine Gold Mountain Mining Co.	Gold Canyon Springs	Smelting, min., mill.	App 5 6 07	1 c. f. s.	F. P. 5 6 10
349	1 25 07	Preston Irrigation Co.	White River	Irrigation	App 6 26 07	20 c. f. s.	F. P. 4 20 11
362	2 9 07	The Mines Dev. Co. of Nevada	Reeds Canyon	Mining and milling	App 5 2 07	10 c. f. s.	F. P. 4 6 10
408	3 21 07	Amos B. Gardner	Forest Home Springs	Irrigation	App 8 16 12	2 c. f. s.	
411	3 28 07	Julius Lemle	Amargosa River	Mining and milling	App 4 30 09	2 c. f. s.	C. (Ac. M. P.)
429	4 11 07	John L. Bray	Cocomonga Springs	Mining and milling	App 9 11 07	2 c. f. s.	C. (Ac. M. P.)
451	5 2 07	G. F. McCurdy, et al.	Eight Mile Spring	Irrigation	App 10 16 07	10 c. f. s.	F. P. 10 24 10
474	5 16 07	George S. Robinson	Strawberry Creek	Irrigation	App 4 6 08	4 c. f. s.	F. P. 8 24 12
509	6 5 07	Charles C. Norton, et al.	Willow Lake	Irrigation	App 9 6 07	3,500 acre-feet	
510	6 5 07	Charles C. Norton, et al.	Burnt Lake	Irrigation	App 9 6 07	3,600 acre-feet	
518	6 10 07	Jas. Callahan, et al.	Heusser Mountain	Mining and milling	App 9 28 07	240 inches	F. P. 2 16 10
536	6 20 07	Round Mountain Hydro. Mining Co.	Jefferson Creek	Power and mining	App 11 9 07	10 c. f. s.	F. P. 8 24 12
538	6 25 07	G. G. Davis	Cottonwood, Pine, Cherry Cks.	Irr., mining, power	App 4 6 08	100 c. f. s.	F. P. 7 14 10
591	7 30 07	John M. Prunty, et al.	Copper Creek	Irrigation	App 12 30 07	20 c. f. s.	
623	8 20 07	Manoa Mining Co.	Cottonwood Canyon	Min., milling, power	App 11 19 07	1,000 c. f. s.	F. P. 11 29 10
699	9 26 07	Orlando Morley	Spring	Irrigation			
701	10 3 07	George Kump	Big Creek Canyon	Irrigation	App 10 25 12	1.6 c. f. s.	
736	11 19 07	Floriston Pulp and Paper Co.	Bell Creek	Flushing	App 7 25 08	4 c. f. s.	C. (Ac. P.)

[1] Permit modified by court decree.

737	11 20 07	Owen G. Arnot	Smith Creek	Irrigation	App 3 14 08	All of flow	Rein. 9 7 12
750	12 9 07	Albert E. Murphy, et al.	Massacre, Middle, and Western Lakes	Irrigation	App 8 1 08	All	
752	12 12 07	Gohan G. Buzzetti	Gold Canyon Creek	Mining and power	App 3 14 08	10 c. f. s.	Rein. 10 18 10
753	12 16 07	Gold Hill Con. Mining Co.	Mariposa Creek	Min., milling, power	App 3 14 08	2 c. f. s.	F. P. 4 4 10
756	12 20 07	Clark Drown	Stoddard Canyon Creek	Irrigation	App 9 21 08	20 c. f. s.	
767	12 30 07	Mrs. Chas. Goldbach	Barley Creek	Irrigation	App 11 30 08	6 c. f. s.	P.B.U. Rejec.
791	1 16 08	Ermira G. Dickinson	Ermira Spring	Irrigation	App 3 17 08	¼ c. f. s.	F. P. 12 30 09
795	1 21 08	Nev. Commonwealth Min. and Milling Co.	Galena Creek	Irrigation	App 2 9 11	10 c. f. s.	Rein. 6 21 11
801	1 28 08	H. A. Agee	Wiseman and Gordon Creeks	Power	App 10 30 08	10 c. f. s.	F. P. 11 11 12
806	2 3 08	Peter Heitman	Carson River	Irrigation	App 10 30 08	10 c. f. s.	
809	2 3 08	S. O. Kirkby	Williams or Dry Creek	Irrigation	App 10 25 12	2.8 c. f. s.	
811	2 8 08	S. O. Kirkby	Lake	Irrigation	App 9 21 08	5 c. f. s.	F. P. 8 25 10
812	2 8 08	Fox & Kirkby	Williams Creek	Irrigation	App 2 9 11	4.8 c. f. s.	
813	2 8 08	Fox & Kirkby	Dry Creek	Irrigation	App 9 21 08	10 c. f. s.	F. P. 8 25 10
815	2 10 08	Wm. T. and Jas. P. O'Neal	Trout Creek	Irrigation	App 2 17 11	3 c. f. s.	
828	2 18 08	Ely Water Co.	Steptoe Creek	Irrigation	App 6 30 08	25 c. f. s.	Rein.
878	3 30 08	Gardner Ranch Co.	Pahranagat Lake	Irrigation	App 11 18 10	1,524 acre-feet	
880	3 30 08	Walter Schmierer	Bonita Spring	Irr., mining, milling	App 10 30 08	1 c. f. s.	F. P. 11 9 10
898	4 2 08	J. L. Ramsey	Ridge Creek	Irrigation	App 5 10 09	10 c. f. s.	F. P. 10 13 10
920	4 16 08	William Hamilton	Shingle Creek	Irrigation	App 5 10 09	5 c. f. s.	
928	4 23 08	Owen Cazier	Currant Creek	Irrigation	App 2 10 11	290 acre-feet	
935	4 24 08	John A. Magnuson	Fitzhugh Creek	Irrigation	App 9 25 11	5.6 c. f. s.	
937	4 24 08	John A. Magnuson	Fitzhugh Creek	Irrigation and power	App 9 25 11	1.6 c. f. s.	C. (Ac. M.)
952	5 2 08	Bednark and Norton	Cordwood and White Creeks	Irrigation	App 9 25 11	10 c. f. s.	Rein. 12 29 10
967	5 14 08	Walker Lake Gold Mining and Milling Co.	Deadman's Canyon	Irrigation and stock	App 10 30 08	1 c. f. s.	F. P. 12 14 10
979	5 23 08	E. C. Riddell	Star Creek	Domestic	App 10 30 08	All unappropriated	F. P. 3 18 11
983	5 26 08	Pilot Knob Gold Mining Co.	Willard Creek	Irrigation	App 10 30 08	3 c. f. s.	F. P. 8 11 09
996	6 3 08	H. H. Coryell	Signal and Dry Creeks	Mining and milling	App 5 10 09	6 c. f. s.	C. (Ac. P.)
999	6 4 08	P. W. Chase	Cottonwood Creek	Irrigation	App 10 30 08	½ c. f. s.	Rein. 5 12 11
1000	6 5 08	Pacific Reclamation Co.	Bishop Creek	Mining and milling	App 10 30 08	35 c. f. s.	Rein. 9 1 10
1020	6 19 08	John Broderick	Rose Creek	Irrigation	App 6 29 09	4 c. f. s.	F. P. 3 15 10
1021	6 19 08	Samuel Hall	Sanford Springs	Irrigation	App 3 20 09	1 c. f. s.	F. P. 12 18 09
1022	6 19 08	John Wenzel	Willow and Gravel Springs	Stock	App 3 20 09	2 c. f. s.	F. P. 11 26 10
1044	7 10 08	Fermina Sarrias	Rosa Spring	Stock	App 3 20 09	All	F. P. 5 2 12
1052	7 13 08	J. A. Lundgren	Willard Creek	Domestic and mining	App 2 23 10	3 c. f. s.	Rein. 12 16 10
1077	8 1 08	Thomas Wilson	Spring and Shoshone Creek	Irrigation, domestic	App 5 10 09		
1087	8 13 08	H. L. Lorigan, et al.	Warm Spring	Domestic and milling			Rein. 1 10 12
1098	8 21 08	Humboldt-Lovelock Irr., Light, Pow. Co.	Humboldt River	Irrigation	App 4 29 09	1 c. f. s.	
1104	8 28 08	H. R. Plate	Steptoe Creek	Mining and power	App 3 20 09	300 c. f. s.	
1117	9 5 08	Frank H. Winters	Bruneau River	Min., milling, power	App 1 26 09	25 c. f. s.	
1122	9 14 08	C. I. Burt, et al.	Centennial Springs	Power and irrigation	App 3 20 09	All flow and flood	
1132	9 24 08	Wm. J. Dawe	Dry Creek	Transport	App 3 20 09	1 c. f. s.	F. P. 7 14 09
1145	10 14 08	Wm. K. Eberling	Springs	Irrigation, domestic	App 3 20 09	2½ c. f. s.	F. P. 7 15 10
1160	10 29 08	Annie Gregory, et al.	Springs	Irrigation	App 3 20 09	2½ c. f. s.	F. P. 8 14 12
1166	11 5 08	Joseph C. Tognoni	Springs	Milling and mining	App 3 20 09	1 c. f. s.	F. P. 7 6 11
1168	11 5 08	Joseph C. Tognoni	Springs	Stock and domestic	App 3 20 09	5 miner's inches	C.
1174	11 5 08	The Cotter Mines Co.	Springs	Stock and domestic	App 3 20 09	5 miner's inches	C.
1183	11 12 08	E. R. Allred	Currant Creek	Mining and milling	App 3 20 09	.4 c. f. s.	C.
1188	11 16 08	Charles P. Barnum	Indian Springs	Irrigation	App 3 20 09	All waste water	
1191	11 21 08	Edward Bunker, et al.	Rio Virgin River	Irrigation	App 12 4 12	.6 c. f. s.	
1197	11 27 08	Andrew P. Garburg	Spring	Irrigation	App 3 20 09	91 c. f. s.	
				Milling, irrigation	App 3 9 11	1.6 c. f. s.	

APPLICATIONS FOR WATER RIGHTS—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
1201	12 2 08	John C. Munson	Wiseman Creek	Irrigation	App 11 1 09	35 c. f. s.	F. P. 8 31 11
1206	12 2 08	John C. Munson	Seneca Weeks Crk. and others	Irrigation	App 11 1 09	35 c. f. s.	F. P. 8 31 11
1217	12 21 08	Long Valley L. & D. Co.	Forty Nine Creek	Irrigation, domestic	App 7 10 09	5 c. f. s.	C. (Ac. P.)
1218	12 21 08	Garat and Company	Owyhee River	Irrigation, domestic	App 7 10 09	12 c. f. s.	C. (Ac. P.)
1219	12 21 08	Garat and Company	Owyhee River	Irrigation, domestic	App 7 10 09	10 c. f. s.	C. (Ac. P.)
1220	12 21 08	Garat and Company	Owyhee River	Irrigation, domestic	App 7 10 09	12 c. f. s.	F. P. 1 3 12
1221	12 21 08	Garat and Company	Bull Run Creek	Irrigation, domestic	App 7 10 09	20 c. f. s.	C. (Ac. P.)
1229	12 28 08	J. R. Tognoni	Springs	Stock and domestic			
1235	12 28 08	John Brunton	Gold Run and Ione Canyon	Mining and domestic	App 7 10 09	1 c. f. s.	C. (Ac. MP.)
1237	12 29 08	Mason Valley Mines Co.	Gallagher Slough	Ore reduction	App 11 1 09	15 c. f. s.	C.
1240	1 4 09	Girard Scharfels	Humboldt River	Irrigation	App 2 16 11	1½ c. f. s.	
1252	1 16 09	Western Land and Irrig. Syndicate	Steptoe Slough	Irrigation	App 11 1 09	6 c. f. s.	F. P. 12 28 11
1253	1 16 09	Mason Valley Mines Co.	Hot Springs	Ore reduction	App 11 1 09	2 c. f. s.	C. (Ac. P.)
1254	1 16 09	Mason Valley Mines Co.	Hot Springs	Ore reduction	App 11 1 09	2 c. f. s.	C. (Ac. P.)
1255	1 18 09	Jas. E. Hibbs	Banta Springs	Mining and milling	App 11 15 09	5 c. f. s.	C. (Ac. MP.)
1258	1 20 09	Frank A. Arentz	Walker River	Irrigation	App 11 15 09	4 c. f. s.	F. P. 8 7 12
1261	1 21 09	M. Vaccaro	Spring	Irrigation and stock	App 11 15 09	1 c. f. s.	F. P. 12 22 11
1268	1 29 09	M. B. Cross	State Creek	Irrigation	App 10 26 12	1.6 c. f. s.	
1271	1 29 09	Albert Hankins	Carville Creek	Irrigation	App 12 1 09	7 c. f. s.	F. P. 8 15 11
1272	1 29 09	Albert Hankins	Smith Creek	Irrigation	App 12 1 09	2 c. f. s.	F. P. 8 15 11
1273	1 29 09	Albert Hankins	McCutcheon Creek	Irrigation	App 12 1 09	2 c. f. s.	F. P. 8 15 11
1174	1 29 09	Albert Hankins	Hankins Creek	Irrigation	App 12 1 09	2 c. f. s.	F. P. 8 15 11
1276	2 2 09	S. A. Walker, et al.	American Canyon	Mining and milling	App 11 19 12	¼ c. f. s.	
1278	2 2 09	Philip Paroni, et al.	Secret Canyon	Mg., mill., dom., irrig.	App 7 21 11	1/10 c. f. s.	C.
1283	2 8 09	Goldfield Consolidated Water Co.	Springs	Mining and domestic			
1298	2 17 09	C. G. Winter	Dorsey Creek	Irrigation	App 12 1 09	All	C. (Ac. P.)
1299	2 17 09	Edward U. McDermott	Talbot Creek	Irrigation			
1309	2 20 09	Martin Sorenson	Pinenut Creek	Irrigation	App 5 18 10	.42 c. f. s. flood water	
1312	3 1 09	J. C. Tognoni	Little Warm Spring	Irrigation			
1316	3 13 09	W. F. Dressler	Carson River	Irrigation	App 6 3 10	33 c. f. s.	
1317	3 13 09	W. F. Dressler	Carson River	Irrigation	App 12 1 09	20 c. f. s.	
1336	4 16 09	Mrs. Milo Caine	Spring	Irrigation	App 12 1 09	1 inch	F. P. 4 4 11
1341	4 29 09	Lucius Laudie	Cleveland Creek	Power			
1349	5 10 09	J. P. Buzanes, et al.	Gold Coin Springs	Mining and milling	App 12 1 09	8 c. f. s.	F. P. 8 31 11
1353	5 12 09	Elmer Hanson	Lapham Creek	Min., milling, power	App 9 22 10	4 c. f. s.	F. P. 6 20 12
1361	5 24 09	Elko Water and Light Corporation	Springs	Domestic	App 12 1 09	All	C. (Ac. P.)
1375	6 7 09	Charles E. Bliss	Lehman and Baker Creeks	Irrigation	App 4 21 11	2.28 c. f. s.	
1380	6 16 09	W. T. Jenkins Co.	Ben's Creek	Irrigation and stock	App 9 20 09	All	F. P. 4 5 10
1383	6 29 09	Chas. Minoletti	Monte Cristo Springs	Irr., dom., mining	App 2 16 11	½ c. f. s.	F. P. 12 27 12
1384	6 29 09	Wm. H. Gilmer	Camp Creek	Irrigation	App 9 20 09	4 c. f s.	Rein. 10 20 11
1386	7 1 09	Vinyard Land and Stock Company	Salmon River	Irrigation	App 2 17 11	48 c. f. s.	
1388	7 3 09	Emily A. Pence	Poison Creek	Irrigation	App 12 1 09	6.4 c. f. s.	C. (Ac. P.)
1389	7 3 09	Emily A. Pence	Poison Creek	Irrigation	App 12 1 09	6.4 c. f. s.	C. (Ac. P.)
1391	7 7 09	Robert M. Steele	Honeyman Creek	Irrigation and stock	App 12 1 09	All	C. (Ac. P.)
1392	7 12 09	Western Pacific Railway Co.	Springs	Transportation	App 12 1 09	All	C. (Ac. P.)
1393	7 13 09	Verdi Lumber Co.	Truckee River	Irr. and ice ponds	App 2 16 11	3 c. f. s.	
1396	7 17 09	Mason Valley Mines Co.	Gallagher Slough	Ore reduction	App 12 1 09	15 c. f. s.	C. (Ac. P.)
1406	8 17 09	William K. Ebeling	Thousand Creek	Irrigation	App 3 31 10	2 c. f. s.	C. (Ac. P.)
1408	8 20 09	O. J. Streeter, et al.	Lamoille Creek	Irrigation and stock			
1409	8 20 09	Mrs. Louisa Sepulveda	Boulder Creek	Irrigation and stock	App 7 1 10	2 c. f. s.	
1412	8 24 09	W. G. Douglass	Ophir Creek	Power	App 3 2 10	10 c. f. s.	
1413	8 28 09	Vinyard Land & Stock Company	Hot Springs and Hot Creek	Irrigation	App 9 1 11	3.2 c. f. s.	C. (Ac. M.)
1423	9 7 09	Mrs. Johanna Eisenberg	Adobe Road Canyon	Irrigation and stock	App 3 16 10	6 c. f. s.	C. (Ac. P.)
1424	9 7 09	J. H. Witherell	Spring	Mining	App 11 17 10	1.33 c. f. s.	
1427	9 8 09	Adam Schmitt	Spring	Irrigation	App 9 20 10	4 c. f. s.	Rein. 2 24 11
1431	9 15 09	Flanigan Wood and Lumber Co.	Hunters Creek	Fluming	App 3 23 10	4 c. f. s.	F. P. 1 26 11
1433	9 20 09	Grover A. Youngs	Spring	Irrigation	App 11 29 10	.2 c. f. s.	F. P. 12 18 11
1436	9 22 09	Flanigan Wood and Lumber Co.	Hunters Creek	Power	App 3 23 10	6 c. f. s.	F. P. 1 26 11
1439	9 23 09	George W. Byers	Herder Creek	Irrigation	App 2 16 11	2 c. f. s.	
1440	9 25 09	Helen Braun	Grove Creek	Irrigation	App 3 3 11	.5 c. f. s.	F. P. 4 1 12
1443	9 29 09	Charles Roby	Cleveland Creek	Power			
1449	10 7 09	Wm. M. Rollins, et al.	Walker River	Irrigation	App 2 16 11	5 c. f. s.	
1452	10 13 09	Western Pacific Railroad Co.	Hot Springs	Railroad, domestic	App 3 25 10	.2 c. f. s.	C. (Ac. P.)
1463	10 15 09	T. W. Weldon	Indian Spring	Irrigation	App 10 18 12	.25 c. f. s.	
1464	10 19 09	The Kaiser Livestock Co.	West Spring	Irrigation and stock	App 11 19 12	1/10 c. f. s.	
1467	10 20 09	Henry A. Bordoli	Hooper Canyon	Irrigation	App 2 17 11	1.4 c. f. s.	
1468	10 20 09	Ambrama Arigoni	Springs	Irrigation	App 2 17 11	1 c. f. s.	
1470	10 20 09	Isaac Reed	Salmon River	Irrigation	App 2 17 11	1.6 c. f. s.	
1471	10 21 09	The Kaiser Livestock Co.	Willow Spring	Irrigation and stock	App 5 7 12	1/10 c. f. s.	F. P. 9 5 12
1475	10 21 09	Truckee River General Electric Co.	Truckee River	Power	App 1 27 10	500 c. f. s.	F. P. 1 5 12
1476	10 25 09	Paul Regli	Walker River	Irrigation, domestic	App 6 3 10	2.66 c. f. s.	
1478	10 25 09	O. L. Lay	Springs	Irrigation, stock	App 11 17 10	.5 c. f. s.	
1480	10 25 09	James D. Finch, et al.	Warm Spring	Mining and milling			
1482	10 28 09	Golconda Cattle Co.	Rock Creek	Irrigation			
1484	10 28 09	Golconda Cattle Co.	Spring	Irrigation, domestic	App 2 17 11	.8 c. f. s.	
1486	10 28 09	Golconda Cattle Co.	Spring	Irrigation	App 8 1 10	5 c. f. s.	
1487	10 28 09	Golconda Cattle Co.	Spring	Irr., dom., mining	App 6 28 10	.75 c. f. s.	
1490	10 29 09	Alfred Johnson, et al.	Snake Creek Canyon	Mining and power	App 2 17 11	8 c. f. s.	
1491	10 29 09	Jas. T. Martin	Brown, Slaughter House Crks.	Irrigation	App 2 15 11	.5 c. f. s.	
1493	11 1 09	J. G. Laravey	Willow Spring	Irrigation, stock	App 5 31 11	.1 c. f. s.	C. (Ac. P.)
1500	11 1 09	The Kaiser Livestock Co.	Mule Spring	Irrigation, stock	App 5 31 11	.1 c. f. s.	F. P. 10 5 11
1502	11 2 09	A. A. Armstrong	Owyhee River	Irrigation	App 2 17 11	3.2 c. f. s.	
1503	11 2 09	Claud B. Armstrong	Owyhee River	Irrigation	App 2 17 11	3.2 c. f. s.	
1506	11 5 09	J. P. Loftus, et al.	Amargosa Basin	Irrigation, power	App 2 1 10	300 c. f. s.	
1507	11 6 09	O. L. Lay	Dry Creek	Irrigation	App 11 17 10	4 c. f. s.	
1508	11 6 09	George H. Tingley	Baker Creek	Power			
1509	11 6 09	George H. Tingley	Cleveland Creek	Power			
1519	11 15 09	Chas. S. Miller	Eight Mile Creek	Stock	App 2 18 11	.05 c. f. s.	C. (Ac. P.)
1520	11 15 09	Casten Olsen	Frenchman Canyon	Irrigation, stock	App 2 18 11	.3 c. f. s.	F. P. 10 24 12
1521	11 16 09	Roy C. Wilson	Leonard Creek	Irrigation	App 2 18 11	1.6 c. f. s.	
1525	11 22 09	Ash Meadows Water Co.	Spring	Irr., mining, railroad			
1526	11 22 09	Ash Meadows Water Co.	Perrenial Spring	Mining, railroad			
1527	11 22 09	Ash Meadows Water Co.	Spring	Mining, railroad			
1529	11 22 09	John Angell	Van Duzer Creek	Irrigation	App 12 15 11	1.6 c. f. s.	
1531	11 26 09	Albert T. Lay	Warm Spring	Stock	App 11 17 10	1/10 c. f. s.	C. (Ac. P.)
1532	11 26 09	J. L. Edwards, et al.	Spring	Irrigation	App 11 11 12	.4 c. f. s.	
1533	11 26 09	C. A. Beck	Spring	Irrigation	App 2 26 12	1.6 c. f. s.	

APPLICATIONS FOR WATER RIGHTS—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
1535	11 29 09	H. F. Lorigan	Georges Water Spring	Irrigation	App 4 9 12	.05 c. f. s.	C. (Ac. M.)
1542	12 2 09	Kaiser Livestock Co.	Spring	Irrigation and stock			
1544	12 2 09	Kaiser Livestock Co.	Springs	Irrigation and stock	App 5 31 11	.1 c. f. s.	C. (Ac. P.)
1547	12 6 09	C. L. Broy	Springs	Mining			
1548	12 7 09	Wm. A. Johnson	Tom Cain Creek	Irrigation	App 3 8 12	3.2 c. f. s.	
1552	12 10 09	Albert Kemble	Willow Springs	Irrigation	App 5 31 11	.25 c. f. s.	F. P. 12 27 11
1553	12 10 09	H. C. Schmidt, et al.	Colorado River	Power and mining	App 7 6 10	5,000 c. f. s.	
1556	12 14 09	Laura G. Lay	Jackson Creek	Irrigation	App 11 17 10	5 c. f. s.	
1557	12 14 09	Minnie F. Lay	Mary Sloan Creek	Irrigation	App 11 17 10	1.66 c. f. s.	
1558	12 14 09	James Ruddell	Miguel Creek	Irrigation	App 11 17 10	.66 c. f. s.	
1559	12 16 09	L. F. Detwiler, et al.	Brown's Springs	Irrigation	App 10 8 12	½ c. f. s.	
1560	12 17 09	P. J. Conway	East Fork Walker River	Irrigation and power	App 8 23 11	3,150 acre-feet per yr.	
1561	12 20 09	Frederick C. Hummel	Trout Creek	Irrigation	App 2 18 11	1.6 c. f. s.	
1570	12 31 09	Mrs. Alice E. Ronnow, et al.	Underground waters	Irrigation	App 2 18 11	4.8 c. f. s.	
1572	1 3 10	Frederick Hummel	Cedar Creek	Irrigation	App 2 18 11	1.6 c. f. s.	
1575	1 12 10	A. R. Watland	Pine Creek	Irrigation, domestic	App 2 18 11	3.2 c. f. s.	
1576	1 13 10	L. K. Gregory	Garfield Spring	Mining and domestic	App 2 10 11	.05 c. f. s.	
1577	1 13 10	Frank Stewart, et al.	McConnell and Buffalo Creek	Irrigation	App 8 26 10	4,320 ac.-ft. unap wtr.	
1579	1 19 10	Frank J. Winzell	Spring	Irr., domestic, stock	App 2 18 11	1.6 c. f. s.	
1580	1 20 10	Geo. Wallis Dean	Cactus Spring	Irrigation	App 9 24 10	1/16 c. f. s.	F. P. 2 8 11
1581	1 20 10	C. H. Taylor	Rodwell Creek	Irrigation, domestic	App 5 18 10	1.68 c. f. s.	C. (Ac. P.)
1585	1 25 10	Mrs. Emily A. Pence	Poison Creek	Irrigation, domestic	App 12 13 11	6.4 c. f. s.	
1586	1 25 10	Mrs. Emily A. Pence	Jim Bob Creek	Irrigation, domestic	App 12 13 11	10 c. f. s.	
1587	1 25 10	Mrs. Emily A. Pence	Spring Creek	Irrigation, domestic	App 12 13 11	10 c. f. s.	
1588	1 25 10	Mrs. Emily A. Pence	Pole Creek	Irrigation, domestic	App 12 13 11	6.4 c. f. s.	
1591	1 29 10	Humboldt Cattle Co.	McDermitt Creek	Irrigation, domestic	App 2 18 11	250 c. f. s.	
1592	1 29 10	Humboldt Cattle Co.	Willow Creek	Irrigation, domestic	App 2 18 11	50 c. f. s.	
1593	1 29 10	Humboldt Cattle Co.	E. Br. Quinn River	Irrigation, domestic	App 2 18 11	250 c. f. s.	
1594	1 29 10	Humboldt Cattle Co.	Fall Creek	Irrigation, domestic	App 2 18 11	60 c. f. s.	
1595	1 29 10	Humboldt Cattle Co.	Horse Creek	Irrigation, domestic	App 2 18 11	60 c. f. s.	
1596	1 29 10	Humboldt Cattle Co.	Rebel Creek	Irrigation, domestic	App 2 18 11	60 c. f. s.	
1597	1 29 10	Humboldt Cattle Co.	Quinn River	Irrigation, domestic	App 2 18 11	800 c. f. s.	
1598	1 29 10	Humboldt Cattle Co.	McConnell Creek	Irrigation	App 2 18 11	60 c. f. s.	
1599	1 29 10	Humboldt Cattle Co.	Crowley Creek	Irrigation	App 2 18 11	250 c. f. s.	
1600	1 29 10	Humboldt Cattle Co.	Buffalo Creek	Irrigation	App 2 18 11	60 c. f. s.	
1603	1 31 10	B. F. Baker	Queen's Canyon	Irrigation, milling	App 8 20 10	2.66 c. f. s.	
1606	2 3 10	Mrs. John Tippett	Warm Spring	Irrigation	App 11 18 10	2 c. f. s.	
1608	2 10 10	Ernest Philpott	Veatch Canyon	Irrigation, mining	App 5 3 10	2 c. f. s.	F. P. 2 9 11
1610	2 14 10	Ernest H. Burgess	White River	Irrigation	App 6 2 10	2.4 c. f. s.	
1611	2 14 10	Muddy Valley Irrigation Co.	Muddy River	Irrigation	App 3 1 11	25 c. f. s.	
1612	2 15 10	Steamboat Canal Co.	Truckee River	Power	App 9 5 11	200 c. f. s.	
1616	2 18 10	C. Olson, et al.	Oneil Spring	Stock	App 11 18 10	1/8 c. f. s.	F. P. 11 29 11
1619	2 23 10	C. D. Long	West Walker River	Irrigation and stock	App 6 3 10	2.66 c. f. s.	
1620	2 24 10	Wm. E. Lemley	Flat Creek	Mining and power	App 8 26 10	5 c. f. s.	C. (Ac. M. P.)
1627	3 18 10	C. R. Wedertz	Desert Creek	Irrigation	App 11 29 10	6.4 c. f. s.	

1628	3 19 10	L. C. Peterman	Castle Creek	Irrigation, domestic	App 3 1 11	1.6 c. f. s.	
1630	3 21 10	Henry Carney	West Walker River	Irrigation	App 5 19 10	1.33 c. f. s.	
1631	3 22 10	Wilson J. Forbes, et al.	Secret Creek	Irrigation	App 8 1 10	11 c. f. s.	
1632	3 23 10	J. F. O'Byrne, et al.	Bear Creek	Power and domestic	App 12 16 10	10 c. f. s.	
1634	3 25 10	C. L. Rowe	Lake Canyon	Irrigation, domestic	App 8 21 10	2.66 c. f. s.	
1635	3 29 10	Herman W. Finck	Trough Canyon	Irrigation, domestic	App 8 1 10	3 c. f. s.	
1636	3 29 10	Fred W. Lake	Springs	Irrigation, domestic	App 3 1 11	5 c. f. s.	
1638	3 31 10	Patrick Keegan	Bassett Canyon	Irrigation and stock	App 2 14 11	.4 c. f. s.	
1639	3 31 10	L. H. Bartholomew	Lapham Creek	Min., mill., domestic			
1640	3 31 10	Mrs. Johanna Eisinberg	Welch Creek	Irrigation			
1641	3 31 10	K. L. Parker	Stream	Irrigation	App 5 31 11	1.6 c. f. s.	
1642	4 2 10	F. J. Hagenbarth, et al.	Jarbidge River	Mining	App 12 13 11	4 c. f. s.	
1645	4 5 10	Al Barton	Springs	Irrigation, domestic	App 3 3 11	1.25 c. f. s.	
1646	4 6 10	Francisco Sigarini	Spring	Irrigation, domestic	App 3 27 12	.2 c. f. s.	C. (Ac. M.)
1652	4 11 10	Emery Buren	Springs	Irrigation	App 9 2 10	2.66 c. f. s.	
1653	4 11 10	C. L. Woodward	Sheep Creek	Irrigation	App 8 26 11	1 c. f. s.	
1655	4 12 10	Thos. H. Fitzgerald	Muddy River	Irrigation			
1657	4 14 10	D. E. Hill	Springs	Irrigation	App 3 3 11	1.6 c. f. s.	
1658	4 14 10	Peter Perazzo, et al.	Walker River	Irrigation	App 9 24 10	50 c. f. s.	
1659	4 16 10	W. P. Helsley, et al.	Shack Creek	Irrigation	App 8 28 11	6.4 c. f. s.	
1660	4 16 10	H. B. Mills	Virgin River	Irrigation	App 9 2 10	37.5 c. f. s.	
1661	4 18 10	Continental Land and Irrigation Co.	Continental Lake	Irrigation	App 11 18 10	63 c. f. s.	
1662	4 18 10	J. W. O'Banion	Red Canyon	Irrigation	App 11 18 10	2.64 c. f. s.	
1663	4 18 10	J. Cohn	West Walker River	Irrigation	App 11 18 10	28,800 ac.-ft. fld. water	
1664	4 20 10	George F. Thompson	Brownie Canyon	Irrigation			
1666	4 25 10	Chas. A. Green	Bloody Canyon	Irrigation	App 3 3 11	1.6 c. f. s.	
1667	4 25 10	Wm. M. Hanson	West Carson River	Irrigation	App 11 14 10	1 c. f. s.	
1674	5 2 10	F. M. Plank, et al.	Springs	Mining and milling	App 3 3 11	.05 c. f. s.	
1678	5 5 10	Orson Hudson	Lincoln Canyon Creek	Irrigation	App 11 19 10	2.4 c. f. s.	
1680	5 7 10	H. D. Allerman	Brookliss Slough	Irrigation	App 9 2 10	.75 c. f. s.	F. P. 11 4 12
1681	5 9 10	F. M. Duffield	Bruneau River, tributaries	Irrigation	App 3 3 11	55.3 c. f. s.	
1684	5 9 10	Jas. Devine	Stoney Creek	Irrigation	App 3 4 11	1.6 c. f. s.	C. (Ac. M.)
1687	5 13 10	J. H. Luhmann	Cottonwood Creek	Irrigation	App 8 28 11	3.2 c. f. s.	
1688	5 14 10	E. C. McClellan	Rock Creek	Irrigation			
1690	5 16 10	T. B. Harriman	Springs	Irrigation	App 3 4 11	2.5 c. f. s.	
1691	5 17 10	Nevada Land and Livestock Co.	Tom Cain Creek	Irrigation			
1692	5 17 10	A. L. DeLong	Bartlett Creek	Irrigation	App 3 4 11	1.6 c. f. s.	
1694	5 20 10	Pedro Itcanica	Stag Creek	Irrigation	App 5 20 11	3.2 c. f. s.	
1695	5 20 10	Warner Valley Stock Co.	Springs	Irrigation	App 6 3 11	12 c. f. s.	
1696	5 21 10	Matt. Danglemair	Quinn River	Irrigation	App 6 10 12	2.8 c. f. s.	
1697	5 23 10	F. W. Stail	Spring	Mining and domestic	App 8 27 12	.25 c. f. s.	
1698	5 23 10	Ambrose Truett	Tom Cain Creek	Irrigation			
1699	5 23 10	J. P. Buzanes	Springs	Irrigation, mining	App 3 4 11	1.6 c. f. s.	
1700	5 24 10	A. H. Barlow	Walker River	Irrigation	App 8 22 11	1000 c. f. s. flood water	C[1]
1702	5 27 10	R. M. Tubb	Spring	Irrigation	App 3 4 11	1.6 c. f. s.	
1703	6 1 10	Albert Welch	Cottonwood Creek	Irrigation	App 3 6 11	3.2 c. f. s.	
1705	6 2 10	E. C. McClellan	Humboldt River	Irrigation			
1707	6 4 10	Nevada Land and Livestock Co.	Currant Creek	Irrigation	App 3 7 11	3.2 c. f. s.	
1708	6 6 10	Buckhorn Mining Co.	Willow Creek	Min., mill., domestic	App 9 2 10	10 c. f. s.	F. P. 9 4 12
1709	6 6 10	Wm. H. Dunham, et al.	Steptoe Slough	Irrigation	App 11 19 10	5.65 c. f. s.	
1710	6 8 10	E. E. Fowler, et al.	Lexington Canyon	Irrigation	App 11 19 10	.8 c. f. s.	

[1] For failure to comply with provisions of permit.

APPLICATIONS FOR WATER RIGHTS—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
1711	6 8 10	John Thralls	Burbank Canyon	Irrigation	App 11 19 10	6 c. f. s.	
1712	6 10 10	J. W. O'Banion	Red Canyon	Irrigation	App 11 19 10	1.6 c. f. s.	
1713	6 10 10	C. B. Halsey	Beaver Creek	Irrigation	App 3 4 10	4.8 c. f. s.	
1714	6 10 10	C. H. Black	Herder Creek	Irrigation			
1715	6 11 10	E. E. Hayes	Boulder Creek	Irrigation			
1716	6 11 10	John Crosson	Ackler and Herder Creeks	Irrigation			
1717	6 13 10	Wm. Smiley	Ackler and Herder Creeks	Irrigation			
1718	6 13 10	W. J. Black	Ackler Creek	Irrigation			
1720	6 14 10	George W. Hatch	Jeff Canyon	Irrigation	App 1 6 12	2.8 c. f. s.	
1721	6 14 10	Jos. Jeanney	Ackler Creek	Irrigation			
1722	6 14 10	H. A. Agee	Angel and other creeks	Irrigation	App 10 29 12	4.8 c. f. s.	
1724	6 15 10	C. R. Starkweather	Six Mile Spring	Stock	App 11 19 10	1/40 c. f. s.	C. (Ac. P.)
1731	6 22 10	E. G. Johnson	Pratt Creek	Irrigation			
1732	6 22 10	G. W. Pratt	Pratt Creek	Irrigation			
1734	6 24 10	J. W. Johnson	Boulder Creek	Irrigation			
1735	6 28 10	Melvern W. Jones	American Flat, run-off	Irrigation	App 11 29 10	15 c. f. s.	
1738	7 2 10	Geo. W. DeKerr	Little Mammoth Spring	Irrigation	App 12 16 10	3.2 c. f. s.	
1739	7 2 10	E. S. Matthews	Spring	Mining, milling	App 11 11 12	.25 c. f. s.	
1740	7 2 10	E. S. Matthews	Springs	Mining, milling	App 11 11 12	.25 c. f. s.	
1742	7 6 10	John M. Allen, et al.	Humboldt River	Irrigation			
1743	7 6 10	W. W. Weathers, et al.	Ackley Creek, other sources	Irrigation			
1744	7 6 10	John M. Riddell	Herder Creek	Irrigation			
1745	7 6 10	John B. Stott, et al.	Granite Springs	Mining, domestic	App 4 9 12	.25 c. f. s.	C. (Ac. M.)
1746	7 7 10	Thomas I. Post	Amargosa River	Mining, milling	App 8 24 11	1.6 c. f. s.	
1747	7 8 10	Harry Wimer	Willow Creek	Irrigation	App 11 29 10	2.8 c. f. s.	
1748	7 11 10	E. H. Hackett	Deer Lodge Canyon	Irrigation	App 12 16 10	.05 c. f. s.	F. P. 8 23 12
1750	7 12 10	Daniel F. Drumholler	Secret Creek	Irrigation	App 12 19 10	3.2 c. f. s.	F. P. 11 25 12
1751	7 13 10	Susie Kimball	Spring	Irrigation	App 11 21 11	1.5 c. f. s.	
1753	7 15 10	Lucy M. Black	Walker River	Irrigation	App 11 19 10	.8 c. f. s.	
1754	7 15 10	E. C. McClellan	Humboldt River	Irrigation			
1755	7 18 10	A. J. Burke	Coreys Dam	Mining, irrig., etc.	App 3 1 11	5 c. f. s.	
1757	7 18 10	A. J. Burke	Martin Creek	Irrig., mining, mill	App 6 22 11	100 c. f. s.	C. (Ac. P.)
1760	7 19 10	Golconda Cattle Company	Willow Creek	Irrigation			
1761	7 20 10	Steptoe Valley Smelting and Mining Co.	Berry Creek	Ore reduction	App 11 29 10	8 c. f. s.	F. P. 7 18 11
1762	7 23 10	B. G. McBride	Overland Creek	Irrigation	App 9 27 12	200 c. f. s.	
1764	7 23 10	Nevada and Eastern Land Co.	Rosses, Murphy, other crks.	Irrigation	App 3 9 11	1,500 acre-feet	
1765	7 23 10	Nevada and Eastern Land Co.	Soldier Creek	Irrigation	App 3 9 11	800 acre-feet	
1767	7 23 10	Nevada and Eastern Land Co.	Secret Creek	Irrigation	App 3 9 11	17,500 acre-feet	
1768	7 28 10	John G. Taylor	Deep Creek	Irrigation	App 10 21 12	1.6 c. f. s.	
1769	7 29 10	J. E. Akin	Log Springs	Irrigation	App 5 9 12	1.6 c. f. s.	C. (Ac. M.)
1770	7 29 10	Charleston Hill Dev. and Mining Co.	National Springs	Irrigation	App 9 20 12	.5 c. f. s.	
1771	7 30 10	Q. D. Boyd	Rabbit Creek	Irrigation			
1773	8 1 10	George DeKarr	Goat Ranch Spring	Irr., mining, milling	App 12 16 10	1.6 c. f. s.	
1774	8 1 10	Paul Jones	Carson River	Irrigation	App 11 29 10	.5 c. f. s.	
1776	8 4 10	Samuel S. Arentz	West Walker River	Irrigation			

1777	8 4 10	Edward G. Timm	Adobe Creek	Irrigation	App 5 15 11	2 c. f. s.	
1778	8 4 10	Ondis Gibson	Snow Creek	Irrigation	App 1 6 12	3.2 c. f. s.	
1780	8 6 10	Leonard Chase	Honeyman, Wiseman Crks.	Irrigation	App 4 8 11	2.3 c. f. s.	
1781	8 6 10	Buckhorn Mines Co.	Tributaries, Humboldt River	Min., milling, power			
1783	8 12 10	Bradford Leavitt	Maggie Creek	Irrigation			
1784	8 12 10	Bradford Leavitt	Pie Creek	Irrigation			C. (Ac. M.)
1786	8 18 10	George B. Hapgood	Antelope Spring	Irrigation	App 11 29 10	2.5 c. f. s.	
1788	8 17 10	C. Z. Harris	Star Creek	Irrigation			
1789	8 17 10	C. Z. Harris	Boulder Creek	Irrigation			
1799	8 18 10	E. C. McClellan	Humboldt River	Irr., domestic, power			
1800	8 19 10	E. C. McClellan	Mary's River	Irr., domestic, power			
1801	8 22 10	I. F. Wiseman	I. Wiseman Creek	Irrigation	App 5 20 12	1.6 c. f. s.	
1802	8 22 10	S. A. Angell	Springs	Irrigation	App 5 7 12	.8 c. f. s.	
1803	8 23 10	Golconda Cattle Co.	Rock Creek	Irrigation			
1804	8 24 10	E. C. McClellan	Secret Valley Creek	Irrigation			
1807	9 1 10	Pacific Reclamation Co.	Bishop Creek	Irrigation	App 11 30 10	50,000 acre-feet	
1809	9 1 10	Pacific Reclamation Co.	Trout Creek	Irrigation			
1812	9 5 10	Nevada State Prison Commissioners	Clear Creek	Irrigation, domestic			
1813	9 7 10	George L. Whitney	Whitney Springs	Irrigation, domestic	App 5 7 12	1.5 c. f. s.	C. (Ac. M.)
1816	9 12 10	Christene Glaser	Pie Creek	Irrigation			
1818	9 14 10	D. C. Wheeler	Cottonwood Creek	Irrigation, domestic	App 5 20 11	2 c. f. s.	C. (Ac. M.)
1819	9 14 10	J. R. Newman	Cedar Creek	Irrigation, domestic	App 9 2 11	1.07 c. f. s.	C. (Ac. M. P.)
1827	9 17 10	George A. Bain	Spring	Irrigation and stock	App 5 17 12	.25 c. f. s.	C. (Ac. M.)
1828	9 19 10	J. R. Newman	Bull Camp Creek	Irrigation, domestic	App 9 2 11	1.07 c. f. s.	C. (Ac. M.)
1829	9 19 10	J. R. Newman	Willow Creek	Irrigation, domestic	App 9 2 11	1.07 c. f. s.	
1831	9 23 10	Griswold-Henderson Livestock Company	Griswold Lake	Irrigation and stock	App 8 3 11	150 ac.-ft. per year	
1834	9 28 10	J. E. Thornton	Eldorado Creek	Power and mill	App 8 21 11	2 c. f. s.	F. P. 10 17 12
1835	9 30 10	Buckhorn Mines Company	Humboldt River	Power, mill, etc.			
1837	10 4 10	Mary J. Henry	Deering Creek	Irrigation, domestic			
1838	10 5 10	E. C. McClellan	Mary's River	Irrigation, domestic			
1839	10 5 10	E. C. McClellan	Hanks Creek	Irrigation, domestic			
1841	10 13 10	Grover F. West	Alleghany Creek	Irrigation	App 9 2 11	1 c. f. s.	
1842	10 13 10	Grover F. West	Owyhee River	Irrigation	App 9 2 11	1.4 c. f. s.	
1843	10 13 10	Albert W. Goble, Jr.	Well	Stock and domestic	App 5 15 11	.1 c. f. s.	
1844	10 15 10	Guy O. Wimer	Spring and snow waters	Irrigation, domestic	App 3 10 11	.8 c. f. s.	
1845	10 15 10	Milton M. Garrett	Magpie Creek	Irrigation, domestic	App 1 6 12	3.98 c. f. s.	
1846	10 17 10	H. C. Christensen	Willow Creek	Mining and milling	App 3 3 11	2 c. f. s.	
1847	10 18 10	Richard A. Morley	Starr Creek	Irrigation, domestic			
1848	10 18 10	Nevada and Eastern Land Company	Jack Creek	Irrigation, domestic			
1849	10 18 10	D. E. Drumheller	Springs	Irrigation, domestic	App 5 15 11	2 c. f. s.	F. P. 11 11 12
1850	10 19 10	John Churchfield	Clover Valley, Big Slough	Irrigation, domestic	App 10 25 12	16 c. f. s.	
1852	10 21 10	Fred J. Hallock	Little High Rock Creek	Irrigation	App 7 1 11	83.2 c. f. s.	C. (Ac. M.)
1854	10 24 10	E. C. Wood	Johnson Creek, waste water	Irrigation, domestic	App 4 19 11	9.14 c. f. s.	
1855	10 25 10	William C. Savage	Ingalls Canyon Creek	Irrigation	App 8 21 11	1 c. f. s.	C. (Ac. P.)
1856	10 27 10	Nevada Land and Stock Company	Indian Creek	Irrigation			
1857	10 27 10	Nevada Land and Stock Company	Cottonwood Creek	Irrigation			
1858	10 28 10	Guy Saval	Gants Creek	Irrigation			
1860	10 29 10	A. R. Whitehead	Preston Springs	Irrigation			
1863	11 3 10	E. C. McClellan	Humboldt River	Irrigation, domestic	App 10 2 11	3,000 acre-feet	
1864	11 3 10	E. C. McClellan	Humboldt River	Irrigation, domestic			
1866	11 9 10	J. W. Adams, et al.	Steptoe Slough	Irrigation, domestic			
1867	11 9 10	Truett Land and Livestock Co.	Tea Creek	Irrigation	App 10 2 11	25.53 c. f. s.	C. (Ac. M.)
				Irrigation			

APPLICATIONS FOR WATER RIGHTS—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
1868	11 10 10	L. N. Carpenter	Humboldt River	Change diversion	App 10 12 11	Change pt. of div.	F. P.
1869	11 10 10	Elizabeth A. Rogers	Humboldt River	Change diversion	App 10 3 11	Change pt. of div.	F. P. 12 9 11
1870	11 10 10	George S. Nixon, et al.	Humboldt River	Change diversion	App 10 3 11	Change pt. of div.	F. P.
1871	11 10 10	John Hickson	Ackerman Springs	Irrigation and stock	App 10 3 11	.05 c. f. s.	F. P. 6 29 12
1880	11 15 10	Minnie F. Lay	Springs	Irrigation and stock	App 9 1 11	2 c. f. s.	
1881	11 15 10	Long Valley Land and Development Co.	Denio Creek	Irrigation, domestic	App 7 1 11	1,500 acre-feet	
1882	11 18 10	H. R. Wells, et al.	Fradsham Springs and Creek	Mining and domestic			
1883	11 21 10	W. H. Gilmer, et al.	Camp Creek	Irrigation	App 9 1 11	2 c. f. s.	
1884	11 21 10	W. H. Gilmer, et al.	Camp Creek	Irrigation	App 9 1 11	1 c. f. s.	
1885	11 21 10	Walter M. Gilmer	Camp Creek	Irrigation	App 9 1 11	1.2 c. f. s.	
1886	11 21 10	Adelaide M. Gilmer, et al.	Camp Creek	Irrigation	App 9 1 11	2.8 c. f. s.	
1888	11 22 10	American Securities Co.	Wall Canyon Creek	Irrigation	App 7 1 11	52,500 acre-feet	
1889	11 22 10	American Securities Co.	Lost Creek	Irrigation	App 7 1 11	26,250 acre-feet	
1890	11 22 10	American Securities Co.	Rye Patch Creek	Irrigation	App 7 1 11	26,250 acre-feet	
1891	11 22 10	American Securities Co.	Tuledad Creek	Irrigation	App 1 2 12	26,250 acre-feet	
1892	11 23 10	C. G. Patrick	Pigeon Springs	Irr., mining, milling	App 3 9 11	1 c. f. s.	F. P. 7 8 11
1893	11 26 10	Carey Act Reclamation Association	Mary's River	Irrigation			
1894	11 26 10	Nellie M. Lamb, et al.	Spanish Basin	Irrigation	App 7 17 11	2 c. f. s.	
1895	11 26 10	Nellie M. Lamb, et al.	Gregg Canyon	Irrigation	App 7 17 11	2 c. f. s.	
1896	11 29 10	E. J. Delano, et al.	Ravine (no name)	Irrigation	App 10 24 12	3.2 c. f. s.	
1897	12 1 10	B. G. McBride	Franklin River	Irrigation			
1898	12 1 10	L. F. Cogswell	Texas Creek	Irrigation	App 7 1 11	18,000 ac.-ft. per year	
1900	12 7 10	John Yelland	Basin Spring	Stock and domestic	App 10 11 11	$\frac{1}{40}$ c. f. s.	
1901	12 7 10	John Yelland	Cottonwood Spring	Stock and domestic	App 10 12 11	$\frac{1}{40}$ c. f. s.	
1905	12 14 10	W. T. Jenkins Co.	Rock Creek	Irrigation, domestic	App 7 17 11	1.2 c. f. s.	
1906	12 15 10	J. W. Fox	Franklin River	Irrigation, domestic			
1907	12 15 10	P. J. Conway	Walker River	Irrigation	App 3 9 12	123,780 ac.-ft. per year	
1908	12 15 10	P. J. Conway	Walker River	Power	App 8 23 11	300 c. f. s.	
1909	12 16 10	William Hanson	Mott Slough	Irrigation	App 10 4 11	.60 c. f. s.	
1912	12 20 10	W. S. Hill	Hillyer Canyon	Irrigation, domestic	App 9 5 11	.50 c. f. s.	
1913	12 23 10	Borry McDaniel	Sand Creek	Irrigation, domestic	App 10 25 12	1¼ c. f. s.	
1914	12 24 10	Walker Indian Reser., S. W. Pugh, Supt.	Walker River	Irrigation, domestic			
1917	12 27 10	Nick Del Duke, et al.	Silver Zone Springs	Mining, milling, dom.	App 5 15 11	1 c. f. s.	C. (Ac. M.)

NOTE: The abbreviations in the foregoing table are: Irrig., Irrigation; Min., Mining; Mill., Milling; Co., Company; Sto., Stock; Dom., Domestic; Pow., Power; Reduc., Reduction; C. F. S., Cubic feet per second; Spr. or sprs., Spring or springs; Cr., crk., or crks., Creek or creeks; C., Held for cancelation; Ac. P., Account of failure to provide proof of beneficial use; Ac. M., Account of failure to provide a map; Ac. MP., Account of failure to provide both map and proof of beneficial use; F. P., Proof of beneficial use filed; Ac.-ft., Acre-feet; Rein., Reinstated; P. B. U., Proof of beneficial use; Rejec., Rejected; Can., Canyon; In., Inches; Transport., Transportation; Con., or consolid., Consolidated; L. & D., Land and development; Wat., Water; Unapp., Unappropriated.

APPLICATIONS ON WHICH PERMITS HAVE BEEN COMPLETED AND CERTIFICATES ISSUED

(These numbers are not listed in the foregoing tabulation of pending applications and permits.)

Serial No.	Date of filing	Applicant	Source	Purpose	Cert. No. Book 1	Amount	Date issued
3	5 29 05	H. C. Dangberg	East Fork Carson River	Irrigation	591	30 c. f. s.	1 7 10
20	10 31 05	P. L. Griffin (F. L. Dwight and C. F. Bowen, assignees)	Amargosa River	Mining, milling, dom.	523	1 c. f. s.	9 14 07
21	11 3 05	Ely Bath and Steam Laundry Co., (Ely Water Co., assignee)	Warm Springs	Bath, laundry, domestic and irrigation	562	Total flow	1 20 09
				Milling and domestic	530	All flow	2 15 08
23	11 18 05	Robert L. Harper	Springs	Milling and reduction	529	10 c. f. s.	1 20 08
a24	11 20 05	W. D. Lawton	Wells, Amargosa River	Irrigation, domestic, mining and milling	555	1 c. f. s.	6 22 08
27	12 20 05	Charles L. Hyde, et al., (Goldfield Consolidated Water Co., assignee)	Springs, underground water	Mining, milling, dom.	528	10 c. f. s.	12 28 07
				Mining, milling, dom.	533	All flow	2 15 08
42	2 8 06	E. P. and S. A. Walker	Bull Run Creek	Irrigation	549	10 c. f. s.	6 17 08
43	2 13 06	D. P. Hargis (Robert L. Harper, assignee)	Springs	Quarrying	537	1 c. f. s.	4 2 08
90	4 26 06	W. N. McGill	Water Canyon	Mining, milling, dom.	590	14,000 gals. per 24 hrs.	12 16 09
91	4 30 06	Joseph P. Martin	Spring	Irrigation	538	3 c. f. s.	4 2 08
110	6 1 06	Silver Peak Valcalde Gold Mining Co.	Spring	Irrigation	572	1 c. f. s.	7 30 09
123	6 9 06	John Melvin	Hot Springs	Mill., min., smelt., dom.	541	2.5 c. f. s.	4 7 08
124	6 14 06	I. J. Wilson	Reynolds Creek	Transportation	568	1.2 c. f. s.	3 24 09
142	6 28 06	Joseph L. Giroux	Springs	Min., manufacturing	531	2 c. f. s.	2 15 08
145	7 5 06	William Ashton	Prince Royal, and Eagle Canyon Springs	Irrigation	524	7 c. f. s.	9 14 07
154	7 9 06	R. L. Harper	Springs	Irr., min., mfg., trans.	542	10 c. f. s.	4 10 08
167	7 30 06	Perry L. Smith	Cold Creek	Irr., min., mill., smelt.	540	5 c. f. s.	4 2 08
229	10 16 06	William D. Campbell, et al.	First, Second, Third Creeks	Irr., min., mill., smelt.	539	2 c. f. s.	4 2 08
269	11 3 06	A. L. Lidwell	Indian Joe Springs	Irr., mining, milling	526	20 c. f. s.	9 14 07
270	11 3 06	A. L. Lidwell	Springs	Irr., mining, milling	527	20 c. f. s.	9 14 07
283	11 17 06	Johnnie Con. Gold Mining Co. (D.G. Doubleday, assignee)	Tiger and other springs	Mining and milling	573	5 c. f. s.	7 30 09
284	11 17 06	Johnnie Con. Gold Mining Co. (D.G. Doubleday, assignee)	Grapevine and other springs	Irr., mining, power	550	10 c. f. s.	6 17 08
303	12 5 06	W. A. Stevans	Bench Creek	Irrigation and power	532	10 c. f. s.	2 15 08
313	12 12 06	W. D. Campbell	Steptoe Slough	Irrigation, min., mill.	525	3 c. f. s.	9 14 07
316	12 17 06	R. L. Harper	Underground lake	Power and quarry	551	2 c. f. s.	6 17 08
320	12 24 06	Lincoln Stone Co. (J. A. Byrne, assignee)	Willow Spring	Mining, milling, dom.	552	4 c. f. s.	6 17 08
327	1 2 07	S. B. Hill (Mazuma L. & W. Co., assignee)	Burnt Canyon Springs	Irr., min., mill., dom.	563	25 c. f. s.	1 21 09
343	1 22 07	William H. Eddards	Springs	Irrigation	574	1 c. f. s.	7 30 09
396	3 13 07	Alfred Swallow	Snow water	Irrigation	575	5 c. f. s.	7 30 09
425	4 10 07	I. J. Wilson	Kelley Creek	Domestic and mining	576	6 c. f. s.	7 30 09
449	5 1 07	United Mining Company	Erraster Springs	Irrigation	556	1 c. f. s.	8 28 08
b515	6 8 07	John B. Yount	Deer Creek Spring	Domestic and mining			
c465	5 12 07	Potosi Zinc-Lead Mining Company	Potosi Springs				

[a]Certificate No. 529 was canceled April 20, 1911, after an inspection, on account of insufficient proof of beneficial use. [b]Certificate No. 559 has also been issued on this source, it being a duplicate of Certificate No. 576. [c]Certificate No. 556, issued under Application 465, has been withdrawn.

APPLICATIONS ON WHICH CERTIFICATES HAVE BEEN ISSUED—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Cert. No. Book 1	Amount	Date issued
585	7 25 07	Goldfield Consolidated Water Company	Springs	Mining, milling, dom.	547	All the flow	5 2 08
586	7 25 07	W. N. McGill	Schoolhouse Spring	Irrigation	553	All the flow	6 17 08
642	8 21 07	Fred B. Rice, et al.	Springs	Irrigation	554	5 c. f. s.	6 17 08
650	8 23 07	Caliente and Pioche Railroad Co.	Round Valley and Condor Canyon Springs	Railroad purposes	534	25 c. f. s.	2 15 09
696	9 23 07	Joseph L. Giroux	Willow Spring	Mining and domestic	535	1 c. f. s.	2 26 08
722	11 7 07	Albert L. J. Clark	Springs	Irrigation	564	1 c. f. s.	1 21 09
757	12 21 07	John J. Regan	Hot Springs	Irr., milling, domestic	565	1 c. f. s.	1 22 09
780	1 10 08	James Ryan	Cliff and other springs	Stock watering	566	1 c. f. s.	1 22 09
784	1 13 08	Joseph L. Giroux	Stone Cabin Springs	Mining and domestic	577	All flow	7 30 09
856	3 17 08	D. G. Doubleday (Crown Point Globe Mining Co., assignee)	Cassell Tome and other spgs.	Mining and milling	578	10,000 gallons per day	7 30 09
1015	6 13 08	Charles R. Lewis	Springs	Stock and irrigation	589	Total flow	12 6 08
1045	7 11 08	The Goldfield Con. Water Co.	Martin Spring	Municipal	581	All unappropriated	12 1 08
1198	11 27 08	Floriston Pulp and Paper Co.	Bronco Creek	Fluming and power	579	20 c. f. s.	7 30 09
1305	2 18 09	Indian Spring Water Co.	Upper Indian Spring	Min., mill., domestic	592	50,000 gals., 24 hours	3 21 10
1306	2 18 09	Indian Spring Water Co.	Lower Indian Spring	Min., mill., domestic	598	150,000 gals., 24 hours	3 21 10

During the period 1911–1912 covered by this report 677 applications for permit have been filed. We found 356 applications which were awaiting action on January 1, 1911, all of which were filed prior to that date. During the years 1911 and 1912, 233 of these have been approved, 22 denied, 24 canceled, 18 withdrawn, and 64 awaiting action; 45 of the applications held over from 1910 are for waters of the Humboldt River and its tributaries, which are awaiting action pending determinations of supply and use on the Humboldt system. Of the remaining 19, we have inspected 17, though action is deferred owing to other permits now in force on the sources named therein, and which are doubtful of completion; 13 of these 19 have protests pending, though sufficient information is on file to permit of action as regards the permits. Many are protested by the parties holding the prior permits mentioned. The 2 uninspected have prior permits pending on the source.

Of the 677 applications filed during the years 1911 and 1912, 399 were acted upon; 315 were approved, 30 denied, 17 withdrawn and 37 canceled. This left unacted upon in the office, of the applications filed in 1911 and 1912, 278, of which 67 are in course of publication, and 85 are protested with protests pending. Approximately 150 of the 278 awaiting action have been inspected, or there is sufficient information on file in the office to take action thereon immediately, or as soon as our time will permit.

Many of the protested applications do not require hearings, as the objections do not constitute a proper cause of action. This statement, however, is based upon an investigation on the premises, taken in connection with the protest itself.

The total number of the applications before the office at present awaiting initial action is 342. It is predicted that by July 1, 1913, there will remain only the applications which are in course of publication and those upon which action cannot be taken until others, prior in time, have been either completed or forfeited.

There have been filed 181 protests against the granting of applications, and 6 protests against proofs of appropriation which were listed in the office before action was taken (many verbal and informal protests were entered against proofs of appropriation, which were withdrawn without being entered on the records); 463 affidavits of commencement of work were filed and acknowledged; 161 proofs of beneficial use were filed and acknowledged, and 445 maps were filed and acknowledged, covering permits and proofs of appropriation, exclusive of the Humboldt River system.

APPLICATIONS FILED DURING YEARS 1911 AND 1912

For the Year 1911

Month	*Serial numbers*	*Total*
January	1922 to 1937	16
February	1938 to 1964	27
March	1965 to 1993	29
April	1994 to 2028	35
May	2029 to 2084	56
June	2085 to 2122	38
July	2123 to 2154	32
August	2155 to 2174	20
September	2175 to 2208	34
October	2209 to 2244	36
November	2245 to 2264	20
December	2265 to 2304	40
Total		383

For the Year 1912

Month	*Serial numbers*	*Total*
January	2305 to 2329	25
February	2330 to 2364	35
March	2365 to 2393	29
April	2394 to 2415	22
May	2416 to 2431	16
June	2432 to 2460	29
July	2461 to 2473	13
August	2474 to 2495	22
September	2496 to 2513	18
October	2514 to 2539	26
November	2540 to 2561	22
December	2562 to 2598	37
Total		294

APPLICATIONS TO APPROPRIATE WATER, FILED IN THE OFFICE OF THE STATE ENGINEER DURING THE YEARS 1911 AND 1912

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
1922	1 2 11	D. Austin Brown, et al.	Bacon Springs	Irrigation, domestic	App 9 5 11	1 c. f. s.	
1923	1 3 11	David Morrison	Cottonwood Canyon	Irrigation	Den 5 15 11		
1924	1 5 11	Jarbidge-Pavlak Mining Co.	Arizona No. 1 Spring	Milling	App 12 13 11	.1 c. f. s.	Can 5 16 12
1925	1 5 11	Jarbidge-Pavlak Mining Co.	Arizona No. 4 Spring	Milling	App 12 13 11	.1 c. f. s.	Can 5 16 12
1926	1 5 11	F. J. Hallock	High Rock Creek	Irrigation	App 7 1 11	20.8 c. f. s.	C. (Ac. M.)
1927	1 6 11	D. S. Dickerson	Water Canyon Spring	Mining, domestic	App 10 12 11	.5 c. f. s.	
1928	1 7 11	H. M. Crockett	Middle Gate Creek	Irrigation, domestic	App 12 11 11	.25 c. f. s.	Can 4 2 12
1929	1 9 11	Alexander Eyrand	Springs Nos. 1 and 2	Irrigation	App 7 17 11	1.6 c. f. s.	
1930	1 14 11	Bellander Brothers	Unnamed springs	Stock	App 10 12 11	1/40 c. f. s.	F. P. 8 21 12
1931	1 14 11	T. J. Donovan	Reveille Valley	Irrigation	Wdn 3 13 12		
1932	1 16 11	W. H. Hickey	Edwards Springs	Irrigation			
1933	1 16 11	J. J. Campbell	Pole Creek	Irrigation			
1934	1 16 11	J. J. Campbell	Alkali Spring	Irrigation			
1935	1 20 11	Mrs. Annie Hine	Rock Creek	Irrigation, domestic	Den 9 7 11		
1936	1 23 11	William Ferguson	Little Meadow Creek	Irrigation	App 4 21 11	4 c. f. s.	
1937	1 25 11	Guidita Mattei	Preston Canyon	Irrigation, domestic	App 9 5 11	.75 c. f. s.	F. P. 4 25 12
1938	2 1 11	R. K. Brown	Mill Canyon Spring	Irr., mining, domestic	Can 5 9 11		
1939	2 2 11	Levi Syphus	Rio Virgin River	Irrigation	App 8 10 11	5.4 c. f. s.	Wdn 5 27 12
1940	2 3 11	B. B. Larios	Buck Creek	Irrigation	Can 4 21 11		
1941	2 3 11	B. B. Larios	Corral Creek	Irrigation	Can 4 21 11		
1942	2 3 11	William A. Vance	Arnoldson & Nicholas Spring	Irrigation	App 5 3 11	300 acre-feet	
1943	2 4 11	Charles T. Stevenson	Wheeler Springs	Domestic	App 7 1 11		
1944	2 7 11	E. C. Murphy	Lemon Creek	Irrigation	App 5 15 11	1 c. f. s.	C. (Ac. M.)
1945	2 8 11	Geo. F. Morley, Sr.	Little Spring	Irrigation	App 10 12 11	.4 c. f. s.	
1946	2 8 11	James Regan	Carson River	Irrigation			
1947	2 10 11	Philip H. Sharp	Colonel Moore Creek	Irrigation, domestic			
1948	2 10 11	Humboldt-Lovelock Irr., Light, Power Co.	Humboldt River	Irrigation			
1949	2 11 11	W. E. Frazies and N. L. Merritt	White Rock Creek	Irrigation, domestic	App 8 24 11	1.6 c. f. s.	Can 11 6 12
1950	2 13 11	E. C. McClellan	Susie Creek	Irrigation			
1951	2 13 11	E. C. McClellan	Little Humboldt River	Irrigation			
1952	2 15 11	Clarence D. VanDuzer	HorseshoeSpring	Mining, domestic	App 5 18 12	.5 c. f. s.	Can 7 19 12
1953	2 16 11	Charles Hinds	Spring Gulch	Irrigation			
1954	2 17 11	Garat & Co.	Silver Creek	Irrigation	App 10 26 12	13.2 c. f. s.	
1955	2 17 11	Garat & Co.	Deer Creek	Irrigation	App 12 15 11	28 c. f. s.	
1956	2 17 11	Garat & Co.	Bull Run Creek	Irrigation	App 12 15 11	64 c. f. s.	
1957	2 23 11	John David Weeks	Mountain stream	Irrigation, domestic	App 10 25 11	1.6 c. f. s.	
1958	2 23 11	James Mattei	Mattei Canyon	Irrigation, domestic	App 9 5 11	1.75 c. f. s.	F. P. 4 25 12
1959	2 25 11	The Moapa Improvement Co.	Muddy River	Light and power	App 5 18 12	45 c. f. s.	Can 7 18 12
1960	2 25 11	A. Settelmeyer	Carson River	Power	App 5 24 11	5 c. f. s.	C. (Ac. F. P.)
1961	2 27 11	Lee R. Marriott	Springs	Domestic and stock	App 5 18 12	1/40 c. f. s.	Can 8 18 12
1962	2 27 11	Kawich Land and Irrigation Co.	Silent Canyon	Irrigation	Can 6 15 11		
1963	2 27 11	Railroad Valley Irrigation Co.	Reveille Valley	Irrigation	Wdn 3 13 12		
1964	2 27 11	Penoyer Valley Irrigation Co.	Kawich Valley Wash	Irrigation	Can 6 15 11		
1965	3 1 11	Jacob W. Reed	Lake Creek	Irrigation	App 9 7 11	1,000 acre-feet	
1966	3 1 11	Jacob W. Reed	Little Owyhee River	Irrigation	App 9 7 11	7,120 acre-feet	
1967	3 1 11	Jacob W. Reed	Raven Creek	Irrigation	App 9 7 11	8.4 c. f. s.	
1968	3 4 11	Mrs. L. Kottke	Chrystal Spring	Mining	App 1 6 12	1 c. f. s.	Can 10 18 12
1969	3 6 11	William L. Paul	Deering Creek	Irrigation, domestic			
1970	3 6 11	Ohana Mining Co.	Mose Woodman Spring	Power, mill., domestic	App 1 6 12	2 c. f. s.	
1971	3 6 11	Charles A. Walker	Lehman Creek	Power	App 10 2 11	50 c. f. s.	Can 11 1 11
1972	3 6 11	E. B. Robinson	Pine Creek	Irrigation, domestic	Den 5 18 12		
1973	3 6 11	Levi W. and Clara M. Syphus	Rogers Blue Point Spring	Irrigation	App 8 10 11	2.4 c. f. s.	C. (Ac. M.)
1974	3 7 11	Joseph B. Meyertholen	Spring Gulch	Irrigation, domestic			
1975	3 8 11	Patrick Walsh	Reese River	Irrigation	App 9 7 11	3,000 acre-feet	
1976	3 9 11	John G. Taylor	Humboldt River	Irrigation	Can 6 12 11		
1977	3 13 11	Charles A. Evans	Soldier Creek	Irrigation, domestic	Den 6 19 12		
1978	3 11 11	Mrs. O. J. Heath	Peterson Springs	Stock	App 8 24 11	.1 c. f. s.	F. P. 8 17 12
1979	3 14 11	J. T. McCormick, et al.	East Fork Jarbidge River	Power, mill., domestic	App 12 14 11	10 c. f. s.	Can 6 5 12
1980	3 15 11	Charles Kirby Fox	Rock Creek	Irrigation	App 7 31 11	20,000 acre-feet	
1981	3 17 11	Lavina A. De Witt	Leach's Hot Spring	Irrigation, domestic	App 12 9 11	1.6 c. f. s.	
1982	3 18 11	Carey Act Reclamation Association	Taber Creek	Irrigation			
1983	3 21 11	Union Canal Ditch Co.	Humboldt River	Change diversion	App 10 3 11		
1984	3 21 11	Stuart Otto	Fisher Canyon Spring	Mining	App 9 5 11	2 c. f. s.	Can 11 16 11
1985	3 22 11	Walter E. Tregaskis	Bottle Creek	Irrigation	Wdn 7 24 11		
1986	3 25 11	George N. Bacon	Parker Lake	Power	Wdn 2 9 12		
1987	3 25 11	Harry A. Rager, et al.	Pleasant Valley	Irrigation	Den 10 21 12		
1988	3 27 11	Golconda Gold Ledge Mining Co.	Pole Creek	Mining			
1989	3 28 11	E. J. DeLano, et al.	Devils Canyon	Irrigation	App 10 24 12	3.2 c. f. s.	
1990	3 28 11	Charles A. Evans	High Rock Lake	Irrigation, domestic	Den 6 19 12		
1991	3 29 11	James F. Boyle, et al.	Spring Branch Creek	Irrigation	App 7 21 11	3 c. f. s.	
1992	3 29 11	James F. Boyle, et al.	Spring Branch Creek	Irrigation	App 7 21 11	3 c. f. s.	
1993	3 30 11	Henry Phalan	Phalan Creek	Irrigation	App 11 20 12	3.2 c. f. s.	
1994	4 4 11	Christopher D. Mansfield	Little Pine Spring	Stock	App 5 18 12	1/40 c. f. s.	C. (Ac. M.)
1995	4 4 11	Joseph C. Tucker	White's stream	Irrigation	App 7 17 11	1.6 c. f. s.	
1996	4 5 11	Charles H. Snow	Mountain springs	Mining and milling	App 5 18 12	.25 c. f. s.	C. (Ac. M.)
1997	4 5 11	Rex Mines Company	Windfall Springs	Mining	App 10 5 12	1.1 c. f. s.	
1998	4 6 11	M. J. Ward	Willow Creek	Irrigation, domestic	App 3 18 12	1.6 c. f. s.	Can 6 4 12
1999	4 8 11	Wm. D. Ebbert	Sunshine Gulch	Power, min., mfg.	Can 6 13 11		
2000	4 10 11	Frank Huber	Brown's, Slaughterhouse Gls.	Irrigation	Den 12 14 11		
2001	4 10 11	W. R. Wilcox	Ralston Valley	Irrigation, domestic	App 3 1 12	3.2 c. f. s.	
2002	4 10 11	E. C. McClellan	Humboldt River	Irrigation			
2003	4 11 11	Mary J. Packard	Flat Creek	Irrigation, domestic	App 7 18 11	1/40 c. f. s.	
2004	4 12 11	E. L. Fletcher	Williams Creek	Power, mining, mill	App 10 3 11	5 c. f. s.	
2005	4 12 11	Jasper M. Fox	Spring Creek	Irrigation	App 8 22 11	2 c. f. s.	
2006	4 12 11	John C. Buto	Buto Spring	Irrigation, domestic	App 10 12 11	1.6 c. f. s.	C. (Ac. M.)
2007	4 12 11	Bell Boulding	Four Draws	Irrigation, domestic	App 10 11 11	3.2 c. f. s.	
2008	4 13 11	Henry Anderson	Snow streams	Irrigation, domestic	App 7 1 11	2,880 acre-feet	
2009	4 13 11	Thos. S. Clarke, et al.	Eldorado Creek	Mining	App 10 12 11	2 c. f. s.	
2010	4 14 11	Ferdinand Huot	Cottonwood Creek	Irrigation	App 8 22 11	1.2 c. f. s.	Can 1 16 12
2011	4 14 11	Abner R. Fox	Bruneau River	Power	App 12 14 11	120 c. f. s.	
2012	4 14 11	L. M. Logamarsino	Truckee River	Power	Wdn 8 22 11		Can 6 6 12
2013	4 14 11	Reuben S. Boyle	Nigger Creek	Irrigation	App 7 1 11	3.2 c. f. s.	
2014	4 14 11	William States	Donneley Creek	Irrigation	App 7 1 11	3.2 c. f. s.	
2015	4 17 11	John Lusetti	Springs	Irrigation, domestic	App 1 8 12	1 c. f. s.	
2016	4 17 11	William States	Mud Meadow Creek	Irrigation, domestic	Wdn 6 16 11		
2017	4 17 11	William T. Shurtleff	Slide Creek	Power, domestic	App 12 14 11	15 c. f. s.	Can 6 5 12

APPLICATIONS TO APPROPRIATE WATER—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
2018	4 20 11	O. P. Adams, et al.	Gold Basin Spring	Mining	App 10 11 11	.5 c. f. s.	C. (Ac. M.)
2019	4 20 11	Alfred J. Schell	Rodera Creek	Irrigation, domestic	App 10 13 11	3.2 c. f. s.	C. (Ac. M.)
2020	4 24 11	Red Mountain Irrigation District	Nigger Creek	Irrigation	App 7 1 11	60,000 acre-feet	Can 9 16 11
2021	4 24 11	Orin W. Jarvis	Muddy River	Power and mfg	App 10 5 12	35 c. f. s.	
2022	4 24 11	Alvaro and John Evans	Warm Spring	Irrigation, domestic	Den 7 8 12		
2023	4 26 11	Christopher D. Mansfield	North Creek	Power	App 1 8 12	6 c. f. s.	Can 6 18 12
2024	4 27 11	Cherry Creek Irrigation Co.	Cherry, Pine, etc., Creeks	Irrigation	App 8 22 11	100 c. f. s.	
2025	4 28 11	Archie H. Jones	Big Smokey Valley	Irrigation, domestic	App 9 7 11	50 c. f. s.	
2026	4 28 11	Western Pacific Railway Co.	Cedar Spring	Trans. and railroad	App 10 28 12		
2027	4 28 11	J. L. Peltier	Willow Creek	Irrigation, domestic	App 8 22 11	3.2 c. f. s.	
2028	4 28 11	Mary Y. Phenix	Steamboat Springs	Irr., dom., medicinal	App 9 1 11	.5 c. f. s.	Can 11 2 11
2029	5 2 11	R. A. Sallee, et al.	Hot Springs	Irrigation, domestic	App 1 8 12	1 c. f. s.	Can 5 20 12
2030	5 2 11	Herbert Badt	Town Creek	Irrigation			
2031	5 2 11	J. S. Badt	Warm Creek	Irrigation	App 10 26 12	3.2 c. f. s.	
2032	5 3 11	Paul D. McMillem	Spring	Irrigation, domestic	App 6 20 12	1 c. f. s.	
2033	5 3 11	Western Land Irrigation Syndicate	Steptoe Slough	Irrigation, domestic	App 10 3 11	15,000 acre-feet	
2034	5 3 11	Nevada United Mines Co.	Springs	Domestic	Can 7 5 11		
2035	5 3 11	Lane Pearl	Willow Creek	Irr., power, mining	Can 7 5 11		
2036	5 4 11	W. C. Alexander	Willow Creek	Mining and milling	Wdn 6 17 12		
2037	5 6 11	Western Pacific Railway Co.	Cottonwood Springs	Transportation	App 10 26 12	1.5 c. f. s.	
2038	5 6 11	Charles E. Belden	Polkinghorn Creek	Irrigation	Wdn 7 9 11		
2039	5 6 11	James Kusich	Thomas Creek	Irrigation	App 10 4 11	1.6 c. f. s.	Can 1 3 12
2040	5 8 11	V. C. Bernard, et al.	East Walker River	Irrigation, domestic			
2041	5 8 11	Wm. Polkinghorn	No Name Creek	Irrigation	Can 7 11 11		
2042	5 9 11	Charles F. Phalan	Cottonwood Canyon	Irrigation	App 10 14 11	1.6 c. f. s.	
2043	5 9 11	Charles Kirby Fox	Horse Creek	Irrigation	App 7 19 11	10,000 Acre feet	
2044	5 9 11	John W. Kinne	Trout Creek	Power	Can 7 11 11		
2045	5 9 11	John W. Kinne	Mill Creek	Power	Can 7 11 11		
2046	5 9 11	John W. Kinne	Spring	Mining, milling, dom.	Can 7 11 11		
2047	5 9 11	Clover Valley Land and Stock Co.	Warm Spring	Irrigation	Den 4 2 12		
2048	5 9 11	Clover Valley Land and Stock Co.	Jake Creek	Irrigation			
2049	5 9 11	Clover Valley Land and Stock Co.	Evans Creek	Irrigation	App 12 13 11	15.4 c. f. s.	Can 7 11 12
2050	5 9 11	Clover Valley Land and Stock Co.	Underground waters	Irrigation	App 8 24 11	51.2 c. f. s.	Can 11 16 11
2051	5 11 11	Charles E. Morse	Crooked Creek	Irrigation	App 10 4 11	1 c. f. s.	C. ac. M.
2052	5 12 11	W. C. Alexander	Willow Creek	Mining and milling	Wdn 6 17 12		
2053	5 13 11	Stephen Williams	White River	Power	App 1 8 12	43.3 c. f. s.	Can 8 7 12
2054	5 13 11	Wm. H. Sweeney	Copenhagen Creek	Irrigation, stock			
2055	5 13 11	George Fenwick	Steptoe Creek	Irrigation	Den 6 27 12		
2056	5 13 11	David E. Palmer	Beanery Creek	Irrigation	Can 7 18 11		
2057	5 15 11	B. B. Larios	Buck Creek	Irrigation	App 8 22 12	1.6 c. f. s.	
2058	5 16 11	Vincent J. Kusich	Thomas Creek	Irrigation	Den 7 17 11		
2059	5 17 11	Matthew Gooch	Humboldt River	Irrigation			
2060	5 17 11	Palo Alto Land and Livestock Co.	Snow Canyon Creek	Irrigation	App 8 26 12	12 c. f. s.	
2061	5 18 11	Thomas Short	Short Creek	Irrigation	App 9 7 11	1.6 c. f. s.	
2062	5 19 11	John E. Schreiner	White Creek	Irrigation	App 12 12 11	1 c. f. s.	
2063	5 19 11	Moses W. Taylor	Martin Creek	Irrigation			
2064	5 19 11	Nev. Irrigation, Land and Development Co.	Timber Canyon Creek	Domestic and power			
2065	5 20 11	William Gansberg	Spring	Irrigation	Den 10 4 11		
2066	5 19 11	Nev. Irrigation, Land and Development Co.	Dupont Creek	Domestic and power			Can 12 20 12
2067	5 20 11	Fred Wood, et al.	Johnson Creek	Irrigation	App 9 20 12	3.2 c. f. s.	Wdn 7 8 12
2068	5 20 11	S. P. Santos	Meadow Creek	Irrigation	App 1 8 12	3 c. f. s.	
2069	5 20 11	Miss Caroline P. Brown	White River	Irrigation	App 1 8 12	3.2 c. f. c.	
2070	5 20 11	E. B. Kelly	Cherry Creek	Irrigation	Den 1 8 12		
2071	5 21 11	Ondis Gibson	Young's Creek	Irrigation	App 10 12 11	250 Acre feet	
2072	5 22 11	L. L. Hudson	Joe Billy Smith Creek	Power	App 10 25 12	100 c. f. s.	
2073	5 22 11	L. L. Hudson	Overland Creek	Power	Den 10 25 12		
2074	5 22 11	L. L. Hudson	Colonel Moore Creek	Power	App 10 25 12	100 c. f. s.	
2075	5 22 11	L. L. Hudson	Hankins Creek	Power	App 10 25 12	100 c. f. s.	
2076	5 22 11	L. L. Hudson	Battle Creek	Power	App 10 25 12	100 c. f. s.	
2077	5 22 11	L. L. Hudson	Ruby Lake	Irrigation	App 10 25 12	500 c. f. s.	
2078	5 22 11	L. L. Hudson	Franklin Lake	Irrigation	App 10 25 12	500 c. f. s.	
2079	5 22 11	L. L. Hudson	Underground waters	Irrigation	App 1 8 12	220.4 c. f. s.	Can 7 16 12
2080	5 23 11	Max Arnhold	Pearl Creek	Chg. point diversion	App 10 11 11		
2081	5 24 11	Henry Riter	Truckee River	Power	App 8 23 11	600 c. f. s.	Wdn 2 15 12
2082	5 27 11	Western Asset Development Co.	Salmon River	Power, min., milling	Can 8 1 11		
2083	5 27 11	Western Asset Development Co.	Salmon River	Power, min., milling			
2084	5 27 11	Minnie Prunty	Stag Creek	Irrigation	App 3 12 12	3000 acre-feet	
2085	5 31 11	Frank H. Russell	Sun Creek	Irrigation, domestic	App 6 19 12	3 c. f. s.	
2086	6 1 11	Lucy Gray Gold Mining Co.	Springs	Mining	App 9 6 11	.5 c. f. s.	Cer 6 26 12
2087	6 3 11	Nevada Consolidated Copper Co.	Springs	Mining, milling, dom.	App 9 7 11	1 c. f. s.	Cer 6 20 12
2088	6 5 11	Warren Larsen & Co.	Hamlin Valley	Irrigation	App 10 21 12	5 c. f. s.	
2089	6 5 11	J. M. Hunker, et al.	Hunker Springs	Mining and domestic	App 1 8 12	.25 c. f. s.	
2090	6 6 11	B. G. McBride, et al.	Lamoille Creek	Power	App 2 14 12	11.0 c. f. s.	
2091	6 7 11	Bert Shedd, et al.	North Miller Creek	Irrigation, domestic	App 9 7 11	1.6 c. f. s.	
2092	6 7 11	William Condron	Cat Creek	Irrigation, domestic	App 1 8 12	1.6 c. f. s.	
2093	6 8 11	Ernest R. Woolley	Upper Fairview Spring	Mining, milling, dom.	App 9 27 12	.33 c. f. s.	Can 12 27 12
2094	6 8 11	Unionville Mining Co.	Buena Vista Creek	Power	App 1 8 12	1 c. f. s.	Wdn 5 23 12
2095	6 8 11	H. F. Dangberg L. & L. Co.	East Fork Carson River	Chg. point diversion			
2096	6 9 11	G. A. Becker, et al.	No Name Spring	Mining and domestic	App 4 2 12	1 c. f. s.	
2097	6 9 11	Edwin N. Marker	Stone House Canyon	Irrigation, domestic	App 11 21 11	1.6 c. f. s.	
2098	6 10 11	F. W. Kerns	Trout Canyon Creek	Irrigation			
2099	6 10 11	F. W. Kerns	Lee's or Pine Creek	Irrigation			Cer 6 25 12
2100	6 10 11	George D. Maddalena	Flint Springs	Stock and domestic	App 10 12 11	.05 c. f. s.	F. P. 12 23 11
2101	6 10 11	George D. Maddalena	Rocky Canyon Spring	Stock and domestic	App 11 22 11	.1 c. f. s.	F. P. 12 23 11
2102	6 10 11	George D. Maddalena	Johnson Springs	Stock and domestic	App 10 12 11	.05 c. f. s.	
2103	6 10 11	Alexander Brown	Wells	Irrigation, domestic	Den 6 10 12		
2104	6 13 11	National Mines Co.	Martin Creek	Power	App 9 20 12	15 c. f. s.	
2105	6 14 11	W. P. Shurtleff	Bruneau River	Power and domestic	App 12 14 11	25 c. f. s.	Can 6 5 12
2106	6 15 11	Samuel Guldager	Overland Creek	Irrigation			
2107	6 16 11	Richard C. O'Neil	Angels Creek	Irrigation, domestic			
2108	6 16 11	G. S. Robinson & Sons	Ohio and Cold Springs	Domestic and stock	App 9 27 11	.5 c. f. s.	Cer 6 25 12
2109	6 19 11	Dillon Roberts	Angell Creek	Irrigation	Wdn 10 31 11		
2110	6 19 11	Jesse Orwin	South Fork Long Creek	Mining and milling	App 6 25 12	.25 c. f. s.	
2111	6 19 11	J. W. Cram	Big Wash	Irrigation, domestic	App 7 11 12	3.2 c. f. s.	
2112	6 19 11	Walter L. Wilson	Town Creek	Irrigation, domestic			
2113	6 21 11	James F. Boyle, et al.	Kelley Creek	Irrigation			
2114	6 21 11	George M. Bacon	Unnamed spring	Irrigation, domestic			

APPLICATIONS TO APPROPRIATE WATER—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
2115	6 21 11	Ellen M. Duncan	Ridge Creek	Irrigation, domestic	Den 10 11 11		
2116	6 23 11	Oscar Rogers, et al.	Granite Springs	Mining and domestic	App 6 20 12	0.1 c. f. s.	Can 8 20 12
2117	6 24 11	E. A. Hodges, et al.	Wilson Creek	Irrigation, domestic	App 10 29 12	9.6 c. f. s.	
2118	6 24 11	John Delaney, et al.	Snake Creek	Irrigation, domestic	App 10 19 12	6.4 c. f. s.	Can 12 19 12
2119	6 24 11	Jas. F. Robinson	Weaver Creek	Irrigation, domestic	App 10 5 12	3.2 c. f. s.	
2120	6 24 11	A. R. Sartain, et al.	North Willow Creek	Irrigation	App 3 5 12	0.8 c. f. s.	C. (Ac. M.)
2121	6 24 11	N. D. Milligan	Gold Creek	Irrigation, domestic			
2122	6 24 11	A. J. Burke	Poorman, Warm Creeks	Irrigation, domestic			
2123	6 26 11	Joseph G. Laravey	Willow Springs	Irrigation	App 7 11 12	5 c. f. s.	
2124	6 28 11	Andrew Tourreuil	Unnamed springs	Irrigation	App 12 13 11	1 c. f. s.	
2125	6 28 11	Andrew Tourreuil	Mason Creek	Irrigation	App 12 13 11	2 c. f. s.	
2126	6 29 11	South Land Irrigation Co.	Indian Spring Valley	Irrigation and power	App 5 15 12	143.97 c. f. s.	
2127	6 29 11	Perry L. Smith	Cold Creek	Irrigation, domestic	App 5 6 12	9 c. f. s.	C. (Ac. M.)
2128	6 30 11	G. B. Stannard	Underground	Irrigation, domestic			
2129	6 30 11	Oscar Miller	Owyhee River	Irrigation	App 10 21 12	3.2 c. f. s.	
2130	7 3 11	J. C. Charters, et al.	Tony Creek	Irrigation, domestic	App 1 9 12	3.2 c. f. s.	
2131	7 5 11	Jay H. Clemons	Stone Creek	Irrigation	App 10 13 11	600 acre-feet	C. (Ac. M.)
2132	7 5 11	Jay H. Clemons	Stud Creek	Irrigation	App 10 13 11	480 acre-feet	C. (Ac. M.)
2133	7 5 11	George Russell, Jr.	Rock Creek	Irrigation			
2134	7 5 11	William C. Shattuck	Shattuck Spring	Irrigation	App 10 4 12	1.6 c. f. s.	Can 12 5 12
2135	7 5 11	George Kenney	East Creek	Irrigation	App 6 22 12	30 c. f. s.	
2136	7 8 11	United States of America	Unnamed spring	Domestic	App 5 7 12	1/40 c. f. s.	F. P. 10 30 12
2137	7 7 11	George M. Bacon	Trout Creek	Power			
2138	7 7 11	George M. Bacon	Burnt Creek	Irrigation			
2139	7 7 11	George M. Bacon	Spring Creek	Irrigation			
2140	7 8 11	Charles Millett	Camp Valley Creek	Irrigation, domestic	Can 9 21 11		
2141	7 8 11	W. G. Douglass	Ophir Creek	Power	App 10 11 11	10 c. f. s.	
2142	7 10 11	G. S. Hoag	Springs	Domestic	App 6 12 12	0.05 c. f. s.	Can 10 8 12
2143	7 10 11	G. S. Hoag	Willow Creek	Irrigation	Den 6 12 12		
2144	7 11 11	Levi Syphus	Rio Virgin River	Irrigation	App 5 7 12	15.6 c. f. s.	C. (Ac. M.)
2145	7 12 11	Luther Butler	Stoffer Creek	Irrigation, domestic			
2146	7 18 11	Steptoe Valley S. & M. Co.	Timber Creek	Min., mill., pwr., dom.	App 6 12 12	6 c. f. s.	
2147	7 18 11	Steptoe Valley S. & M. Co.	McGill Springs	Min., mill., pwr., dom.	App 6 12 12	10 c. f. s.	
2148	7 18 11	Steptoe Valley S. & M. Co.	Bird Creek	Min., mill., pwr., dom.	App 6 12 12	10 c. f. s.	Wdn 8 9 12
2149	7 21 11	Walter G. Silver, et al.	Amargosa River	Irrigation	App 3 5 12	25 c. f. s.	Can 6 26 12
2150	7 18 11	Steptoe Valley S. & M. Co.	Berry, Mike, etc., Creeks	Min., mill., pwr., dom.	App 6 12 12	20 c. f. s.	
2151	7 19 11	George Doyle	Williams Creek	Irrigation, domestic	Den 6 12 12		
2152	7 24 11	W. Mont. Ferry	Meadow Valley Wash	Irrigation, domestic	App 5 7 12	250 c. f. s.	Can 9 2 12
2153	7 19 11	South Land Irrigation Co.	Willow Springs	Irrigation, domestic			
2154	7 20 11	F. C. Alsdorf	Black Canyon	Mining and domestic	App 6 12 12	0.25 c. f. s.	Can 8 26 12
2155	7 24 11	Mimosa G. Pittman	Jefferson Creek	Irrigation			
2156	7 24 11	Key Pittman	Shoshone Creek	Irrigation			
2157	7 26 11	Guiseppi Tognoni	Red Rock Springs	Irrigation, domestic	App 6 22 12	.9 c. f. s.	C. (Ac. M.)
2158	7 26 11	J. P. Loftus	Amargosa River	Irrigation, domestic	App 6 27 12	9.6 c. f. s.	
2159	7 27 11	Chas. E. Rice	Granite Canyon	Milling and domestic	App 3 4 12	.25 c. f. s.	

