STATE OF NEVADA

BIENNIAL REPORT

OF THE

STATE ENGINEER

For the Period
July 1, 1948, to June 30, 1950, Inclusive

ALFRED MERRITT SMITH
State Engineer of Nevada

CARSON CITY, NEVADA
STATE PRINTING OFFICE - - JACK McCARTHY, SUPERINTENDENT
1950

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LETTER OF TRANSMITTAL

STATE OF NEVADA,
OFFICE OF STATE ENGINEER,
CARSON CITY, July 24, 1950.

To His Excellency, HONORABLE VAIL PITTMAN, *Governor of Nevada, Carson City, Nevada.*

SIR: In compliance with the provisions of section 14, chapter 140, Nevada Statutes 1913, and section 1, chapter 171, Nevada Statutes 1931, I have the honor to transmit herewith the Biennial Report of the State Engineer for the period ending June 30, 1950.

The report of the Colorado River Commission for the biennium is included herein as an appendix.

Respectfully submitted,
ALFRED MERRITT SMITH,
State Engineer.

STATE ENGINEERS SINCE CREATION OF OFFICE

A. E. Chandler.....May 29, 1903, to May 1, 1905
Henry Thurtel.....May 1, 1905, to May 1, 1907
Frank R. Nicholas.....May 1, 1907, to March 3, 1910
Emmet D. Boyle.....March 8, 1910, to March 21, 1911
W. M. Kearney.....March 21, 1911, to May 15, 1917
J. G. Scrugham.....May 16, 1917, to January 10, 1918
Seymour Case.....January 25, 1918, to March 28, 1919
J. G. Scrugham.....March 28, 1919, to October 7, 1922
Robert A. Allen.....October 7, 1922, to March 28, 1927
Geo. W. Malone.....March 29, 1927, to May 28, 1935
Alfred Merritt Smith.....May 29, 1935–

OFFICIAL ROSTER DEPARTMENT OF STATE ENGINEER

OFFICE PERSONNEL

Carson City, Nevada

July 1, 1948, to June 30, 1950

ALFRED MERRITT SMITH	State Engineer
HUGH A. SHAMBERGER	Assistant State Engineer
EDMUND MUTH[1]	Special Deputy State Engineer
F. N. DONDERO[2]	Deputy State Engineer
J. A. MILLAR	Office Engineer
E. J. DERICCO[3]	Field and Office Engineer
C. E. THIEX	Office Manager
ALTA THIEX	Stenographer
SHIRLEY HINES[4]	Stenographer
HELEN OXOBY[5]	Stenographer
AUSTIE HELEN EICHE[6]	Stenographer
LORRAINE MATHEWS	Stenographer
ELLEN A. ROSS[7]	Stenographer
KATHRYN LYON[8]	Stenographer
NANCY MCGUIRE[9]	Stenographer
R. J. NEWTON	Special Services
CHARLES B. MARRIAGE	Special Services
JEANNE MATTSON	Extra Clerical
VERDA L. MILLER	Extra Clerical
MARION PEYTON	Extra Clerical
EMILY BOURIE	Extra Clerical

WATER DISTRIBUTION PERSONNEL

Las Vegas and Pahrump Artesian Basins

HARRY E. JAMESON, Artesian Well Supervisor	1948–1950

Humboldt River, 1948

GEORGE HENNEN, Supervising Commissioner	Entire River
NELLO AIAZZI, Assistant Supervising Commissioner	Entire River
STEVEN J. CUSTER, Hydrographer	Lovelock
WARREN CLEMENS, Water Commissioner	Starr Valley, Deeth
WILLIAM HOLT, Water Commissioner	Little Humboldt
ERNEST R. MILLER, Water Commissioner	Little Humboldt
GEORGE B. MOSELY, Water Commissioner	Lamoille, South Fork
JERRY WIGNALL, Water Commissioner	Lovelock
RUTH GUSTAFSON, Stenographer	Elko Office
LILY BANDETTINI, Stenographer	Elko Office

[1]Special Deputy State Engineer, September 15, 1948.
[2]Deputy State Engineer, September 15, 1948.
[3]June 1, 1949, to date.
[4]Resigned April 20, 1949.
[5]Resigned September 18, 1948.
[6]Resigned August 23, 1949.
[7]Resigned October 15, 1949.
[8]Resigned April 15, 1950.
[9]May 25, 1950, to date.