2160	7 29 11	Edgar Oldham, et al.	Chicken Creek	Irrigation	App 10 29 12	3.2 c. f. s.	
2161	7 31 11	E. C. Clark	Clark Spring	Irrigation, domestic			
2162	7 31 11	James H. Burtner	Springs	Irrigation			
2163	8 5 11	D. P. Rohlfing	Wild Cat Canyon	Min., mill., domestic			
2164	8 7 11	Ed. B. Tregaskis, et al.	Barber Canyon	Mining			
2165	8 7 11	Ed. B. Tregaskis, et al.	Barber Canyon	Irrigation			
2166	8 8 11	C. R. Jensen	Springs	Irrigation, domestic	App 10 21 12	.5 c. f. s.	
2167	8 9 11	George W. Hanna	Plat Springs	Irrigation, domestic	App 10 28 12	2.4 c. f. s.	
2168	8 9 11	Walter E. Tanner	Underground waters	Irrigation, domestic	App 12 9 11	149.4 c. f. s.	
2169	8 11 11	Lander County Livestock Co.	Carico Lake	Irrigation	Can 10 29 11		
2170	8 11 11	Thomas N. Wilslef	Stony Slough	Power	App 6 25 12	1.5 c. f. s.	
2171	8 11 11	David E. Palmer	Beanery Creek	Irrigation	App 6 26 12	1 c. f. s.	C. (Ac. M.)
2172	8 14 11	Chris Eshleman	Humboldt River tributary	Ice pond	App 8 16 12	20 c. f. s.	
2173	8 14 11	George Y. Wallace	Spring Creek	Power	App 2 28 12	6 c. f. s.	
2174	8 15 11	B. G. McBride	Underground water	Irrigation, domestic	App 6 22 12	10 c. f. s.	C. (Ac. M.)
2175	8 15 11	Coeur D'Alene Jarbidge Mining Co.	Jack Creek	Power and milling	App 12 18 11	10 c. f. s.	Can. 6 2 12
2176	8 16 11	F. J. Hallock	High Rock Creek	Chg. pt. diversion	Can 11 2 11		
2177	8 17 11	Arthur S. Putney	Bald Mountain Spring	Min., mill., domestic	App 3 4 12	1/40 c. f. s.	
2178	8 18 11	Mrs. Maggie Winzell	Curlew Springs	Irrigation	App 9 19 12	1 c. f. s.	
2179	8 18 11	Mrs. Maggie Winzell	Dena Wash Springs	Irrigation	App 9 19 12	.8 c. f. s.	
2180	8 19 11	Oscar Miller, et al.	Jerrett Creek	Irrigation, domestic	App 8 26 12	2.4 c. f. s.	
2181	8 19 11	Oscar Miller	Jerrett Creek	Irrigation	App 10 21 12	.8 c. f. s.	
2182	8 23 11	Grover Youngs, et al.	Barton Creek	Irrigation, domestic	App 6 22 12	6.4 c. f. s.	C. (Ac. M.)
2183	8 23 11	Phillip Paroni, et al.	Secret Canyon Spring	Min., milling, power	App 6 26 12	1 c. f. s.	
2184	8 26 11	Jesse E. Snider	Unnamed creek	Irrigation, domestic	App 10 18 12	2.4 c. f. s.	
2185	8 30 11	Charles Jackson	Granite Spring	Irrigation	App 6 10 12	.4 c. f. s.	
2186	8 30 11	George M. Bacon	Parker Lake	Power	App 10 28 12	5 c. f. s.	
2187	8 31 11	George L. Matthews	Dry Creek	Irrigation, domestic			
2188	8 31 11	Charles T. Holm	Cold Springs	Irrigation, domestic			
2189	9 1 11	Phillip M. Baker	Lehman Creek	Chg. pt. diversion	App 10 9 12	6.8 c. f. s.	
2190	9 1 11	Charles Monahan	Dry Creek	Irrigation, domestic			
2191	9 2 11	James McCoy	Jarbidge River	Power			
2192	9 2 11	Elmore Fish	Jones Canyon Creek	Irrigation	App 6 22 12	.8 c. f. s.	
2193	9 6 11	Nevada Con. Copper Co.	Ward Spring	Min., mill., domestic	App 6 26 12	.25 c. f. s.	C. (Ac. M.)
2194	9 6 11	A. S. Coleman, et al.	Ruby Mineral Spring	Commercial	App 8 17 12	.025 c. f. s.	
2195	9 6 11	John C. Oxborrow	Douglas Spring	Irrigation, domestic			
2196	9 7 11	H. C. Harmond	Horse Shoe Spring	Irrigation, domestic	Can 11 17 11		
2197	9 7 11	Layton Mariette	No-Name Spring	Irrigation	App 6 25 12	1.4 c. f. s.	
2198	9 8 11	Charles A. Dunham	Spring	Domestic and mining	Den 10 8 12		
2199	9 8 11	Handley Brothers	Handley Spring	Irrigation, domestic	App 7 11 12	.04 c. f. s.	
2200	9 9 11	George M. Bower	Lamoille Creek	Irrigation, domestic			
2201	9 9 11	Jas. E. Fraiser	Lamoille Creek	Irrigation, domestic			
2202	9 10 11	Winnemucca W. and L. Co.	White's Stream	Irrigation, domestic	Den 10 30 12		
2203	9 14 11	Fred A. Hazzard	Big Smokey Creek	Irrigation	Wdn 12 1 11		
2204	9 14 11	Fred A. Hazzard	Big Smokey Creek	Power	App 6 12 12	20 c. f. s.	
2205	9 15 11	Marian L. Haskins	Mill Creek	Power	App 10 30 12	10 c. f. s.	
2206	9 15 11	Marian L. Haskins	McDonald Creek	Power	App 10 30 12	10 c. f. s.	
2207	9 15 11	Marian L. Haskins	Chicken Creek	Power	App 10 30 12	10 c. f. s.	
2208	9 15 11	Marian L. Haskins	Hays Creek	Power	App 10 30 12	10 c. f. s.	
2209	9 15 11	Guiseppi Tognoni	Stone Cabin Spring	Irrigation, domestic	App 6 22 11	.4 c. f. s.	C. (Ac. M.)
2210	9 16 11	F. F. Leach, et al.	Johnson Creek	Irrigation and stock	App 10 30 12	30 c. f. s.	
2211	9 16 11	F. F. Leach, et al.	Squaw Creek	Irrigation and stock	App 10 30 12	20 c. f. s.	

APPLICATIONS TO APPROPRIATE WATER—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
2212	9 16 11	G. S. Hoag	Willow Creek	Irrigation	Den 10 22 12		
2213	9 19 11	Nye County Land and Livestock Co.	Cook or Tucker Creek	Irrigation, domestic	App 7 8 12	20 c. f. s.	
2214	9 21 11	J. E. and Mattie Aiken	Indian Springs	Irrigation, domestic	App 6 27 12	1 c. f. s.	C. (Ac. M.)
2215	9 21 11	C. A. Hascall, et al.	Underground water	Irrigation, domestic	App 10 30 12	200 c. f. s.	
2216	9 25 11	Frank L. Marker	Trout Creek	Irrigation	App 4 8 12	1.5 c. f. s.	
2217	9 25 11	Charles C. Johnson	Latham Spring Creek	Min., power, domestic	App 6 27 11	2 c. f. s.	
2218	9 26 11	Frederick E. Trapp	Trapp's Canyon	Irrigation, domestic	App 6 27 12	1.48 c. f. s.	Can 8 27 12
2219	9 27 11	John G. Taylor, et al.	Humboldt River	Chg. pt. diversion			
2220	9 28 11	Robert Watt	Cave Springs	Mining and domestic	App 10 30 12	.25 c. f. s.	
2221	9 29 11	Wm. Elliott Clark	Steptoe Creek	Irrigation, domestic	Den 6 27 12		
2222	10 2 11	C. E. Shillingford	Desert Creek	Irrigation, domestic	Wdn 12 23 11		
2223	10 2 11	Philip M. Baker	Lehman Creek	Irrigation, domestic	App 10 10 12	6.8 c. f. s.	
2224	10 2 11	Philip M. Baker	Lehman Creek	Irrigation, domestic	Den 10 22 12		
2225	10 5 11	James Devine	Stoney Creek	Irrigation, domestic	App 8 17 12	1.6 c. f. s.	
2226	10 5 11	W. H. Leffingwell	Truckee River	Power			
2227	10 7 11	Archie R. Clayton	Peterson Creek	Irrigation, domestic			
2228	10 7 11	Archie R. Clayton	Pratt Creek	Irrigation, domestic			
2229	10 9 11	J. E. Bowes	Truckee River	Power	App 2 10 12	600 c. f. s.	F. P. 10 7 12
2230	10 9 11	John Ray Harris, et al.	Peavine Creek	Irrigation	App 8 21 12	6.4 c. f. s.	
2231	10 9 11	Miss Elizabeth Morrison	Cedar Creek	Irrigation, domestic	App 8 17 12	1.6 c. f. s.	
2232	10 9 11	T. B. Beadle	Jarbidge River	Milling	App 10 30 12	.5 c. f. s.	
2233	10 9 11	David Marquardson	Bowanya Gulch	Milling	App 10 30 12	.5 c. f. s.	
2234	10 9 11	Ohana Mining Co.	Indian and Rhyolite Springs	Power, min., domestic	App 10 22 12	10 c. f. s.	Can 12 22 12
2235	10 10 11	Robert H. Hunter	Freshet streams	Irrigation, domestic	App 10 30 12	14.4 c. f. s.	
2236	10 10 11	William H. Hunter	Dry Lake	Irrigation, domestic	App 10 30 12	60.8 c. f. s.	
2237	10 11 11	S. Herbert Williams	Rob Roy Spring	Mining and domestic	App 10 22 12	.1 c. f. s.	
2238	10 11 11	Baltimore Gold M. M. Co.	Baltimore Canyon	Mining and domestic	App 5 17 12	1 c. f. s.	Can 10 11 12
2239	10 11 11	R. B. Respess	Bateman's Canyon	Milling and domestic	Den 10 30 12		
2240	10 12 11	Henry Anderson	Peavine Mountain flood	Irrigation, domestic	App 10 21 12	15.9 c. f. s.	
2241	10 12 11	Henry Anderson	Silver Lake	Irrigation, domestic	App 10 21 12	15.9 c. f. s.	
2242	10 14 11	Fairview Rd. Mt. M. Co.	Shoshone Creek	Mining and milling			
2243	10 14 11	John Laxague	Ackerman Spring	Stock and domestic	App 10 30 12	1/40 c. f. s.	
2244	10 16 11	S. P. Santos	Meadow Creek	Irrigation, domestic	App 7 8 12	2.60 c. f. s.	
2245	10 21 11	Herbert A. Thompson	Little Humboldt River	Power	App 8 17 12	750 c. f. s.	
2246	10 27 11	Frank S. Leavitt	Cabin Spring	Irrigation, domestic	App 5 7 12	6.4 c. f. s.	
2247	10 28 11	Lander County L. S. Co.	Carico Lake	Irrigation, domestic	App 6 12 12	6.4 c. f. s.	Can 10 11 12
2248	10 31 11	D. H. Young	Owyhee River	Irrigation, domestic	App 2 10 12	3.2 c. f. s.	
2249	11 1 11	James Raser	Nigger Creek	Irrigation			
2250	11 4 11	Maud Mary Iveson	Red Mountain Creek	Irrigation, domestic	App 10 30 12	3.2 c. f. s.	
2251	11 4 11	F. S. Gedney	Gedney's Creek	Irrigation	App 6 10 12	2 c. f. s.	Can 9 3 12
2252	11 6 11	Henry R. Smith	South Fork Owyhee River	Irrigation, domestic	App 10 21 12	3.2 c. f. s.	
2253	11 6 11	Henry R. Smith	Taylor Creek	Irrigation, domestic			
2254	11 9 11	Frank C. Wardrop, et al.	Owyhee River	Irrigation, domestic	App 10 21 12	3.2 c. f. s.	
2255	11 10 11	Henry J. Hughes	Nigger Creek	Irrigation, domestic			
2256	11 14 11	J. O. Parker	Cottonwood Creek	Irrigation, domestic			
2257	11 15 11	Fred B. Rice	Bull Springs	Irrigation, domestic	App 8 12 12	.2 c. f. s.	
2258	11 17 11	A. L. Haight	Lehman Creek	Power	App 10 8 12	50 c. f. s.	Can 12 4 12
2259	11 18 11	Will E. Casson	Pine Nut Creek	Mining			
2260	11 21 11	Ormsby County Dev. & Col. Assn.	Ash Canyon	Irrigation, domestic	Den 10 29 12		
2261	11 21 11	Alex. Kolchek	Kolchek Springs	Irrigation, domestic			
2262	11 21 11	Alex. Kolchek	Kolchek Springs	Mining, power, mill.	App 10 25 12	.25 c. f. s.	
2263	11 23 11	Charles Eaton	Silver Park Gulch	Sp. min., mill., dom.	App 6 28 12	1.25 c. f. s.	
2264	11 24 11	Walter G. Silver, et al.	Amargosa River	Irrigation, domestic	Den 10 30 12		
2265	11 28 11	George Cromwell	Truckee River	Power			
2266	11 28 11	Humboldt Land and Cattle Company	Humboldt River	Power			
2267	11 28 11	Humboldt Land and Cattle Company	Humboldt River	Chg. pt. diversion			
2268	11 28 11	B. Cerutti	Water Canyon Spring	Stock	Can 3 16 12		
2269	11 28 11	Otto Olsen	East Carson River	Chg. place of use	App 6 22 12	.504 c. f. s.	Cer 11 22 12
2270	12 1 11	F. W. Kearns	Pahrump Valley waters	Irrigation	App 2 10 12	100 c. f. s.	
2271	12 1 11	M. L. Lee	Meadow Spring	Irrigation	App 6 28 12	.6 c. f. s.	F. P. 11 25 12
2272	12 1 11	M. L. Lee	Bailey Spring	Irrigation	App 6 28 12	.8 c. f. s.	F. P. 11 25 12
2273	12 1 11	Alfonzo R. Sartain	Jim Creek	Irrigation	App 10 29 12	1.6 c. f. s.	
2274	12 2 11	Mrs. M. Winzell	Pete Hansen Creek	Irrigation	App 9 19 12	31.6 c. f. s.	
2275	12 4 11	F. A. McDermid	Calf Canyon Creek	Irrigation, domestic	App 6 28 12	.03 c. f. s.	F. P. 10 24 12
2276	12 6 11	Jersey Valley Mines Company	Old Town Canyon	Mining and domestic	Can 2 7 12		
2277	12 7 11	John Uhalde	Buckeye Creek	Irrigation, domestic			
2278	12 9 11	Harry Bews	Grass Valley Spring	Stock	Den 10 5 12		
2279	12 9 11	Harry Bews	VanEman Canyon Spring	Stock	App 10 8 12	1/40 c. f. s.	Can 12 9 12
2280	12 9 11	Indian McCurdy Frank	Stockade Spring	Irrigation, stock	App 10 22 12	.1 c. f. s.	
2281	12 11 11	Q. D. Boyd	Boyd Springs	Irrigation, domestic			
2282	12 11 11	Baltimore Gold Mining and Milling Co.	Red Jacket Spring	Mining, domestic	App 5 18 12	1 c. f. s.	Can 10 11 12
2283	12 12 11	Elizabeth Ellen Jacks	Branching Springs	Irrigation	App 6 27 12	.4 c. f. s.	F. P. 8 26 12
2284	12 12 11	James Doutre	Summit Well	Stock	App 10 22 12	1/40 c. f. s.	
2285	12 12 11	Ernest A. Duvivier	Little High Rock Creek	Irrigation			
2286	12 12 11	Pacific Fruit Express Co.	Humboldt River	Ice pond			
2287	12 14 11	Sergo Santos	Barley Creek	Irrigation, domestic	Den 5 14 12		
2288	12 16 11	C. O. Valentine	Pine Creek	Chng. pt. diversion	App 5 18 12	3.2 c. f. s.	
2289	12 18 11	Giuseph Tognoni	Cottonwood Creek	Irrigation, domestic	App 6 22 12	.9 c. f. s.	
2290	12 18 11	John L. Gray	Bruneau River	Irrigation	Can 2 19 12		
2291	12 18 11	James W. Bradshaw	Meadow Valley Wash	Irrigation, domestic			
2292	12 21 11	Albert Remusat	Willow Creek	Irrigation			
2293	12 22 11	W. L. Akin	Railroad Canyon Spring	Irrigation	App 8 17 12	2.1 c. f. s.	
2294	12 22 11	Emmet L. Bachman	Sixteen Mile Creek	Irrigation	App 10 29 12	.8 c. f. s.	
2295	12 22 11	J. J. Hylton	Smith & Huntington Creek	Irrigation, domestic			
2296	12 22 11	Pedro Urquiza	Fenstermaker Spring	Irrigation, domestic	App 10 2 12	.06 c. f. s.	Can 12 3 12
2297	12 23 11	Carson & Tahoe L. F. Co.	Zephyr Cove Creek	Irrigation, domestic	App 10 8 12	1.5 c. f. s.	
2298	12 23 11	Carson & Tahoe L. F. Co.	N. Fork Zephyr Cove Creek	Irrigation, domestic	App 10 8 12	1.5 c. f. s.	
2299	12 26 11	John W. Tuck	Duck Creek	Irrigation, domestic	App 6 18 12	2 c. f. s.	
2300	12 26 11	Niels Petersen	N. Fork Humboldt River	Irrigation			
2301	12 26 11	Tecopa Power Co.	Deer Creek	Power	App 5 3 12	10 c. f. s.	C. (Ac. M.)
2302	12 28 11	William S. Johnson	Smith or Barley Creek	Irrigation	Den 5 10 12		
2303	12 28 11	Mrs. Alice Pasano	Artesian well	Irrigation, domestic	App 10 30 12	1.6 c. f. s.	
2304	12 28 11	William J. Gardner	Dawley's Creek	Irrigation, domestic	App 10 30 12	2.8 c. f. s.	
2305	1 4 12	Louis H. Dangberg	White Rock Springs	Irrigation, domestic			
2306	1 6 12	Ithamer Sprague	Meadow Valley Wash	Irrigation, domestic			
2307	1 6 12	Clarence Mabey	Meadow Valley Wash	Irrigation, domestic			
2308	1 12 12	Pacific Livestock Co.	Walker River	Irrigation, domestic			

APPLICATIONS TO APPROPRIATE WATER—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
2309	1 12 12	Pacific Livestock Co.	Walker River	Irrigation, domestic			
2310	1 12 12	John H. Cazier, et al.	Trout Creek	Power, manufctg	App 10 30 12	20 c. f. s.	
2311	1 13 12	J. N. Phillips, et al.	McCann Creek	Irrigation	App 10 21 12	8 c. f. s.	
2312	1 13 12	Miss Ethel Dean	Willow Spring	Irrigation, stock	App 9 19 12	8 c. f. s.	
2313	1 13 12	John H. Wolf	Sun Creek	Irrigation			
2314	1 13 12	Julius M. Walling, Jr.	Sun Creek	Irrigation			
2315	1 15 12	Handley Brothers	Rock Spring	Stock	App 10 30 12	.025 c. f. s.	
2316	1 15 12	Gentile Georgetta, et al.	Choke Cherry Canyon	Irrigation	App 10 23 12	2 c. f. s.	
2317	1 16 12	Ancient Gold Placer M. Co.	Buckeye Creek	Placer mining			
2318	1 16 12	Mrs. M. J. and R. M. Woodward	Jack Creek	Irrigation			
2319	1 17 12	C. C. Randall	Summitt Creek	Irrigation, domestic	Den 10 30 12		
2320	1 18 12	W. Brougher, et al.	Washoe Lake	Irrigation, domestic	Wdn 10 10 12		
2321	1 20 12	Antonio Urizar	Jack Creek	Irrigation, domestic			
2322	1 22 12	J. E. and Mattie Akin	No Name Spring	Irrigation, domestic	App 10 30 12	.5 c. f. s.	
2323	1 22 12	J. E. Akin	No Name Spring	Irrigation, domestic	App 10 30 12	.5 c. f. s.	
2324	1 23 12	Channing Marker	Trout Creek	Irrigation			
2325	1 23 12	Adrian Bernard	Snow banks	Irrigation	Den 9 27 12		
2326	1 24 12	Emily A. Pence	Poison Creek	Irrigation, domestic	App 10 30 12	6.4 c. f. s.	
2327	1 24 12	Emily A. Pence	Poison Creek	Irrigation, domestic	App 10 30 12	6.4 c. f. s.	
2328	1 24 12	E. C. McClellan	Lamoille Creek	Irrigation, domestic			
2329	1 24 12	E. C. McClellan	Ten Mile Creek	Irrigation, domestic			
2330	2 3 12	T. P. Liddell	Squaw Creek	Mining and milling	App 11 2 12	1 c. f. s.	
2331	2 5 12	C. C. Turner	Walker River	Chg. point diversion	App 11 1 12	.5 c. f. s.	
2332	2 7 12	Johannes Haug	Monchant Spring	Irrigation, domestic	App 11 1 12	1.33 c. f. s.	
2333	2 7 12	J. R. Bunch	Granite Creek	Irrigation			
2334	2 7 12	Jennie S. Riordan	West Branch White River	Irrigation	App 6 19 12	2 c. f. s.	
2335	2 10 12	Juan Uhart	Chalk Spring	Irrigation, domestic	App 8 16 12	1.2 c. f. s.	
2336	2 14 12	Juan Mentaberry	Log Cabin Creek	Irrigation and stock	App 9 20 12	.8 c. f. s.	Can 12 20 12
2337	2 15 12	W. A. Moore	Willow Spring	Stock	App 11 1 12	.025 c. f. s.	
2338	2 15 12	W. A. Moore	Little Willow Spring	Stock	App 11 1 12	.025 c. f. s.	
2339	2 15 12	W. A. Moore	Mud Spring	Stock	App 11 1 12	.025 c. f. s.	
2340	2 15 12	W. A. Moore	Cottonwood Spring	Stock	App 11 1 12	.025 c. f. s.	
2341	2 15 12	W. A. Moore	Handy Spring	Stock	App 11 1 12	.025 c. f. s.	
2342	2 15 12	Henry Bechtel	Fairy Dell Springs	Irrigation	App 11 1 12	2 c. f. s.	
2343	2 19 12	John Herbert Nay	Timber Creek	Irrigation, domestic	App 8 17 12	.03 c. f. s.	Can 10 18 12
2344	2 19 12	Charles W. Clubine	Sherman Creek	Irrigation, domestic			
2345	2 20 12	T. R. Webber, et al.	Macks Creek	Irrigation	App 9 6 12	125 c. f. s.	
2346	2 19 12	LeRoy Linsea	White Rock Spring	Irrigation, domestic	App 11 6 12	1.6 c. f. s.	
2347	2 20 12	Lay Brothers	Quinn River	Irrigation	App 10 2 12	8 c. f. s.	
2348	2 21 12	C. E. Merrick, et al.	Red Canyon Creek	Power	Can 5 2 12		
2349	2 23 12	Alfred L. Syphus, et el.	Hess Spring	Domestic and stock	App 8 17 12	1/10 c. f. s.	Can 10 18 12
2350	2 26 12	C. H. Behrman	East Carson River	Irrigation			
2351	2 26 12	Mike Pradere	No Name Spring	Domestic and stock	App 8 16 12	1/10 c. f. s.	Can 10 17 12
2352	2 26 12	Mike Pradere	Padere Spring	Domestic and stock			
2353	2 26 12	Saturnino Urrutia	Haslett Spring	Domestic and stock	App 11 1 12	.025 c. f. s.	
2354	2 26 12	Frank Bassett	Tunnel Canyon	Stock	App 10 23 12	1/10 c. f. s.	
2355	2 27 12	Continental Lake I. Company	Continental Lake	Irrigation, domestic			
2356	2 28 12	Kawich Cattle Association	White Rock Spring	Stock	App 11 1 12	.025 c. f. s.	
2357	2 28 12	Kawich Cattle Association	Cliff Spring	Stock	App 6 26 12	1/10 c. f. s.	
2358	2 28 12	Kawich Cattle Association	Chalk Spring	Stock	App 11 1 12	.025 c. f. s.	
3359	2 28 12	Kawich Cattle Association	Indian Spring	Stock	App 6 26 12	.025 c. f. s.	
2360	2 28 12	Kawich Cattle Association	Oak Spring	Stock	App 11 1 12	.025 c. f. s.	
2361	2 28 12	Kawich Cattle Association	Hidden Spring	Stock	App 6 26 12	.025 c. f. s.	
2362	2 29 12	Frank G. Hale	Hot Creek	Irrigation, domestic			
2363	2 29 12	Marion Mining and Milling Co.	Badger Creek	Min., mill., domestic	App 8 17 12	6 c. f. s.	
2364	2 29 12	Marion Mining and Milling Co.	Copper Creek	Power	App 8 17 12	6 c. f. s.	Can 10 18 12
2365	2 29 12	C. H. A. Gerding, Jr.	Soap Creek	Irrigation, domestic			
2366	3 1 12	A. L. Dressler	Carson River	Irrigation, domestic			
2367	3 2 12	Amy M. Prunty	Copper Creek	Irrigation	App 8 15 12	.6 c. f. s.	
2368	3 4 12	John L. Gray	Jim Bob Creek	Irrigation, domestic			
2369	3 4 12	Mrs. Agustina Itcaina	Stag Creek	Irrigation	Den 11 1 12		
2370	3 5 12	Truckee River G. E. Co.	Truckee River	Power	App 6 26 12	500 c. f. s.	
2371	3 7 12	W. B. Gibbs	Steel Creek	Irrigation, domestic	Can 5 10 12		
2372	3 9 12	Jersey Valley Mines Co.	Rock Spring	Mining and domestic	App 7 10 12	2 c. f. s.	
2373	3 9 12	Saturnino Urrutia	No-Name Spring	Domestic and stock	App 11 1 12	.025 c. f. s.	
2374	3 9 12	Saturnino Urrutia	No-Name Spring	Domestic and stock	App 11 1 12	.025 c. f. s.	
2375	3 9 12	Saturnino Urrutia	Cottonwood Spring	Domestic and stock	App 11 1 12	.025 c. f. s.	
2376	3 9 12	Saturnino Urrutia	No-Name Spring	Domestic and stock	App 11 1 12	.025 c. f. s.	
2377	3 11 12	J. J. and P. H. Mahoney	Potosi Spring	Min., domestic, mfg.	App 10 1 12	1 c. f. s.	
2378	3 11 12	Mrs. John Tippett	Glencoe Tunnel	Stock	Den 10 9 12		
2379	3 11 12	Land Development Co.	Underground water	Irrigation, domestic			
2380	3 14 12	Christopher D. Mansfield	North and Sheep Creeks	Irrigation, domestic	Wdn 11 18 12		
2381	3 19 12	J. O. Parker	Cottonwood Creek	Irrigation, domestic	App 10 30 12	.8 c. f. s.	
2382	3 22 12	Ira L. Winters	Washoe Lake	Irrigation, domestic	App 11 22 12	10 c. f. s.	
2383	3 23 12	Sesario Erquiaga	Jaca Creek	Irrigation, domestic	App 9 20 12	.48 c. f. s.	
2384	3 25 12	Edith Gregory, et al.	White River	Irrigation			
2385	3 25 12	B. F. Edwards	West Walker River	Irrigation			
2386	3 25 12	G. B. Leavitt, et al.	Smoke Creek	Irrigation, domestic	App 11 1 12	9.2 c. f. s.	
2387	3 26 12	William R. Adams	Carson River	Irrigation			
2388	3 26 12	Moses W. Taylor	Robinson Creek Canyon	Irrigation, domestic			
2389	3 27 12	W. H. Johnson	Silver Creek	Irrigation, domestic	Can 5 30 12		
2390	3 27 12	Kawich Cattle Association	Monte Cristo Springs	Stock	App 11 1 12	.025 c. f. s.	
2391	3 28 12	Harry L. Naylor	Amargosa River	Irrigation	App 11 2 12	.25 c. f. s.	
2392	3 29 12	James E. Fraiser	Rabbit Creek	Irrigation			
2393	3 29 12	James E. Meyers	Rabbit Creek	Irrigation			
2394	3 30 12	Victor G. Shepard	Gold Run Canyon Creek	Irrigation, domestic	Chg. man. use	.30 c. f. s.	Cer. 10 15 12
2395	4 1 12	R. L. Foster	Foster Spring	Domestic	App 11 2 12	.1 c. f. s.	
2396	4 1 12	Christopher D. Mansfield	Geyser Creek	Irrigation, domestic	Wdn 11 18 12		
2397	4 3 12	Milton B. Johnson	Underground waters	Irrigation	App 8 16 12	3.2 c. f. s.	
2398	4 5 12	Johannes Haug	Long Valley water	Irrigation, domestic	App 11 2 12	1 c. f. s.	
2399	4 6 12	Henry Winters	Mary's River	Irrigation, domestic			
2400	4 8 12	James R. Bunch	Bunch Canyon	Irrigation			
2401	4 8 12	Henry G. Wedekind	Mining Canyon	Irrigation, domestic			
2402	4 9 12	Vineyard L. & S. Co.	Crittenden Creek	Irrigation, domestic			
2403	4 9 12	W. M. Lloyd, et al.	Cane Springs	Irrigation, domestic	App 10 23 12	6.4 c. f. s.	
2404	4 10 12	D. F. Drumheller	Secret Creek	Chg. pt. diversion			
2405	4 11 12	F. J. Hagenbarth, et al.	Jarbidge River	Placer mining			

APPLICATIONS TO APPROPRIATE WATER—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
2406	4 12 12	John B. Gallagher	Walker River	Irrigation, domestic			
2407	4 12 12	William B. Thompson	Fish Lake, etc.	Irrigation, domestic			
2408	4 12 12	William B. Thompson	Indian Creek	Power			
2409	4 17 12	William H. Phillips, et al.	Left Hand Spring	Domestic			
2410	4 17 12	J. D. Thompson	North Creek	Irrigation	App 11 18 12	25 c. f. s.	
2411	4 17 12	Fred Renick	Hot Springs	Irrigation			
2412	4 18 12	Jas. E. Frasier	Rabbit Creek	Chg. pt. diversion			
2413	4 18 12	H. H. Hunter	Black Canyon	Mining, domestic			
2414	4 22 12	James S. Berra, et al.	Auburn Canyon	Irrigation	App 10 2 12	1.6 c. f. s.	
2415	4 25 12	Peter Ghigliazza	Egan Creek	Irrigation, domestic	App 8 8 12	1.6 c. f. s.	
2416	4 25 12	Douglas Milling and Reduction Co.	Red Canyon Creek	Power			
2417	4 25 12	W. A. Moore	Spring	Irrigation and stock	Can 7 3 12		
2418	4 25 12	E. C. McClellan	Humboldt River	Irrigation	Can 7 3 12		
2419	5 1 12	Marcus F. Phillips	North Fork Humboldt River	Irrigation, domestic			
2420	5 3 12	S. A. Ruffe, et al.	Nine Mile Canyon	Irrigation			
2421	5 4 12	Diamond Peak G. & C. M. Co.	Davis Canyon Creek	Min., mill., s., dom.			
2422	5 4 12	H. A. Leach	Little Six Mile Creek	Irrigation			
2423	5 4 12	H. A. Leach	Big Six Mile Creek	Irrigation			
2424	5 8 12	Grover A. Youngs	Quinn Canyon Springs	Irrigation and stock	App 11 17 12	.5 c. f. s.	
2425	5 13 12	Horace A. Agee	Rattlesnake Canyon	Irrigation, domestic	App 9 27 12	.4 c. f. s.	
2426	5 14 12	James A. Bickel	Unnamed spring	Min., milling, dom.	Can 7 15 12		
2427	5 15 12	Charles H. Danielson	Dyer Canyon Creek	Irrigation, domestic			
2428	5 17 12	Nevada Gold Northern Mining Co.	Road Canyon Spring	Min., milling, dom.	Can 7 19 12		
2429	5 20 12	M. D. McGrath	West Squaw Creek	Irrigation, domestic			
2430	5 20 12	F. W. Sarmon	East Fork Carson	Power			
2431	5 22 12	G. W. Warmoth	Willow Spring	Com., and domestic			
2432	5 27 12	Levi W. Syphus	Rogers Spring	Irrigation			
2433	5 27 12	Levi W. Syphus	Rogers and Blue Point Sp.	Power			
2434	5 29 12	B. F. Baker, et al.	Galoon Spring	Power and domestic			
2435	5 29 12	B. F. Baker, et al.	Kaford Spring	Power and domestic			
2436	6 1 12	Frederick W. H. Simmack	Sheep Creek	Irrigation, domestic			
2437	6 4 12	Joseph Flynn, Sr.	Bald Mountain Spring	Stock			
2438	6 4 12	Joseph Flynn, Sr.	Slaughter House Spring	Irrigation and stock			
2439	6 4 12	Joseph Flynn, Sr.	Aiken Spring	Stock			
2440	6 4 12	C. H. Reinken	Lamoille Creek	Irrigation, domestic			
2441	6 7 12	Jorgen P. Jacobsen	Davis Canyon	Irrigation			
2442	6 8 12	Murray Sheep Co.	Lake Creek	Irrigation, domestic			
2443	6 8 12	Murray Sheep Co.	Lake Creek	Irrigation, domestic			
2444	6 10 12	E. L. Fletcher	Underground waters	Irrigation, domestic			
2445	6 10 12	McCurdy & Chapman	Sharp Creek	Irrigation and stock	Can 8 15 12		
2446	6 10 12	McCurdy & Chapman	Middle Creek	Irrigation, domestic	Can 8 15 12		
2447	6 12 12	George W. Litts	Peavine Creek	Irrigation, domestic			
2448	6 12 12	Doroteo Bermeosolo	Lone Mt. Creek	Irrigation			
2449	6 12 12	Mrs. Minnie Prunty	Bruneau River	Irrigation			
2450	6 12 12	E. L. Fletcher	Duckwater Creek	Irrigation, domestic			
2451	6 13 12	Fred Hinze, et al.	Underground waters	Irrigation			
2452	6 14 12	J. D. Thomson	Geyser Creek	Irrigation	App 11 18 12	25 c. f. s.	
2453	6 14 12	Joseph Flynn, Sr.	Willow Spring	Stock			
2454	6 15 12	William E. Adams	Carson River	Irrigation, domestic			
2455	6 18 12	Chas. E. Piersen	Piersen Spring	Irrigation, domestic			
2456	6 22 12	Donald C. Wheeler, et al.	Soldiers Creek	Irrigation, domestic			
2457	6 22 12	Frank B. Smith	Smith Spring	Irrigation, domestic			
2458	6 22 12	Chas. E. Millick	Millick Spring	Irrigation	App 10 14 12	1.6 c. f. s.	
2459	6 22 12	Clayton Archibald	Six Mile Springs	Irrigation, domestic			
2460	6 27 12	Pedro Itcanina	Itcanina Creek	Irrigation			
2461	7 1 12	D. W. Kinney	High Rock Lake, etc.	Irrigation, domestic			
2462	7 2 12	George H. Davis	Bacon and Summit Creeks	Milling	Wdn 11 21 12		
2463	7 6 12	Alexander Thulin	No Name Canyon	Irrigation	App 10 2 12	1.6 c. f. s.	
2464	7 9 12	Edward Von Tobel	Von Tobel Spring	Irrigation, domestic			
2465	7 10 12	Isadora Sara	Fish Creek	Irrigation			
2466	7 11 12	Manuel Goni	Goni Spring	Domestic and stock			
2467	7 16 12	Hardee N. Myers	Peavine Creek	Irrigation, domestic			
2468	7 15 12	Pacific Portland Cement Co.	Bickel Spring	Mining and domestic	App 10 11 12	1 c. f. s.	
2469	7 17 12	Ellis Reese	East Beaver Creek	Irrigation			
2470	7 17 12	Frank Sellstrom	Baker Creek	Power	Can 10 8 12		
2471	7 18 12	George A. Shea	Shea Spring	Domestic			
2472	7 23 12	Pacific Portland Cement Co.	Regan Canyon	Domestic and mining	App 10 11 12	1 c. f. s.	
2473	7 24 12	Frank B. Smith	Coon Creek	Irrigation, domestic			
2474	7 26 12	John MacGregor	Hot Springs	Irrigation, domestic	App 11 9 12	2 c. f. s.	
2475	7 29 12	John Bate	Moffett Spring	Stock			
2476	7 29 12	Jesse L. Stinson	Blue Basin Creek	Irrigation, domestic			
2477	7 30 12	Roy Leach	Mason Creek	Irrigation, domestic			
2478	8 5 12	Mrs. Jane Zubiri	Indian Spring	Irrigation	Can 10 9 12		
2479	8 5 12	Daniel Freitas	Mud Spring	Irrigation	Can 12 17 12		
2480	8 6 12	George D. Banks	Spring	Irrigation, domestic			
2481	8 6 12	W. B. Bierce	Illipah Creek	Power			
2482	8 7 12	Steptoe Valley Smelter and Mining Co.	Bird Creek	Min., mill., pow., dom.	App 10 22 12	10 c. f. s.	
2483	8 7 12	Mrs. Jane E. Ketcham	Choke Cherry Spring	Irrigation, domestic	Can 12 17 12		
2484	8 9 12	William H. Sweeney	Bog Springs	Irrigation and stock			
2485	8 9 12	William H. Sweeney	Blackburn Spring	Irrigation and stock			
3486	8 9 12	C. A. Dunham	OhioSpring	Min., pow., dom.	App 10 22 12	.25 c. f. s.	
2487	8 10 12	William Kixmoeller	Indian Spring	Irrigation			
2488	8 10 12	Douglas Mill and Power Co.	East Fork Carson River	Power			
2489	8 13 12	Theo. Martinez	Pole Creek	Irrigation, domestic			
2490	8 14 12	Daniel C. McKenna	South Fork Owyhee River	Irrigation, domestic			
2491	8 14 12	Jno. C. Crain	Squaw Valley Creek	Irrigation, domestic			
2492	8 16 12	Clay Peters	Harvey Creek	Mining and domestic			
2493	8 22 12	Doroteo Bermeosolo	Lone Mountain Creek	Irrigation			
2494	8 22 12	John Harnan	Harnan Spring	Mining and domestic			
2495	8 22 12	John F. Heeney	Heeney Spring	Min., mill., dom.			
2496	8 30 12	William M. Stephenson	Holy Lake, etc.	Irrigation, domestic			
2497	8 30 12	John Harnan	Tohoqua Spring	Min., mill., dom.			
2498	9 4 12	E. E. Vanderhoef	Irwin Canyon	Min., mill., pow., dom.			
2499	9 4 12	Rudolph Pauli	Meadow Valley Wash	Irrigation, domestic			
2500	9 4 12	Analdus C. Willey	Pinto Spring Canyon	Irrigation			
2501	9 4 12	Thomas I. Post	Amargosa River	Chng., pt., diversion	App 12 6 12	.3 c. f. s.	
2502	9 6 12	G. S. Robison & Sons	Granite Springs	Stock			

APPLICATIONS TO APPROPRIATE WATER—*Continued*

Serial No.	Date of filing	Applicant	Source	Purpose	Action on application	Amount allowed	Action on permit
2503	9 7 12	William K. Ebbeling	Thousand Creek	Irrigation			
2504	9 7 12	Patrick J. O'Hara	Witherspoon Canyon	Irrigation, domestic			
2505	9 9 12	Diamond "C" Mining Co.	Diamond "C" Gulch	Mining			
2506	9 9 12	William J. Yost	South Fork China Creek	Irrigation, domestic			
2507	9 12 12	Rudolph Murchum	Young's Canyon	Irrigation, domestic			
2508	9 16 12	Anna Horn	Bull Run Creek	Irrigation, domestic			
2509	9 16 12	Lawrence L. Horn	Clear Creek	Irrigation, domestic			
2510	9 16 12	James F. Mathews	Sheridan Creek	Irrigation, domestic			
2511	9 20 12	Stefane Herzog	Humboldt River	Irrigation			
2512	9 23 12	John W. Evans	Troy Creek	Irrigation, domestic			
2513	9 23 12	Amelia Marker	DesertSprings	Irrigation			
2514	9 25 12	Mrs. M. J. Woodward	Sheep Creek	Irrigation, domestic			
2515	9 28 12	Palo Alto L. & L. S. Co.	Owyhee River	Irrigation			
2516	10 1 12	Richard A. Hodge	Circle Creek	Irrigation, domestic			
2517	10 2 12	Fred Bartine	Arnold Creek	Irrigation, domestic	Can 12 17 12		
2518	10 2 12	Frank Pastorino	Arnold Creek	Irrigation, domestic	Can 12 17 12		
2519	10 2 12	United States of America	Three Mile Creek	Irrigation, domestic			
2520	10 5 12	W. A. Moore	Small Spring	Stock			
2521	10 7 12	T. B. Beadle	Jarbidge River	Power			
2522	10 8 12	J. E. Kelly, et al.	Nigger Creek	Irrigation			
2523	10 9 12	Franklin A. Arentz	West Walker River	Irrigation			
2524	10 10 12	Albert C. Agnew	Truckee River	Power			
2525	10 14 12	D. Marquadson	Bourne Gulch	Mining			
2526	10 16 12	Donald C. Wheeler	Wheeler Spring	Irrigation, domestic			
2527	10 17 12	Henry C. Taylor, et al.	Humboldt Lake	Irrigation, domestic			
2528	10 18 12	T. J. Curley, et al.	Tennessee Creek	Mining and power			
2529	10 18 12	United States Department of Agriculture	Owyhee River	Irrigation			
2530	10 18 12	United States Department of Agriculture	Jack Creek	Irrigation			
2531	10 18 12	United States Department of Agriculture	Penrod Creek	Irrigation			
2532	10 18 12	United States Department of Agriculture	Meadow Creek	Irrigation			
2533	10 18 12	H. J. Humphreys	Walker River	Irrigation, domestic			
2534	10 18 12	Emory Arnold	South Creek	Irrigation, domestic			
2535	10 19 12	Jacob W. Reed	North Fork, Deep Creek	Irrigation, domestic			
2536	10 26 12	Homer H. Moss, et al.	Munk Slough	Irrigation, domestic			
2537	10 28 12	J. N. O'Brien	Illipah Spring	Power			
2538	10 28 12	Fred A. Murphy	Hures Creek	Irrigation			
2539	10 30 12	Agnes Morrison	Deer Springs	Stock			
2540	11 4 12	J. A. Rogers	Indian Springs	Irrigation, domestic			
2541	11 4 12	F. D. French	Spring	Irrigation, domestic			
2542	11 4 12	F. D. French	Spring	Irrigation, domestic			
2543	11 7 12	J. H. Dolan, et al	Snow Bank Creek	Irrigation, domestic			
2544	11 10 12	Madison Anderson	Spring Creek	Irrigation			
2545	11 10 12	Madison Anderson	Pole Creek	Irrigation			
2546	11 13 12	Vineyard Land and Stock Co.	Thousand Spring Creek	Irrigation			
2547	11 13 12	Vineyard Land and Stock Co.	Thousand Spring Creek	Irrigation			

2548	11 13 12	Vineyard Land and Stock Co.	Thousand Spring Creek	Irrigation			
2549	11 13 12	Vineyard Land and Stock Co.	Thousand Spring Creek	Irrigation			
2550	11 13 12	Vineyard Land and Stock Co.	Thousand Spring Creek	Irrigation			
2551	11 13 12	Vineyard Land and Stock Co.	Thousand Spring Creek	Irrigation			
2552	11 13 12	Vineyard Land and Stock Co.	Warm Springs	Irrigation			
2553	11 13 12	Vineyard Land and Stock Co.	Loomis Creek	Irrigation, domestic			
2554	11 15 12	Palo Alto Land and Stock Co.	Owyhee River	Irrigation			
2555	11 15 12	T. R. Kelly	Boulder Springs	Mining and domestic			
2556	11 18 12	Hylton & Clayton Bros.	Foreman Creek	Irrigation, domestic			
2557	11 18 12	Hylton & Clayton Bros.	Foreman Creek	Irrigation, domestic			
2558	11 18 12	Hylton & Clayton Bros.	Foreman Creek	Irrigation, domestic			
2559	11 19 12	H. C. Neilson, et al.	Washoe Lake	Irrigation, domestic			
2560	11 21 12	Samuel F. Mount	Whiteside Lake	Irrigation, domestic			
2561	11 20 12	Tilford, Johnson & Taylor	Snake Creek	Min., mill., power			
2562	11 20 12	Charles M. Howard	Dry Lake Creek	Irrigation, domestic			
2563	11 21 12	M. Ediams	Dutch Creek	Irrigation, domestic			
2564	11 22 12	Saturnino Urrutia	Spring	Stock and domestic			
2565	11 23 12	Angelo Florio	Upper Ratto Spring	Stock			
2566	11 23 12	A. A. Wendell	Spring	Mining and domestic			
2567	11 23 12	Cortez Mining and Reduction Co.	Mill Creek	Min., mill., domestic			
2568	11 26 12	Geo. W. Owen, et al.	Springs, Hot	Irrigation, domestic			
2569	11 26 12	Cessar Regruci, et al.	Son Springs	Irrigation, domestic			
2570	11 27 12	Gregg H. Millers	Saw Mill Creek	Irrigation, domestic			
2571	11 27 11	J. N. Martinez, et al.	Cottonwood Creek	Irrigation, domestic			
2572	11 29 12	John Bradford	Springs	Irrigation, domestic			
2573	11 29 12	Charles E. Noble	Talbot Creek	Irrigation			
2574	11 30 12	E. E. Palmer	Amargosa River	Irrigation, domestic			
2575	12 2 12	Helen M. O'Neil	Sun Creek	Irrigation, domestic			
2576	12 2 12	William Drake	Deer Creek	Irrigation, domestic			
2577	12 4 12	Wm. H. Earl	Soldier Creek, etc.	Irrigation, domestic			
2578	12 5 12	John Rosenlund	Spring Gulch Spring	Irrigation			
2579	12 6 12	J. H. Heward	Cottonwood Creek	Irrigation			
2580	12 7 12	W. Borland, et al.	Rochester Canyon Spring	Min., mill., domestic			
2581	12 7 12	Charles H. Mickel	Secret Creek	Irrigation, domestic			
2582	12 7 12	Greater Humboldt Corporation	Rock Creek	Irrigation			
2583	12 12 12	John A. Magnuson	Steptoe Slough	Irrigation, domestic			
2584	12 13 12	Edward S. VanDyck	Limerick Creek	Mining			
2585	12 14 12	Peter Ghigliazza	Egan Creek	Irrigation, domestic			
2586	12 14 12	G. E. Morrall, et al.	Spring Creek	Irrigation, domestic			
2587	12 16 12	Angelo Florio	Lower Ratto Spring	Stock			
2588	12 17 12	Hi Stoker	Underground waters	Irrigation, domestic			
2589	12 17 12	E. C. Vance	Spring	Irrigation, domestic			
2590	12 23 12	W. B. Gibbs	Steele Creek	Irrigation, domestic			
2591	12 23 12	John Hellwinkel	Hogrefe Slough	Irrigation, domestic			
2592	12 23 12	John G. Taylor, et al.	Black Knob Springs	Domestic and stock			
2593	12 28 12	Diana Murphy Hill	North Fork Humboldt River	Irrigation, domestic			
2594	12 28 12	Diana Murphy Hill	North Fork Humboldt River	Irrigation, domestic			
2595	12 28 12	Diana Murphy Hill	Foreman Creek	Irrigation, domestic			
2596	12 28 12	Diana Murphy Hill	Foreman Creek	Irrigation, domestic			
2597	12 28 12	Diana Murphy Hill	North Fork Humboldt River	Irrigation, domestic			
2598	12 30 12	Martin Cupp	Limerick Canyon	Irr., domestic, mining			

APPLICATIONS PROTESTED DURING THE YEARS 1911 AND 1912

No.	Date	Name of protestant	Name of applicant	Source	Action
1864	Jan. 5, 1911	Geo. Russell	E. C. McClellan	Humboldt River	Pending
1853	Jan. 9, 1911	DeWitt C. Turner	James P. Sprunt, et al.	Cane Springs	Pending
1871	Jan. 18, 1911	John Laxague	John Hickison	Ackerman Spring	Overruled
1897	Jan. 21, 1911	Earl Wright, et al.	B. G. McBride	Franklin River	Pending
1906	Jan. 21, 1911	T. V. Odgers	Jesse W. Fox	Franklin River	Pending
1893	Feb. 6, 1911	Nevada Land and Livestock Co.	Carey Act Reclamation Association	Mary's River	Pending
1862	Feb. 8, 1911	S. O. Kirkeby	Thomas M. McCabe	Williams Creek	Sustained
1882	Feb. 14, 1911	Carson City Water Co.	H. R. Wells, et al.	Fradsham Spring	Pending
1859	Feb. 14, 1911	Adams & McGill	A. R. Whitehead	White River	Overruled
1860	Feb. 14, 1911	Adams & McGill	A. R. Whitehead	Preston Spring	Overruled
1571	Feb. 15, 1911	Mrs. John Tippett	Will E. Hill	Lunch Canyon Spring, etc.	Sustained
1931	Feb. 27, 1911	F. W. Kerns	T. J. Donovan	Reveille Valley Wash	Withdrawn
1947	Mar. 3, 1911	I. E. Wines	Philip H. Sharp	Colonel More Creek	Pending
1919	Mar. 3, 1911	T. Nelson	Homer E. Winters	Fort Creek	Sustained
1897	Mar. 23, 1911	Earl Wright, et al.	B. G. McBride	Franklin River	Overruled
1953	Mar. 28, 1911	W. H. Burton	Chas. Hinds	Spring Gulch	Pending
1946	Apr. 6, 1911	D. P. Randall, et al.	James Regan	Carson River	Pending
1974	Apr. 12, 1911	W. H. Burton	Jos. B. Meyertholen	Spring Gulch	Pending
1985	Apr. 13, 1911	Clara Herschel	W. E. Tregaskis	Bottle Creek	Withdrawn
1975	Apr. 17, 1911	J. A. Gandolfo	Patrick Walsh	Reese River	Overruled
1742	Apr. 19, 1911	E. C. McClellan	J. M. Allen, et al.	North Fork Humboldt River	Pending
1957	Apr. 22, 1911	J. C. Munsen	John D. Weeks	Mountain stream	Overruled
1987	Apr. 26, 1911	Pat Keegan	Harry A. Rager, et al.	Pleasant Valley Wash	Sustained
1923	May 1, 1911	Western Pacific Railway Co.	David Morrison	Cotton Wood Canyon	Sustained
1928	May 6, 1911	George B. Williams	H. M. Crockett	Middle Gate	Overruled
1977	May 10, 1911	Al Sales	Charles A. Evans	Soldier Creek	Withdrawn
1990	May 10, 1911	Al Sales	Charles A. Evans	High Rock Lake	Withdrawn
1991	May 11, 1911	Clover Valley Land and Stock Co.	James F. Boyle, et al.	Spring Branch Creek	Overruled
1992	May 11, 1911	Clover Valley Land and Stock Co.	James F. Boyle, et al.	Branch of Spring Branch Creek	Overruled
1915	May 13, 1911	F. H. Winter	Jarbidge Pavlak Mining Co.	Jarbidge Creek	Overruled
1951	May 13, 1911	Jordan Valley Stock Co.	E. C. McClellan	Little Humboldt River	Pending
1982	May 16, 1911	Nevada Land and Stock Co.	Carey Act Reclamation Association	Taber Creek	Pending
1993	May 16, 1911	Nevada Land and Stock Co.	Henry Phalan	Phalan Creek	Withdrawn
1995	May 18, 1911	Winnemucca Water and Light Co.	Joseph C. Tucker	White's Stream	Overruled
2039	May 18, 1911	E. Reinhart	James Kuisch	Thomas Creek	Overruled
1988	May 24, 1911	John G. Taylor	Golconda Gold Ledge Mining Co.	Pole Creek	Pending
2058	May 25, 1911	Winnemucca Water and Light Co.	Vincent J. Kusich	Thomas Creek	Sustained
2002	June 3, 1911	Golconda Cattle Co.	E. C. McClellan	Humboldt River	Pending
1948	June 3, 1911	Golconda Cattle Co.	Humboldt Lovelock Irr., L. and P. Co.	Humboldt River	Pending
1951	June 3, 1911	Golconda Cattle Co.	E. C. McClellan	Little Humboldt River	Pending
1995	June 6, 1911	Humboldt County	Joseph C. Tucker	White's Stream	Overruled
2004	June 8, 1911	S. O. Kirkeby	E. L. Fletcher	William's Creek	Overruled
1959	June 9, 1911	H. H. Church	Moapa Improvement Co.	Muddy River	Withdrawn
2012	June 14, 1911	Henry Riter	L. M. Logamarsino	Truckee River	Withdrawn
1954	June 14, 1911	H. W. Andre	Garat & Co.	Silver Creek	Overruled
2065	June 17, 1911	Betsy Barber, et al.	Wm. Gansberg	Spring	Sustained
1950	June 19, 1911	Thomas Hunter	E. C. McClellan	Susie Creek	Pending
2048	June 23, 1911	John G. Taylor	Clover Valley Land and Stock Co.	Jake Creek	Pending
2033	June 23, 1911	P. Gliglioza, Silva, et al.	Western Land and Irrigation Syndicate	Steptoe Slough	Overruled
2060	June 27, 1911	E. P. Carville, attorney	Palo Alto Land and Stock Co.	Snow Canyon Creek	Overruled
2060	June 27, 1911	E. P. Carville, attorney	Palo Alto Land and Stock Co.	Snow Canyon Creek	Withdrawn
2088	June 28, 1911	Wm. Polkinghorn	Chas. E. Belden	Polkinghorn Creek	Overruled
2022	June 28, 1911	James F. Boyle	A. and J. Evans	Warm Spring	Overruled
2062	June 28, 1911	Winnemucca Water and Light Co.	John E. Schreiner	White's Creek	Sustained
2065	June 28, 1911	Henry Goedicke	Wm. Gansberg	Spring	Overruled
2033	June 28, 1911	P. Salvi	Western Land and Irrigation Syndicate	Steptoe Slough	Pending
2106	July 1, 1911	I. D. Wines	Samuel Guldager	Overland Creek	Withdrawn
2109	July 16, 1911	Wm. Angel	Dillon Roberts	Pole Creek	Pending
2063	July 18, 1911	J. R. Harvey, et al.	Moses W. Taylor	Martin Creek	Pending
2066	July 22, 1911	J. D. Thompson	Nevada Irrigation Land and Dev. Co.	Dupont Creek	Overruled
2111	July 28, 1911	Holbrook Land and Water Co.	J. W. Cram	Big Wash	Pending
2113	July 31, 1911	Union Canal Ditch Co.	James F. Boyle, et al.	Kelley Creek	Pending
2095	Aug. 14, 1911	F. E. Springmeyer	Dangberg Land and Livestock Co.	East Fork Carson	Pending
2122	Aug. 22, 1911	W. F. Jenkins Co.	A. J. Burke	Poor Man and Warm Creeks	Pending
2106	Aug. 22, 1911	B. G. McBride	Samuel Guldager	Overland Creek	Withdrawn
2086	Sept. 2, 1911	H. C. Christenson	W. C. Alexander	Willow Creek	Withdrawn
2052	Sept. 2, 1911	H. C. Christenson	W. C. Alexander	East Fork Willow Creek	Withdrawn
2086	Sept. 2, 1911	J. Jory	W. C. Alexander	Willow Creek	Withdrawn
2052	Sept. 2, 1911	J. Jory	W. C. Alexander	East Fork Willow Creek	Overruled
2119	Sept. 5, 1911	Reta Gregory	James F. Robison	Weaver Creek	Overruled
2129	Sept. 10, 1911	Palo Alto Land and Stock Co.	Oscar Miller	Owyhee River	Pending
2137	Sept. 13, 1911	B. B. Wilkins	Geo. M. Bacon	Trout Creek	Withdrawn
2088	Sept. 20, 1911	Big Springs Irrigation Co.	Warren Larsen & Co.	Hamlin Valley	Pending
2164	Sept. 21, 1911	Robert Walter	Ed. B. Tregaskis, et al.	Barber Canyon	Pending
2083	Sept. 22, 1911	Nevada Copper Mining Co.	Western Asset Development Co.	Salmon River	Pending
2107	Sept. 25, 1911	W. M. Angel	R. C. O'Neil	Angels Creek	Pending
2048	Oct. 2, 1911	John G. Taylor	Clover Valley Land and Stock Co.	Jake Creek	Overruled
2093	Oct. 9, 1911	Robert M. Cyphus	E. R. Wooley	Upper Fairview Springs	Overruled
2118	Oct. 9, 1911	G. W. Gonder	John Flynn, et al.	Snake Creek	Pending
2155	Oct. 12, 1911	Frank M. Farris	Mimosa G. Pittman	Jefferson Creek, etc.	Pending
2156	Oct. 16, 1911	Ernest J. Brown	Key Pittman	Shoshone Creek	Pending
2145	Oct. 23, 1911	Ed. Helth	Luther Butler	Stoffer Creek	Pending
2155	Oct. 27, 1911	C. J. Kanobat	Mimosa G. Pittman	Jefferson Creek	Overruled
2123	Oct. 30, 1911	South Land Irrigation Co.	Joseph G. Laravey	Willow Spring	Pending
2195	Nov. 4, 1911	Adams & McGill	J. C. Oxborrow	Douglas Spring	Pending
2156	Nov. 6, 1911	Fairview Round Mountain Mines Co.	Key Pittman	Shoshone Creek	Pending
2187	Nov. 9, 1911	James R. Newman	Geo. L. Matthews	Dry Creek	Pending
2190	Nov. 9, 1911	James R. Newman	Chas. Monahan	Dry Creek	Withdrawn
2222	Nov. 14, 1911	F. W. Simpson	G. E. Shillingford	Desert Creek	Overruled
2149	Nov. 24, 1911	T. I. Post	Walter G. Silver, et al.	Amargosa River	Pending
2162	Dec. 1, 1911	Nevada Land and Livestock Co.	James G. Burtner	Marshes, etc.	Pending
2162	Dec. 1, 1911	Muddy Valley Irrigation Co.	James G. Burtner	Marshes, etc.	Overruled
2149	Dec. 2, 1911	J. P. Loftus	Walter G. Silver, et al.	Amargosa River	Pending
2219	Dec. 9, 1911	Nevada Land and Livestock Co.	John G. Taylor, et al.	Humboldt River	Overruled
2243	Dec. 15, 1911	John Hickison	John Laxague	Ackerman Spring	Overruled
2158	Dec. 18, 1911	Walter G. Silver, et al.	J. P. Loftus	Amargosa River	Overruled
2001	Dec. 19, 1911	W. A. Marsh	W. R. Wilcox	Ralston Valley	Overruled
2258	Dec. 20, 1911	Phillip M. Baker	A. L. Haight	Lehman Creek	

APPLICATIONS PROTESTED—*Continued*

No.	Date	Name of protestant	Name of applicant	Source	Action
2220	Dec. 23, 1911	Mrs. O. J. Heath	Robert Watt	Cane Springs	Overruled
2223	Dec. 16, 1911	Chauncey E. Bliss	Phillip M. Baker	Lehman Creek	Overruled
2242	Dec. 23, 1911	Round Mountain Power and Water Co.	Fairview Round Mountain Mines Co.	Shoshone Creek	Pending
2264	Jan. 4, 1912	Thomas I. Post	Walter G. Silver, et al.	Amargosa River	Sustained
2259	Jan. 4, 1912	Martin Sorensen	Will E. Casson	Pinenut Creek	Pending
2259	Jan. 4, 1912	Glock & Jacobson	Will E. Casson	Pinenut Creek	Pending
2242	Jan. 8, 1912	Mimosa G. Pittman	Fairview Round Mountain Mines Co.	Shoshone Creek	Pending
2242	Jan. 8, 1912	Key Pittman	Fairview Round Mountain Mines Co.	Shoshone Creek	Pending
2227	Jan. 8, 1912	Geo. W. Pratt	Archie R. Clayton	Peterson Creek	Pending
2228	Jan. 8, 1912	Geo. W. Pratt	Archie R. Clayton	Pratt Creek	Pending
2280	Jan. 11, 1912	David Stevens	John R. Harris, et al.	Peavine Creek	Overruled
2302	Jan. 11, 1912	Sergo Santos	Wm. S. Johnson	Widow Smith's Creek	Sustained
2267	Jan. 12, 1912	W. J. Mahoney, manager	Humboldt Land and Cattle Co.	Humboldt River	Pending
2277	Jan. 16, 1912	Ancient Gold Placer Mining Co.	John Uhalde	Buckeye Creek	Pending
2228	Jan. 18, 1912	Emery G. Johnson	Archie R. Clayton	Pratt Creek	Pending
2264	Jan. 23, 1912	Crystal Bullfrog Mining, Milling and Water Co.	Walter G. Silver, et al.	Amargosa River	Sustained
2265	Jan. 29, 1912	Inyo Marble Co.	Geo. Cromwell	Truckee River	Pending
2285	Feb. 5, 1912	Pacific Livestock Co.	Ernest Duvivier	Little High Rock Creek	Pending
2227	Feb. 5, 1912	Neils Peterson	Archie R. Clayton	Peterson Creek	Pending
2189	Feb. 8, 1912	Chauncey E. Bliss	Phillip M. Baker	Lehman Creek	Overruled
2278	Feb. 10, 1912	Henroid Brothers	Harry Bews	Grass Valley Spring	Sustained
2287	Feb. 23, 1912	Nye County Land and Livestock Co.	Sargo Santos	Barley Creek	Sustained
2325	Feb. 27, 1912	J. Sheehan	Adrian Bernard	Snow water	Sustained
2328	Mar. 7, 1912	Geo. M. Bower, Sr., et al.	E. C. McClellan	Lamoille Creek	Pending
2329	Apr. 2, 1912	Griswold-Henderson Livestock Co.	E. C. McClellan	Rabbit Creek	Pending
2329	Apr. 2, 1912	A. B. Carman	E. C. McClellan	Rabbit Creek	Pending
2329	Apr. 2, 1912	Geo. Heenan	E. C. McClellan	Rabbit Creek	Pending
2378	Apr. 8, 1912	J. R. Ferry	Mrs. John Tippett	Glencoe Tunnel	Sustained
2362	Apr. 11, 1912	James P. Raine	Frank G. Hale	Hot Creek	Pending
2346	Apr. 15, 1912	Geo. B. Williams	Leroy Linsea	White Rock Springs	Withdrawn
2310	Apr. 19, 1912	Annie McMullen, executrix	John H. Cazier, et al.	Trout Creek	Overruled
2392	Apr. 25, 1912	G. D. Boyd	James E. Fraiser	Rabbit Creek	Pending
2393	Apr. 25, 1912	G. D. Boyd	James E. Meyers	Rabbit Creek	Pending
2305	Apr. 27, 1912	Geo. B. Williams	Louis H. Dangberg	Artesian water	Pending
2369	May 1, 1912	Minnie Prunty	A. Itciana	Stag Creek	Pending
2365	May 2, 1912	Jennie C. Dumphy-Meyer, trustee	C. H. A. Gerding, Jr.	Soap Creek	Withdrawn
1000	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Pacific Reclamation Co.	Bishop Creek	[1]Overruled
1415	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Pacific Reclamation Co.	Trout Creek	[1]Overruled
1807	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Pacific Reclamation Co.	Bishop Creek	[1]Overruled
1808	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Pacific Reclamation Co.	Burnt Creek	[1]Overruled
1809	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Pacific Reclamation Co.	Trout Creek	[1]Overruled
1810	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Pacific Reclamation Co.	Spring Creek	[1]Overruled
2114	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Geo. M. Bacon	Spring	[1]Overruled
2137	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Geo. M. Bacon	Trout Creek	[1]Overruled
2138	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Geo. M. Bacon	Burnt Creek	[1]Overruled
2139	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Geo. M. Bacon	Spring Creek	[1]Overruled
2186	May 8, 1912	Cheney, Downer, Price & Hawkins, attorneys	Geo. M. Bacon	Parker Lake	[1]Overruled
2311	May 10, 1912	Palo Alto Land and Livestock Co.	J. N. Phillips, et al.	McCann Creek	Pending
2320	May 13, 1912	Washoe Lake Reservoir and Galena Creek Ditch Co.	W. Brougher, et al.	Washoe Lake	Withdrawn
2384	May 16, 1912	Adams & McGill	Edith Gregory, et al.	White River	Pending
2409	May 20, 1912	William Anderson	William H. Phillips, et al.	Left Hand Spring	Pending
2382	May 23, 1912	Washoe Lake Reservoir and Galena Creek Ditch Co.	Ira L. Winters	Washoe Lake	Overruled
2388	June 3, 1912	Harry N. Robinson	Moses W. Taylor	Lake, head of Robinson Creek	Pending
2425	June 3, 1912	John Churchfield	H. A. Agee	Rattlesnake Canyon Creek	Overruled
2380	June 29, 1912	Chas. L. Horsey, attorney	C. D. Mansfield	North Creek, etc.	Withdrawn
2396	June 29, 1912	Chas. L. Horsey, attorney	C. D. Mansfield	Geyser Creek	Withdrawn
2411	July 13, 1912	L. D. Porter	Fred Renick	Hot Springs	Pending
2438	July 13, 1912	Plummer Brothers	Joseph Flynn, Sr.	Slaughterhouse Spring	Pending
2439	July 13, 1912	Plummer Brothers	Joseph Flynn, Sr.	Aiken Spring, etc.	Pending
2442	July 16, 1912	Holbrook Land and Water Co.	Murray Sheep Co.	Lake Creek	Pending
2442	July 17, 1912	J. F. Christopherson	Murray Sheep Co.	Lake Creek	Pending
2480	July 20, 1912	Dangberg Land and Livestock Co.	F. W. Sarman	East Fork Carson River	Pending
2442	July 31, 1912	Holbrook Land and Irrigation Co.	Murray Sheep Co.	Lake Creek	Pending
2458	Aug. 10, 1912	Adams & McGill	Chas. E. Millick	Millick Springs	Overruled
2471	Aug. 14, 1912	West Virginia National Mining Co.	Geo. A. Shea	Shea Spring	Pending
2471	Aug. 19, 1912	F. J. Pfluger	Geo. A. Shea	Shea Spring	Pending
2448	Aug. 23, 1912	Jennie C. Dumphy-Meyer, trustee	D. Bermeosalo	Lone Mountain Creek	Pending
2457	Aug. 23, 1912	Jennie C. Dumphy-Meyer, trustee	Frank B. Smith	Smith Spring	Pending
2405	Aug. 26, 1912	T. C. Hoyt, Forest Superintendent	F. J. Hagenbarth, et al.	Jarbidge River	Withdrawn
2462	Sept. 24, 1912	Golconda Cattle Co.	Geo. H. Davis	Bacon Creek	Pending
2475	Sept. 30, 1912	Andrew Bormudy	John Bate	Moffet Spring	Pending
2490	Oct. 14, 1912	Palo Alto Land and Live Stock Co.	Daniel C. McKenna	South Fork Owyhee River	Pending
2510	Oct. 21, 1912	Theodore Storff	James F. Mathews	Sheridan Creek	Pending
2519	Nov. 4, 1912	Anderson Land and Stock Co., et al.	U. S. Department of Agriculture	Three-Mile Creek	Pending
2475	Nov. 14, 1912	W. H. Boundy	John Bate	Moffett Spring	Pending
2508	Nov. 15, 1912	Garat & Co.	Anna Horn	Bull Run Creek	Pending
2510	Nov. 15, 1912	Garat & Co.	James F. Mathews	Sheridan Creek	Pending
2083	Nov. 25, 1912	Nevada Copper Mining, Milling and Power Co.	Western Asset Development Co.	Salmon River	Pending
2502	Nov. 20, 1912	G. W. Gonder, et al.	Geo. S. Robinson and Sons	Granite Springs	Pending
2536	Nov. 26, 1912	Fred Hinze	Homer H. Moss, et al.	Munk Slough	Pending
2481	Nov. 29, 1912	William M. Read	W. B. Bierce	Illipah Creek	Pending
2559	Dec. 9, 1912	Washoe Lake Reservoir and Galena Creek Ditch Co.	H. C. Neilson	Washoe Lake	Pending

[1]Protest barred by statute of limitation.

PROOFS OF APPROPRIATION PROTESTED DURING THE YEARS 1911 AND 1912

No.	Date	Name of protestant	Name of appropriator	Source	Action
01063	Jan. 24, 1912	R. C. Turritin, Secy. Eureka Land and Stock Co.	Thomas Dixon	Barrel Springs	Pending
0098	Dec. 30, 1912	Union Canal Ditch Co., et al.	John Harrison	Humboldt River	Pending
0099	Dec. 30, 1912	Union Canal Ditch Co., et al.	George S. Nixon estate, et al.	Humboldt River	Pending
0069	Dec. 30, 1912	Union Canal Ditch Co., et al.	The Rogers Estate	Humboldt River	Pending
0013	Dec. 30, 1912	Union Canal Ditch Co., et al.	L. N. Carpenter	Humboldt River	Pending
0068	Dec. 30, 1912	Union Canal Ditch Co., et al.	W. C. Ruddell	Humboldt River	Pending

CERTIFICATES ISSUED UNDER PERMITS FOR THE YEARS 1911-1912

Cert. No.	Book No.	Permit No.	Name	Source	Purpose	Amount	Date issued
601	1	1453	Western Pacific Railway Co.	Hot Springs	Railway and steam	.166 c. f. s.	4 29 11
602	1	322	The Seven Troughs Therian Gold Mining Co.	Seven Troughs Springs	Milling and domestic	.135 c. f. s.	8 30 11
603	1	1863	San Pedro, Los Angeles and Salt Lake R. R. Co.	Big Springs	Railroad	2 c. f. s.	8 30 11
609	1	1865	Pacific Fruit Express Co.	Maggie Creek	Ice	150 acre-feet year	11 13 11
1	3	373	H. A. Comins	Mosier Spring	Irrigation and stock	.022 c. f. s.	12 20 11
2	3	374	H. A. Comins	Tamerlaine Spring	Irrigation and stock	.025 c. f. s.	12 20 11
3	3	1494	Wilson Brothers	Prospect Springs	Stock and domestic	.025 c. f. s.	12 21 11
4	3	1498	Wilson Brothers	First Creek Springs	Stock and domestic	.025 c. f. s.	12 21 11
5	3	1736	Harry H. Stratton	Madalena Springs	Irrigation and domestic	.25 c. f. s.	12 21 11
6	3	1510	Nevada Wonder Mining Co.	Horse Creek	Mining, milling, domestic	.28 c. f. s.	3 18 12
7	3	1741	Nevada Gypsum Co.	Wiggins Spring	Mining, milling, domestic	.04 c. f. s.	4 15 12
8	3	504	Ira L. Winters	Double and Twin Springs	Stock and domestic	.05 c. f. s.	5 11 12
9	3	1899	The Goldfield Consolidated Water Co.	Mammoth Springs	Mining, milling, domestic	.148 c. f. s.	5 20 12
10	3	161	Eagle Mountain Water Co.	Springs, T.18 S, R.51 E, M.D.B.& M.	Irrigation and domestic	2.54 c. f. s.	6 18 12
11	3	533	Steptoe Valley Mining and Smelting Co.	East Creek	Mill., power., met., dom.	1.5 c. f. s.	6 20 12
12	3	1473	Wilson Brothers	La Madre Spring	Stock watering	.025 c. f. s.	6 18 12
13	3	1499	Wilson Brothers	South Fork Spring	Stock watering	.025 c. f. s.	6 18 12
14	3	1543	Wilson Brothers	Wheeler Spring	Stock watering	.025 c. f. s.	6 18 12
15	3	1501	Wilson Brothers	Oak Creek Spring	Stock watering	.025 c. f. s.	6 18 12
16	3	1472	Wilson Brothers	Mountain spring	Stock watering	.025 c. f. s.	6 18 12
17	3	2087	Nevada Consolidated Copper Co.	Spring, Sec. 23, T. 15 N, R. 62 E.	Min., dom., metallurgical	.1 c. f. s.	6 20 12
18	3	534	Steptoe Valley Mining and Smelting Co.	Duck Creek	Mill., dom., metallurgical	24 c. f. s.	6 18 12
19	3	1395	George John Myers	Myers Spring	Irrig., stock, domestic	.225 c. f. s.	6 20 12
20	3	558	Steptoe Valley Mining and Smelting Co.	North and Middle Creeks	Mill., dom., metallurgical	3 c. f. s.	6 20 12
21	3	1366	Johnnie Mining and Milling Co.	Willow Springs	Mining, milling, domestic	.125 c. f. s.	6 21 12
22	3	1483	Golconda Cattle Co.	East and West Springs	Stock watering	.025 c. f. s.	6 21 12
23	3	1111	Casten Olsen	Willow Spring	Stock watering	.025 c. f. s.	6 21 12
24	3	1024	William C. Ross	Spring (no name)	Irrigation	.025 c. f. s.	6 21 12
25	3	802	Casten Olsen	Osborne Spring	Stock watering	.025 c. f. s.	6 21 12
26	3	1390	The Nevada National Mining Co.	Mose Canyon	Milling, domestic	.1 c. f. s.	6 22 12
27	3	1054	Nevada-Humboldt Mining Co.	Florida Canyon Springs	Mining, domestic	.025 c. f. s.	6 22 12
28	3	804	Charles L. Fulstone	Carson River	Irrigation	.971 c. f. s.	6 24 12
29	3	2108	George S. Robinson and sons	Ohio and Cold Springs	Stock watering	.025 c. f. s.	6 25 12
30	3	2100	George D. Madalena	Flint Spring	Stock, domestic	.025 c. f. s.	6 25 12
31	3	1372	Jumbo Mining and Milling Co.	Campbell Springs	Mining, domestic	.375 c. f. s.	6 25 12
32	3	2086	Lucy Gray Gold Mining Co.	Springs	Mining, domestic	.166 c. f. s.	6 26 12
33	3	956	Alice A. Tippett	Blind Springs	Stock watering	.025 c. f. s.	6 26 12
34	3	1239	McCurdy & Chapman	Chin Creek	Irr., domestic, stock	.212 c. f. s.	6 26 12
35	3	1665	Rosetta Georgetta	Mud and Blind Springs	Stock watering	.039 c. f. s.	6 27 12
36	3	965	C. H. Duborg	Spring	Milling, domestic	.10 c. f. s.	6 28 12
37	3	1059	George W. Robinson	Weaver Creek	Irrigation	.66 c. f. s.	6 28 12
38	3	1307	Edward Thomarson	Spring	Mining, domestic	.025 c. f. s.	6 29 12
39	3	1224	Thomas Dixon	Summit Spring	Stock watering	.22 c. f. s.	6 29 12
40	3	299	The Cumberland Ely Copper Co.	Holt Creek Camp Spring	Mining, domestic	.619 c. f. s.	10 31 12
41	3	300	The Cumberland Ely Copper Co.	Holt Creek Camp Spring	Mining, domestic	.619 c. f. s.	10 31 12
42	3	1958	Guilio Minoletti	Mattel Creek	Irrigation, domestic	.56 c. f. s.	8 17 12
43	3	1937	Mrs. Mary Minoletti	Preston Creek	Irr., domestic, stock	.43 c. f. s.	8 17 12
44	3	1633	Thomas Dixon	Hillside Spring	Stock watering	.025 c. f. s.	10 31 12
45	3	1524	Frank Bassett	Main Antelope Spring	Irr., stock, domestic	.055 c. f. s.	10 31 12
46	3	1147	Joseph C. Tognoni	Springs and tunnel	Mining, domestic	.025 c. f. s.	10 31 12
47	3	1323	John Siri	Tehama Creek and Snow Springs	Irrigation, stock	2.05 c. f. s.	10 31 12
48	3	1178	John W. Christian	Deep Creek Canyon	Irr., stock, domestic	.3 c. f. s.	8 8 12
49	3	550	Mrs. Eliza Page	Hot Creek and springs	Irr., stock, domestic	.22 c. f. s.	8 28 12
50	3	1446	Western Pacific Railroad Co.	Group of springs, T 33 N, R 22 E.	Railroad, domestic	.23 c. f. s.	8 28 12
51	3	1820	Pete Corta, Guy Saval, and Theophile Bidart	Mithias Spring	Stock watering	.009 c. f. s.	11 6 12
52	3	1821	Pete Corta, Guy Saval, and Theophile Bidart	Heath Springs	Stock watering	.009 c. f. s.	11 6 12
53	3	1822	Pete Corta, Guy Saval, and Theophile Bidart	Carpenter Spring	Stock watering	.009 c. f. s.	11 6 12
54	3	1823	Pete Corta, Guy Saval, and Theophile Bidart	Bill Murray Spring	Stock watering	.009 c. f. s.	11 6 12
55	3	1824	Pete Corta, Guy Saval, and Theophile Bidart	John Baskin Spring	Stock watering	.009 c. f. s.	11 6 12
56	3	1825	Pete Corta, Guy Saval, and Theophile Bidart	McConlakey Spring	Stock watering	.009 c. f. s.	11 6 12
57	3	1826	Pete Corta, Guy Saval, and Theophile Bidart	Hall Springs	Irr., stock and domestic	3.98 c. f. s.	9 30 12
58	3	31	The Nevada Land and Livestock Co.	Muddy River	Irr., stock and domestic	4.252 c. f. s. (summer)	9 30 12
59	3	31	The Nevada Land and Livestock Co.	Muddy River		4.214 c. f. s. (winter)	
60	3	31	The Nevada Land and Livestock Co.	Muddy River	Irr., stock and domestic	.8 c. f. s.	9 30 12
61	3	2394	Victor G. Shepard	Gold Run Canyon	Irr., stock and domestic	.0741 c. f. s.	10 15 12
62	3	1589	Gentile Georgetta	Weaver Springs	Stock and domestic	.025 c. f. s.	11 6 12
63	3	1589	Gentile Georgetta	Crow Springs	Stock and domestic	.025 c. f. s.	11 6 12
64	3	1589	Gentile Georgetta	Cherry Springs	Stock and domestic	.025 c. f. s.	11 6 12
65	3	1875	Pedro Corta, Guy Saval, and Theophile Bidart	Nancy Springs	Stock and domestic	.009 c. f. s.	11 8 12
66	3	1876	Pedro Corta, Guy Saval, and Theophile Bidart	Jim Swayne Springs	Stock and domestic	.009 c. f. s.	11 8 12
67	3	1877	Pedro Corta, Guy Saval, and Theophile Bidart	Della Springs	Stock and domestic	.009 c. f. s.	11 8 12
68	3	1878	Pedro Corta, Guy Saval, and Theophile Bidart	Bill Rae Spring	Stock and domestic	.009 c. f. s.	11 8 12
69	3	1879	Pedro Corta, Guy Saval, and Theophile Bidart	Dora Spring	Stock and domestic	.009 c. f. s.	11 8 12
70	3	962	Martin Christopher	East Fork Rock Creek	Townsite and domestic	.1 c. f. s.	11 8 12
71	3	957	Frank Bassett	Rock Spring	Stock and domestic	.025 c. f. s.	11 9 12
72	3	957	Frank Bassett	Sand Spring	Stock and domestic	.025 c. f. s.	11 9 12
73	3	957	Frank Bassett	Blind Spring	Stock and domestic	.025 c. f. s.	11 9 12
74	3	1787	Truckee River General Electric Co.	Truckee River	Power	400 c. f. s.	11 22 12
75	3	2269	Otto Olsen	Hogrefe Slough	Irrig., stock, domestic	.504 c. f. s.	11 22 12
76	3	1114	John Henderson	Dry Creek	Irrig., stock, domestic	.34 c. f. s.	12 2 12
77	3	1650	John Holstrom	Humboldt River	Irrig., stock, domestic	.55 c. f. s.	12 3 12
78	3	1115	C. W. Griswold	Dry Creek	Irrig., stock, domestic	.55 c. f. s.	12 2 12

NOTE: The following abbreviations are found in the foregoing table: Co., Company; Spr. or Sprs., Spring or Springs; Cr. or Crs., Creek or Creeks; ac.-ft., acre-feet; c. f. s., cubic feet per second; R. R., Railroad; oper., operation; min., mining; mill., milling; dom., domestic; irrig., irrigation; sto., stock; metallurg., metallurgical.

CERTIFICATES ISSUED UNDER PROOFS OF APPROPRIATION FOR THE YEARS 1911-1912

Cert. No.	Book No.	Proof No.	Name	Source	Purpose	Amount	Date issued
604	1	0778	Peter Bennetti	Mattier Canyon	Irrig., stock, domestic	180 acre-feet per yr.	10 12 11
605	1	0773	Mrs. Eliza Burke	Schell Creek	Irrig., stock, domestic	540 acre-feet per yr.	10 12 11
1	2	01064	Philip M. Baker	Lamay Springs	Irrig., stock, domestic	415.4 acres	1 10 12
2	2	01065	Philip M. Baker	Cave Springs	Irrig., stock, domestic	7.5 acres	1 2 12
3	2	01066	Philip M. Baker	Baker and Lehman Creeks	Irrig., stock, domestic	1,767.8 acres	1 10 12
4	2	0754	Nevada Wonder Mining Co.	Horse Creek	Irrig., stock, domestic	32.5 acres	3 8 12
5	2	01027	Joseph Conway	Upper Colburn Spring	Stock and domestic	.003 c. f. s.	3 12 12
				Center Colburn Spring	Stock and domestic	.003 c. f. s.	3 12 12
				Lower Colburn Spring	Stock and domestic	.003 c. f. s.	3 12 12
				Chalk Spring	Stock and domestic	.002 c. f. s.	3 12 12
				Grassy Spring	Stock and domestic	.008 c. f. s.	3 12 12
6	2	0779	John H. Johnson	Oak Spring	Stock and domestic	.002 c. f. s.	3 12 12
7	2	0736	Mrs. Santina Bordoli	Carico Creek	Irrig., stock, domestic	36 acres	3 12 12
8	2	01082	James Rogantini	Italian Springs	Irrig., stock, domestic	50.44 acres	3 14 12
9	2	0812	Henry A. Comins	Rogantini Stock Springs	Stock and domestic	.025 c. f. s.	3 27 12
10	2	0812	Henry A. Comins	Willow Creek	Irrig., stock, domestic	317.6 acres	4 6 12
11	2	0812	Henry A. Comins	Willow Creek	Irrig., stock, domestic	112.1 acres	5 20 12
12	2	0812	Henry A. Comins	Willow Creek	Irrig., stock, domestic	37.9 acres	5 20 12
13	2	0812	Henry A. Comins	Willow Creek	Irrig., stock, domestic	72.4 acres	5 20 12
14	2	0812	Henry A. Comins	Willow Creek	Irrig., stock, domestic	459.58 acres	5 20 12
15	2	01116	Mrs. Edna Champange	Schoolhouse Can., Spr., Tunnel	Irrig., stock, domestic	111 acres	5 20 12
16	2	01117	Mrs. Hattie B. Morrison	Schoolhouse Canyon	Irrig., stock, domestic	.04 c. f. s.	8 8 12
17	2	01118	Mrs. Sophia Christiansen	Schoolhouse Canyon	Irrig., stock, domestic	.082 c. f. s.	8 8 12
18	2	0813	Nevada and California Land and Livestock Co.	Blue Wing Spring	Irrig., stock, domestic	.03 c. f. s.	8 8 12
19	2	0814	Nevada and California Land and Livestock Co.	Sagehen Spring	Stock and domestic	.008 c. f. s.	8 20 12
20	2	0815	Nevada and California Land and Livestock Co.	Stone House Spring	Stock and domestic	.013 c. f. s.	8 20 12
21	2	0816	Nevada and California Land and Livestock Co.	Tunnel Spring	Stock and domestic	.024 c. f. s.	8 20 12
22	2	0818	Nevada and California Land and Livestock Co.	Juniper Spring	Stock and domestic	.008 c. f. s.	8 20 12
23	2	0716	Gertrude C. Millett	Pablo Canyon Creek	Stock and domestic	.008 c. f. s.	8 20 12
24	2	01023	William Henroid	Smith Canyon Spring	Irrig., stock, domestic	64 acres	9 19 12
25	2	01024	William Henroid	Lunch Canyon Spring	Stock watering	.025 c. f. s.	10 5 12
26	2	01009	J. Fee	New Year Lake	Stock watering	.025 c. f. s.	10 5 12
27	2	01029	J. D. Thompson	Dupont Creek	Irrig., stock, domestic	82.1 acres	11 20 12
28	2	01030	J. D. Thompson	North Creek	Irrig., stock, domestic	23.7 acres	11 20 12
29	2	01030	J. D. Thompson	Geyser Creek	Irrig., stock, domestic	73.2 acres	11 21 12
30	2	01075	H. C. Warren	Cumberland Creek	Irrig., stock, domestic	192.05 acres	11 21 12
31	2	01080	John Yelland	Nigger Creek	Irrig., stock, domestic	12.7 acres	11 21 12
32	2	01080	John Yelland	Nigger Creek	Irrig., stock, domestic	40 acres	11 22 12
33	2	01080	John Yelland	Nigger Creek	Irrig., stock, domestic	10 acres	11 22 12
34	2	01090	J. R. Ferry	Glenco Springs	Irrig., stock, domestic	16.63 acres	11 22 12
35	2	01068	Eureka Land and Stock Co.	Lucky Sprs., Seabury Can., Sprs.	Stock and domestic	.025 c. f. s.	11 22 12
36	2	01110	Jorgen P. Jacobsen	Rock Canyon	Min., mill., town supply	.1 c. f. s.	11 23 12
37	2	01111	Jorgen P. Jacobsen	Box Springs Canyon	Irrig., stock, domestic	21.25 acres	11 23 12
38	2	01114	Nels Toft	Horse Canyon	Irrig., stock, domestic	36 acres	11 23 12
					Irrig., stock, domestic	50 acres	11 23 12

39	2	01115	Nels Toft	Taft Springs	Irrig., stock, domestic	148.3 acres	11 25 12
40	2	01115	Nels Toft	Taft Springs	Irrig., stock, domestic	6 acres	11 25 12
41	2	01083	James Rogantini	Pinto Creek	Irrig., stock, domestic	85 acres	11 25 12
42	2	01089	Angelo Depaoli	Old Bennett Spring	Irrig., stock, domestic	1.1 acres	11 25 12
43	2	01150	A. Bruno	Five Mile Springs	Irrig., stock, domestic	9.01 acres	11 26 12
44	2	01151	Amos B. Gardner	Forest Home Spring	Irrig., stock, domestic	26.86 acres	11 26 12
45	2	01151	Amos B. Gardner	Forest Home Spring	Irrig., stock, domestic	5.78 acres	11 26 12
46	2	01152	M. B. Cutler	Cherry Creek	Irrig., stock, domestic	40.57 acres	11 26 12
47	2	01152	M. B. Cutler	Cherry Creek	Irrig., stock, domestic	4.3 acres	11 26 12
48	2	01153	G. G. Davis	Cherry Creek	Irrig., stock, domestic	22.3 acres	11 26 12
49	2	01154	Frenzi Estate	Cherry Creek	Irrig., stock, domestic	6.99 acres	11 26 12
50	2	01155	G. B. Welch	Pine Creek	Irrig., stock, domestic	13.94 acres	11 25 12
51	2	01155	G. B. Welch	Pine Creek	Irrig., stock, domestic	17.38 acres	11 25 12
52	2	01156	Indian Bob	North Fork Cottonwood Creek	Irrig., stock, domestic	4.38 acres	11 25 12
53	2	0717	M. Badt and Co.	Jerry Spring	Irrig., stock, domestic	10 acres	11 27 12
54	2	01146	M. Badt and Co.	Warm Creek	Irrig., stock, domestic	585.7 acres	11 27 12
55	2	01123	William Blair	Water Canyon Springs	Irrig., stock, domestic	.85 acres	11 27 12
56	2	01124	B. Cerutti	Water Canyon Springs	Stock and domestic	.025 c. f. s.	11 27 12
57	2	01022	Patrick Ryan Estate	Geo. Blythe Spring	Stock and domestic	.0125 c. f. s.	11 27 12
58	2	01022	Patrick Ryan Estate	Saw Mill Spring	Stock and domestic	.0125 c. f. s.	11 27 12
59	2	01022	Patrick Ryan Estate	Upper Riggs Spring	Stock and domestic	.0625 c. f. s.	11 27 12
60	2	01022	Patrick Ryan Estate	Lower Riggs Spring	Stock and domestic	.0125 c. f. s.	11 27 12
61	2	01022	Patrick Ryan Estate	Indian Spring No. 1	Stock and domestic	.025 c. f. s.	11 27 12
62	2	01022	Patrick Ryan Estate	Indian Spring No. 2	Stock and domestic	.0125 c. f. s.	11 27 12
63	2	01047	James B. & George T. A. Wilson	Lone Willow Spring	Stock and domestic	.0125 c. f. s.	11 27 12
64	2	01048	James B. & George T. A. Wilson	Ash Creek Spring	Stock and domestic	.025 c. f. s.	11 27 12
65	2	01049	James B. & George T. A. Wilson	Red Rock Spring	Stock and domestic	.0125 c. f. s.	11 29 12
66	2	01050	James B. & George T. A. Wilson	White Rock Spring	Stock and domestic	.0125 c. f. s.	11 29 12
67	2	01051	James B. & George T. A. Wilson	Little Creek	Stock and domestic	.025 c. f. s.	11 29 12
68	2	01052	James B. & George T. A. Wilson	Calico Creek	Stock and domestic	.025 c. f. s.	11 29 12
69	2	01035	Adams & McGill	Bostwick Creek	Stock and domestic	.066 c. f. s.	11 29 12
70	2	0794	Adams & McGill	Archie Spring	Stock and domestic	.05 c. f. s.	11 29 12
71	2	0795	Adams & McGill	Combs Creek	Stock and domestic	.05 c. f. s.	11 29 12
72	2	0796	Adams & McGill	Sagehen Creek	Stock and domestic	.05 c. f. s.	11 29 12
73	2	0797	Adams & McGill	Thirty-Mile Spring	Stock and domestic	.05 c. f. s.	11 29 12
74	2	0798	Adams & McGill	Summit Spring	Stock and domestic	.05 c. f. s.	11 29 12
75	2	0799	Adams & McGill	Burnt Cabin Creek	Stock and domestic	.033 c. f. s.	11 29 12
76	2	0800	Adams & McGill	Gleason Creek	Stock and domestic	.05 c. f. s.	11 29 12
77	2	01139	Adams & McGill	South Spring	Stock and domestic	.05 c. f. s.	11 29 12
78	2	01140	Adams & McGill	Rock Spring	Stock and domestic	.05 c. f. s.	11 29 12
79	2	01141	Adams & McGill	Grouse Spring	Stock and domestic	.05 c. f. s.	11 29 12
80	2	01142	Adams & McGill	Watson Spring	Irr., stock and domestic	1 acre	11 29 12
81	2	01143	Adams & McGill	West Side Spring	Stock and domestic	.05 c. f. s.	11 29 12
82	2	01144	Adams & McGill	Camp Tender Spring	Stock and domestic	.05 c. f. s.	11 29 12
83	2	01145	Adams & McGill	Sheep Creek	Stock and domestic	.05 c. f. s.	11 29 12
84	2	01136	Giacomo Pietrini	Eagan Creek	Irr., stock and domestic	76 acres	12 2 12
85	2	01138	Horace A. Aggee	Wiseman Creek	Irr., stock and domestic	229 acres	12 2 12
86	2	01138	Horace A. Aggee	Gordon and S. Wiseman Creeks	Irr., stock and domestic	91.39 acres	12 2 12
87	2	0742	Jerome Vidovich	Vidovich Springs	Irr., stock and domestic	1 acre	12 3 12
88	2	0742	Jerome Vidovich	Vidovich Springs	Irr., stock and domestic	5 acres	12 3 12
89	2	01157	William H. Smith	Smith Springs	Irr., stock and domestic	124.2 acres	12 3 12
90	2	01157	William H. Smith	Smith Springs	Irr., stock and domestic	30 acres	12 3 12

CERTIFICATES ISSUED UNDER PROOFS OF APPROPRIATION—*Continued*

Cert. No.	Book No.	Proof No.	Name	Source	Purpose	Amount	Date issued
91	2	01158	William H. Smith	Smith's Spring	Stock and domestic	.0125 c. f. s.	12 3 12
92	2	01105	Robert Bailey, Wallace Bailey, Edgar Sadler	"N-T" Spring	Stock and domestic	.0125 c. f. s.	12 4 12
93	2	01161	The Preston Irrigation Co.	Preston Big Spring	Irr., stock and domestic	5 acres	12 2 12
94	2	01166	George R. Haydon	White River	Irr., stock and domestic	163 acres	12 2 12
95	2	01170	Stephen Williams	White River	Irr., stock and domestic	29.5 acres	12 2 12
96	2	01163	The Lund Irrigation Co.	Lund Spring	Irr., stock and domestic	104 acres	12 2 12
97	2	01163	The Lund Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	96 acres	12 2 12
98	2	01161	The Preston Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	80 acres	12 2 12
99	2	01167	James T. McQueen	White River	Irrig., stock, domestic	25 acres	12 2 12
100	2	01171	Christian and Karen Hermansen	White River	Irrig., stock, domestic	238.5 acres	12 2 12
101	2	01163	The Lund Irrigation Co.	Lund Spring	Irrig., stock, domestic	68.8 acres	12 2 12
102	2	01163	The Lund Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	81.2 acres	12 2 12
103	2	01161	The Preston Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	90 acres	12 2 12
104	2	01167	James T. McQueen	White River	Irrig., stock, domestic	10 acres	12 2 12
105	2	01163	The Lund Irrigation Co.	Lund Spring	Irrig., stock, domestic	30 acres	12 2 12
106	2	01161	The Preston Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	90 acres	12 2 12
107	2	01163	The Lund Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	26 acres	12 2 12
108	2	01165	Adams & McGill	McQuitty Springs	Irrig., stock, domestic	34 acres	12 2 12
109	2	01169	Andrew Lee	White River	Irrig., stock, domestic	9.4 acres	12 2 12
110	2	01167	James T. McQueen	White River	Irrig., stock, domestic	20 acres	12 2 12
111	2	01161	The Preston Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	363.6 acres	12 2 12
112	2	01163	The Lund Irrigation Co.	Lund Spring	Irrig., stock, domestic	143.6 acres	12 2 12
113	2	01163	The Lund Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	259.7 acres	12 2 12
114	2	01161	The Preston Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	480.2 acres	12 2 12
115	2	01163	The Lund Irrigation Co.	Lund Spring	Irrig., stock, domestic	443.5 acres	12 2 12
116	2	01163	The Lund Irrigation Co.	Preston Big Spring	Irrig., stock, domestic	83.1 acres	12 2 12
117	2	01167	James T. McQueen	White River	Irrig., stock, domestic	14 acres	12 2 12
118	2	01163	The Lund Irrigation Co.	Preston Big Spring	Irrigation and stock	142 acres	12 2 12
119	2	01162	Adams & McGill	Preston Big Spring	Irrigation and stock	220 acres	12 2 12
120	2	01168	Adams & McGill	White River	Irrigation and stock	120 acres	12 2 12
121	2	01164	Adams & McGill	Lund Spring	Irrigation and stock	300 acres	12 2 12
122	2	01163	The Lund Irrigation Co.	Lund Spring	Irrigation and stock	286 acres	12 2 12

NOTE: The abbreviations in the foregoing table are: Co., Company; Spr. or Sprs., Spring or Springs; Cr. or Crs., Creek or Creeks; ac.-ft. acre-feet; C. F. S., Cubic feet per second; Min., Mining; Mill., Milling; Dom., Domestic; Irrig., Irrigation; Sto., Stock.

PROOFS OF APPROPRIATION FOR WATER FILED

No.	Name	Source of appropriation	Certificate No. Book 1	Amount	Purpose
01	Anderson, Peter	East Carson River	1	4 acres	Irrigation
02	Andrain, P. F.	East Carson River	2	3 acres	Irrigation
03	Behrman, H.	East Carson River	3	1 acre	Irrigation
04	Behrman, Mrs. A. M.	East Carson River	4	.5 acre	Irrigation
05	Berning, Chris	East Carson River	5	3 acres	Irrigation
06	Best, H.	East Carson River	6	1 acre	Irrigation
07	Brown, Charles	East Carson River	7	.5 acre	Irrigation
08	Brown, George J.	East Carson River	8	2 acres	Irrigation
09	Brown, T. J.	East Carson River	9	3.5 acres	Irrigation
010	Bull, Victor	East Carson River	10	.25 acre	Irrigation
011	Christensen, E.	East Carson River	11	.333 acre	Irrigation
012	Christensen, Martin	East Carson River	12	.125 acre	Irrigation
013	Cordes, Henry	East Carson River	13	109 acres	Irrigation
014	Cordes, Fritz	East Carson River	14	3 acres	Irrigation
015	Cordes, Fritz	East Carson River	15, 16	80 acres	Irrigation
016	Cordes, Fritz	East Carson River	17	48 acres	Irrigation
017	Dangberg, William	East Carson River	53	133 acres	Irrigation
018	Dangberg, William	East Carson River	54	40 acres	Irrigation
019	Dangberg Land and Livestock Company	East Carson River	18, 19, 20	192 acres	Irrigation
020	Dangberg Land and Livestock Company	East Carson River	22	90 acres	Irrigation
021	Dangberg Land and Livestock Company	East Carson River	21	100 acres	Irrigation
	Dangberg Land and Livestock Company	East Carson River	23-43	7,077 acres	Irrigation
022	Dangberg, C. F. W.	East Carson River	44	.75 acres	Irrigation
023	Dangberg, H. C.	East Carson River	45, 48, 49, 51	365 acres	Irrigation
024	Dangberg, H. C.	East Carson River	46, 47	84 acres	Irrigation
025	Dangberg, H. C.	East Carson River	50, 52	115 acres	Irrigation
026	Dangberg, William	East Carson River	55	141 acres	Irrigation
027	Douglas County Creamery Company	East Carson River	56	6 acres	Irrigation
028	Elges, Henry	East Carson River	57, 58, 60	120 acres	Irrigation
029	Elges, Henry	East Carson River	59	.25 acres	Irrigation
030	Elges, Henry	East Carson River	61	34 acres	Irrigation
031	Elges, Henry	East Carson River	62	25 acres	Irrigation
032	Ezell, L. S.	East Carson River	63, 65, 67	110 acres	Irrigation
033	Ezell, L. S.	East Carson River	64	48 acres	Irrigation
034	Ezell, L. S.	East Carson River	66	32 acres	Irrigation
035	Frantzen, Mrs. Louise	East Carson River	68, 69, 71	74 acres	Irrigation
036	Frantzen, Mrs. Louise	East Carson River	70	4 acres	Irrigation
037	Fricke, Fritz	East Carson River	73	15 acres	Irrigation
038	Fricke, Fritz	East Carson River	72, 76	32 acres	Irrigation
039	Fricke, Fritz	East Carson River	74	.333 acre	Irrigation
040	Fricke, Fritz	East Carson River	75, 77	13 acres	Irrigation
041	Fricke, Fritz	East Carson River	78, 80	17 acres	Irrigation
042	Fricke, Fritz	East Carson River	79	13 acres	Irrigation
043	Gardnerville Cemetery Association	East Carson River	81	5 acres	Irrigation
044	Glock, Bernhard	East Carson River	82	2 acres	Irrigation

PROOFS OF APPROPRIATION FOR WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Amount	Purpose
045	Hansen, Andrew	East Carson River	83, 84, 85	120 acres	Irrigation
046	Hanghner, Oley O.	East Carson River	86	.5 acre	Irrigation
047	Heise, Fred	East Carson River	87, 88, 89, 91	381 acres	Irrigation
048	Heise, Fred	East Carson River	90	5 acres	Irrigation
049	Heitman, Hammond	East Carson River	92	1 acre	Irrigation
050	Heitman, Henry	East Carson River	93, 95, 96	118 acres	Irrigation
051	Heitman, Henry	East Carson River	94	16 acres	Irrigation
052	Heitman, Peter	East Carson River	97	162 acres	Irrigation
052	Heitman, Peter	East Carson River	216	27 c. f. s.	Power
053	Hellwinkle, Fred	East Carson River	98, 99	84 acres	Irrigation
054	Hellwinkle, Fred	East Carson River	100, 101, 102	66 acres	Irrigation
055	Henningsen, C. M.	East Carson River	105, 107-109	178 acres	Irrigation
056	Henningsen, C. M.	East Carson River	103	155 acres	Irrigation
057	Henningsen, C. M.	East Carson River	104, 106	219 acres	Irrigation
058	Hunt, Charles S.	East Carson River	110	2.5 acres	Irrigation
059	Hussman, William	East Carson River	111, 112	127 acres	Irrigation
060	Hussman, William	East Carson River	113, 116	17 acres	Irrigation
061	Hussman, William	East Carson River	114, 115, 117	107 acres	Irrigation
062	Hussman, Fred, estate of	East Carson River	118	141 acres	Irrigation
063	Hussman, Fred, estate of	East Carson River	122, 123	25 acres	Irrigation
064	Hussman, Fred, estate of	East Carson River	120, 124	74 acres	Irrigation
065	Hussman, Fred, estate of	East Carson River	119, 121	62 acres	Irrigation
066	Imelli, Sam A.	East Carson River	125	2.5 acres	Irrigation
067	Jacobsen, M.	East Carson River	126, 127	78 acres	Irrigation
068	Jacobsen, Peter	East Carson River	128, 129	55 acres	Irrigation
069	Jensen, A.	East Carson River	130	.5 acre	Irrigation
070	Jensen, N. P.	East Carson River	131	.25 acre	Irrigation
071	Jensen, Mathias	East Carson River	132	.5 acre	Irrigation
072	Jensen, Mathias	East Carson River	133	15 acres	Irrigation
073	Jensen, Mathias	East Carson River	134	5 acres	Irrigation
074	Jepsen, Bertram	East Carson River	135	.25 acre	Irrigation
075	Jepsen, M.	East Carson River	136, 137	43 acres	Irrigation
076	Jepsen, M.	East Carson River	138	40 acres	Irrigation
077	Jepsen, M.	East Carson River	139	42 acres	Irrigation
078	Jessen, Andrew	East Carson River	140	14.5 acres	Irrigation
079	Jones, Dave	East Carson River	141	1 acre	Irrigation
080	Kelly	East Carson River	142	.25 acre	Irrigation
081	King, Will	East Carson River	143	.5 acre	Irrigation
082	Krummes, C. M.	East Carson River	144	1 acre	Irrigation
083	Lampe, William	East Carson River	145	118 acres	Irrigation
084	Lampe, William	East Carson River	146	26 acres	Irrigation
085	Lange, Henry	East Carson River	147, 148, 149	132 acres	Irrigation
086	Larsen, J. C.	East Carson River	150	1.5 acres	Irrigation
087	Luhrs, Henry	East Carson River	151	448 acres	Irrigation
088	Luhrs, Henry	East Carson River	152	25 acres	Irrigation

089	Luhrs, Henry	East Carson River	153	117 acres	Irrigation
090	Lutheran Church	East Carson River	154	1.5 acres	Irrigation
091	Marquardt, H.	East Carson River	155-159	753 acres	Irrigation
092	Marquardt, H.	East Carson River	160, 161	135 acres	Irrigation
093	Martin, J. H.	East Carson River	162-166	378 acres	Irrigation
094	Mathisen, Mrs. A. C.	East Carson River	167	2 acres	Irrigation
095	Miller, Alexander	East Carson River	168	6 acres	Irrigation
096	Nelson, Louis	East Carson River	169	*29 acres	Irrigation
097	Nelson, Louis	East Carson River	170	3 acres	Irrigation
098	Newhans, Henry	East Carson River	173	.5 acre	Irrigation
099	Pettegrew, Mrs. S. A.	East Carson River	174	1 acre	Irrigation
0100	Ritchford, William	East Carson River	175	.33 acre	Irrigation
0101	Robeck, Peter	East Carson River	176	.5 acre	Irrigation
0102	Rodenbah, Jacob	East Carson River	178	6 acres	Irrigation
0103	Rodenbah, Jacob	East Carson River	178	32 c. f. s.	Power
0103	Rodenbah, Jacob	East Carson River	177, 179	99 acres	Irrigation
0104	Rohlfs, Mrs. Dora	East Carson River	180	5 acres	Irrigation
0105	Roper, F. H.	East Carson River	181	.33 acre	Irrigation
0106	Schacht, Fritz	East Carson River	182	223 acres	Irrigation
0107	Schacht, Fritz	East Carson River	183, 184	280 acres	Irrigation
0108	Schacht, Fritz	East Carson River	185, 186	248 acres	Irrigation
0109	Seeman, Fritz	East Carson River	187	151 acres	Irrigation
0110	Settlemeyer, Arnold	East Carson River	188, 189	145 acres	Irrigation
0111	Settlemeyer, Arnold	East Carson River	190	40 acres	Irrigation
0112	Springmeyer, F. C.	East Carson River	191, 192	167 acres	Irrigation
0113	Springmeyer, H. H.	East Carson River	194	233 acres	Irrigation
0114	Springmeyer, H. H.	East Carson River	195	223 acres	Irrigation
0115	Starke, William	East Carson River	196	2 acres	Irrigation
0116	Stodieck, F. W.	East Carson River	197	81 acres	Irrigation
0117	Stodieck, F. W.	East Carson River	198	44 acres	Irrigation
0118	Stodieck, F. W.	East Carson River	199	.25 acre	Irrigation
0119	Stodieck, Henry	East Carson River	200	5 acres	Irrigation
0120	Svansen, Peter	East Carson River	201	12 acres	Irrigation
0121	Syll, August	East Carson River	202, 203, 204	50 acres	Irrigation
0122	Thran, Herman	East Carson River	205	.125 acre	Irrigation
0123	Ward, R.	East Carson River	207, 208, 209	105 acres	Irrigation
0124	Wennhold, Dick	East Carson River	206	20 acres	Irrigation
0125	Wennhold, Dick	East Carson River	211	8 acres	Irrigation
0126	Wilslef, Neils P.	East Carson River	210	9 acres	Irrigation
0127	Wilslef, Neils P.	East Carson River	213	29 acres	Irrigation
0128	Wilslef, Thomas N.	East Carson River	212	25 acres	Irrigation
0129	Wilslef, Thomas N.	East Carson River	214, 215	114 acres	Irrigation
0130	Winkleman, Dick	East Carson River	171, 172	59 acres	Irrigation
0131	Nelson, Louis	East Carson River			
0132	Schacht, Fritz, certificates issued under proof 0108	East Carson River	193	94 acres	Irrigation
0133	Springmeyer, H. H.	East Carson River	227, 257	272 acres	Irrigation
0134	Park, D. B.	West Carson River	228	60 acres	Irrigation
0135	Swail, W. J.	West Carson River	229, 266	72 acres	Irrigation
0136	Allerman, H. D.	West Carson River			

*The amount of appropriation in the certificate shows 29 acres, but the land described in the certificate only shows 23 acres. The land in the proof of appropriation shows only 23 acres.

PROOFS OF APPROPRIATION FOR WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Amount	Purpose
0137	Cosser, Mrs. Mary	West Carson River	230	160 acres	Irrigation
0138	Johnson, Chris	West Carson River	231	118 acres	Irrigation
0139	Palmer, Ben	West Carson River	232	235 acres	Irrigation
0140	Christensen, L. M.	West Carson River	233, 258	135 acres	Irrigation
0141	Hansen, Mathias	West Carson River	234	253 acres	Irrigation
0142	Park, Hugh	West Carson River	235, 297	54 acres	Irrigation
0143	Park, Hugh	West Carson River	236	11 acres	Irrigation
0144	Smith, P. T.	West Carson River	237, 261	67 acres	Irrigation
0145	Springmeyer, L.	West Carson River	238, 283	67 acres	Irrigation
0146	Hansen, Andrew	West Carson River	240	7 acres	Irrigation
------	Dangberg Land and Livestock Company	West Carson River	239	529 acres	Irrigation
0147	Hickey, J.	West Carson River	241	178 acres	Irrigation
0148	Hickey, J.	West Carson River	242	80 acres	Irrigation
0149	Park, D. B.	West Carson River	243, 298	100 acres	Irrigation
0150	Rabe, Chris	West Carson River	244, 252	170 acres	Irrigation
0151	Rabe, Chris	West Carson River	245	50 acres	Irrigation
0152	Ruhenstroth, L.	West Carson River	246	74 acres	Irrigation
0153	Van Sickle, J. P.	West Carson River	247	240 acres	Irrigation
------	Dangberg Land and Livestock Company	West Carson River	248	377 acres	Irrigation
0154	Johnson, H.	West Carson River	249, 288	78 acres	Irrigation
0155	Jones, D. R.	West Carson River	250	146 acres	Irrigation
0156	Jones, D. R.	West Carson River	251	75 acres	Irrigation
0157	Ruhenstroth, L.	West Carson River	253	92 acres	Irrigation
0158	Ruhenstroth, L.	West Carson River	254	108 acres	Irrigation
0159	Johnson, Chris.	West Carson River	255	157 acres	Irrigation
0160	Dressler, William	West Carson River	259	50 acres	Irrigation
------	Palmer, Ben	West Carson River	256	241 acres	Irrigation
0161	Settlemeyer, H. W.	West Carson River	260, 294	110 acres	Irrigation
0162	James, W. H. and Bros.	West Carson River	[b]311	20 acres	Irrigation
0163	Dressler, William	West Carson River	262	98 acres	Irrigation
0164	Radloff, A.	West Carson River	263	48 acres	Irrigation
0165	Jones, D. R.	West Carson River	264, 292	82 acres	Irrigation
0166	James, W. H. and Bros.	West Carson River	[b]312	161 acres	Irrigation
0167	Scossa, Eugene and Alex	West Carson River	265	164 acres	Irrigation
0168	Hellwinkle, Henry	West Carson River	267, 304	210 acres	Irrigation
0169	Johnson, Chris	West Carson River	268	58 acres	Irrigation
0170	Bassman, Henry	West Carson River	269	7 acres	Irrigation
0171	Fay, M.	West Carson River	270	339 acres	Irrigation
0172	Godecke, Henry	West Carson River	271	114 acres	Irrigation
0173	Neddenreip, F. and Heise, F.	West Carson River	272, 289	417 acres	Irrigation
0174	Taylor, Mrs. A. M.	West Carson River			
0175	Radloff, A.	West Carson River	273	49 acres	Irrigation

[b]These appropriators are on the main Carson River below the confluence of the East and West Forks, but, in the adjudication, the amount of their appropriation has been totaled with the West Fork.

0176	Springmeyer, L.	West Carson River	274	313 acres	Irrigation
0177	Tucke, Mrs. C. Mary	West Carson River	275	171 acres	Irrigation
0178	Tucke, Mrs. C. Mary	West Carson River	276	29 acres	Irrigation
0179	Tucke, Casper	West Carson River	277	200 acres	Irrigation
0180	Christensen, H. P.	West Carson River	278	45 acres	Irrigation
0181	Scheele, William	West Carson River	280	199 acres	Irrigation
0182	Thomson, J. C.	West Carson River	281, 290	73 acres	Irrigation
0183	Thran, Richard	West Carson River	282	159 acres	Irrigation
0184	Christensen, L. M.	West Carson River	284	75 acres	Irrigation
0185	Settlemeyer, H. W.	West Carson River	285	72 acres	Irrigation
0186	Hansen, Andrew	West Carson River	286	33 acres	Irrigation
0187	Hansen, Mathias	West Carson River	287	200 acres	Irrigation
0188	Hellwinkle, Henry	West Carson River	291, 305	185 acres	Irrigation
0189	Ruhenstroth, L.	West Carson River	293, 301, 308	86 acres	Irrigation
0190	Thran, Herman	West Carson River	295	23 acres	Irrigation
0191	Fricke, Dick	West Carson River	296	9 acres	Irrigation
0192	Settlemeyer, H. W.	West Carson River	299, 303, 307	192 acres	Irrigation
0193	Dressler, William	West Carson River	279, 300	712 acres	Irrigation
0194	Dressler, William	West Carson River	302, 306	214 acres	Irrigation
------	Dangberg Land and Livestock Company	West Carson River	[c]313	57 acres	Irrigation
0195	Dressler, A. L.	West Carson River	[c]314	20 acres	Irrigation
0196	Child, Mrs. E. A.	West Carson River	[c]315	16 acres	Irrigation
0197	Taylor, Mrs. A. M.	West Carson River			
0198	Van Sickle, Mrs. L.	West Carson River			
0199	Park, Hugh	West Carson River			
0200	Scossa, Eugene and Alex	West Carson River			
0201	Park, D. B.	West Carson River			
0202	Palmer, Ben	West Carson River	317	77 acres	Irrigation
0203	Cook, William	Carson River	318, 323	143 acres	[d]Irrigation
0204	Union Mill and Mining Co.	Carson River	319	78 acres	Irrigation
0205	Ambrose, C. A.	Carson River	320	44 acres	Irrigation
0206	Regan, Ed.	Carson River	321	50 acres	Irrigation
0207	Lloyd, J. T.	Carson River	322	76 acres	Irrigation
0208	Wiggins, J. W.	Carson River	[e]327	2.5 acres	Irrigation
0209	Davis, Herman	Carson River	328	65 acres	Irrigation
0210	Cassinelli, Peter	Carson River	329, 368	135 acres	Irrigation
0211	Frugoli, M.	Carson River	330	57 acres	Irrigation
0212	Venturi, Patrick & Lorenzo	Carson River	331, 347, 367, 374	101 acres	Irrigation
0213	Baroni, D. & Co.	Carson River	332, 356, 366	71 acres	Irrigation
0214	Depoli, John, and Combellick, Henry	Carson River	333, 364	175 acres	Irrigation
0215	Gardella, G. & Co.	Carson River	334, 345, 361, 375	128 acres	Irrigation
0216	Quilici, Luigi	Carson River	335	527 acres	Irrigation
0217	Towle, Chas. E. & A. A.	Carson River	336, 353	255 acres	Irrigation
0218	Towle, Chas. E. & A. A.	Carson River	337, 343, 373	142 acres	Irrigation
0219	Comstock Tunnel Co.	Carson River	338	850 acres	Irrigation
0220	Occidental Land and Improvement Co.	Carson River	339	320 acres	Irrigation
0221	Occidental Land and Improvement Co.	Carson River	340, 355	270 acres	Irrigation
0222	Serani, M. & Co.	Carson River			

[c]These appropriators are on the main Carson River below the confluence of the East and West Forks, but in the adjudication, the amount of their appropriation has been totaled with the West Fork.

[d]These certificates were also issued for power purposes as per the decree in Case No. 520, U. S. Circuit Court, District of Nevada.

[e]This certificate is also issued for power purposes as per the decree in Case No. 520, U. S. Circuit Court, District of Nevada.

PROOFS OF APPROPRIATION FOR WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Amount	Purpose
0223	Towle, Chas. E. and A. A.	Carson River	341	190 acres	Irrigation
0224	Tailleur, J. M.	Carson River	342, 346, 370	43 acres	Irrigation
0225	Scott, Mrs. Mary E.	Carson River	344	.5 c. f. s.	Domestic only
0226	Cardelli, Orlando and Tauscedi	Carson River	348, 358, 372	200 acres	Irrigation
0227	Comstock Tunnel Co.	Carson River	349, 376	114 acres	Irrigation
0228	Donati, L.	Carson River	350	170 acres	Irrigation
0229	Mariani, Leopardo	Carson River	351	45 acres	Irrigation
0230	Randall, D. P. and Howard E.	Carson River	352, 362	328 acres	Irrigation
0231	Donati, L.	Carson River	354	71 acres	Irrigation
0232	Perkins, Albert	Carson River	357, 365, 369	14 acres	Irrigation
0233	Cardelli, Orlando and Tauscedi	Carson River	359, 363, 371	128 acres	Irrigation
0234	Quilici, Angelo	Carson River	360	28 acres	Irrigation
0235	Comstock Tunnel Co.	Carson River			
0236	Comstock Tunnel Co.	Carson River			
.....	Bonelli, Frank	Muddy River	400	45 acres	Irrigation
0237	Sproles, Andrew J.	Muddy River	414, 506	32 acres	Irrigation
0238	Nevada Land and Livestock Co.	Muddy River	412, 413, 423, 511	198 acres	Irrigation
0239	King, A. S.	Muddy River	410	22 acres	Irrigation
0240	Sparks, H. A.	Muddy River	411	19 acres	Irrigation
0241	Sparks, H. A.	Muddy River	458, 462	12 acres	Irrigation
0242	Lytle, J. M.	Muddy River	421	5 acres	Irrigation
0243	Crosby, Alvin C.	Muddy River	408	16.5 acres	Irrigation
0244	Syphus, E. H.	Muddy River	424, 444, 454, 455	52 acres	Irrigation
0245	Perkins, Mrs. Ute W.	Muddy River	474	10 acres	Irrigation
0246	Whitmore, Brigham	Muddy River	402, 440, 459	110 acres	Irrigation
0247	Whitmore, Brigham	Muddy River	422, 425	27.5 acres	Irrigation
0248	Whitmore, Brigham	Muddy River	415, 416, 445	94.5 acres	Irrigation
0249	Cooper, Annie J.	Muddy River	419	18 acres	Irrigation
0250	Cooper, J. F.	Muddy River	406, 431	25 acres	Irrigation
0251	Johnson, Thomas	Muddy River	442	14 acres	Irrigation
0252	Gibson, M. W.	Muddy River	403, 441	29.5 acres	Irrigation
0253	Averett, J. H.	Muddy River	450, 470, 492, 536	40 acres	Irrigation
0254	Angell, S. A.	Muddy River	405, 483	22.5 acres	Irrigation
0255	Bunker, M. A.	Muddy River	486	1 acre	Irrigation
0256	Bunker, M. A.	Muddy River	429	14 acres	Irrigation
0257	Bunker, J. M.	Muddy River	471	29.2 acres	Irrigation
0258	Bunker, J. M.	Muddy River	430, 448	5.2 acres	Irrigation
0259	Clevenger, A. B.	Muddy River	439	4 acres	Irrigation
0260	Bauer, Jacob	Muddy River	418	21 acres	Irrigation
0261	Dickerhoof, J. B.	Muddy River	451	5 acres	Irrigation
0262	Gann, W. H.	Muddy River	487	11 acres	Irrigation
0263	Gann, W. H.	Muddy River	461, 510	42 acres	Irrigation
0264	Gann, W. H.	Muddy River	456, 466, 500, 505	81.5 acres	Irrigation
0265	Gentry, Harry	Muddy River	432, 477, 478	66 acres	Irrigation
0266	Jones, T. J.	Muddy River	409, 443, 493	55 acres	Irrigation

0267	Marshall, E.	Muddy River	476, 488, 489	75 acres	Irrigation
0268	Mills, Bert	Muddy River			
0269	Perkins, W. A.	Muddy River	438	18 acres	Irrigation
0270	Perkins, W. W.	Muddy River	499	3 acres	Irrigation
0271	Perkins, J. F.	Muddy River	463	12 acres	Irrigation
0272	Syphus, Mathew, Estate of	Muddy River	[f]467½, 496, 518	6.5 acres	Irrigation
0273	Thomas, J. M.	Muddy River	449	16 acres	Irrigation
0274	Thomas, Sherman	Muddy River	475	5 acres	Irrigation
0275	Van Renselaar, W.	Muddy River	513, 519	38 acres	Irrigation
0276	Whitney, George L.	Muddy River	426, 427, 490	27.5 acres	Irrigation
0277	Whitney, George L.	Muddy River	434	2.75 acres	Irrigation
0278	Cox, D. J.	Muddy River	407, 481, 482	120 acres	Irrigation
0279	Johnson, Crayton	Muddy River	420, 468	15.5 acres	Irrigation
0280	Perkins, Ute V.	Muddy River	512	12.5 acres	Irrigation
0281	Shurtleff, L. N.	Muddy River	504	25 acres	Irrigation
0282	Jones, J. C.	Muddy River			
0283	Jones, J. C.	Muddy River	507	5 acres	Irrigation
0284	Stauffer, Mrs. I.	Muddy River	436	14 acres	Irrigation
0285	Church & Mills	Muddy River	401, 502, 503	141 acres	Irrigation
0286	Holt, Horace	Muddy River	460	13.5 acres	Irrigation
0287	Holt & Hewitt	Muddy River	491, 517	25 acres	Irrigation
0288	Ingram, G.	Muddy River	484	12.5 acres	Irrigation
0289	Stoer, Fred J.	Muddy River	464, 467, 516	193 acres	Irrigation
0290	Kiernan, Philippa	Muddy River	495, 508	112 acres	Irrigation
0291	Bowman, W. C.	Muddy River	404, 509	160 acres	Irrigation
0292	Cooper, Mrs. Vina	Muddy River	417	4 acres	Irrigation
0293	Wells, S. H.	Muddy River	428	305 acres	Irrigation
0294	Jones, W. L.	Muddy River	498	11 acres	Irrigation
0295	Jones, W. L.	Muddy River	469	13 acres	Irrigation
0296	Pickett, J. M.	Muddy River	485	16 acres	Irrigation
0297	Perkins, John	Muddy River	435	2 acres	Irrigation
0298	Whitmore, Brigham	Muddy River			
0299	Jones, Thomas	Muddy River			
0300	Powers, W. J.	Muddy River	447, 465, 497	45 acres	Irrigation
.....	Perkins, Mrs. Sarah	Muddy River	438	95 acres	Irrigation
.....	Perkins, Mrs. Sarah	Muddy River	437	4.5 acres	Irrigation
.....	Rennow, C. P.	Muddy River	446	38 acres	Irrigation
.....	Gibson, M. B.	Muddy River	452	5 acres	Irrigation
.....	Gibson, M. B.	Muddy River	453	5 acres	Irrigation
.....	Perkins, Mrs. Sarah	Muddy River	457	6.5 acres	Irrigation
.....	Nevada Land and Livestock Co.	Muddy River	472	10.5 acres	Irrigation
.....	Perkins, Mrs. Sarah	Muddy River	473	5 acres	Irrigation
.....	Moapa Indian Reservation	Muddy River	479	87 acres	Irrigation
.....	Wiggs, Peter	Muddy River	501	14.75 acres	Irrigation
.....	McKenna, Mrs.	Muddy River	514	12 acres	Irrigation
.....	Baldwin, George	Muddy River	515	15 acres	Irrigation
.....	Davis, H. B.	Muddy River	520	12 acres	Irrigation
.....	Southern Nevada Experiment Farm	Muddy River	521	80 acres	Irrigation

[f] The certificate of Mathew Syphus bearing the number 467 was changed by the office to distinguish it from certificate number 467 issued to Fred J. Stoer. Syphus's certificate now bears the number 467½ as listed above, the error in these two having been made when the certificates were issued.

NOTE: Certificate No. 480 is void, the same land being covered in Certificate No. 478 listed above. No. 494 is omitted, it being a duplicate of No. 476 listed above.

PROOFS OF APPROPRIATION OF WATER FILED—*Continued*

NOTE—The amounts of water allowed under each of the following names is not separated to conform with the individual proofs. The total amount by years of priority is given elsewhere in this report showing the compilation of claims as found by Henry Thurtell, Special Master in Chancery in the case of the Pacific Livestock Company *v.* T. B. Rickey, et al.

No.	Name	Source of appropriation	Certificate No. Book 1	Amount	Purpose
0301	Paquint, David	Main Walker River			Irrigation
0302	Kaufman, J. G. & Co.	Main Walker River			Irrigation
0303	Birmingham, J. O.	Main Walker River			Irrigation
0304	Osborn, C. B.	Main Walker River			Irrigation
0305	Fulstone & Fredricks	Main Walker River			Irrigation
0306	Cremetti, Battista	Main Walker River			Irrigation
0307	Mathews, F. J.	Main Walker River			Irrigation
0308	Schacht, H. W.	Main Walker River			Irrigation
0309	Baker, Henry	Main Walker River			Irrigation
0310	Pursel, H. M. and W. A.	Main Walker River			Irrigation
0311	Brisson, Henry	Main Walker River			Irrigation
0312	Feigenspan, G. F.	Main Walker River			Irrigation
0313	Wise, Hamilton	Main Walker River			Irrigation
0314	Perazzo Brothers	Main Walker River			Irrigation
0315	Hernleben, C.	Main Walker River			Irrigation
0316	Pursel, Mrs. H. O.	Main Walker River			Irrigation
0317	Reymers, Bernhard	Main Walker River			Irrigation
0318	Mills, J. C.	Main Walker River			Irrigation
0319	Larne, William G.	Main Walker River			Irrigation
0320	Farrell, J. C.	Main Walker River			Irrigation
0321	Rollens, W. M.	Main Walker River			Irrigation
0322	Robinson, Mrs. S. A.	Main Walker River			Irrigation
0323	Snyder, Charles	Main Walker River			Irrigation
0324	Snyder, Charles	Main Walker River			Irrigation
0325	Snyder, Charles	Main Walker River			Irrigation
0326	Scossa, Antone	Main Walker River			Irrigation
0327	Freeman, Ada F.	Main Walker River			Irrigation
0328	Kremmel, Mrs. C. H.	Main Walker River			Irrigation
0329	Hilbun, Mrs. A.	Main Walker River			Irrigation
0330	Young, John G.	Main Walker River			Irrigation
0331	Mann, Phillip	Main Walker River			Irrigation
0332	Morgan, H. S.	Main Walker River			Irrigation
0333	Logan, Lyman B.	Main Walker River			Irrigation
0334	McLeod, Angus	Main Walker River			Irrigation
0335	Green, M. J.	Main Walker River			Irrigation
0336	Batcheldor, G. E.	Main Walker River			Irrigation
0337	Scheel, R. C.	Main Walker River			Irrigation
0338	Nichol Land and Stock Co.	Main Walker River			Irrigation
0339	Hernleben, E.	Main Walker River			Irrigation
0340	Holland, J. F. and C. F.	Main Walker River			Irrigation

0341	Delmonico Brothers	Main Walker River			Irrigation
0342	Becker, William	Main Walker River			Irrigation
0343	Brooks, R. S.	Main Walker River			Irrigation
0344	Wade, Fred	Main Walker River			Irrigation
0345	Knemeyer, F. H.	Main Walker River			Irrigation
0346	Green, George A.	Main Walker River			Irrigation
0347	Parker, J. P.	Main Walker River			Irrigation
0348	Meissner, C. F.	Main Walker River			Irrigation
0349	Meadows, Mrs. Lucretia	Main Walker River			Irrigation
0350	Plummer, George H.	Main Walker River			Irrigation
0351	Plummer, George H.	Main Walker River			Irrigation
0352	Sharpe, T. C.	Main Walker River			Irrigation
0353	Santina, L. D.	Main Walker River			Irrigation
0354	Mathews, Jose	Main Walker River			Irrigation
0355	Yparraguirre Brothers	Main Walker River			Irrigation
0356	Mathews, J.	Main Walker River			Irrigation
0357	Compston, Mrs. J.	Main Walker River			Irrigation
0358	Webster, George W.	Main Walker River			Irrigation
0359	Hall, Thomas	Main Walker River			Irrigation
0360	Atcheson, James	Main Walker River			Irrigation
0361	Green, A. W.	Main Walker River			Irrigation
0362	Conway, Patrick	Main Walker River			Irrigation
0363	Allum, Mrs. M.	Main Walker River			Irrigation
0364	Cross, E. S.	Main Walker River			Irrigation
0365	Glann, Lamira	Main Walker River			Irrigation
0366	Bovard, M.	Main Walker River			Irrigation
0367	Barrett, G. A.	Main Walker River			Irrigation
0368	West, James	Main Walker River			Irrigation
0369	Snyder, John	Main Walker River			Irrigation
0370	Lyon County Poor Farm	Main Walker River			Irrigation
0371	Welling, Fred	Main Walker River			Irrigation
0372	Gallagher, P.	Main Walker River			Irrigation
0373	Osborne, Mrs. E. B.	Main Walker River			Irrigation
0374	Morris, Mrs. E.	Main Walker River			Irrigation
0375	Morris, I. D.	Main Walker River			Irrigation
0376	White, Sam F.	Main Walker River			Irrigation
0377	Boerlin, Henry	Main Walker River			Irrigation
0378	Ravenelle, Ze Be	Main Walker River			Irrigation
0379	Burbank, S. E.	Main Walker River			Irrigation
0380	McGowan, T. M.	Main Walker River			Irrigation
0381	Wheeler, Thomas	Main Walker River			Irrigation
0382	Strosnider, Isaac	Main Walker River			Irrigation
0383	Strosnider, Mrs. Sarah	Main Walker River			Irrigation
0384	Simpson, G. S.	Main Walker River			Irrigation
0385	Pursel, Morris	Main Walker River			Irrigation
0386	Stickney, F. O.	Main Walker River			Irrigation
0387	Nichol, T. G.	Main Walker River			Irrigation
0388	Perry, Charles	Main Walker River			Irrigation
0389	Charlebois, A.	Main Walker River			Irrigation
0390	Estes, Harriet E.	Main Walker River			Irrigation
0391	Johnston, Charles	Main Walker River			Irrigation
0392	Roach, W. H.	Main Walker River			Irrigation

PROOFS OF APPROPRIATION OF WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Amount	Purpose
0393	Perry, O. A.	Main Walker River			Irrigation
0394	Poll, Nelson	Main Walker River			Irrigation
0395	Johnston, James, estate of	Main Walker River			Irrigation
0396	Johnston, James, estate of	Main Walker River			Irrigation
0397	Gignoux, J. E.	Main Walker River			Irrigation
0398	Vein, Alex	Main Walker River			Irrigation
0399	Farrell, J. C.	Main Walker River			Irrigation
0400	Wade, Fred	Main Walker River			Irrigation
0401	Mann, Philip	Main Walker River			Irrigation
0402	Gallagher, John B.	Main Walker River			Irrigation
0403	Gallagher, John B.	Main Walker River			Irrigation
0404	Gallagher, John B.	Main Walker River			Irrigation
0405	Gallagher, John B.	Main Walker River			Irrigation
0406	Gallagher, John B.	Main Walker River			Irrigation
0407	Gallagher, John B.	Main Walker River			Irrigation
0408	Welling, Fred	Main Walker River			Irrigation
0409	Welling, Fred	Main Walker River			Irrigation
0410	Gallagher, John B.	Main Walker River			Irrigation
0411	Gallagher, John B.	Main Walker River			Irrigation
0412	Gallagher, John B.	Main Walker River			Irrigation
0413	Gallagher, John B.	Main Walker River			Irrigation
0414	Gallagher, John B.	Main Walker River			Irrigation
0415	Gallagher, John B.	Main Walker River			Irrigation
0416	Gallagher, John B.	Main Walker River			Irrigation
0417	Gallagher, John B.	Main Walker River			Irrigation
0418	Perazzo Brothers	Main Walker River			Irrigation
0419	Gallagher, John B.	Main Walker River			Irrigation
0420	Gallagher, John B.	Main Walker River			Irrigation
0421	Rollins, W. M.	Main Walker River			Irrigation
0422	Wilson, G. W.	Main Walker River			Irrigation
0423	Wilson, David and William	Main Walker River			Irrigation
0424	Wilson, David and William	Main Walker River			Irrigation
0425	Wilson, G. W.	Main Walker River			Irrigation
0426	Wilson, G. W.	Main Walker River			Irrigation
0427	Wilson, J. I.	Main Walker River			Irrigation
0428	Wilson, G. W.	Main Walker River			Irrigation
0429	Wilson, J. I.	Main Walker River			Irrigation
0430	Wilson, J. I.	Main Walker River			Irrigation
0431	Wilson, G. W.	Main Walker River			Irrigation
0432	Spragg, William H.	Main Walker River			Irrigation
0433	Morgan, W. H.	Main Walker River			Irrigation
0434	Gallagher, John B.	Main Walker River			Irrigation
0435	Gallagher, John B.	Main Walker River			Irrigation
0436	Gallagher, J. B.	Main Walker River			Irrigation
0437	Gallagher, J. B.	Main Walker River			Irrigation

					Irrigation
0438	Waldo, Gilbert	Main Walker River			Irrigation
0439	Waldo, Gilbert	Main Walker River			Irrigation
0440	Hanson, Henry	Main Walker River			Irrigation
0441	Gallagher, John B.	Main Walker River			Irrigation
0442	Gregory, S. W.	Main Walker River			Irrigation
0443	Keema, H. C.	Main Walker River			Irrigation
0444	Penrose, W. R.	Main Walker River			Irrigation
0445	Latapie, Peter	Main Walker River			Irrigation
0446	Fitzpatrick, T. F.	Main Walker River			Irrigation
0447	Melarkey, David	Main Walker River			Irrigation
0448	Lucas, Frank F.	Main Walker River			Irrigation
0449	Melarky, Mrs. Ellen	Main Walker River			Irrigation
0450	Gallagher, J. C.	Main Walker River			Irrigation
0451	Boland, Mary	Main Walker River			Irrigation
0452	Lancaster, Lydia	Main Walker River			Irrigation
0453	Lancaster, James	Main Walker River			Irrigation
0454	Sceirino, Joe	Main Walker River			Irrigation
0455	Lancaster, Homer	Main Walker River			Irrigation
0456	Fox, Charles F.	Main Walker River			Irrigation
0457	Barton, Mary	Main Walker River			Irrigation
0458	Gallagher, J. B.	Main Walker River			Irrigation
0459	Downey, F. W.	Main Walker River			Irrigation
0460	Downey, F. W.	Main Walker River			Irrigation
0461	Gruber, Mrs. Mabel	Main Walker River			Irrigation
0462	Pinkerton, A. A.	Main Walker River			Irrigation
0463	Pacific Livestock Co.	Main Walker River			Irrigation
0464	Pacific Livestock Co.	Main Walker River			Irrigation
0465	Pacific Livestock Co.	Main Walker River			Irrigation
0466	Pacific Livestock Co.	Main Walker River			Irrigation
0467	Pacific Livestock Co.	Main Walker River			Irrigation
0468	Pacific Livestock Co.	Main Walker River			Irrigation
0469	Pacific Livestock Co.	Main Walker River			Irrigation
0470	Gallagher, J. B.	Main Walker River			Irrigation
0471	Gallagher, J. B.	Main Walker River			Irrigation
0472	Gallagher, J. B.	Main Walker River			Irrigation
0473	Fox, Charles F.	Main Walker River			Irrigation
0474	Gallagher, John	Main Walker River			Irrigation
0475	Brady, Hugh, Jr.	Main Walker River			Irrigation
0476	Warren, Mrs. Anna	Main Walker River			Irrigation
0477	Barrett, C. H.	Main Walker River			Irrigation
0478	Fitzpatrick, T. F.	Main Walker River			Irrigation
0479	Gallagher, Patrick	Main Walker River			Irrigation
0480	Wood, Henry	Main Walker River			Irrigation
0481	Knierim, George	Main Walker River			Irrigation
0482	Vein, Alex	West Walker River			Irrigation
0483	Cohn, I.	West Walker River			Irrigation
0484	Turner, G. C.	West Walker River			Irrigation
0485	O'Banion, J. W.	West Walker River			Irrigation
0486	Simpson Brothers	West Walker River			Irrigation
0487	O'Banion, John	West Walker River			Irrigation
0488	Simpson, G. S.	West Walker River			Irrigation
0489	Simpson Brothers	West Walker River			Irrigation

PROOFS OF APPROPRIATION OF WATER—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Amount	Purpose
0490	Fallon, M.	West Walker River			Irrigation
0491	Simpson, Mrs. E. A.	West Walker River			Irrigation
0492	McVicar, John	West Walker River			Irrigation
0493	Peterson, H. C.	West Walker River			Irrigation
0494	Rogers, J. A.	West Walker River			Irrigation
0495	Reading, W. F. and G. M.	West Walker River			Irrigation
0496	Schooley, H. M.	West Walker River			Irrigation
0497	Tidd, C. C. and Carrie	West Walker River			Irrigation
0498	Gage, H. B.	West Walker River			Irrigation
0499	Gander, A. W.	West Walker River			Irrigation
0500	Dickinson, Margaret	West Walker River			Irrigation
0501	Hinds, Charles	West Walker River			Irrigation
0502	Lynch, Mrs. S.	West Walker River			Irrigation
0503	Hoye, Mrs. J.	West Walker River			Irrigation
0504	Hoye, Mrs. J.	West Walker River			Irrigation
0505	Mann, F. B., J. S. and May	West Walker River			Irrigation
0506	Ames, L. R.	West Walker River			Irrigation
0507	Carter, J. W.	West Walker River			Irrigation
0508	Carney Brothers	West Walker River			Irrigation

Note 0506 not Humboldt R. but is Granite Cr. T.41N., R.37E Alfonso Pasquale - (Feb. 16, 1953 Ltr.)

NOTE: Numbers 0509 to 0705 inclusive are proofs of appropriation filed on the Humboldt River and its tributaries prior to 1911, and will appear under that source with new numbers as amended proofs.

No.	Name	Source of appropriation	Certificate No. Book 1	Certificate No. Book 2	Amount	Purpose
0706	Logan, Hannah	Belcher Creek				Irrigation
0707	Humboldt Cattle Co.	Quin River				Irrigation
0708	Humboldt Cattle Co.	Willow Creek				Irrigation
0709	Humboldt Cattle Co.	Quin River				Irrigation
0710	Humboldt Cattle Co.	Rebel and Willow Creeks				Irrigation
0711	Humboldt Cattle Co.	Buffalo Creek				Irrigation
0712	Humboldt Cattle Co.	Fall, Horse and McConnell Creeks				Irrigation
0713	Spencer, Charles M.	Star King Springs				Mining and smelting
0714	Ramsey, E. G.	Williams Creek				Irrigation
0715						
0716	Millett, Mrs. G.	Pablo Canyon Creek		23	64 acres	Irrigation
0717	Badt, M. and Co.	Jerry Springs		53	10 acres	Irrigation
0718	Morley, R. A.	Reed Creek				Irrigation
0719	Murphy, B. F. and F. H.	Wall Canyon Creek or Duck Lake Creek	596		900 acre-feet	Irrigation, 300 acres
0720	Patterson, W. H.	Wall Canyon Creek or Duck Lake Creek	597		600 acre-feet	Irrigation, 200 acres
			598		11,520 acre-feet	Irrigation, 3,840 acres
			599		11,880 acre-feet	Irrigation, 3,960 acres
0721	Tiptop Water Co.	Barber Canyon	548		2.5 acres	Placer and irrigation
0722	Rogers, William	Ophir, Wisconsin, Summit, Last Chance Cks.	558		640 acres	Irrigation
0723	Labadie, Edward	Galena Ditch	567		3 acre-feet	Irr. (25 a.) town supply
0724	Beebe, Joe S.	Sand Creek				Irrigation
0725	Perkins, Albert	Gold Canyon	595		42 acre-feet	Irrigation, 14 acres
0726	Kanrohat, C. J.	Jefferson Creek				Mining, milling, irr.
0727	Swain, J. M. and Mrs. A. C.	Springs				Irrigation
0728	Perazzo, P. and J.	Walker River				Irrigation
0729	Thomas, M. E.	Board Corral Spring				Irrigation
0730	Wenzel, J. W. (successor to Wong Kee)	American Canyon				Placer and milling
0731	The Federal Mines Co.	Indian Creek	570		10 c. f. s.	Placer
0732	The Federal Mines Co.	Spring Valley Creek	571		5 c. f. s.	Placer
0733	Olinghouse, H. I.	Page Basin Creek				Irrigation
0734	Patterson, W. H. (refer to 0720)	Wall Canyon Creek or Duck Lake Creek				Irrigation
0735	Thornton, Mrs. Ella	Buena Vista Creek		7	50.44 acres	Irrigation
0736	Bordoli, S. R.	Italian Springs	581		20 acre-feet	Irrigation, 7 acres
0737	Barton, Isaac	Springs				Stock only
0738	Marker, Peter	Springs	588		6 inches	Irrigation, 6 acres
0739	Middleton, G. A.	Louis or Bens Creek				Irrigation
0740	Thomas, M. E.	Springs	587		5 c. f. s.	Irrigation, 200 acres
0741	Alley, Harry	McDermit Creek		87,88	7 acres	Irrigation
0742	Vidovich, Gerome	Vidovich Springs (three)	586		.5 c. f. s.	Irrigation, 15 acres
0743	Martin, James	Slaughter House Creek	594		12 acre-feet	Irrigation, 4 acres
0744	Walmsey, Palen	Gold Canyon Creek				Irrigation
0745	Thomas, J. M.	Thomas Creek				Irrigation
0746	Little, S. A.	Mill Creek				Irrigation
0747	Anderson, R. W.	T Creek (tributary to Mary's River)				Irrigation
0748	Anderson, R. W.	T Creek (tributary to Mary's River)				Irrigation
0749	Anderson, R. W.	T Creek (tributary to Mary's River)				Irrigation
0750	Anderson, R. W.	T Creek (tributary to Mary's River)				Irrigation
0751	Anderson, R. W.	T Creek (tributary to Mary's River)				Irrigation
0752	Anderson, R. W.	T Creek (tributary to Mary's River)				Irrigation
0753	Anderson, R. W.	T Creek (tributary to Mary's River)		4	32.5 acres	Irrigation
0754	Nevada Wonder Mining Co.	Horse Creek	580		160 acre-feet	Irrigation, 69.25 acres
0755	Floyd, Elizabeth	Elizabeth Floyd Springs				Irrigation
0756	Lay Brothers	Jackson Creek				Irrigation
0757	Lay, Anatole T.	Jackson Creek				Irrigation
0758	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0759	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0760	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0761	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0762	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0763	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0764	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0765	Truett Land and Livestock Co.	T Creek (tributary to Mary's River)				Irrigation
0766	Lay Brothers	Mary Sloan Creek				Irrigation
0767	Yelland, John	Eight Mile Creek				Irrigation
0768	Ebeling, William K.	Thousand Mile Creek				Irrigation
0769	Simpson Brothers	Walker River				Irrigation

PROOFS OF APPROPRIATION FOR WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Certificate No. Book 2	Amount	Purpose
0770	Elges, F.	Pinenut Creek	585		20 inches	Stock only
0771	Welch, G. B.	Pine Creek (amended under No. 01155)				Irrigation
0772	Bargo Mining and Milling Co. (Refer to app. 871)	Campbell Creek				Milling
0773	Burke, Mrs. Eliza	Schell Creek	605		540 acre-feet	Irrigation (180 acres)
0774	Hendra, J. H.	Dun Glen Creek				Irrigation
0775	Crawford, J. L.	Walker River				Irrigation
0776						
0777	Steinberger, Mrs. J.	Truckee River				
0778	Bennetti, P.	Mattler Canyon	604		180 acre-feet	Irrigation
0779	Johnston, J. H.	Veaches Canyon or Carico Creek		6	36 acres	Irrigation (60 acres)
0780	Schacht, F.	Carson River	582		552 acres	Irrigation
0781	Maddalena, Mrs. K.	Cherry Creek				Irrigation
0782	Adair, William	Beaver Dam Creek				Irrigation
0783	Berrum, L.	Truckee River				Irrigation
0784	Douglas and Josephs	Willow Springs				Irrigation
0785	Austin-Manhattan Consolidated Mining Company	Reese River				Mining, stock watering
0786	Lodi Mines Company	Lodi Springs	560		20 inches	Mining and milling
0787	Elges, F.	Bryan Creek	584		5 c. f. s.	Mining
0788	Adams & McGill (Refer to app. 856)	Schoolhouse Creek				Irrigation (180 acres)
0789	Adams & McGill	North Garden Creek				Irrigation
0790	Adams & McGill	Cleveland Creek				Irrigation
0891	Adams & McGill	McCoy and Garden Creeks				Irrigation
0792	Adams & McGill (Refer to 01035)	Bosthwick Creek				Irrigation
0793	Adams & McGill	Bostian Creek				Stock only
0794	Adams & McGill	Archie Springs		70	.05 c. f. s.	Irrigation
0795	Adams & McGill	Comba Creek		71	.05 c. f. s.	Stock only
0796	Adams & McGill	Sagehen Creek		72	.05 c. f. s.	Stock only
0797	Adams & McGill	Thirty Mile Springs		73	.05 c. f. s.	Stock only
0798	Adams & McGill	Summit Springs		74	.05 c. f. s.	Stock only
0799	Adams & McGill	Burnt Cabin Springs		75	.05 c. f. s.	Stock only
0800	Adams & McGill	Gleason Creek		76	.05 c. f. s.	Stock only
0801	Adams, J. W.	Hot Creek				Stock only
0802	Hyde, J. A.	Indian Springs				Irrigation
0803	Glock, Alphonse, and Jacobsen, L. M.	Pinenut Creek				Stock only
0804	Conaway, J.	Colburn Springs	583		80 inches (6-in. head)	Irrigation, 80 acres
0805	Hammond, J. H.	Camp Valley Creek				Stock only
0806	Almgren, A. A.	Truckee River				Irrigation
0807	Springmeyer, H.	Indian Creek				Irrigation
0808	Lenci, Louis	Carson River (See cert. No. 360, Book 1)				Irrigation
0809	Mongolo, Louis	Truckee River				Irrigation
0810	Sharpe, T. C.	Springs				Irrigation
0811	Austin-Manhattan Consolidated Mines Co.	Marshall Canyon Creek				Stock only
						Irrigation

0812	Comins, H. A.	Willow Creek		9-14	*1,110.58 acres	Irrigation
0813	Nevada-California Land and Livestock Co.	Blue Wing Springs		18	.008 c. f. s.	Stock only
0814	Nevada-California Land and Livestock Co.	Sagehen Springs		19	.013 c. f. s.	Stock only
0815	Nevada-California Land and Livestock Co.	Stonehouse Springs		20	.024 c. f. s.	Stock only
0816	Nevada-California Land and Livestock Co.	Tunnel Springs		21	.008 c. f. s.	Stock only
0817	Nevada-California Land and Livestock Co.	A well (developed water, cert. cannot issue)		22	.008 c. f. s.	Stock only
0818	Nevada-California Land and Livestock Co.	Juniper Springs				

*Of this 1,110.58 acres, 550.88 acres hold a certificate for winter use only, the remaining 559.7 acres retaining the right during the regular summer irrigating season.

The following proofs, including numbers 819 to 859, inclusive, except those as noted, have been transferred to the Government under the Truckee-Carson project.

0819	Lee, W. R. and son	Carson River				Irrigation
0820	Cirac, Charles P.	Carson River				Irrigation
0821	Ferguson, J. W.	Carson River				Irrigation
0822	Cushman, Josiah	Carson River				Irrigation
0823	Ferguson, Mrs. E.	Carson River				Irrigation
0824	Oats, John	Carson River				Irrigation
0825	Drummond, Charlotte	Carson River				Irrigation
0826	Mitchell, George H.	Carson River				Irrigation
0827	Bailey, John A.	Carson River				Irrigation
0828	Trolson, A. M.	Carson River				Irrigation
0829	Eason, Josiah	Carson River				Irrigation
0830	Jeffrey, Jessie	Carson River				Irrigation
0831	Dolf, Thomas	Carson River				Irrigation
0832	Galloway, R.	Carson River				Irrigation
0833	Ferguson, Ella	Carson River				Irrigation
0834	Oar, Frank	Carson River				Irrigation
0835	Larson, William A.	Carson River				Irrigation
0836*	Grimes, W. C.	Carson River				Irrigation
0837	Allen, Lem	Carson River				Irrigation
0838*	Smart, S. B.	Carson River				Irrigation
0839	Theelen, Rachel	Carson River				Irrigation
0840	Whitney, C. P.	Carson River				Irrigation
0841	Kaiser, W. F.	Carson River				Irrigation
0842	Harmon, W. A.	Carson River				Irrigation
0843	Harriman, E. S.	Carson River				Irrigation
0844	Leet, James	Carson River				Irrigation
0845	Petree, T. J.	Carson River				Irrigation
0846	Leet, Oswald	Carson River				Irrigation
0847	Johnson, C. F.	Carson River				Irrigation
0848	Mills, C. E.	Carson River				Irrigation
0849	Smith, Edgar	Carson River				Irrigation
0850	McLane, H. F.	Carson River				Irrigation
0851	Burton, G. E.	Carson River				Irrigation
0852	Harrigan, F. A.	Carson River				Irrigation
0853	Beeghly, C. M.	Carson River				Irrigation

NOTE: The proofs in the above list on the Carson River marked with a star, thus*, have not as yet been transferred to the Government, and still retain their individual rights.

PROOFS OF APPROPRIATION FOR WATER—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Certificate No. Book 2	Amount	Purpose
0854	Dalton, Fred A.	Carson River				Irrigation
0855	Ernst, George D.	Carson River				Irrigation
0856	Van Dreilen, T. E.	Carson River				Irrigation
0857	Vaughan, R. C.	Carson River				Irrigation
0858	Heady, J. L.	Carson River				Irrigation
0859	Hardy, Louis E.	Carson River				Irrigation
0860	Capurro, B.	Truckee River				Irrigation
0861	Garson & Jacobson	Truckee River				Irrigation
0862	Gelmstead, C. A.	Truckee River				Irrigation
0863	Mongola, Joe	Truckee River				Irrigation
0864	Patrick, F. G.	Truckee River				Irrigation
0865	Phoenix, George S.	Truckee River				Irrigation
0866	Rieley, William	Truckee River				Irrigation
0867	Shippacasse, A.	Truckee River				Irrigation
0868	O'Brien, James	Truckee River				Irrigation
0869	Matthews, Isaac R.	Truckee River				Irrigation
0870	Schaffer, Margaret	Truckee River				Irrigation
0871	Maggiolo, C.	Truckee River				Irrigation
0872	R. Steele Corporation	Truckee River				Irrigation
0873	Murray, Samuel	Truckee River				Irrigation
0874	Williams, A. S.	Truckee River				Irrigation
0875	Ferris, Ed.	Truckee River				Irrigation
0876	Blasdell, Julia	Truckee River				Irrigation
0877	Rice, A. T.	Truckee River				Irrigation
0878	Dearing, Luella and J.	Truckee River				Irrigation
0879	Little, John	Truckee River				Irrigation
0880	Kleppe, John F.	Truckee River				Irrigation
0881	Hollenbeck, C. C. and Mary	Truckee River				Irrigation
0882	Clark, H. H.	Truckee River				Irrigation
0883	Peckham, George E.	Truckee River				Irrigation
0884	Balsi, Angelo	Truckee River				Irrigation
0885	Faretta, Tony	Truckee River				Irrigation
0886	Beroni, A.	Truckee River				Irrigation
0887	Walker & Robinson	Truckee River				Irrigation
0888	Matley, John B.	Truckee River				Irrigation
0889	Hogan & Moran	Truckee River				Irrigation
0890	Yori, L., Estate of	Truckee River				Irrigation
0891	Ryder, W. W.	Truckee River				Irrigation
0892	Cheney, W. R.	Truckee River				Irrigation
0893	Knox, Claire G.	Truckee River				Irrigation
0894	Snare, W. M.	Truckee River				Irrigation
0895	Sherman, Mrs. M.	Truckee River				Irrigation
0896	Ulyatt, Lucy M.	Truckee River				Irrigation
0897	Kinney, R. H.	Truckee River				Irrigation
0898	Gould, George	Truckee River				Irrigation
0899	Peterson, J. E.	Truckee River				Irrigation
0900	Ross, O. C.	Truckee River				Irrigation
0901	Clark, Theodore W.	Truckee River				Irrigation
0902	Baker, H. B.	Truckee River				Irrigation
0903	Reilley, D. W.	Truckee River				Irrigation
0904	Jewell, J. F.	Truckee River				Irrigation
0905	Piretto, V.	Truckee River				Irrigation
0906	Marks, Frank	Truckee River				Irrigation
0907	Webster, H. Elizabeth	Truckee River				Irrigation
0908	Percival, G. R. A.	Truckee River				Irrigation
0909	Yori, L., Estate of	Truckee River				Power
0910	Electric Mining and Reduction Co.	Truckee River				Irrigation
0911	Wollam, J. L.	Truckee River				Irrigation
0912	Plumb, Ed	Truckee River				Irrigation
0913	Cooper, Mrs. S.	Truckee River				Irrigation
0914	City of Reno	Truckee River				Irrigation
0915	Drake, Andrew	Truckee River				Irrigation
0916	Gooding, Mary E.	Truckee River				Irrigation
0917	Biddleman Brothers	Truckee River				Irrigation
0918	O'Sullivan, J. D.	Truckee River				Irr., town supply
0919	Steamboat Canal Co.	Truckee River				Irrigation
0920	Caughlin, Crissie A.	Truckee River				Irrigation
0921	Felipelli, D.	Truckee River				Irrigation
0922	Ghilleri, J. and A.	Truckee River				Irrigation
0923	Faretta, Angelo	Truckee River				Irrigation
0924	Pincolini and Brothers	Truckee River				Irrigation
0925	Degioranni Brothers	Truckee River				Irrigation
0926	Mortensen, M.	Truckee River				Irrigation
0927	Elliott, Mrs. K.	Truckee River				Irrigation
0928	Smith, George D.	Truckee River				Irrigation
0929	Gavica, Domingo	Truckee River				Irrigation
0930	Page, Mrs. R. S.	Truckee River				Irrigation
0931	Christensen, G.	Truckee River				Irrigation
0932	Pecetti, John	Truckee River				Irrigation
0933	Patton, M. M.	Truckee River				Irrigation
0934	Robertini, Mrs. L.	Truckee River				Irrigation
0935	Faretta, M. D.	Truckee River				Irrigation
0936	Casazza, P.	Truckee River				Irrigation
0937	Prosole, Louis	Truckee River				Irrigation
0938	Richardson & Strachn	Truckee River				Irrigation
0939	Gault, James	Truckee River				Irrigation
0940	Bisagno, N.	Truckee River				Irrigation
0941	Hayden, A. E.	Truckee River				Irrigation
0942	Elges, Carl	Truckee River				Irrigation
0943	Hayden, Mrs. E. A.	Truckee River				Irrigation
0944	Hayden Estate Company	Truckee River				Irrigation
0945	Anderson, Henry	Truckee River				Irrigation
0946	Van Meter, Mrs. W. P.	Truckee River				Irrigation
0947	Trosi, Mrs. Charles	Truckee River				Irrigation

PROOFS OF APPROPRIATION FOR WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Certificate No. Book 2	Amount	Purpose
0948	Verdi Lumber Company	Truckee River				Irr., power, maintaining ice and log ponds
0949	Moore, W. A.	Truckee River				Irrigation
0950	Bates, Mrs. A.	Truckee River				Irrigation
0951	Johnson, Mahalia	Truckee River				Irrigation
0952	Haynes, Fannie	Truckee River				Irrigation
0953	Swan, Mrs. E. J.	Truckee River				Irrigation
0954	Weldon and Menke	Truckee River				Irrigation
0955	DeRemer, Mrs. M.	Truckee River				Irrigation
0956	Morgan, W. C.	Truckee River				Irrigation
0957	Walts Brothers	Truckee River				Irrigation
0958	Higgins, James	Truckee River				Irrigation
0959	Read, Mrs. F.	Truckee River				Irrigation
0960	Reno Development Co.	Truckee River				Irrigation
0961	Fife Brothers	Truckee River				Irrigation
0962	Christensen, L. M.	Truckee River				Irrigation
0963	Holesworth, G. E., et al.	Truckee River				Irrigation
0964	Frolich, F.	Truckee River				Irrigation
0965	Hogan, Mrs. H. E.	Truckee River				Irrigation
0966	Avansino, L.	Truckee River				Irrigation
0967	Hunken, H. C.	Truckee Riner				Irrigation
0968	Durham, F. E.	Truckee River				Irrigation
0969	Meskimons, J. R.	Truckee River				Irrigation
0970	Chiam, Alice A.	Truckee River				Irrigation
0971	Besso, A.	Truckee River				Irrigation
0972	Heidenrich, H.	Truckee River				Irrigation and power
0973	Pedroli, S.	Truckee River				Irrigation
0974	Lewers, Ross	Truckee River				Irrigation
0975	Cliff, Samuel	Truckee River				Irrigation
0976	Sala, Antonia	Truckee River				Irrigation
0977	Imelli, A.	Truckee River				Irrigation
0978	Hansen, Peter	Truckee River				Irrigation
0979	Ede, Stephen	Truckee River				Irrigation
0980	Bakeless, I. N.	Truckee River				Irrigation
0981	Genocchio, N.	Truckee River				Irrigation
0982	Jones, C.	Truckee River				Irrigation
0983	Finn Brothers	Truckee River				Irrigation
0984	Cox, Nancy J.	Truckee River				Irrigation
0985	Bottini, G.	Truckee River				Irrigation
0986	Tyson, T. P.	Truckee River				Irrigation
0987	Duffy, John	Truckee River				Irrigation and power
0988	Brown, Mrs. E.	Truckee River				Irrigation
0989	Howard, Mary J.	Truckee River				Irrigation

0990	Huffaker, Dan	Truckee River				Irrigation
0991	Short, W. C.	Truckee River				Irrigation
0992	Verdi Lumber Company	Truckee River				Irrigation, maintaining ice and log ponds
0993	Boynton, John W.	Truckee River				Irrigation
0994	Riverside Mill Company	Truckee River				Power
0995	Rice, G. E.	Truckee River				Irrigation
0996	Brainard, E. A.	Truckee River				Irrigation
0997	Washoe Power and Development Company	Truckee River				Irrigation and power
0998	Hunter Creek Water Company	Truckee River				Supply (Reno, Sparks)
0999	Reno Power, Light and Water Company	Truckee River				Irrigation and power
01000	Reno Power, Light and Water Company	Truckee River				Irrigation
01001	Reno Power, Light and Water Company	Truckee River				Irrigation and supply (Reno and Sparks)
01002	Sessions, J. O.	Truckee River				Irrigation
01003	Kane, John J.	Truckee River				Irrigation
01004	Mullins, C. T.	Truckee River				Irrigation
01005	Raggio, B.	Truckee River				Irrigation and power
01006	Avinsino, G. B.	Truckee River				Irrigation
01007	Capurro, S.	Truckee River				Irrigation
01008	Laragino, L.	Truckee River				Irrigation
01009	Fee, James	Rock Creek (flowing from New Year Lake)		26	82.1 acres	Irrigation
01010	Parus, Ole W.	Parus Spring				Irrigation
01011	Bain, William O.	Bain Spring	522		.25 acres	Irrigation
01012	Smith, John K.	Young Canyon	527	Void		Irrigation
01013	Taylor, C. V.	Carson River				Irrigation
06014	Browder, Samuel	South Fork Carson River				Irrigation
01015	Huber, G. W.	Carson River				Irrigation
01016*	Wightman, Charles	Carson River				Irrigation
01017*	Wightman, Charles	Carson River				Irrigation
01018	Inman, F. W.	Carson River				Irrigation
01019*	Murphy, William	Carson River				Irrigation
01020	Paleni, Joseph	Van Duzer Creek				Irrigation
01021	Salvatore, S.	Truckee River				Irrigation
01022	Ryan, Pat, Estate of	Blythe Spring		57	$\frac{1}{80}$ c. f. s.	Stock only
		Saw Mill Spring		58	$\frac{1}{80}$ c. f. s.	Stock only
		Upper Riggs Spring		59	$\frac{1}{80}$ c. f. s.	Stock only
		Lower Riggs Spring		60	$\frac{1}{80}$ c. f. s.	Stock only
		Indian Spring No. 1		61	$\frac{1}{80}$ c. f. s.	Stock only
		Indian Spring No. 2		62	$\frac{1}{80}$ c. f. s.	Stock only
01023	Henroid, William	Smith Canyon Spring		24	$\frac{1}{80}$ c. f. s.	Stock only
01024	Henroid, William	Lunch Valley Spring		25	$\frac{1}{80}$ c. f. s.	Stock only
01025	Byers, George W.	Humboldt River				Irrigation
01026	Swallow, George	Dry Creek				Irrigation
01027	Conaway, Joseph	Colburn Spring		5	.009 c. f. s.	Stock only
		Chalk Spring			.002 c. f. s.	Stock only
		Grassy Spring			.008 c. f. s.	Stock only
		Oak Spring			.002 c. f. s.	Stock only
01028	Johnson, Wes.	Willow, Summit, Mud, Johnson, North Morgan, Morgan, Isbell, and Rock Springs				Stock only

*Right not transferred to the Government in the Truckee-Carson Project.