Humboldt River, 1949

GEORGE HENNEN, Supervising Commissioner.....Entire River
NELLO AIAZZI, Assistant Supervising Commissioner.....Entire River
GEORGE B. MOSELEY, Water Commissioner.....Entire River
JERRY WIGNALL, Water Commissioner.....Lovelock
WILLIAM HOLT, Water Commissioner.....Little Humboldt
STEVEN J. CUSTER, Hydrographer.....Lovelock
WALTER REED, Hydrographer.....Quinn and Salmon Rivers
DON T. WOODS, JR., Water Commissioner.....Winnemucca
FRANCIS RAY KNICKREM, Water Commissioner.....Battle Mountain
GERALD C. TURVILLE, Water Commissioner.....Lamoille, South Fork
LILY BANDETTINI, Stenographer.....Elko Office

Humboldt River, 1950

GEORGE HENNEN, Supervising Commissioner.....Entire River
NELLO AIAZZI, Assistant Supervising Commissioner.....Entire River
GEORGE B. MOSELEY, Water Commissioner.....Entire River
FRANCIS RAY KNICKREM, Water Commissioner.....Battle Mountain
GERALD WIGNALL, Water Commissioner.....Lovelock
JOSEPH O. DAVIS, Water Commissioner.....Paradise
LEE GRISWOLD, Commissioner and Hydrographer.....Starr Valley, Elko County
MILTON G. VERMILLION, Hydrographer.....Contact
LILY BANDETTINI, Stenographer.....Elko Office
MARION M. PARKER, Stenographer.....Elko Office

Duckwater and Currant Creeks, 1948

W. E. HAWKINS, Water Commissioner.....Entire District
ROY DONDERO, Water Commissioner.....Currant Creek

Duckwater and Currant Creeks, 1949

W. E. HAWKINS, Water Commissioner.....Entire District

Duckwater and Currant Creeks, 1950

JOHN RUTHERFORD, Water Commissioner.....Entire District

Muddy River, 1948–1950

CLARENCE A. LEWIS, Water Commissioner.....Entire District

Pahranagat Lake, 1948

GUY JACKA, Water Commissioner.....Entire District

Pahranagat Lake, 1949

RAYMOND H. MILLS, Water Commissioner.....Entire District

Pahranagat Lake, 1950

ALTON BINGHAM, Water Commissioner.....Entire District

Baker and Lehman Creeks, 1948

ROBERT A. RYDER, Water Commissioner.....Entire District

Baker and Lehman Creeks, 1949–1950

HARRY E. HESSELGESSER, Water Commissioner.....Entire District

White River, 1950

BILL HENDRIX, Water Commissioner.....Entire District

SUMMARY OF THE WORK OF THE STATE ENGINEER

STATE COMMISSIONS AND BOARDS

The State Engineer upon taking office automatically becomes a member of the following Commissions:

1. The Nevada Public Service Commission.
2. The Nevada State Irrigation District Bond Commission.
3. The State Range Commission.
4. The Nevada State Planning Board.

By gubernatorial appointment the present State Engineer is also a member of the following:

5. The Colorado River Commission of Nevada.
6. State Board of Registered Professional Engineers.

RECLAMATION ORGANIZATIONS

1. The Association of Western State Engineers (17 Western States).
2. The National Reclamation Association.
3. National Water Conservation Conference.
4. Colorado River Water Users Association.
5. National Rivers and Harbors Congress.

STATUS OF ADJUDICATION OF STREAM SYSTEMS

The work of adjudicating the waters of the Nevada stream systems has proceeded since the inception of this office in 1903 to the present time:

1. Stream systems adjudicated, 1903 to date	39
2. Acres under adjudicated streams	389,199
3. Vested water users under adjudicated streams	621
4. Adjudicated stream systems supervised by this office during the past biennium	8
5. Adjudicated stream systems not supervised by this office during the past biennium	31
6. Streams in process of adjudication	25
7. Adjudications completed during past biennium	0
8. Stream systems on which decrees have been entered by civil suit not under supervision of this office	10
9. Stream systems adjudicated by United States District Court	4
10. Stream systems under process of adjudication by United States District Court	1

STATUS OF WATER APPLICATIONS AND PROOFS OF APPROPRIATION

1. Water applications filed 1903 to June 30, 1950	13,431
2. Water applications acted upon, 1903 to June 30, 1950	12,956
3. Water applications on which no action has been taken	475
4. Water applications acted on, July 1, 1948, to June 30, 1950	1,067
5. Water applications filed, July 1, 1948, to June 30, 1950	912
6. Proofs of commencement of work filed, June 1, 1948, to June 30, 1950	550