PROOFS OF APPROPRIATION FOR WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Certificate No. Book 2	Amount	Purpose
01029	Thompson, J. D.	Dupont Creek		27	23.7 acres	Irrigation
01030	Thompson, J. D.	North Creek and Sheep Creek		28	73.2 acres	Irrigation
01031	Thompson, J. D.	Geyser Creek		29	192.5 acres	Irrigation
01032	Grimes, W. C.	North Creek (see 01030)				Irrigation
01033	Grimes, W. C.	Carson River				Irrigation
01034	Chiara, Mrs. Rosa	Carson River				Irrigation
01035	Adams & McGill	Rock Creek				Irrigation
01036	Wilson Brothers	Boathwick Creek		69	1/8 c. f. s.	Stock only
01037	Wilson Brothers	Wilson Tank Spring				Stock only
01038	O'Neil, James P.	Bird Springs				Stock only
01039	Coryell, H. H.	Pole Creek				Stock only
01040	Johnson, Wes	Bishop Creek				Stock only
01041	Johnson, Wes	Rock Springs				Irrigation
01042	Johnson, Wes	Mud Springs				Stock only
01043	Johnson, Wes	Summit Springs				Stock only
01044	Johnson, Wes	Johnson Springs				Stock only
01045	Nevada Power and Transportation Co.	Choke Cherry or Willow Springs				Stock only
01046	Humboldt County	Truckee River				Stock only
01047	Wilson, J. B. and G. T. A.	White's Stream				Power and irrigation
01048	Wilson, J. B. and G. T. A.	Lone Willow Spring		63	1/50 c. f. s.	Irrigation
01049	Wilson, J. B. and G. T. A.	Ash Creek Spring		64	1/50 c. f. s.	Stock only
01050	Wilson, J. B. and G. T. A.	Red Rock Springs		65	1/50 c. f. s.	Stock only
01051	Wilson, J. B. and G. T. A.	White Rock Spring		66	1/50 c. f. s.	Stock only
01052	Wilson, J. B. and G. T. A.	Little Creek		67	1/50 c. f. s.	Stock only
01053	Sweeney, W. H.	Calico Creek		68	1/50 c. f. s.	Stock only
01054	Sweeney, W. H.	Copenhagen Creek				Stock only
01055	Sweeney, W. H.	Foley Springs				Irrigation
01056	Mendes, W. F.	Blackburn Springs				Stock only
01057	Erickson, J. A.	Portuguese Springs				Stock only
01058	Erickson, J. A.	Choke Cherry Springs				Stock only
01059	Erickson, J. A.	Mud Springs				Stock only
01060	Erickson, J. A.	Morgan Springs				Stock only
01061	Erickson, J. A.	Rock Springs				Stock only
01062	Erickson, J. A.	Summit Springs				Stock only
01063	Dixon, Thomas	Felt Springs				Stock only
01064	Baker, Philip M.	Barrel Springs				Stock only
01065	Baker, Philip M.	Lemay, Lehman or Big Creek		1	415.4 acres	Irrigation
01066	Baker, Philip M.	Cave Springs		2	7.5 acres	Irrigation
01067	Hilliard, A.	Baker and Lehman Creeks		3	1,767.8 acres	Irrigation
01068	Eureka Land and Stock Co.	Dry Creek				Irrigation
01069	Doutre, Fred	Seabury and Lucky Springs		35	.1 c. f. s.	Min., mill., mun. sup.
01070	Boundy, William	Mike Springs				Stock only
		Cedar Spring				Stock only

01071	Culverwell, Chas. and Alice	Meadow Valley Creek, Clover Valley Wash				Irrigation
01072	Griffeth, W. B.	Niagara Creek				Irrigation
01073	Griffeth, W. B.	Niagara and Jerrett Creeks				Irrigation
01074	Griffeth, W. B.	Snow Creek		30	12.7 acres	Irrigation
01075	Warren, H. C.	Cumberland and Layson Creeks				Irrigation
01076	Conaway, Joseph	Meadow Valley Wash				Irrigation
01077	Simonsen, Otto G.	Cold Creek Springs				Irrigation
01078	Polkinghorne, Margaret	Polkinghorne Creek				Irrigation
01079	Jacobson, M.	Leviathan Creek		31, 33	66.63 acres	Irrigation
01080	Yelland, John	Nigger Creek and tributaries				Stock only
01081	Ferry, J. R.	Grass Valley Spring		8	1/50 c. f. s.	Stock only
01082	Rogantini, James	Rogantini Stock Spring		41	85 acres	Irrigation
01083	Rogantini, James	Pinto Creek				Irrigation
01084	Venturino, John	Simpson Creek				Irrigation
01085	Edera, Pete	Simpson Creek				Irrigation
01086	Tognoni, Antonio	Simpson Creek				Mining
01087	Benton, C. W.	Log Spring				Irrigation
01088	McCann, Joseph E.	Hunt's Canyon Creek		42	1.1 acres	Irrigation
01089	Depaoli, Angelo	Bennett Spring		34	1/50 c. f. s.	Stock only
01090	Ferry, J. R.	Glenco Springs				Irrigation
01091	McCann, John W.	Meadow Canyon Creek				Irrigation
01092	Morgan, Edward T.	Carson River				Irrigation
01093*	Freeman, E. J.	Stillwater Slough				Stock only
01094	Woods, Lamond C.	John Thomas Spring				Stock only
01095	Woods, Lamond C.	Tank Springs				Stock only
01096	Woods, Lamond C.	McLain Springs				Stock only
01097	Woods, Lamond C.	Trail Springs				Stock only
01098	Woods, Lamond C.	Oak Springs				Stock only
01099	Woods, Lamond C.	Rock Springs				Stock only
01100	Woods, Lamond C.	Willow Springs				Stock only
01101	Woods, Lamond C.	Sheep Springs				Stock only
01102	Woods, Lamond C.	East Springs				Stock only
01103	Woods, Lamond C.	Roeder Springs				Irrigation
01104	Bailey, Marietta	Bailey Springs		92	1/50 c. f. s.	Stock only
01105	Bailey, Robert and Wallace, and Edgar Sadler	N-T Springs				Stock only
01106	Bailey, Robert and Wallace and Sadler, Edgar	Williams Spring				Irrigation
01107	Gutherie, Harriet	Clear Creek				Irrigation
01108	Gutherie, Harriet	Elbow Creek				Irrigation
01109	Gutherie, Harriet	Sonoma Creek				Irrigation
01110	Jacobsen, Jorgen P.	Rock Canyon		36	21.25 acres	Irrigation
01111	Jacobsen, Jorgen P.	Box Springs Canyon		37	36 acres	Irrigation
01112	Hendra, Lucy M.	Dun Glen Creek				Irrigation
01113	Hamblin, Edwin	Beaver Dam Creek				Irrigation
01114	Taft, Nels	Horse Canyon		38	50 acres	Irrigation
01115	Taft, Nels	Taft Springs		39, 40	154 acres	Irrigation
01116	Champagne, Mrs. Edna	Schoolhouse Canyon Spring		15	.04 c. f. s.	Irrigation
01117	Morrison, Mrs. Hattie B.	Schoolhouse Canyon Creek		16	.032 c. f. s.	Irrigation
01118	Christenson, Mrs. Sophia	Schoolhouse Canyon Creek		17	.03 c. f. s.	Irrigation
01119	Clover Valley Land and Stock Co.	Evans Creek				Stock only
01120	Laub, M. W.	Dock's Pass Spring				Stock only
01121	Laub, M. W.	Bunker Peak Spring				Stock only

*Right not transferred to the Government in the Truckee-Carson Project.

PROOFS OF APPROPRIATION OF WATER FILED—*Continued*

No.	Name	Source of appropriation	Certificate No. Book 1	Certificate No. Book 2	Amount	Purpose
01122	Laub, M. W.	Cow Hole Spring				Stock only
01123	Blair, William	Water Canyon Springs		55	.85 acres	Irrigation
01124	Cerutti, Bart	Water Canyon Springs		56	.025 c. f. s.	Stock only
01125	Tilford, T. B.	Violet Spring				Placer mining
01126	Heimrich, Joseph	Sheehan Springs				Irrigation
01127	Evans & Pratt	Warm Springs				Irrigation
01128	S. P., L. A. & S. L. R. R. Co.	Meadow Valley and Clover Creeks				Railroad use
01129	S. P., L. A. & S. L. R. R. Co.	Meadow Valley and Clover Creeks				Railroad use
01130	S. P., L. A. & S. L. R. R. Co.	Meadow Valley and Clover Creeks				Railroad use
01131	Robison, George S.	Weaver Creek				Irrigation
01132	Powell, Thomas I.	Cottonwood Creek				Irrigation
01133	Depaoli, Angelo	Simpson Creek				Irrigation
01134	Lyttle, Edwin	Simpson Spring No. 1				Stock only
01135	Lyttle, Edwin	Simpson Spring No. 2				Stock only
01136	Pietrini, Giacomo	Egan Creek		84	76 acres	Irrigation
01137	Maggini, Clement	Snow water				Irrigation
01138	Agee, Horace A.	Wiseman, Gordon and South Wiseman Cks.		85	229 acres	Irrigation
01139	Adams & McGill	South Spring		86	91.39 acres	Irrigation
01140	Adams & McGill	Rock Spring		77	.05 c. f. s.	Stock only
01141	Adams & McGill	Grouse Spring		78	.05 c. f. s.	Stock only
01142	Adams & McGill	Watson Spring		79	.05 c. f. s.	Stock only
01143	Adams & McGill	West Side Spring		80	1 acre	Irrigation
01144	Adams & McGill	Camp Tender Spring		81	$\frac{1}{40}$ c. f. s.	Stock only
01145	Adams & McGill	Sheep Spring		82	$\frac{1}{40}$ c. f. s.	Stock only
01146	Badt, M. and Co.	Warm Creek		83	$\frac{1}{40}$ c. f. s.	Stock only
01147	Robison, George S. and Sons	Choke Cherry Springs No. 1		54	585.7 acres	Irrigation
01148	Robison, George S. and Sons	Choke Cherry Springs No. 2				Stock only
01149	Watt, Mrs. Isabel	China Spring				Stock only
01150	Bruno, A.	Five Mile Springs		43	9.01 acres	Irrigation
01151	Gardner, Amos B.	Forest Home Spring		44, 45	32.64 acres	Irrigation
01152	Cutler, M. B.	Cherry Creek		46, 47	44.87 acres	Irrigation
01153	Davis, G. G.	Cherry Creek		48	22.3 acres	Irrigation
01154	Frenzi, Mrs. P., Estate of	Cherry Creek		49	6.99 acres	Irrigation
01155	Welch, G. B.	Pine Creek		50, 51	31.32 acres	Irrigation
01156	Indian Bob	North Fork Cottonwood Creek		52	4.38 acres	Irrigation
01157	Smith, W. H.	Smith Springs		89, 90	154.2 acres	Irrigation
01158	Smith, W. H.	Smith's Spring		91	$\frac{1}{40}$ c. f. s.	Stock only
01159	Smith, W. H.	Smith's Springs Nos. 1 and 2				Stock only
01160	Morrison, Mrs. Agnes	S. Fork Allison Creek, Allison, Sullivan Spgs				Irrigation
01161	The Preston Irrigation Co.	Preston Big Spring (Arnoldson Spring trib.)		93, 98, 103, 106, 111, 114	1,108.8 acres	Irrigation
01162	Adams & McGill	Preston Big Spring (Cold, Nicholas, and Horsley, and Arnoldson Springs tributaries)		119	220 acres*	Irrigation
01163	The Lund Irrigation Co.	Lund Spring, Preston Big Spring (Cold, Nicholas, and Horsley tributaries)		96, 101, 105, 112, 115, 122, 97, 102, 107, 113, 116, 118	1,075.9 acres*	Irrigation
01164	Adams & McGill	Lund Spring		121	688 acres*	Irrigation
01165	Adams & McGill	McQuitty Springs		108	300 acres*	Irrigation
01166	Hayden, George R.	White River		94	34 acres	Irrigation
01167	McQueen, James T.	White River		99, 104, 110, 117	163 acres	Irrigation
01168	Adams & McGill	White River		120	69 acres	Irrigation
01169	Lee, Andrew	White River		109	120 acres†	Irrigation
01170	Williams, Stephen	White River		95	9.4 acres	Irrigation
01171	Hermansen, Christian and Karen	White River		100	29.5 acres	Irrigation
01172	The Preston Irrigation Company	White River (Rejected)			233.5 acres	Irrigation
01173	Gubler, J. J.	White River (Rejected)				Irrigation
01174	Jensen Brothers & Co.	Lund Spring (Rejected)				Irrigation
01175	Burgess, George M.	White River (Rejected)				Irrigation
01176	Tippett, Mrs. John	Long Spring				Stock only
01177	Organ, Peter	Star and Santa Clara Creeks				Irrigation

NOTE: *This concludes the list of proofs, except those specially numbered under the Humboldt River and its tributaries. Domestic use, though not mentioned, is included in all of the proofs herein listed. Proofs numbers from 01161 to 01175 inclusive, are contained in the White River system, i. e. White River and its tributaries. † Certificates 119, 120, 121, 122, and 118, under the White River system, are issued for winter use only.

Up to January 1, 1913, there have been 630 valid certificates issued from proofs of appropriation for water filed. Several additional certificates have been issued but they are now void. The following tabulation shows the number and amount of certificates issued for various uses, and the sources upon which they were issued.

PROOFS OF APPROPRIATION FOR WATER FILED—*Continued*

Source	Number and purpose of certificates issued			Amount			
	Irrigation	Stock	Miscellaneous	Acres	C. F. S	Acre-feet	Inches
East Carson River	215			16,162.826			
			2 (power)		.59		
West Carson River	87			9,216.0			
Carson River	*57			4,897.6			
			1 (domestic only)		.5		
Muddy River	122			2,870.9			
White River system	31			4,051.1			
Miscellaneous streams	53			6,783.8			
	6				10.602		
	11					25,847	
	2						86
		39			1.182		
		1					20
			3 (mining and milling)		15.1		
			1 (mining and milling)				20
Main Walker River—No certificates issued							
West Walker River—No certificates issued							
Truckee River—No certificates issued							

*NOTE: Power is also included in 3 of these certificates, the amount being allowed as per court decree in case No. 520, U. S. Circuit Court, District of Nevada. In several of the certificates issued on irrigation, mining, milling or power is also included, but no stipulated amount is allowed for these other uses, hence they are not shown in the above tabulation.

GENERAL RECOMMENDATIONS

The writer qualified as State Engineer on March 23, 1911, having been appointed on March 21 of that year.

The office was quartered in the State Printing Office building, occupying two rooms on the second floor. The draughting-room was so small it was with difficulty that anything could be accomplished. The light was poor and entirely unsuited for the purpose. The main office became crowded to the extent that a part of the records and books were kept in the already crowded draughting-room.

Preparations were made to obtain quarters in the Senate Chamber in the main Capitol building, and shortly after April 1, 1911, the office was removed to this place. This room afforded ample space for the records and draughting work, though unsuited for a general engineering office. It was unwise to install a blue-print room, a much needed adjunct, on account of the temporary occupancy.

By reason of the special session of the Legislature in 1912, we were forced to vacate the Senate room on February 20, 1912. New quarters were obtained in the First National Bank building, but immediately after the adjournment of the session, we returned to the Senate Chamber.

The records of the office of the State Engineer are becoming too valuable to be moved from place to place and I strongly recommend that permanent quarters be provided for the office.

Duplicate records are not to be had in many instances. A fireproof vault should be installed in the quarters selected for the office for the proper protection of these water titles.

EQUIPMENT

During the year 1911 the business of the office was such that additional equipment was required to properly accommodate the public. The typewriting machines needed repairing or adjustment and they were replaced by new ones, the old ones being taken as part payment. Additional machines were necessary, but the funds could not be spared to purchase more than one. At the present time two additional machines are required for the work.

A Burroughs adding machine was contracted for by the State Engineer conditioned that it be delivered in 1911, and purchased outright should an appropriation be made therefor by the Legislature of 1913. The appropriation required to purchase this machine is $375. This machine is indispensable in the work of the office and already has saved a large part of its cost in the time saved through its use.

An office counter was purchased, filling a long-felt want. In this counter are stored the paper stock, maps, record books and pamphlets, besides being available for use of the public.

Additional map binders, record books, engineering supplies, and two draughting tables were purchased in the line of equipment, all of which detracted from the funds available for carrying on the field work, though all of which were absolutely necessary for the proper conduct of the office.

STEAM MEASUREMENTS

For the past several years the cooperative agreement with the United States Geological Survey has been dispensed with. The measurement of streams and the proper records of this data is of vital importance to the development of our water resources. It is discouraging to investors, who contemplate the use of the waters of the State for power and other beneficial purposes, to find it necessary to spend a year or more in preliminary investigations. Many enterprises are lost to the State through this lack of information.

The larger streams of the State have been gaged for a period of sufficient duration to afford a reasonably accurate record of the run-off. The majority of the smaller streams of the State have not been gaged except at intermittent times when some member of the office of the State Engineer had occasion to do so.

For this work I recommend an appropriation of $2,500 be made to be used jointly with a like sum appropriated by the United States Geological Survey. As an alternative should it be decided not to cooperate with the United States in the work, I suggest an appropriation of $5,000 be set apart for the work to be carried on by the State Engineer.

IRRIGATION INVESTIGATIONS

The cooperative work of irrigation investigations should be continued. An appropriation of $2,000 per year was made for this work by the Legislature of 1911, to be used with a like sum appropriated by the United States. I recommend that the same amount be appropriated for the ensuing two years. Records relative to the duty of water are invaluable to the development of our unimproved lands.

LEGISLATION

Much has been said of the need of a more substantial code for the determination of water rights, the indefiniteness of the procedure of our code as it now stands, and the uncertainty of the powers of the State Engineer.

Before undertaking the adjudication of vested rights under the code, the writer requested from the Attorney-General of Nevada an opinion as to the powers of the State Engineer conferred by the statute. Opinions were obtained from a number of attorneys referring to particular sections of the Act. Besides a very complete list of recent decisions of the Supreme Courts of the various Western States, in which water codes were in force, was obtained and carefully reviewed. Many of them had passed upon the points which seemed doubtful in our code, to the end that the administrative system of determining water rights was deemed by the courts to be constitutional and did not deprive a holder of water rights of his day in court.

Proceeding on the theory that unless property rights were actually jeopardized and that if the procedure was such that the parties had proper notice that the work of the determination of their rights was in progress, there would be every possibility of the courts upholding the method adopted. This was believed would be true by reason of the fact that already two important rivers of the State had been adjudicated, and a third set of findings rendered by the State Engineer acting as Master

in Chancery in a case for the determination of rights, in which a stipulation permitted the findings to be rendered precisely as theretofore by the office of the State Engineer, and no appeals taken therefrom, so far as we are aware.

Much has already been accomplished toward the adjudication of rights during the past two years, and there is a measure of satisfaction in the work, especially in view of the late decisions upholding the procedure adopted by the office, the decisions being rendered in States having codes such as ours leaving certain discretionary powers to the State Engineer, or Board of Irrigation.

Notably among recent decisions the Supreme Court of Nebraska upheld almost in detail the power of an administrative board to determine water rights. From this decision (Enterprise Irrigation District v. Tri-State Land Co., *et al*, 138 N. W. Rep. 171, rendered October 18, 1912,) I quote the following:

> The questions involved in this case are of deepest importance, not only to the parties actually before the court, but to every owner of irrigated land in the State of Nebraska, since the plaintiffs challenge all right and authority of the State Board of Irrigation to adjudicate priorities of appropriation under the Act of 1895. If this contention be upheld, then more than a thousand adjudications of prior claims which have been made by that board since the time of its first organization until today, a period of over sixteen years, are absolutely void. Moreover, whatever the conclusion of the court may be, it is almost inevitable under the peculiar circumstances of the case that one party or the other will suffer serious loss. It is therefore with a deep sense of responsibility and a keen appreciation of the serious results, not only to the parties before the court, but to a vast number of water users in the State of Nebraska, that we approach the consideration of the questions involved.
>
> With reference to the claimed adjudications by the State Board, it is argued, first, that the board never made a final adjudication or an adjudication intended to be final; second, that the board did not possess power or jurisdiction to enter an order or decree conclusively establishing rights acquired prior to the Act of 1895, for the reason of the entry of such an order would require the exercise of purely judicial powers which such board does not and cannot possess and, further, that, if it is possessed of judicial powers, the method provided by statute for adjudicating such rights does not constitute due process of law; third, that the manner in which the board proceeded did not constitute due process of law and its proceedings so far as they purport to be conclusive adjudications are absolutely void. * * *
>
> On the point that the action of the board in adjudicating priorities does not constitute due process of law, for the reason that the statute does not specifically provide for notice to the parties, we are of the opinion that, where a statute under the police power of the state authorizes a proceeding affecting the property rights of any person and does not expressly provide for notice to be given, the right of notice is implied, and that, where a proper notice has been given under a procedure authorized by the Legislature and a party has appealed, he has not been deprived of any of his rights without due process of law. * * *
>
> We think the Legislature had power to delegate this duty to that body, and that the fact that the method of procedure was not embodied in the statute does not render due process lacking in the proceedings.

Continuing in the decision are found many points which are of

importance to us. The entire decision seems to uphold the proceedings as carried out by this office.

While I believe the remaining streams of the State can be adjudicated under our present code with reasonable assurance that the proceedings will be upheld by the courts, in so far as the actual power of adjudication exists, it is deemed best to suggest a revision of the law, to permit of a procedure which is beyond all question of doubt legal, and the decree final if not appealed to the courts within a stated time.

The Oregon system for the determination of water rights appears to permit of greater progress than those of other States drafted on different ines. The State of Wyoming has a similar procedure.

The theory of this office has been that the determination of rights could be made much in the way the Railroad Commissions of the different States regulate rates. The order of the State Engineer decreeing relative rights to the use of the public waters can be made final, except on appeal, without depriving the user of his constitutional rights. Every user whose rights are affected may have the right of appeal to the courts. The administrative officer or body should work independently of the court, and such a procedure is recommended in this report.

The experience of the Board of Control in Oregon has been that unnecessary delays have occurred, through the requirement of the law, in causing the findings to be passed upon by the court before becoming final. The State Engineer of that State has even recommended that this part of the Act be eliminated. The result will be the same in any event, for if the findings are not satisfactory to the water user his right of appeal will still lie. I am loath to recommend a law which creates a board of control at this time, An attempt has been made to obtain the opinion of many of the members of the Legislature of 1913 regarding this point. The drift of opinion so far seems to be that they are averse to the creation of new boards or commissions which would entail additional expense upon the State. They are, however, apparently in favor of a law which clearly defines the powers and duties of the State Engineer. For this reason I have decided to eliminate any suggestions relating to the creation of a board of control fashioned after the Oregon system; but feel that the trend of the procedure should be substantially as the Oregon system, though carried out by the State Engineer and his department.

The system of fees I believe should also be revised and placed on a proportional basis. That is, the quantity of water appropriated should measure the charge by the State. This fee system is in force in practically all of the Western States.

This department can be made self-sustaining by adopting that system. It would, no doubt, support a board of control, but primarily to do so is an additional tax upon the public, which will not be recommended at this time. Any surplus from fees will diminish the amount of revenue to be raised to meet current state expenses, which might otherwise be absorbed by the board of control.

The code recommended herewith will place additional responsibilities upon the State Engineer, though I believe it will tend to make the department more efficient and provide a means for more systematic operation.

Penalties for noncompliance with the law and rules and regulations of the office are provided in the code.

Only the general principles of the law have been taken up, leaving the details to be taken from the suggested code itself.

[NOTE: Since the above was written the recommended code with a few amendments has been enacted into a law. The law as finally approved by the Governor is therefore inserted in full as a guide to those interested in water appropriations. It appears as Chapter 140 of the Statutes of 1913, and will be found in that volume commencing at page 192.]

CHAP. 140—*An Act to provide a water law for the State of Nevada; providing a system of state control; creating the office of the state engineer and other offices connected with the appropriation, distribution and use of water, prescribing the duties and powers of the state engineer and other officers and fixing their compensation; prescribing the duties of water users and providing penalties for failure to perform such duties; providing for the appointment of water commissioners, defining their duties and fixing their compensation; providing for a fee system, for the certification of records, and an official seal for the state engineer's office; providing for an appropriation to carry out the provisions of this act; and other matters properly connected therewith, and to repeal all acts and parts of acts in conflict with this act, repealing an act to provide for the appropriation, distribution and use of water, and to define and preserve existing water rights, to provide for the appointment of a state engineer, an assistant state engineer, and fixing their compensation, duties and powers, defining the duties of the state board of irrigation, providing for the appointment of water commissioners and defining their duties, approved February 26, 1907; also repealing an act amendatory of a certain act entitled "An act to provide for the appropriation, distribution and use of water, and to define and preserve existing water rights, to provide for the appointment of a state engineer and assistant state engineer, and fixing their compensation, duties and powers, defining the duties of the state board of irrigation, providing for the appointment of water commissioners and defining their duties, approved February 26, 1907, and to provide a fee system for the certification of the records of, and an official seal for the state engineer's office and other matters relating thereto," approved February 20, 1909.*

[Approved March 22, 1913]

The People of the State of Nevada, represented in Senate and Assembly, do enact as follows:

GENERAL PROVISIONS

All water public property

SECTION 1. The water of all sources of water supply within the boundaries of the state, whether above or beneath the surface of the ground, belongs to the public.

Beneficial use

SEC. 2. Subject to existing rights, all such water may be appropriated for beneficial use as provided in this act and not otherwise.

Basis

SEC. 3. Beneficial use shall be the basis, the measure and the limit of the right to the use of water.

Provisions for use of water

SEC. 4. All water used in this state for beneficial purposes shall remain appurtenant to the place of use; *provided,* that if for any reason it should at any time become impracticable to beneficially or economically use water at the place to which it is appurtenant, said right may be severed from such place of use and simultaneously transferred and become appurtenant to other place or places of use, in the manner provided in this act, and not otherwise, without losing priority of right heretofore established; *and provided,* that the provisions of this section shall not apply in cases of ditch or canal companies which have appropriated water for diversion and transmission to the lands of private persons at an annual charge.

Right to divert ceases, when

SEC. 5. When the necessity for the use of water does not exist, the right to divert it ceases, and no person shall be permitted to divert or use the waters of this state except at such times as the water is required for a beneficial purpose.

Right of eminent domain

SEC. 6. The beneficial use of water is hereby declared a public use, and any person may exercise the right of eminent domain to condemn all lands and other property or rights required for the construction, use and maintenance of any works for the lawful diversion, conveyance and storage of waters.

Relative to storage of water

SEC. 7. Water may be stored for a beneficial purpose. Water turned into any natural channel or water course by any person entitled to the use thereof, whether stored in Nevada or in an adjoining state, may be claimed for beneficial use below, and diverted from said channel or water course by such person, subject to existing rights, due allowance for losses to be made, as determined by the state engineer.

Regulations as to use and appropriation

SEC. 8. Rights to the use of water shall be limited and restricted to so much thereof as may be necessary, when reasonably and economically used for irrigation and other beneficial purposes, irrespective of the carrying capacity of the ditch; and all the balance of the water not so appropriated shall be allowed to flow in the natural stream from which such ditch draws its supply of water, and shall not be considered as having been appropriated thereby; and in case the owner or owners of any such ditch, canal or reservoir shall fail to use the water therefrom for beneficial purposes for which the right exists during any *four* successive years, the right to use shall be considered as having been abandoned, and they shall forfeit all water rights, easements and privileges appurtenant thereto, and the water formerly appropriated by them may be again appropriated for beneficial use, the same as if such ditch, canal or reservoir had never been constructed.

Standards of measurement

SEC. 9. A cubic foot of water per second of time shall be the legal standard for the measurement of water in this state. The unit of volume shall be an acre-foot defined as 43,560 cubic feet. Where necessary to transpose miners inches to cubic feet per second, one cubic foot per second shall be considered equal to forty miners inches; but the

term "miners inch" shall not be used henceforth in any permit or adjudicated right issuing from the office of the state engineer without first naming the amount in cubic feet per second or in acre-feet.

Office of state engineer created

SEC. 10. The office of the state engineer is hereby created. The state engineer shall be appointed by the governor and shall receive a salary of thirty-six hundred dollars ($3,600) per annum, payable in equal monthly installments by the state treasurer on warrants drawn by the state controller.

Qualifications

He shall keep his office at the state capital. No person shall be appointed as state engineer who does not have such training in hydraulic and general engineering, and such practical skill and experience as shall fit him for the position. He shall hold office for the term of four years from and after his appointment, or until his successor shall have been appointed. The governor may at any time for cause remove said state engineer. His successor shall in all cases have the qualifications as hereinbefore provided.

Maximum amount of water allowed

SEC. 11. The maximum quantity of water which may hereafter be appropriated in this state for irrigation purposes shall be as follows:

Where the water is diverted for direct irrigation, not to exceed one one-hundredth of one cubic foot per second for each acre of land irrigated; the measurement to be taken where the main ditch enters or becomes adjacent to the land to be irrigated; due allowance for losses to be made by the state engineer in permitting additional water to be diverted into said ditch.

Where water is stored, not to exceed four acre-feet for each acre of land to be supplied; that is, four acre-feet per acre stored in the reservoir, the losses of evaporation and transmission to be borne by the appropriator.

Oath and bond of state engineer

SEC. 12. Before entering upon the duties of his office, the state engineer shall take and subscribe to an official oath, such as is provided by law for state officers, before some officer authorized by the law of the state to administer oaths, and shall file with the secretary of state said oath and his official bond in the penal sum of five thousand dollars ($5,000) with not less than two sureties to be approved by the governor, conditioned for the faithful performance of his duties and for the delivery to his successor or other person to be appointed by the governor to receive the same, all maps, papers, books, instruments and other property belonging to the state then in his hands and under his control, or with which he may be chargeable, to such officer.

Duties of state engineer

Deputy

SEC. 13. The state engineer shall perform such duties as may be prescribed by law. He may, when necessary, employ an assistant engineer at a salary not exceeding the sum of twenty-four hundred dollars ($2,400) per annum, and may employ such other assistants and purchase such material as may be necessary for the proper conduct and maintenance

of his department, to be paid from the moneys which may be appropriated for such purposes from time to time, by the state treasurer, on warrants drawn by the state controller on the certificate of the state engineer. The state engineer or any of his assistants when called away from headquarters on official business, shall be entitled to their traveling and other necessary expenses, which shall be paid from the funds appropriated for the support and maintenance of his department by the state treasurer on warrants drawn by the state controller on the certificate of the state engineer.

Assistants

Biennial report

SEC. 14. The state engineer shall prepare and deliver to the governor, as soon as possible after December 31 of the year preceding the regular session of the legislature, and at such other times as may be required by the governor, a full report of the work of his office, including a detailed statement of the expenditures thereof, with such recommendations as he may deem advisable.

Records of office open to public

SEC. 15. The records of the office of the state engineer are public records and shall remain on file in his office and be open to the inspection of the public at all times during business hours. Such records shall show in full all maps, profiles, and engineering data relating to the use of water, and certified copies thereof shall be admissible as evidence in all cases where the original would be admissible as evidence.

May administer oaths

SEC. 16. The state engineer and his authorized assistants may administer such oaths as may be necessary in the performance of their official duties.

Office hours

SEC. 17. The state engineer shall keep his office open to the public from the hours of 9 o'clock a. m. to 12 o'clock m., and from 1 o'clock p. m. to 4:30 o'clock p. m. each day, Sundays and holidays excepted.

Determination of rights to water, how effected

SEC. 18. Upon a petition to the state engineer, signed by one or more water users of any stream or stream system, requesting the determination of the relative rights of the various claimants to the waters thereof, it shall be the duty of the state engineer, if upon investigation he finds the facts and conditions justify it, to enter an order granting said petition and to make proper arrangements to proceed with such determination; *provided, however,* that it shall be the duty of the state engineer, in the absence of such a petition requesting a determination of relative rights, to enter an order for the determination of the relative rights to the use of water, of any stream selected by him; commencing on the streams in the order of their importance for irrigation. As soon as practicable after said order is made and entered, it shall be the duty of the state engineer to proceed with such determination as hereinafter provided. A water user upon or from any stream or body of water shall be held and deemed to be a water user upon the stream system of which said stream or body of water is a part or tributary.

Publication of orders

SEC. 19. As soon as practicable after the state engineer shall make and enter the order granting the said petition or selecting the streams upon which the determination of rights is to begin, he shall prepare a notice setting forth the fact of the entry of the said order and of the pendency of the said proceedings, which notice shall name a date when the state engineer or his assistants shall begin said examination, and shall set forth that all claimants to rights in the waters of said stream system are required, as in this act provided, to make proof of their claims, which notice shall be published for a period of four consecutive weeks in one or more newspapers of general circulation within the boundaries of said stream system.

Investigation of flow of streams and ditches

SEC. 20. At the time set in said notice, the state engineer shall begin an investigation of the flow of the stream and of the ditches diverting water, and of the lands irrigated therefrom, and shall gather such other data and information as may be essential to the proper determination of the water rights in the stream. He shall reduce his observations and measurements to writing, and execute or cause to be executed, surveys, and shall prepare, or cause to be prepared, maps from the observations of such surveys in accordance with such uniform rules and regulations as he may adopt, which surveys and maps shall show with substantial accuracy the course of the said stream, the location of each ditch or canal diverting water therefrom, together with the point of diversion thereof, the area and outline of each parcel of land upon which the water of the stream has been employed for the irrigation of crops or pasture, and indicating the kind of culture upon each of the said parcels of land, which map shall be prepared as the surveys and observations progress, and which, when completed, shall be filed and made of record in the office of the state engineer; *provided, however*, that such map for original filing in his office shall be on tracing linen on a scale of not less than one thousand feet to the inch.

Data of U. S. geological survey may be used

SEC. 21. In the event that satisfactory data are available from the measurements and areas compiled by the United States Geological Survey, or other persons, the state engineer may dispense with the execution of such surveys and the preparation of such maps and stream measurements, except in so far as is necessary to prepare them to conform with the rules and regulations, as above provided. In the further event that said surveys are executed and maps are prepared and filed with the state engineer at the instance of the person claiming a right to the use of water, the proportionate cost thereof, as determined by the state engineer to be assessed and collected for the adjudication of the relative rights, as hereinafter provided, shall be remitted to said claimant after the completion of the determination; *provided, however*, that the map must conform with the rules and regulations of the state engineer and shall be accepted

Provisions regarding maps

only after the state engineer is satisfied that the data shown thereon are substantially correct. Such measurements, maps and determinations shall be exhibited for inspection at the time of taking proofs and during the period during which such proofs and evidence are kept open for inspection in accordance with the provisions of this act.

Proofs, procedure regarding

SEC. 22. Upon the filing of such measurements, maps and determinations, the state engineer shall prepare a notice setting forth the date when the said state engineer is to commence the taking of said proofs, as to the rights in and to the waters of said stream system, and the date prior to which the same must be filed; *provided, however*, that the date set prior to which said proofs must be filed shall not be less than sixty days from the date set for the commencement of the taking of said proofs, which notice shall be deemed to be an order of the state engineer as to its contents, and which notice the state engineer shall cause to be published for a period of four consecutive weeks in one or more newspapers of general circulation within the boundaries of the said stream system, the date of the last publication of said notice to be not less than fifteen (15) days prior to the date fixed for the commencement of the taking of proofs by the said state engineer. At or near the time of the first publication of said notice it shall be the duty of the said state engineer to send by registered mail to each person, or deliver to each person, in person, hereinafter designated as claimant, claiming rights in or to the waters of said stream system, in so far as such claimants can be reasonably ascertained, a notice equivalent in terms to the said published notice setting forth the date when the said state engineer will commence the said taking of proofs, and the date prior to which said proofs must be filed with the state engineer. Said notice must be mailed at least thirty (30) days prior to the date fixed for the commencement of the taking of said proofs.

Publication of notice

Statement regarding rights to water

SEC. 23. The state engineer shall, in addition, enclose with the notice to be mailed as aforesaid, blank forms upon which said claimant shall present in writing all particulars necessary for the determination of his right in or to the waters of said stream system, the said statement to include the following:

What statement shall contain

(a) The name and postoffice address of the claimant.

(b) The nature of the right or use on which the claim for appropriation is based.

(c) The time of the initiation of such right and a description of works of diversion and distribution.

(d) The date of beginning of construction.

(e) The date when completed.

(f) The dates of beginning and completion of enlargements.

(g) The dimensions of the ditch as originally constructed and as enlarged.

(h) The date when water was first used for irrigation or other beneficial purposes, and if used for irrigation, the amount of land reclaimed the first year, the amount in subsequent years, with the dates of reclamation, and the area and location of the lands which are intended to be irrigated.

(i) The character of the soil and the kind of crops cultivated, the number of acre-feet of water per annum required to irrigate the land, and such other facts as will show the extent and nature of the right and a compliance with the law in acquiring the same, as may be required by the state engineer.

Statements to be under oath

SEC. 24. Each claimant shall be required to certify to his statements, under oath, and the state engineer and his assistants authorized to take proofs are hereby authorized to administer such oaths, which shall be done without charge to the claimant, as shall also the furnishing of blank forms for said statement.

State engineer to take proofs

Penalties for failure to appear

SEC. 25. It shall be the duty of the state engineer to commence the taking of proofs on the date fixed and named in the notice, provided for herein for the commencement of the taking of proofs, and he shall proceed therewith during the period fixed by him and named in the said notice, after which no proofs can be received by or filed with the said state engineer; *provided, however,* that the state engineer may, for cause shown, in his discretion, extend the time in which proofs may be filed. Any person who shall fail to appear herein and make proof of his claim or rights in or to the waters of said stream system, as required by this act, prior to the expiration of the period fixed by said state engineer during which proofs may be filed, shall be deemed guilty of a misdemeanor, and if an individual person, shall upon conviction, be punished by a fine of not less than two hundred and fifty dollars ($250), and not exceeding one thousand dollars ($1,000), or by imprisonment in the county jail for a term of not less than ten days and not exceeding six months, or by both such fine and imprisonment in the discretion of the court, and if a corporation, each and every officer and director thereof shall be amenable to said punishment hereinbefore in this section provided; *provided, however,* that the state engineer may, in his discretion, accept and use as a proof of claim any instrument purporting to be a record of a water right, recorded in the county or counties in which such stream system lies, and render a finding for a water right for the number of irrigated acres of land as found by his observation; *provided further,* that a finding rendered by the state engineer on a water claim, the holder of which is in default, shall be given a later priority than the rights of claimants whose proofs were filed in accordance with the provisions of this act.

Provisos

Petition of intervention, when

SEC. 26. Any person interested in the water of any stream upon whom no service of notice shall have been had of the pendency of proceedings for the determination of the relative rights to the use of water of said stream system, and who shall have no actual knowledge or notice of the pendency of said proceedings, may at any time prior to the expiration of six months after the entry of the determinations of the state engineer, file a petition to intervene in said proceedings. Such petition shall be under oath and shall contain, among other things, all matters required by this act of claimants who have been duly served with notice of said proceedings, and also a statement that the intervenor had no actual knowledge or notice of the pendency of said proceedings. Upon the filing of said petition in intervention granted by the state engineer, the petitioner shall be allowed to intervene upon such terms as may be equitable, and thereafter shall have all rights vouchsafed by this act to claimants who have been duly served.

Fees to be collected by state engineer

SEC. 27. At the time of submission of proof of appropriation, the state engineer shall collect from such claimants a fee of fifteen cents for each acre of irrigated lands up to and including one hundred acres, ten cents for each acre in excess of one hundred acres and up to and including one thousand acres, and five cents per acre for each acre in excess of one thousand acres; also twenty-five cents for each theoretical horsepower up to and including one hundred horsepower, fifteen cents for each horsepower in excess of one hundred horsepower and up to and including one thousand horsepower, and five cents for each horsepower in excess of one thousand horsepower, as set forth in such proof, the minimum fee, however, for any claimant to be five dollars ($5), also a fee of five dollars ($5) for a proof of water used for domestic purposes or any other character of claim to water. Such fee shall include the cost of recording the water right certificate in the office of the county recorder, should such certificate of water right issue. All fees collected as above set forth shall be accounted for in detail and deposited with the state treasurer once in each month; *provided, however,* that the state engineer shall deduct and hold such an amount from said fees as may be estimated to cover the cost of recording the certificates of water right and the rebate due claimants for the execution of surveys as herein provided.

Proviso

State engineer shall assemble proofs and have same printed

SEC. 28. As soon as practicable after the expiration of the period fixed in which proofs may be filed, the state engineer shall assemble all proofs which have been filed with him, and prepare and certify an abstract of all of the said proofs, which shall be printed in the state printing office. As soon as practicable the state engineer shall prepare a notice fixing and setting a time and place when and where the evidence

taken by or filed with him shall be open to the inspection of all interested persons, said period of inspection to be not less than ten (10) days, which notice shall be deemed to be an order of the state engineer as to the matters contained therein. A copy of said notice together with a printed copy of the said abstract of proofs, shall be delivered by the state engineer, or sent by registered mail at least thirty (30) days prior to the first day of such period of inspection, to each person who has appeared and filed proof as herein provided. The state engineer shall be present at the time and place designated in said notice, and allow, during said period, any person interested to inspect such evidence and proofs as have been filed with him in accordance with this act.

Contest, how instituted

SEC. 29. Should any person claiming any interest in the stream system involved in the determination of relative rights to the use of water, whether claiming under vested title or under permit from the state engineer, desire to contest any of the statements and proof of claims filed with the state engineer by any claimant to the waters of such stream system, as herein provided, he shall, within twenty days after said evidence and proofs, as herein provided, shall have been opened to public inspection, or within such further time as for good cause shown may be allowed by the state engineer upon application made prior to the expiration of said twenty (20) days, in writing notify the state engineer, stating with reasonable certainty the grounds of the proposed contest, which statement shall be verified by the affidavit of the contestant, his agent or attorney. The statements or proofs of the person whose rights are contested and the verified statement of the contestant shall be deemed sufficient to constitute a proper cause for such contest.

Hearing of contest, how conducted

SEC. 30. The state engineer shall fix a time and place for the hearing of said contest, which date shall not be less than thirty (30) days nor more than sixty (60) days from the date the notice is served on the persons who are parties to the contest. Said notice may be sent by registered mail to the person and the receipt thereof shall constitute valid and legal service. Said notice may also be served and returns thereof made in the same manner as summons is served in civil actions in the district courts of this state, but such service may be made by the state engineer or by any person qualified and competent to serve subpenas as in civil actions appointed by the state engineer. The state engineer shall have power to adjourn hearings from time to time upon reasonable notice to all parties interested, and to issue subpenas and compel the attendance of witnesses to testify upon such hearings, which shall be served in the same manner as subpenas issued out of the district courts of the state. In the case of disobedience on the part of any person to comply with any order of the state engineer or any subpena, or on the refusal of any witness to testify to any matter regarding

which he may be lawfully interrogated, it shall be the duty of the district court of any county, or a judge thereof, on application of the state engineer, to compel obedience by attachment proceedings for contempt, as in the case of disobedience of the requirements of a subpena issued from such court, or a refusal to testify therein. The state engineer shall have the power of a notary public in such hearings. Said witnesses shall receive fees as in civil cases, the costs to be taxed in the same manner as in civil actions in this state. The evidence in such proceedings shall be confined to the subjects enumerated in the notice of contest and answer and reply, when the same are permitted to be filed. All testimony taken at such hearings shall be reported and transcribed in its entirety.

State engineer to make rules governing contests

SEC. 31. The state engineer shall have power to make rules, not in conflict herewith, governing the practice and procedure in all contests before his office, to insure the proper and orderly exercise of the powers herein granted, and the speedy accomplishment of the purposes of this act. Such rules of practice and procedure shall be furnished to any person upon application therefor.

Contestants to pay expenses of contests

SEC. 32. The state engineer shall require a deposit of five dollars ($5) from each party for each day he shall be so engaged in taking evidence of such contests. Upon the final determination of the matters in the contest the money so deposited shall be refunded to the person in whose favor such contest shall be determined, and all moneys deposited by other parties therein shall be turned into the general fund of the state treasury upon the next monthly transmission of fees to said state treasurer.

State engineer to make order determining rights of claimants

SEC. 33. As soon as practicable after the hearing of contests, it shall be the duty of the state engineer to make, and cause to be entered of record in his office an order determining and establishing the several rights to the waters of said stream; *provided, however*, that within sixty days after the entry of an order establishing water rights, the state engineer may, for good cause shown, reopen the proceedings and grant a rehearing. Such order and determination shall be prepared, and after certification by the state engineer, printed in the state printing office. A copy of said order and determination shall be sent by registered mail, or delivered in person to each person who has filed proof of claim, and to each person who has become interested through intervention or by having entered a contest through having received a permit from the office of the state engineer, as herein provided. The determination of the state engineer shall be in full force and effect from and after the date of its entry in the records of the state engineer, unless and until its operation shall be stayed by a stay bond as provided for by this act.

Order in full force and effect

Any party aggrieved may appeal to district court

SEC. 34. Any party, or any number of parties acting jointly, who may feel themselves aggrieved by the determination of the state engineer may have an appeal from the order of the state engineer to any district court of the State of Nevada in which any part of such stream system involved in such determination may be situated. All persons joining in the appeal shall be joined as appellants and all persons having interests adverse to the parties appealing or either of them shall be joined as appellees; *provided, however*, that such appeal must be taken within six (6) months of the date on which said party or parties appealing have received a copy of the order of the state engineer determining said rights.

Appeal, how prosecuted

SEC. 35. The party or parties appealing shall, within six (6) months after the receipt of a copy of the order of the state engineer determining the rights to the use of water, file in the district court to which appeal is taken, a notice in writing stating that such party or parties appeal to such district court from the determination and order of the state engineer; and upon the filing of such notice, the appeal shall be deemed to have been taken; *provided, however*, that the party or parties appealing shall, within the six (6) months mentioned, enter into an undertaking, to be approved by the district court or judge thereof, and to be given to all the parties in the said suit or proceeding, other than the parties appealing, and to be in such an amount as the court or judge thereof shall fix, conditioned that the parties giving their said undertaking shall prosecute their appeal to effect and without unnecessary delay and will pay all costs and damages which the party to whom the undertaking is given, or either, or any of them, may sustain in consequence of such appeal.

Undertaking for costs on appeal

Court clerk to notify state engineer of appeal

SEC. 36. The clerk of the district court shall immediately upon the filing of said notice of appeal and the approval of the bond mentioned in the preceding section, transmit to the state engineer a notice over the seal of the court to the effect that said appeal has been perfected, which notice shall be entered in the records of the state engineer, and the appellant or appellants shall cause a copy thereof to be served on each of the appellees, serving the same in the manner provided for the serving of a summons in the district court.

Appellants to file transcript of records

SEC. 37. The appellant or appellants shall within sixty days after the appeal, as provided for, is perfected, file in the office of the clerk of the district court a certified transcript of the order of determination made by the state engineer, and which is appealed from, a certified copy of all records of the state engineer relating to such determination, and a certified copy of all evidence offered before the state engineer, including such measurements, maps and determinations as herein provided to be made of record by the state engineer, together with the petition setting out the cause of the complaint of the party or parties appealing, to which petition all parties joined as appellees shall be served with notice by the issuance of a summons out of the office of the clerk of the district court, within the time and in the manner provided by law for the issuance and service of summons in actions of law.

All proceedings according to civil code

SEC. 38. All proceedings of appeal shall be conducted according to the provisions of the civil code of procedure, and the practice of appeals from the district courts of the state to the supreme court; *provided*, that the practice on appeal in the district court, as to pleadings necessary to be filed and the admission of evidence upon the trial, shall be the same as is now or may hereafter be provided for by law regulating appeals from the justice court.

Proviso

Copy of judgment sent to state engineer

SEC. 39. It shall be the duty of the clerk of the district court immediately upon the entry of any judgment, order or decree by the district court, or by the judge thereof, in an appeal from the decision of the state engineer, to transmit a certified copy of said judgment, order or decree to the state engineer, who shall immediately enter the same upon the records of his office and forthwith issue to the water commissioners in such district instructions in compliance with the said judgment, order or decree, and in execution thereof.

Costs paid by losing party

SEC. 40. All costs made and accruing by reason of such appeal shall be adjudged to be paid by the party or parties against whom such appeal shall be finally determined.

Operation of decree stayed by sufficient undertaking

SEC. 41. At any time after the appeal has been perfected the appellant may stay the operation of said order or decree appealed from by filing in the district court wherein such appeal is pending an undertaking with good and sufficient sureties, to be approved by the district judge in such amount as the district judge may designate, conditioned that appellant will pay all damages that may accrue to the appellee or appellees by reason of such order or decree not being enforced, should the proceedings and appeal be decided against the appellant. And immediately upon the filing and approving of such bond to stay the operations of the order or decree, the clerk of the district court shall transmit to the state engineer a notice over the seal of the court to the effect that such bond has been filed and that the operations of such order or decree are stayed during the pendency of such appeal proceedings. This notice shall be recorded in the records of the state engineer who shall immediately give proper notice to the water commissioners in such district.

These appeals to have precedence over all civil causes

SEC. 42. Upon an appeal being taken as is by this act provided, from the state engineer to the district court of the state it shall be the duty of said court to advance said appeal to the head of its civil trial docket, and to give such appeal precedence over all civil causes in hearing and determination thereof, and if an appeal be taken from the judgment or decree of the district court of the state it shall in like manner be the duty of the supreme court to advance such appeal to

the head of its docket for the hearing of civil causes and give it like precedence as to trial.

Civil practice act to govern in appeals

SEC. 43. The civil practice act of the State of Nevada shall govern in appeals from the decrees of the district court and for rehearings in the supreme court; *provided, however,* in an appeal from the district court the clerk of said district court, or upon the filing of a petition for a rehearing in the supreme court the clerk of the supreme court shall, at the expense of the petitioner, forthwith mail written notices of said application for appeal or petition for rehearing to the state engineer and every party interested, which notice shall state the time and place when such application for an appeal or petition for rehearing will be heard.

Proviso

Final orders of state engineer conclusive, subject to appeal

SEC. 44. The final orders or decrees of the state engineer, in the proceedings provided by law for the adjudication and determination of rights to the use of the waters in this state, shall be conclusive as to all prior appropriations, and the rights of all existing claimants upon the stream or other body of water lawfully embraced in the adjudication, subject, however, to the provisions of law for appeals, rehearings and for the reopening of the orders or decrees therein.

Joint defendants, who are

SEC. 45. In any suit which may be brought in any district court in the state for the determination of a right or rights to the use of water of any stream, all persons who claim the right to use the waters of such stream and the stream system of which it is a part shall be made parties. When any such suit has been filed, the court shall by its order duly entered, direct the state engineer to furnish a complete hydrographic survey of such stream system, which survey shall be made as provided in section 20 of this act, in order to obtain all physical data necessary to the determination of the rights involved. The cost of such suit, including the costs on behalf of the state and of such surveys, shall be charged against each of the private parties thereto in proportion to the amount of water right allotted. In the case of any such suit now pending or hereafter commenced the same may at any time after its inception, in the discretion of the court, be transferred to the state engineer for determination as in this act provided.

Court suits may be transferred to state engineer for determination

Appropriation of $5,000 for hydrographic fund

SEC. 46. For the purpose of advancing the money required for any surveys so ordered by the court, there is hereby appropriated and set apart from any moneys in the state treasury not otherwise appropriated, the sum of five thousand dollars ($5,000) to be known as the hydrographic fund, which shall be a continuous fund. Such fund shall be used only for the payment of claims for services rendered, expenses incurred, or materials and supplies furnished under the direction of the state engineer in the prosecution of said work, which claims shall be paid by the state treasurer on warrants drawn by the state controller upon certificates of the state engineer. The amounts paid by the parties to said

suit, on account of said surveys, shall be paid into said hydrographic fund.

"Stream system" defined

SEC. 47. The words "stream system," as used in this act, shall be interpreted as including any stream together with its tributaries and all streams or bodies of water to which the same may be tributary.

"Person" defined

SEC. 48. The word "person," where used in this act, includes a corporation, an association, the United States, the state, as well as a natural person.

"State engineer" defined

SEC. 49. Wherever the words "state engineer" are used in this act it shall be deemed to mean the state engineer or any duly authorized assistant.

Claimants must furnish blue-prints

SEC. 50. The state engineer shall have power to make and enforce such reasonable rules and regulations for the furnishing of claimants of blue-prints of particular parcels of land shown on the map prepared by the state engineer, and for such supplementary surveys and examinations or such inspection by the state engineer, as may be required, to the end that observations and surveys of the state engineer may be made, in so far as practicable, available to the claimants for attachment to the proofs to be filed by them.

State engineer to issue certificates after final determination

SEC. 51. Upon the final determination of the relative rights in and to the waters of any stream system, it shall be the duty of the state engineer to issue to each person represented in such determination a certificate to be signed by such state engineer, and bearing the seal of his office, setting forth the name and postoffice address of the owner of the right, the date of priority, extent and purpose of such right; and if such water be for irrigation purposes, a description of the land, by legal subdivisions when possible, to which said water is appurtenant. Such certificate shall be transmitted by the state engineer in person or by registered mail to the county recorder of the county in which said right is located, and it shall be the duty of the county recorder upon the receipt of a recording fee of one dollar, collected as hereinbefore provided, to record the same in a book especially prepared and kept for that purpose, and thereupon immediately transmit the certificate to the respective owners.

Water commissioners, how appointed

Salary

Duties

Users to pay salary of water commissioner

SEC. 52. There shall be appointed by the state board of irrigation one or more water commissioners for each water district, who shall receive a salary, including all expenses, of not more than five dollars ($5) per day for each day actually employed on the duties herein mentioned. Such water commissioner shall execute the laws prescribed in sections 53 to 58, inclusive, of this act, under the general direction of the state engineer. The salary of the water commissioner or water commissioners shall be paid by the water users in the district in which such water commissioner or water commissioners shall serve. The charge against each water user shall be based upon the proportion which his acreage, as finally determined by the findings of the state engineer or the court,

bears to the total number of acres in such district as finally determined by the findings of the state engineer or the court. The state engineer shall, and he is hereby directed to prepare a certified list of the land to be served by such water commissioner or water commissioners, together with the names and addresses, taken from the tax roll of said county, and to transmit the same to the board of county commissioners of the county in which such water commissioner or water commissioners of the county in which such water commissioner or water commissioners shall serve, and upon receipt thereof by such board of county commissioners, the said board of county commissioners shall transmit to each and every property holder a statement showing the amount due from such property owner, as his proportionate charge, for the services so rendered, and should such property owner fail, after thirty days from mailing such statement of account, to make payment thereof to the county treasurer of the county wherein such land is situated, then the amount so charged against such property holder shall be and constitute a lien upon the property so served by such water commissioner or water commissioners, and collectable in the same manner as taxes levied against said property. Upon receipt of a certified statement from the state engineer, showing the land served by such water commissioner or water commissioners and the number of days such commissioner or commissioners was actually employed, as hereinbefore provided, the board of county commissioners shall draw a warrant against the general fund of such county for the payment of such claim for the services of such water commissioner or water commissioners, and the same shall be paid as other claims against the said county, and upon payment by said owner or owners of land served by such water commissioner or water commissioners to the county treasurer, said amount shall be placed to the credit of the general fund of said county.

County commissioners to draw warrant for payment of water commissioner

State divided into districts by state engineer, when

SEC. 53. The state engineer shall divide the state into water districts to be so constituted as to insure the best protection for the water user, and the most economical supervision on the part of the state. Said water districts shall not be created until a necessity therefor shall arise and shall be created from time to time as the priorities and claims to the streams of the state shall be determined.

State engineer to insure proper distribution of water, mode of procedure

SEC. 54. It shall be the duty of the state engineer to divide or cause to be divided the waters of the natural streams or other sources of supply in the state, among the several ditches and reservoirs taking water therefrom, according to the rights of each respectively, in whole or in part, and to shut or fasten, or cause to be shut or fastened, the head-gates or ditches, and to regulate or cause to be regulated, the controlling works of reservoirs, as may be necessary to insure a proper distribution of the waters thereof. Such state engineer shall have authority to regulate the distribution of water among the various users under any partnership ditch or reservoir where rights have been adjudicated in accordance with existing decrees. Whenever, in pursuance of his duties the water commissioner regulates a head-gate to a ditch or the controlling works of reservoirs, it shall be his duty to attach to such head-gate or controlling works a written notice properly dated and signed, setting forth the fact that such head-gate or controlling works has been properly regulated and is wholly under his control and such notice shall be a legal notice to all parties interested in the diversion and distribution of the water of such ditch or reservoir. It shall be the duty of the district attorney to appear for or in behalf of the state engineer or his duly authorized assistants in any case which may arise in the pursuance of the official duties of any such officer within the jurisdiction of said district attorney.

Misdemeanor to interfere with water officers

SEC. 55. Any person who shall wilfully open, close, change or interfere with any lawfully established head-gate or water-box without authority, or who shall wilfully use water or conduct water into or through his ditch which has been lawfully denied him by the state engineer, his assistants or water commissioners, shall be deemed guilty of a misdemeanor.

Prima facie evidence

The possession or use of water when the same shall have been lawfully denied by the state engineer or other competent authority shall be *prima facie* evidence of the guilt of the person using it.

Head-gates to be maintained by owners

SEC. 56. The owner or owners of any ditch or canal shall maintain to the satisfaction of the state engineer of the division in which the irrigation works are located, a substantial head-gate at or near the point where the water is diverted, which shall be of such construction that it can be locked and kept closed by the water commissioner; and such owners shall construct and maintain, when required by the state engineer, suitable measuring devices at such points along such ditch as may be necessary for the purpose of assisting the water commissioner in determining the amount of water that is to be diverted into said ditch from the stream, or taken from it by the various users. Any and every owner or manager of a reservoir located across or upon the bed of a natural stream or of a reservoir which requires the use of a natural stream channel, shall be required to construct and maintain, when required by the state engineer, a measuring device of a plan to be approved by the state engineer, below such reservoir, and a measuring device above such reservoir, on each or every stream or source of supply discharging into such reservoir, for the purpose of assisting the state engineer or water commissioners in determining the amount of water to which appropriators are entitled and thereafter diverting it for such appropriators' use. When it may be necessary for the protection of other water users, the state engineer may

Measuring device must be maintained

require flumes to be installed along the line of any ditch. If any such owner or owners of irrigation works shall refuse or neglect to construct and put in such head-gates, flumes, or measuring devices after ten (10) days' notice, the state engineer may close such ditch, and the same shall not be opened or any water diverted from the source of supply, under the penalties prescribed by law for the opening of head-gates lawfully closed until the requirements of the state engineer as to such head-gate, flume, or measuring device have been complied with, and if any owner or manager of a reservoir located across the bed of a natural stream, or of a reservoir which requires the use of a natural stream channel, shall neglect or refuse to put in such measuring device after ten (10) days' notice by the state engineer, such state engineer may open the sluice-gate or outlet of such reservoir and the same shall not be closed under the penalties of the law for changing or interfering with head-gates, until the requirements of the state engineer as to such measuring devices are complied with.

State engineer or assistants may arrest violators of water law

SEC. 57. The state engineer or his assistants shall have power to arrest any person violating any of the provisions of this act, and to turn them over to the sheriff, or other competent police officer within the county, and immediately on delivering any such person so arrested into the custody of the sheriff, it shall be the duty of said state engineer, or his assistant making such arrest to immediately, in writing, and upon oath, make complaint before the justice of the peace against the person so arrested.

Penalties for violation

SEC. 58. Any person violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in a sum not less than twenty-five dollars ($25), nor more than two hundred and fifty dollars ($250), together with the costs, or imprisoned in the county jail not exceeding six months, and not less than ten (10) days, or by both such fine and imprisonment.

APPROPRIATION OF WATER

Method of appropriation of water

SEC. 59. Any person desiring to appropriate any of the public waters, or to change the place of diversion, manner of use or place of use of water already appropriated, shall, before performing any work in connection with such appropriation, change in place of diversion, or change in manner of use or place of use, make an application to the state engineer for a permit to make the same.

For one purpose only—exception

No application shall be for the water of more than one source to be used for more than one purpose; *provided, however,* that individual domestic use may be included in any application with the other use named. Each application for a permit to appropriate water shall contain the following information:

What application must contain

(a) The name and postoffice address of the applicant, and if the applicant be a corporation, the date and place of incorporation.

(b) The name of the source from which the appropriation is to be made.

(c) The amount of water which it is desired to appropriate, expressed in terms of cubic feet per second except in application for permit to store water where the amount shall be expressed in acre-feet.

(d) The purpose for which the application is to be made.

(e) A substantially accurate description of the location of the place at which the water is to be diverted from its source, and if any of such water is to be returned to the source, a description of the location of the place of return.

(f) A description of the proposed works.

(g) The estimated cost of such works.

(h) The estimated time required to construct said works, and the estimated time required to complete the application of the water to beneficial use.

(j) The signature of the applicant or his properly authorized agent.

What application shall contain

In addition to the foregoing, the application shall contain if for irrigation purposes, except in case of application for permit to store water, the number of acres to be irrigated and a description by legal subdivisions, where possible, of the lands to be irrigated; if for power purposes, the vertical head under which the water will be applied, the location of the proposed power-house, and, as near as may be, the use to which the said power is to be applied; if for municipal supply, or for domestic use, the approximate number of persons to be served, and the approximate future requirements; if for mining purposes, the proposed method of applying and utilizing the water; if for stock-watering purposes, the approximate number and character of animals to be watered; if for any purpose contemplating the storage of waters, in addition to the information required in applications naming the said purpose, it shall give the dimensions and location of the proposed dam, the capacity of the proposed reservoir and a description of the land to be submerged by the impounded waters. Every application for permit to change the place of diversion, manner of use or place of use of water already appropriated, shall contain such information as may be necessary to a full understanding of the proposed change, as may be required by the state engineer. All applications for permit shall be accompanied or followed by such maps and drawings and such other data as may hereafter be prescribed by the state engineer, and such accompanying data shall be considered as part of the application.

Duties of state engineer on receipt of application

SEC. 60. Upon receipt of an application, which shall be upon a blank form to be prescribed by the state engineer, and supplied the applicant without charge, it shall be the duty

of the state engineer to make an endorsement thereon of the date of its receipt, and to keep a record of the same. If upon examination the application is found to be defective, it shall be returned for correction or completion with advice of the reasons therefor, and the date of the return thereof shall be endorsed upon the application and made a record of his office. No application shall lose its priority of filing on account of such defects; *provided*, the application, properly corrected and accompanied by such maps and drawings, as may be required, is filed in the office of the state engineer within sixty (60) days from the date of said return to applicant. Any application returned for correction, or completion, not refiled in proper form within the said sixty days shall be canceled. All applications which shall comply with the provisions of the act shall be recorded in a suitable book kept for that purpose.

Publication of notice of application

SEC. 61. When any application is filed in compliance with this act the state engineer shall, within thirty (30) days, at the expense of the applicant, to be paid in advance as herein provided, publish or cause to be published, in some newspaper having a general circulation, and printed and published in the county where such water is sought to be appropriated, a notice of the application, which shall set forth that said application has been filed, the date of said filing, the name and address of the applicant, the name of the source from which the appropriation is to be made, the location of the place of diversion, and the purpose for which said water is to be appropriated, to which shall be added by the publisher the date of first publication, and the date of last publication. Upon proof of such publication, which must be filed within thirty (30) days from the date of the last publication, the state engineer shall pay for the same from the moneys deposited by the applicant for such purpose; *provided, however*, that if the application is canceled for any reason before it is published, the fee of ten dollars ($10) collected for said publication, shall be returned by the state engineer to said applicant.

Protests of applications, how conducted

SEC. 62. Any person interested may, within thirty (30) days from the date of last publication of the said notice of application, file with the state engineer a written protest against the granting of said application, setting forth with reasonable certainty the grounds of such protest, which shall be verified by the affidavit of the protestant, his agent or attorney. On receipt of a protest, as hereinbefore provided, it shall be the duty of the state engineer to advise the applicant whose application has been protested of the fact that said protest has been filed with him, which advice shall be sent by registered mail. The state engineer shall duly consider the said protest, and may, in his discretion, hold hearings and require the filing of such evidence as he may deem necessary to a full understanding of the rights involved; *provided, however*, that no hearing thereon shall be had except after due notice by registered mail to both the applicant and protestant, which notice shall give the time and place at which the said hearing is to be held, which notice shall be mailed at least fifteen days prior to the date set for said hearing. Said hearings shall be conducted under such rules and regulations as the state engineer may make, which he is hereby empowered to make for the proper and orderly exercise of the powers conferred herein.

State engineer to approve applications, when

SEC. 63. It shall be the duty of the state engineer to approve all applications made in proper form where all fees, as in this act provided, have been paid, which contemplate the application of water to beneficial use, and where the proposed use or change does not tend to impair the value of existing rights, or be otherwise detrimental to the public welfare. But where there is no unappropriated water in the proposed source of supply, or where its proposed use or change conflicts with existing rights, or threatens to prove detrimental to the public interests, it shall be the duty of the state engineer to reject said application and refuse to issue the permit asked for. Should the state engineer refuse to issue said permit, or should the permit be issued for a less amount of water than named in the application, the state engineer shall return to the applicant the amount of the deposit for such water rights, or the balance of the amount of the deposit for which the permit was denied; *provided, however*, the fee of fifteen dollars ($15) for examining, filing and publishing said application shall not be included in the amount returned, except as herein provided.

Fees returned, when

Proviso

Record of action made and kept

The refusal or approval of an application shall be endorsed on a copy of the original application, and a record made of such endorsement in the records of the office of the state engineer; said copy of the application so endorsed shall be returned to the applicant. If approved, the applicant shall be authorized on receipt thereof, to proceed with the construction of the necessary works and to take all steps required to apply the water to beneficial use and to perfect the proposed appropriation. If the application is refused the applicant shall take no steps toward the prosecution of the proposed work or the diversion and use of the public water so long as such refusal shall continue in force.

State engineer may require accurate and ample information

SEC. 64. Before either approving or rejecting the application, the state engineer may require such additional information as will enable him to properly guard the public interest, and may in case of application proposing to divert more than ten cubic feet per second of water, require a statement of the following facts: In case of incorporated companies he may require the submission of the articles of incorporation, and names and the places of residence of directors and officers, and the amount of its authorized and of its paid-up capital. If the applicant is not an incorporated company, he may

require a statement as to the name or names of the party or parties proposing to construct the work, and a showing of facts necessary to enable him to determine whether or not they have the financial ability to carry out the proposed work, and whether or not the said application has been made in good faith.

State engineer to fix time of beginning actual construction work

SEC. 65. In his endorsement of approval upon any application the state engineer shall set a time prior to which actual construction work shall begin, which shall not be more than one year from the date of such approval; and that work shall be prosecuted diligently and uninterruptedly to completion unless temporarily interrupted by the elements; a time prior to which the construction of the said works must be completed, which shall be within five years of the date of such approval, and a time prior to which the complete application of water to a beneficial use must be made, which time shall not exceed ten years from the date of the said approval. He may limit the applicant to a less amount of water than that applied for, to a less period of time for the completion of work, and a less period of time for the perfecting of the application than named in the application. The state engineer shall have authority, for good cause shown, to extend the time within which construction work shall begin, within which construction work shall be completed, or water applied to a beneficial use, under any permit therefor issued by said state engineer; *provided, however,* that application for such extension must in all cases be made prior to the time set in the application limiting the period which it is desired to extend.

Extension of time, when

Proviso

Applications may be assigned, restrictions

SEC. 66. Any application for permit or any permit to appropriate water, may be assigned subject to the conditions of the permit, but no such assignment shall be binding except between the parties thereto, unless filed for record in the office of the state engineer.

Statements of progress of work to be filed with state engineer

SEC. 67. It shall be the duty of any person holding a permit from the state engineer, on or before thirty (30) days after the date set for the commencement of work as endorsed thereon, and at other times required by the state engineer, to file with the state engineer the statement setting forth the time when, the place where, and the amount of such work as may have been performed by him thereunder in connection with such appropriation, and it shall be the further duty of the applicant within thirty (30) days after the date set for the completion of such work to file in detail, a description of said works as actually constructed, which statement shall be verified by the affidavit of the applicant, his agent, or his attorney.

Failure to file statements, penalties for

Should any applicant fail, prior to the date set for such filing in his permit to file with the state engineer, proof of commencement of work, or should the said applicant fail to file within thirty (30) days of the date set prior to which

proof of completion of the work must be made, said proof of completion of work, as hereinbefore provided, the state engineer shall, in either case, advise the holder of said permit, by registered mail, that the same is held for cancelation, and should the said holder within thirty (30) days after the mailing of such advice fail to file the required affidavit with the state engineer, the said permit shall be canceled and no further proceedings shall be had thereunder; *provided, however,* that for good cause shown, upon application made prior to the expiration of the period for filing said instrument, the state engineer may, in his discretion, grant a further extension of time in which to file said instruments.

Proviso

State engineer may require proofs of good faith

SEC. 68. If, in the judgment of the state engineer, the holder of any permit to appropriate the public water is not proceeding in good faith and with reasonable diligence to perfect said appropriation, the state engineer may require at any time the submission of such proof and evidence as may be necessary to show a compliance with the law, and the state engineer shall, after duly considering said matter, if, in his judgment, the said holder of a permit is not proceeding in good faith and with reasonable diligence to perfect the said appropriation, cancel the said permit, and advise the holder of said permit of said cancelation.

Statement on application

SEC. 69. On or before the date set in the endorsement of a permit for the application of water to beneficial use, or on the date set by the state engineer under a proper application for extension therefor, it shall be the duty of any person holding a permit from the state engineer to appropriate the public waters of the State of Nevada, to change the place of diversion, or the manner or place of use, to file with the state engineer a statement under oath, on a form prescribed by the state engineer, which statement shall include:

What statement shall set forth

(1) The name and postoffice address of the person making such proof.

(2) The number and date of the permit for which proof is made.

(3) The source of water supply.

(4) The name of the canal or other works by which the water is conducted to the place of use.

(5) The name of the original person to whom the permit was issued.

(6) The purpose for which the water is used.

(7) If for irrigation the actual number of acres of land upon which the water granted in the permit has been beneficially used; giving the same by forty (40) acre legal subdivisions when possible.

(8) An actual measurement (taken by some competent person, giving the name of said person) of the water diverted for such use.

What statement shall set forth

(9) The capacity of the works of diversion.

(10) If for power, the dimensions and capacity of the flume, pipe, ditch or other conduit.

(11) The average grade and the difference in elevation between the termini of such conduit.

(12) The number of months, naming them, in which water has been beneficially used.

(13) The amount of water beneficially used, taken from actual measurements by some competent person, naming said person, together with such other data as the state engineer may require to acquaint himself with the amount of the appropriation for which said proof is filed. Accompanying said statement, there shall be filed with the state engineer a map on tracing linen on a scale of not less than one thousand feet to the inch, which shall show with substantial accuracy the following:

(1) The point of diversion by legal subdivisions or by metes and bounds from some corner, when possible, from the source of supply.

(2) The traverse of the ditch or other conduit, together with cross-sections of same.

(3) The legal subdivisions of the land embraced in the application for permit and the outline by metes and bounds of the irrigated area, with the amount thereof.

(4) The average grade and the difference in elevation of the termini of the conduit, and the carrying capacity of same.

(5) The actual quantity of water flowing in the canal or conduit during the time said survey was being made.

Map and affidavit

Said map must bear the affidavit of the surveyor or engineer making such survey and map. In the event the survey and map are made by different persons the affidavit of each must be on the map, showing that the map as compiled agrees with said survey. Said map shall conform with such rules and regulations as the state engineer shall make, which rules shall not be in conflict herewith.

Permit may be canceled, when

Should any applicant fail, prior to the date set for such filing in his permit, to file with the state engineer proof of application of water to beneficial use, and the accompanying map, or prior to such extension as the state engineer may grant, the state engineer shall advise the holder of said permit, by mail, that the same is held for cancelation, and should the said holder within thirty days after the mailing of such advice fail to file the required affidavit and map or either of them with the state engineer, the said permit shall be canceled and no further proceedings shall be had thereunder.

State engineer may refuse faulty map

SEC. 70. The state engineer may, in his discretion, refuse to accept for filing, any map not conforming with the foregoing provisions and such rules and regulations as he may make. He may, in his discretion, require additional data to be placed thereon, and may make proper provision therefor.

Penalty for false swearing

SEC. 71. Should it be found upon inspection of the premises by the state engineer that said surveyor or engineer had sworn falsely to said map and survey, he may, in the discretion of the state engineer, be barred from the further practice of engineering in any matters before the state engineer, in addition to the penalties prescribed by law for swearing falsely to any affidavit.

Certificate issued by state engineer

SEC. 72. As soon as practicable after satisfactory proof has been made to the state engineer that any application to appropriate water has been perfected in accordance with the provisions of this act, said state engineer shall issue to said applicant, his assign or assigns, a certificate setting forth the name and postoffice address of the appropriator, his assign or assigns, date, source, purpose and amount of appropriation; and if for irrigation, a description of the irrigated lands by legal subdivisions, when possible, to which said water is appurtenant, together with the number of the permit under which such certificate is issued, which certificate shall, within thirty (30) days after its issuance, be sent by mail to the recorder of the county in which such water is diverted from its source, as well as to the recorder of the county in which the water is used, to be recorded in books specially kept for that purpose, and the fee for recording such certificate, which is hereby fixed in the sum of one dollar ($1) for each county in which said record is made, shall be paid in advance to the state engineer by the party in whose favor the certificate is issued.

Filed in county records

Fees of state engineer

SEC. 73. The following fees shall be collected by the state engineer in advance, and shall be accounted for and paid by him into the general fund of the state treasury, on or before the tenth day of each month; *provided, however*, that the fees named in subdivision (c) of this section shall not apply to permits for underground waters:

Fees enumerated

(a) For examining and filing an application for permit to appropriate water, fifteen dollars ($15), which shall include the cost of publication, which publication fee is hereby fixed at ten dollars ($10).

(b) For examining and filing an application for permit to change place of diversion, manner of use, or place of use, twenty-five dollars ($25), which shall include the cost of permit should the same issue thereunder, and the cost of publication of such application.

(c) For issuing and recording permit to appropriate water for irrigation purposes; five cents per acre for each acre to be irrigated, up to and including one hundred acres, and three cents for each acre in excess of one hundred acres up to and including one thousand acres, and two cents for each acre in excess of one thousand acres.

(d) For issuing and recording permit for power purposes, twenty-five cents for each theoretical horsepower to be developed up to and including one hundred horsepower, and

fifteen cents for each horsepower in excess of one hundred horsepower, up to and including one thousand horsepower, and ten cents for each horsepower in excess of one thousand.

(e) For issuing and recording permit to store water, two cents for each acre-foot of water to be stored, up to and including one thousand acre-feet, and one cent for each acre-foot in excess of one thousand.

Fees enumerated

(f) For issuing and recording permit to appropriate water for any other purpose, $5 for each second-foot of water applied for, or fraction thereof.

(g) For filing secondary permit under reservoir permit, $5; for approving and recording secondary permits under reservoir permits, $5.

(h) For filing proof of commencement of work, $1.

(i) For filing proof of completion of work under any permit, $1.

(j) For filing any protest, affidavit, or any other water-right instrument or paper, $1.

(k) For making copy of any document recorded or filed in his office, one dollar for the first hundred words and twenty cents for each additional one hundred words or fraction thereof; where the amount exceeds $5, then only the actual cost in excess of that amount shall be charged.

(l) For certifying to copies of documents, records or maps, one dollar for each certificate.

(m) For blue-print copy of any drawing or map, ten cents per square foot.

(n) For such other work as may be required of his office, actual cost of the work.

Seal for state engineer

SEC. 74. The state engineer is hereby empowered and directed to procure, for his said office, a seal upon which shall appear his official title, and such other suitable inscription as he may deem proper, and such seal shall be affixed to all official permits, certificates and other documents issued by him under the provisions of this act.

Right of appeal to courts from decision of state engineer

SEC. 75. Any party feeling aggrieved by the action of the state engineer in refusing his application in whole or in part, or in allowing such application against his protest, may bring an action, in any court having jurisdiction of the matter, against the state engineer to compel him to reverse or modify his decision, and all persons having interests adverse to the party or parties bringing such action shall be joined therein with the state engineer as defendants. Such action must be commenced within sixty days after notice in writing of the decision by the state engineer complained of, and shall be begun and prosecuted in all respects like the ordinary civil action in this state, and shall be tried *de novo* by the court. Any party feeling himself aggrieved by the decision of the court may have the same reviewed, in any court having appellate jurisdiction of such decision, by appeal or writ of error in the manner provided by law.

Reservoir permits, regulations concerning

SEC. 76. All applications for reservoir permits shall be subject to the provisions of sections 59 to 74, both inclusive, except those sections wherein proof of beneficial use is required to be filed; but the party or parties proposing to apply to a beneficial use the water stored in any such reservoir shall file an application for permit to be known herein as the secondary permit, in compliance with the provision of sections 59 to 74, both inclusive, except that no notice of such application shall be published. Said application shall refer to said reservoir for a supply of water and shall show by documentary evidence that an agreement has been entered into with the owner of the reservoir for a permanent and sufficient interest in such reservoir, to impound enough water for the purpose set forth in said application.

Secondary permit

Final certificate issued when

When beneficial use has been completed and perfected under the secondary permit, and after the holder thereof shall have made proofs of the commencement and completion of his work, and of the application of water to beneficial use, as in the case of other permits, as provided in this act, final certificate of appropriation shall issue as other certificates are issued, except that said certificate shall refer to both the works described in the secondary permit and the reservoir described in the primary permit.

Use of bed of stream, how regulated

SEC. 77. Whenever the owner, manager or lessee of a reservoir constructed under the provisions of this act shall desire to use the bed of a stream or other watercourse for the purpose of carrying stored or impounded water from the reservoir to the consumer thereof, he shall, in writing, notify the state engineer, and the water commissioner of the district in which said water is to be used, giving the date when it is proposed to discharge water from said reservoir, its volume, and the names of all the persons and ditches entitled to its use, and it shall then be the duty of the said state engineer, or his assistant, to regulate the said works and head-gates, of all ditches from the stream or watercourse not entitled to the use of such stored water as will enable those having the right to secure the volume to which they are entitled. The state engineer shall keep a true and distinct account of the time spent by him in the discharge of his duties, as defined in this section, and to present a certified statement thereof to the county commissioners of the county wherein the expense is incurred. Said county commissioners shall present a bill for the expense so incurred to the reservoir owner, manager or lessee, and if such owner, manager, or lessee shall neglect for thirty (30) days after the presentation of such bill of costs, to pay the same, the said costs shall be made a charge upon the said reservoir and shall be collected as delinquent taxes until payment of such bill of costs has been made.

Expenses how met

Legal advisers of state engineer

SEC. 78. The attorney-general and the district attorney of the county in which legal questions arise, shall be the legal advisers of the state engineer and shall perform any and all

legal duties necessary in connection with their work without any further compensation than their salaries fixed by law.

Negligent coowners may be compelled to pay share of expenses

SEC. 79. In all cases where ditches are owned by two or more persons, and one or more of such persons shall fail or neglect to do a proportionate share of the work necessary for the proper maintenance and operation of such ditch or ditches, or to construct suitable head-gates, or other devices at the point where water is diverted from the main ditch, such owner or owners desiring the performance of such work, may, after giving ten days' written notice to such other owner or owners who have failed to perform such proportionate share of the work necessary for the operation and maintenance of said ditch or ditches, perform such share of the work, and recover therefor from such person or persons in default, the reasonable expense of such work.

Statement of expenses to constitute valid lien against property of delinquent

SEC. 80. Upon the failure of any coowner to pay his proportionate share of such expense, as mentioned in the preceding section, within thirty days after receiving a statement of the same as performed by his coowner or owners, such person or persons so performing such labor may secure payment of said claim by filing an itemized and sworn statement thereof, setting forth the date of the performance and the nature of the labor so performed, with the county clerk of the county wherein said ditch is situated, and when so filed it shall constitute a valid lien against the interest of such person or persons in default, which said lien may be established and enforced in the same manner as provided by law for the enforcement of mechanics' liens.

Unauthorized use or wilful waste of water *prima facie* evidence of guilt

SEC. 81. The unauthorized use of water to which another person it entitled, or the wilful waste of water to the detriment of another, shall be a misdemeanor, and the possession or use of such water without legal right, shall be *prima facie* evidence of the guilt of the person using or diverting it.

Obstruction unlawful

SEC. 82. Whenever any appropriator of water has the lawful right of way for the storage, diversion, or carriage of water, it shall be unlawful to place or maintain any obstruction that shall interfere with the use of his works, or prevent convenient access thereto. Any violation of the provisions of this section shall be a misdemeanor.

Misdemeanor to violate these provisions

SEC. 83. All violations of the provisions of this act declared herein to be a misdemeanor, shall be punished by a fine not exceeding two hundred and fifty dollars ($250), and not less than ten dollars ($10), or by imprisonment in the county jail not exceeding six months, or by both such fine and imprisonment.

Vested rights to water not impaired

SEC. 84. Nothing in this act contained shall impair the vested right of any person to the use of water, nor shall the right of any person to take and use water be impaired or affected by any of the provisions of this act where appropriations have been initiated in accordance with law prior to the approval of this act. Any and all appropriations based upon

applications and permits now on file in the state engineer's office, shall be perfected in accordance with the laws in force at the time of their filing.

Rotation in use of water

SEC. 85. To bring about a more economical use of the available water supply, it shall be lawful for water users owning lands to which water is appurtenant, to rotate in the use of the supply to which they may be collectively entitled; or a single water user, having lands to which water rights of a different priority attach, may in like manner rotate in use, when such rotation can be made without injury to lands enjoying an earlier priority, to the end that each user may have an irrigation head of at least two (2) cubic feet per second.

State engineer to make rule

SEC. 86. The state engineer is hereby empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by this act.

Each section of this law declared independent

SEC. 87. Each section of this act and every part of each section is hereby declared to be independent sections, and parts of sections, and the holding of any section or part thereof to be void or ineffective for any cause shall not be deemed to affect any other section or any part thereof.

Repeal of conflicting acts

SEC. 88. All acts designated in the following schedule, and all other acts and parts of acts in conflict herewith shall stand repealed from and after the time when this act goes into effect.

SCHEDULE

Specific acts repealed

An act to provide for the appropriation, distribution and use of water, and to define and preserve existing water rights, to provide for the appointment of a state engineer, an assistant state engineer, and fixing their compensation, duties and powers, defining the duties of the state board of irrigation, providing for the appointment of water commissioners and defining their duties, approved February 26, 1907.

An act amendatory of a certain act entitled "An act to provide for the appropriation, distribution and use of water, and to define and preserve existing rights, to provide for the appointment of a state engineer and assistant state engineer, and fixing their compensation, duties and powers, defining the duties of the state board of irrigation, providing for the appointment of water commissioners, and defining their duties," approved February 26, 1907, and to provide a fee system for the certification of the records of, and an official seal for, the state engineer's office, and other matters relating thereto, approved February 20, 1909.

This law not retroactive

The repeal of a law by this act shall not affect any application for permit made to, or permit granted by the state engineer to appropriate the public water when any such instrument was filed or approved before the repeal takes effect, and any action or proceeding heretofore commenced

or initiated under any law repealed by this act, shall be completed in accordance with the provisions of the law in force at the time of such filing and approval.

Appropriation, $30,000

SEC. 89. The sum of thirty thousand dollars ($30,000) is hereby appropriated out of the general fund in the state treasury to carry out the provisions of this act.

In effect

SEC. 90. This act shall take its effect from and after its passage and approval.

RESULTS OF IRRIGATION INVESTIGATIONS

RENO, NEVADA, December 31, 1912.

State Board of Irrigation, State Engineer, Secretary, Carson City, Nevada.

GENTLEMEN: Pursuant to Section 4 of the Act approved March 20, 1912, entitled "An Act to provide for the measurement of water used on irrigated areas, the determination of the losses from irrigating ditches and the best remedy therefor, and a study of the evaporation losses and the best remedy therefor, and a study of the best methods of distributing and applying water in growing crops in the State of Nevada with the United States Department of Agriculture, the Nevada Agricultural Experiment Station and the State Engineer," I have the honor to report the following:

The Act referred to above made an appropriation of $4,000 effective when the agent in charge of irrigation investigations in the United States Department of Agriculture certified that an equal amount would be appropriated from the federal funds for investigation in the State of Nevada. On June 2, 1911, the United States Department of Agriculture entered into an agreement with the Nevada Agricultural Experiment Station, and the State Engineer of Nevada and agreed among other things "to pay from funds appropriated by Congress for irrigation investigations the sum of two thousand ($2,000) dollars for the fiscal year beginning July 1, 1911, in order to defray a part of the expenses incurred in carrying on such work." On August 14, 1912, a similar agreement was entered into and a similar sum of two thousand dollars was appropriated for the fiscal year beginning July 1, 1912, thus meeting by an equal amount the original sum appropriated by the State of Nevada.

The work undertaken by irrigation investigations in the State of Nevada was divided into two projects by the United States Department of Agriculture, and designated as Projects I-40-A and I-40-B. Project I-40-A embraced the State of Nevada as a whole and rendered the agent in charge of the investigations subject to answering questions, advising irrigators and making such investigations in different parts of the State as might be advised from time to time. Under this project the study of evaporation from irrigated soils, and the amount of water required to produce one pound of alfalfa hay and one pound of dry matter of wheat under our arid conditions, was conducted at Reno, Nevada. The contribution of the Nevada results in evaporation from irrigated soils is contained in Bulletin No. 248 of the United States Department of Agriculture. The Nevada results alone were not sufficient to justify publishing, and it was decided to wait till early in 1913 when the results of the investigations of the number of pounds of water required to produce one pound of airdry alfalfa and wheat would be available and together with additional data on the rate of evaportaion from a free water surface would be published as a bulletin of the cooperative irrigation investigations for Nevada.

Project I-40-B was a definite study of the valley of the Humboldt. To determine the duty of water in typical districts, to ascertain the amount of seepage and return waters in various valleys, to determine losses by evaporation from the river surface at different points, to study storage possibilities, the amount of appropriated and unappropriated waters with a view to bringing about a more economical use of flow. Due to the fact that the United States Geological Survey found it necessary to discontinue the Nevada stations on account of the lack of cooperative funds to carry on the work, irrigation investigations for the purpose of study of the use of the Humboldt took over the maintenance of the Humboldt River stations at Oreana, Golconda, Palisade, South and North Forks, and in addition established stations at Humboldt Sink, Pine Creek, and Mary's River. The records of the daily gage heights and discharge measurements were directly reported to the District Engineer's office of the United States Geological Survey at San Francisco. The discharge curves of the various river stations were plotted by that office and an O.K.'d curve furnished irrigation investigations for use in estimating the flow during 1911 and 1912. The results for discharge at the different stations where curves were furnished are appended herewith.

To determine the duty of water in typical districts the Lovelock Valley was first selected. During that part of the irrigating season from June on in 1911, and May 15 to September 15, 1912, detailed measurement was made of the water entering the irrigating canals every day, and a station was maintained on the

sink of the Humboldt to determine the waste from the valley. Due to the fact that it is desired to carry these measurements on for another season, and that the study of the use in the Lovelock Valley is incomplete, it has been decided not to publish these discharges till another time. To facilitate the movements of the assistant on the work in the Lovelock Valley a second-hand motorcycle was purchased for $150 and used the two years. In December, 1912, this motorcycle was sold for $90 and the proceeds applied to the payment of the gage readers on the Humboldt.

To determine the rate of evaporation from the river surface, two floating tanks were used of a pattern used in similar work in California and Utah. One of these tanks was floated below the Pitt Dam in the Lovelock Valley, and another was floated in Winnemucca. The method of measuring the rate of evaporation was the daily refilling of the tanks by a cup holding one-hundredth of an inch of the depth of the tank to a certain zero, or point of brass rod. In the Lovelock Valley a similar tank was placed on the land to determine the relation between the land and the water surface rate. Results are reported herewith.

Due to the fact that the territory of the Humboldt is so large and lies over such a length, the investigations had to be confined to the maintenance of the river points and the Lovelock Valley. It is planned to extend the study of the duty water in typical districts to the Battle Mountain Valley. At the same time, with scarcely any additional expense, the Lovelock investigations can be continued.

The Legislature will be asked for an appropriation of a similar amount for 1913–1914 to continue the work as in the past two years. This amount will be met by an equal amount on the part of the United States Department of Agriculture. Much of the expense in getting the investigation started will not need to be duplicated, in the way of equipment, etc. The data obtained to date is worth perhaps many times the amount appropriated and should be continued.

Sincerely yours,

F. L. PETERSON,

Irrigation Engineer in charge Irrigation Investigations for Nevada.

Table showing discharge in second-feet and acre-feet of the Humboldt River at Sink near Lovelock, Nevada, 1912

Day	June		July		August		September		October		November		December	
	Sc. ft	Ac. ft	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.
1	(a)	(a)	1060	2099	0	0	13	26	3.3	7	10	20	44	87
2			1060	2099	0	0	10	20	3.3	7	10	20	44	87
3			965	1911	0	0	10	20	3.3	7	10	20	44	87
4			870	1723	0	0	16	33	3.3	7	17	33	44	87
5			784	1552	3.3	7	17	33	3.3	7	28	55	44	87
6			695	1376	0	0	17	33	3.3	7	36	71	44	87
7			578	1144	0	0	17	33	3.3	7	36	71	44	87
8			726	1437	0	0	17	33	3.3	7	17	33	44	87
9			810	1604	0	0	17	33	3.3	7	10	20	44	87
10			810	1604	0	0	20	40	3.3	7	13	26	44	87
11			810	1604	0	0	44	87	3.3	7	20	40	44	87
12			870	1723	0	0	60	119	3.3	7	28	55	44	87
13			935	1851	3.3	7	60	119	3.3	7	28	55	44	87
14			578	1144	3.3	7	60	119	3.3	7	44	87	44	87
15			1000	1980	3.3	7	60	119	3.3	7	44	87	44	87
16					3.3	7	60	119	3.3	7	52	103	44	87
17			226	447	3.3	7	52	103	3.3	7	84	166	44	87
18			170	336	10	20	28	55	3.3	7	96	190	44	87
19			155	307	3.3	7	17	33	3.3	7	96	190	44	87
20			189	374	0	0	17	33	3.3	7	96	190	44	87
21			245	485	0	0	13	26	3.3	7	52	103	44	87
22			245	485	0	0	13	26	3.3	7	44	87	44	87
23			378	748	0	0	10	20	3.3	7	60	119	44	87
24			330	654	0	0	10	20	3.3	7	60	119	44	87
25			170	336	0	0	7	14	3.3	7	52	103	44	87
26			108	214	3.3	7	7	14	3.3	7	44	87	44	87
27	28	55	44	87	3.3	7	10	20	3.3	7	44	87	44	87
28	935	1851	20	40	3.3	7	10	20	3.3	7	44	87	44	87
29	1000	1980	20	40	10	20	3.3	7	3.3	7	44	87	44	87
30	1000	1980	10	20	20	40	3.3	7	3.3	7	44	87	44	87
31			3.3	7	13	26			3.3	7				
Totals		5866		29431		176		1384		217		2498		2697

(a) Channel dry.

Monthly discharge of Humboldt River at Sink, near Lovelock, Nevada

(Drainage area, 13,800 square miles.)

Month, 1912	Discharge in second-feet			Run-off total in acre-feet
	Maximum	Minimum	Mean	
June 27-30	1,000	28	740.7	5,866
July	1,060	3.3	495.4	29,431
August	20	0	2.9	176
September	60	3.3	23.3	1,384
October	3.3	3.3	3.3	217
November	96	10	42.1	2,498
December	44	44	44	2,697

Table showing discharge in second-feet and acre-feet of the Humboldt River at Oreana, Nevada, 1912

Day	January Sc. ft.	January Ac. ft.	February Sc. ft.	February Ac. ft.	March Sc. ft.	March Ac. ft.	April Sc. ft.	April Ac. ft.	May Sc. ft.	May Ac. ft.	June Sc. ft.	June Ac. ft.	July Sc. ft.	July Ac. ft.	August Sc. ft.	August Ac. ft.	September Sc. ft.	September Ac. ft.	October Sc. ft.	October Ac. ft.	November Sc. ft.	November Ac. ft.	December Sc. ft.	December Ac. ft.
1	(*)	(*)	65	109	75	148	108	214	211	418	336	665	918	1814	334	661	131	259	96	190	191	259	346	685
2	.....	.....	60	119	75	148	115	228	360	713	312	618	1021	2022	322	636	131	259	96	190	139	275	310	614
3	.....	.....	60	119	60	99	122	242	298	570	324	641	1021	2022	346	685	131	259	91	180	139	275	(*)	(*)
4	.....	.....	45	89	60	99	115	228	298	570	414	820	1134	2244	359	709	147	291	91	180	147	291	.....	.....
5	.....	.....	40	79	55	109	108	214	276	548	387	766	1134	2244	322	638	139	275	91	180	147	291	.....	.....
6	.....	.....	21	42	55	109	108	214	276	548	444	880	1134	2244	322	638	131	259	91	180	147	291	.....	.....
7	.....	.....	21	42	50	99	115	228	288	570	414	820	1134	2244	322	638	139	275	91	180	154	305	.....	.....
8	.....	.....	21	42	45	89	122	242	300	594	387	766	1250	2470	322	638	147	291	91	180	154	305	.....	.....
9	.....	.....	13	26	45	89	129	255	301	594	360	713	1134	2244	299	592	147	291	91	180	154	305	.....	.....
10	.....	.....	13	26	45	89	122	242	324	641	360	713	1021	2022	289	572	147	291	91	180	162	321	.....	.....
11	.....	.....	13	26	50	99	108	214	300	594	336	665	969	1918	278	550	147	291	91	180	147	291	.....	.....
12	.....	.....	13	26	50	99	101	200	276	548	312	618	916	1814	268	530	131	259	91	180	147	291	.....	.....
13	.....	.....	11	22	60	119	94	186	312	618	240	475	916	1814	257	509	131	259	91	180	147	291	.....	.....
14	.....	.....	10	20	70	139	81	160	300	594	264	523	816	1616	237	469	124	246	91	180	154	305	.....	.....
15	.....	.....	11	22	70	139	75	148	264	523	387	766	681	1348	227	449	124	246	91	180	170	337	.....	.....
16	.....	.....	17	34	75	148	75	148	264	523	536	1061	681	1348	218	432	117	233	91	180	180	356	.....	.....
17	.....	.....	21	42	75	148	75	148	240	475	570	1128	644	1275	209	414	110	218	85	168	190	376	96	190
18	.....	.....	21	42	75	148	75	148	136	269	570	1128	607	1202	200	396	110	218	79	156	200	396	96	190
19	.....	.....	24	47	75	148	81	160	129	255	570	1128	681	1348	200	396	103	204	74	146	190	376	91	180
20	.....	.....	31	61	75	148	81	160	101	200	642	1271	644	1275	200	396	103	204	74	146	180	356	.....	.....
21	101	200	36	69	81	160	81	160	89	176	681	1348	681	1348	190	376	103	204	68	135	180	356	.....	.....
22	108	214	45	89	89	176	75	148	89	176	725	1436	449	889	190	376	103	204	68	135	170	337	.....	.....
23	81	160	55	109	94	186	75	148	89	176	725	1436	396	784	180	356	96	190	68	135	162	321	.....	.....
24	115	228	55	109	108	214	70	139	81	160	725	1435	396	784	170	337	96	190	65	128	170	337	.....	.....
25	101	200	60	119	115	228	81	160	81	160	725	1435	346	685	162	321	96	190	65	128	227	449	.....	.....
26	108	214	65	129	108	214	75	148	101	200	725	1435	322	638	162	321	91	180	91	180	299	592	.....	.....
27	65	129	65	129	108	214	70	139	230	455	816	1616	278	550	162	321	91	180	96	190	358	709	.....	.....
28	65	129	75	148	108	214	115	228	312	618	816	1616	322	638	147	291	91	180	96	190	422	836	.....	.....
29	65	129	75	148	101	200	181	358	300	594	866	1714	322	638	139	275	91	180	103	204	346	685	.....	.....
30	60	119	.....	.....	101	200	.....	.....	300	594	916	1814	310	614	131	259	96	190	131	259	322	638	.....	.....
31	60	119	.....	.....	101	200	.....	.....	312	618	.....	.....	310	614	131	259	.....	.....	124	246	.....	.....	.....	.....
Totals	.....	2055	.....	2084	.....	4647	.....	5755	.....	14734	.....	31448	.....	44710	.....	14442	.....	7016	.....	5557	.....	11628	.....	1869

*Estimates not made on account of ice conditions.

Estimated monthly discharge of the Humboldt River at Oreana, Nevada

(Drainage area, 13,800 square miles.)

Month, 1912	Discharge in second-feet: Maximum	Minimum	Mean	Run-off, total in acre-feet
January 20–31	115	60	86.5	2,055
February	75	10	36.5	2,084
March	115	45	75.7	4,647
April	181	70	96.9	5,755
May	360	81	240.0	14,734
June	916	240	529.4	31,448
July	1,250	278	728.4	44,710
August	358	131	235.3	14,442
September	147	91	118.1	7,016
October	68	131	90.5	5,557
November	422	131	196.0	11,628
December*	.....	.....	.....	.....

*Estimates not made on account of ice conditions.

Table showing discharge in second-feet and acre-feet of the Humboldt River at Golconda, Nevada, July 1 to December 31, 1911.

Day	July Sc. ft.	July Ac. ft.	August Sc. ft.	August Ac. ft.	September Sc. ft.	September Ac. ft.	October Sc. ft.	October Ac. ft	November Sc ft	November Ac. ft.	December Sc. ft.	December Ac. ft.
1	425	841	24	47	0.3	0.6	0	0	0.7	1	3	6
2	405	802	24	47	0.3	0.6	0.3	0.6	0.7	1	3	6
3	385	762	20	40	0.3	0.6	0.0	0.0	1	2	3	6
4	346	685	20	40	0	0	0.3	0.6	1	2	3	6
5	346	685	20	40	0	0	0.7	1	1	2	3	6
6	328	649	16	32	0	0	0.7	1	1	2	3	6
7	293	580	16	32	0	0	1	2	1	2	3	6
8	140	277	13	26	0	0	0.7	1	1	2	3	6
9	130	257	13	26	0	0	1	2	1	2	3	6
10	111	220	10	20	0	0	1	2	2	4	3	6
11	111	220	10	20	0	0	0.7	1	2	4	3	6
12	103	204	10	20	0	0	1	2	2	4	3	6
13	94	186	8	15	0	0	0.7	1	2	4	3	6
14	94	186	5	10	0	0	1	2	2	4	3	6
15	87	172	55	10	0	0	0.7	1	2	4	3	6
16	87	172	3	6	0	0	0.3	0.6	2	4	3	6
17	80	158	2	4	0	0	0.7	1	1	2	3	6
18	80	158	1	2	0	0	0.3	0.6	0.7	1	3	6
19	74	147	1	2	0	0	0.7	1	0.7	1	3	6
20	61	121	0.3	0.6	0	0	0.7	1	1	2	3	6
21	61	121	0.3	0.6	0	0	0.3	0.6	2	4	7.5	15
22	43	85	0	0	0	0	0.7	1	3	6	7.5	15
23	43	85	0	0	0	0	0.3	0.6	3	6	7.5	15
24	43	85	0	0	0	0	0.7	1	5	10	7.5	15
25	38	75	0	0	0	0	0.7	1	5	10	7.5	15
26	38	75	0	0	0	0	0.0	0.0	5	10	7.5	15
27	43	85	0	0	0	0	0.3	0.6	5	10	7.5	15
28	28	55	0	0	0	0	0.3	0.6	5	10	7.5	15
29	28	55	0.3	0.6	0.3	0.6	0.0	0.0	3	6	7.5	15
30	28	55	0.7	1	0.3	0.6	0.7	1	3	6	7.5	15
31	28	55	0.7	1	.....	.....	0.7	1	.....	.....	7.5	15
Totals	.....	8313	.....	443	.....	3	.....	24	.....	127	.....	285

Table showing discharge in second-feet and acre-feet of the Humboldt River at Golconda, Nevada, 1912

Day	January		February		March		April		May		June		July		August		September		October		November		December	
	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.
1	7.5	15	24	47	77	152	120	237	385	762	470	930	1180	2336	243	481	63	146	12	24	94	186	177	350
2	7.5	15	20	40	80	158	140	277	385	762	470	930	1120	2218	243	481	53	105	12	24	94	186	166	329
3	7.5	15	17	34	83	164	150	297	385	762	470	930	1060	2099	214	424	53	106	12	24	94	186	161	319
4	7.5	15	20	40	83	164	161	319	405	802	470	930	1000	1980	214	424	57	113	12	24	98	194	155	307
5	10	20	26	51	87	172	173	343	425	841	470	930	940	1861	188	372	57	113	12	24	107	212	144	285
6	10	20	33	65	87	172	213	422	470	930	470	930	880	1742	188	372	49	97	13	26	111	220	133	263
7	10	20	38	75	87	172	199	394	470	930	470	930	880	1742	166	329	49	97	13	26	111	220	123	244
8	10	20	38	75	83	164	218	432	448	887	470	930	825	1633	155	307	49	97	13	26	115	228	123	244
9	10	20	43	86	83	164	199	394	425	841	516	1022	743	1471	155	307	42	83	20	40	119	236	123	244
10	9	18	43	86	87	172	213	422	425	841	616	1220	716	1418	133	263	39	77	21	42	123	244	123	244
11	7.5	15	43	85	87	172	213	422	406	802	724	1433	635	1257	133	263	33	65	24	47	128	253	123	244
12	7.5	15	43	85	90	178	213	422	346	685	667	1321	608	1204	133	263	26	51	26	51	138	273	128	253
13	9	18	43	85	94	186	213	422	310	614	667	1321	658	1305	115	228	22	44	26	51	144	285	128	253
14	10	20	43	85	103	204	229	451	310	614	724	1433	472	935	111	220	22	44	26	51	150	298	128	253
15	10	20	43	85	111	220	259	513	277	548	724	1433	433	857	115	228	22	44	30	59	155	307	128	253
16	10	20	43	85	120	237	277	548	277	548	784	1552	452	895	102	202	22	44	30	59	161	319	128	253
17	9	18	43	85	120	237	310	614	298	580	784	1552	413	818	98	194	22	44	33	65	161	319	144	285
18	7.5	15	43	85	120	237	310	614	310	614	845	1673	413	818	102	202	22	44	33	65	161	319	155	307
19	7.5	15	46	91	120	237	328	649	310	614	876	1734	----	----	90	178	22	44	33	65	166	329	161	319
20	6.5	13	49	97	120	237	310	614	310	614	907	1796	----	----	87	172	22	44	39	77	166	329	172	340
21	7.5	15	52	103	120	237	346	685	328	649	938	1857	732	1450	80	158	22	44	42	83	172	340	177	350
22	9	18	58	115	120	237	346	685	310	614	971	1922	375	742	83	164	22	44	49	97	172	340	177	350
23	10	20	61	121	120	237	346	685	328	649	1036	2051	367	707	70	139	21	42	57	113	177	350	172	340
24	10	20	64	127	140	277	385	762	346	685	1036	2051	357	707	66	131	20	40	63	125	177	350	166	329
25	12	24	64	127	----	----	385	762	346	685	1036	2051	322	637	66	131	19	38	70	139	177	350	155	307
26	12	24	67	133	130	257	385	762	385	762	1100	2178	322	637	73	146	18	36	76	150	177	350	150	298
27	12	24	70	139	130	257	385	762	385	762	1100	2178	322	637	73	145	15	30	76	150	177	350	144	285
28	13	26	74	147	130	257	385	762	425	841	1228	2431	322	637	73	145	13	26	80	158	177	350	133	263
29	15	30	74	147	130	257	385	762	425	841	1228	2431	322	637	63	145	13	26	83	164	177	350	123	244
30	17	34	----	----	130	257	385	762	470	930	1240	2465	271	537	63	145	12	24	87	172	177	350	119	236
31	20	40	----	----	120	237	----	----	516	1022	----	----	257	509	57	113	----	----	90	178	(*)	(*)	111	220
Totals	----	684	----	2824	----	6309	----	16186	----	23081	----	46585	----	33437	----	7413	----	1850	----	2421	----	8606	----	8811

*Estimates not made on account of ice conditions.

Monthly discharge of Humboldt River at Golconda, Nevada, for 1911 and 1912

(Drainage area, 10,800 square miles.)

Month	Discharge in second-feet			Total run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
July	425	28	135.4	8,313
August	24	0	7.2	443
September	.3	0	.05	3
October	1	0	.5	29
November	5	.7	2.1	127
December	7.5	3	4.6	285
1912				
January	20	6.5	10.2	624
February	74	17	45.7	2,624
March	140	77	106.2	6,309
April	385	120	272.4	16,185
May	516	277	375	23,031
June	1,240	470	783	46,535
July	1,180	257	582	33,437
August	243	57	125	7,431
September	63	12	31	1,850
October	90	12	39	2,421
November	177	94	145	8,605
December	177	111	146	8,811

Table showing discharge in second-feet and acre-feet of the Humboldt River, at Palisade, Nevada, 1911

Day	July		August		September		October		November		December	
	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.
1	----	----	105	208	55	109	65	129	80	158	80	158
2	----	----	90	178	55	109	65	129	80	158	80	158
3	----	----	90	178	55	109	65	129	80	158	80	158
4	----	----	90	178	55	109	65	129	80	158	80	158
5	----	----	80	158	55	109	65	129	80	158	80	158
6	----	----	80	158	55	109	65	129	80	158	80	158
7	----	----	80	158	55	109	65	129	90	178	80	158
8	----	----	80	158	65	109	65	129	90	178	80	158
9	----	----	65	129	55	109	65	129	90	178	80	158
10	----	----	65	129	55	109	65	129	90	178	80	158
11	----	----	65	129	55	109	80	158	105	208	80	158
12	----	----	65	129	55	109	80	158	105	208	90	178
13	----	----	65	129	55	109	80	158	105	208	90	178
14	----	----	65	129	55	109	80	158	105	208	90	178
15	----	----	65	129	55	109	80	158	105	208	90	178
16	----	----	65	129	55	109	80	158	105	208	105	208
17	----	----	65	129	55	109	80	158	105	208	105	208
18	----	----	65	129	55	109	80	158	105	208	90	178
19	----	----	65	129	55	109	80	158	105	208	120	238
20	----	----	65	129	55	109	80	158	105	208	105	208
21	----	----	65	129	55	109	80	158	90	178	90	178
22	----	----	65	129	55	109	80	158	90	178	90	178
23	----	----	55	109	55	109	80	158	90	178	90	178
24	----	----	55	109	55	109	80	158	90	178	105	208
25	----	----	55	109	55	109	80	158	90	178	90	178
26	140	277	55	109	55	109	80	158	90	178	90	178
27	140	277	55	109	55	109	80	158	80	158	105	208
28	120	238	55	109	55	109	80	158	80	158	90	178
29	120	238	55	109	55	109	80	158	80	158	0	0
30	105	208	55	109	55	109	80	158	80	158	0	0
31	105	208	55	109	----	----	80	158	----	----	0	0
Totals	----	1446	----	4161	----	3270	----	4608	----	5440	----	4974

Table showing discharge in second-feet and acre-feet of the Humboldt River at Palisade, Nevada, 1912

Day	January Sec. ft.	January Ac. ft.	February Sec. ft.	February Ac. ft.	March Sec. ft.	March Ac. ft.	April Sec. ft.	April Ac. ft.	May Sec. ft.	May Ac. ft.	June Sec. ft.	June Ac. ft.	July Sec. ft.	July Ac. ft.	August Sec. ft.	August Ac. ft.	September Sec. ft.	September Ac. ft.	October Sec. ft.	October Ac. ft.	November Sec. ft.	November Ac. ft.	December Sec. ft.	December Ac. ft.
1	(*)	(*)	140	277	227	449	380	753	815	1614	1275	2525	995	1970	253	501	80	158	105	208	253	501	(*)	(*)
2			140	277	227	449	380	753	770	1525	1275	2525	950	1881	253	501	80	158	105	208	253	501		
3			120	238	227	449	380	753	770	1525	1275	2525	905	1792	253	501	80	158	105	208	253	501		
4			120	238	227	449	380	753	770	1525	1275	2525	860	1703	227	449	80	158	105	208	253	501		
5			120	238	253	501	410	812	770	1525	1476	2920	770	1525	253	501	80	158	105	208	253	501		
6			130	258	253	501	445	881	770	1525	1578	3124	770	1525	253	501	80	158	105	208	253	501		
7			140	277	310	614	445	881	770	1525	1686	3337	728	1442	253	501	80	158	158	313	280	555		
8			148	293	253	501	482	955	770	1525	1795	3554	685	1356	227	449	80	158	180	356	280	555		
9			158	313	253	501	482	955	770	1525	1905	3779	642	1271	200	396	80	158	200	396	280	555		
10			158	313	280	555	482	955	770	1525	2130	4219	600	1188	200	396	80	158	200	396	280	555		
11			158	313	310	614	520	1030	815	1614	2240	4436	560	1109	200	396	80	158	200	396	280	555		
12			158	313	310	614	520	1030	860	1703	2360	4674	560	1109	180	356	80	158	227	449	310	614		
13	105	208	158	313	310	614	560	1109	905	1792	2410	4773	520	1030	180	356	80	158	227	449	310	614		
14	90	178	158	313	310	614	560	1109	905	1792	2470	4891	482	955	158	313	80	158	227	449	310	614		
15	90	178	160	356	280	555	580	1149	950	1881	2546	4237	445	881	158	313	80	158	227	449	310	614		
16	105	208	160	356	280	555	600	1188	995	1970	2470	4891	445	881	140	277	80	158	227	449	310	614		
17	105	208	160	356	280	555	600	1188	1040	2059	2360	4674	445	881	140	277	80	158	227	449	310	614		
18	105	208	160	356	280	555	642	1271	1085	2149	2240	4436	410	812	140	277	80	158	227	449	310	614		
19	105	208	200	396	280	555	642	1271	1133	2243	2130	4219	410	812	140	277	80	158	227	449	310	614		
20	105	208	200	396	280	555	642	1271	1180	2338	1960	3881	600	1188	140	277	80	158	227	449	310	614		
21	105	208	200	396	280	555	686	1356	1180	2338	1795	3554	560	1109	120	238	80	158	227	449	280	555		
22	120	238	200	396	280	555	685	1356	1275	2525	1685	3337	560	1109	120	238	80	158	227	449	280	555		
23	120	238	200	396	310	614	685	1356	1275	2525	1578	3124	520	1030	120	238	80	158	227	449	280	555		
24	120	238	200	396	310	614	728	1442	1275	2525	1425	2822	482	955	105	208	80	158	227	449	253	501		
25	140	277	200	396	310	614	815	1614	1225	2425	1275	2525	445	881	105	208	90	178	227	449	253	501		
26	140	277	200	396	310	614	860	1703	1225	2425	1275	2525	410	812	105	208	90	178	240	396	253	501		
27	140	277	200	396	310	614	860	1703	1225	2425	1275	2525	390	753	90	178	90	178	240	396	253	501		
28	140	277	200	396	310	614	860	1703	1225	2425	1180	2337	346	683	90	178	105	208	227	449	253	501		
29	140	277	200	396	330	654	905	1792	1160	2334	1133	2227	310	614	90	178	105	208	227	449	253	501		
30	140	277			345	683	905	1792	1225	2425	1085	2149	280	555	90	178	105	208	227	449	253	501		
31	140	277			345	683			1275	2525			253	501	80	158			227	449				
Totals		4465		8849		17569		36884		61871		104264		34313		19023		5000		12067		16533		

[a] Estimates not made for December on account of ice conditions.

Monthly discharge of Humboldt River at Palisade, Nevada, for 1911 and 1912

(Drainage area, 5,014 square miles.)

Month	Discharge in second-feet: Maximum	Minimum	Mean	Total run-off in acre-feet
1911				
July 26-31	140	105	126.6	1,446
August	105	55	67.8	4,161
September	55	55	55	3,270
October	80	65	75	4,608
November	105	80	91.6	5,440
December	120	80	86.6	4,974
1912				
January 13-31	140	90	118.6	4,465
February	200	120	171.5	9,849
March	345	227	253.9	17,569
April	905	380	604	35,884
May	1,275	770	1,006.5	61,781
June	2,645	1,085	1,755.1	104,264
July	995	253	559	34,313
August	253	80	163.3	10,023
September	105	80	84.2	5,000
October	227	105	193	11,847
November	310	253	278	16,533
December [a]				

[a] Estimates not made on account of ice conditions.

Monthly discharge of South Fork of Humboldt River, near Elko, Nevada

(Drainage area, 1,115 square miles.)

Month	Discharge in second-feet: Maximum	Minimum	Mean	Total run-off in acre-feet
1912				
March	182	40	72.3	4,435
April	315	89	183.5	10,901
May	752	215	450.9	27,679
June	1,385	447	915.6	54,408
July	405	61	200.5	12,308
August	78	4	22.6	1,389
September	32	4	22.2	1,321
October	52	18	42	2,483
November [a]				
December [b]				

[a] Partial ice conditions. [b] Estimates not furnished on account of ice conditions.

Table showing discharge in second-feet and acre-feet of Pine Creek near Palisade, Nevada, 1912

Day	January		February		March		April		May		June		July		August		September		October		November		December	
	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft	Ac. ft.	Sc. ft.	Ac. ft	Sc. ft	Ac. ft.	Sc. ft.	Ac. ft	Sc. ft.	Ac. ft	Sc. ft	Ac. ft.	Sc. ft.	Ac. ft.
1	.....	.....	11	21	19	38	11	21	41	81	2	3	3	5	7	14	2	3	4.4	9	19	38	19	38
2	.....	.....	14	29	24	48	11	21	41	81	2	3	3	5	7	14	2	3	4.4	9	19	38	14.4	29
3	.....	.....	35	69	24	48	14	29	41	81	2	3	3	5	7	14	2	3	4.4	9	19	38	29.2	58
4	.....	.....	14	29	19	38	19	38	35	69	2	3	3	5	7	14	3	5	4.4	9	19	38	19	38
5	.....	.....	14	29	19	38	19	38	35	69	2	3	3	5	7	14	3	5	10.5	21	19	38	19	38
6	.....	.....	19	38	19	38	19	38	29	58	3	5	3	5	7	14	3	5	10.5	21	19	38	14.4	29
7	.....	.....	19	38	19	38	14	29	29	58	3	5	3	5	4	9	3	5	7.2	14	19	38	24	48
8	.....	.....	19	38	19	38	14	29	29	58	3	5	2	3	4	9	3	5	7.2	14	19	38	(a)	(a)
9	.....	.....	11	21	19	38	14	29	29	58	3	5	2	3	4	9	3	5	14.4	29	19	38	.....	.....
10	.....	.....	14	29	14	29	19	38	29	58	3	5	2	3	3	5	3	5	14.4	29	19	38	.....	.....
11	.....	.....	14	29	14	29	24	48	24	48	3	5	2	3	3	5	3	5	14.4	29	19	38	.....	.....
12	.....	.....	14	29	19	38	24	48	29	58	3	5	3	5	3	5	3	5	14.4	29	19	38	.....	.....
13	.....	.....	14	29	19	38	19	38	24	48	4	9	3	5	4	9	3	5	14.4	29	19	38	19	38
14	.....	.....	14	29	14	29	14	29	35	69	4	9	3	5	3	5	3	5	14.4	29	19	38	19	38
15	.....	.....	14	29	14	29	24	48	24	48	4	9	3	5	3	5	4	9	14.4	29	19	38	19	38
16	.....	.....	19	38	19	38	24	48	19	38	4	9	3	5	3	5	4	9	14.4	29	19	38	19	38
17	.....	.....	24	48	14	29	24	48	14	29	4	9	3	5	3	5	4	9	14.4	29	14.4	29	19	38
18	14	29	29	58	14	29	29	58	11	21	4	9	2	3	3	5	4	9	14.4	29	19	38	19	38
19	14	29	24	48	14	29	35	69	11	21	4	9	2	3	3	5	4	9	14.4	29	19	38	19	38
20	14	29	24	48	11	21	35	69	11	21	3	5	2	3	3	5	4	9	14.4	29	19	38	.....	.....
21	14	29	14	29	11	21	35	69	11	21	3	5	2	3	3	5	4	9	14.4	29	19	38	.....	.....
22	14	29	11	21	14	29	35	69	11	21	3	5	3	5	3	5	4	9	14.4	29	19	38	.....	.....
23	14	29	14	29	14	29	35	69	7	14	3	5	3	5	3	5	4	9	14.4	29	19	38	.....	.....
24	11	21	14	29	14	29	47	93	7	14	3	5	2	3	3	5	4	9	19	38	19	38	.....	.....
25	11	21	24	48	11	21	66	131	7	14	3	5	3	5	3	5	4	9	19	38	14.4	29	.....	.....
26	14	29	19	38	11	21	73	145	7	14	3	5	3	5	3	5	4	9	19	38	14.4	29	.....	.....
27	14	29	24	48	14	29	66	131	4	9	3	5	3	5	3	5	4	9	19	38	14.4	29	.....	.....
28	14	29	19	38	14	29	53	105	2	3	3	5	3	5	3	5	4	9	19	38	14.4	29	.....	.....
29	14	29	19	38	11	21	47	93	2	3	3	5	3	5	3	5	4	9	19	38	14.4	29	.....	.....
30	14	29	.....	.....	11	21	47	93	3	5	3	5	3	5	2	3	4	9	19	38	19	38	.....	.....
31	14	29	.....	.....	11	21	.....	.....	3	5	.....	.....	4	9	2	3	.....	.....	19	38	.....	.....	.....	.....
Total	.....	390	.....	1044	.....	971	.....	1811	.....	1196	.....	168	.....	141	.....	221	.....	208	.....	845	.....	1057	.....	582

[a]Ice conditions, estimates not made.

Table showing discharge in second-feet and acre-feet of the South Fork of Humboldt River near Elko, Nevada, 1912

Day	March		April		May		June		July		August		September		October		November		December	
	Sc. ft.	Ac. ft.	Sc. ft.	Ac ft.	Sc. ft.	Ac ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft.	Sc. ft.	Ac. ft	Sc. ft.	Ac. ft
1	182	360	89	176	238	471	785	1,554	405	802	78	154	4	8	18	36	40	79	61	121
2	171	339	89	176	215	426	850	1,683	348	689	61	121	4	8	18	36	40	79	61	121
3	171	339	96	190	215	426	982	1,944	275	544	61	121	6	12	18	36	40	79	61	121
4	152	301	114	126	215	426	1,050	2,079	270	535	52	103	9	18	23	46	52	102	61	121
5	123	244	171	339	215	426	1,120	2,239	256	507	40	80	12	24	85	168	52	102	61	121
6	89	176	171	339	238	471	1,250	2,475	221	438	40	80	18	36	61	121	52	102	61	121
7	55	109	171	339	250	495	1,320	2,614	199	394	32	63	20	40	52	102	52	102	(a)	(a)
8	35	69	203	402	275	544	1,350	2,674	209	414	32	63	23	46	52	102	61	121	.....	.....
9	40	79	203	402	300	594	1,385	2,742	209	414	23	46	23	46	52	102	61	121	.....	.....
10	40	79	203	402	342	677	1,320	2,614	209	414	23	46	23	46	52	102	.....	.....	.....	.....
11	40	79	171	339	369	731	1,250	2,475	209	414	23	46	23	46	52	102	61	121	.....	.....
12	40	79	171	339	369	731	1,250	2,475	209	414	23	46	23	46	52	102	61	121	.....	.....
13	40	79	161	319	369	731	1,320	2,614	209	414	23	46	28	56	52	102	61	121	.....	.....
14	40	79	171	339	398	788	1,385	2,742	188	374	23	46	32	63	40	79	61	121	.....	.....
15	40	79	171	339	425	842	1,320	2,614	188	374	23	46	32	63	40	79	61	121	.....	.....
16	40	79	171	339	425	842	1,180	2,338	157	311	23	46	32	63	40	79	61	121	.....	.....
17	40	79	171	339	500	990	932	1,845	177	350	18	36	32	63	40	79	61	121	.....	.....
18	40	79	171	339	591	1,170	715	1,416	188	374	18	36	32	63	40	79	61	121	.....	.....
19	40	79	182	360	625	1,237	622	1,232	348	689	12	24	32	63	40	79	61	121	.....	.....
20	40	79	193	382	655	1,296	592	1,172	270	535	12	24	32	63	40	79	61	121	.....	.....
21	50	99	171	339	720	1,426	622	1,232	221	438	9	18	32	63	32	63	61	121	.....	.....
22	50	99	171	339	689	1,364	578	1,144	188	374	8	16	32	63	32	63	61	121	.....	.....
23	60	119	203	402	655	1,296	578	1,144	167	331	6	12	23	46	32	63	61	121	.....	.....
24	72	143	238	471	591	1,170	608	1,204	157	311	6	12	23	46	32	63	.....	(a)	.....	.....
25	72	143	315	624	591	1,170	578	1,144	149	295	5	10	23	46	32	63	.....	.....	.....	.....
26	72	143	261	517	560	1,307	578	1,144	140	277	4	8	20	40	32	63	.....	.....	.....	.....
27	73	143	238	471	515	1,020	549	1,087	121	240	4	8	18	36	40	79	.....	.....	.....	.....
28	72	143	238	471	471	933	490	970	114	220	4	8	18	36	40	79	.....	.....	.....	.....
29	81	166	238	471	515	1,020	460	911	85	168	4	8	18	36	40	79	.....	.....	.....	.....
30	89	176	238	471	591	1,170	447	887	67	133	4	8	18	36	40	79	.....	.....	.....	.....
31	89	176	.....	.....	752	1,489	.....	.....	61	121	4	8	.....	.....	40	79	.....	.....	.....	.....
Totals	.....	435	.....	10,901	.....	27,679	.....	54,408	.....	12,308	.....	1,389	.....	1,321	.....	2,483	.....	2,476	.....	726

Estimates for January and February not made due to ice conditions; balance of estimates 1912 tentative only. [a]Ice conditions; estimates not made.

Monthly discharge of Pine Creek, near Palisade, Nevada

(Drainage area, ... square miles.)

Month	Discharge in second-feet			Total run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
January 18-31	14	11	14	390
February	35	11	18.2	1,044
March	24	11	15.8	971
April	73	11	30.5	1,811
May	41	2	19.5	1,195
June	4	2	2.8	168
July	4	2	2.3	141
August	7	2	3.6	221
September	4	2	3.5	208
October	19	4.4	13.7	845
November	38	9	17.9	1,067
December [a]				

[a] Estimates not furnished on account of ice conditions.

EVAPORATION MEASUREMENTS TAKEN IN LOVELOCK VALLEY AND AT WINNEMUCCA, NEVADA

TANK FLOATING ON WATER

A pan 29 by 29 inches square, 12 inches deep, and similar to apparatus described on page 18 of "Water Supply and Irrigation Paper, Seepage Waters of Northern Utah," was employed. Tank was floated by two metal air-chambers 5 by 8 by 31 inches. A brass rod 10½ inches high was soldered at center of pan. Rod was pointed so as to act in capacity of hook-gage to bring water level to zero of measurement. Measurement consisted in filling tank every morning with a measure, made of such dimensions that a measure or cupfull represented one one-hundredth of an inch. Tank was refilled every morning at 8 a. m., by water surface being restored to point where brass point just disappeared from view.

TANK ON LAND

The tank for the measurement on land was a duplicate of the tank floating on the river, minus the air-chambers. The land tank was situated about 40 feet directly west, and about 10 feet above river surface. Tank was installed on the same horizontal plane as the surrounding ground.

PURPOSE OF TANKS

The purpose of the tanks is to determine the evaporation from the Humboldt River surface in comparison with the evaporation from a similar equipment installed on the land surface near by.

Daily evaporation from land and river surface on Humboldt River, Lovelock, Nevada, May 11 to October 26, 1912

(Location, Pitt's Dam. Elevation, approximately 3,990 feet.)

Day	May		June		July		August		September		October	
	Tank on land	Tank on river	Tank on land	Tank on river	Tank on land	Tank on river	Tank on land	Tank on river	Tank on land	Tank on river	Tank on land	Tank on river
1	.....	.....	.26	.20	.35	(b)	.13	.07	.17	.13	.11	.08
2	.....	.....	.24	.21	.19	.....	.04	.06	.20	.15	.11	.07
3	.....	.....	.34	.27	.15	.....	storm	storm	storm	storm	.09	.07
4	.....	.....	.39	.30	.25	.....	.23	.21	.00	.00	.00	.00
5	.....	.....	.31	.19	.28	.....	.21	.15	.00	.00	.00	.00
6	.....	.....	.41	.29	.30	.....	.26	.17	.13	.11	.00	.00
7	.....	.....	.32	.24	.20	.....	.23	.21	.00	.00	.00	.00
8	.....	.....	.18	.11	.31	.....	.21	.27	.00	.00	.00	.00
9	.....	.....	.30	.17	.39	.....	.23	.08	.00	.00	.11	.07
10	.....	.....	.22	.13	.15	.....	.28	.19	.15	.11	.11	.07
11	.00	.00	.17	.19	.29	.....	.26	.21	.09	.05	.11	.08
12	.26	.12	.25	.17	.20	.....	.24	.20	.13	.11	.09	.06
13	.24	.09	.12	.10	.27	.....	.26	.17	.17	.13	.12	.08
14	.26	.08	.22	.16	.26	.....	.23	.17	.15	.11	.14	.09
15	.26	.18	.26	.28	.37	.....	.27	.21	.33	.24	.09	.06
16	.20	.00	.24	.22	.30	.....	.29	.27	.17	.11	.14	.09
17	.26	.08	.27	.24	.23	.....	.28	.21	.17	.09	.11	.07
18	.26	.20	.35	.24	storm	.....	.19	.15	.12	.09	.12	.09
19	.27	.18	.23	.17	.06	.....	.17	.15	.12	.09	.14	.09
20	.13	.10	.35	.18	.19	.13	.27	.17	.19	.16	.14	.11
21	.20	.26	.28	.26	.20	.33	.21	.11	.11	.09	.16	.12
22	.08	.06	.20	.22	.26	.31	.21	.18	.10	.09	.14	.07
23	.13	.09	.09	.11	.27	.24	.19	.12	.13	.11	.16	.08
24	.22	.15	.30	.21	.17	.19	.25	.17	.24	.19	.11	.07
25	.13	.08	.30	.16	.19	.21	.23	.21	.17	.15	.08	.06
26	.15	.10	.35	.00	.25	.27	.23	.21	.11	.09	.09	.06
27	.18	.14	.34	(a)	.23	.26	.19	.13	.08	.07	.00	.00
28	.21	.10	.30	.....	.17	.31	.17	.13	.11	.09	.....	.....
29	.24	.18	.29	.....	.11	.14	.27	.19	.11	.09	.....	.....
30	.30	.28	.30	.....	.27	.24	.21	.18	.12	.09	.....	.....
31	.27	.21	.....	.....	.08	.10	.13	.09	.....	.....	.....	.....
Totals	4.25	2.68	8.18	5.02	6.94	2.73	6.57	5.04	3.56	2.74	2.47	1.64

[a] River in flood. [b] Humboldt River in flood stage. On account of current being so swift, impossible to float pan.

Daily evaporation from Humboldt River surface, at Winnemucca, Nevada, May 19 to September 21, 1912

(Evaporation pan floating on the river.)

Day	May inches	June inches	July inches	August inches	September inches
1		.21	.18	Storm	.20
2		.28	.23	.15	.22
3		.37	.13	.22	.20
4		.27	.26	.23	.20
5		.34	.27	.22	.15
6		.21	.34	.29	.15
7		Storm	.34	.22	.18
8		Storm	.40	.33	.16
9		Storm	.36	.33	.10
10		.20	.26	.30	.13
11		.18	.25	.23	.10
12		.20	.24	.30	.12
13		Storm	.25	.33	.15
14		.17	.27	.31	.15
15		.20	.25	.40	.18
16		.21	.27	.40	.14
17		.27	.29	.15	.13
18		.23	.29	.22	.25
19	.06	.25		.22	.20
20	.11	.30		.24	.20
21	.25	.32	.35	.15	.22
22	.16	.31	.44	.22	
23	.16		.33	.22	
24	.15		.35	.30	
25	.16		.33	.33	
26	.05		.28	.25	
27	.22		.27	.35	
28	.21	.27	.27	.38	
29	.22	.33	.33	.26	
30	.17	.20	.20	.20	
31	.20		.12	.25	
Totals	2.15	5.32	8.09	8.00	3.53

DATA ON EVAPORATION FROM A FREE WATER SURFACE (SMALL TANK) RENO, NEVADA, 1911 AND 1912

The accompanying curve is a summation of the values of evaporation from a small free-water surface tank, together with the average air temperature and monthly wind movement. This curve is derived from a study of the influence of the temperature of the air, temperature of evaporation water, relative humidity and daily wind mileage upon the influence of rate of evaporation from a small free-water surface, in an experiment being conducted at the Nevada Agricultural Experiment Station farm at Reno, Nevada, for the period April 24, 1911 to December 31, 1912.

The free-water surface tank has a diameter of 23½ inches, is 46 inches deep and set level with the surface of the surrounding soil, in a larger tank containing water acting as a water jacket to dissipate heat accumulated by the necessary projection of the lip of the tank above the water surface. The loss is determined by weighing the tank, employing a mast and boom, winch and platform scales. During 1911 the tank was weighed twice every week. In 1912 it was desired to make a closer study of the influence of the elements before mentioned and the tank was weighed every day at noon. Meteorological records were kept. A standard instrument-shelter containing maximum and minimum self-recording standard thermometer, psychrometer and anemometer recorder was placed eighteen inches above the ground level to obtain temperatures in the same horizontal plane as the tanks. The anemometer was placed about five feet from the

ground. At a later date it is planned to publish the detail data of the 1912 results in particular.

Following are the values obtained for 1911 and 1912:

Month	Monthly mean temperature	Miles wind per month	Evaporation in inches
1911			
January			
February			
March	43.4	4,500	
April	45.8	6,712	
May	48.2	6,684	9.344
June	61.2	3,902	10.426
July	67.4	3,208	11.223
August	62.4	3,245	11.415
September	59.4	4,748	9.730
October	48.8	3,812	4.459
November	38.6	4,593	2.280
December	29.2	3,410	1.970
Total evaporation			60.847
1912			
January	35.2	3,996	1.210
February	39.4	4,439	1.720
March	38.8	6,530	1.320
April	44.0	5,625	3.470
May	51.6	4,550	6.829
June	59.1	3,901	10.410
July	64.1	3,522	11.397
August	62.2	3,093	11.412
September	55.6	2,844	7.291
October	44.5	3,368	5.428
November	40.6	2,794	2.181
December	31.2	3,906	1.610
Total evaporation			64.278

PROPERTY OF

CONCLUSION

Nevada has heretofore been considered as a mineral-producing State only by those who were not familiar with the agricultural conditions and possibilities. Perhaps this, the natural result of the existing conditions by which the vast mineral resources and their alluring possibilities leading toward immediate wealth, caused the population to look only in this direction.

Today we possess as extensive mineral resources as any State in the Union, if not larger, and it is not with the intention of detracting therefrom that I make the statement that, while this may be now our chief industry, ultimately we must look for our permanent wealth from agriculture and its incidental pursuits.

During the past two years a remarkable growth has taken place in this State toward the development of the agricultural resources. A large part of the growth is the natural expansion which may be expected in any section, but the hundreds of new homeseekers by far outnumber those who have merely expanded their present holdings.

If the number of applications for permits to appropriate water by new people can be taken as a criterion, I venture to predict that within the next five years the agricultural population of the State will have doubled itself.

If we are to continue to reach out for new settlers for our lands we must utilize to the highest degree every spring and stream within our borders. The unappropriated supply of water is limited and is becoming more so each year, but through more efficient methods in use, each year sees new possibilities.

It should be borne in mind that until every claim of right in the entire State has been adjudicated there will be a lagging in development. Settlers are unwilling to invest in a law suit, or in property the title to which is not definitely fixed.

It behooves every citizen who has the welfare of the State at heart to aid in the work which leads to the final determination of water titles. It is far more important than is commonly considered, but upon reflection we must admit that the very foundation of our Commonwealth lies in the farm.

It has been learned that streams will not divide themselves automatically to permit each user to obtain his just proportion. There is no distinction made between the water to which each user is entitled. Fundamentally the division and control of waters lies within the police powers of the State. The theory that the first man in position on the stream is entitled to divert and use the entire stream irrespective of his neighbor's rights is no longer considered seriously. The fact that the actual principle is no longer in operation is evidence of the progress being made in this line.

The price of lands in Nevada, without a water right, though with agricultural possibilities, ranges in value from ten to fifty dollars per acre. The price of lands with a water right ranges in value from fifty to two hundred and fifty dollars per acre. It can be readily deduced that the value of water per acre served is much more valuable than the land itself.

Assuming that three acre-feet of water per acre is sufficient to produce crops, and the appropriator is permitted to use four acre-feet, obtaining the same crop values as obtained with three acre-feet per acre, it is apparent that the State is losing actually one-fourth of the revenue to which it is entitled; and further, land valued at one-fourth of our present total is not producing. This, however, cannot be remedied at once, but must be the result of gradual improvement in the methods employed. At a rate of fifty dollars per acre for water (a reasonable figure in this day) through unrestricted use the State's taxable property is reduced many millions of dollars. This condition will undoubtedly gradually change with proper means of regulation.

Before closing I desire to express my deep appreciation of the encouragement received from your Excellency and the approval of the work of the office as it progressed. Your moral support has inspired in the entire department a conscientiousness which I believe has been productive of results.

I also wish to express my appreciation of the very loyal assistance rendered by the entire personnel of the department, which has made possible the successful termination of many of our efforts, and a successful outlook for those uncompleted.

Respectfully submitted,

WILLIAM M. KEARNEY,
State Engineer.

APPENDIX

PRESENT AVAILABLE DISCHARGE MEASUREMENTS OF RIVERS, CREEKS AND SPRINGS IN NEVADA

These data were compiled from different sources. The tables of estimated monthly discharge of the Carson, Humboldt, Truckee and Walker Rivers, up to and including the year 1909, were taken from the reports of the United States Geological Survey. During a portion of that time the measurements were taken under a cooperative agreement with the State of Nevada. The data on the Humboldt River for the year 1912 was obtained under a triangular arrangement signed by the United States Department of Irrigation Investigations, the Nevada Experiment Station and the Engineering Department of the State of Nevada.

Many of the records of flow of the smaller streams were made at different times by the State Engineer's office. Other measurements were taken from records now on file in this office. Still other data was gathered from miscellaneous sources, but only records were taken where it was reasonably certain that measurements had actually been made.

Estimated monthly discharge of the Carson River, near Empire, Nevada

(Drainage area, 988 square miles.)

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1900						
October			70	4,304	0.071	0.082
November	550	46	109	6,486	.110	.123
December	113	68	93	5,718	.094	.109
1901						
January	772	40	115	7,071	0.116	0.134
February	2,470	40	645	35,822	.653	.682
March	1,001	478	634	38,984	.642	.740
April	1,420	329	700	41,653	.709	.790
May	3,791	924	1,994	122,606	2.018	2.328
June	2,304	853	1,422	84,615	1.438	1.605
July	1,084	167	468	28,777	.474	.546
August	297	40	126	7,748	.128	.147
September	70	25	39	2,321	.040	.044
October	213	70	113	6,948	.114	.132
November	297	189	197	11,722	.199	.222
December	758	213	311	19,122	.315	.363
The year	3,791	25	563	407,389	0.570	7.733
1902						
January	272	137	225	13,835	0.228	0.26
February	592	241	279	15,496	.282	.29
March	751	305	411	25,271	.416	.48
April	1,082	340	618	36,774	.626	.70
May	1,712	545	1,041	64,009	1.054	1.22
June	1,512	500	1,002	51,023	1.014	1.13
July	500	20	170	10,453	.172	.20
August	25	10	19	1,168	.019	.02
September	20	10	15	893	.015	.02
October	212	15	54	3,320	.055	.06
November	241	97	160	9,521	.162	.18
December	241	185	213	13,097	.216	.25
The year	1,712	10	351	253,459	0.355	4.81

Estimated monthly discharge of the Carson River, near Empire, Nevada—Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1903						
January	686	193	264	16,233	0.27	0.31
February	584	248	378	20,993	.38	.40
March	748	218	308	18,938	.31	.36
April	1,215	458	681	40,522	.69	.77
May	2,065	748	1,321	81,225	1.34	1.54
June	1,895	892	1,411	83,960	1.43	1.59
July	892	54	279	17,155	.28	.32
August	44	13	20	1,230	.02	.02
September	21	12	15	893	.02	.02
October	94	13	49	3,013	.06	.06
November	382	94	221	13,150	.22	.25
December	248	170	203	12,482	.20	.24
The year	2,065	12	429	309,794	0.43	5.88
1904						
January	223	129	187	11,500	0.189	0.218
February	3,250	173	792	45,560	.802	.865
March	1,980	708	1,035	63,640	1.05	1.21
April	2,170	708	1,094	65,100	1.11	1.24
May	3,150	708	2,006	123,300	2.03	2.34
June	2,360	1,180	1,852	110,200	1.87	2.09
July	1,180	313	638	39,230	.646	.745
August	281	93	139	8,547	.141	.163
September	223	30	82.4	4,903	.083	.093
October	956	281	420	25,820	.425	.490
November	313	223	267	15,890	.270	.301
December	423	197	229	14,080	.232	.268
The year	3,250	30	728	527,800	0.737	10.02
1905						
January	404	223	267	16,420	0.270	0.311
February	384	251	300	16,660	.304	.317
March	423	313	366	22,500	.370	.427
April	1,260	384	561	33,380	.568	.634
May	1,430	464	929	57,120	.940	1.08
June	1,100	347	728	43,320	.737	.822
July	347	12	95.4	5,866	.097	.112
August	16	0	6.9	424	.007	.0081
September	12	0	5.5	327	.0056	.0062
October	63	12	45.8	2,816	.046	.053
November	110	63	78.1	4,647	.079	.088
December	197	93	135	8,301	.137	.158
The year	1,430	0	293	211,800	0.280	4.02
1906						
January	2,040	129	477	29,300	0.483	0.56
February	464	223	298	16,600	.302	.31
March	1,020	251	452	27,800	.457	.53
April	1,670	423	914	54,400	.925	1.03
May	2,640	1,160	1,940	119,000	1.96	2.26
June	3,020	1,160	2,240	133,000	2.27	2.53
July	2,570	1,020	1,860	114,000	1.88	2.17
August	890	129	418	25,700	.423	.49
September	150	51	101	6,010	.102	.11
October	197	93	172	10,600	.174	.20
November	347	173	262	15,600	.265	.30
December	1,090	173	436	26,800	.441	.51
The year	3,020	51	798	579,000	0.807	11.00

NOTE—The open-channel rating table was applied throughout the year; values for winter months are liable to some error on account of ice.

Estimated monthly discharge of the Carson River, near Empire, Nevada—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January	1,740	173	444	0.449	0.52	27,300	C
February	1,300	464	717	.726	.76	39,800	B
March 1-18	4,000	423	791	.801	.54	28,200	B
June 7-30	3,170	1,660	2,240			107,000	B
July	2,670	1,290	1,880			116,000	B
August	1,220	235	539			33,100	A
September	260	143	193			11,500	A
October	260	106	175			10,800	A
November	235	195	214			12,700	A
December	445	195	288			17,700	A
The period						154,000	C
1908							
January	345	235	260			16,000	C
February	260	215	227			13,100	C
March	410	215	293			18,000	B
April	750	235	444			26,400	A
May	750	375	546			33,600	A
June	600	215	400			23,800	A
July	215	22	84.5			5,200	B
August	27	17	21.5			1,320	B
September	44	17	27			1,610	B
October	94	32	59			3,630	B
November	106	73	87.9			5,230	B
December	143	44	95.3			5,860	C
The period	750	17	212			154,000	
1909							
January	2,930	89	957	0.969	1.12	58,800	------
February	1,020	344	533	.339	.56	29,600	------
March	474	374	385	.390	.45	23,700	------
April	1,820	414	970	.982	1.10	57,700	------
May	2,000	1,120	1,510	1.53	1.76	92,800	------
June	2,570	1,490	1,870	1.89	2.11	111,000	------
July	1,410	135	600	.607	.70	36,900	------
August	148	67	93	.094	.11	5,720	------
September	70	67	67.2	.068	.08	4,000	------
October	218	70	165	.167	.19	10,100	------
November	1,280	178	436	.441	.49	25,900	------
December	1,430	354	550	.557	.64	33,800	------
The year	2,930	67	678	0.686	9.31	490,000	

NOTE—The discharges include those of the Brunswick mill power canal and represent the total flow of the river.

Monthly discharge of Carson River and Brunswick Mill power canal near Empire, Nevada, for 1910

(Drainage area, 988 square miles.)

Month	Discharge in second-feet					Run-off			Accuracy
	Maximum	Minimum	Mean	Power canal, mean	Total mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
January	864	134	370	77.5	448	0.453	0.52	27,500	B
February	985	268	517	76.7	594	.601	.63	33,000	B
March	1,190	521	687	82.7	770	.779	.90	47,300	B
April	1,580	521	984	104	1,090	1.10	1.23	64,900	B
May	1,340	699	1,040	115	1,160	1.17	1.35	71,300	A
June	1,050	196	479	86.7	566	.572	.64	33,700	B
July	293	31	92.7	21.1	114	.115	.13	7,010	C
August	48	7.5	16.3	0	16.3	.016	.02	1,000	B
September	18.5	7.5	10.8	3	13.8	.014	.02	821	C
October	70	14	38.4	54.9	93.3	.094	.11	5,740	C
November	134	39	88.9	60.4	149	.151	.17	8,870	C
December	243	48	153	86.1	239	.242	.28	14,700	C
The year	1,580	7.5	372	63.9	436	0.441	6.00	316,000	

NOTE—Totals represent combined discharge of river and power canal. The canal records should be considered approximate, but the records of the river are reliable. The total run-off at the river station is 269,000 acre-feet: that of the power canal is 47,000 acre-feet.

Discharge of power canal Sept. 25-30, estimated at 15 second-feet: Oct. 1-10, estimated at 15 second-feet: Nov. 27-30, estimated at 85 second-feet.

Monthly discharge of the Carson River near Hazen, Nevada

Month	Discharge in second-feet			Run-off (total in acre-feet)	Accuracy
	Maximum	Minimum	Mean		
1908					
May	657	404	529	32,500	B
June	586	266	425	25,300	B
July	228		112	6,890	B
August			0	0	
September			0	0	
October	98	0	38.2	2,350	C
November	98	86	94	5,590	C
December	126		108	6,640	D
The period				79,300	
1909					
January	4,180	73	1,020	62,700	C
February	900	88	554	30,800	B
March	490	330	365	22,400	A
April	1,280	330	696	41,400	A
May	2,630	1,020	1,470	90,400	A
June	3,110	1,280	2,020	120,000	A
July	1,460	145	623	38,300	A
August	132	20	53.1	3,260	A
September	24	17	17.2	1,020	B
October	145	39	118	7,260	A
November	820	132	303	18,000	A
December	1,060	310	504	31,000	C
The year	4,180	17	645	467,000	
1910					
January	1,690	355	683	42,000	A
February	1,100	355	682	37,900	A
March	1,200	580	726	44,600	A
April	1,560	580	934	55,600	A
May	1,280	680	989	60,800	A
June	1,060	192	493	29,300	A
July	175	20	72.4	4,550	A
August	33	0	8.26	508	B
September	0	0	0	0	
October	69	0	33.6	2,070	B
November	109	60	84.8	5,050	A
December 1-5	132	98	115	1,140	A
The period				283,000	

NOTE: Monthly estimates for 1909 are based on an open channel rating. There is a possibility of ice effect during portions of January and December, 1909, and that the means as computed for these months are too great.

Estimated monthly discharge of the East Fork of the Carson River, near Gardnerville, Nevada

(Drainage area, 381 square miles.)

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1900						
October			38	2,337	0.100	[a]0.058
November	75	30	41	2,440	.108	.120
December	35	30	34	2,091	.089	.103
1901						
January	86	14	34	2,091	.089	.103
February	2,267	14	664	36,877	1.743	1.815
March	927	219	464	28,531	1.218	1.256
April	927	261	582	34,632	1.527	1.704
May	3,162	856	1,822	112,033	4.782	5.513
June	2,008	1,141	1,492	88,780	3.916	4.369
July	1,512	313	741	45,562	1.945	2.242
August	626	85	259	16,026	.680	.789
September	220	85	139	8,271	.365	.407
October	271	102	137	8,424	.360	.415
November	332	122	196	11,663	.514	.574
December	1,213	134	280	17,217	.735	.847
The year	3,162	14	568	410,107	1.490	20.034
1903						
January	39	25	32	1,968	0.08	0.10
February	42	21	31	1,722	.08	.08
March	430	45	135	8,301	.36	.42
April	1,617	457	890	52,959	2.34	2.61
May	2,852	550	1,794	110,309	4.71	5.43
June	2,567	880	1,714	101,990	4.50	5.02
July	840	115	356	21,889	.93	1.07
August	225	97	143	8,793	.38	.44
September	135	51	73	4,344	.19	.21
October	115	51	93	5,718	.24	.28
November	725	82	229	13,626	.60	.67
December	115	27	57	3,505	.15	.17
The year	2,852	21	462	335,124	1.21	16.50
1904						
January	47	18	31.9	1,962	0.084	0.097
February	3,310	43	585	33,650	1.54	1.66
March	1,000	318	602	37,020	1.58	1.82
April	1,592	397	816	48,560	2.14	2.39
May	3,112	422	1,984	122,100	5.21	6.01
June	2,410	69	1,041	61,940	2.74	3.06
July	1,034	364	663	40,770	1.74	2.01
The period				345,900		

[a] Equals a partial month.

East Fork of the Carson River near Gardnerville, Nevada—Continued

Month	Discharge in second-feet			Total in acre-feet	Run-off		Accuracy
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches	
1905							
January	175	12	110	6,763	0.289	0.333	------
February	1,166	144	496	27,550	1.30	1.35	------
March	1,175	218	533	32,770	1.40	1.61	------
April	459	236	322	19,160	.845	.943	------
May	1,930	218	949	59,350	2.49	2.87	------
June	958	459	742	44,150	1.95	2.18	------
July 1-15	507	212	346	10,290	.908	.506	------
The period				199,000			
1908							
January	860	154	372	22,900			C
February	182	104	148	8,510			C
March	290	104	183	11,300			C
April	730	213	470	28,000			A
May	730	375	555	34,100			A
June	860	375	539	32,100			A
July	375	128	221	13,600			A
August	182	128	131	8,060			A
September	128	128	128	7,620			A
October	182	104	116	7,130			A
November	128	104	106	6,310			A
December	128	82	111	6,820			C
The year	860	82	257	18,600			
1909							
January	2,320	104	508	31,200	1.41	1.63	C
February	470	154	200	11,000	.554	.58	C
March	213	182	199	12,200	.551	.64	B
April	1,360	250	754	44,900	2.09	2.33	A
May	1,880	910	1,380	84,800	3.82	4.40	A
June	3,430	1,280	2,020	120,000	5.60	6.25	B
July	1,520	290	665	40,900	1.84	2.12	A
August	290	154	190	11,700	.526	.61	A
September	154	154	154	9,160	.427	.48	A
October	182	154	156	9,560	.432	.50	A
November	2,070	154	301	17,900	.834	.93	B
December	1,360	182	313	19,200	.867	1.00	C
The year	3,430	104	570	413,000	1.58	21.47	
1910							
January	660	160	202	9,560	0.65	12,400	B
February	546	160	206	.571	.59	11,400	B
March	1,170	390	534	1.48	1.71	32,800	A
April	1,700	440	1,070	2.96	3.30	63,700	A
May	2,020	660	1,240	3.43	3.95	76,200	A
June	1,620	390	703	1.95	2.18	41,800	A
July	415	123	252	.698	.80	15,500	A
August	123	75	82.4	.228	.26	5,070	B
September	123	90	94.3	.261	.29	5,610	B
October	90	90	90.0	.249	.29	5,530	B
November	106	90	92.1	.255	.28	5,480	B
December	245	[a]90	128	.355	.41	7,870	B
The year	2,020	75	392	1.09	14.71	283,000	

[a] Estimated

Estimated monthly discharge of the Carson River (East Fork) at Rodenbah ranch, near Gardnerville, Nevada

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1902						
January	115	46	81	4,980	0.213	0.35
February	140	57	78	4,332	.205	.21
March	180	57	101	6,210	.265	.31
April	975	180	601	35,672	1.577	1.76
May	1,800	598	1,205	74,093	3.163	3.64
June	1,800	180	955	56,826	2.507	2.80
July	297	98	178	10,945	.467	.54
August	265	70	131	8,055	.344	.40
September	80	40	54	3,213	.142	.16
October	65	44	51	3,136	.134	.15
November	297	46	86	5,117	.226	.25
December	85	28	54	3,320	.142	.16
The year	1,800	28	298	215,989	0.782	10.63

Estimated monthly discharge of the West Fork of the Carson River, at Woodfords, California

(Drainage area, 70 square miles.)

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1900						
October			44	1,222	0.63	0.33
November	60	37	48	2,856	.69	.77
December	71	37	53	3,259	.76	.87
1901						
January	66	41	51	3,136	0.73	0.84
February	256	41	111	6,165	1.59	1.65
March	256	121	170	10,453	2.43	2.80
April	412	121	234	13,924	3.34	3.73
May	896	295	476	29,268	6.80	7.84
June	396	187	289	17,197	4.13	4.61
July	187	97	136	8,363	1.94	2.24
August	166	50	77	4,735	1.10	1.27
September	50	41	43	2,559	.61	.69
October	60	41	49	3,013	.70	.81
November	60	50	56	3,332	.80	.89
December	112	60	82	5,042	1.17	1.35
The year	896	41	148	107,187	2.11	28.72
1902						
January	195	75	107	6,579	1.53	1.76
February	318	162	238	13,218	3.40	3.54
March	393	57	138	8,485	1.97	2.27
April	232	108	175	10,413	2.50	2.79
May	448	178	287	17,647	4.10	4.73
June	393	252	319	18,982	4.56	5.09
July	296	57	121	7,440	1.73	1.99
August	57	36	40	2,460	.57	.66
September	36	30	32	1,904	.46	.51
October	42	30	34	2,091	.49	.56
November	57	36	46	2,737	.66	.74
December	75	49	58	3,566	.83	.96
The year	448	30	133	95,522	1.90	25.60

Estimated monthly discharge of the West Fork of Carson River at Woodfords, California—Continued

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1903						
January	93	36	49	3,013	0.70	0.81
February	83	49	63	3,499	.90	.94
March	114	42	64	3,935	.91	1.05
April	340	83	174	10,354	2.49	2.78
May	502	286	389	23,919	5.56	6.41
June	448	202	353	21,005	5.04	5.62
July[a]	174	65	106	6,518	1.51	1.74
August[b]	65	30	42	2,582	.60	.69
September[c]	33	25	30	1,785	.43	.48
October	36	27	31	1,906	.44	.51
November	98	30	63	3,749	.90	1.00
December	78	45	66	4,058	.94	1.08
The year	502	25	119	86,323	1.70	23.11
1904						
January 1-30	63	47	53.8	3,201	0.769	0.858
February 7-29	322	53	134	6,113	1.91	1.63
March	208	128	169	10,390	2.41	2.78
April	729	84	305	18,150	4.36	4.86
May	1,085	176	651	40,030	9.30	10.72
June	543	224	368	21,900	5.26	5.87
July	200	105	158	9,715	2.26	2.61
August	110	53	74.4	4,575	1.06	1.22
September	191	44	67.1	3,993	.956	1.07
October	105	63	78.4	4,821	1.12	1.29
November	75	59	64.6	3,844	.923	1.03
December	121	47	64.5	3,966	.921	1.06
The period				130,700		
1905						
January 8-31	113	81	91	4,332	1.30	1.16
February	124	85	102	5,665	1.46	1.52
March	177	94	125	7,686	1.79	2.06
April	348	94	202	12,020	2.89	3.22
May	370	194	271	16,660	3.87	4.46
June	241	124	187	11,130	2.67	2.98
July	124	40	75.8	4,661	1.08	1.24
August	44	20	28.7	1,765	.410	.473
September	33	20	23.7	1,410	.339	.378
October	33	26	31.3	1,925	.447	.515
November	52	33	34.4	2,047	.491	.548
December	70	40	56.5	3,474	.807	.930
The period				72,780		

Month	Discharge in second-feet			Run-off			Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1906							
January	129	37	72.3	4,450	1.03	1.19	------
February	84	44	65.3	3,630	.933	.97	------
March	102	44	66.5	4,090	.950	1.10	------
April	865	52	236	14,000	3.37	3.76	------
May	1,570	460	925	56,900	13.20	15.22	------
June	1,010	430	690	41,100	9.86	11.00	------
July	570	129	324	19,000	4.63	5.34	------
August	277	116	154	9,470	2.20	2.54	------
September	103	31	50.4	3,000	.720	.80	------
October	65	44	52.8	3,250	.754	.87	------
November	145	28	76.9	4,580	1.10	1.23	------
December	90	22	58.4	3,590	.834	.96	------
The year	1,570	22	231	168,000	3.30	44.98	

[a] Values for 7th, 8th, 9th, 19th, 21st, 23d, 24th, 27th, and 31st, are interpolated.
[b] Values for 4th, 8th, 14th, and 18th, are interpolated.
[c] Value for 6th is interpolated.

Estimated monthly discharge of the West Fork of Carson River, at Woodfords, California—Continued

Month	Discharge in second-feet			Run-off			Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1907							
January	90	69	78.8	1.13	1.30	4,850	C
February	182	84	139	1.99	2.07	7,720	B
March	522	102	211	3.01	3.47	13,000	B
April	910	172	502	7.17	8.00	29,900	B
May	1,450	570	841	12.00	13.83	51,700	C
June	1,020	519	664	9.49	10.59	39,500	C
July	920	296	525	7.50	8.65	32,300	A
August	347	117	223	3.19	3.68	13,700	A
September	145	79	107	1.53	1.71	6,370	C
October	97	66	75.8	1.08	1.24	4,660	C
November	79	47	65.8	.940	1.05	3,920	A
December	107	47	76.8	1.10	1.27	4,720	B
The year	1,450	47	292	4.18	56.86	212,000	
1908							
January	97	62	68.2	0.974	1.12	4,190	C
February	84	58	66.6	.951	1.03	3,830	C
March	117	62	90.3	1.29	1.49	5,550	B
April	296	130	191	2.73	3.05	11,400	A
May	308	192	228	3.26	3.76	14,000	A
June	210	102	165	2.36	2.63	9,820	A
July	107	26	58.1	.830	.96	3,570	A
August	643	36	75.5	1.08	1.24	4,640	A
September	41	31	35.0	.500	.56	2,080	A
October	107	34	46.4	.663	.76	2,850	A
November	47	26	35.3	.504	.56	2,100	A
December	44	34	37.7	.539	.62	2,320	B
The year	643	26	91.4	1.31	17.78	66,400	
1909							
January	347	34	169	2.41	2.78	10,400	C
February	130	79	102	1.46	1.52	5,660	C
March	112	79	92.8	1.33	1.53	5,710	B
April	856	97	343	4.90	5.47	20,400	A
May	1,230	347	628	8.97	10.34	38,600	B
June	935	460	632	9.03	10.08	37,600	B
July	296	97	164	2.34	2.70	10,100	A
August	112	21	68.4	.977	1.13	4,210	A
September	36	17	25.5	.364	.41	1,520	B
October	62	47	52.1	.744	.86	3,200	A
November	580	41	139	1.99	2.22	8,270	A
December	818	36	123	1.76	2.03	7,560	B
The year	1,230	17	212	3.02	41.07	153,000	
1910							
January	97	31	44.3	0.633	0.73	2,720	B
February	112	36	73.2	1.05	1.09	4,070	B
March	375	54	156	2.23	2.57	9,590	B
April	580	273	451	6.44	7.18	26,800	A
May	549	230	376	5.37	6.19	23,100	A
June	250	97	166	2.37	2.64	9,880	B
July	160	31	69.6	.994	1.15	4,280	C
August	36	20	27.1	.387	.45	1,670	C
September	47	24	27.2	.389	.43	1,620	C
October	26	22	24.5	.350	.40	1,510	B
November	*55	21	28.5	.407	.45	1,700	B
December	97	26	43.5	.621	.72	2,670	B
The year	580	20	124.0	1.77	24.00	89,600	

* Estimated.

NOTE—Discharges have been interpolated on days when gage was not read. The open-channel rating table was applied throughout the year; values for winter months are liable to some error on account of ice. Discharge Aug., Sept., and Oct. computed from daily discharge at the cable. Discharge second-feet per square mile and run-off depth in inches probably low during June and July due to diversions above the bridge gage.

Various creeks in Carson River Basin

(Miscellaneous measurements of flow.)

Name of creek	Date of measurement	Place of measurement	Discharge
Burns Creek	July 30, 1902		3.88 second-feet
Creek above Markleeville	June 24, 1903		.35 second-feet
Creek above Markleeville	June 24, 1903		.35 second-feet
Cottonwood Creek	July 31, 1903		1.11 second-feet
Childs Canyon	August 6, 1903		.00 second-feet
Dressler or Sierra Creek	June 23, 1902		2.90 second-feet
Dressler or Sierra Creek	August 3, 1902		1.11 second-feet
Dressler or Sierra Creek	August 4, 1902		1.55 second-feet
Dressler or Sierra Creek	September 7, 1902		.87 second-feet
Dressler or Sierra Creek	April 27, 1903		4.04 second-feet
Dressler or Sierra Creek	May 19, 1903		3.61 second-feet
Dressler or Sierra Creek	June 22, 1903		.72 second-feet
Dressler or Sierra Creek	July 8, 1903		2.39 second-feet
Dressler or Sierra Creek	August 7, 1903		1.31 second-feet
Dressler or Sierra Creek	September 10, 1903		.81 second-feet
Fairview Creek	July 30, 1902	Mouth of canyon	3.86 second-feet
Fairview Creek	August 4, 1902	Mouth of canyon	2.30 second-feet
Fairview Creek	September 8, 1902	Mouth of canyon	2.00 second-feet
Fairview Creek	April 28, 1903	Above all diversions	2.82 second-feet
Fairview Creek	May 20, 1903	Above all diversions	4.19 second-feet
Fairview Creek	July 9, 1903	Above all diversions	3.31 second-feet
Fairview Creek	July 24, 1903	Above all diversions	3.29 second-feet
Fairview Creek	August 5, 1903	Above all diversions	2.17 second-feet
Fairview Creek	September 9, 1903	Above all diversions	3.06 second-feet
Genoa Creek	June 23, 1902	Mouth of canyon	1.05 second-feet
Genoa Creek	August 3, 1902	Mouth of canyon	1.25 second-feet
Genoa Creek	August 4, 1902	Mouth of canyon	1.09 second-feet
Genoa Creek	September 7, 1902	Mouth of canyon	1.81 second-feet
Genoa Creek	April 27, 1903	Mouth of canyon	2.83 second-feet
Genoa Creek	May 19, 1903	Mouth of canyon	1.81 second-feet
Genoa Creek	June 22, 1903	Mouth of canyon	1.20 second-feet
Genoa Creek	July 8, 1903	Mouth of canyon	1.07 second-feet
Genoa Creek	August 6, 1903	Mouth of canyon	.67 second-feet
Genoa Creek	September 10, 1903	Mouth of canyon	1.36 second-feet
Genoa Creek	April 28, 1903		.21 second-feet
Garaveti Creek No. 2	May 30, 1903		2.63 second-feet
Garaveti Creek No. 2	July 9, 1903		2.53 second-feet
Garaveti Creek No. 2	April 28, 1903		2.43 second-feet
Garaveti No. 1	May 20, 1903		0.00 second-feet
Garaveti No. 1	August 6, 1902	Above Hawkins house	1.18 second-feet
Hawkins Creek	September 9, 1902	Above Hawkins house	1.10 second-feet
Hawkins Creek	July 23, 1903	Above Hawkins house	.84 second-feet
Hawkins Creek	August 5, 1903	Above Hawkins house	.96 second-feet
Hawkins Creek	September 9, 1903	Above Hawkins house	.86 second-feet
Hawkins Creek	August 6, 1902	Above Hawkins house	.72 second-feet
Harveys Indian Creek	April 29, 1903	Cohn, Harvey ditch head	2.44 second-feet
Harveys Indian Creek	May 21, 1903	Cohn, Harvey ditch head	2.20 second-feet
Harveys Indian Creek	June 24, 1903	Cohn, Harvey ditch head	2.80 second-feet
Harveys Indian Creek	July 18, 1903	Cohn, Harvey ditch head	.24 second-feet
Harveys Indian Creek	July 23, 1903	Cohn, Harvey ditch head	1.27 second-feet
Harveys Indian Creek	August 5, 1903	Cohn, Harvey ditch head	1.81 second-feet
Harveys Indian Creek	September 9, 1903	Cohn, Harvey ditch head	.38 second-feet
Harveys Indian Creek	August 3, 1902	Cohn, Harvey ditch head	2.47 second-feet
Jack Valley Creek	September 7, 1902	Mouth of canyon	.89 second-feet
Jack Valley Creek	April 27, 1903	Above Genoa road	2.53 second-feet
Jack Valley Creek, No. 1	May 19, 1903		2.66 second-feet
Jack Valley Creek, No. 1	July 8, 1903		1.50 second-feet
Jack Valley Creek, No. 1	August 7, 1903		1.30 second-feet
Jack Valley Creek, No. 1	September 10, 1903		1.16 second-feet
Jack Valley Creek, No. 1	April 27, 1903		1.70 second-feet
Jack Valley Creek, No. 2	July 8, 1903		.06 second-feet
Jack Valley Creek, No. 2	August 7, 1903		0.00 second-feet
Jack Valley Creek, No. 2	September 10, 1903		0.00 second-feet
Jack Valley Creek, No. 2	August 3, 1902		.78 second-feet
James Canyon Creek	September 11, 1902	Below Genoa road	.50 second-feet
James Canyon Creek	August 3, 1902		
James Canyon Creek	August 6, 1902	Near sawmill	1.27 second-feet
Petersons Creek	September 9, 1902	Near sawmill	.41 second-feet
Petersons Creek	August 4, 1902	In canyon	1.20 second-feet
Kingsbury Creek	August 4, 1902	Near old mill	1.01 second-feet
Kingsbury Creek	September 7, 1902	Bridge above the old mill	1.12 second-feet
Kingsbury Creek	April 28, 1903		2.99 second-feet
Kingsbury Creek	May 20, 1903		2.52 second-feet
Kingsbury Creek	June 22, 1903		2.35 second-feet
Kingsbury Creek	July 9, 1903		.68 second-feet
Kingsbury Creek	August 6, 1903		1.17 second-feet
Kingsbury Creek	September 10, 1903		2.36 second-feet
Long Valley Creek	August 5, 1902	Diamond Valley	4.12 second-feet
Long Valley Creek	August 5, 1902	Above Springmeyers	2.48 second-feet

Various creeks in Carson River Basin—Continued

Name of creek	Date of measurement	Place of measurement	Discharge
Long Valley Creek	August 5, 1902	Dam Site, Long Valley	.51 second-feet
Martin Creek	August 2, 1903		6.00 second-feet
Monfrena Springs	April 28, 1903		.02 second-feet
Monfrena Springs	May 20, 1903		.06 second-feet
Monfrena Springs	July 9, 1903		.54 second-feet
Monfrena Springs	August 6, 1903		1.44 second-feet
Monfrena Springs	September 9, 1903		.76 second-feet
Motts Creek	July 30, 1902		2.67 second-feet
Motts Creek	September 8, 1902	Mouth of canyon	2.16 second-feet
Motts Creek	August 4, 1902	¼ mile above mouth	2.26 second-feet
Motts Creek	April 28, 1903		2.86 second-feet
Motts Creek	May 20, 1903		2.88 second-feet
Motts Creek	June 22, 1903		2.18 second-feet
Motts Creek	July 9, 1903		2.26 second-feet
Motts Creek	August 6, 1903		1.09 second-feet
Motts Creek	September 10, 1903		2.39 second-feet
Palmer Creek	July 30, 1902		.98 second-feet
Palmer Creek	August 6, 1902		.18 second-feet
Palmer Creek	September 9, 1902		.00 second-feet
Wehrman, Hettman Sprs.	April 28, 1903		.20 second-feet
Wehrman, Hettman Sprs.	May 20, 1903		.58 second-feet
Wehrman, Hettman Sprs.	July 9, 1903		.68 second-feet
Parks Creek	August 4, 1902	In canyon	3.02 second-feet
Parks Creek	September 8, 1902	Mouth of canyon	3.17 second-feet
Parks Creek	April 28, 1903		2.44 second-feet
Parks Creek	May 20, 1903		2.48 second-feet
Parks Creek	June 23, 1903		2.12 second-feet
Parks Creek	July 9, 1903		2.14 second-feet
Parks Creek	August 6, 1903		.65 second-feet
Parks Creek	September 10, 1903		.46 second-feet
Scossa Ranch	April 28, 1903		.27 second-feet
Scossa Ranch	May 20, 1903		.16 second-feet
Scossa Ranch	July 9, 1903		.00 second-feet
Scossa Ranch	August 6, 1903		.13 second-feet
Scossa Ranch	September 9, 1903		.06 second-feet
Sheridan Creek	August 4, 1902	½ mile south Sheridan	1.25 second-feet
Sheridan Creek	September 8, 1902	Near old house	1.41 second-feet
Sheridan Creek	April 28, 1903		1.61 second-feet
Sheridan Creek	May 20, 1903		3.14 second-feet
Sheridan Creek	June 23, 1903		2.31 second-feet
Sheridan Creek	July 9, 1903		1.18 second-feet
Sheridan Creek	August 6, 1903		1.87 second-feet
Sheridan Creek	September 9, 1903		1.81 second-feet
South Sheridan Creek	August 4, 1902	¼ mile from road	2.17 second-feet
South Sheridan Creek	September 8, 1902	Mouth of canyon	1.04 second-feet
South Sheridan Creek	September 8, 1902	Above old house	1.35 second-feet
South Sheridan Creek	April 28, 1903		1.16 second-feet
South Sheridan Creek	May 20, 1903		2.79 second-feet
South Sheridan Creek	June 23, 1903		.72 second-feet
South Sheridan Creek	July 9, 1903		.95 second-feet
South Sheridan Creek	August 6, 1903		2.87 second-feet
South Sheridan Creek	September 9, 1903		1.98 second-feet
Hermans Spring	August 4, 1902	½ mile north Heitman's	.74 second-feet
Hermans Spring	August 4, 1902	Near Heitman's house	.35 second-feet
Hermans Spring	September 8, 1902	Near Heitman's house	.27 second-feet
Hermans Spring	August 4, 1902	South of Heitman's house	1.08 second-feet
Hermans Spring	September 8, 1902	South of Heitman's house	1.06 second-feet
Hermans Spring	August 4, 1902	Heitman's	2.39 second-feet
Hermans Spring	September 8, 1902	Heitman's	2.35 second-feet

Creeks in the Eagle Valley Basin

(Miscellaneous measurements of flow.)