7. Proofs of completion of work filed, July 1, 1948, to June 30, 1950 450
8. Proofs of beneficial use filed, July 1, 1948, to June 30, 1950 364
9. Protests filed against the granting of applications, July 1, 1948, to June 30, 1950 375
10. Certificates of appropriation issued under permitted water rights, July 1, 1948, to June 30, 1950 340
11. Proofs of appropriation filed, 1903 to June 30, 1950 2,359
12. Proofs of appropriation filed, July 1, 1948, to June 30, 1950 9

COOPERATIVE WORK

The State Engineer also carries on cooperative work in stream gaging, snow survey, and ground-water studies through three State appropriations. The cooperating agencies are:

The Water Resources Branch of the United States Geological Survey.

The Nevada Cooperative Snow Surveys.

The stream gaging and ground-water study programs are carried by the United States Geological Survey under two separate cooperative programs.

The activities of the State Engineer are related under their proper headings elsewhere.

PUBLIC SERVICE COMMISSION

The Nevada Public Service Commission is composed of the following members:

George Allard, Chairman, Carson City.
Charles V. Williams, Yerington.
Alfred Merritt Smith, Carson City.
Lee S. Scott, Secretary, Carson City.

The work of this commission is published by the chairman in a biennial report. During the past biennium many hearings have been held in various parts of the State on matters concerning rate schedules of public utilities, rail and motor carriers, complaints as to public service, and requests for certificates of convenience and necessity for the operation of public utilities.

THE STATE IRRIGATION DISTRICT BOND COMMISSION

The State Irrigation District Bond Commission was created by an Act of the Legislature approved February 26, 1921, being sections 8217–8228, Nevada Compiled Laws 1929. The commission consists of the following members:

Vail Pittman, Governor of Nevada.
Grant L. Robison, Bank Examiner.
Alfred Merritt Smith, State Engineer.

It is the duty of the commission to pass upon the eligibility of bonds of irrigation districts as legal investment within Nevada.

THE STATE RANGE COMMISSION

This commission consists of the following members:

Vail Pittman, Governor of Nevada.

George Allard, Chairman, Public Service Commission.

Alfred Merritt Smith, State Engineer.

The 1929 Legislature created the "State Range Commission" for the purpose of determining the principles, laws, or policies that should apply to the grazing use of the natural range forage resources of publicly owned lands within Nevada.

The work of this commission has been dormant, since the major part of the range area in Nevada has come under the supervision of the Taylor Grazing Division of the Department of the Interior. It should be noted, however, that in the areas not within Division of Grazing Districts the State Engineer bases decisions and makes rulings on water filings according to the Nevada Stockwatering Act of 1925.

BIENNIAL REPORT OF STATE ENGINEER, 1948–1950

ACKNOWLEDGEMENTS AND RECOMMENDATIONS

ACKNOWLEDGEMENTS

This report covers the eighth two-year period of service by my associates and myself in the department of the State Engineer. A great portion of the work of this office is in the handling of water applications. During the period covered by this report we reached an all-time high in the number of applications filed, the applications upon which action was taken, the number of protests filed, and the fees collected. This can be graphically visualized by referring to the graph on page 20. In addition, much time is involved in water distribution work and the handling of inquiries and personal calls, and on our cooperative program. Some of the special work carried on by this office during the past biennium is shown in Chapter I. As secretary of the Colorado River Commission, of necessity, much of my time has been devoted to the work of that commission. A report of the activities of the Colorado River Commission is given in Chapter XXV. I wish especially to praise the fine service rendered by my staff in the diversified work of the department.

Acknowledgements and sincere thanks are extended to the following agencies with which we have worked so closely during the past two years:

Soil Conservation Service.
U. S. Extension Service.
Nevada State Experiment Station.
Farmer's Home Administration.
United States Geological Survey.
United States Indian Service.
United States Weather Bureau.
Bureau of Land Management.
United States Forest Service.
U. S. Bureau of Reclamation.
U. S. Army Engineering Office.
Federal Power Commission.
Nevada State Farm Bureau.