Name of creek	Date of measurement	Place of measurement	Discharge
Ash Canyon Creek	August 2, 1902	¼ mile above mouth canyon	2.76 second-feet
Ash Canyon Creek	September 6, 1902	¼ mile above mouth canyon	2.78 second-feet
Ash Canyon Creek	September 11, 1902	¼ mile above mouth canyon	2.27 second-feet
Ash Canyon Creek	April 25, 1903	¼ mile above mouth canyon	4.52 second-feet
Ash Canyon Creek	May 25, 1903	¼ mile above mouth canyon	5.43 second-feet
Ash Canyon Creek	June 18, 1903	¼ mile above mouth canyon	5.28 second-feet
Ash Canyon Creek	July 7, 1903	¼ mile above mouth canyon	3.47 second-feet
Ash Canyon Creek	July 25, 1903	¼ mile above mouth canyon	3.29 second-feet
Ash Canyon Creek	August 2, 1903	¼ mile above mouth canyon	2.03 second-feet
Ash Canyon Creek	August 8, 1903	¼ mile above mouth canyon	2.81 second-feet
Ash Canyon Creek	August 12, 1903	¼ mile above mouth canyon	2.82 second-feet
Ash Canyon Creek	May 21, 1906	¼ mile above mouth canyon	7.30 second-feet
Ash Canyon Creek	July 2, 1906	¼ mile above mouth canyon	19.98 second-feet
Clear Creek	August 2, 1902		2.02 second-feet
Clear Creek	August 4, 1903	Poor Farm bridge	2.46 second-feet
Clear Creek	September 11, 1902	Above lower ditch	1.76 second-feet
Clear Creek	April 27, 1903		11.18 second-feet
Clear Creek	May 18, 1903		9.55 second-feet
Clear Creek	June 20, 1903		3.45 second-feet
Clear Creek	July 8, 1903		2.06 second-feet
Clear Creek	August 7, 1903		2.21 second-feet
Clear Creek	September 10, 1903		2.65 second-feet
King's Canyon Creek	August 2, 1902		2.41 second-feet
King's Canyon Creek	August 5, 1902		2.10 second-feet
King's Canyon Creek	August 7, 1902	Robinson's box	1.00 second-feet
King's Canyon Creek	August 7, 1902	Mouth of canyon	2.71 second-feet
King's Canyon Creek	August 10, 1902		3.36 second-feet
King's Canyon Creek	September 6, 1902		2.93 second-feet
King's Canyon Creek	September 11, 1902		2.80 second-feet
King's Canyon Creek	April 25, 1903		1.48 second-feet
King's Canyon Creek	May 15, 1903		1.16 second-feet
King's Canyon Creek	June 18, 1903		2.83 second-feet
King's Canyon Creek	July 7, 1903		2.83 second-feet
King's Canyon Creek	July 25, 1903		2.85 second-feet
King's Canyon Creek	August 11, 1903		2.01 second-feet
King's Canyon Creek	May 22, 1906		2.79 second-feet

Estimated monthly discharge of Humboldt River near Elko, Nevada

(Drainage area, 2,840 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1901						
January	70	63	65	3,997	0.023	0.027
February	2,339	49	671	37,265	.236	.246
March	1,121	284	480	29,514	.169	.195
April	347	253	295	17,553	.104	.116
May	822	319	511	31,420	.180	.208
June	594	32	353	21,006	.124	.139
July	123	14	50	3,074	.018	.021
August	43	.5	12	738	.004	.005
September	18	.5	6	347	.002	.002
October	22	4	8	492	.003	.003
November	10	7	9	536	.003	.003
December	10	10	10	615	.004	.005
The year	2,339	.5	206	146,556	0.072	0.969
1902						
January	104	10	57	3,505	0.0197	0.023
February	190	70	96	5,332	.0338	.035
March	190	134	153	9,408	.0539	.062
April	743	155	322	19,160	.1134	.126
May	594	346	460	28,284	.1620	.187
June	1,143	332	767	45,640	.2701	.301
July	360	50	187	11,498	.0658	.076
August	43	1	14	861	.0049	.006
September	1	1	1	60	.0004	.0004
October 1-14	1	1	1	28	.0004	.0002

Estimated monthly discharge of Humboldt River at Palisade, Nevada

(Drainage area 5,014 square miles.)

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1902						
November 27-30	58	46	50	397	0.010	0.001
December	79	41	64	3,935	.013	.015
1903						
January	153	52	80	4,919	0.016	0.018
February	132	71	87	4,832	.017	.018
March	1,540	71	375	23,058	.075	.086
April	1,540	740	960	57,124	.191	.213
May	860	740	771	47,407	.154	.178
June	1,660	780	1,216	72,357	.243	.271
July	740	87	254	15,618	.051	.069
August	64	21	34	2,091	.007	.008
September	28	21	24	1,428	.005	.006
October	41	24	36	2,214	.007	.008
November	64	41	55	3,273	.011	.012
December	79	58	67	4,120	.013	.015
The year	1,660	21	330	238,441	0.066	0.892
1904						
January	101	85	91.7	5,638	0.018	0.021
February	1,835	85	461	26,520	.092	.099
March	1,535	722	910	55,950	.181	.209
April	1,335	941	1,128	67,120	.225	.251
May	1,835	1,036	1,345	82,700	.268	.309
June	1,835	988	1,532	91,160	.306	.341
July	895	180	500	30,740	.100	.115
August	169	70	91.4	5,620	.018	.021
September	70	57	65.7	3,909	.013	.014
October	159	70	135	8,301	.027	.031
November	169	159	165	9,818	.033	.037
December	169	119	143	8,793	.029	.033
The year	1,835	57	547	396,300	0.109	1.48
1905						
January	180	120	149	9,162	0.030	0.035
February	280	180	216	12,000	.043	.045
March	337	280	296	18,200	.059	.068
April	446	337	397	23,620	.079	.088
May	1,220	446	793	48,760	.158	.182
June	1,120	534	884	52,600	.176	.196
July	534	102	286	17,580	.057	.066
August	102	34	66.6	4,095	.013	.015
September	34	34	34	2,023	.0068	.0076
October	72	40	54.7	3,363	.011	.013
November	72	72	72	4,284	.014	.016
December	120	72	85.2	5,239	.017	.020
The year	1,220	34	278	200,900	0.055	0.752
1906						
January	120	120	120	7,380	0.024	0.03
February	180	120	129	7,160	.026	.03
March	1,500	203	827	50,800	.165	.19
April	2,620	1,500	1,960	117,000	.391	.44
May	2,260	1,060	1,450	89,200	.289	.33
June	2,020	1,430	1,740	104,000	.347	.39
July	1,430	340	1,060	65,200	.212	.24
August	305	30	90.9	5,420	.018	.02
September	42	20	30.7	1,830	.0061	.01
October 1-19	42	30	41.4	1,560	.0083	.01
The period				450,000		

NOTE—The open-channel rating table was applied throughout the year; values for winter months are liable to some error on account of ice.

Monthly discharge of Humboldt River near Golconda, Nevada

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1901						
January	108	40	65	3,997	0.0060	0.0069
February	1,290	58	323	17,939	.0300	.0312
March	3,080	558	1,501	92,293	.1392	.1605
April	558	334	423	25,170	.0392	.0437
May	521	65	382	23,488	.0354	.0408
June	416	156	276	16,423	.0256	.0285
July	139	4	48	2,951	.0045	.0052
August	24	4	12	738	.0011	.0013
September	5	1	2	119	.0002	.0002
October	6.5	.5	4	246	.0004	.0005
November	46	5	9	536	.0008	.0009
December	52	8	31	1,906	.0029	.0033
The year	3,080	.05	256	185,806	0.0238	0.3230
1902						
January	82	40	56	3,443	0.0052	0.006
February	90	46	65	3,610	.006	.0062
March	134	90	117	7,194	.0109	.0126
April	217	139	177	10,532	.0164	.0183
May	283	202	258	15,864	.0239	.0276
June	523	273	413	24,575	.0383	.0427
July	511	90	282	17,339	.0262	.0302
August	82	5	38	2,337	.0035	.004
September	35	3	16	962	.0015	.0017
October	14	1	4	246	.0004	.0005
November	6	1	3	179	.0003	.0003
December	30	2	8	492	.0007	.0008
The year	523	1	120	86,763	0.0111	0.1509
1903						
January	106	26	53	3,259	0.0049	0.0056
February	182	113	164	9,108	.0152	.0158
March	304	154	236	14,511	.0219	.0252
April	650	304	496	29,514	.046	.0513
May	420	212	283	17,401	.0263	.0303
June	740	266	445	26,479	.0413	.0461
July	740	106	311	19,123	.0289	.0333
August	106	19	37	2,275	.0034	.0039
September	19	10	11	665	.001	.001
October	10	5	8	492	.0007	.0008
November	2.5	1	1.6	95	.0001	.0001
December	2.5	.5	1.1	68	.0001	.0001
The year	740	0.5	171	122,980	0.0158	0.2135
1904						
February 5-29	329	4	81.6	4,047	0.0076	0.0071
March	793	431	625	38,430	.058	.067
April	1,063	793	887	52,780	.082	.091
May	1,007	532	739	45,440	.069	.08
June	1,007	743	902	53,670	.084	.094
July	845	271	562	34,560	.052	.06
August	252	20	124	7,624	.012	.014
September	47	4	15.8	940	.0015	.0017
October	104	29	76.2	4,685	.0071	.0082
November	172	95	138	8,212	.013	.014
December	252	104	173	10,640	.016	.018
The period				261,000		

NOTE—From April to December, inclusive, several days in each month are interpolated. River frozen January 1 to February 4, with only a slight flow.

Monthly discharge of Humboldt River near Golconda, Nevada—Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1905						
January	237	115	155	9,531	0.014	0.016
February	227	168	196	10,880	.018	.019
March	247	168	218	13,400	.020	.023
April	312	187	272	16,180	.025	.028
May	356	247	308	18,940	.029	.033
June	356	197	239	14,220	.022	.024
July	257	95	184	11,310	.017	.020
August	91	.3	25	1,537	.0023	.0026
September	.5	.0	.33	19.6	.000031	.00003
October	.3	.1	.23	14.1	.000021	.00002
November	.3	.1	.29	17.3	.000027	.00003
December	.3	.1	.22	13.5	.000020	.00002
The year	356	0.0	133	96,060	0.012	0.166
1906						
January	140	0	20	1,230	0.0019	0.002
February	258	120	179	9,550	.16	.02
March	640	231	324	19,900	.030	.03
April	1,420	690	1,160	69,000	.107	.12
May	1,400	740	1,000	61,500	.003	.11
June	1,100	740	836	49,700	.077	.09
July	1,070	286	704	43,300	.065	.07
August	258	55	131	8,060	.012	.01
September	42	17	26.2	1,560	.0024	.003
October	17	10	11.4	701	.0011	.001
November	31	17	21.2	1,260	.002	.002
December	111	36	69.1	4,250	.0064	.01
The year	1,420	0	373	270,000	0.034	0.47

NOTE—In January, February and May discharges were interpolated on days when gage was not read; for other months the mean discharge of days when gage was read was taken as the mean for the month. The open-channel rating was applied throughout the year; values for the winter months are liable to some error on account of ice.

Monthly discharge of Humboldt River near Golconda, Nevada—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January	272	120	147	0.014	0.02	9,040	C
February	1,200	315	869	.08	.08	48,000	B
March	3,040	1,170	1,540	.143	.16	94,700	B
April	3,160	2,920	3,110	.288	.32	185,000	B
May	3,160	1,200	1,690	.156	.18	104,000	B
June	1,860	1,170	1,500	.139	.16	89,300	B
July	2,120	1,020	1,750	.162	.19	108,000	B
August	962	267	533	.049	.06	32,800	B
September	252	100	143	.013	.01	8,510	C
October	197	100	131	.012	.01	8,060	C
November	283	197	241	.022	.02	14,300	C
December	370	283	327	.03	.03	20,100	C
The year	3,160	100	998	0.094	1.24	722,000	
1908							
January	615	236	331	0.031	0.04	20,400	C
February	292	250	269	.025	.03	15,500	C
March	467	240	402	.037	.04	24,700	B
April	342	240	286	.026	.03	17,000	B
May	390	90	271	.025	.03	16,700	B
June	738	342	487	.045	.05	29,000	C
July	880	268	557	.052	.06	34,200	B
August	254	12	83.7	.0078	.009	5,150	C
September	12	2.5	7.9	.00073	.0008	470	D
October	9	2.5	4.65	.00043	.0005	286	D
November	66	1.5	14.2	.0013	.001	845	D
December	240	82	153	.014	.02	9,410	D
The year	880	1.5	239	0.022	0.31	174,000	
1909							
January	502	72	282	0.026	0.03	17,300	C
February	400	290	340	.031	.03	18,900	C
March	730	360	535	.050	.06	32,900	C
April	890	720	820	.076	.08	48,800	C
May	790	580	692	.064	.07	42,500	C
June	900	510	722	.067	.07	43,000	B
July	880	95	480	.044	.05	29,500	B
August	90	5	32.3	.003	.003	1,990	C
September	24	5	9.2	.00085	.0009	547	C
October	10	3	5.7	.00053	.0006	350	C
November	45	5	18.5	.0017	.002	1,100	C
December	140	45	91.2	.0084	.01	5,610	C
The year	900	3	335	0.03	0.41	243,000	
1910							
September			1.3			77.4	C
October			1.3			79.9	C
November			1			59.5	C
December			1			61.5	C

NOTE—Discharge interpolated for days when gage was not read (1907 and 1908). Monthly means estimated.

Estimated Monthly Discharge of Humboldt River Near Oreana, Nevada

(Drainage area 13,800 square miles.)

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1901						
January	205	60	113	6,948	0.008	0.009
February	430	99	222	12,329	.016	.017
March	2,616	301	1,318	81,041	.096	.111
April	986	330	587	34,929	.043	.048
May	511	167	317	19,492	.023	.027
June	167	99	133	7,914	.010	.011
July	150	60	108	6,641	.008	.009
August	88	21	39	2,398	.003	.003
September	21	10	17	1,012	.001	.001
October	274	21	48	2,951	.003	.003
November	38	26	30	1,785	.002	.002
December	78	32	51	3,136	.004	.005
The year	2,616	10	247	170,576	0.018	0.246
1902						
January	150	59	94	5,780	0.007	0.008
February	187	50	91	5,054	.007	.007
March	119	69	96	5,903	.007	.008
April	134	80	107	6,367	.008	.009
May	92	19	52	3,197	.004	.005
June	277	42	137	8,152	.010	.011
July	511	134	276	16,970	.020	.023
August	134	35	75	4,612	.005	.006
September	50	19	35	2,083	.003	.003
October	50	19	32	1,968	.002	.002
November	42	24	30	1,785	.002	.002
December	50	19	28	1,722	.002	.002
The year	511	19	88	63,593	0.006	0.086
1903						
January	101	46	71	4,366	0.005	0.006
February	171	89	125	6,942	.009	.009
March	187	77	124	7,624	.009	.010
April	458	187	349	20,767	.025	.028
May	358	128	169	10,391	.012	.014
June	580	77	157	9,342	.011	.012
July	537	156	307	18,877	.022	.025
August	142	37	78	4,796	.006	.007
September	37	20	23	1,369	.002	.002
October	20	8	15	922	.001	.001
November	20	13	19	1,131	.001	.001
December	37	13	20	1,230	.001	.001
The year	580	8	121	87,757	0.009	0.116
1904						
January	17	7	16.0	984	0.0012	0.0014
February	203	17	76.6	4,406	.0056	.006
March	550	75	363	22,320	.026	.030
April	886	578	667	39,690	.048	.054
May	950	370	625	38,430	.045	.052
June	806	464	656	39,040	.048	.054
July	764	310	575	35,360	.042	.048
August	298	51	145	8,916	.011	.013
September	43	3	22.2	1,321	.0016	.0018
October	183	17	63	3,874	.0046	.0053
November	110	75	89.7	5,338	.0065	.0073
December	243	110	174	10,700	.013	.015
The year	950	3	289	210,400	0.021	0.288

Monthly discharge of Humboldt River near Oreana, Nevada—Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1905						
January	440	172	260	15,990	0.019	0.022
February	398	152	252	14,000	.018	.019
March	398	117	209	12,850	.015	.017
April	152	20	96	5,712	.007	.0078
May	34	7	13.2	812	.00096	.0011
June	7	0	1.94	115	.00014	.00016
July	322	0	156	9,592	.011	.013
August	162	29	95.3	5,860	.0069	.008
September	24	12	17.3	1,029	.0013	.0014
October	29	12	20	1,230	.0014	.0016
November	46	29	33.1	1,970	.0024	.0027
December	98	46	62.7	3,855	.0045	.0052
The year	440	0	101	73,020	0.0073	0.099
1906						
January	193	90	129	7,930	0.0094	0.01
February	115	53	87.7	4,870	.0064	.007
March	335	90	172	10,600	.12	.01
April	908	310	595	35,400	.043	.05
May	995	530	835	51,300	.060	.07
June	1,010	370	638	38,000	.046	.05
July	855	470	735	45,200	.053	.06
August	458	75	229	14,100	.017	.02
September	153	26	54.1	3,220	.0039	.004
October	75	16	30.4	1,870	.0022	.003
November	75	26	40.2	2,390	.0029	.003
December	153	43	93.2	5,730	.0068	.008
The year	1,010	16	303	221,000	0.022	0.30

NOTE—The open-channel rating table was applied throughout the year; values for the winter months are liable to some error on account of ice.

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Estimated monthly discharge of Humboldt River near Oreana, Nevada—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January	238	75	167			10,300	C
February	635	260	427			23,700	C
March	1,130	635	835			51,000	C
April	2,190	1,190	1,760			105,000	C
May	2,220	1,060	1,650			101,000	C
June	1,260	900	1,040			61,900	C
July	1,760	1,240	1,520			93,500	C
August	1,220	290	599			36,800	C
September	320	120	181			10,800	C
October	140	110	118			7,260	C
November	170	120	145			8,630	C
December	220	170	203			12,500	D
The year	2,220	75	720			588,000	
1908							
January	275	220	251			15,400	D
February	305		276			15,900	D
March	390	275	337			20,700	C
April	365	75	183			10,900	C
May	75	32	58			3,570	C
June	38	16	27.7			1,650	C
July	670	16	390			24,000	C
August	345	78	192			11,800	C
September	78	38	57.7			3,430	C
October	43	38	40.9			2,510	C
November	78	38	57			3,390	C
December			100			6,150	D
The year	670	16	164			119,000	
1909							
January	345	215	265	0.019	0.02	16,300	C
February	610	385	432	.031	.03	24,000	B
March	640	385	490	.036	.04	30,100	B
April	640	593	616	.045	.05	36,700	C
May	630	355	470	.034	.04	28,900	C
June	620	187	384	.028	.03	22,800	B
July	680	226	497	.036	.04	30,600	B
August	332	37	123	.0089	.01	75,600	C
September	56	6	20.5	.0015	.002	1,220	C
October	163	13	39.6	.0029	.003	2,430	C
November	32	13	21.4	.0016	.002	1,270	C
December			129	.0093	.01	7,930	D
The year	680	6	287	0.021	0.277	207,000	
1910							
September			20			1,190	C
October			25			1,540	C
November			20			1,190	C
December			20			1,230	D

NOTE—Discharges estimated January 29 to February 7, and December, 1908.
Humboldt River, at Oreana, April 24, 1912, measurement by Peterson, 56.524 second-feet.

Discharge of small creeks tributary to the Humboldt River

(Measurements taken immediately above the confluence of the tributary with the Humboldt.)

Name of stream	Date of measurement	Discharge
Star Creek	July 26, 1912	31.2 second-feet
Lamoille Creek	July 26, 1912	75.6 second-feet
Rock Creek	July 28, 1912	12.3 second-feet
Maggie Creek	July 27, 1912	1.6 second-feet

Measured flow of streams tributary to the Humboldt River, in second-feet

(From September, 1910, to May, 1911.)

Month	Secret	Soldier	Ross	Shorts	Hayes	Dry
September	150	24	18	60	(13)	
October	246	46	40	100	(30)	
November	285	33	(30)	95	(22)	
December	(285)	(33)	(30)	(95)	(22)	
January	(183)	(25)	(25)	(80)	(16)	
February	1,587	(25)	(25)	(75)	(48)	
March	2,329	27	26	74	(19)	
April	1,915	133	43	100	31	
May	935	726	112	170	83	
Totals	7,054	1,072	349	849	248	Not meas.

NOTE—Figures in parentheses are based on incomplete data.

Monthly discharge of Bishop Creek near Wells, Nevada, for 1910

(Drainage area, 125 square miles.)

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet
January	8.9	7.5	7.80	0.062	0.07	480
February	9.5	7.4	8.04	.064	.07	447
March	176.3	11.6	59.4	.475	.55	3,660
April	40.3	20.3	27.7	.222	.25	1,660
May	46.4	10.5	18.4	.147	.17	1,130
June	10.0	7.0	8.24	.066	.07	490
July	6.8	5.6	6.02	.048	.06	370
August	5.1	5.1	5.10	.041	.05	314
September	7.9	5.1	5.66	.045	.05	337
October	7.4	5.6	6.09	.049	.06	374
November	10.0	6.0	7.32	.059	.07	436
December	11.0	5.6	7.94	.064	.07	488
The year	176.3	5.1	14.0	0.112	1.54	10,200

Estimated monthly discharge of Humboldt River (North Fork) Near Elburz, Nevada

(Drainage area 1,020 square miles.)

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1904						
February 25-29	720	160	418	4,046	0.410	0.076
March	412	105	184	11,310	.180	.208
April	328	132	226	13,450	.222	.248
May	608	40	274	16,850	.269	.310
June	496	27	284	16,900	.278	.310
July	40	11	22.2	1,365	.022	.025
August	11	5	6.7	412	.0066	.0076
September	7	5	5.4	321	.0053	.0059
October	18	7	14	861	.014	.016
November	18	7	13.8	821	.014	.016
December	59	11	26.8	1,648	.026	.030
The period				67,980		
1905						
January	66	41	53.3	3,277	0.052	0.060
February	41	17	29.0	1,611	.028	.029
March	41	34	38.8	2,386	.038	.044
April	41	20	28.9	1,720	.028	.031
May	57	27	43.8	2,693	.043	.050
June	45	8	28.0	1,666	.027	.030
July	2	0.0	0.96	59	.00094	.0011
August	0.6	0.0	0.12	7	.00012	.0001
September	0.6	0.4	0.50	30	.00049	.0005
October	27	0.6	2.9	178	.0028	.0032
November	27	0.8	7.8	464	.0076	.0085
December	41	8.0	19.1	1,174	.019	.022
The year	66	0	21.1	15,270	0.021	0.279
1906						
January	103	51	75.6	4,650	0.074	0.09
February	103	70	95.9	5,330	.094	.10
March	202	60	95	5,840	.093	.11
April	334	142	221	13,200	.217	.24
May	186	103	134	8,240	.131	.15
June	237	115	156	9,280	.153	.17
July	128	18	52.6	3,230	.052	.06
August	15	0	65.5	403	.0064	.01
September	0	0	0	0	.000	.00
October	0	0	0	0	.000	.00
November	8	0.5	2.76	164	.0027	.003
December	28	8	23.2	1,430	.023	.03
The year	334	0	71.8	51,800	0.070	0.96

NOTE—The open-channel rating table was applied throughout the year; value for the winter months are liable to some error on account of ice.

Humboldt River (North Fork) near Elburz—Continued

(Station near Halleck.)

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January	34	27	27.2	0.027	0.03	1,670	D
February	320	42	244	.239	.25	13,600	C
March	810	97	283	.278	.32	17,400	C
April	1020	355	633	.650	.73	39,500	D
May	460	165	263	.258	.30	16,200	C
June	762	126	479	.470	.52	28,500	C
July	364	52	170	.167	.19	10,500	C
August	52	8	23.1	.023	.03	1,420	C
September	19	8	12	.012	.01	714	C
October	30	4	20.7	.020	.02	1,270	C
November	27	15	18.5	.018	.02	1,100	C
December			20	.020	.02	1,230	D
The year	1020	4	185	0.182	2.44	133,000	
1908							
January			20	0.020	0.02	1,230	D
February			30	.029	.03	1,730	D
March	146	30	55.5	.054	.06	3,410	C
April	51	24	36.6	.036	.04	2,180	C
May	24	8	16.1	.160	.02	990	C
June	530	15	168	.165	.18	10,000	C
July	82	2	10.6	.010	.01	652	C
August	2	0.5	1.35	.0003	.001	83	D
September	1.5	0.5	0.67	.00066	.001	39.9	D
October	6	0.5	2.26	.0022	.003	139	D
November	6	6	6.0	.0059	.007	357	D
December	9	6	7.0	.0069	.008	430	D
The year	530	0.5	29.5	0.029	0.38	21,200	
1909							
January	200	10	68.1	0.067	0.08	4,190	D
February	86	11	40.4	.040	.04	2,240	C
March	134	14	67.2	.066	.08	4,130	C
April	200	77	127	.125	.14	7,560	C
May	165	77	108	.106	.12	6,640	C
June	502	86	244	.239	.27	14,500	D
July	88	4	38.5	.038	.04	2,370	C
August	4	1.5	2.46	.0024	.003	151	C
September	2	1.8	1.95	.0019	.002	116	D
October	6	2	2.66	.0026	.003	164	D
November	31	8	17.6	.017	.02	1,050	C
December			*25.0	.025	.03	1,540	D
The year	502		61.7	0.061	0.83	44,700	
1910							
September			8			476	C
October			10			615	C
November			8			476	C
December			5			307	D

*Estimated.

NOTE—Monthly means have been estimated. Discharge interpolated February 17-23, 1908; estimated on account of ice conditions.

Estimated monthly discharge of the South Fork of the Humboldt River near Elko, Nevada, for the years 1901 to 1909

(Drainage area, 1,150 square miles.)

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1901						
January	35	24	33	2,029	0.029	0.033
February	1,478	35	408	22,659	.355	.370
March	382	122	173	10,637	.150	.173
April	263	122	180	10,711	.151	.175
May	619	276	457	28,100	.397	.458
June	589	182	379	22,552	.330	.368
July	182	41	81	4,980	.070	.081
August	41	4	21	1,291	.018	.021
September	19	4	8	476	.007	.008
October	47	19	37	2,275	.032	.037
November	67	47	55	3,273	.048	.054
December	67	35	51	3,136	.044	.051
The year	1,385	4	157	112,119	0.136	1.829
1902						
January	41	35	27	2,275	0.032	0.037
February	67	41	61	3,388	.053	.055
March	122	67	92	5,657	.080	.092
April	499	122	349	20,767	.304	.339
May	831	439	550	33,818	.478	.551
June	1,385	544	959	57,064	.834	.934
July	589	141	313	19,246	.272	.314
August	122	30	59	3,628	.051	.059
September	30	0	7	417	.006	.007
October	74	2	29	1,783	.025	.029
November	105	74	96	5,712	.083	.093
December	122	105	119	7,317	.103	.119
The year	1,385	0	223	161,072	0.193	2.629
1903						
January	204	122	145	8,916	0.126	0.145
February	227	182	196	10,885	.170	.177
March	559	122	276	16,970	.240	.277
April	410	182	222	13,210	.192	.214
May	619	193	332	20,414	.289	.333
June	1,168	354	808	48,079	.702	.783
July	354	35	102	6,272	.088	.101
August	35	3	12	738	.010	.012
September	3	2	2	119	.002	.002
October	5	3	5	307	.004	.005
November	8	6	7	417	.006	.007
December	8	8	8	492	.007	.008
The year	1,168	2	176	126,819	0.153	2.064

Estimated discharge of South Fork of Humboldt River near Elko, Nevada—Continued

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre feet	Second-feet per square mile	Depth in inches
1904						
January	8	2	3.7	228	0.0032	0.0037
February 1–20	8	2	3.8	151	.0033	.0024
March	187	57	85.8	5,276	.075	.086
April	271	125	198	11,780	.172	.192
May	1,183	197	556	34,190	.483	.557
June	860	218	635	37,780	.552	.616
July	391	50	207	12,730	.180	.208
August	526	2	24.9	1,531	.022	.025
September	17	17	17	1,012	.015	.017
October	38	8	21.4	1,316	.019	.022
November	38	2	8	576	.0070	.0078
December	2	2	2	123	.0017	.0020
The period				106,600		
1905						
January	00	0	0	0	0.0	0.0
February	63	0	10	567	.0089	.0093
March	0	0	0	0	0	0
April	251	0	149	8,866	.130	.145
May	640	150	465	28,590	.404	.466
June	816	320	588	34,990	.511	.570
July	592	25	187	11,500	.163	.188
August	18	18	18	1,107	.016	.018
September	18	0	4.7	280	.0041	.0046
October	18	0	9.9	608	.0086	.0099
November	25	18	24.7	1,470	.021	.023
December	25	25	25	1,537	.022	.025
The year	816	0	123	89,520	0.107	1.46
1906						
January	27	18	19.2	1,180	0.017	0.02
February	171	27	101	5,610	.088	.09
March	355	87	199	12,200	.173	.20
April	355	230	320	19,000	.278	.31
May	480	275	371	22,800	.323	.37
June	1,400	480	1,020	60,700	.887	.99
July	685	102	422	25,900	.367	.42
August	102	0	20.2	1,240	.018	.02
September	0	0	0.0	0	.000	.00
October	18	0	12.2	750	.011	.01
November	18	18	18.0	1,000	.016	.02
December	18	18	18.0	1,110	.016	.02
The year	1,400	0	210	152,000	0.183	2.47

Estimated discharge of South Fork of Humboldt River near Elko, Nevada—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January[a]			18.0	0.016	0.02	1,100	D
February			25.0	.022	.02	1,390	D
March	364	20	143	.124	.14	8,790	C
April	698	232	376	.327	.36	22,400	B
May	732	208	450	.391	.45	27,700	B
June	1,260	470	1,030	.896	1.00	61,300	B
July	1,170	340	649	.564	.65	39,900	B
August	352	43	118	.103	.12	7,260	B
September	53	34	42.2	.037	.04	2,510	C
October	64	34	42.9	.037	.04	2,640	C
November	53	34	40.1	.035	.04	2,390	C
December			40.7	.035	.04	2,500	D
The year	1,260		248.0	0.216	2.92	180,000	
1908							
January			46.1	0.040	0.05	2,830	D
February	85		51.9	.045	.05	2,990	D
March	176	33	77.8	.068	.08	4,780	D
April	146	62	93.6	.081	.09	5,570	D
May	192	78	112	.097	.11	6,890	C
June	850	257	486	.423	.47	28,900	C
July	487	59	245	.213	.25	15,100	B
August	50	15	27.1	.024	.03	1,670	D
September	30	15	18.0	.016	.02	1,070	D
October	27	15	21.9	.019	.02	1,350	D
November[b]	34	27	29.9	.026	.03	1,780	D
December			25.0	.022	.03	1,540	D
The year	850	15	103	0.089	1.23	74,400	
1909							
January	[c]600	[c]20	164	0.143	0.16	10,000	D
February	264	133	183	.159	.17	10,200	D
March	200	88	154	.134	.15	9,470	D
April	189	102	129	.112	.12	7,680	C
May	410	133	184	.160	.18	11,300	C
June	1,090	395	663	.577	.64	39,500	C
July	395	10	113	.098	.11	6,960	C
August	10	2	3.3	.0029	.003	203	D
September	16	6	9.7	.0084	.009	577	C
October	16	3	11.0	.0096	.01	676	C
November	74	10	30.0	.026	.03	1,800	C
December	165	50	74.7	.065	.07	4,590	C
The year	1,090	2	143	0.125	1.65	103,000	
1910							
September	114	0	8			476	C
October	13	13	13			799	C
November			12			714	C
December			8			492	D

[a]January 27 to February 25, 1907, and December 8, 1907, to February 21, 1908, discharge estimated on account of ice conditions.

[b]Discharge estimated from November 25 to December 31, 1908.

[c]Estimated.

Estimated monthly discharge of Mary's River, near Deeth, Nevada

Month	Discharge in second-feet			Total in acre-feet
	Maximum	Minimum	Mean	
1902				
November 24-30	31	10	15	208
December	23	12	16	984
1903				
January	93	16	27	1,660
February	98	32	57	3,166
March	327	21	85	5,226
April	342	124	218	12,972
May	282	158	211	12,974
June	349	44	177	10,532
July 1-14	41	8	22	611
The period				47,141

Estimated monthly discharge of the Truckee River at Tahoe, Cal.

(Drainage area, 519 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1901						
January	117	85	102	6,262	0.1962	0.226
February	117	30	81	4,502	.156	.163
March	30	0	30	1,845	.058	.067
April	30	0	9	565	.018	.020
May	0	0	0	0	.000	.000
June	178	0	30	1,765	.058	.064
July	293	156	225	13,809	.433	.499
August	555	293	419	25,760	.803	.931
September	390	117	326	19,395	.628	.701
October	308	251	282	17,308	.542	.625
November	293	189	247	14,678	.475	.530
December	189	100	111	6,841	.214	.247
The year	555	0	155	112,730	0.299	4.073
1902						
January	146	100	125	7,686	0.24	0.28
February	126	25	73	4,054	.14	.15
March	100	43	52	3,197	.10	.12
April	51	47	48	2,856	.10	.11
May	117	47	97	5,964	.19	.22
June	100	40	95	5,653	.18	.20
July	372	100	204	12,543	.39	.45
August	445	372	406	24,964	.78	.90
September	407	324	350	20,826	.67	.75
October	339	308	324	19,922	.62	.71
November	407	308	346	20,588	.67	.75
December	407	293	326	20,045	.63	.73
The year	445	25	204	148,298	0.39	5.37
1903						
January	293	44	266	16,356	0.51	0.59
February	213	51	103	5,720	.20	.21
March	225	13	190	11,683	.37	.43
April	13	13	13	774	.03	.03
May	13	13	13	799	.03	.03
June	93	13	38	2,261	.07	.08
July	308	93	205	12,605	.39	.45
August	389	308	344	21,152	.66	.76
September	426	355	398	23,683	.77	.86
October	407	339	374	22,996	.72	.83
November	445	125	255	15,174	.49	.55
December	372	179	260	15,987	.50	.58
The year	445	13	205	149,190	0.40	5.40

Estimated discharge of the Truckee River at Tahoe, Cal.—Continued

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1904						
January	390	253	305	18,750	0.588	0.678
February	253	13	111	6,385	.214	.231
March	574	13	401	24,660	.773	.891
April	773	574	610	36,300	1.18	1.32
May	931	773	999	49,130	1.54	1.78
June	931	841	389	53,490	1.73	1.98
July	913	841	873	53,680	1.68	1.94
August	841	688	787	48,390	1.52	1.75
September	895	688	761	45,280	1.47	1.64
October	790	480	672	41,320	1.29	1.49
November	739	671	711	42,310	1.37	1.53
December	671	590	614	37,750	1.18	1.36
The year	931	13	629	457,400	1.21	16.54
1905						
January	622	279	410	52,210	0.790	0.911
February	569	279	433	24,050	.834	.868
March	569	31	321	19,740	.618	.712
April	31	15	20.9	1,244	.040	.045
May	205	15	173	10,640	.333	.384
June	241	205	212	12,620	.408	.455
July	363	241	303	18,630	.584	.673
August	392	363	391	24,040	.753	.868
September	392	363	385	22,910	.742	.828
October	422	334	390	23,980	.751	.866
November	334	279	305	18,150	.588	.656
December	306	229	271	16,660	.522	.602
The year	622	15	301	217,900	0.580	7.87
1906						
January	392	229	304	18,700	0.586	0.68
February	422	378	396	22,000	.763	.79
March	469	422	443	27,200	.854	.98
April	502	469	488	29,000	.940	1.05
May	640	392	543	33,400	1.05	1.21
June	697	535	594	35,300	1.14	1.27
July	736	697	725	44,600	1.40	1.61
August	838	552	753	46,300	1.45	1.67
September	817	697	759	45,200	1.46	1.63
October	817	392	726	44,600	1.40	1.61
November	716	622	695	41,400	1.34	1.50
December	697	586	647	39,800	1.25	1.44
The year	838	229	589	428,000	1.14	15.44

NOTE—The open-channel rating table was applied throughout the year; values for winter months are liable to some error on account of ice.

Estimated discharge of the Truckee River at Tahoe, Cal.—Continued

Month	Discharge in second-feet			Run-off			Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January	697	697	697	1.34	1.54	42,900	B
February	736	697	732	1.41	1.47	40,700	B
March	817	736	765	1.47	1.70	47,000	A
April	859	604	806	1.55	1.73	48,000	A
May	991	859	919	1.77	2.04	56,500	A
June	1,230	991	1,130	2.18	2.43	67,200	A
July	1,340	1,230	1,300	2.50	2.88	79,900	A
August	1,320	1,180	1,250	2.41	2.78	76,900	A
September	1,230	1,130	1,210	2.33	2.60	72,000	A
October	1,210	453	1,100	2.14	2.47	67,600	A
November	1,040	817	925	1.78	1.99	55,000	A
December	859	776	823	1.59	1.83	50,600	B
The year	1,340	453	971	1.87	25.43	704,000	
1908							
January	775	733	752	1.45	1.67	46,200	B
February	733	612	666	1.28	1.38	38,300	B
March	632	444	596	1.15	1.33	36,600	A
April	444	88	212	.408	.46	12,600	A
May	110	26	56.8	.109	.13	3,490	A
June	88	19	53.9	.104	.12	3,210	A
July	480	78	311	.599	.69	19,100	A
August	480	393	453	.873	1.01	27,900	A
September	410	360	390	.751	.84	23,200	A
October	393	312	354	.682	.79	21,800	A
November	312	296	300	.578	.64	17,900	A
December	312	252	278	.536	.62	17,100	B
The year	775	19	369	0.710	9.78	267,000	
1909							
January	534		220	0.424	0.49	13,500	B
February	659	575	630	1.21	1.26	35,000	A
March	701	575	660	1.27	1.46	40,600	A
April	659	35	584	1.13	1.26	34,800	A
May	680	179	321	.618	.71	19,700	A
June	869	186	569	1.10	1.23	33,900	A
July	869	204	555	1.07	1.23	34,100	A
August	604	77	525	1.01	1.16	32,300	A
September	559	402	452	.871	.97	26,900	A
October	475	258	413	.796	.92	25,400	A
November	456	364	374	.721	.80	22,300	A
December	890	258	559	1.08	1.24	34,400	A
The year	890		488	0.942	12.73	353,000	

NOTE—Accuracy of winter months' record is probably not affected by ice conditions.

Truckee River drainage measurements, Lake Tahoe outlet at Tahoe, Cal.

(Furnished by Mr. D. W. Cole of Fallon, Nevada, Project Engineer in the United States Reclamation Service)

Day	Discharge in second-feet											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910												
1	890	247	819	114	318	134	379	701	534	377	281	302
2	898	518	819	114	318	134	419	701	534	377	281	302
3	898	782	819	114	270	134	785	680	534	374	281	302
4	898	827	819	114	156	134	722	680	494	374	281	267
5	898	827	819	114	156	134	722	680	494	374	281	258
6	898	827	819	114	156	134	722	680	494	374	278	278
7	898	827	819	114	156	211	722	680	486	367	278	281
8	898	827	810	114	156	244	722	680	482	364	281	281
9	898	827	806	114	156	364	722	659	475	357	281	281
10	898	827	802	114	156	316	642	650	475	350	281	287
11	898	827	798	114	156	316	642	419	475	350	281	287
12	898	827	794	114	137	534	642	650	456	350	281	287
13	890	827	108	114	114	318	642	650	456	350	275	287
14	890	827	114	114	114	310	642	650	438	344	275	258
15	890	827	114	114	114	511	642	650	438	344	275	255
16	887	827	114	114	114	325	743	642	438	344	275	255
17	887	827	247	114	114	380	743	634	438	340	275	255
18	877	827	426	114	114	345	743	625	438	340	272	255
19	877	827	114	114	114	345	743	617	438	334	272	236
20	873	823	114	114	114	345	401	617	350	328	258	236
21	869	819	114	114	114	345	456	617	364	318	258	236
22	869	819	114	114	124	345	456	609	356	318	258	236
23	869	819	114	114	124	430	688	609	337	318	302	233
24	869	819	114	114	124	404	701	609	337	312	302	230
25	869	819	114	114	124	404	701	600	401	312	302	230
26	869	819	114	210	124	743	701	596	391	312	302	230
27	869	819	114	494	124	437	701	596	384	312	302	225
28	869	819	114	494	124	437	701	596	384	312	302	275
29	869	.....	114	210	124	379	701	588	384	306	290	273
30	869	.....	114	318	134	379	701	554	384	299	281	267
31	861	.....	114	.....	134	.....	701	534	.....	287	.....	252
Cubic feet per second	27,390	22,581	12,348	4,576	4,577	9,971	20,348	19,453	13,089	10,518	8,442	8,137
Acre-feet	54,314	44,778	24,472	9,074	9,076	19,772	40,350	38,575	25,955	20,857	16,740	16,136
1911												
1	241	267	675	651	145	158	848	350	449	350	374	347
2	236	267	659	655	145	158	848	204	449	350	374	347
3	258	270	651	659	145	158	848	367	445	344	374	347
4	261	204	638	659	149	158	848	367	449	344	374	347
5	258	494	633	659	149	158	848	367	449	344	374	347
6	267	494	629	701	152	158	848	367	430	344	374	347
7	156	494	638	705	152	158	848	367	405	344	374	347
8	156	659	688	705	152	158	848	367	384	344	374	344
9	230	659	709	705	152	158	848	367	384	344	374	344
10	230	659	709	705	152	161	848	367	377	367	374	340
11	287	659	709	705	152	161	848	367	377	367	374	340
12	287	663	705	705	152	165	848	384	377	367	374	340
13	318	663	705	709	152	170	852	402	370	367	374	340
14	350	663	701	709	152	172	852	402	364	367	370	337
15	384	663	675	709	154	172	856	391	360	367	367	331
16	384	667	675	709	154	174	856	384	360	367	367	328
17	384	667	672	705	154	475	856	384	357	367	364	331
18	387	667	672	705	154	634	856	384	357	367	364	334
19	387	667	672	642	154	709	856	384	350	360	364	318
20	391	675	672	583	154	722	861	456	350	360	364	318
21	501	675	672	583	154	722	861	475	350	360	360	334
22	401	675	672	583	156	722	861	475	350	357	357	318
23	401	675	672	583	156	835	861	467	350	350	353	312
24	401	675	672	583	156	835	656	464	350	350	353	441
25	293	675	672	583	156	785	856	464	350	350	350	596
26	293	675	672	583	156	848	456	456	350	374	350	596
27	293	675	659	145	156	848	456	456	350	374	350	596
28	299	675	655	145	158	848	456	456	350	374	350	596
29	258	.....	651	145	158	848	402	456	350	374	374	617
30	258	.....	651	145	158	848	402	449	350	374	347	617
31	258	.....	651	.....	158	.....	402	449	.....	374	.....	617
Cubic feet per second	9,408	16,521	20,786	17,763	4,747	13,276	23,890	12,495	11,343	11,142	10,939	12,414
Acre-feet	18,628	32,712	41,156	35,171	9,399	26,286	47,302	24,740	22,459	22,096	21,695	24,617

Total run-off for 1910, 320,099 acre-feet. Total run-off for 1911, 326,260 acre-feet.

Estimated monthly discharge of Truckee River at Nevada-California State line near Mystic, California

(Drainage area, 955 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1901						
January	559	230	314	19,308	0.329	0.370
February	3,435	247	1,082	60,092	1.133	1.176
March	2,280	732	1,280	78,708	1.340	1.577
April	2,505	613	1,476	87,829	1.545	1.728
May	4,370	1,508	2,478	152,370	2.595	2.992
June	2,505	989	1,595	94,910	1.670	1.862
July	1,194	421	686	42,181	.718	.828
August	795	349	486	29,884	.509	.588
September	559	247	472	28,086	.494	.552
October	559	247	470	28,900	.492	.566
November	613	383	469	27,908	.491	.549
December	1,194	247	445	27,347	.466	.536
The year	4,370	230	938	677,521	0.982	13.300
1902						
January	421	268	322	19,799	0.337	0.39
February	1,194	268	506	28,102	.530	.55
March	671	292	402	24,718	.421	.49
April	3,596	509	1,656	98,539	1.734	1.93
May	2,745	1,194	1,927	118,486	2.018	2.33
June	1,968	732	1,358	80,807	1.422	1.59
July	1,055	349	501	30,805	.525	.61
August	559	383	506	31,113	.530	.61
September	559	421	482	28,681	.506	.56
October	559	383	450	27,669	.471	.54
November	732	292	416	24,754	.436	.49
December	671	383	482	29,637	.505	.58
The year	3,596	268	751	543,111	.786	10.67
1903						
January	989	292	522	32,097	0.55	0.63
February	586	280	463	25,714	.49	.51
March	3,211	334	686	42,180	.72	.83
April	1,968	891	1,301	77,415	1.36	1.52
May	2,391	969	1,658	101,946	1.74	2.01
June	1,822	720	1,148	68,311	1.20	1.34
July	846	455	513	31,543	.54	.62
August	613	463	490	30,129	.51	.59
September	559	421	489	29,098	.51	.57
October	613	442	507	31,174	.53	.61
November	2,745	421	855	50,876	.90	1.00
December [a]	486	292	403	24,780	.42	.48
The year	3,211	280	753	545,263	0.79	10.71

[a] December 4th estimated

Estimated discharge of Truckee River at Nevada-California State line near Mystic, Cal.—Continued

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1904						
January	725	230	419	25,760	0.439	0.506
February	6,730	337	1,351	77,710	1.41	1.52
March	4,930	1,257	2,469	151,800	2.59	2.99
April	4,906	2,020	2,897	172,400	3.03	3.38
May	4,930	2,220	3,706	227,900	3.88	4.47
June	3,550	2,120	2,751	163,700	2.88	3.21
July	2,020	1,083	1,497	92,050	1.57	1.81
August	1,257	836	1,017	62,530	1.06	1.22
September	1,083	836	903	53,730	.946	1.06
October	1,821	739	1,029	63,270	1.08	1.24
November	1,083	798	893	53,140	.935	1.04
December	1,393	725	834	51,280	.873	1.01
The year	6,730	230	1,647	1,195,000	1.72	23.46
1905						
January	961	551	755	46,420	0.791	0.912
February	1,228	580	754	41,880	.789	.822
March	1,393	610	1,096	67,390	1.15	1.33
April	2,090	673	1,114	66,290	1.17	1.30
May	2,020	1,042	1,453	89,340	1.52	1.75
June	1,439	642	1,115	66,350	1.17	1.30
July	642	444	548	33,700	.574	.662
August	540	444	503	30,930	.527	.608
September	524	444	477	28,380	.499	.557
October	551	444	487	29,940	.510	.588
November	554	300	405	24,100	.424	.473
December	429	300	366	22,500	.383	.442
The year	2,090	300	756	547,200	0.792	10.74
1906						
January	1,290	309	592	36,400	0.620	0.71
February	1,040	580	746	41,400	.781	.81
March	1,970	740	1,130	69,500	1.18	1.36
April	5,120	1,130	2,850	170,000	2.98	3.32
May	5,410	1,600	3,650	224,000	3.82	4.40
June	4,250	1,800	2,830	168,000	2.96	3.30
July	2,820	920	1,800	111,000	1.88	2.17
August	850	645	763	46,900	.799	.92
September	745	645	675	40,200	.707	.79
October	745	490	729	38,700	.659	.76
November	906	550	670	39,900	.702	.78
December	906	550	662	40,700	.693	.80
The year	5,410	309	1,420	1,030,000	1.48	20.12

NOTE—The open-channel rating tables were applied throughout the year; values for the winter months are liable to some error on account of ice. Missing gage heights interpolated, 1904.

Estimated discharge of Truckee River at Nevada-California State line near Mystic, Cal.—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January	850	645	702	0.735	0.85	43,200	B
February	1,850	850	1,220	1.28	1.33	67,800	B
March	1,530	920	2,590	2.71	3.12	159,000	C
April	6,420	2,070	3,880	4.06	4.53	231,000	B
May	5,210	3,250	3,980	4.17	4.81	245,000	B
June	4,960	2,560	3,570	3.74	4.17	212,000	A
July	3,810	2,180	2,720	2.85	3.29	167,000	A
August	2,120	1,490	1,680	1.76	2.03	103,000	A
September	1,530	1,300	1,430	1.50	1.67	85,100	A
October	1,390	673	1,200	1.26	1.45	73,800	A
November	1,210	884	1,080	1.13	1.26	64,300	A
December	1,350	884	1,040	1.09	1.26	64,000	B
The year	15,300	645	2,090	2.19	29.77	1,520,000	
1908							
January	1,130	961	1,020	1.07	1.23	62,700	B
February	1,130	884	938	0.982	1.06	54,000	B
March	1,580	884	1,140	1.19	1.37	70,100	B
April	1,870	961	1,360	1.42	1.58	80,900	B
May	1,530	810	1,040	1.09	1.26	64,000	B
June	1,260	600	893	.935	1.04	53,100	B
July	790	440	550	.576	.66	33,800	B
August	750	440	544	.570	.66	33,400	B
September	500	360	448	.469	.52	26,700	B
October	670	335	445	.446	.54	27,400	B
November	470	360	394	.413	.46	23,400	B
December	410	310	370	.387	.45	22,800	B
The year	1,870	310	762	.797	10.83	552,000	
1909							
January	8,110	385	1,930	2.02	2.33	119,000	B
February	1,340	1,030	1,150	1.20	1.25	63,900	A
March	1,470	1,030	1,170	1.23	1.42	71,900	A
April	4,380	1,470	2,810	2.94	3.28	167,000	B
May	4,540	1,810	2,960	3.10	3.57	182,000	B
June	3,540	2,300	2,850	2.98	3.32	170,000	B
July	2,620	735	1,320	1.38	1.59	81,200	A
August	950	620	762	.798	.92	46,900	A
September	800	565	642	.672	.75	38,200	A
October	735	515	610	.639	.74	37,500	A
November	2,090	565	1,010	1.06	1.17	60,100	A
December	2,620	515	1,110	1.16	1.34	68,200	A
The year	8,110	385	1,530	1.60	21.69	1,110,000	
1910							
January	1,510	735	1,250	1.31	1.51	76,900	B
February	1,310	735	1,180	1.24	1.29	65,500	B
March	3,890	873	1,680	1.76	2.03	103,000	B
April	2,810	1,060	1,990	2.07	2.31	118,000	A
May	2,040	1,260	1,430	1.56	1.73	87,900	B
June	1,260	703	943	.988	1.10	56,100	B
July	964	562	755	.791	.91	46,400	B
August	786	562	668	.669	.81	41,100	B
September	562	385	498	.521	.58	29,600	B
October	504	385	427	.447	.52	26,300	C
November	504	385	418	.438	.49	24,900	C
December	628	385	473	.495	.57	29,100	B
The year	3,890	385	974	1.02	13.85	705,000	

Estimated discharge of Truckee River at Vista, Nevada

Month	Discharge in second-feet			Total in acre feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1901						
January	1,505	418	661	40,644	0.435	0.502
February	4,213	418	1,486	82,529	.978	1.019
March	2,209	938	1,328	81,657	.874	1.008
April	1,942	747	1,380	82,117	.908	1.014
May	4,213	1,410	2,145	131,898	1.412	1.628
June	1,942	854	1,236	75,155	.831	.928
July	995	146	425	26,133	.280	.323
August	492	128	315	19,369	.207	.227
September	467	251	329	19,577	.217	.242
October	720	370	477	29,330	.314	.362
November	882	467	557	33,144	.367	.409
December	1,287	322	510	31,357	.336	.387
The year	4,213	128	906	652,906	0.597	8.040
1902						
January	467	322	389	23,919	0.256	0.30
February	1,110	370	598	33,211	.393	.41
March	938	467	589	36,216	.388	.45
April	4,336	1,110	1,922	114,367	1.265	1.42
May	2,250	995	1,610	98,995	1.060	1.22
June	1,666	370	1,056	62,836	.695	.78
July	418	185	292	17,954	.192	.22
August	467	146	311	19,123	.205	.24
September	617	370	443	26,360	.292	.33
October	617	370	485	29,821	.319	.37
November 1–29	1,110	566	782	44,981	.515	.56
1903						
January	1,005	530	653	40,151	0.43	0.50
February	730	530	624	34,655	.41	.43
March	5,650	610	1,077	66,222	.71	.82
April	2,350	1,155	1,537	91,458	1.01	1.13
May	3,055	955	1,852	113,875	1.22	1.41
June	1,650	530	1,020	60,694	.67	.75
July	690	130	259	15,925	.17	.20
August	330	130	192	11,806	.13	.15
September	410	250	321	19,101	.21	.23
October	570	330	486	29,883	.32	.37
November	2,125	530	845	50,281	.56	.62
December	650	530	569	34,986	.37	.43
The year	5,650	130	786	569,037	0.52	7.04
1904						
January	642	535	572	35,170	0.377	0.435
February	6,090	535	1,777	102,200	1.17	1.26
March	8,280	1,512	3,431	211,000	2.26	2.61
April	8,940	2,225	4,172	248,200	2.75	3.07
May	7,400	2,360	4,924	302,800	3.24	3.74
June	4,485	2,155	3,174	188,900	2.09	2.33
July	2,055	830	1,313	80,730	.864	.996
August	874	716	771	47,410	.508	.586
September	973	716	785	46,710	.517	.577
October	2,055	789	1,049	64,500	.691	.797
November	1,027	830	924	54,980	.608	.678
December	1,355	789	844	51,900	.556	.641
The year	8,940	533	1,978	1,435,000	1.30	17.52
1905						
January	1,220	675	894	54,970	0.589	0.679
February	1,420	675	943	52,370	.621	.647
March	1,560	790	1,237	76,060	.814	.938
April	1,860	570	1,003	59,680	.660	.736
May	1,710	730	1,279	78,640	.842	.971
June	1,285	370	930	55,340	.612	.683
July	405	150	260	15,990	.171	.197
August	275	195	224	13,770	.147	.170
September	370	195	279	16,600	.184	.205
October	485	370	430	26,440	.283	.326
November	525	405	460	27,300	.303	.338
December	525	130	421	25,890	.277	.319
The year	1,860	130	697	503,100	0.459	6.21

Estimated discharge of Truckee River at Vista, Nevada—Continued

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1906						
January	2,740	325	871	53,600	0.573	0.66
February	1,040	675	797	44,300	.524	.55
March	2,260	825	1,210	74,400	.796	.92
April	4,690	1,220	2,910	173,000	1.91	2.13
May	5,470	1,990	3,870	238,000	2.55	2.94
June	4,560	1,990	3,400	202,000	2.24	2.5
July	3,490	1,160	2,170	133,000	1.43	1.65
August	1,040	580	729	44,800	.48	.55
September	930	675	722	43,000	.475	.53
October	930	490	763	46,900	.502	.58
November	1,280	775	900	53,600	.592	.66
December	1,340	725	952	58,500	.626	.72
The year	5,470	325	1,610	1,170,000	1.06	14.39

NOTE—The open-channel rating table was applied throughout the year; values for the winter months are liable to some error on account of ice.

Month	Discharge in second-feet			Run-off			Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
January	1,990	775	1,060	0.697	0.80	65,200	B
February	2,740	1,340	1,620	1.07	1.11	90,000	B
March	1,410	1,280	1,350	.888	.56	45,500	B
April	6,560	5,050	5,750	3.78	1.97	160,000	A
May	5,310	3,530	4,320	2.48	3.27	266,000	A
June	5,310	2,820	4,100	2.70	3.01	244,000	A
July	4,010	2,080	2,840	1.87	2.16	175,000	A
August	2,080	1,260	1,480	.944	1.12	91,000	A
September	1,510	1,120	1,250	.822	.92	74,400	A
October	1,780	980	1,300	.855	.99	79,900	A
November	1,420	980	1,140	.750	.84	67,800	B
December	1,340	980	1,090	.717	.83	67,000	B
The year						1,430,000	

Monthly discharge of the Truckee River at Reno, Nevada

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1906							
July	2,660	720	1,670			103,000	A
August	720	220	462			28,400	A
September	460	350	386			23,000	A
October	650	185	448			27,500	A
November	880	580	644			38,300	A
December	1,060	580	829			51,000	A
The period						271,000	
1907							
January	880	550	665			40,300	A
February	2,120	880	1,290			71,600	A
March	14,600	970	2,670			164,000	A
April	5,900	2,250	4,140			246,000	A
May	5,440	3,110	3,890			239,000	A
June	5,000	2,380	3,440			205,000	A
July	3,440	1,770	2,450			151,000	A
August	1,770	970	1,260			75,500	A
September	1,150	970	1,030			61,300	A
October	1,250	520	977			60,100	A
November	1,150	800	977			59,100	A
December	1,350	800	935			57,500	A
The year	14,600	520	1,980			1,430,000	

Discharge of the Truckee River at Reno, Nevada—Continued

Month	Discharge in second-feet			Run-off (total in acre-feet)	Accuracy
	Maximum	Minimum	Mean		
1908					
January	1,060	800	936	57,000	A
February	880	720	811	46,600	A
March	1,550	720	1,060	65,200	A
April	1,660	800	1,120	66,600	A
May	1,150	460	684	42,100	A
June	970	185	539	32,100	A
July	520	155	219	13,500	B
August	350	155	209	12,900	B
September	220	125	164	9,760	B
October	520	155	302	18,600	A
November	400	300	353	21,000	A
December	400	300	350	21,500	A
The year	1,660	125	562	407,000	
1909					
January	8,540	300	2,030	125,000	A
February	1,450	1,060	1,200	66,600	A
March	1,550	1,060	1,230	75,600	A
April	4,780	1,350	2,850	170,000	A
May	4,380	1,770	2,810	173,000	A
June	3,440	2,120	2,660	158,000	A
July	2,380	460	1,070	65,800	A
August	520	255	357	22,000	A
September	350	220	268	15,900	A
October	520	300	379	23,300	A
November	4,380	460	1,010	60,100	A
December	3,620	970	1,200	73,800	A
The year	8,540	220	1,420	1,030,000	
1910					
January	1,630	1,120	1,260	77,500	A
February	1,420	1,120	1,170	65,000	A
March	3,360	1,320	1,870	115,000	A
April	2,600	1,630	2,030	121,000	A
May	1,740	940	1,260	77,500	A
June	940	215	415	24,700	A
July	780	215	482	29,600	A
August	388	338	380	23,400	A
September	388	293	354	21,100	A
October	441	293	342	21,000	A
November	441	250	359	21,400	A
December	1,030	338	465	28,600	A
The year	3,360	215	864	626,000	

Monthly discharge of the Truckee River at Derby Dam, Nevada

Month	Discharge in second-feet			Run-off (total in acre-feet)	Accuracy
	Maximum	Minimum	Mean		
1907					
July	3,620	1,620	2,700	166,000	A
August	1,920	1,220	1,450	89,200	A
September	1,550	1,180	1,310	78,000	A
October	1,780	775	1,210	74,400	A
November	1,280	550	798	47,500	B
December	1,280	550	825	50,700	C
The period				506,000	
1908					
January	1,340	910	1,080	66,400	B
February	970	800	858	49,400	B
March	1,620	855	1,100	67,600	A
April	1,550	750	1,140	67,800	A
May	1,000	505	679	41,800	A
June	1,150	270	602	35,800	A
July	970	120	317	19,500	A
August	910	150	310	19,100	A
September	370	180	270	16,100	A
October	700	310	405	24,900	A
November	438	330	378	22,500	A
December	438	330	368	22,600	B
The year	1,620	120	626	454,000	
1909					
January	7,650	370	2,380	149,000	B
February	2,080	1,150	1,430	79,400	A
March	1,550	1,060	1,260	77,500	A
April	4,120	1,310	2,840	169,000	A
May	4,390	1,780	2,910	179,000	A
June	3,530	2,310	2,790	166,000	A
July	2,470	700	1,120	68,900	B
August	730	350	498	30,600	B
September	510	330	431	25,600	B
October	550	500	519	31,900	B
November	4,300	415	1,050	62,500	B
December	4,210	1,120	1,370	84,200	B
The year	7,650	330	1,550	1,120,000	
1910					
January	2,070	1,220	1,380	84,800	B
February	1,840	1,150	1,420	78,900	B
March	2,440	1,090	1,760	108,000	B
April	2,310	1,410	1,990	118,000	B
May	2,070	1,090	1,480	91,000	B
June 1-6	1,280	800	1,080	12,800	B
The period				494,000	

Estimated monthly discharge of the Truckee River near Wadsworth, Nevada

(Drainage area, 2,130 square miles.)

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1904						
January	520	304	392	24,100	0.184	0.212
February	3,875	304	1,300	74,780	.610	.658
March	4,590	1,605	2,736	168,200	1.28	1.48
April	4,810	1,954	3,132	186,400	1.47	1.64
May	4,491	1,863	3,414	209,900	1.60	1.84
June 1-11	3,523	2,984	3,242	70,730	1.52	.622
July						
August 7-31	973	756	833	41,310	.391	.364
September	1,085	649	799	47,540	.375	.418
October	2,255	966	1,214	74,650	.570	.657
November	1,140	878	947	57,960	.457	.510
December	1,522	786	884	54,360	.415	.478
The period				1,010,000		
1905						
January	1,205	610	826	50,790	0.388	0.447
February	1,261	610	827	45,930	.388	.404
March	1,414	742	1,133	69,670	.532	.613
April	1,883	551	935	55,640	.439	.490
May	1,730	945	1,306	80,300	.613	.704
June	1,275	402	935	55,640	.439	.490
July	413	120	241	14,820	.113	.130
August	220	108	148	9,100	.069	.080
September	298	168	229	13,630	.108	.120
October	595	262	457	28,100	.215	.248
November	570	324	434	25,820	.204	.228
December	515	341	433	26,620	.203	.234
The year	1,883	108	659	476,100	0.309	4.19

NOTE—From February to June, 1904, inclusive, the discharge for several days in each month has been interpolated.

Estimated monthly discharge of the Truckee River, at Pyramid Lake Indian Agency, Nevada

(Drainage area, 2,130 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1902						
November 7-30	648	504	555	26,420	0.26	0.23
December	716	466	533	32,773	.25	.29
1903						
January	930	466	586	36,032	0.28	0.32
February	815	364	487	27,047	.23	.24
March	3,475	504	775	47,653	.36	.42
April	2,915	1,235	1,645	97,884	.77	.86
May	2,355	840	1,701	104,590	.80	.92
June 1-19			1,323	49,858	.62	.44
October	364	297	332	20,414	.16	.18
November	1,155	350	489	29,097	.23	.26
December	396	297	337	20,721	.16	.18

Estimated monthly discharge of Lake Winnemucca Inlet, near Wadsworth, Nevada

Month	Discharge in second-feet			Total in acre-feet
	Maximum	Minimum	Mean	
1904				
January, 13 days			31.9	1,961
February, 12 days			130	7,478
March, 13 days			292	17,950
April, 14 days			490	29,160
May, 15 days			490	30,130
June, 14 days			365	21,720
July, 13 days			111	6,825
August, 10 days			125	7,686
September, 12 days			124	7,379
October, 16 days			127	7,809
November, 17 days			126	7,498
December, 19 days			117	7,194
The year				152,800
1905				
January	159	26	93.9	5,744
February	106	100	103	5,720
March	107	99	103	6,333
April	188	97	107	6,367
May	216	174	189	11,620
June	211	87	136	8,093
July	148	109	132	8,116
August	148	121	135	8,301
September	116	99	105	6,248
October	107	91	99	6,087
November	91	64	75.5	4,493
December	99	67	79.6	4,894
The year	216	26	113	82,040

NOTE—Acre-feet computed for entire month.

Estimated monthly discharge of Little Truckee River near Pine Station, Cal.

(Drainage area, 166 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1903						
June 25-30	200	184	191	2,273	1.15	0.26
July	200	31	89	5,472	.54	.62
August	29	18	22	1,353	.13	.15
September 1-20			18	714	.11	.08
October 25-31			39	541	.23	.06
November	296	25	117	6,962	.70	.78
December	94	45	63	3,874	.38	.44
1904						
January	192	83	140	8,608	0.843	0.972
February	1,296	137	467	26,860	2.81	3.03
March	1,235	445	742	45,620	4.47	5.15
April	1,809	524	961	58,370	5.91	6.59
May	1,337	584	1,013	62,290	6.10	7.03
June	901	455	688	40,940	4.14	4.62
July	436	73	209	12,850	1.26	1.45
August	73	35	49.3	3,031	.297	.342
September	76	31	37.8	2,249	.228	.254
October	536	43	115	7,071	.693	.799
November	86	48	55.6	3,308	.335	.374
December	174	28	64.6	3,972	.389	.448
The year	1,809	28	380	275,000	2.29	31.60

Estimated monthly discharge of Little Truckee River at Pine Station, Cal.—Continued

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1905						
January	126	77	101	6,210	0.608	0.701
February	144	57	89	4,943	.536	.588
March	277	139	188	11,560	1.13	1.30
April	760	183	334	19,870	2.01	2.24
May	640	307	477	29,330	2.87	3.31
June	483	122	337	20,050	2.03	2.26
July	148	50	86.3	5,306	.52	.60
August	50	33	42.1	2,589	.254	.293
September	48	33	37.4	2,226	.225	.251
October	45	42	44.2	2,718	.266	.307
November	107	40	55.4	3,296	.334	.373
December	126	78	106	6,518	.637	.734
The year	760	33	158	114,600	0.952	12.93

Month	Discharge in second-feet			Run-off			Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1906							
January	1,020	104	359	2.16	2.49		
February	229	91	141	.849	.88		
March	373	84	159	.958	1.10		
April	1,300	229	729	4.39	4.90		
May	1,350	560	972	5.86	6.76	59,800	
June	1,350	610	950	572	6.38	56,500	
July	849	152	478	2.88	3.32	29,400	
August	157	65	91.9	.554	.64	5,650	
September	65	53	56.7	.342	.38	3,370	
October	94	50	60.9	.367	.42	3,740	
November	157	66	79.7	.480	.54	4,740	
December	178	65	103	.608	.71	6,330	
The year	1,350	50	348	2.10	28.52	253,000	
1907							
January	351	80	204	1.23	1.42	12,500	C
February	330	165	229	1.28	1.44	12,700	C
March	1,560	129	417	2.52	2.89	25,600	B
April	1,360	418	974	5.87	6.55	58,000	B
May	1,160	750	908	5.47	6.31	55,800	B
June	1,130	440	761	4.58	5.11	45,300	B
July	755	276	461	2.78	3.20	28,300	B
August	247	103	149	.898	1.04	9,160	B
September	117	84	96.4	.575	.64	5,680	B
October	133	84	97.3	.586	.68	5,980	B
November	125	90	96.9	.584	.65	5,770	C
December	247	90	122	.735	.85	7,500	C
The year	1,560	80	376	2.27	30.78	272,000	

NOTE—The open-channel rating table was applied throughout the year 1906; values for the winter months are liable to some errors on account of ice.

Monthly discharge of Little Truckee River at Starr, Cal.

(Drainage area, 166 square miles.)

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1908							
January			67.6			4,160	C
February	83	48	65.9			3,790	C
March	312	55	162			9,960	A
April	573	192	316			23,600	A
May	573	221	332			20,400	A
June	473	165	297			17,700	A
July	178	31	79.5			4,890	B
August	42	14	26.0			1,600	B
September	31	14	21.9			1,300	C
October	130	26	40.7			2,500	B
November	62	26	41.0			2,440	B
December			38.7			2,380	C
The year	573	14	131			94,700	
1909							
January	1,920	80	520	3.13	3.61	32,000	C
February	215	128	154	.928	.97	8,550	B
March	187	108	144	.867	1.00	8,850	B
April	1,500	174	786	4.73	5.28	46,800	A
May	1,440	560	946	5.70	6.57	58,200	A
June	1,380	620	895	5.39	6.01	53,300	A
July	620	74	235	1.42	1.64	14,400	B
August	344	20	77.7	.468	.54	4,780	B
September	36	15	22.5	.136	.15	1,340	B
October	60	25	34.5	.208	.24	2,120	B
November	920	36	200	1.20	1.34	11,900	B
December	680	74	189	1.14	1.31	11,600	B
The year	1,920	15	350	2.11	28.66	254,000	
1910							
January	613	228	366	2.20	2.54	22,500	D
February	855	244	526	3.17	3.30	29,200	D
March	1,240	196	484	2.92	3.37	29,800	B
April	1,030	586	782	4.71	5.26	46,500	B
May	728	386	552	3.33	3.84	33,900	B
June	482	65	189	1.14	1.27	11,200	B
July	72	16	33.5	.202	.23	2,060	A
August	16	11	12.9	.078	.09	793	B
September	41	11	17.0	.102	.11	1,010	B
October 1–22			19.7	.119	.10	898	B
The period						178,000	

Estimated monthly discharge of Donner Creek near Truckee, Cal.

(Drainage area, 30 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1902						
October	11	5	7	125	0.23	0.08
November	36	5	14	833	.47	.52
December	51	9	17	1,045	.57	.66
1903						
January	106	32	54	3,320	1.80	2.08
February	67	56	60	3,332	2.00	2.08
March	312	56	83	5,103	2.77	3.19
April	232	120	166	9,878	5.53	6.17
May	352	192	267	16,417	8.90	10.26
June	296	56	156	9,283	5.20	5.80
July	56	6	23	1,414	.77	.89
August	16	1	3	184	.10	.12
September	2	1	1	60	.03	.03
October	28	1	3	184	.10	.12
November	280	1	92	5,474	3.07	3.43
December	61	7	16	984	.53	.61
The year	352	1	77	55,633	2.57	34.78
1904						
January	76	11	29.6	1,820	0.987	1.14
February	693	22	145	8,341	4.83	5.21
March	613	216	391	24,040	13.03	15.02
April	452	238	312	18,560	10.40	11.60
May	709	216	482	29,640	16.07	18.53
June	494	196	326	19,400	10.87	12.13
July	186	11	59.4	3,652	1.98	2.28
August	18	4.5	11.4	701	.38	.438
September	90	3.5	30.6	1,821	1.02	1.14
October	206	18	50.6	3,111	1.69	1.95
November	22	2.5	12	714	.40	.446
December	57	3.5	9.2	566	.307	.354
The year	709	2.5	155	112,400	5.16	70.24
1905						
January	24	11.5	17.8	1,094	0.593	0.684
February	185	15	53.1	2,949	1.77	1.84
March	166	100	130	7,993	4.33	4.99
April	290	86	163	9,699	5.43	6.06
May	269	148	218	13,400	7.27	8.38
June	206	29	114	6,783	3.80	4.24
July	24	1.1	8.6	529	.287	.331
August	1.1	.2	.51	31	.17	.020
September	48	.5	3.6	214	.120	.134
October	19	.0	4.4	270	.147	.170
November	2	.0	.29	17	.0097	.011
December	43	.0	1.6	98	.053	.061
The year	290	0.0	59.6	43,290	1.98	26.92
1906						
January	300	19	38.3	2,360	1.28	1.48
February	57	24	32	1,780	1.07	1.11
March	86	29	54.5	3,350	1.82	2.10
April	269	86	161	9,580	5.37	5.99
May	698	342	506	31,100	16.87	19.45
June	680	342	493	29,300	16.43	18.33
July	460	49	269	16,500	8.97	10.34
August	42	152	21.4	1,320	.713	.83
September	15	12	13.5	803	.450	.50
October[a]	15	0.0	11.1	682	.370	.43
November	30	9	16.3	970	.543	.61
December	42	12	20.0	1,230	.667	.77
The year	698	0.0	136	99,000	4.55	61.93

[a]Mean discharge estimated 7 second-feet October 19, and 5 second-feet October 24.

NOTE—The open-channel rating table was applied throughout the year; values for winter months are liable to some error on account of ice.

Estimated monthly discharge of Donner Creek near Truckee, Cal.—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1909							
January	812	8	214	7.13	8.22	13,200	B
February	43	30	38.2	1.27	1.32	2,120	B
March	62	43	51.0	1.70	1.96	3,140	A
April	276	52	150	5.00	5.58	8,930	A
May	410	196	264	8.80	10.14	16,200	B
June	285	58	176	5.87	6.55	10,500	B
July	180	23	69.2	2.31	2.66	4,250	A
August	20	7	11.8	.393	.45	726	D
September	7	1	4.9	.163	.18	292	D
October	7	1	3.4	.113	.13	209	D
November	674	4	140	4.67	5.21	8,330	C
December	862	50	208	6.93	7.99	12,800	B
The year	862	1	111	3.70	50.39	80,700	
1910							
January	111	50	72	2.40	2.77	4,430	C
February	177	56	75.6	2.52	2.62	4,200	C
March	274	70	148	4.93	5.69	9,100	B
April	365	153	252	8.40	9.37	15,000	B
May	290	177	210	7.00	8.07	12,900	B
June	153	18	59.6	1.99	2.22	3,550	B
July	27	2.5	10.1	.337	.39	621	C
August	2.5	1.2	1.41	.047	.05	86.7	D
September	2.5	1.2	1.89	.063	.07	112	D
October	2.5	2.5	2.50	.083	.10	154	D
November	27	1.2	7.47	.249	.28	444	D
December	50	11	20.5	.683	.79	1,260	C
The year	365	1.2	71.6	2.39	32.42	51,900	
1907							
January	42	15	29.9	0.997	1.15	1,840	C
February	186	42	92.5	3.08	3.21	5,140	C
March	980	40	239	7.97	9.19	14,700	B
April	370	196	296	9.87	11.01	17,600	A
May	760	289	392	13.1	15.10	24,100	A
June	626	186	349	11.6	12.94	20,800	A
July	356	64	158	5.27	6.08	9,720	A
August	58	34	40.1	1.34	1.54	2,470	B
September	52	18	29.9	.997	1.11	1,780	B
October	18	7	12.1	.403	.46	744	C
November	28	5	10.3	.344	.38	613	C
December	28	5	11.2	.373	.43	689	D
The year	980	5	138	4.61	62.60	100,000	
1908							
January	56	9	30.7	1.02	1.18	1,890	C
February	47	26	35.9	1.20	1.29	2,060	C
March	75	32	54.3	1.81	2.09	3,340	B
April	224	75	145	4.83	5.39	8,630	A
May	204	111	147	4.90	5.65	9,040	A
June	157	75	120	4.00	4.46	7,140	A
July	75	20	44	1.47	1.70	2,700	A
August	20	7	10.9	.363	.42	670	B
September	26	7	8.1	.270	.30	482	B
October	7	2	3.2	.107	.12	197	C
November	20	4	6.4	.213	.24	381	C
December	32	7	15.4	.513	.59	947	C
The year	224	2	51.7	1.72	23.43	37,500	

Estimated monthly discharge of Donner Creek near Truckee, Cal.—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1909							
January	1,210	8	304	10.1	11.64	18,700	B
February	43	30	38.2	1.27	1.32	2,120	B
March	62	43	51	1.70	1.96	3,140	A
April	276	52	150	5.00	5.58	8,930	A
May	410	196	264	8.80	10.14	16,200	B
June	285	58	176	5.87	6.55	10,500	B
July	180	23	69.2	2.31	2.66	4,250	A
August	20	7	11.8	.393	.45	726	A
September	7	1	4.9	.163	.18	292	A
October	7	1	3.4	.113	.13	209	A
November	405	4	99.1	3.30	3.68	5,900	A
December	570	73	198	6.60	7.61	12,200	C
The year	1,210	1	114	3.80	51.90	83,200	

NOTE—Data for January, November, and December, 1909, supersede those published in Water-Supply Paper 270.

Monthly discharge of Independence Creek below Independence Lake, Cal.

(Drainage area, 8.5 square miles.)

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1902							
October 24-31	1.1	0.2	0.46	0.054	0.02	7	B
November	14	.2	9.50	1.12	1.25	565	B
December	27	2.8	8.01	.942	1.09	493	B
1903							
January	41	4.4	17.9	2.11	2.43	1,100	B
February	50	17	37.2	4.38	4.56	2,070	B
March	27	17	19.7	2.32	2.68	1,210	A
April	88	13	26.1	3.07	3.42	1,550	A
May	154	52	92.6	10.9	12.57	5,690	A
June	149	9.2	73.2	8.61	9.61	4,360	C
July	124	4.7	19.3	2.27	2.62	1,190	C
August	4.9	[a].9	3.56	.419	.48	219	C
September	.9	.4	.73	.086	.10	43	C
October	27	.6	3.22	.379	.44	198	A
November	99	1.2	28.0	3.29	3.67	1,670	A
December	10	2.0	6.88	.809	.93	423	B
The year	154	0.4	27.4	3.22	43.51	19,700	
1904							
January	10	2.3	6.24	0.734	0.85	384	B
February	98	4.8	39.7	4.67	5.04	2,280	B
March	96	21	56.5	6.65	7.67	3,470	A
April	145	19	41.4	4.87	5.43	2,460	B
May	203	20	128	15.1	17.41	7,870	B
June	176	60	114	13.4	14.95	6,780	B
July	105	12	43.7	5.14	5.93	2,690	A
August	12	2.6	5.97	.702	.81	367	A
September	2.6	2.2	2.41	.284	.32	143	A
October	162	2.6	19.6	2.31	2.66	1,210	A
November	35	4.6	6.13	.721	.80	365	A
December	130	3.4	29.0	3.41	3.93	1,780	B
The year	203	2.2	41.1	4.83	65.80	29,800	

[a] Estimated.

Estimated monthly discharge of Independence Creek, below Independence Lake, Cal.—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1905							
January	146	6.6	44.3	5.21	6.01	2,720	B
February	44	9.6	18.4	2.16	2.25	1,020	B
March	54	27	34.5	4.06	4.68	2,120	A
April	130	12	53	6.24	6.96	3,150	A
May	232	31	118	13.9	16.03	7,260	B
June	136	2.6	99.9	11.8	13.7	5,940	A
July	14	3.2	8.41	.989	1.14	517	A
August	4.4	0.4	2.42	.285	.33	149	B
September	0.4	0.0	.22	.026	.03	13	C
October	0.0	0.0	.0	.0	.0	0	D
November	17	0.0	4.90	.576	.64	292	C
December	17	1.1	3.37	.396	.46	207	B
The year	232	0.0	32.3	3.80	51.70	23,400	
1906							
January	117	1.6	27.2	3.20	3.69	1,670	B
February	29	1.6	8.33	.980	1.02	436	B
March	37	8.0	18.6	2.19	2.52	1,140	A
April	46	9.3	21.8	2.56	2.86	1,300	A
May	154	5.6	89.7	10.6	12.22	5,520	B
June	268	0.0	159	18.7	20.86	9,460	B
July	250	21	141	16.6	19.4	8,670	B
August	28	8	16	1.88	2.17	984	A
September	8	2.6	4.56	.533	.60	271	A
October	154	1.6	15.0	1.75	2.03	922	A
November	15	6.6	11.5	1.35	1.51	684	A
December	250	6.2	27.8	3.27	3.77	1,710	B
The year	268	0.0	45.0	5.30	72.39	32,800	
1907[a]							
January	56	17	37.9	4.46	5.14	2,330	B
February	46	22	32.9	3.87	4.03	1,830	B
March	169	20	64.9	7.64	8.81	3,990	B
April	117	20	65.1	7.66	8.55	3,870	A
May	184	87	124	14.6	16.83	7,620	B
June	286	78	158	18.6	20.75	9,400	B
July			64	7.53	8.68	3,940	D
August			21	2.74	2.85	1,290	D
September			13	1.53	1.71	744	D
October			14	1.65	1.90	861	D
November			14	1.65	1.84	833	D
December			17	2.00	2.31	1,050	D
The year			52.2	6.14	83.40	37,800	

[a] Discharges for July to December have been estimated as 14 per cent of Little Truckee River at Starr Station, this being a mean ratio derived from comparison of records; results are approximate.

NOTE—These discharges are based on rating curves covering the following periods: October 24, 1902, to May 15, 1903; May 16 to August 22, 1903; August 27, 1903, to May 25, 1904; May 26, 1904, to July 8, 1905; July 9, to September 30, 1905; October 1, 1905, to June 30, 1907. All are fairly well defined between 0.5 and 130 second-feet except the last, which is not well defined for 1907.

Estimated monthly discharge of Prosser Creek near Hobart Mills, Cal.

(Drainage area, 48 square miles.)

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1903						
July	69	18	31.3	1,925	0.625	0.752
August	20	12	16.8	1,033	.350	.404
September	12	10	10.5	625	.219	.244
October (10 days)	184	17	12	238	.250	.093
November (19 days)	370	30	16.3	6,142	3.40	2.40
December	130	42	75	4,612	1.56	1.80
The period				14,580		
1904						
January	145	42	102	6,272	2.12	2.44
February	924	80	363	20,880	7.56	8.15
March	726	221	329	20,230	6.85	7.90
April	660	221	380	22,610	7.75	8.84
May	532	238	433	26,620	9.02	10.40
June	410	205	296	17,610	6.17	6.88
July	205	69	128	7,870	2.67	3.08
August	97	26	45.8	2,816	.954	1.10
September	35	23	6.4	1,571	.55	.614
October 1–15	370	30	112	3,332	2.33	1.30
The period				129,800		

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1907							
September (23–30)	38	29	34.6	0.721	0.21	549	B
October	48	38	39.5	.823	.96	2,430	A
November	38	29	35.3	.735	.82	2,100	A
December			*29	.604	.70	1,780	C
1908							
January			b29	0.604	0.70	1,780	C
February		16	b29.1	.606	.65	1,670	C
March	200	22	107	2.23	2.57	6,580	B
April	200	140	177	3.69	4.12	10,500	A
May	200	140	173	3.60	4.15	10,600	A
June	221	105	160	3.33	3.72	9,520	A
July	114	14	56	1.17	1.35	3,440	B
August	14	4	8.9	.185	.21	547	C
September	29	9	21.9	.456	.51	1,300	C
October	179	22	34.3	.715	.82	2,110	C
November	54	22	30	.625	.70	1,790	B
December	60	29	41.6	.867	1.00	2,560	B
The year	221	4	72.3	1.51	20.50	52,400	C
1909							
January	634	60	214	4.46	5.14	13,200	B
February	184	39	104	2.17	2.26	5,780	A
March	146	104	124	2.58	2.97	7,620	A
April	474	128	317	6.60	7.36	18,900	B
May	484	284	384	8.00	9.22	23,600	B
June	464	254	357	7.44	8.30	21,200	B
July	244	104	164	3.42	3.94	10,100	A
August	89	4	24.8	.517	.60	1,520	B
September	24	4	15.2	.317	.35	904	B
October	89	20	53.5	1.11	1.28	3,290	B
November	554	62	146	3.04	3.39	8,690	A
December	394	137	193	4.02	4.64	11,900	A
The year	634	4	175	3.64	49.45	127,000	B

Estimated monthly discharge of Prosser Creek near Hobart Mills, Cal.—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Per square mile	Depth in inches on drainage area	Total in acre-feet	
1910							
January	277	204	236	4.92	5.67	14,500	C
February	264	204	245	5.10	5.31	13,600	B
March	440	132	212	4.42	5.10	13,000	B
April	354	216	299	6.23	6.95	17,800	B
May	277	182	226	4.71	5.43	13,900	B
June	252	76	175	3.65	4.07	10,400	A
July	42	7	32	.667	.69	1,970	C
August	10	10	10	.208	.24	615	C
September	20	10	10.7	.223	.25	637	C
October	14	10	11.2	.233	.27	689	C
November	34	10	19.5	.406	.45	1,160	B
December	52	20	27.7	.577	.66	1,700	B
The year	440	7	124	2.58	35.09	90,000	

[a] Monthly mean for December, 1907, estimated because of ice conditions.

[b] Mean for January, 1908, and February 1 to 15, 1908, estimated at 29 second-feet because of ice conditions.

Various creeks in the Truckee River Basin

(Miscellaneous measurements of flow.)

Name of creek	Date of measurement	Place of measurement	Discharge
Alum Creek	June 7, 1906		2.6 second-feet
Alder Creek	May 31, 1889	Floriston, Cal.	42.0 second-feet
Alder Creek	May 19, 1900	Floriston, Cal.	30.0 second-feet
Alder Creek	July 25, 1900	Floriston, Cal.	12.63 second-feet
Alder Creek	September 10, 1900	Floriston, Cal.	10.29 second-feet
Bear Creek	June 23, 1906		267.65 second-feet
Bell Creek	June 12, 1906		38.02 second-feet
Bell Creek	June 24, 1906		38.45 second-feet
Broncho Creek	June 14, 1906		139.54 second-feet
Broncho Creek	July 2, 1906		183.53 second-feet
Cold Creek	September 13, 1900	Cold Creek Canyon, Cal.	1.35 second-feet
Cold Creek	June 28, 1889	Cold Creek Canyon, Cal.	1.0 second-feet
Cold Creek	July 3, 1889	Cold Creek Canyon, Cal.	10.0 second-feet
Cold Creek	July 6, 1889	Cold Creek Canyon, Cal.	5.0 second-feet
Cold Creek	July 11, 1889	Cold Creek Canyon, Cal.	1.0 second-feet
Cold Creek	August 7, 1889	Cold Creek Canyon, Cal.	1.0 second-feet
Cold Creek	August 10, 1889	Cold Creek Canyon, Cal.	1.0 second-feet
Cold Creek	August 17, 1889	Cold Creek Canyon, Cal.	.7 second-feet
Creek (Tahoe tollgate)	June 3, 1889	Near Tahoe tollgate	74.0 second-feet
Deep Creek	June 22, 1906		21.64 second-feet
Deep Creek	June 23, 1906		24.5 second-feet
Deer Creek	June 16, 1900		25.2 second-feet
Dog Valley Creek	May 22, 1889	Verdi	7.0 second-feet
Dog Valley Creek	July 26, 1900	Verdi	.4 second-feet
Dog Valley Creek	September 10, 1900	Verdi	.79 second-feet
Dog Valley Creek	October 7, 1902	Verdi	7.14 second-feet
Dog Valley Creek	May 2, 1903	Verdi	24.80 second-feet
Dog Valley Creek	June 9, 1906	Verdi	15.73 second-feet
Evans Creek	August 3, 1903		1.22 second-feet
Hill Creek	June 23, 1906		4.27 second-feet
Hill Creek	June 9, 1906		5.42 second-feet
Hunter Creek	June 7, 1900	Mayberry	40.7 second-feet
Hunter Creek	September 12, 1900	Mayberry	5.9 second-feet
Hunter Creek	June 4, 1903	Mayberry	18.5 second-feet
Hunter Creek	July 6, 1903	Mayberry	2.3 second-feet
Hunter Creek	August 28, 1903	Mayberry	7.3 second-feet
Hunter Creek	June 28, 1906	Mayberry	64.67 second-feet
Hunter Creek	June 7, 1906	Mayberry	28.38 second-feet
Joe Gray Creek	May 31, 1889	Iceland, Cal.	88.0 second-feet
Joe Gray Creek	May 19, 1900	Iceland, Cal.	30.0 second-feet
Joe Gray Creek	July 28, 1900	Iceland, Cal.	20.28 second-feet
Joe Gray Creek	September 5, 1900	Iceland, Cal.	12.28 second-feet
Juniper Creek	May 30, 1889	Burkhalter, Cal.	22.0 second-feet
Juniper Creek	June 6, 1900	Burkhalter, Cal.	30.0 second-feet
Juniper Creek	September 15, 1900	Burkhalter, Cal.	1.33 second-feet
Martis Creek	June 1, 1889	Martis, Cal.	19.0 second-feet

Various creeks in the Truckee River Basin—Continued

Name of creek	Date of measurement	Place of measurement	Discharge
Martis Creek	June 24, 1889	Martis, Cal.	7.0 second-feet
Martis Creek	May 21, 1900	Martis, Cal.	24.51 second-feet
Martis Creek	June 24, 1900	Martis, Cal.	17.52 second-feet
Martis Creek	September 14, 1900	Martis, Cal.	8.54 second-feet
Martis Creek	June 20, 1906	Martis, Cal.	125.27 second-feet
Martis Creek	June 21, 1906	Martis, Cal.	129.44 second-feet
Pool Creek	June 22, 1906	Martis, Cal.	[a]171.91 second-feet
Pool Creek	June 22, 1906		[a]219.50 second-feet
Pool Creek	June 23, 1906		207.16 second-feet
Railroad Creek	June 22, 1906	Truckee, Cal.	17.20 second-feet
Railroad Creek	June 23, 1906	Truckee, Cal.	37.74 second-feet
Roberts Creek	June 8, 1906		8.78 second-feet
Roberts Creek	June 27, 1906		11.64 second-feet
Sardine Creek	June 18, 1906		9.54 second-feet
Sardine Creek	June 23, 1906		10.25 second-feet
Simmonds Creek	August 12, 1906		0.33 second-feet
State Line Creek	June 24, 1906		6.59 second-feet
State Line Creek	June 11, 1906		6.50 second-feet
Squaw Creek	June 3, 1889	About half-way from Tahoe	92.0 second-feet
Squaw Creek	June 5, 1889	About half-way from Tahoe	81.4 second-feet
Squaw Creek	June 16, 1889	About half-way from Tahoe	46.0 second-feet
Squaw Creek	June 22, 1889	About half-way from Tahoe	15.0 second-feet
Squaw Creek	September 14, 1889	About half-way from Tahoe	2.8 second-feet
Squaw Creek	June 5, 1900	Near T. River, Placer Co.	81.4 second-feet
Squaw Creek	June 16, 1900	Near T. River, Placer Co.	46.0 second-feet
Squaw Creek	September 4, 1900	Near T. River, Placer Co.	2.76 second-feet
Thomas Creek	July 22, 1903		2.21 second-feet
Ward Creek	May 5, 1900		147.0 second-feet
White's Creek	June 20, 1903		11.64 second-feet
White's Creek	July 22, 1903		5.74 second-feet
Unnamed creek, S. pr. plt.	June 8, 1906		.60 second-feet
Unnamed creek, S. pr. plt.	June 29, 1906		.60 second-feet
Unnamed creek, at Verdi	June 23, 1906		12.57 second-feet
Unnamed creek, Iceland	June 15, 1906		240.77 second-feet
Unnamed creek, Iceland	July 1, 1906		254.70 second-feet

[a] Probably sudden rise in flood season.

Creeks that are tributary to Washoe Lake

Lewers Creek	July 23, 1903		0.5 second-feet
Lewers Creek	May 24, 1906		3.2 second-feet
Lewers Creek	July 1, 1906		4.13 second-feet
Franktown Creek	July 23, 1903		5.1 second-feet
Franktown Creek	August 19, 1903		3.61 second-feet
Ophir Creek	July 22, 1903		12.55 second-feet
Ophir Creek	August 19, 1903		5.19 second-feet
Ophir Creek	May 28, 1906		15.15 second-feet
Washoe Stream	May 30, 1906		48.68 second-feet
Musgrove Creek	July 23, 1903		.5 second-feet
Musgrove Creek	August 19, 1903		.46 second-feet
Musgrove Creek	May 23, 1906		3.1 second-feet
Musgrove Creek	July 1, 1906		5.47 second-feet
Winters Creek	May 28, 1906		4.35 second-feet
McEwen Creek	May 23, 1906		4.31 second-feet

Creeks that are tributary to the outlet from Washoe Lake

Galena Creek	July 22, 1903		13.89 second-feet
Galena Creek	May 31, 1906		2.93 second-feet
Galena Creek	June 29, 1906		26.44 second-feet
Galena Creek	September 29, 1906		7.75 second-feet
Steamboat Creek	July 23, 1903		20.14 second-feet
Steamboat Creek	July 23, 1903		22.2 second-feet
Steamboat Creek	June 4, 1906		42.0 second-feet
Steamboat Creek	July 2, 1906		113.3 second-feet
Browns Creek	July 23, 1903		1.2 second-feet
Browns Creek	August 18, 1903		.41 second-feet
Browns Creek	May 29, 1906		2.25 second-feet
Browns Creek	June 5, 1906		12.67 second-feet
Browns Creek	June 29, 1906		26.82 second-feet

Estimated monthly discharge of the Walker River near Wabuska, Nevada

(Drainage area, 2,420 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1902						
July 22–31	47	9	18	357	0.0074	0.0028
August	9	2	3	184	.0012	.0014
September	1	1	1	59	.0004	.0004
October	9	1	2	123	.0008	.0009
November	105	7	53	3,154	.0219	.0244
December	200	89	148	9,100	.0612	.0706
1903						
January	178	105	137	8,424	0.0566	0.0652
February	200	105	159	8,830	.0657	.0684
March	251	148	190	11,683	.0785	.0905
April	352	121	184	10,949	.0760	.0848
May	664	139	315	19,369	.1302	.1501
June	964	282	727	43,259	.3004	.3351
July	664	3	195	11,990	.0806	.0929
August	3	1	2	123	.0008	.0009
September	1	1	1	59	.0004	.0004
October	1	1	1	61	.0004	.0005
November	73	1	19	1,131	.0079	.0088
December[a]	334	73	114	7,010	.0471	.0543
The year	964	1	170	122,888	0.0704	0.9519
1904						
January	707	108	369	22,690	0.152	0.175
February	732	110	255	14,670	.105	.113
March	395	213	280	17,220	.116	.134
April	403	117	237	14,100	.098	.109
May	1,522	83	629	38,680	.260	.300
June	1,403	1,081	1,240	73,790	.512	.571
July	1,127	495	797	49,010	.329	.379
August	495	214	346	21,280	.143	.165
September	303	40	114	6,783	.047	.052
October	657	285	471	28,960	.195	.225
November	465	268	338	20,110	.140	.156
December	292	205	242	14,880	.100	.115
The year	1,522	40	443	322,200	0.183	2.49

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1905							
May	354	48	149	9,162	0.062	0.071	
June	578	101	295	17,550	.122	.136	
July	111	30	58.3	3,585	.024	.028	
1906							
May	1,630	350	966	59,400	0.399	0.46	C
June	2,800	480	1,760	105,000	.777	.81	C
July	3,270	2,000	2,730	168,000	1.13	1.30	C
August	1,870	250	814	50,100	.336	.39	C
September	220	90	134	7,970	.055	.06	C
1907							
June	2,250	735	1,310	78,000	0.541	0.60	C
July	2,810	1,180	2,030	125,000	.839	.97	C
August	1,220	135	500	30,700	.207	.24	D

[a] December 31, 1903, estimated.

NOTE—No estimates for remaining months of 1906 to 1908 could be made on account of shifting canal conditions, and lack of measurements.

Estimated monthly discharge of the East Fork of the Walker River, near Yerington, Nevada

(Drainage area, 1,103 square miles.)

Month	Discharge in second-feet			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-feet per square mile	Depth in inches
1902						
October 6–31	100	51	84	4,332	0.076	0.073
November	115	100	113	6,724	.102	.114
December	164	115	126	7,747	.114	131
1903						
January	115	100	114	7,010	0.103	0.119
February	147	86	101	5,609	.092	.096
March	393	100	207	12,728	.188	.217
April	181	100	121	7,200	.110	.123
May 1–9–31			70	1,388	.063	.023
June	440	86	259	15,412	.235	.262
July	322	51	162	9,961	.147	.169
August	42	0	20	1,230	.018	.021
September	42	25	39	2,321	.035	.039
October	86	42	69	4,243	.063	.073
November	115	86	104	6,188	.094	.105
December	115	86	102	6,272	.092	.106
The period				79,562		
1904						
January	95	60	68.8	4,230	0.062	0.072
February	407	60	164	9,433	.149	.161
March	268	193	214	13,160	.194	.224
April	193	87	140	8,331	.127	.142
May	492	60	213	13,100	.193	.222
June	696	390	582	34,630	.528	.589
July	696	327	458	28,160	.415	.478
August	645	193	349	21,460	.316	.364
September	390	135	187	11,130	.170	.190
October	343	268	301	18,510	.273	.315
November	297	172	226	13,450	.205	.229
December	172	135	147	9,039	.133	.153
The year	696	60	254	184,600	0.230	3.14
1905						
May	118	15	67.7	3,458	0.052	0.060
June	306	60	167	9,937	.151	.168
July	166	63	107	6,579	.097	.112

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1906							
January	546	54	127	7,810	0.115	0.13	------
February	193	97	124	6,890	.113	.12	------
March	372	144	210	12,900	.191	.22	------
April	308	168	228	13,600	.207	.23	------
May	692	308	458	28,100	.415	.48	------
June	1,050	277	690	41,100	.627	.70	------
July	1,230	845	987	60,700	.897	1.08	------
August	800	308	520	32,000	.473	.55	------
September	274	78	169	10,100	.154	.17	------
October	127	78	95	5,840	.086	.10	------
November	127	56	75.7	4,500	.069	.08	------
December	211	127	184	11,300	.167	.19	------
The year	1,230	54	322	235,000	0.293	4.00	

Estimated monthly discharge of the East Fork of the Walker River near Yerington, Nevada—Continued

Month	Discharge in second-feet			Run-off			Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1907							
January	246	108	168	10,300	0.153	0.18	B
February	540	126	243	13,500	.221	.23	C
March	1,700	146	364	22,400	.331	.38	C
April	495	212	312	18,600	.284	.32	B
May	680	495	569	35,000	.517	.60	B
June	1,030	585	779	46,400	.708	.79	B
July	1,230	880	1,020	62,700	.927	1.07	B
August	830	375	564	34,700	.513	.59	B
September	375	137	240	14,300	.218	.24	B
October	212	117	164	10,100	.149	.17	B
November	240	99	157	9,340	.143	.16	B
December	137	83	105	6,460	.095	.11	C
The year	1,700	83	390	284,000	0.355	4.84	
1908							
January	160	137	152	9,350	0.138	0.16	C
February	185	117	135	7,760	.123	.13	B
March	375	137	258	15,900	.235	.27	B
April	240	99	171	10,200	.155	.17	B
May	99	55	61.4	3,780	.056	.06	C
June	83	55	62	3,690	.056	.06	C
July	185	55	112	6,890	.102	.12	B
The period				57,600			

NOTE: The open-channel rating has been applied throughout the years 1906–1908. Discharge for the winter months may be too large on account of ice.

Estimated monthly discharge of the West Fork of the Walker River near Coleville, Cal.

(Drainage area, 306 square miles.)

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1902						
October 5-31	85	60	67	3,588	0.22	0.22
November	113	67	83	4,939	.27	.30
December	98	60	75	4,612	.25	.29
1903						
January	98	60	69	4,243	.23	.27
February	98	60	79	4,387	.26	.27
March	302	67	105	6,456	.34	.39
April	476	113	246	14,638	.80	.89
May	1,855	340	888	54,601	2.90	3.34
June	2,030	815	1,512	89,970	4.94	5.51
July	1,160	192	402	24,718	1.31	1.51
August	215	85	143	8,793	.47	.54
September	85	67	75	4,463	.25	.28
October	75	67	67	4,120	.22	.25
November	98	67	77	4,582	.25	.28
December	75	67	67	4,120	.22	.25
The year	2,030	60	311	225,091	1.02	13.78

Monthly discharge of West Fork of the Walker River near Coleville, Cal.—Continued

Month	Discharge in second-feet			Run-off		
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches
1904						
January	67	60	62.7	3,855	0.205	0.236
February	467	60	131	7,535	.428	.461
March	311	149	187	11,500	.611	.704
April	655	170	384	22,850	1.25	1.40
May	2,100	220	919	56,510	3.00	3.46
June	1,496	823	1,188	70,690	3.88	4.33
July	1,015	425	785	48,270	2.57	2.96
August	467	194	332	20,410	1.08	1.24
September	347	113	172	10,240	.562	.627
October	511	130	299	18,380	.977	1.13
November	170	113	125	7,438	.408	.455
December	130	67	85.7	5,269	.280	.323
The year	2,100	60	389	282,900	1.27	17.33
1905						
January	92	70	75.3	4,630	0.246	0.284
February	106	80	86.1	4,782	.281	.293
March	157	106	133	8,178	.435	.502
April	644	138	266	15,830	.869	.970
May	952	226	558	34,310	1.82	2.10
June	1,160	483	791	47,070	2.58	2.88
July	534	201	334	20,540	1.09	1.26
August	178	70	107	6,579	.350	.404
September	70	59	64.1	3,814	.209	.233
October	70	56	59.4	3,652	.194	.224
November	178	44	58.1	3,457	.190	.212
December	70	50	61.9	3,806	.202	.233
The year	1,160	44	216	156,600	0.706	9.60

Monthly discharge of West Fork of the Walker River near Coleville, Cal.—Continued

Month	Discharge in second-feet				Run-off		Accuracy
	Maximum	Minimum	Mean	Total in acre-feet	Second-feet per square mile	Depth in inches	
1906							
January	110	50	77.6	4,770	0.254	0.29	
February	87	77	81.6	4,530	.267	.28	
March	145	87	105	6,460	.343	.40	
April	790	110	360	21,400	1.18	1.32	
May	1,650	580	1,140	70,100	3.73	4.30	
June	3,160	645	2,050	122,000	6.70	7.48	
July	3,300	955	2,180	134,000	7.12	8.21	
August	880	250	506	31,100	1.65	1.90	
September	280	110	192	11,400	.627	.70	
October	110	87	98.5	6,060	.322	.37	
November	110	87	95.6	5,690	.312	.35	
December	110	87	94.5	5,810	.309	.36	
The year	3,300	50	582	423,000	1.90	25.96	
1907							
January	116	85	95.7	5,880	0.313	0.36	B
February	170	100	132	7,330	.431	.45	B
March	1,590	116	380	23,400	1.24	1.43	B
April	790	210	523	31,100	1.71	1.91	B
May	2,240	660	1,150	70,700	3.76	4.34	B
June	3,720	515	1,960	117,000	6.41	7.15	B
July	4,170	1,350	2,480	152,000	8.11	9.35	B
August	1,240	365	685	42,100	2.24	2.48	B
September	330	170	269	16,000	.879	.98	B
October	190	151	165	10,100	.539	.62	A
November	170	100	140	8,330	.458	.51	A
December	133	100	119	7,320	.389	.45	B
The year	4,470	85	675	491,000	2.21	30.13	
1908							
January	133	100	116	7,130	0.379	0.44	B
February	151	85	102	5,870	.333	.36	B
March	265	85	165	10,100	.539	.62	A
April	720	151	336	20,000	1.10	1.23	B
May	880	365	548	33,700	1.79	2.06	B
June	1,050	490	693	41,200	2.26	2.52	B
July	660	330	460	28,300	1.50	1.73	B
The period				146,300			

NOTE—The open-channel rating table was applied throughout the year 1906; values for winter months are liable to error on account of ice.

Various Creeks in the Walker River Basin

(Measurements of flow.)

Name of creek	Date of measurement	Place of measurement	Discharge
Buckeye Creek	July 15, 1902		87.40 second-feet
Buckeye Creek	August 21, 1902		43.20 second-feet
Buckeye Creek	October 1, 1902		20.00 second-feet
Buckeye Creek	April 28, 1903		60.01 second-feet
Buckeye Creek	May 29, 1903		142.70 second-feet
Buckeye Creek	July 8, 1903		119.61 second-feet
Buckeye Creek	August 4, 1903		49.02 second-feet
Desert Creek	May 6, 1903		15.10 second-feet
Desert Creek	June 23, 1903		7.64 second-feet
Desert Creek	July 27, 1903		12.60 second-feet
Dogtown Creek	July 16, 1903		7.10 second-feet
Dogtown Creek	October 7, 1902		13.32 second-feet
Dogtown Creek	April 29, 1903		19.28 second-feet
Dogtown Creek	May 30, 1903		14.94 second-feet
Dogtown Creek	July 7, 1903		25.15 second-feet
Dogtown Creek	August 3, 1903		2.80 second-feet
Fryingpan Creek	May 27, 1903		83.00 second-feet
Green Creek	July 14, 1902		7.10 second-feet
Green Creek	October 7, 1902		28.28 second-feet
Green Creek	April 29, 1903		78.05 second-feet
Green Creek	May 30, 1903		95.06 second-feet
Green Creek	June 3, 1903	Bridgeport, Cal.	62.96 second-feet
Green Creek	July 7, 1903		28.77 second-feet
Green Creek	August 3, 1903		23.12 second-feet
Lost Canyon	May 1, 1903		16.29 second-feet
Lost Canyon	May 2, 1903	Below saw mill	22.94 second-feet
Lost Canyon	June 9, 1903	Below Little Antelope D't's.	2.55 second-feet
Lost Canyon	July 14, 1903	Below Little Antelope D't's.	4.20 second-feet
Somers Creek	October 7, 1902		8.74 second-feet
Somers Creek	April 29, 1903		11.22 second-feet
Somers Creek	May 30, 1903		9.21 second-feet
Somers Creek	July 7, 1903		0.92 second-feet
Somers Creek	August 3, 1903	Lower end meadow	39.00 second-feet
Little Walker	October 17, 1896	Hardy's	101.60 second-feet
Little Walker	July 24, 1902	Blackburn's Junction	44.44 second-feet
Little Walker	August 7, 1903		14.00 second-feet
Walker River	September 11, 1902	Nordyke	44.63 second-feet
Walker River	July 22, 1903	Lower Mason Valley Brdg.	68.14 second-feet
Walker River	July 24, 1903	Below Forks	15.03 second-feet
Walker River	August 9, 1903	Below Forks	5.70 second-feet
Swauger Creek	October 5, 1902	Brdg. below Hutoon Ranch	21.26 second-feet
Swauger Creek	April 30, 1903	Worthley Cabin	17.33 second-feet
Swauger Creek	June 7, 1903	Worthley Cabin	5.55 second-feet
Swauger Creek	July 13, 1903	Worthley Cabin	2.57 second-feet
Swauger Creek	August 6, 1903	Worthley Cabin	.65 second-feet
Sweetwater Creek	August 28, 1902	Toll-road	.27 second-feet
Sweetwater Creek	May 27, 1903	Below ditches	11.41 second-feet
Sweetwater Creek	July 2, 1903	Entire creek	5.44 second-feet
Sweetwater Creek	July 2, 1903	Above Roach Ranch	8.19 second-feet
Sweetwater Creek	July 3, 1903	Above Conway ditches	10.19 second-feet
Sweetwater Creek	July 3, 1903	Above Compton ditches	1.31 second-feet
Sweetwater Creek	July 3, 1903	Below all ditches	196.00 second-feet
East Walker River	July 23, 1902	Below Bridgeport, 10 miles	106.00 second-feet
East Walker River	July 23, 1902	Stroenider Ranch	42.00 second-feet
East Walker River	September 6, 1902	5 miles below Bridgeport	80.00 second-feet
East Walker River	August 27, 1902	Webster Ranch	66.00 second-feet
East Walker River	August 31, 1902	Webster Ranch	58.00 second-feet
East Walker River	October 6, 1902	5 miles below Bridgeport	294.38 second-feet
East Walker River	July 9, 1903	Lower end Big Meadows	179.08 second-feet
East Walker River	June 5, 1903	Lower end Big Meadows	55.74 second-feet
East Walker River	August 5, 1903	Lower end Big Meadows	170.60 second-feet
Robinson Creek	July 15, 1902	Below T. Lakes	119.80 second-feet
Robinson Creek	July 26, 1902	Below T. Lakes	75.70 second-feet
Robinson Creek	August 21, 1902	Below T. Lakes	24.00 second-feet
Robinson Creek	October 6, 1902	Below T. Lakes	60.38 second-feet
Robinson Creek	May 28, 1903	Above T. Lakes	164.48 second-feet
Robinson Creek	June 6, 1903	Above T. Lakes	95.96 second-feet
Robinson Creek	July 6, 1903	Above T. Lakes	127.55 second-feet
Robinson Creek	July 11, 1903	Below T. Lakes	60.09 second-feet
Robinson Creek	August 2, 1903	Below T. Lakes	53.31 second-feet
Robinson Creek	August 4, 1903	Below T. Lakes	

Creeks that flow into Lake Tahoe, in California and Nevada

(Miscellaneous measurements of flow.)

Name of creek	Date of measurement	Place of measurement	Discharge
Blackwood Creek	May 6, 1900		140.00 second-feet
Blackwood Creek	August 19, 1901		3.91 second-feet
Blackwood Creek	September 8, 1901		2.99 second-feet
Blackwood Creek	August 1, 1903		7.30 second-feet
Cascade Creek	May 8, 1900		30.00 second-feet
Cascade Creek	August 22, 1901		2.37 second-feet
Cascade Creek	September 9, 1901		.80 second-feet
Cascade Creek	August 2, 1903		4.35 second-feet
Emerald Bay Creek	May 8, 1900		60.00 second-feet
Emerald Bay Creek	August 22, 1901		5.76 second-feet
Emerald Bay Creek	September 9, 1901		1.24 second-feet
Emerald Bay Creek	August 2, 1903		8.37 second-feet
Five small streams, unnamed, between Meiggs Creek and Emerald Bay	May 7–8, 1900		12.00 second-feet
Frosts Creek	August 2, 1903		2.27 second-feet
General Creek	May 7, 1900		100.00 second-feet
General Creek	August 21, 1901		1.50 second-feet
General Creek	September 8, 1901		1.08 second-feet
General Creek	August 1, 1903		1.23 second-feet
Glenbrook Creek	August 24, 1901		.38 second-feet
Glenbrook Creek	September 10, 1901		.40 second-feet
Hot Springs Creek	August 26, 1901		1.90 second-feet
Hot Springs Creek	September 11, 1901		1.26 second-feet
Incline Creek	August 4, 1903		1.28 second-feet
Lonely Gulch Creek	August 1, 1903		.99 second-feet
Madden Creek	August 1, 1903		.30 second-feet
McKinney's Creek	May 6, 1900		105.00 second-feet
McKinney's Creek	August 20, 1901		.86 second-feet
McKinney's Creek	September 8, 1901		.65 second-feet
McKinney's Creek	August 1, 1903		.37 second-feet
Meiggs Creek	May 7, 1900		130.00 second-feet
Meiggs Creek	August 21, 1901		1.29 second-feet
Meiggs Creek	September 8, 1901		.04 second-feet
Meiggs Creek	August 1, 1901		2.68 second-feet
Rubicon Creek	August 22, 1901		2.23 second-feet
Rubicon Creek	September 8, 1901		1.90 second-feet
Spooner Creek	September 10, 1901		.91 second-feet
Taylor Creek	May 8, 1900		160.00 second-feet
Taylor Creek	August 22, 1901		8.64 second-feet
Taylor Creek	September 9, 1901		3.33 second-feet
Ten small creeks between Bijou and Glenbrook, Nevada	May 10, 1900		15.00 second-feet
Three streams, unnamed, between Idlewild and McKinneys	May 6, 1900		12.00 second-feet
Trout Creek	August 22, 1901		32.00 second-feet
Trout Creek	September 9, 1901		23.37 second-feet
Trout Creek	August 2, 1903		29.38 second-feet

Unnamed creeks

West of Incline	August 4, 1903		1.85 second-feet
West of Incline	August 4, 1903		.92 second-feet
West of Incline	August 4, 1903		1.03 second-feet
West of Incline	August 4, 1903		1.00 second-feet
At Brockway	August 5, 1903		.79 second-feet
At Woodwharf	August 5, 1903		.02 second-feet
	August 3, 1903		.97 second-feet
South of Cave Rock	August 3, 1903		.07 second-feet
North of Glenbrook	August 3, 1903		1.14 second-feet
At Glenbrook	August 4, 1903		.57 second-feet
At Glenbrook	August 4, 1903		.01 second-feet
At Glenbrook	August 4, 1903		1.22 second-feet
At Breakwater	August 4, 1903		.46 second-feet
South of Incline	August 4, 1903		.51 second-feet
Upper Truckee River	May 9, 1900		350.00 second-feet
Upper Truckee River	August 22, 1901		47.12 second-feet
Upper Truckee River	September 9, 1901		35.14 second-feet
Upper Truckee River	August 2, 1903		42.77 second-feet

Monthly discharge of creeks that flow into Lake Tahoe, in California and Nevada—Continued

(Miscellaneous measurements of flow.)

Name of creek	Date of measurement	Place of measurement	Discharge
Ward Ck., Sunnyside, Cal.	May 5, 1900		1.47 second-feet
Ward Ck., Sunnyside, Cal.	August 19, 1901		3.20 second-feet
Ward Ck., Sunnyside, Cal.	September 8, 1901		1.72 second-feet
Ward Ck., Sunnyside, Cal.	August 1, 1903		5.77 second-feet
Zephyr Cove	August 3, 1903		.01 second-feet
Unnamed creek, No. 1	August 1, 1903		.02 second-feet
Unnamed creek, No. 2	August 21, 1901		.85 second-feet
Unnamed creek, No. 2	September 8, 1901		.42 second-feet
Unnamed creek, No. 3	August 22, 1901		.50 second-feet
Unnamed creek, No. 3	September 9, 1901		.40 second-feet

INVESTIGATIONS OF DUTY OF WATER, SEASON OF 1908

The following investigations were made by the Experiment Station of the University of Nevada under the direction of the United States Department of Agriculture. (Ditches take out of the Truckee River and serve land in the Truckee Meadows):

Under Steamboat Canal

	April	May	June	July	August	Sept.	Total
Area irrigated, acres	4,759	4,759	4,759	4,759	4,759	4,759	4,759
Water used, acre-feet	639.48	3,830.44	3,950.16	4,086.86	4,163.30	2,014.50	18,738.74
Depth of water used in irrigation, feet	0.14	0.81	0.83	0.86	0.87	0.42	3.93
Rainfall, feet	.01	.07	.02	.15	.02	.02	.29
Total	0.15	0.88	0.85	1.01	0.89	0.44	4.22

Under the English Mill Ditch

Area irrigated, acres	455.5	455.5	455.5	455.5	455.5	455.5	455.5
Water used, acre-feet	191.29	742.05	1,030.74	864.27	986.31	963.42	4,178.08
Depth of water used in irrigation, feet	0.42	1.62	2.26	1.89	2.12	0.79	9.10
Rainfall, feet	.01	.07	.02	.15	.02	.02	.29
Total	0.43	1.69	2.28	2.04	2.14	0.81	9.30

Under Last Chance Canal

Area irrigated, acres	2,146	2,146	2,146	2,146	2,146	2,146	2,146
Water used, acre-feet	333.12	1,863.31	1,942.38	2,278.81	2,625.55	1,236.75	10,279.92
Depth of water used in irrigation, feet	0.16	0.87	0.91	1.06	1.22	0.58	4.80
Rainfall, feet	.01	.07	.02	.15	.02	.02	.29
Total	0.17	0.94	0.93	1.21	1.24	0.60	5.09

Under Orr Ditch

Area irrigated, acres	3,007	3,007	3,007	3,007	3,007	3,007	3,007
Water used, acre-feet	1,228.63	3,626.09	3,906.41	4,554.99	4,213.87	2,304.67	19,833.66
Depth of water used in irrigation, feet	0.41	1.21	1.29	1.51	1.40	0.76	6.58
Rainfall, feet	.01	.07	.02	.15	.02	.02	.29
Total	0.42	1.28	1.31	1.66	1.42	0.78	6.87

Under Truckee Meadow Ditch

	April	May	June	July	August	Sept.	Total
Area irrigated, acres	1,866	1,866	1,866	1,866	1,866	1,866	1,866
Water used, acre-feet	399.82	1,949.05	1,628.30	2,183.88	1,821.68	908.69	8,891.42
Depth of water used in irrigation, feet	0.21	1.04	0.87	1.17	0.97	0.48	4.74
Rainfall, feet	.01	.07	.02	.15	.02	.02	.29
Total	0.22	1.11	0.89	1.32	0.99	0.50	5.03

Discharge of Salmon Falls River near San Jacinto, Nevada, 1910

(Measurements by the Water Resources Branch of the U. S. Geological Survey. Subject to revision.)

Day	Discharge in second-feet											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov	Dec.
1	(a)	(a)	993	518	667	275	62	30	28	50	66	73
2			1648	466	686	266	60	29	29	53	66	73
3			1441	466	667	257	54	27	27	53	67	74
4			909	500	629	248	53	26	27	53	67	76
5			518	536	629	240	54	26	27	54	66	76
6			340	536	648	232	53	25	28	54	66	74
7			286	518	591	220	50	25	28	54	66	74
8			236	500	536	208	48	25	29	55	67	73
9			224	500	500	199	46	25	30	54	67	76
10			224	500	449	188	44	25	30	53	70	84
11			236	536	432	169	42	25	34	53	70	89
12			236	572	432	156	42	25	37	53	71	88
13			236	648	466	146	40	25	37	53	71	86
14			261	686	466	132	41	24	37	54	71	83
15			311	746	500	123	42	24	40	55	71	76
16			340	766	500	113	42	24	43	59	70	64
17			370	746	536	116	42	23	51	59	70	69
18			385	686	536	116	43	23	48	59	73	77
19			432	629	483	110	42	22	46	59	74	75
20			466	648	432	104	42	22	42	58	74	73
21			572	629	400	98	43	23	40	58	74	71
22			766	572	370	92	44	22	43	58	74	70
23			1102	591	355	86	40	22	44	66	76	69
24			1491	510	326	80	35	22	44	66	78	68
25			1464	572	311	77	32	23	48	66	78	67
26			1349	554	311	76	30	24	48	66	66	66
27			1168	554	311	73	30	25	48	64	63	65
28			951	572	311	69	30	25	49	64	74	64
29			806	610	302	66	30	25	49	64	73	63
30			686	648	293	63	29	26	46	64	73	66
31			572		284		28	27		66		60
Total	1240	1680	20969	17615	14359	4398	1313	764	1160	1797	2112	2262
Maximum			1648	766	686	277	62	30	49	66	78	89
Minimum			224	466	284	63	28	22	27	50	63	60
Mean	40	60	676	587	463	147	42.4	24.6	38.7	58	70.4	73
Run-off in acre-feet	2460	3330	41600	34900	28500	8750	2610	1510	2300	3570	4190	4490

Total discharge in second-feet, 69,669. Total run-off in acre-feet, 138,210. Record for January 1 to May 31 obtained at station ¾ mile above Salmon Dam.

[a] Ice conditions. The mean flow, run-off in acre-feet and total discharge in second-feet are estimated.

Flow of springs in Clark County

Name of spring	Date of measurement	Discharge
Cold Creek Spring	April 24, 1912	2.54 c. f. s.
Willow Spring	April 24, 1912	Flow over weir (1.2) 2.54 c. f. s.

Flow of spring in Esmeralda County

Mammoth Spring	April 26, 1912	100,000 gals. per day

Flow of creek and spring in Elko County

Name	Date of measurement	Discharge
Jerry Spring[a]	July 5, 1910	0.58 c. f. s.
	July 15, 1910	.557 c. f. s.
Jerry Spring[b]	July 11, 1910	.2055 c. f. s.
	July 12, 1910	.2055 c. f. s.
	July 13, 1910	.2055 c. f. s.
	July 14, 1910	.2155 c. f. s.
	July 15, 1910	.2155 c. f. s.
	July 16, 1910	.2155 c. f. s.
Warm Creek[c]	August 19, 1911	.590 c. f. s.
	September 18, 1912	.582 c. f. s.
	September 19, 1912	.582 c. f. s.
	September 20, 1912	.582 c. f. s.

See P.B.U. 2034 Sub 4 & 5

[a] Measurements of flow taken at the spring.
[b] Measurements of flow at point of use, after being conveyed 2½ miles through a ditch.
[c] Measurements of flow through a Cippoletti weir, width 6 feet.

Flow of creeks and springs in Eureka County

Name	Date of measurement	Place of measurement	Discharge
Simpson Creek	October 25, 1912	Near head of creek	0.25 second-feet
Fish Creek	October 7, 1912	At source	5.32 second-feet
Willow Creek	November 1, 1912	At Carletti's house	0.2 second-feet
Taft Springs	October 14, 1912	At source	1.54 second-feet

Various creeks in Humboldt County—Discharge measurements of Quinn River and tributaries

Discharge of Quinn River below McDermott Creek

Date	Second-feet	Date	Second-feet	Date	Second-feet
March 6, 1911	157.35	April 2, 1911	733.69	May 2, 1911	325.49
March 12, 1911	233.78	April 6, 1911	512.00	May 6, 1911	368.69
March 19, 1911	173.28	April 11, 1911	313.21	May 12, 1911	226.43
March 22, 1911	403.10	April 16, 1911	218.64	May 19, 1911	185.77
March 27, 1911	547.39	April 20, 1911	180.15	May 26, 1911	192.18
March 29, 1911	425.19	April 24, 1911	190.47		
March 31, 1911	578.72				

Summary

Acre-feet for March	22,124.30
Acre-feet for April	21,797.94
Acre-feet for May	15,968.35
Total acre-feet	59,890.59

Results of measurements of water flow of streams on Quinn River Valley

March 23, 1911—Quinn River above Home Ranch (approximate)	800.0 second-feet
March 31, 1911—Crowley Creek	51.0 second-feet
April 3, 1911—Buffalo Creek	19.0 second-feet
April 5, 1911—Fall Creek	10.0 second-feet
April 4, 1911—Horse Creek	21.0 second-feet
April 6, 1911—McConnell Creek	19.8 second-feet
April 8, 1911—Rebel Creek	27.0 second-feet
April 8, 1911—Willow Creek	35.8 second-feet
April 9, 1911—East Fork Quinn River	120.0 second-feet
April 12, 1911—McDermitt Creek	130.0 second-feet

Measurements of Horse Creek, Nevada—Weir

Date	Width	Depth	Second-feet	Averages
March 21, 1911	8 feet	5½ inches	7.7	
March 10, 1911	8 feet	⅞ inches	.6	
March 14, 1911	8 feet	2 inches	1.7	
March 16, 1911	8 feet	3 inches	3.3	
March 19, 1911	8 feet	4 inches	5.0	
March 23, 1911	8 feet	9 inches	17.1	
March 26, 1911	8 feet	6½ inches	10.5	
March 31, 1911	8 feet	8 inches	14.4	
April 1, 1911	8 feet	9½ inches	18.4	
April 8, 1911	8 feet	6½ inches	10.5	
April 11, 1911	8 feet	7½ inches	13.0	
April 14, 1911	8 feet	5½ inches	8.0	
April 19, 1911	8 feet	6½ inches	10.5	
April 22, 1911	8 feet	7 inches	11.7	
April 26, 1911	8 feet	11 inches	23.1	
April 29, 1911	8 feet	11 inches	23.1	22.3
May 2, 1911	8 feet	11½ inches	24.2	
May 5, 1911	8 feet	13¼ inches	26.5	
May 9, 1911	8 feet	11 inches	23.1	
May 15, 1911	8 feet	9½ inches	18.4	
May 20, 1911	8 feet	9½ inches	18.4	
May 23, 1911	8 feet	11 inches	23.1	
June 12, 1911	8 feet	10 inches	19.8	
Total second-feet			335.6	14.49

Measurements of Willow Creek—Weir

February 19, 1911	7½ feet	3 inches	3.1	
March 9, 1911	7 feet	3⅛ inches	3.3	
March 14, 1911	8 feet	4 inches	5	
March 20, 1911	8 feet	7½ inches	10.2	
March 22, 1911	8 feet	8½ inches	15.4	
March 25, 1911	8 feet	8¼ inches	16.4	
March 29, 1911	8 feet	6⅝ inches	10.2	
March 31, 1911	8 feet	9 inches	17.1	
April 6, 1911	8 feet	8 inches	14.4	
April 10, 1911	8 feet	7½ inches	13.0	
April 11, 1911	8 feet	6 inches	9.3	
April 19, 1911	8 feet	5½ inches	7.7	
April 3, 1911	8 feet	9½ inches	18.4	25.9
April 21, 1911	8 feet	6 inches	9.3	
April 25, 1911	8 feet	8 inches	14.4	
April 30, 1911	8 feet	12 inches	26.1	
May 2, 1911	8 feet	9½ inches	18.4	
May 11, 1911	8 feet	10 inches	19.8	
May 14, 1911	8 feet	15 inches	36.3	
May 21, 1911	8 feet	13 inches	29.3	15.0
Total second-feet			300.1	

Measurements of Rebel Creek, Nevada, below Quinn River—Weir

February 17, 1911	7 feet	2¼ inches	1.9	
March 9, 1911	7 feet	2¾ inches	2.5	
March 14, 1911	7 feet	3 inches	2.9	
March 22, 1911	7 feet	6 inches	8.2	
March 24, 1911	7 feet	6 inches	8.2	
March 29, 1911	7 feet	5¾ inches	7.7	
March 31, 1911	7 feet	6¾ inches	9.7	
April 7, 1911	7 feet	5½ inches	7.0	
April 11, 1911	7 feet	5½ inches	7.0	
April 10, 1911	7 feet	4 inches	4.4	
April 3, 1911	7 feet	6½ inches	9.2	
April 19, 1911	7 feet	4¼ inches	4.8	16.7
April 23, 1911	7 feet	4¾ inches	5.8	
April 25, 1911	7 feet	6¼ inches	8.7	
April 29, 1911	7 feet	6¼ inches	9.7	
May 2, 1911	7 feet	6½ inches	9.2	
May 11, 1911	7 feet	7¾ inches	12.0	
May 13, 1911	7 feet	8 inches	12.6	
May 17, 1911	7 feet	7¾ inches	12.0	
May 24, 1911	7 feet	10 inches	17.4	
May 30, 1911	7 feet	10½ inches	18.9	
June 7, 1911	7 feet	16 inches	34.8	9.71
Total second-feet			213.6	

Measurements of Buffalo Creek

Date	Place	Width	Depth	Second-feet	Averages
March 4, 1911		8 feet	1¼ inches	8.0	
March 10, 1911		8 feet	2⅛ inches	1.9	
March 14, 1911	Canyon	8 feet	2¾ inches	2.9	
March 14, 1911	Field	7½ feet	1½ inches	1.1	
March 19, 1911	Canyon	8 feet	4½ inches	6.1	
March 19, 1911	Field	7½ feet	2¾ inches	2.7	
March 20, 1911	Canyon	8 feet	4⅛ inches	6.1	
March 20, 1911	Field	7½ feet	3 inches	3.1	
March 23, 1911	Canyon	8 feet	9½ inches	18.4	
March 25, 1911	Canyon	8 feet	6 inches	9.8	
March 25, 1911	Field	7½ feet	5 inches	6.8	
March 31, 1911	Canyon	8 feet	8½ inches	15.4	
March 31, 1911	Field	7½ feet	6 inches	8.8	
April 1, 1911	Canyon	8 feet	8¾ inches	16.4	
April 1, 1911	Field	7.5 feet	6½ inches	9.4	
April 8, 1911	Canyon	8 feet	4½ inches	6.1	
April 8, 1911	Field	7½ feet	3½ inches	4.0	
April 11, 1911	Canyon	8 feet	5 inches	7.2	
April 11, 1911	Field	7½ feet	4 inches	4.7	
April 14, 1911	Canyon	8 feet	3½ inches	4.1	
April 14, 1911	Field	7½ feet	2½ inches	2.2	
April 19, 1911	Canyon	8 feet	4 inches	5.0	
April 19, 1911	Field	7½ feet	3 inches	3.1	13.2
April 22, 1911	Canyon	8 feet	4½ inches	6.1	
April 22, 1911	Field	7½ feet	3½ inches	4.0	
April 26, 1911	Canyon	8 feet	7½ inches	13.0	
April 26, 1911	Field	7½ feet	6 inches	8.8	
April 29, 1911	Canyon	8 feet	7½ inches	12.0	
April 29, 1911	Field	7½ feet	6½ inches	9.8	
May 2, 1911	Canyon	8 feet	7½ inches	15.0	
May 2, 1911	Field	7½ feet	6 inches	8.8	
May 5, 1911	Canyon	8 feet	8½ inches	15.4	
May 5, 1911	Field	7½ feet	7½ inches	12.3	
May 9, 1911	Canyon	8 feet	7½ inches	13.0	
May 9, 1911	Field	7½ feet	6½ inches	9.8	
May 12, 1911	Canyon	8 feet	6½ inches	10.5	
May 12, 1911	Field	7½ feet	6 inches	8.8	
May 15, 1911	Canyon	8 feet	6 inches	9.3	
May 15, 1911	Field	7½ feet	5 inches	6.8	
May 20, 1911	Canyon	8 feet	6½ inches	10.5	
May 20, 1911	Field	7½ feet	5 inches	6.8	
May 23, 1911	Canyon	8 feet	9 inches	17.1	
May 23, 1911	Field	8 feet	8¼ inches	15.1	
Second-feet				357.9	83.32

Summary

Rebel Creek, February 17, 1911 to June 7, 1911, average ..... 9.71 second-feet
Willow Creek, February 19, 1911 to May 21, 1911, average ..... 15.00 second-feet
Buffalo Creek, March 4, 1911 to May 23, 1911, average ..... 8.32 second-feet
Horse Creek, March 10, 1911 to May 23, 1911, average ..... 14.59 second-feet

Various creeks in Humboldt County, Nevada, 1911—Continued
(Run-off in May for direct irrigation for various creeks)

Stream	Average flow	Requirements	Deficit
Quinn River	259.71		
Buffalo Creek	13.20		
Rebel Creek	16.70		
Willow Creek	25.90		
Horse Creek	22.30		
Totals	337.81	373.09	35.28

Various creeks, 1911

Stream	Acre-feet	Date
Quinn River	15,968	May 1st to 26th, inclusive
Buffalo Creek	598	May 1st to 23d, inclusive
Horse Creek	1,892	May 1st to June 12th, inclusive
Rebel Creek	1,254	May 1st to June 12th, inclusive
Willow Creek	1,144	May 1st to 23d, inclusive
Total	20,856	
Little Humboldt (Cathcart Lane)	1.42 sec.-ft.	August 3, 1903

Various Creeks in Nye County, Nevada

(Miscellaneous discharge measurements.)

Name of creek	Date of measurement	Place of measurement	Discharge
Cherry Creek	May 20 (a. m.), 1912	200 ft. above Cutler's upper dam	12.30 second-feet
Cherry Creek	May 20 (p. m.), 1912		10.93 second-feet
Cherry Creek	May 27, 1912		9.72 second-feet
Cherry Creek	June 3, 1912		9.60 second-feet
Cherry Creek	June 25, 1912		7.59 second-feet
Cherry Creek	June 29, 1912		6.72 second-feet
Cherry Creek	July 8, 1912		6.94 second-feet
Pine Creek	June 11, 1912	200 feet above takeout of Welch's ditch No. 5	8.31 second-feet
Pine Creek	June 19, 1812		6.24 second-feet
Pine Creek	June 21, 1912		4.21 second-feet
Pine Creek	July 5, 1912		1.96 second-feet
Cottonwood Creek	June 22, 1912	200 feet above takeout of Indian Bob's ditch	3.17 second-feet
Cottonwood Creek	June 22, 1912	400 ft. below Indian Bob's ranch	2.46 second-feet
Jet Canyon Creek	August 13, 1906		1.40 second-feet
Jet Canyon Creek	October 12, 1906		1.00 second-feet
Jet Canyon Creek	October 13, 1906		1.06 second-feet
Jet Canyon Creek	October 14, 1906		1.00 second-feet
Jet Canyon Creek	October 15, 1906		1.06 second-feet
Jet Canyon Creek	October 16, 1906		1.06 second-feet
Jet Canyon Creek	November 1, 1906		1.00 second-feet
Jet Canyon Creek	November 3, 1906		0.95 second-feet
Jet Canyon Creek	November 5, 1906		1.00 second-feet
Jet Canyon Creek	November 25, 1906		1.00 second-feet
Jet Canyon Creek	November 29, 1906		1.06 second-feet
Jet Canyon Creek	December 4, 1906		.95 second-feet
Jet Canyon Creek	January 5, 1906		1.12 second-feet
Twin River, south fork	August 13		3.80 second-feet
Twin River, north fork	August 13		3.60 second-feet
Duckwater Creek	April 6, 1912	Weir No. 2, Stone Mill without overflow Warm Spr.	8.75 second-feet
Duckwater Creek	April 7, 1912	Weir No. 2, Stone Mill, with overflow of Warm Spr	10.37 second-feet
Duckwater Creek	April 8, 1912	With overflow of Big Warm Spring	18.36 second-feet
Duckwater Creek	April 9, 1912	With overflow of Big Warm Spring	18.25 second-feet
Duckwater Creek	April 6, 1912	Between Warm Spring and Works	16.51 second-feet
Duckwater Creek	April 7, 1912	At Mendes Weir No. 3	16.10 second-feet
Duckwater Creek	April 8, 1912	At Mendes Weir No. 3	16.10 second-feet

Various creeks and springs in White Pine County

(Miscellaneous measurements of flow.)

Creek or spring	Date of measurement	Place of measurement	Discharge
Arnoldson Spring	October 27, 1910	At Arnoldson's house	3.14 second-feet
Nicholas Spring	October 27, 1910	About 300 feet below spring	2.28 second-feet
Preston Big Spring	October 27, 1910	In diversion box at spring	6.21 second-feet
Lund Spring	October 27, 1910	In flume above Whitehead's	5.36 second-feet
Bird Creek	September 24, 1906	3 miles above Duck Creek	7.88 second-feet
	September 25, 1906	3 miles above Duck Creek	7.63 second-feet
	September 26, 1906	3 miles above Duck Creek	7.76 second-feet
Berry Creek	September 18, 1906	At sawmill	4.28 second-feet
	September 22, 1906	At sawmill	4.28 second-feet
	September 26, 1906	At sawmill	4.20 second-feet
Cold Creek	October 15, 1912	At source	2.16 second-feet
Duck Creek	September 15, 1906	Below Berry's	12.41 second-feet
	September 18, 1906	Below Berry's	12.12 second-feet
	September 22, 1906	Below Berry's	8.90 second-feet
	September 26, 1906	Below Berry's	9.45 second-feet
	September 22, 1906	5 miles below Berry's	2.58 second-feet
Millick Springs	September 22, 1906	5 miles below Berry's	2.69 second-feet
Larger spring	September 6, 1912	1,000 feet below spring	0.90 second-feet
Smaller spring	September 6, 1912	At spring	0.60 second-feet
Lake Creek	September 11, 1912	Above first diversion	21.60 second-feet
North Creek	September 10, 1906	Near road	2.39 second-feet
	September 25, 1906	Near road	1.84 second-feet
	September 27, 1906	Near road	1.84 second-feet
Snake Creek	September 17, 1911	At box 3 m west of Garrison	7.20 second-feet
	September 10, 1912	At box 3 m west of Garrison	4.00 second-feet
Timber Creek	September 23, 1906	3 miles from Duck Creek	2.15 second-feet
	September 26, 1906	3 miles from Duck Creek	1.79 second-feet
Warm Creek	October 19, 1912	At source	2.16 second-feet
Willow Creek	April 12, 1906		0.97 second-feet

Creeks and springs in White Pine County—Continued

Steptoe Creek

Date	Discharge	Date	Discharge	Date	Discharge
April 4, 1906	7.57 second-feet	May 2, 1906	14.36 second-feet	June 3, 1906	17.65 sec.-ft.
April 5, 1906	6.95 second-feet	May 4, 1906	14.65 second-feet	June 4, 1906	17.65 sec.-ft.
April 7, 1906	8.77 second-feet	May 6, 1906	19.90 second-feet	June 4, 1906	18.51 sec.-ft.
April 9, 1906	8.43 second-feet	May 10, 1906	22.05 second-feet	June 5, 1906	17.99 sec.-ft.
April 10, 1906	9.21 second-feet	May 12, 1906	24.46 second-feet	June 6, 1906	18.85 sec.-ft.
April 11, 1906	9.67 second-feet	May 21, 1906	25.97 second-feet	June 6, 1906	18.51 sec.-ft.
April 12, 1906	8.77 second-feet	May 24, 1906	19.90 second-feet	June 7, 1906	18.51 sec.-ft.
April 13, 1906	8.77 second-feet			June 8, 1906	18.51 sec.-ft.
April 14, 1906	9.21 second-feet			June 9, 1906	18.51 sec.-ft.
April 15, 1906	10.13 second-feet			June 11, 1906	19.90 sec.-ft.
April 16, 1906	10.71 second-feet			June 11, 1906	19.20 sec.-ft.
April 17, 1906	11.43 second-feet			June 12, 1906	20.61 sec.-ft.
April 17, 1906	11.91 second-feet			June 12, 1906	20.26 sec.-ft.
April 19, 1906	12.65 second-feet			June 13, 1906	20.20 sec.-ft.
April 22, 1906	16.98 second-feet				
April 23, 1906	17.31 second-feet				
April 24, 1906	17.99 second-feet				
April 26, 1906	16.64 second-feet				
April 28, 1906	15.00 second-feet				
April 30, 1906	14.68 second-feet				

LAS VEGAS UNDERGROUND WATER SOURCES

The prominence of the artesian belt in the Las Vegas Valley caused the State Engineer to attempt to determine the general limits in which one might expect to find water by additional borings.

The large number of wells already demonstrated on the surface, and unsuccessful borings, served as a basis for the preparation of a map from which might be determined the direction of the underground flow, if such existed, and the probable limits of the belt.

A general reconnaissance of the valley was made by the State Engineer in 1912, for the purpose of obtaining an idea of the general topography of the country and geological conditions.

Before a map could be compiled it was necessary to obtain data from each of the owners of existing wells. Mr. J. T. McWilliams tendered his services to the State and obtained from the majority of well-owners the required data. These data arrived too late, however, to permit of the preparation of the contemplated map and deductions. We have decided to print the list of wells and the flow and location of each, which will no doubt be of much interest.

Data on wells in the artesian belt in Las Vegas Valley, Clark County, Nevada

Name of owner	No. of well	Location: Subdivision	Sec.	Tp. S	Range E.	Depth in feet	Flow—Depth over casing
A. D. Bishop, et al.	1	NW¼ SW¼	30	22	63	300	None. Can hear water at bottom of pipe
Al. James	1	SW¼ SE¼	12	22	62	400	Drips from top of pipe
A. McVeigh Miller	1	SW¼ NW¼	12	22	62	825	¼ in. Water very salty
James Heaton	1	NE¼ NW¼	6	22	62	400	
B. R. Jefferson	1	SW¼ NE¼	1	22	62	504	
	2	NE¼ SW¼	1	22	62	235	½ inch
Roy C. Thomas	1	SE¼ NW¼	15	22	61	318	Water stands at surface
	2	SE¼ NW¼	15	22	61	45	None
Clark Ronnow Ranch	1	NE¼ NW¼	11	22	61	244	
	2	NE¼ NW¼	11	22	61	206	⅛ inch
	3	SE¼ NW¼	11	22	61	204	⅛ inch
	4	SE¼ NW¼	11	22	61	250	¼ inch
	5	SE¼ NW¼	11	22	61	208	5 inches
A. L. J. Clark	1	SW¼ NE¼	10	22	61	349	3½ inches
Elmer A. Wixson	1	SE¼ NW¼	10	22	61	246	⅛ inch
	2	SE¼ NW¼	10	22	61	328	None
Julius F. Fox	1	NE¼ NE¼	10	22	61	608	4½ inches
	2	NE¼ NE¼	10	22	61	290	1 inch
Frank Matzdorf	1	SW¼ SE¼	7	22	61	700	1¾ inch
Alice A. McDonald	1	SW¼ NE¼	3	22	61	290	None
H. G. Helm	1	NW¼ NE¼	2	22	61	290	⅛ inch
A. Helm	1	NW¼ NW¼	2	22	61	298	1½ inches
Jake Beckley	1	SW¼ NE¼	1	22	61	200	½ inch
George Carlin	1	SW¼ NE¼	1	22	61	100	¼ inch
Mrs. Alice Passano	1	NE¼ SE¼	1	22	61	276	30 miners' inches
	2	NE¼ SE¼	1	22	61	203	¼ inch
Ed. Von Toble	1	SE¼ SW¼	1	22	61	503	7 inches
	2	SE¼ SW¼	1	22	61	385	1½ inches
	3	SE¼ SW¼	1	22	61	230	¾ inch
J. F. Miller	1	SW¼ SW¼	1	22	61	265	¾ inch
	2	NW¼ SW¼	1	22	61	225	¼ inch
	3	SW¼ NW¼	1	22	61	100	1½ inches
	4	SW¼ NW¼	1	22	61	100	Owner estimates his wells aside from No. 1 to average 25 miners' inches each.
	5	SW¼ NW¼	1	22	61	100	
	6	SW¼ NW¼	1	22	61	100	
	7	SW¼ NW¼	1	22	61	100	
	8	NE¼ NW¼	1	22	61	100	
	9	NW¼ SW¼	1	22	61	225	
P. M. Newgard	1	SE¼ NW¼	31	21	62	233	¾ inch
J. W. Tuck	1	NE¼ NW¼	27	21	62	200	None. Depth of water in well 190 feet.
Frank Matzdorf	1	SW¼ SW¼	29	21	62	401	1¾ inches
	2	SW¼ SW¼	29	21	62	404	1¾ inches
Vernon Jefferson	1	NW¼ SE¼	30	21	62	390	2 inches
	2	NW¼ SE¼	30	21	62	405	4 inches
Philip Steinman	1	SE¼ NE¼	31	21	62	400	1 inch
Clark County Land Co.	1	NW¼ NW¼	4	21	62	798	Light flow
	2	SW¼ NE¼	3	21	62	648	
	3	NW¼ NE¼	4	21	62	150	
	4	NW¼ NE¼	4	21	62	150	
	5	NE¼ NE¼	4	21	62	150	
	6	NE¼ NE¼	4	21	62	150	
	7	SW¼ NW¼	3	21	62	150	
	8	SW¼ NW¼	3	21	62	150	
	9	SE¼ NW¼	3	21	62	150	
	10	SE¼ NW¼	3	21	62	150	
	11	SW¼ NE¼	3	21	62	150	
	12	SW¼ NE¼	3	21	62	190	
	13	SW¼ NE¼	3	21	62	87	
D. Petty	1	NW¼ NW¼	18	21	61	292	
George Swadener	1	NW¼ NE¼	4	21	61	403	¼ inch
	2	NE¼ NW¼	4	21	61	381	½ inch
J. C. Johnson	1	NE¼ NE¼	4	21	61	200	3½ inches

Name of owner	No. of well	Location: Subdivision	Sec.	Tp. S.	Range E.	Depth in feet	Flow—Depth over casing
William Laubenheimer	1	NE¼ NW¼	4	21	61	405	¼ inch
	2	NE¼ NW¼	4	21	61	376	5½ inches
Vegas Art. Water Syn.	1	SW¼ SE¼	4	21	61	382	½ inch
	2	NW¼ NE¼	3	21	61	440	17 miners inches by weir
A. McVeigh Miller	1	NW¼ NW¼	3	21	61	385	20 inches, owner states
Paul Buol, et al.	1	SE¼ NE¼	4	21	61	340	
Buol & Jackson	1	SW¼ NW¼	3	21	61	418	¼ inch
Peter Buol	1	SW¼ NW¼	4	21	61	382	1 inch
	2	SW¼ NW¼	4	21	61	354	1 inch
	3	SE¼ NW¼	4	21	61	372	1 inch
Robert Dillon	1	SW¼ NE¼	27	21	61	230	⅛ inch
Las Vegas I. F. L Co.	1	NW¼ NE¼	36	21	61	400	2½ inches
R. E. Barnsley	1	SW¼ NW¼	27	21	61	350?	½ inch
R. E. Barnsley	2	SW¼ NW¼	27	21	61	400?	½ inch
Las Vegas Irr. F. L. Co.	1	SW¼ SW¼	33	21	61	550	0.0 inches
	2	SW¼ SE¼	34	21	61	370	¼ inch
	3	SW¼ SE¼	34	21	61	355	1 inch
	4	NW¼ SE¼	34	21	61	365	1 inch
C. L. Conley	1	SW¼ SW¼	1	20	62	1,000	None
Helen J. Stewart	1	SW¼ NE¼	27	20	61	195	¼ inch
	2	SW¼ NE¼	27	20	61	175	⅛ inch
James H. Ladd	1	NW¼ SW¼	35	20	61	378	¾ inch
	2	SE¼ NE¼	34	20	61	373	½ inch
Frank Matzdorf	1	SW¼ SW¼	33	20	61	360	1¾ inches
C. L. Conley	1	SW¼ NE¼	34	20	61	405	60 gallons per minute
Harry L. Martin	1	SE¼ SE¼	21	20	61	490	⅝ inch
	2	SE¼ SE¼	21	20	61	410	¾ inch
	3	SW¼ SE¼	21	20	61	170	
Vegas Art. Water Syn.	1	NW¼ NE¼	21	20	61	301	⅛ inch
F. W. Eglington	1	SE¼ NE¼	24	20	61	232	10 inches
Las Vegas and T. R. R.	1	SE¼ SE¼	4	18	59	408	None
Corn Creek L. & I. Co.	1	SW¼ SW¼	4	18	59	880	None
South Land Irr. Co.	1	NW¼ SE¼	14	15	56	600	Boring: down over 600 feet

ADJUDICATED RIGHTS COMPILED BY YEARS

PRIORITIES ON EAST CARSON RIVER—DISTRICT OF DOUGLAS COUNTY

1857—

F. C. Springmeyer:
62 acres NW¼ Sec. 14
33 acres SW¼ SW¼ Sec. 11, T 12 N, R 20 E.
95 acres.

1858—

Dangberg Land and Livestock Company:
255 acres W½ Sec. 31, T 13 N, R 20 E.
10 acres SW cor. SW¼ Sec. 30, T 13 N, R 20 E.
58 acres NW¼ Sec. 31, T 13 N, R 20 E.
310 acres E½ Sec. 36
157 acres NW¼ Sec. 36
32 acres SW¼ Sec. 36
570 acres Sec. 25
32 acres NE¼ NE¼ Sec. 35
231 acres E½ Sec. 26
123 acres W½ Sec. 24
370 acres Sec. 23
70 acres NE¼ Sec. 25
160 acres SE¼ Sec. 24
80 acres W½ NE¼ Sec. 24
62 acres SW¼ Sec. 24
135 acres NW¼ Sec. 24
160 acres SW ¼ Sec. 13, T 13 N, R 19 E.
2,815 acres.

H. H. Springmeyer:
34 acres NE¼ Sec. 31
12 acres SW cor. NW¼ Sec. 32
48 acres SW¼ Sec. 32
102 acres SW¼ Sec. 32
61 acres NE¼ Sec. 31
70 acres N½ SE¼ Sec. 31, T 13 N, R 20 E.
327 acres.

1859—

Dangberg Land and Livestock Company:
90 acres SW¼ Sec. 14, T 12 N, R 20 E.
165 acres S½ Sec. 14
84 acres SE¼ Sec. 14
13 acres NE cor. NE¼ Sec. 23, T 13 N, R 19 E.
352 acres.

H. Marquardt:
136 acres NE¼ Sec. 14, T 13 N, R 19 E.

1860—

Dangberg Land and Livestock Company:
80 acres N½ NW¼ Sec. 6, T 12 N, R 20 E.
47 acres SE¼ Sec. 31
290 acres W½ Sec. 30, T 13 N, R 20 E.
417 acres

Peter Heitman:
10 acres NW cor. NW¼ Sec. 25
6 acres SW cor. SW¼ Sec. 24
33 acres N part NE¼ Sec. 26
94 acres S½ Sec. 23
19 acres N½ Sec. 23, T 12 N, R 20 E.
162 acres.

C. C. Henningsen:
155 acres NE¼ Sec. 6, T 12 N, R 20 E.

H. Marquardt:
160 acres NW¼ Sec. 13, T 13 N, R 19 E.

F. C. Springmeyer:
18 acres S½ SW¼ Sec. 11
16 acres NW¼ Sec. 14
38 acres NW¼ Sec. 14, T 12 N, R 20 E.
72 acres.

F. W. Stodieck:
81 acres NW¼ Sec. 5, T 12 N, R 20 E.

1861—

Dangberg Land and Livestock Company:
14 acres NW cor. SE¼ Sec. 14
26 acres SW cor. NE¼ Sec. 14, T 12 N, R 20 E.
40 acres.

William Dangberg:
41 acres NW¼ Sec. 1
73 acres NW¼ Sec. 1
19 acres N½ Sec. 1, T 12 N, R 19 E.
132 acres.

Fred Hussman Estate:
141 acres E½ SW¼ Sec. 4, and SE¼ Sec. 4, T 12 N, R 20 E.

H. Marquardt:
80 acres S½ SW¼ Sec. 12
40 acres NW¼ NW¼ Sec. 12, T 13 N, R 19 E.
120 acres.

Fritz Schacht:
150 acres NE¼ Sec. 11
63 acres N part SE¼ Sec. 11, T 13 N, R 19 E.
223 acres.

Arnold Settlemeyer:
10 acres SW cor. SW¼ SE¼ Sec. 14
95 acres Sec. 23, T 12 N, R 20 E.
105 acres.

1862—

Dangberg Land and Livestock Company:
80 acres SE¼ Sec. 29, T 13 N, R 20 E.

William Dangberg:
40 acres N½ Sec. 1, T 12 N, R 19 E.

Fred Heise:
61 acres W½ SW¼ Sec. 8
78 acres S½ NE¼ Sec. 7
37 acres N½ N½ Sec. 7
10 acres S½ NE¼ SE¼ Sec. 7
15 acres E½ SE¼ SE¼ Sec. 7, T 12 N, R 20 E.
201 acres.

Henry Heitman:
63 acres E½ SE¼ Sec. 5
28 acres W½ SW¼ Sec. 4. T 12 N. R 20 E.
—
91 acres.

H. Marquardt:
97 acres SE¼ Sec. 11. T 13 N. R 19 E.

J. H. Martin:
80 acres NE¼ Sec. 30
78 acres S½ NW¼ Sec. 29. T 13 N. R 20 E
—
158 acres.

Fritz Seeman:
141 acres NW¼ Sec. 11
10 acres SW¼ Sec. 11. T 13 N. R 19 E.
—
151 acres.

1863—

Fritz Cordes:
15 acres SE¼ SE¼ Sec.7. T 12 N. R 20 E.

Dangberg Land and Livestock Company:
80 acres S½ NW¼ Sec. 6. T 12 N. R 20 E.
42 acres S½ NE¼ Sec. 31. T 13 N. R 20 E.
—
122 acres.

H. C. Dangberg:
47 acres W½ NE¼ Sec. 10
63 acres S½ Sec. 3
47 acres E½ NW¼ Sec. 3. T 12 N, R 20 E.
—
157 acres.

H. Marquardt:
80 acres W½ SW¼ Sec. 1
160 acres SE¼ Sec. 2
21 acres NW¼ Sec. 14
65 acres SW¼ Sec. 11
49 acres NW¼ Sec. 14. T 13 N. R 19 E.
—
375 acres.

Dick Wennhold:
20 acres SW cor. SW¼ NW¼ Sec. 10
15 acres SE¼ NE¼ Sec. 29. T 12 N. R 20 E.
—
35 acres.

1864—

P. F. Andrain:
3 acres NE cor. SE¼ NE¼ Sec. 5. T 12 N. R 20 E.

Fritz Cordes:
45 acres SE¼ Sec. 7
20 acres NE¼ SW¼ Sec. 7. T 12 N. R 20 E.
—
65 acres.

William Dangberg:
141 acres N½ NE¼ Sec. 1. and S½ NE¼ Sec. 1. T 12 N. R 19 E.

Henry Elges:
60 acres NE¼ Sec. 4. T 12 N. R 20 E.

L. S. Ezell:
30 acres SE cor. SW¼ Sec. 33
12 acres SW cor. SE¼ Sec. 33. T 13 N. R 20 E
—
42 acres.

Mrs. Louise Frantzen:
25 acres SW¼ Sec. 3. T 12 N. R 20 E.

Fritz Fricke:
18 acres NE¼ NW¼ Sec. 9
15 acres N part NE¼ NW¼ Sec. 9, T 12 N. R 20 E.
—
33 acres.

Andrew Hansen:
20 acres NE¼ NW¼ Sec. 8.T 12 N. R 20 E.

Fred Heise:
40 acres SW¼ NW¼ Sec. 8
60 acres E½ SW¼ Sec. 8. T 12 N. R 20 E.
—
100 acres.

Fred Hellwinkle:
5 acres NW cor. NE¼ Sec. 5
79 acres NE¼ Sec. 5. T 12 N. R 20 E.
—
84 acres.

C. M. Henningsen:
10 acres N½ NE¼ Sec. 7
40 acres S part SW¼ Sec. 5. T 12 N. R 20 E.
—
50 acres.

William Lampe:
118 acres NW¼ Sec. 4. T 12 N. R 20 E.

Henry Lange:
25 acres SE¼ NE¼ Sec. 8. T 12 N. R 20 E.

Henry Luhrs:
10 acres N½ SE¼ Sec. 1
78 acres S½ SE¼ Sec. 1
80 acres N½ NE¼ Sec. 12
40 acres SE¼ NE¼ Sec. 12. T 12 N. R 19 E.
160 acres NW¼ Sec. 7
80 acres S½ SW¼ Sec. 6. T 12 N. R 20 E.
—
448 acres.

Lutheran Church:
1.5 acres NW¼ SW¼ Sec. 4. T 12 N. R 20 E.

Fritz Schacht:
80 acres N½ SW¼ Sec. 12
80 acres S½ NW¼ Sec. 12. T 13 N. R 19 E.
—
160 acres.

Herman Thran:
7 acres SW¼ Sec. 7. T 12 N. R 20 E.

1865—

Dangberg Land and Livestock Company:
5 acres NW cor. SW¼ Sec. 14
3 acres SW cor. NW¼ Sec. 14
4 acres NE cor. SE¼ Sec. 15
63 acres NE¼ Sec. 15
25 acres SE¼ Sec. 10 S part. T 12 N. R 20 E.
150 acres SW¼ Sec. 20
160 acres SE¼ Sec. 19
120 acres SW¼ Sec. 19
320 acres N½ Sec. 19. T 13 N. R 20 E.
—
850 acres.

Douglas County Creamery Company:
6 acres NE¼ SE¼ Sec. 6, T 12 N, R 20 E.

C. M. Henningsen:
145 acres SE¼ Sec. 6
64 acres N½ NE¼ Sec. 7
30 acres N part W½ SE¼ Sec. 5
22 acres N part SW¼ Sec. 5, T 12 N, R 20 E.
—
261 acres.

William Hussman:
20 acres NW¼ NW¼ Sec. 17
20 acres NE¼ NE¼ Sec. 18, T 12 N, R 20 E.
—
40 acres.

M. Jepsen:
22 acres SE¼ Sec. 32, T 13 N, R 20 E.

Henry Luhrs:
25 acres N½ SW¼ Sec. 6, T 12 N, R 20 E.

1866—
Dangberg Land and Livestock Company:
104 acres NE¼ Sec. 32, T 13 N, R 20 E.

H. C. Dangberg:
40 acres NW¼ Sec. 10, T 12 N, R 20 E.

Fred Hellwinkle:
10 acres S part NE¼ Sec. 5
20 acres S part NE¼ Sec. 5
36 acres S part NE¼ Sec. 5, T 12 N, R 20 E.
—
66 acres.

Fred Hussman Estate:
19 acres SW¼ Sec. 3
28 acres SE¼ Sec. 4, T 12 N, R 20 E.
—
47 acres.

Henry Luhrs:
48 acres N½ SW¼ Sec. 6, T 12 N, R 20 E.
69 acres N½ SE¼ Sec. 1, T 12 N, R 19 E.
—
117 acres.

F. W. Stodieck:
44 acres S part NW¼ Sec. 5, T 12 N, R 20 E.

Dick Winkleman:
80 acres W½ SW¼ Sec. 34, T 13 N, R 20 E.

1867—
Fritz Cordes:
10 acres SW cor. SE¼ Sec. 7
38 acres SW¼ Sec. 7, T 12 N, R 20 E.
—
48 acres.

Henry Heitman:
16 acres NW¼ SW¼ Sec. 4 and SW cor. NW¼ Sec. 4, T 12 N, R 20 E.

Herman Thran:
20 acres SW¼ Sec. 7, T 12 N, R 20 E.

1869—
Henry Elges:
50.00 acres NE¼ Sec. 4, T 12 N, R 20 E.
.25 acres S central part SW¼ Sec. 33, T 13 N, R 20 E.
—
50.25 acres.

L. S. Ezell:
48 acres NW part SW¼ Sec. 33, T 13 N, R 20 E.

Mrs. Louise Frantzen:
24 acres SW¼ Sec. 3, T 12 N, R 20 E.

M. Jepsen:
21 acres SE¼ Sec. 32, T 13 N, R 20 E.

Mrs. A. C. Mathisen:
2 acres SW part SE¼ SW¼ Sec. 33, T 13 N, R 20 E.

F. H. Roper:
.33 acres SW part SW¼ Sec. 33, T 13 N, R 20 E.

1870—
Dangberg Land and Livestock Company:
60 acres SE¼ Sec. 13, T 13 N, R 19 E.

Andrew Hansen:
20 acres NE¼ NW¼ Sec. 8, T 12 N, R 20 E.
40 acres NW¼ NW¼ Sec. 8, T 12 N, R 20 E.
—
60 acres.

C. M. Henningsen:
59 acres SW¼ Sec. 5, T 12 N, R 20 E.

1871—
T. J. Brown:
3.5 acres N part NW¼ Sec. 4, T 12 N, R 20 E.

L. S. Ezell:
28 acres SW¼ SE¼ Sec. 33, T 13 N, R 20 E.

Mrs. Louise Frantzen:
4 acres NE cor. NW¼ Sec. 4, T 12 N, R 20 E.

Fred Heise:
40 acres SE¼ NW¼ Sec. 8, T 12 N, R 20 E.

Henry Heitman:
22 acres SW¼ SW¼ Sec. 4, T 12 N, R 20 E.

Peter Jacobsen:
30 acres SE cor. NW¼ Sec. 3, T 12 N, R 20 E.

Dan Jones:
1 acre NW cor. NE¼ NW¼ Sec. 4, T 12 N, R 20 E.

William Lampe:
26 acres N½ NW¼ Sec. 4, T 12 N, R 20 E.

Mrs. S. A. Pettigrew:
1 acre NW cor. NE¼ NW¼ Sec. 4, T 12 N, R 20 E.

1872—
M. Jacobsen:
38 acres SE¼ SE¼ Sec. 33, T 13 N, R 20 E.

1873—
M. Jepsen:
40 acres SE¼ Sec. 32, T 13 N, R 20 E.

J. H. Martin:
25 acres N½ SE¼ Sec. 30
59 acres NE¼ Sec. 30, T 13 N, R 20 E.
—
84 acres.

1874—
Andrew Jessen:
14.5 acres E½ NE¼ SE¼ Sec. 32, T 13 N, R 20 E.

William Stark:
2 acres NE cor. SW¼ Sec. 6, T 12 N, R 20 E.

1875—
Dangberg Land and Livestock Company:
40 acres W½ NE¼ Sec. 14, T 12 N, R 20 E.

H. C. Dangberg:
44 acres NW¼ Sec. 10
25 acres NE¼ NW¼ Sec. 3, T 12 N, R 20 E.
—
69 acres.

C. M. Henningsen:
27 acres S part W½ SE¼ Sec. 5, T 12 N, R 20 E.

Fred Hussman Estate:
10 acres NW¼ NE¼ Sec. 9
54 acres E ½ SW¼ Sec. 4, and SE¼ Sec. 4, T 12 N, R 20 E.
—
64 acres.

Arnold Settlemeyer:
15 acres SW¼ SE¼ Sec. 14
25 acres N part NE¼ Sec. 23, T 12 N, R 20 E.
—
40 acres.

Dick Wennhold:
30 acres E½ NE¼ Sec. 9, T 12 N, R 20 E.

1876—
H. C. Dangberg:
48 acres NE¼ Sec. 10
63 acres Sec. 3
22 acres SW cor. NE¼ Sec. 10, T 12 N, R 20 E.
—
133 acres.

Henry Elges:
10 acres NE¼ Sec. 4, T 12 N, R 20 E.

L. S. Ezell:
32 acres NE cor. SW¼ Sec. 33, T 13 N, R 20 E.

Fred Hussman Estate:
15 acres SW¼ Sec. 3, T 12 N, R 20 E.

Henry Lange:
44 acres NE¼ Sec. 8
55 acres W½ NW¼ Sec. 9, T 12 N, R 20 E.
—
99 acres.

H. H. Springmeyer:
29 acres SE¼ Sec. 30
13 acres SW cor. NE¼ Sec. 32 —
64 acres NE¼ Sec. 31
102 acres NW¼ Sec. 32
15 acres NE cor. SW¼ Sec. 32, T 13 N, R 20 E.
—
223 acres.

August Syll:
12 acres NE cor. NW¼ NW¼ Sec. 9, T 12 N, R 20 E.

1877—
L. S. Ezell:
40 acres NW¼ SE¼ Sec. 33, T 13 N, R 20 E.

Henry Heitman:
5 acres SW cor. E½ Sec. 5, T 12 N, R 20 E.

William Hussman:
47 acres W½ NW¼ Sec. 17
40 acres NE¼ Sec. 18, T 12 N, R 20 E.
—
87 acres.

M. Jepsen:
42 acres SE¼ Sec. 32, T 13 N, R 20 E.

1877—
Dangberg Land and Livestock Company:
160 acres NE¼ Sec. 33
40 acres W½ E½ SE¼ Sec. 28
40 acres SW¼ SE¼ Sec. 28
138 acres NW¼ Sec. 33
320 acres W½ Sec. 28
120 acres SW¼ Sec. 21
20 acres NW¼ Sec. 32
2 acres SE¼ Sec. 32
40 acres SW¼ Sec. 29
160 acres NE¼ Sec. 29
150 acres SE¼ Sec. 20
60 acres SE¼ Sec. 29, T 13 N, R 20 E.
—
1,250 acres.

1878—
Mrs. A. M. Behrman:
0.5 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

H. F. Beste:
1 acre SW¼ Sec. 33, T 13 N, R 20 E.

George J. Brown:
2 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Henry Cordes:
100 acres Sec. 18, T 12 N, R 20 E.

Fritz Fricke:
0.33 acres N part NW¼ Sec. 4, T 12 N, R 20 E.

Bernhard Glock:
2 acres SE part SE¼ Sec. 32, and SW part SW¼ Sec. 33, T 13 N, R 20 E.

Fred Heise:
5 acres E½ SE¼ SE¼ Sec. 7, T 12 N, R 20 E.

Hammond Heitman:
1 acre central part SW ¼ SW¼ Sec. 33, T 13 N, R 20 E.

Fred Hussman Estate:
14 acres NW¼ NE¼ Sec. 9, T 12 N, R 20 E.

M. Jacobsen:
40 acres NE¼ SE¼ Sec. 33, T 13 N, R 20 E.

Mathias Jensen:
0.5 acres NE¼ SE¼ Sec. 32, T 13 N, R 20 E.

Kelley:
0.25 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Will King:
0.5 acres NW cor. SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

C. M. Krummes:
1 acre central part SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Henry Newhans:
.5 acres NW cor. NE¼ SE¼ Sec. 32, T 12 N, R 20 E.

William Ritchford:
.33 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Peter Robeck:
.5 acres SW part SW¼ Sec. 33, T 13 N, R 20 E.

J. H. Stodieck:
.25 acres SE cor. SW¼ Sec. 33, T 13 N, R 20 E.

Dick Wennhold:
9 acres NW¼ Sec. 10
51 acres NE¼ NE¼ Sec. 9 and S½ NE¼ Sec. 9, T 12 N, R 20 E.
—
60 acres.

Dick Winkleman:
34 acres NW¼ NW¼ Sec. 3, T 12 N, R 20 E.

Peter Anderson:
4 acres NW cor. NE¼ SE¼ Sec. 32, T 13 N, R 20 E.

1879—
Charles W. Brown:
.5 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Victor Bull:
.25 acres NE¼ SE¼ SE¼ Sec. 32, T 13 N, R 20 E.

E.Christensen:
33 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Martin Christensen:
.125 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Fritz Cordes:
3 acres SE¼ Sec. 7, T 12 N, R 20 E.

C. F. W. Dangberg:
.75 acres NW cor. SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

H. C. Dangberg:
30 acres NW¼ SW¼ Sec. 11, T 12 N, R 20 E.
18 acres SW¼ NW¼ Sec. 11, T 12 N, R 20 E.
14 acres NE cor. NE¼ SE¼ Sec. 10, T 12 N, R 20 E.
23 acres SE¼ NE¼ Sec. 10, T 12 N, R 20 E.
—
85 acres.

Gardnerville Cemetery Association:
5 acres NW cor. SE¼ Sec. 32, T 13 N, R 20 E.

Oley O. Haughner:
.5 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Charles S. Hunt:
2.5 acres E part SE¼ SE¼ Sec. 32, and W part SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

William Hussman:
8 acres SW¼ Sec. 8, T 12 N, R 20 E.

A. Jensen:
.5 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

N. P. Jensen:
.25 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Bertram Jepsen:
.25 acres NE cor. SE¼ SE¼ Sec. 32, T 13 N, R 20 E.

J. C. Larsen:
1.5 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

Fritz Schacht:
40 acres NE¼ NW¼ Sec. 12
80 acres E½ SW¼ Sec. 1, T 13 N, R 19 E.
—
120 acres.

Peter Svansen:
5 acres NW part SE¼ Sec. 32, T 13 N, R 20 E.

R. Ward:
.125 acres SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

1880—
Dangberg Land and Livestock Company:
38 acres NE¼ Sec. 14
8 acres NE cor. NW¼ Sec. 14
37 acres S½ SE¼ Sec. 11
29 acres SE¼ SW¼ Sec.11, T 12 N, R 20 E.
—
112 acres.

Fred Heise:
40 acres SW¼ NE¼ Sec. 8, T 12 N, R 20 E.

Jacob Rodenbah:
2 acres NE cor. NW¼ Sec. 25
6 acres NE¼ NW¼ Sec. 25, T 12 N, R 20 E.
—
8 acres.
17 C. F. S. for power

1881—
Dangberg Land and Livestock Company:
27 acres SW¼ Sec. 29
83 acres SW¼ Sec. 29, T 13 N, R 20 E.
—
110 acres.

H. C. Dangberg:
50 acres N½ Sec. 3, T 12 N, R 20 E.

Andrew Hansen:
40 acres NW¼ NE¼ Sec. 8, T 12 N, R 20 E.

Peter Jacobsen:
25 acres W½ Sec. 3, T 12 N, R 20 E.

J. H. Martin:
39 acres NW¼ NW¼ Sec. 29, T 13 N, R 20 E.

A. Miller:
6 acres SW part NE¼ Sec. ~~33,~~ T 13 N, R 20 E.

1882—
Dangberg Land and Livestock Company:
39 acres S½ SE¼ Sec. 30, T 13 N, R 20 E.

1883—
Dangberg Land and Livestock Company:
14 acres SW cor. SW¼ Sec. 27
64 acres SE¼ Sec. 34
100 acres NW¼ Sec. 34
26 acres SW¼ NE¼ Sec. 28, T 13 N, R 20 E.
—
204 acres.

Henry Elges:
34 acres NE¼ Sec. 4, T 12 N, R 20 E.

T. N. Wilslef:
25 acres N½ SW¼ Sec. 10
29 acres SW¼ Sec. 10, T 12 N, R 20 E.
—
54 acres.

1884—
Mrs. Louise Frantzen:
25 acres SW¼ Sec. 3, T 12 N, R 20 E.

1885—
Henry Elges:
25 acres NW¼ SE ¼ Sec. 10, T 12 N, R 20 E.

J. H. Martin:
58 acres N½ SE¼ Sec. 35, T 13 N, R 20 E.

1887—

Dangberg Land and Livestock Company:
47 acres SW¼ Sec. 34, T 13 N, R 20 E.

J. H. Martin:
39 acres NE¼ NW¼ Sec. 29, T 13 N, R 20 E.

1888—

Mathias Jensen:
15 acres NW¼ SE ¼ Sec. 8, T 12 N, R 20 E.