May I again repeat a statement I have often made before which is that the services and efficiency of the department are in no small measure due to the help of State officers in other departments. These officers, with whom we are in contact almost daily and whose work is often related to our own, have always given us their full cooperation. Governor Vail Pittman, Attorney General Alan Bible and his able assistants, Wm. T. Mathews, George P. Annand, Robert McDonald, and the late Homer Mooney, have all been of great assistance to me and my staff, and I take this means of publicly thanking them.

I wish also to extend my sincere thanks to our representatives in Congress, Senator Pat McCarran, Senator George Malone, and Congressman Walter S. Baring, who have never failed to lend aid and council when called upon. I also thank the many other State and county officers throughout our State who have rendered valuable service to our department.

RECOMMENDATIONS

1. *Addition of Deputy in Charge of Ground Water.* Due to the ground-water development work now under way throughout the State and the many problems attendant to such work, we feel it highly necessary to have a ground-water hydrologist added to the personnel of this office.

2. *Cooperative Ground-Water Program.* This program has been underway for five years and ground-water reports have been made on many of the major basins throughout the State. We recommend the continuance of this cooperative work.

3. *Cooperative Stream Measurement Program.* We feel it extremely important to increase the work of this program and recommend an increase in the State appropriation.

4. *Cooperative Snow Survey Program.* We feel that this program is increasing its effectiveness each year and recommend its continuance.

CHAPTER I

Introductory and General

The Office of State Engineer was created by Legislative Act in 1903, primarily for the purpose of providing a statutory procedure for the determination and regulation of existing water rights. In 1905 the Legislature provided a statutory method by which future water rights could be acquired and perfected by application to the State Engineer for permission to appropriate and apply water to beneficial use. The primary duty of this office then was the adjudication of vested water rights, the administering of the distribution of such waters and the processing of application to appropriate water. The adjudication of water rights on the major rivers in Nevada have been completed, either under State law or by the Federal Court. The office is continually comprising adjudication procedures on minor streams. Starting about 1946 the number of applications to appropriate water increased very rapidly as is shown in Chapter III. Many other activities are constantly being carried on by this office and a brief digest of the work of this office during the biennium is herewith given:

APPLICATIONS TO APPROPRIATE WATER—RELATED DOCUMENTS

A summary of the applications to appropriate water filed during the 1948–1950 biennium is covered in Chapter XXI. To indicate the volume of work handled, a summary of the documents filed during the last three bienniums is herewith set forth:

	1944–1946	1946–1948	1948–1950
Applications filed	487	895	912
Protests filed	101	338	375
Proofs of Appropriation filed	4	20	9
Proofs of Commencement filed	241	349	550
Proofs of Completion filed	175	290	450
Proofs of Beneficial Use filed	154	203	364
Certificates of Appropriation	160	188	340

In addition to the above, there were other documents filed during the period 1948–1950.

DISTRIBUTION OF WATER

One of the major problems always confronting this office is the distribution of water on streams that have been adjudicated. This work is carried on by water commissioners appointed by the Governor who work directly under the State Engineer. The waters of the following streams are being distributed according to decreed rights:

Humboldt River.	Currant Creek.
Little Humboldt River.	Duckwater Creek.
Baker and Lehman Creeks.	Pahranagat Lakes.
White River.	Muddy River.
Virgin River.	Quinn River.

On many other adjudicated streams the State Engineer is called in from time to time to settle controversies. A summary of this work is given in Chapter IV.

GROUND-WATER PROBLEMS

In 1939 the present ground-water law was enacted. Since that time there have been several amendments and additions with the result that we now have comprehensive ground-water laws. In recent years there has been a great increase in the use of ground water for irrigation, stock and domestic use. This has been reflected in the number of applications to appropriate ground water which, for the 1948–1950 period, amounted to 506.

In addition to handling the applications, many intricate problems have come before us. Requests are numerous for assistance in locating wells, type of walls and casings, pumps, etc. Due to lack of personnel in our office, we have not been able to assist as much as we would like to.

WELL DRILLERS

The 1947 Legislature amended the Ground-Water Act by adding a section related to well drillers. This section provides that all well drillers must be licensed and must submit logs of all wells drilled. During the fiscal year ending June 30, 1950, some 76 well drillers were licensed. From July 1, 1947, to July 1, 1950, there were 1,346 well logs filed. (See Chapter XI.)

HUMBOLDT RIVER STUDY

The 1949 Legislature granted authority for the State Engineer to carry on a two-year study of the Humboldt River System in order to obtain data to be used in connection with a program of flood control and water conservation. This work was started July 1, 1949, by Edmund Muth, Special Deputy. A description of this work is given in Chapter XV.