1889—

Fritz Fricke:
11 acres SE¼ NW¼ Sec. 9, T 12 N, R 20 E.
14 acres E½ NW¼ Sec. 9, T 12 N, R 20 E.
—
25 acres.

William Hussman:
13 acres W½ SW¼ SE¼ Sec. 8, T 12 N, R 20 E.
8 acres SE cor. SE¼ SW¼ Sec. 8, T 12 N, R 20 E.
27 acres E½ NW¼ Sec. 17, T 12 N, R 20 E.
—
48 acres.

Arnold Settlemeyer:
40 acres S part NE¼ Sec. 23 and N part SE¼ Sec. 23, T 12 N, R 20 E.

1890—

Fred Hussman Estate:
11 acres NW¼ NE¼ Sec. 9, T 12 N, R 20 E.

1891—

Fritz Schacht:
136 acres NE¼ Sec. 13, T 13 N, R 19 E.

1892—

Henry Lange:
8 acres S part SE¼ NE¼ Sec. 8, T 12 N, R 20 E.

Louis Nelson:
17 acres NE¼ SE¼ Sec. 8
6 acres NW¼ SW¼ Sec. 9, T 12 N, R 20 E.
—
23 acres[1]

1893—

S. A. Inelli:
2.5 acres N½ SW¼ SW¼ Sec. 33, T 13 N, R 20 E.

1894—

Dangberg Land and Livestock Company:
313 acres S½ Sec. 18, T 13 N, R 20 E.
76 acres W½ NE¼ Sec. 18
160 acres NW¼ Sec. 18
55 acres SW¼ Sec. 7, T 13 N, R 20 E.
—
604 acres.

William Hussman:
24 acres S½ NW¼ Sec. 17, T 12 N, R 20 E.

Fred Hussman:
10 acres SE¼ SW¼ Sec. 4, T 12 N, R 20 E.

Louis Nelson:
3 acres NE¼ SE¼ Sec. 8, T 12 N, R 20 E.

1895—

Dangberg Land and Livestock Company:
80 acres E½ NE¼ Sec. 24, T 13 N, R 19 E.
100 acres SE¼ Sec. 13, T 13 N, R 19 E.
—
180 acres.

[1]In the certificate the amount of the appropriation is given as 29 acres, although the land described under the certificate only aggregates 23 acres. The amount claimed in the proof of appropriation is only 23 acres, so that this is probably an error in the issuance of the certificate.

William Hussman:
9 acres SW¼ Sec. 8, T 12 N, R 20 E.

Louis Nelson:
19 acres S½ N½ SW¼ Sec. 9
20 acres E½ SW¼ SW¼ Sec. 9, T 12 N, R 20 E.
—
39 acres.

Peter Heitman:
27 C. F. S. for power

1896—

Mrs. Dora Rohlfs:
5 acres NE cor. SW¼ Sec. 6, T 12 N, R 20 E.

N. P. Wilslef:
9 acres NE¼ SE¼ Sec. 9, T 12 N, R 20 E.

1897—

Chris Berning:
3 acres SW cor. SE¼ Sec. 7, T 12 N, R 20 E.

Dangberg Land and Livestock Company:
20 acres N½ NW¼ Sec. 32, T 13 N, R 20 E.

Mathias Jensen:
5 acres NW¼ SE¼ Sec. 8, T 12 N, R 20 E.

Herman Thran:
23 acres SW¼ Sec. 7, T 12 N, R 20 E.

1898—

H. Behrman:
1 acre NE cor. NE¼ SW¼ Sec. 6, T 12 N, R 20 E.

N. P. Wilslef:
8 acres NE¼ SE¼ Sec. 9, T 12 N, R 20 E.

1899—

Jacob Rodenbah:
4 acres SE cor. NW¼ Sec. 24
4 acres SW cor. NE¼ Sec. 24
50 acres E½ SW¼ Sec. 24
37 acres W½ SE¼ Sec. 24
2 acres NE cor. NW¼ Sec. 25, T 12 N, R 20 E.
—
97 acres.
32 C. F. S. for power

1900—

Fritz Fricke:
2 acres SW cor. SE¼ NW¼ Sec. 9
9 acres NW¼ SE¼ and NE¼ SW¼ Sec. 9, T 12 N, R 20 E.
—
11 acres.

William Hussman:
15 acres NW¼ Sec. 17
20 acres NW¼ SW¼ Sec. 17, T 12 N, R 20 E.
—
35 acres.

1901—

Fritz Fricke:
13 acres W½ NW¼ Sec. 9, T 12 N, R 20 E.

1902—

Fritz Fricke:
8 acres NW¼ SE¼ and NE¼ SW¼ Sec. 9, T 12 N, R 20 E.

Louis Nelson:
10 acres NW¼ SW¼ Sec. 9
10 acres NE¼ SE¼ Sec. 8, T 12 N, R 20 E.
—
20 acres.

PROPERTY OF
NEVADA STATE LIBRARY

1903—

Dangberg Land and Livestock Company:
13 acres NE¼ SW¼ Sec. 34, T 13 N, R 20 E.

H. C. Dangberg:
30 acres SW¼ NW¼ Sec. 2, T 12 N, R 20 E.

Fritz Schacht:
24 acres NE¼ Sec. 13
88 acres SE¼ Sec. 12, T 13 N, R 19 E.
—
112 acres.

16,162.826 acres, grand total.

PRIORITIES OF WEST CARSON RIVER—DISTRICT OF DOUGLAS COUNTY

1852—

D. B. Park:
19 acres NE¼ SW¼ Sec. 2
19 acres SE¼ SW¼ Sec. 2
9 acres NE cor. NE¼ NW¼ Sec. 11
80 acres W½ NE¼ Sec. 11
80 acres N½ SE¼ Sec. 11, T 12 N, R 19 E.
—
207 acres.

1853—

W. J. Swail:
42 acres NE¼ SW¼ Sec. 11
18 acres E side W½ SW¼ Sec. 11, T 12 N, R 19 E.
—
60 acres.

1854—

H. D. Allerman:
30 acres N½ S½ NE¼ Sec. 34, T 13 N, R 19 E.

Mrs. Mary Cosser:
75 acres N½ NE¼ Sec. 34
50 acres S part S½ SE¼ Sec. 27
20 acres NW¼ NW¼ Sec. 35
15 acres SW cor. SW¼ SW¼ Sec. 26, T 13 N, R 19 E.
—
160 acres.

Chris Johnson:
80 acres S½ NW¼ Sec. 35
20 acres N½ NE¼ SW¼ Sec. 35
18 acres SE cor. N½ NW¼ Sec. 35, T 13 N, R 19 E.
—
118 acres.

Ben Palmer:
75 acres E½ SE¼ Sec. 14, T 12 N, R 19 E.
160 acrres SW¼ Sec. 13 T 12 N, R 19 E.
—
235 acres.

1855—

L. M. Christensen:
32 acres SW¼ SW¼ Sec.18, T 12 N, R 20 E.

Mathias Hansen:
39 acres SE¼ NW¼ Sec. 12
38 acres SW¼ NE¼ Sec. 12
75 acres W½ SE¼ Sec. 12
75 acres E½ SW¼ Sec. 12
18 acres E½ NW¼ SW¼ Sec. 12
8 acres E½ NE¼ NW¼ Sec. 13, T 12 N, R 19 E.
—
253 acres.

Hugh Park:
35 acres S½ NW¼ Sec. 11
11 acres E½ E½ NW¼ Sec. 11, T 12 N, R 19 E.
—
46 acres.

P. T. Smith:
32 acres NW¼ NE¼ Sec. 14, T 12 N, R 19 E.

1856—

L. Springmeyer:
7 acres W½ E½ SE¼ Sec. 12
30 acres NE¼ Sec. 13, T 12 N, R 19 E.
—
37 acres.

1857—

Dangberg Land and Livestock Company:
142 acres W½ Sec. 26
21 acres E part NE¼ Sec. 27
256 acres Sec. 23
110 acres E½ Sec. 22, T 13 N, R 19 E.
—
529 acres.

Andrew Hansen:
7 acres NE cor. SW¼ SW¼ Sec. 12, T 12 N, R 19 E.

J. Hickey:
152 acres SE¼ Sec. 2
26 acres E½ SW¼ Sec. 2
80 acres W½ SW¼ Sec. 1, T 12 N, R 19 E.
—
258 acres.

D. B. Park:
60 acres N½ NW¼ Sec. 11, and the SW¼ SW¼ Sec. 2, T 12 N, R 19 E.

Chris Rabe:
57 acres W½ NW¼ Sec. 12
42 acres NE¼ NE¼ Sec. 11
8 acres W½ SW¼ NW¼ Sec. 12, T 12 N, R 19 E.
—
107 acres.

L. Ruhenstroth:
12 acres SE¼ SW¼ Sec. 18
39 acres NE¼ NW¼ Sec. 19
11 acres NW¼ NW¼ Sec. 19
12 acres SE¼ NW¼ Sec. 19, T 12 N, R 20 E.
—
74 acres.

J. P. Vansickle:
25 acres SW¼ SW¼ Sec. 26
40 acres NW¼ SW¼ Sec. 26
30 acres SW¼ NW¼ Sec. 26
15 acres SE¼ NW¼ Sec. 26
30 acres SE¼ SW¼ Sec. 26
30 acres NE¼ SW¼ Sec. 26
30 acres NE¼ NW¼ Sec. 35
20 acres NW¼ NW¼ Sec. 35
5 acres SE¼ SE¼ Sec. 27
10 acres NE¼ SE¼ Sec. 27
5 acres SE¼ NE¼ Sec. 27, T 13 N, R 19 E.
—
240 acres.

1858—

Dangberg Land and Livestock Company:
288 acres E½ Sec. 35
89 acres W½ E½ Sec. 26, T 13 N, R 19 E.
377 acres.

H. Johnson:
20 acres N part S½ SE¼ Sec. 11, T 12 N, R 19 E.

D. R. Jones:
72 acres S½ SW¼ Sec. 19
74 acres W¼ SE¼ Sec. 19
33 acres SE¼ SE¼ Sec. 19
25 acres NE¼ SE¼ Sec. 19
17 acres W½ SW¼ SW¼ Sec. 20, T 12 N, R 20 E.
221 acres.

Chris Rabe:
76 acres E½ SW¼ Sec. 1
37 acres NE¼ NW¼ Sec. 12, T 12 N, R 19 E.
113 acres.

L. Ruhenstroth:
39 acres NE¼ SW¼ Sec. 19
9 acres E½ NW¼ NW¼ Sec. 19
27 acres SE¼ NW¼ Sec. 19
11 acres NW¼ SE¼ Sec. 19
3 acres NE cor. SW¼ NW¼ Sec. 19
3 acres SW cor. NE¼ NW¼ Sec. 19
30 acres NW¼ NE¼ Sec. 19
38 acres SW¼ NE¼ Sec. 19
8 acres NE cor. NW¼ SE¼ Sec. 19
6 acres N part NE¼ SE¼ Sec. 19
21 acres W½ SE¼ NE¼ Sec. 19
5 acres S part SW¼ SE¼ Sec. 18, T 12 N, R 20 E.
200 acres.

1859—

Chris Johnson:
157 acres NE¼ Sec. 2, T 12 N, R 19 E.

Ben Palmer:
55 acres E½ NE¼ Sec. 23
40 acres NW¼ SE¼ Sec. 13
40 acres NW¼ NE¼ Sec. 24
80 acres N½ NW¼ Sec. 24
26 acres NW cor. S½ NW¼ Sec. 24, T 12 N, R 19 E.
241 acres.

D. B. Park:
40 acres SE¼ NE¼ Sec. 11
6 acres SW¼ NW¼ Sec. 12
19 acres W½ NW¼ SW¼ Sec. 12, T 12 N, R 19 E.
65 acres.

1860—

L. M. Christensen:
27 acres NE¼ SE¼ Sec. 13
15 acres SW¼ SE¼ Sec. 13
38 acres SE¼ SE¼ Sec. 13, T 12 N, R 19 E.
15 acres NW¼ SW¼ Sec. 18
8 acres N part NW¼ NW¼ Sec. 19, T 12 N, R 20 E.
103 acres.

William Dressler:
50 acres E½ SW¼ Sec. 29, T 12 N, R 20 E.

H. W. Settlemeyer:
75 acres N½ NW¼ Sec. 29, T 12 N, R 20 E.

P. T. Smith:
23 acres E½ SW¼ NE¼ Sec. 14
12 acres SW cor. E½ NE¼ Sec. 14, T 12 N, R 19 E.
35 acres.

1861—

William Dressler:
50 acres W½ SE¼ Sec. 32
30 acres W½ SE¼ Sec. 29
18 acres NW¼ SE¼ Sec. 32, T 12 N, R 20 E.
98 acres.

A. Radloff:
20 acres NW¼ SW¼ Sec. 18
15 acres NE¼ SW¼ Sec. 18
13 acres SE¼ SW¼ Sec. 18, T 12 N, R 20 E.
48 acres.

1862—

D. R. Jones:
67 acres W½ SW¼ Sec. 20, T 12 N, R 20 E.

Eugene and Alex Scossa:
40 acres NE¼ SE¼ Sec. 23
50 acres S½ NW¼ Sec. 24
34 acres NW¼ SW¼ Sec. 24
40 acres SW¼ NE¼ Sec. 24, T 12 N, R 19 E.
164 acres.

1863—

H. D. Allerman:
42 acres S½ NE¼ Sec. 34, T 13 N, R 19 E.

Henry Hellwinkle:
75 acres N½ SW¼ and the NW¼ Sec. 5, T 11 N, R 20 E.

Chris. Johnson:
40 acres NW¼ SW¼ Sec. 35
18 acres S½ NE¼ SW¼ Sec. 35, T 13 N, R 19 E.
58 acres.

1864—

Henry Bassman:
7 acres NE cor. NW¼ NW¼ Sec. 6, T 11 N, R 20 E.

M. Fay:
24 acres E½ W½ SE¼ Sec. 25
80 acres E½ SE¼ Sec. 25
35 acres NE¼ NE¼ Sec. 36
10 acres NE cor. SE¼ NE¼ Sec. 36, T 12 N, R 19 E.
78 acres W½ NW¼ Sec. 31
77 acres W½ SW¼ Sec. 30
35 acres SW¼ NW¼ Sec. 30, T 12 N, R 20 E.
339 acres.

Henry Godecke:
35 acres NE¼ NW¼ Sec. 6
3 acres SE¼ NW¼ Sec. 6
40 acres NW¼ NE¼ Sec. 6
34 acres SW¼ NE¼ Sec. 6
2 acres NW¼ SE¼ Sec. 6, T 11 N, R 20 E.
114 acres.

F. Neddenreip and F. Heise:
304 acres S½ Sec. 31, T 12 N, R 20 E.
3 acres NE¼ SE¼ Sec. 36, T 12 N, R 19 E.
—
307 acres.

A. Radloff:
25 acres NE¼ SW¼ Sec. 18
15 acres W½ W½ SE¼ Sec. 18
9 acres SE¼ SW¼ Sec. 18, T 12 N, R 20 E.
—
49 acres.

L. Springmeyer:
73 acres E½ SE¼ Sec. 12
41 acres E½ NE¼ Sec. 13, T 12 N, R 19 E.
40 acres W½ W½ SW¼ Sec. 7
159 acres NW¼ Sec. 18, T 12 N, R 20 E.
—
313 acres.

Mrs. C. M. Tucke:
67 acres N½ NE¼ Sec. 25
24 acres N½ S½ NE¼ Sec. 25
29 acres S part SE¼ NE¼ Sec. 25, T 12 N, R 19 E.
80 acres N½ NW¼ Sec. 30, T 12 N, R 20 E.
—
200 acres.

Casper Tucke:
36 acres SW¼ NW¼ Sec. 19
40 acres NW¼ SW¼ Sec. 19
10 acres SW¼ SW¼ Sec. 19, T 12 N, R 20 E.
34 acres SE¼ NE¼ Sec. 24
70 acres E½ SE¼ Sec. 24
10 acres NW¼ SE¼ Sec. 24, T 12 N, R 19 E.
—
200 acres.

1865—
H. P. Christensen:
45 acres E part S½ NW¼ Sec. 2, T 12 N, R 19 E.

William Dressler:
130 acres SW¼ Sec. 29
155 acres SE¼ Sec. 30
78 acres S½ NE¼ Sec. 30
37 acres NW¼ NE¼ Sec. 30, T 12 N, R 20 E.
—
400 acres.

William Scheele:
78 acres E½ NW¼ Sec. 31
78 acres E½ SW¼ Sec. 30
40 acres SE¼ NW¼ Sec. 30
3 acres SW cor. SW¼ SE¼ Sec. 30, T 12 N, R 20 E.
—
199 acres.

J. C. Thomson:
36 acres N½ NW¼ Sec. 2, T 12 N, R 19 E.

Richard Thran:
159 acres NE¼ Sec. 31, T 12 N, R 20 E.

1866—
L. Springmeyer:
30 acres NE¼ Sec. 13, T 12 N, R 19 E.

1867—
L. M. Christensen:
20 acres SW½ SW¼ SE¼ Sec. 13
39 acres NE¼ NE¼ Sec. 24, T 12 N, R 19 E.
16 acres SW cor. NW¼ NW¼ Sec. 19, T 12 N, R 20 E.
—
75 acres.

1870—
H. W. Settlemeyer:
34 acres NE¼ NE¼ Sec. 30
33 acres SW¼ NW¼ Sec. 29
5 acres SW cor. SE¼ NW¼ Sec. 29, T 12 N, R 20 E.
—
72 acres.

1871—
Andrew Hansen:
33 acres SW¼ SW¼ Sec. 12, T 12 N, R 19 E.

Mathias Hansen:
137 acres NW¼ Sec. 13
63 acres E½ NE¼ Sec. 14, T 12 N, R 19 E.
—
200 acres.

H. Johnson:
58 acres S½ SE¼ Sec. 11, T 12 N, R 19 E.

1873—
F. Neidenreip and F. Heise:
80 acres E½ NE¼ Sec. 6
30 acres NE¼ SE¼ Sec. 6, T 11 N, R 20 E.
—
110 acres.

1874—
J. C. Thomson:
37 acres N½ NW¼ Sec. 2, T 12 N, R 19 E.

1875—
Henry Hellwinkle:
41 acres W½ NE¼ Sec. 8, T 11 N, R 20 E.

D. R. Jones:
15 acres NE¼ SE¼ Sec. 19, T 12 N, R 20 E.

L. Ruhenstroth:
41 acres NE¼ NE¼ Sec. 19
20 acres E½ SE¼ NE¼ Sec. 19, T 12 N, R 20 E.
—
61 acres.

H. W. Settlemeyer:
35 acres SE¼ NW¼ Sec. 29, T 12 N, R 20 E.

Herman Thran:
23 acres SE cor. SW¼ Sec. 7, T 12 N, R 20 E.

1877—
Dick Fricke:
9 acres NE cor. NE¼ NW¼ Sec. 14, T 12 N, R 19 E.

Hugh Park—
19 acres NW¼ Sec. 11, T 12 N, R 19 E.

D. B. Park—
20 acres SE¼ SW¼ Sec. 2
20 acres E½ W½ SW¼ Sec. 2, T 12 N, R 19 E.
—
40 acres.

1879—
H. W. Settlemeyer:
72 acres W½ NE¼ Sec. 5, T 11 N, R 20 E.

1881—
William Dressler:
160 acres SW¼ Sec. 32
152 acres NW¼ Sec. 32, T 12 N, R 20 E.
—
312 acres.

1886—
William Dressler:
80 acres SW¼ Sec. 21
15 acres S½ SE¼ Sec. 20, T 12 N, R 20 E.
—
95 acres.

H. W. Settlemeyer:
45 acres corners of SE¼ SE¼ Sec. 29, NE¼ NE¼ Sec. 32, NW¼ NW¼ Sec. 33 and SW¼ SW¼ Sec. 28, T 12 N, R 20 E.

1889—
Henry Hellwinkle:
135 acres NW¼ Sec. 5, T 11 N, R 20 E.

1890—
Henry Hellwinkle:
68 acres W½ SE¼ Sec. 5
59 acres E½ SW¼ Sec. 5
17 acres NE¼ NW¼ Sec. 8, T 11 N, R 20 E.
—
144 acres.

1895—
L. Ruhenstroth:
12 acres SE¼ SE¼ Sec. 18, T 12 N, R 20 E.

1897—
William Dressler:
26 acres SE¼ SW¼ Sec. 20
93 acres S½ Sec. 20, T 12 N, R 20 E.
—
119 acres.

1900—
H. W. Settlemeyer:
75 acres N¼ NE¼ Sec. 29, T 12 N, R 20 E.

1903—
L. Ruhenstroth:
8 acres SE¼ SE¼ Sec. 18
5 acres E part SW¼ SE¼ Sec. 18, T 12 N, R 20 E.
—
13 acres.
—
9,216 acres grand total, including five following.

PRIORITIES ON MAIN CARSON RIVER—DISTRICT OF DOUGLAS COUNTY

(These five appropriations are on the Main Carson River in Douglas County below the confluence of the East and West Forks. They have been totaled with the West Fork in the list of Proof of Appropriations.)

1860—
W. H. James and Brothers:
20 acres NW¼ Sec. 1, T 13 N, R 19 E.

1862—
W. H. James and Brothers:
30 acres S½ NW¼ Sec. 35
4 acres SE corner NE¼ NW¼ Sec. 35
20 acres NW¼ NE¼ Sec. 35
9 acres N strip NE¼ NE¼ Sec. 35
55 acres E½ SE¼ Sec. 26
30 acres NW¼ SW¼ Sec. 25
13 acres W part SW¼ SW¼ Sec. 25, T 14 N, R 19 E.
—
161 acres.

1894—
The Dangberg Land and Livestock Company:
57 acres W½ Sec. 30, T 14 N, R 20 E.

1904—
A. L. Dressler:
20 acres NE¼ SE¼ Sec. 3, T 13 N, R 19 E.

Mrs. E. A. Child:
16 acres W½ SW¼ Sec. 35, T 14 N, R 19 E.

PRIORITIES ON MAIN CARSON RIVER—DISTRICT OF ORMSBY COUNTY

(From Mexican Mill and Lloyd Ditches.)

1860–1869—
William Cook:
18 acres SE¼ SE¼ Sec. 15
8 acres W½ NW¼ NW¼ Sec. 23
39 acres NE¼ NE¼ Sec. 22
22 acres N½ SE¼ NE¼ Sec. 22, T 15 N, R 20 E.
—
77 acres.

1870–1886—
Union Mill and Mining Company:[1]
40 acres SW¼ SW¼ Sec. 11
8 acres SW corner NE¼ NW¼ Sec. 26
2 acres NE corner SW¼ NW¼ Sec. 26
21 acres SE¼ NW¼ Sec. 26
8 acres NE¼ SW¼ Sec. 26
7 acres NW corner SE¼ SE¼ Sec. 10
21 acres NE¼ SE¼ Sec. 10
10 acres NE corner SE¼ SE¼ Sec. 10
3 acres SW corner NW¼ SW¼ Sec. 11
5 acres SE corner NE¼ SE¼ Sec. 10, T 15 N, R 20 E.
—
125 acres.

1897—
C. A. Ambrose:
38 acres NW¼ NW¼ Sec. 14
22 acres NE¼ NW¼ Sec. 14
18 acres SE¼ SW¼ Sec. 11, T 15 N, R 20 E.
—
78 acres.

Ed Regan:
39 acres SW¼ NW¼ Sec. 14
5 acres SE¼ NW¼ Sec. 14, T 15 N, R 20 E.
—
44 acres.

1899—
J. T. Lloyd.
33 acres SW¼ SW¼ Sec. 23
17 acres SE¼ SW¼ Sec. 23, T 15 N, R 20 E.
—
50 acres.

J. W. Wiggins:
40 acres NW¼ SW¼ Sec. 14
18 acres SW¼ SW¼ Sec. 14
18 acres NE¼ SW¼ Sec. 14, T 15 N, R 20 E.
—
76 acres.

1904—
Union Mill and Mining Company:[1]
18 acres E½ NW¼ NW¼ Sec. 26, T 15 N, R 20 E.

[1] In conjunction with the land described, a water right for power purposes is granted the Union Mill and Mining Company, as per court decree in Case 520, U. S. Circuit Court, District of Nevada.

PRIORITIES ON MAIN CARSON RIVER—DISTRICT OF LYON COUNTY

1860—

Herman Davis for Union Mill and Mining Company:
2.5 acres SE corner SE¼ Sec. 14. T 16 N, R 21 E.

1862—

P. Cassinelli:
6 acres west part NW¼ NW¼ Sec. 25
30 acres NE¼ NE¼ Sec. 26
11 acres SE corner NW¼ NE¼ Sec. 26
15 acres NW part SW¼ NE¼ Sec. 26
3 acres SE corner SE¼ NW¼ Sec. 26, T 16 N, R 21 E.
—
65 acres.

M. Frugoli:
36 acres SW¼ SE¼ Sec. 12
14 acres NW corner SE¼ SE¼ Sec. 12
9 acres SW corner NE¼ SE¼ Sec. 12
21 acres NW¼ SE¼ Sec. 12
15 acres E½ NW¼ SE¼ Sec. 12
4 acres SE corner NE¼ SW¼ Sec. 12
17 acres SE¼ SW¼ Sec. 12, T 16 N, R 21 E
—
116 acres.

P. and L. Venturi:
7 acres E part NE¼ SE¼ Sec. 23
35 acres SE¼ SE¼ Sec. 23
6 acres NE corner NE¼ NE¼ Sec. 26
5 acres NW corner NW¼ NW¼ Sec. 25
4 acres SW corner SW¼ SW¼ Sec. 24, T 16 N, R 21 E.
—
57 acres.

1863—

D. Baroni and Company:
19 acres S part SE¼ NW¼ Sec. 13
16 acres N part NW¼ SW¼ Sec. 13
30 acres NE¼ SW¼ Sec. 13
10 acres NW part NW¼ SE¼ Sec. 13, T 16 N, R 21 E.
—
75 acres.

John Depoli and Henry Combellick:
18 acres NW¼ SW¼ Sec. 26 and NW cor. NE¼ SW¼ Sec. 26, T 16 N, R 21 E.

G. Gardelli and Company:
30 acres NE¼ SW¼ Sec. 36
5 acres SW cor. SE¼ NW¼ Sec. 36, T 17 N, R 22 E.
5 acres W part NW¼ SE¼ Sec. 36
43 acres E½ SE¼ Sec. 36
5 acres NW¼ SW¼ Sec. 36
5 acres S part SW¼ NW¼ Sec. 36
5 acres E part SW¼ SE¼ Sec. 36
5 acres NE cor. NE¼ NE¼ Sec. 1, T 16 N, R 22 E.
5 acres NW cor. NW¼ NW¼ Sec. 6, T 16 N, R 23 E.
20 acres SW¼ SW¼ Sec. 31
6 acres SE cor. NE¼ SW¼ Sec. 31
6 acres NW cor. SW¼ SE¼ Sec. 31
10 acres N part SE¼ SW¼ Sec. 31
10 acres SW cor. NW¼ SE¼ Sec. 31, T 17 N, R 23 E.
—
160 acres.

Luigi Quilici:
1.5 acres SE cor. NE¼ NW¼ Sec. 13
6 acres NE cor. SE¼ NW¼ Sec. 13
9 acres S part NW¼ NE¼ Sec. 13
37.5 acres SW¼ NE¼ Sec. 13
11 acres N part NW¼ SE¼ Sec. 13
10 acres NW cor. NE¼ SE¼ Sec. 13
12 acres W part SE¼ NE¼ Sec. 13, T 16 N, R 21 E.
—
87 acres.

Charles E. and A. A. Towle:
11 acres W½ SE¼ NE¼ Sec. 35
12 acres NW cor. NE¼ SE¼ Sec. 35
34 acres NW¼ SE¼ Sec. 35, T 17 N, R 24 E.
9 acres SE cor. SW¼ NE¼ Sec. 35
24 acres SE part NE¼ NE¼ Sec. 6
21 acres N½ SE¼ NE¼ Sec. 6
9 acres N part NW¼ NW¼ Sec. 6
16 acres NE¼ NW¼ Sec. 6, T 16 N, R 25 E.
13 acres S part NW¼ NE¼ Sec. 6
13 acres N part SW¼ NE¼ Sec. 6
26 acres NW¼ NW¼ Sec. 5
5 acres SE cor. SW¼ NW¼ Sec. 36
8 acres NE cor. NW¼ SW¼ Sec. 36
9 acres S part SE¼ NW¼ Sec. 36
39 acres NE¼ SW¼ Sec. 36
12 acres NE cor. SE¼ SW¼ Sec. 36
22 acres N½ NW¼ SE¼ Sec. 36, T 17 N, R 24 E.
35 acres SW¼ SE¼ Sec. 36
28 acres S part NE¼ SE¼ Sec. 36
38 acres SE¼ SE¼ Sec. 36
14 acres SW cor. NW¼ SW¼ Sec. 31
41 acres SW¼ SW¼ Sec. 31
30 acres S part SE¼ SW¼ Sec. 31
7 acres E part SE¼ SE¼ Sec. 31
74 acres S½ SW¼ Sec. 32, T 17 N, R 25 E.
7 acres NW cor. SW¼ SE¼ Sec. 32
7 acres SE cor. NE¼ SW¼ Sec. 32, T 17 N, R 25 E.
19 acres S part NW¼ NE¼ Sec. 1
10 acres E part NE¼ NW¼ Sec. 1, T 16 N, R 24 E.
—
593 acres.

1864—

The Comstock Tunnel Company:
2 acres SE cor. SE¼ NE¼ Sec. 12
19 acres NE¼ SE¼ Sec. 12, T 16 N, R 21 E.
5 acres NW¼ SW¼ Sec. 7
9 acres SW¼ NW¼ Sec. 7
9 acres NW¼ SE¼ Sec. 7
9 acres W part NE¼ SE¼ Sec. 7
3 acres SE cor. NE¼ SW¼ Sec. 7
29 acres SE¼ NE¼ Sec. 7
5 acres E strip NE¼ NE¼ Sec. 7
26 acres NW part SW¼ NW¼ Sec. 8
22 acres SW part NW¼ NW¼ Sec. 8
7 acres E strip NE¼ SW¼ Sec. 7, T 16 N, R 22 E.
—
145 acres.

Occidental Land and Improvement Co.:
11 acres N part SE¼ NE¼ Sec. 32
11 acres NE cor. SW¼ NE¼ Sec. 32
26 acres E part NW¼ NE¼ Sec. 32
40 acres NE¼ NE¼ Sec. 32
22 acres NW part NW¼ NW¼ Sec. 33
135 acres SE¼ Sec. 29

1857

37 acres SE¼ NE¼ Sec. 29
12 acres SE cor. SW¼ NE¼ Sec. 29
287 acres W½ Sec. 28
2 acres NW cor. SW¼ SE¼ Sec. 28
5 acres W strip NW¼ SE¼ Sec. 28
3 acres SE cor. NE¼ NE¼ Sec. 29
26 acres N part SW¼ NE¼ Sec. 28
3 acres NW cor. SE¼ NE¼ Sec. 28
40 acres NW¼ NE¼ Sec. 28
16 acres W part NE¼ NE¼ Sec. 28
14 acres S part SE¼ SW¼ Sec. 21
38 acres SW¼ SE¼ Sec. 21
11 acres S part NW¼ SE¼ Sec. 21
37 acres SE¼ SE¼ Sec. 21
33 acres NE¼ SE¼ Sec. 21
14 acres NW cor. SW¼ SW¼ Sec. 22
27 acres NW¼ SW¼ Sec. 22
6 acres NE cor. SW¼ SE¼ Sec. 32
7 acres NW cor. SE¼ SE¼ Sec. 32
11 acres E part NW¼ SE¼ Sec. 32
34 acres NE¼ SE¼ Sec. 32
8 acres S strip SE¼ NE¼ Sec. 32
2 acres NW cor. NW¼ SW¼ Sec. 33
15 acres center strip SW¼ NW¼ Sec. 33
3 acres SE cor. NW¼ NW¼ Sec. 33
9 acres NW cor. SE¼ NW¼ Sec. 33
32 acres NE¼ NW¼ Sec. 33
14 acres N part NW¼ NE¼ Sec. 33
11 acres E part SW¼ SE¼ Sec. 28
8 acres E part NW¼ SE¼ Sec. 28
3 acres NW cor. SE¼ SE¼ Sec. 28
22 acres NE¼ SE¼ Sec. 28
9 acres SE cor. SE¼ NE¼ Sec. 28
27 acres SW¼ NW¼ Sec. 27
14 acres SE cor. NW¼ NW¼ Sec. 27
17 acres NW cor. NE¼ NW¼ Sec. 27
2 acres SE cor. SW¼ SW¼ Sec. 22
17 acres S½ SE¼ SW¼ Sec. 22
33 acres SW¼ SE¼ Sec. 22
3 acres SW cor. NE¼ SE¼ Sec. 22
6 acres S strip NW¼ SE¼ Sec. 22
7 acres NW cor. SE¼ SE¼ Sec. 22, T 17 N, R 25 E.
1,170 acres.

M. Serani & Co.:
11 acres SW¼ NW¼ Sec. 36
6 acres S part NW¼ NW¼ Sec. 36
36 acres SE¼ NW¼ Sec. 36
7 acres S part NE¼ NW¼ Sec. 36
10 acres N part NE¼ SW¼ Sec. 36
12 acres NW part SE¼ NW¼ Sec. 36, T 17 N, R 23 E.
82 acres.

Chas. E. and A. A. Towle:
26 acres SW¼ SE¼ Sec. 31
6 acres SE cor. NW¼ SE¼ Sec. 31
15 acres SE¼ SE¼ Sec. 31
13 acres S½ NE¼ SE¼ Sec. 31
20 acres N½ NW¼ SW¼ Sec. 32
15 acres SW¼ NW¼ Sec. 32
9 acres NW cor. NE¼ SW¼ Sec. 32
37 acres SE¼ NW¼ Sec. 32
16 acres NE¼ NW¼ Sec. 32
16 acres NW cor. SW¼ NE¼ Sec. 32
17 acres W½ NW¼ NE¼ Sec. 32, T 17 N, R 25 E.
190 acres.

1865—
J. M. Tailleur:
4 acres SE cor. NW¼ NW¼ and central W side NE¼ NW¼ Sec. 26, T 16 N, R 21 E.

1871—
The Comstock Tunnel Co.:
3.5 acres N strip SW¼ SE¼ Sec. 7
20.0 acres NW¼ SE¼ Sec. 7, T 16 N, R 22 E.
23.5 acres.

1872—
Mrs. Mary E. Scott:
.5 c. f. s. for domestic use.

1875—
Liugi Quilici:
3 acres SE cor. NW¼ NE¼ Sec. 13, T 16 N, R 21 E.

J. M. Tailleur:
36 acres NE¼ NW¼ and in NE part SE¼ NW¼ and in SW cor. NW¼ NE¼ Sec. 26, T 16 N, R 21 E.

1876—
D. Baroni & Co.:
10 acres S part NW¼ SW¼ Sec. 13
3 acres N strip SW¼ SW¼ Sec. 13, T 16 N, R 21 E.
13 acres.

1877—
O. and T. Cardelli:
30 acres S part SW¼ NE¼ Sec. 34
17 acres S part SE¼ NE¼ Sec. 34, T 17 N, R 22 E.
47 acres.

The Comstock Tunnel Co.:
14 acres NE¼ SE¼ Sec. 12, T 16 N, R 21 E.
13 acres NW¼ SW¼ Sec. 7
7 acres N strip SE¼ NW¼ Sec. 7
2 acres E strip NE¼ NW¼ Sec. 7
25 acres N part NW¼ NE¼ Sec. 7
8 acres W strip NE¼ NE¼ Sec. 7
5 acres S strip SW¼ SE¼ Sec. 6
1 acre SW cor. SE¼ SE¼ Sec. 6
3 acres S part SW¼ NW¼ Sec. 7, T 16 N, R 22 E.
79

1877—
L. Donati:
34 acres W½ NE¼ Sec. 35
6 acres SE cor. NE¼ NW¼ Sec. 35
28 acres SE¼ NW¼ Sec. 35
8 acres NW cor. NW¼ SE¼ Sec. 35
56 acres N½ SW¼ Sec. 35
5 acres NE cor. SW¼ SW¼ Sec. 35, T 17 N, R 23 E.
5 acres SE cor. NE¼ SE¼ Sec. 34
19 acres SE¼ SE¼ Sec. 34
9 acres N½ NW¼ NE¼ Sec. 3, T 16 N, R 23 E.
170 acres.

Leopardo Mariani:
14 acres S part NW¼ SE¼ Sec. 33
4 acres SW cor. NE¼ SE¼ Sec. 33
3 acres NW cor. SE¼ SE¼ Sec. 33
24 acres SW¼ SE¼ Sec. 33, T 17 N, R 22 E.
45 acres.

D. P. Randall and E. F. Howard:
5 acres SW¼ SE¼ Sec. 18
33 acres NW¼ NW¼ Sec. 19
33 acres NE¼ NW¼ Sec. 19
18 acres SW¼ SW¼ Sec. 18
38 acres SE¼ SW¼ Sec. 18
18 acres NE¼ SW¼ Sec. 18
47 acres N½ SE¼ Sec. 18
24 acres SE¼ NE¼ Sec. 18, T 16 N, R 22 E.
—
216 acres.

Charles E. and A. A. Towle:
12 acres NE cor. SE¼ NE¼ Sec. 35
5 acres NE cor. NE¼ SE¼ Sec. 35
9 acres W part NW¼ SE¼ Sec. 35
2 acres NW cor. SW¼ SE¼ Sec. 35
18 acres N½ SE¼ SW¼ Sec. 35
19 acres NE¼ SW¼ Sec. 35
5 acres NE cor. SW¼ SW¼ Sec. 35
7 acres SE cor. NE¼ NE¼ Sec. 35
50 acres N½ NW¼ Sec. 36
13 acres N½ S½ NW¼ Sec. 36
21 acres SW¼ NE¼ Sec. 36
23 acres S½ SW¼ Sec. 34
5 acres SE cor. SE¼ SE¼ Sec. 33, T 17 N, R 24 E.
—
189 acres.

1878—
L. Donati:
21 acres SW¼ NE¼ Sec. 3
4 acres NW cor. SE¼ NE¼ Sec. 3, T 16 N, R 23 E.
17 acres NE¼ NE¼ Sec. 3
22 acres SE¼ SW¼ Sec. 35
7 acres SW¼ SE¼ Sec. 35, T 17 N, R 23 E.
—
71 acres.

M. Serani and Company:
23 acres SW¼ NW¼ Sec. 31
5 acres N part NW¼ SW¼ Sec. 31, T 17 N, R 24 E.
12 acres NE part SE¼ SE¼ Sec. 36
6 acres SW cor. NE¼ NE¼ Sec. 36
25 acres NW¼ NE¼ Sec. 36
13 acres N part SW¼ NE¼ Sec. 36
31 acres NW¼ Sec. 36
26 acres NE¼ NE¼ Sec. 35
5 acres NW cor. SE¼ NE¼ Sec. 35
33 acres E½ W½ NE¼ Sec. 35
9 acres NE cor. NW¼ SE¼ Sec. 35, T 17 N, R 23 E.
—
188 acres.

1880—
John Depoli and Henry C. Combellick:
15 acres NE cor. NW¼ SW¼ and SW cor. SE¼ NW¼ Sec. 26, T 16 N, R 21 E.

Albert Perkins:
4 acres E part NW¼ NE¼ Sec. 23, T 16 N, R 21 E.

1881—
O. and T. Cardelli:
13 acres S part NE¼ NW¼ Sec. 4
12 acres N part NW¼ NE¼ Sec. 4, T 16 N, R 22 E.
20 acres NW¼ NW¼ Sec. 4
15 acres N½ NE¼ NW¼ Sec. 4, T 16 N, R 22 E.
2 acres NW cor. NW¼ NE¼ Sec. 4
4 acres SE cor. SW¼ SW¼ Sec. 33

30 acres SE¼ SW¼ Sec. 33
10 acres W part SW¼ SE¼ Sec. 33
15 acres SW part SE¼ SE¼ Sec. 33
10 acres S part NE¼ NE¼ Sec. 34, T 17 N, R 22 E.
17 acres N part SE¼ NE¼ Sec. 34
15 acres N½ NW¼ SE¼ Sec. 34
14 acres NE cor. NE¼ SW¼ Sec. 34
17 acres SE part NW¼ SW¼ Sec. 34
20 acres N part SW¼ SW¼ Sec. 34
10 acres W part NE¼ SW¼ Sec. 34, T 17 N, R 22 E.
—
224 acres.

1886—
A. Quilici:
15 acres SW¼ SE¼ Sec. 23
1 acre SE cor. SE¼ SW¼ Sec. 23
4 acres NE cor. NE¼ NW¼ Sec. 26
8 acres NW cor. NW¼ NE¼ Sec. 26, T 16 N, R 21 E.
—
28 acres.

Luigi Quilici:
3.5 acres NE cor. NE¼ SE¼ Sec. 13
25.5 acres SE¼ NE¼ Sec. 13, T 16 N, R 21 E.
1.5 acres NW cor. NW¼ SW¼ Sec. 18
1.5 acres SW cor. SW¼ NW¼ Sec. 18, T 16 N, R 22 E.
—
30.0 acres.

D. P. Randall and E. F. Howard:
10 acres NE¼ SE¼ Sec. 18
60 acres S½ SE¼ Sec. 18
42 acres N½ NE¼ Sec. 19, T 16 N, R 22 E.
—
112 acres.

1888—
O. and T. Cardelli:
9 acres SE cor. NE¼ SE¼ Sec. 33
18 acres NW¼ SW¼ Sec. 34
8 acres E part SE¼ NW¼ Sec. 34
6 acres NW cor. SW¼ NE¼ Sec. 34, T 17 N, R 22 E.
—
41 acres

1888—
G. Gardelli and Company:
10 acres NW¼ SW¼ Sec. 36
5 acres S part SW¼ NW¼ Sec. 36, T 17 N, R 22 E.
—
15 acres

1893—
Albert Perkins:
4 acres NE¼ NE¼ Sec. 23, T 16 N, R 21 E.

1894—
John Depoli and Henry Combellick:
35 acres E part SW¼ NW¼ and W part SE¼ NW¼ Sec. 26
3 acres SW cor. NE¼ NW¼ Sec. 26, T 16 N, R 21 E.
—
38 acres.

1895—
D. Baroni and Company:
5 acres W part NW¼ SE¼ Sec. 13
3 acres S part NE¼ SW¼ Sec. 13, T 16 N, R 21 E.
—
8 acres.

1896—
M. Frugoli:
7 acres NW¼ NW¼ Sec. 13
12 acres SE¼ SW¼ Sec. 12, T 16 N, R 21 E.
—
19 acres.

1898—
Albert Perkins:
6 acres NE¼ NE¼ Sec. 23, T 16 N, R 21 E.

J. M. Tailleur:
3 acres central part SE¼ NW¼ Sec. 26, T 16 N, R 21 E.

1902—
O. and T. Cardelli:
6 acres N part SW¼ NE¼ Sec. 34
10 acres central part NE¼ SW¼ Sec. 34, T 17 N, R 22 E.
—
16 acres.

1902—
The Comstock Tunnel Company:
2.5 acres N strip SW¼ SE¼ Sec. 7
6 acres NW¼ SE¼ Sec. 7, T 16 N, R 22 E.
—
8.5 acres.

1904—
D. Baroni and Company:
3 acres S part NE¼ SW¼ Sec. 13
2 acres N strip SE¼ SW¼ Sec. 13, T 16 N, R 21 E.
—
5 acres.

Luigi Quilici:
6 acres SW cor. NE¼ NE¼ Sec. 13, T 16 N, R 21 E.

4,897.50 acres grand total on main Carson River.

NOTE—The certificate issued to Herman Davis includes, in addition to the irrigation of the land described, a water right for power purposes, as per court decree in case No. 520, United States Circuit Court, District of Nevada.

PRIORITIES OF MUDDY RIVER—LINCOLN COUNTY (NOW CLARK)

1870—
Frank Bonelli:
45 acres S part SE¼ NE¼ Sec. 10
N part NE¼ SE¼ Sec. 10, T 17 S, R 68 E.

1874—
H. H. Church and H. B. Mills:
93 acres S part SE¼ NE¼ Sec. 27
SE cor. SW¼ NE¼ Sec. 27
NE¼ SE¼ Sec. 27
NE cor. NW¼ SE¼ Sec. 27, T 15 S, R 67 E.

1875—
Brigham Whitmore:
75 acres SW¼ NE¼ Sec. 2
SE¼ NW¼ Sec. 2
NE ¼ SW¼ Sec. 2
NW¼ SE¼ Sec. 2, T 16 S, R 67 E.

1876—
M. W. Gibson:
27 acres S part N½ SW¼ Sec. 11, T 17 S, R 68 E.

1879—
W. C. Bowman:
144 acres S½ SW¼ Sec. 15
NW¼ Sec. 22, T 15 S, R 67 E.

1880—
S. A. Angell:
17 acres E and N part SW¼ NW¼ Sec. 13, T 16 S, R 67 E.

J. F. Cooper:
13 Acres S part NW¼ SE¼ Sec. 12, T 16 S, R 67 E.

David J. Cox:
20 acres N½ NE¼ SW¼ Sec. 13, T 16 S, R 67 E.

Alvin C. Crosby:
16.5 acres S central part SE¼ Sec. 12, T 16 S, R 67 E.

T. J. Jones:
6 acres SE¼ SE¼ Sec. 13, T 16 S, R 67 E.

A. S. King:
22 acres SE¼ SE¼ Sec. 12
SW¼ SE¼ Sec. 12
NE¼ NE¼ Sec. 13
NW¼ NE¼ Sec. 13, T 16 S, R 67 E.

H. A. Sparks:
10 acres NE cor. SE¼ SE¼ Sec. 12, T 16 S, R 67 E.
4 acres NW cor. SW¼ SW¼ Sec. 7
5 acres N part SW¼ SW¼ Sec. 7, T 16 S, R 68 E.
—
19 acres.

Nevada Land and Livestock Company:
30 acres NE part SW¼ SE¼ Sec. 2
20 acres SE¼ SE¼ Sec. 2
40 acres W½ SW¼ Sec. 12, T 16 S, R 67 E.
—
90 acres.

Andrew J. Sproles:
22 acres NE¼ SW¼ Sec. 27, T 15 S, R 67 E.

Brigham Whitmore:
4.0 acres E side NW¼ NE¼ Sec. 13[1]
5.0 acres NE part SE¼ NE¼ Sec. 13[1]
18.5 acres NE¼ NE¼ Sec. 13[1]
2.5 acres W part W½ NE¼ Sec. 18, T 16 S, R 68 E.
19.7 acres SW¼ SW¼ Sec. 36
16.5 acres E side SE¼ Sec. 35, T 15 S, R 67 E.
2.2 acres NE cor. NE¼ Sec. 2
21.6 acres NW¼ Sec. 1, T 16 S, R 67 E.
—
90.0 acres.

[1]The land in Sec. 13 is probably in T 16 S, R 67 E, although the certificate does not show this.

Mrs. Vina Cooper:
4 acres.

1881—
Jacob Bauer:
11 acres NE cor. NW¼ SW¼ Sec. 11
10 acres NW cor. NE¼ SW¼ Sec. 11, T 17 S, R 68 E.
—
21 acres.

Annie J. Cooper:
18 acres S part NE¼ SE¼ Sec. 13
W part NW¼ SE¼ Sec. 13, T 16 S, R 67 E.

Crayton Johnson:
5.5 acres central part SW¼ SE¼ Sec. 13, T 16 S, R 67 E.

J. M. Lytle:
5 acres SW¼ SE¼ Sec. 13
SE¼ SE¼ Sec. 13, T 16 S, R 67 E.

Brigham Whitmore:
20 acres SW¼ NE¼ Sec. 13
NE¼ SE¼ Sec. 13, T 16 S, R 67 E.

1882—
Nevada Land and Livestock Company:
88 acres E½ NW¼ Sec. 13
E½ SW¼ Sec. 12, T 16 S, R 67 E.

E. H. Syphus:
13 acres W part NE¼ NW¼ Sec. 11
12 acres E part NW¼ NW¼ Sec. 11, T 17 S, R 68 E.
—
25 acres.

Brigham Whitmore:
7.5 acres NE¼ SE¼ Sec. 13, T 16 S, R 67 E.
NW¼ SW¼ Sec. 18, T 16 S, R 68 E.

G. L. Whitney:
24 acres NW¼ NE¼ SW¼ Sec. 11
SE¼ NW¼ Sec. 11, T 17 S, R 68 E.
2 acres SE¼ NW¼ Sec. 11, T 17 S, R 68 E.
—
26 acres.

Wells & Murphy Brothers:
305 acres S½ Sec. 11
N½ Sec. 14, T 17 S, R 68 E.

1883—
M. A. Bunker:
5 acres W part NW¼ SW¼ Sec. 11
9 acres SE¼ NW¼ and SW¼ NE¼ Sec. 11, T 17 S, R 68 E.
—
14 acres.

J. M. Bunker:
2.7 acres SW¼ SW¼ Sec. 11, T 17 S, R 68 E.

J. F. Cooper:
12 acres N and W parts NW¼ SE¼ Sec. 12, T 16 S, R 67 E.

Harry Gentry:
42.5 acres W½ Sec. 11
2.5 acres E part E½ SE¼ Sec. 10, T 17 S, R 68 E.
—
45.0 acres.

Mrs. Sarah Perkins:
9.5 acres NW cor. SW¼ SE¼ Sec. 13, T 16 S, R 67 E.

George L. Whitney:
1.25 acres E part SE¼ SE¼ Sec. 10
1.50 acres W part SW¼ SW¼ Sec. 11, T 17 S, R 68 E.
—
2.75 acres.

John Perkins:
2 acres E part NE¼ SE¼ Sec. 10
W part NW¼ SW¼ Sec. 11, T 17 S, R 68 E.

Mrs. I. Stauffer:
14 acres N½ SE¼ Sec. 12, T 16 S, R 67 E.

1884—
Mrs. Sarah Perkins:
4.5 acres SW cor. SW¼ SE¼ Sec. 13, T 16 S, R 67 E.

W. A. Perkins:
18 acres SW¼ SE¼ Sec. 13, T 16 S, R 67 E.

1885—
A. B. Clevenger:
4 acres N part SW¼ SE¼ Sec. 12, T 16 S, R 67 E.

Brigham Whitmore:
20 acres part SW¼ NE¼ Sec. 2
part SE¼ NW¼ Sec. 2
part NE¼ SW¼ Sec. 2
part NW¼ SE¼ Sec. 2, T 16 S, R 67 E.

1886—
M. W. Gibson:
2.5 acres E part NE¼ SE¼ Sec. 10, T 17 S, R 68 E.

Thomas Johnson:
14 acres part SE¼ SE¼ Sec. 19, T 16 S, R 68 E.

T. J. Jones:
24 acres NE cor. S½ SE¼ Sec. 13, T 16 S, R 67 E.
W part SW¼ SW¼ Sec. 18, T 16 S, R 68 E.

E. H. Syphus:
4.5 acres S part NE¼ SE¼ Sec. 10, T 17 S, R 68 E.

Brigham Whitmore:
4.5 acres NE¼ SE¼ Sec. 13, T 16 S, R 67 E.

E. P. Rennow:
38 acres NW¼ SW¼ Sec. 11
SW¼ SW¼ Sec. 2
E½ SE¼ Sec. 3, T 17 S, R 68 E.

W. J. Powers:
20 acres W½ SW¼ SE¼ Sec. 4, T 15 S, R 66 E.

1887—
J. M. Bunker:
2.5 acres NE¼ SE¼ Sec. 10, T 17 S, R 68 E.

J. M. Thomas:
16 acres NW¼ SW¼ Sec. 26, T 15 S, R 67 E.

1888—
J. H. Averett:
10 acres SW¼ SE¼ Sec. 27, T 15 S, R 67 E.

J. B. Dickerhoff:
5 acres NW¼ SW¼ Sec. 26, T 15 S, R 67 E.

M. B. Gibson:
10 acres W side SW¼ NE¼ Sec. 10, T 17 S, R 68 E.

E. H. Syphus:
22.5 acres SW¼ NE¼ Sec. 10, T 17 S, R 68 E.

1890—
W. H. Gann:
12 acres SW part NW¼ NE¼ Sec. 22, T 15 S, R 67 E.

Mrs. Sarah Perkins:
6.5 acres N part NW¼ NE¼ Sec. 24, T 16 S, R 67 E.

H. A. Sparks:
4 acres SE¼ SW¼ Sec. 1, T 16 S, R 67 E.

Brigham Whitmore:
15 acres SE part NE¼ NW¼ Sec. 2
SW part NW¼ NE¼ Sec. 2
W part SE¼ NE¼ Sec. 2
E part NE¼ SE¼ Sec. 2
NW cor. SE¼ NW¼ Sec. 2, T 16 S, R 67 E.

1891—
Horace Holt:
13.5 acres NW¼ SW¼ Sec. 26, T 15 S, R 67 E.

W. H. Gann:
23 acres N part SW¼ NE¼ Sec. 34
18 acres E½ NW¼ Sec. 34, T 15 S, R 67 E.
—
41 acres.

H. A. Sparks:
8 acres SE¼ SW¼ Sec. 1, T 16 S, R 67 E.

J. F. Perkins:
12 acres NE cor. SE¼ SW¼ Sec. 13, T 16 S, R 67 E.

F. J. Stoer:
115 acres N½ NE¼ Sec. 8
S½ SE¼ Sec. 5
NW¼ NW¼ Sec. 9
SW¼ SE¼ Sec. 4
NW¼ NE¼ Sec. 9, T 15 S, R 66 E.

W. J. Powers:
10 acres W part SW¼ SE¼ Sec. 4, T 15 S, R 66 E.

1892—

W. H. Gann:
22.5 acres W part SW¼ NE¼ Sec. 22
16.0 acres W part SW¼ SE¼ Sec. 22, T 15 S, R 67 E.
38.5 acres.

Fred J. Stoer:
5.0 acres NW cor. NE¼ SW¼ Sec. 7
5.0 acres SW cor. SE¼ NW¼ Sec. 7
12.0 acres SW¼ NW¼ Sec. 7
16.0 acres NW¼ NW¼ Sec. 7, T 15 S, R 67 E.
2.5 acres NE¼ NE¼ Sec. 12
7.5 acres SE¼ SE¼ Sec. 1
2.0 acres SE¼ SW¼ Sec. 1, T 15 S, R 66 E.
50.0 acres.

Mathew Syphus Estate:
3 acres S side SW¼ NE¼ and N side NW¼ SE¼ Sec. 10, T 17 S, R 68 E.

1893—

Crayton Johnson:
10 acres SE cor NE¼ NE¼ Sec. 24, T 16 S, R 68 E.

W. L. Jones:
13 acres NE¼ SW¼ Sec. 13
NW¼ SE¼ Sec. 13, T 16 S, R 67 E.

1894—

J. H. Averett:
14 acres S part SW¼ SE¼ Sec. 27, T 15 S, R 67 E.

J. M. Bunker:
14.0 acres NW¼ NW¼ Sec. 11
2.6 acres NE¼ NW¼ Sec. 11
12.6 acres S part S½ SW¼ Sec. 2, T 17 S, R 68 E.
29.2 acres.

Nevada Land and Livestock Company:
10.5 acres NE¼ NE¼ Sec. 11, T 16 S, R 67 E.

Mrs. Sarah Perkins:
5 acres S part NE¼ NE¼ Sec. 24, T 16 S, R 67 E.

U. W. Perkins:
10 acres S½ SE¼ Sec. 19, T 16 S, R 68 E.

Sherman Thomas:
5 acres S½ SW¼ SE¼ Sec. 12, T 16 S, R 67 E.

H. Gentry:
21 acres SE¼ NW¼ Sec. 10, T 17 S, R 68 E.

Moapa Indian Reservation:
87 acres NE¼ Sec. 35
SE¼ Sec. 36
SW¼ Sec. 36
NW¼ Sec. 36, T 14 S, R 65 E.
NE¼ Sec. 1, T 15 S, R 65 E.
NW¼ Sec. 6, T 15 S, R 66 E.
SW¼ Sec. 31, T 14 S, R 66 E.

1895—

D. J. Cox:
65 acres S½ NE¼ Sec. 11
35 acres NW¼ NE¼ Sec. 11, T 16 S, R 67 E.
100 acres.

S. A. Angell:
5.5 acres NE cor. SW¼ NW¼ Sec. 13, T 16 S, R 67 E.

G. Ingram:
12.5 acres NE¼ SW¼ Sec. 13, T 16 S, R 67 E.

James M. Pickett:
16 acres SE cor. NE¼ NW¼ Sec. 6
SW cor. NW¼ NE¼ Sec. 6, T 15 S, R 66 E.

Holt and Hewitt:
10 acres SW¼ NW¼ Sec. 27, T 15 S, R 67 E.

E. Marshall:
20 acres SE¼ SW¼ Sec. 2, T 16 S, R 67 E.

Philippa Kiernan:
10 acres NW¼ NW¼ Sec. 5, T 14 S, R 65 E.

1896—

M. A. Bunker:
1 acre SE¼ NW¼ Sec. 11, T 17 S, R 68 E.

W. H. Gann:
11 acres NE cor. SE¼ SW¼ Sec. 27, T 15 S, R 67 E.

E. Marshall:
19 acres SE¼ SW¼ Sec. 2
8 acres SW¼ SW¼ Sec. 2
7 acres NW¼ NW¼ Sec. 2, T 16 S, R 67 E.
34 acres.

J. H. Averett:
12 acres NE part SW¼ SE¼ Sec. 27, T 15 S, R 67 E.

T. J. Jones:
25 acres NE¼ NW¼ Sec. 12, T 16 S, R 67 E.

1897—

E. Marshall:
4 acres E part SW¼ SW¼ Sec. 2
12 acres E part NE¼ NW¼ Sec. 11
5 acres E part NW¼ NW¼ Sec. 11, T 16 S, R 67 E.
21 acres.

George L. Whitney:
1.5 acres S½ NW¼ Sec. 11, T 17 S, R 68 E.

Mathew Syphus:
2.5 acres SW¼ NE¼ Sec. 10
NW¼ SE¼ Sec. 10, T 17 S, R 68 E.

1898—

W. J. Powers:
15 acres SW¼ SE¼ Sec. 4, T 15 S, R 66 E.

1899—

W. L. Jones:
11 acres SW¼ SE¼ Sec. 12, T 16 S, R 67 E.

W. W. Perkins:
3 acres SW¼ NW¼ Sec. 26, T 15 S, R 67 E.

1900—

W. H. Gann:
8 acres S part NE¼ NE¼ Sec. 21
14 acres E part SE¼ NE¼ Sec. 21, T 15 S, R 67 E.
—
22 acres.

Peter Wiggs:
14.75 acres NW¼ NE¼ Sec. 34, T 15 S, R 67 E.

1901—

Church & Mills:
16 acres SE¼ NW¼ Sec. 27
11 acres SW¼ NE¼ Sec. 27
21 acres SE¼ SE¼ Sec. 27
— NW¼ SE¼ Sec. 27, T 15 S, R 67 E.
48 acres.

L. N. Shurtleff:
9 acres SW¼ SE¼ Sec. 12
16 acres NW¼ NE¼ and NE¼ NW¼ Sec. 13, T 16 S, R 67 E.
—
25 acres.

J. H. Averett:
4 acres SW¼ SE¼ Sec. 27, T 15 S, R 67 E.

1902—

W. H. Gann:
9 acres NW¼ NE¼ Sec. 22, T 15 S, R 67 E.

A. J. Sproles:
10 acres NE¼ SW¼ Sec. 27
NW¼ SW¼ Sec. 27, T 15 S, R 67 E.

J. C. Jones:
5 acres SW¼ SE¼ Sec. 15, T 14 S, R 65 E.

Philippa Kiernan:
15 acres SW¼ NW¼ Sec. 15
30 acres SE¼ NW¼ Sec. 15
25 acres NE¼ SW¼ Sec. 15
25 acres NW¼ SW¼ Sec. 15
7 acres SW¼ SW¼ Sec. 15, T 14 S, R 65 E.
—
102 acres.

1903—

W. C. Bowman:
6 acres NW¼ Sec. 22, T 15 S, R 67 E.

1904—

W. H. Gann—
1 acre SW¼ NE¼ Sec. 34, T 15 S, R 67 E.

Nevada Land and Livestock Company:
20 acres NW¼ NW¼ Sec. 2, T 16 S, R 67 E.

Ute V. Perkins:
12.5 acres S½ SE¼ Sec. 19, T 16 S, R 68 E.

William Van Ranselaar:
15 acres SW¼ NW¼ Sec. 12, T 16 S, R 67 E.

Mrs. McKenna:
12 acres S½ Sec. 4, T 14 S, R 66 E.

George Baldwin:
15 acres NW¼ NW¼ Sec. 16
NW¼ NE¼ Sec. 16, T 14 S, R 65 E.

1905—

Fred J. Stoer:
10 acres NE¼ SE¼ Sec. 7
8 acres NE¼ SW¼ Sec. 7
6 acres SE¼ NW¼ Sec. 7
4 acres SW¼ NW¼ Sec. 7, T 15 S, R 67 E.
—
28 acres.

Holt & Hewitt:
15 acres SW¼ NW¼ Sec. 27, T 15 S, R 67 E.

Mathew Syphus Estate:
1 acre SW¼ NE¼ Sec. 10, T 17 S, R 68 E.

William Van Renselaar:
23 acres SW¼ NW¼ Sec. 12, T 16 S, R 67 E.

H. B. Davis:
12 acres SE¼ SE¼ Sec. 3, T 16 S, R 67 E.

Southern Nevada Experiment Farm:
20 acres E½ NE¼ NE¼ Sec. 34
40 acres NW¼ NW¼ Sec. 35
20 acres W½ NE¼ NW¼ Sec. 35, T 15 S, R 67 E.
—
80 acres.

2,870.9 acres, grand total.

BASIS OF DISTRIBUTION OF THE WATERS OF THE WALKER RIVER SYSTEM, AS DECREED BY FINDINGS OF HENRY THURTELL, SPECIAL MASTER IN CHANCERY, IN THE CASE OF THE PACIFIC LIVESTOCK COMPANY v. T. B. RICKEY, ET AL.

	Acres	Second-feet
1860—		
P. J. Conway	120	1.92
M. Fallon	250	4.00
George A. Green	360	5.76
W. H. Roach	140	2.24
Simpson Brothers	20	.34
1861—		
James Atcheson	80	1.28
Mrs. Agnes Compton	250	4.00
P. J. Conway	80	1.28
W. H. Morgan	8	.13
Pacific Livestock Company	500	6.00
G. W. David, J. I. and J. W. Wilson	100	1.60
Leon and Frank Yparriguire	320	5.12
J. A. Rogers	5	.08
1862—		
Dora E. Fulstone and John F. Fredericks	130	2.08
J. E. Gignoux	250	4.00
Angus McLeod	100	1.20
J. W. O'Banion	15	.19
Simpson Brothers	354	5.66
G. W. David, J. I. and J. W. Wilson	60	.96
George W. Webster	100	1.60
1863—		
H. B. Gage and wife	120	1.96
Mary Hoye	10	.16
Angus McLeod	355	4.26
J. W. O'Banion	970	11.68
Pacific Livestock Company	100	1.20
H. C. Peterson	220	3.52
J. A. Rogers	95	1.50
I. A. Strosnider	80	1.28
G. W. David, J. I. and J. W. Wilson	60	.96
Spragg and Woodcock Ditch Company	65	.78

	Acres	Second-feet
1864—		
M. Fallon	330	5.30
I. D. Morris	15	.24
Pacific Livestock Company	680	8.16
G. W. David, J. I. and J. W. Wilson	60	.96
West Walker River Ditch Company	970	11.64
1865—		
Greenwood Ditch Company	577	6.92
James Atcheson	160	2.56
Fox Ditch Company	885	10.62
Dora E. Fulstone and John F. Fredericks	100	1.60
H. B. Gage and wife	260	4.16
J. E. Gignoux	100	1.60
Pacific Livestock Company	160	8.16
Charles Snyder	160	1.92
Leon and Frank Yparraguire	160	4.56
Mickey Ditch Company	382	4.58
1866—		
Elizabeth A. Simpson	159	2.54
1867—		
Lamira Glann	9	.14
1868—		
J. B. Gallagher	122	1.48
J. F. and C. F. Holland	250	3.00
C. F. Meisner	60	.70
Nichol Land and Stock Company	366	4.40
J. W. O'Banion	130	2.08
Pacific Livestock Company	80	.96
G. W. David, J. I. and J. W. Wilson	460	7.36
Walker River Indian Reservation	385.95	4.70
1869—		
J. O. Birmingham	110	1.32
Pat Gallagher	70	.84
A. A. Pinkerton	25	.40
Pacific Livestock Company	120	1.44
Charles Snyder	400	4.80
G. W. David, J. I. and J. L. Wilson	80	1.28
West Walker River Ditch Company	31	.37
1870—		
Mickey Ditch Company	521	6.25
P. J. Conway	100	1.60
Greenwood Ditch Company	150	1.80
Battista Cremetti	60	.96
Fox Ditch Company	807	9.68
Dora E. Fulstone and John F. Fredericks	100	1.60
Spragg and Woodcock Ditch Company	555	6.66
Pat Gallagher	313	3.76
J. B. Gallagher	222	2.66
I. D. Morris	40	.64
Angus McLeod	165	1.98
Pacific Livestock Company	690	8.28
J. A. Rogers	150	2.40
W. H. Roach	75	1.20
John W. and Frank W. Simpson	204	3.26
Charles Snyder	240	2.88
1871—		
Leon and Frank Yparraguire	80	1.30
Ulisse and Modesto Delmonico	246	2.94
James Johnson, (J. B. G.)	33	.40
J. G. Kaufman	50	.80
1872—		
R. S. Brooks	65	.78
G. F. Feigenspan	140	1.68
J. B. Gallagher	981	11.77
Mrs. E. Morris	40	.64
J. C. Mills	80	.96

	Acres	Second-feet
1872—		
T. G. Nichol	60	.72
G. W. David, J. I. and J. W. Wilson	575	9.20
U. S. Gov't., for Walker River Indian Res.	205.80	3.55
1873—		
Antone Tamagni	40	.48
J. C. Ferrel (J. B. G.)	90	1.08
S. W. Gregory	250	3.00
J. F. and C. F. Holland	130	1.96
Mrs. Adeline Hilbun	10	.12
Perazzo Brothers (J. B. G.)	150	1.80
Alex Vein (J. B. G.)	35	.40
1874—		
R. S. Brooks	135	1.60
J. O. Birmingham	160	1.92
George A. Green	400	6.40
J. B. Gallagher	348	4.18
Charles B. Johnson	33	.40
Pacific Livestock Company	610	7.32
W. R. Penrose	1840	22.00
Henry Wood	48	.57
1875—		
Mickey Ditch Company	443	5.31
Battista Cremetti	40	.64
Greenwood Ditch Company	575	6.90
Ulisse and Modesto Delmonico	214	2.57
Fox Ditch Company	667	8.00
Dora E. Fulstone and John F. Fredericks	100	1.60
H. B. Gage and wife	40	.64
Lamira Glann	31	.50
James Johnston (J. B. G.)	70	.84
Pacific Livestock Company	450	5.40
J. A. Rogers	100	1.60
I. A. Strosnider	240	3.84
Simpson Brothers	65	1.04
G. W. David, J. I. and J. W. Wilson	30	.48
U. S. Gov't., for Walker River Indian Res.	512.80	6.15
1876—		
T. M. McGowan	78	1.25
1877—		
Henry Baker	91	1.46
Henry Brisson (J. B. G.)	130	1.50
I. Cohn	600	9.60
J. B. Gallagher	180	2.16
C. F. Meisner	260	3.12
Mrs. E. Morris	20	.32
J. C. Mills	75	.90
George H. Plummer	82	1.31
T. C. Sharp	120	1.92
F. O. Stickney	240	3.84
G. W. David, J. I. and J. W. Wilson	130	2.08
George W. Webster	110	1.76
1878—		
Antone Tamagni	70	.84
James Atcheson	240	3.84
J. C. Birmingham	80	.96
A. W. Gander	80	1.28
Nichol Land and Stock Company	179	2.15
J. W. O'Banion	255	4.08
Pacific Livestock Company	1140	13.68
Mrs. E. A. Simpson	243	3.88
West Walker River Ditch Company	450	5.40
1879—		
A. Charlebois	40	.64
J. B. Gallagher	689	8.27
H. S. Morgan	58	.93

	Acres	Second-feet
1879—		
Charles Perry	15	.24
Sarah E. Strosnider	160	2.56
Alex Vein (J. B. G.)	15	.18
G. W. David, J. I. and J. W. Wilson	20	.32
Henry Wood	412	4.94
1880—		
Henry Baker	39	.62
Mickey Ditch Company	70	.84
P. J. Conway	100	1.60
Greenwood Ditch Company	727	8.72
G. F. Feigenspan	70	.84
Fox Ditch Company	323	3.87
Dora E. Fulsone and John F. Fredericks	100	1.60
Spragg and Woodcock Ditch Company	388	4.65
J. C. Farrel (J. B. G.)	50	.60
Pat Gallagher	20	.24
James Johnston (J. B. G.)	80	.96
Mrs. L. Meadows (J. B. G.)	30	.36
W. H. Morgan	16	.26
Mrs. Ellen Melarkey	40	.64
Pacific Livestock Company	100	1.20
W. R. Penrose	840	10.08
H. C. Peterson	228	3.64
J. A. Rogers	100	1.60
L. D. Santina	160	2.56
Mrs. Anne Warren (J. B. G.)	90	1.08
Leon and Frank Yparraguire	320	5.12
J. B. Gallagher	55	.66
1881—		
Pacific Livestock Company	380	4.56
Nalsen Poli	100	1.60
John G. Young, per W. R. Penrose	40	.48
1882—		
Mary Hoye	66	1.05
Perazzo Brothers (J. B. G.)	240	2.88
G. S. Simpson	130	2.08
1883—		
J. G. Kaufman	80	1.28
George H. Plummer	128	2.05
Pacific Livestock Company	1000	12.00
W. F. and G. M. Reading	71	1.13
F. O. Stickney	45	.72
U. S. Government, Walker River Indian Reservation	625.20	7.50
Hamilton Wise	70	1.12
1884—		
Margaret A. Dickinson	80	1.28
J. B. Gallagher	40	.48
C. C. Turner	32	.50
1885—		
Mickey Ditch Company	103	1.24
A. Charlebois	200	3.20
Greenwood Ditch Company	231	2.77
Dora E. Fulstone and John F. Fredericks	100	1.60
Fox Ditch Company	160	1.92
Lyon County, for the poor farm	95	1.14
Mrs. Ellen Melarkey	40	.64
T. G. Nichol	17	.20
Spragg and Woodcock Ditch Company	175	2.10
Perazzo Brothers (J. B. G.)	120	1.44
West Walker River Ditch Company	160	1.92
Pacific Livestock Company	980	11.76
Charles Perry	35	.56
J. A. Rogers	100	1.60
Z. B. Ravenelle	50	.80
W. H. Roach	30	.48
Simpson Brothers	530	8.48

	Acres	Second-feet
1885—		
Mrs. Sarah Strosnider	150	2.40
Alex Vein (J. B. G.)	40	.48
Henry Wood	17	.20
Fred Welling (J. G. B.)	80	.96
Leon and Frank Yparraguire	320	5.12
1886—		
Walker River Indian Reservation	85.80	1.03
1887—		
Henry Boerlin	160	2.56
Pacific Livestock Company	230	2.76
William M. Rollins (J. B. G.)	65	.78
I. A. Strosnider	15	.24
T. C. Sharp	40	.64
George W. Webster	75	1.20
1888—		
William Becker	40	.64
Pacific Livestock Company	1100	13.20
G. S. Simpson	50	.80
H. W. Schacht	80	1.28
Mrs. Anne Warren (J. B. G.)	80	.96
1889—		
J. C. Farrel (J. B. G.)	50	.60
H. S. Morgan	10	.16
D. J. Butler	40	.64
Greenwood Ditch Company	200	2.40
P. J. Conway	120	1.96
Fox Ditch Company	70	.84
A. Charlebois	50	.80
Margaret A. Dickinson	36	.57
J. E. Gignoux	150	2.40
Pacific Livestock Company	1730	20.76
Simpson Brothers	1693	20.31
Mrs. E. A. Simpson	10	.16
G. W. David, J. I. and J. W. Wilson	130	2.08
1891—		
Pacific Livestock Company	590	7.08
W. R. Penrose	320	3.84
Hamilton Wise	70	1.12
1892—		
Thomas Hall	58	.93
Perazzo Brothers (J. B. G.)	320	3.54
O. A. Perry	90	1.08
West Walker River Ditch Company	47	.56
1893—		
Pat Gallagher	15	.18
Pacific Livestock Company	2000	24.00
Nalson Poli	40	.64
1894—		
E. S. Cross	32	.51
H. S. Morgan	92	1.46
George H. Plummer	300	4.80
Battista Cremetti	30	.48
Mickey Ditch Company	135	1.62
A. Charlebois	60	.96
Greenwood Ditch Company	197	2.36
Harriet E. Estes	8	.13
Fox Ditch Company	85	1.02
Lamira Glaun	10	.16
J. Mathews	67	1.07
W. H. Morgan	6	.10
T. G. Nichol	14	.17
Pacific Livestock Company	410	4.92
Morris Pursel	80	1.28
W. M. Rollins (J. B. G.)	15	.18
Frank W. and John W. Simpson	468	5.61
Mrs. M. Allum	30	.48

	Acres	Second-feet
1896—		
Henry Brisson (J. B. G.)	160	1.92
1897—		
William Becker	80	1.28
Henry, John and Thomas Carney	15	.24
Pat Gallagher	5	.06
Charles B. Johnston	42	.50
Perazzo Brothers (J. B. G.)	130	1.56
I. A. Strosnider	170	2.72
West Walker River Ditch Company	295	3.54
1898—		
Hattie F. Kremmel	30	.48
Frank P. Shirley	105	1.26
1899—		
A. W. Green	20	.32
M. J. Green	15	.24
Lyman B. Logan	140	2.24
J. P. Parker (J. B. G.)	12	.14
Mrs. S. A. Robinson	15	.24
F. O. Stickney	10	.16
1900—		
Frank P. Shirley	155	1.86
Mickey Ditch Company	25	.30
J. O. Birmingham	120	1.44
E. S. Cross	43	.69
H. B. Gage and wife	20	.32
Lyon County, for the poor farm	5	.06
Pacific Livestock Company	2090	25.08
Morris Purcel	43	.69
W. M. Rollins (J. B. G.)	20	.24
Simpson Brothers	67	.80
F. O. Stickney	50	.80
Mrs. Anne Warren (J. B. G.)	120	1.44
George W. Webster	40	.64
1901—		
Thomas Hall	25	.40
Mrs. L. Meadows (J. B. G.)	15	.18
1902—		
Mrs. Adeline Hilbun	10	.12
T. M. McGowan	105	1.68
Nichol Land and Stock Company	9	.11
1903—		
Hattie F. Kremmel	90	1.44
G. W. David, J. I. and J. W. Wilson	30	.48
1904—		
Henry Brisson (J. B. G.)	8	.09
Battista Cremetti	15	.24
G. F. Feigenspan	25	.30
Pat Gallagher	25	.30
Philip Mann (J. B. G.)	22	.26
Charles Perry	55	.88
O. A. Perry	10	.12
1905—		
Greenwood Ditch Company	7	.08
Harriet E. Estes	12	.19
Lyman B. Logan	20	.32
A. A. Pinkerton	95	1.52
John W. and Frank W. Simpson	200	2.40
Alex Vein (J. B. G.)	26	.74
Fred Wade (J. B. G.)	40	.48
1906—		
W. M. Rollins (J. B. G.)	20	.24
George W. Webster	45	.72
1907—T. M. McGowan	20	32
Grand total	62,007.55	812.35

NOTE—J. B. G. equals John B. Gallagher.

PRIORITIES ON WHITE RIVER AND TRIBUTARIES—WHITE PINE COUNTY

1865—

The Preston Irrigation Co:

5 acres NE¼ Sec. 13, T 12 N, R 61 E.

1869—

George R. Hayden:

21 acres SW¼ NE¼ Sec. 31
5 acres SE¼ NW¼ Sec. 31, T 13 N, R 61 E.
56 acres SW¼ Sec. 31
9 acres W½ NE¼ Sec. 31
39 acres N½ NW¼ Sec. 6
33 acres NW¼ Sec. 6, T 12 N, R 61 E.

163 acres.

Stephen Williams:

28.1 acres W¼ SE¼ Sec. 31, T 13 N, R 61 E.
1.4 acres NW¼ NE¼ Sec. 6, T 12 N, R 61 E.

29.5 acres.

1870—

The Lund Irrigation Co.:

24.0 acres SE¼ NE¼ Sec. 31
40.0 acres NW¼ Sec. 32
15.0 acres E½ E½ Sec. 30
17.0 acres SW¼ Sec. 29, T 12 N, R 62 E.
46.7 acres S½ Sec. 33
24.0 acres SE¼ Sec. 20
33.3 acres N½ Sec. 4, T 11 N, R 62 E.

200.0 acres.

1875—

The Preston Irrigation Co.:

80 acres W½ Sec. 18, T 12 N, R 62 E.

1880—

James T. McQueen:

25 acres N½ Sec. 11, T 12 N, R 60 E.

1881—

Christian and Karen Hermansen:

95.5 acres E½ Sec. 32
71.5 acres S½ Sec. 33
67.0 acres S½ Sec. 33, T 13 N, R 61 E.

233.5 acres.

The Lund Irrigation Co.:

25.0 acres SE¼ Sec. 20
43.8 acres W½ Sec. 33
25.0 acres SW¼ Sec. 29
3.5 acres E½ E½ Sec. 30
12.7 acres NE¼ SE¼ Sec. 31
40.0 acres N½ Sec. 32, T 12 N, R 62 E.

150.0 acres.

1885—

The Preston Irrigation Co.:

29 acres W½ Sec. 18, T 12 N, R 62 E.
61 acres E½ Sec. 13, T 12 N, R 61 E.

90 acres.

1889—

James T. McQueen:

10 acres S½ S½ Sec. 1, T 12 N, R 60 E.

1890—
The Lund Irrigation Co.:
30 acres NW¼ Sec. 33
26 acres SW¼ Sec. 29, T 12 N, R 62 E.
56 acres.

The Preston Irrigation Co.:
90 acres E½ Sec. 13, T 12 N, R 61 E.

Adams & McGill:
30.5 acres SE¼ Sec. 2
2.1 acres SW¼ SW¼ Sec. 1
1.4 acres NW¼ NW¼ Sec. 12, T 12 N, R 61 E.
34.0 acres.

1892—
Andrew Lee:
3.5 acres N½ NW¼ Sec. 9
5.9 acres SW¼ NE¼ Sec. 9, T 12 N, R 60 E.
9.4 acres.

1894—
James T. McQueen:
20 acres SE¼ Sec. 1, T 12 N, R 60 E.

1898—
The Preston Irrigation Co.:
30.0 acres NE¼ Sec. 12
33.2 acres SE¼ Sec. 12
35.0 acres NE¼ Sec. 13, T 12 N, R 61 E.
50.0 acres SE¼ Sec. 13
57.5 acres SW¼ Sec. 18
134.5 acres N½ Sec. 19
13.4 acres W½ SW¼ Sec. 7
10.0 acres E½ SE¼ Sec. 30, T 12 N, R 62 E.
363.6 acres.

1899—
The Lund Irrigation Co.:
39.3 acres N½ Sec. 20
15.0 acres NW¼ Sec. 33
14.0 acres E½ NE¼ Sec. 32
107.0 acres N½ Sec. 32
55.3 acres E½ Sec. 29
152.7 acres W½ Sec. 29
20.0 acres W½ Sec. 28, T 12 N, R 62 E
403.3 acres.

1903—
The Preston Irrigation Co.:
27.3 acres E½ Sec. 24
7.7 acres NE¼ NE¼ Sec. 25
62.3 acres Sec. 12
19.0 acres E½ Sec. 11
46.7 acres N½ Sec. 13, T 12 N, R 61 E.
103.4 acres Sec. 30
85.4 acres S½ Sec. 19
24.0 acres N½ Sec. 18
104.4 acres Sec. 31, T 12 N, R 62 E.
480.2 acres.

1904—
The Lund Irrigation Co.:
33.8 acres E½ E½ Sec. 19
49.3 acres W½ Sec. 20
83.4 acres S½ Sec. 20
77.6 acres E½ Sec. 29
12.3 acres SW¼ Sec. 21
207.6 acres W½ Sec. 28
62.6 acres W½ Sec. 33, T 12 N, R 62 E.
526.6 acres.

1905—
James T. McQueen:
14 acres S½ Sec. 1, T 12 N, R 60 E.

NOTE—The following areas are pasture, upon which certificates have been issued for winter use only.

1898—
Adams & McGill:
220 acres W½ Sec. 6
NW¼ NW¼ Sec. 7, T 11 N, R 62 E.
120 acres SW¼ Sec. 6
N½ NW¼ Sec. 7, T 11 N, R 62 E.
300 acres W½ Sec. 5
W½ NW¼ Sec. 8, T 11 N, R 62 E.
640 acres.

The Lund Irrigation Co.:
42.2 acres NE¼ NE¼ Sec. 5
41.4 acres N½ Sec. 4, T 11 N, R 62 E.
101.4 acres SE¼ Sec. 32
101.0 acres SW¼ Sec. 33, T 12 N, R 62 E.
286.0 acres.

1900—
The Lund Irrigation Co.:
6.8 acres E½ Sec. 30
29.2 acres W½ Sec. 29
13.0 acres E½ SE½ Sec. 31
93.0 acres W½ Sec. 32, T 12 N, R 62 E.
142.0 acres.

4,051.1 acres, grand total.

PRIORITIES ON CHERRY, PINE, AND COTTONWOOD CREEKS—NYE COUNTY

CHERRY CREEK

1872—
M. B. Cutler:
31.17 acres SW¼ Sec. 16
9.40 acres E½ Sec. 17, T 3 N, R 57 E. unsurveyed.
40.57 acres.

1881—
G. G. Davis:
12.0 acres SE¼ Sec. 16
10.3 acres SW¼ Sec. 15, T 3 N, R 57 E. unsurveyed.
22.3 acres.

1886—
Frenzi Estate:
6.99 acres SE¼ Sec. 15, T 3 N, R 57 E. unsurveyed.

1904—
M. B. Cutler:
4.3 acres S½ NE¼ Sec. 17, T 3 N, R 57 E, unsurveyed.

PINE CREEK

1902—
G. B. Welch:
5.08 acres SW¼ Sec. 6, T 2 N, R 57 E.
4.70 acres S½ NE¼ Sec. 1, T 2 N, R 56 E.
4.16 acres NE¼ SE¼ Sec. 1, T 2 N, R 56 E.

13.94 acres.

1904—
G. B. Welch:
5.00 acres SE¼ Sec. 1
2.24 acres SE¼ SE¼ Sec. 1
1.35 acres SW¼ NE¼ Sec. 1, T 2 N, R 56 E.
3.07 acres NW¼ NE¼ Sec. 1
3.60 acres NW¼ NW¼ Sec. 7, T 2 N, R 57 E.
1.24 acres SW¼ SW¼ Sec. 6, T 2 N, R 57 E.
.83 acres SE¼ SW¼ Sec. 36, T 3 N, R 57 E.

17.38 acres.

COTTONWOOD CREEK (North Fork)

1892—
Indian Bob:
4.38 acres SE¼ NW¼ and NE¼ SW¼ Sec. 3, T 2 N, R 56 E.

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