LAKE TAHOE REPORT

A joint study on the use of water in the Lake Tahoe watershed was made during 1948 by the State Engineers of California and Nevada. Up to the time of this study little was known as to the population around Lake Tahoe, amount of water used, and character of water rights. Since Lake Tahoe is an inter-State body of water, any comprehensive study would not be complete unless both States cooperated. The report of this study is given in Chapter XVII.

VIRGIN RIVER

The Virgin River rises in Utah and flows through the northwesterly corner of Arizona and thence into Nevada and Lake Mead. The waters of the Virgin River furnish the irrigation supply for the Mesquite and Bunkerville areas and, also, lower downstream users. A few hundred acres of land is also irrigated in Arizona. Recently, the Bureau of Reclamation issued a report on the Dixie Project in Utah which contemplates a reservoir on the Virgin River above the town of Virgin, and also on Santa Clara River, a tributary to the Virgin River. Both of the States of Arizona and Nevada have been asked for comments on this project. A study is now being made by this office on the possible effect this project may have on the amount and quality of water available to the Nevada lands following completion of the project.

COOPERATIVE FEDERAL AGENCIES

The Office of State Engineer is carrying on active cooperative programs with agencies of the Federal Government. These programs are:

Ground Water Studies (See Chapter VII).
Surface Water Program (See Chapter VIII).
Snow Surveys (See Chapter IX).
Duty of Water Studies (See Chapter X).

NEVADA WATER CONFERENCES

Starting in 1946 the State Engineer has been sponsoring yearly water conferences. At such conferences, all Federal and State Agencies concerned with water matters are invited to present a resumé of their work in Nevada during the past year, as well as their plans for the coming year. In addition, round-table discussions are had on subjects of current interest to the water users and agencies dealing with water problems.

Each year these conferences are becoming more important. The proceedings are published and are available upon request.

NEVADA POWER STUDY

This survey, made by the Federal Power Commission in cooperation with the Colorado River Commission, was completed in 1948. The printed report is available upon request. In this study the personnel of the State Engineer's office was utilized to a considerable extent.

COLORADO RIVER COMMISSION

The State Engineer is a member of this commission and also acts as secretary. As such, a great part of his time is devoted to the work of the commission. In addition, the books of the commission are handled by the State Engineer's office manager. The biennium report of the Colorado River Commission is given in Chapter XXV.

CHAPTER II

State Water Right Surveyors of Nevada

Following is a complete list of licensed State Water Right Surveyors authorized to practice before the Office of the State Engineer during the past biennium:

NEVADA

Babbitt—Floyd L. Justus.
Battle Mountain—James R. Wilson.
Carson City—John B. Chattin.
Wayne McLeod.
Wm. J. Johnstone.
Harry E. MacNelly.
Jack A. Parvin.
Robert A. Allen.
W. T. Holcomb.
Albert Quill.
Lawrence G. Chambers.
Elko—W. H. Settelmeyer.
Hugh I. Rossolo.
Ely—F. W. Millard.
Robert W. Millard.
John Victor Caselli.
Eureka—Floyd Sadler.
M. M. Harcourt.
Thomas M. Cahill.
Fallon—L. W. Crehore.
Hugh M. Wilson.
E. P. Osgood.
J. C. Coniff.
Fernley—W. A. Pray.
Gardnerville—O. L. Hussman.
Goldfield—Wm. H. Hisle.
Henderson—Ernest H. Clary.
F. W. Thorne.
Las Vegas—Jack Asher.
William Clark.
Harlan Brown.
Chas. L. Knaus.
C. D. Baker.
Van O. Eastland.
Frank D. Rathbun, Jr.
George W. Von Tobel.
Sherman Mason.
L. A. Harris.
Lovelock—Robert S. Leighton.
J. H. Causten.
Peter F. Anker.
Manhattan—Arthur E. Smith.
Mina—L. B. Spencer.
Minden—J. A. Millar.
James D. Wallace.
Paradise Valley—F. B. Stewart.
Pioche—Frank Walker.
Reno—R. W. Prince.
John E. Curran.
L. H. Taylor.
C. V. Taylor.
Claude E. Hunter.
Thos. R. King.
John V. Mueller.
M. A. Pray.
Starr McW. Hill, Jr.
Carl Stoddard.
Philip S. Cowgill.
Harold Layman.
David Mitchell.
Geo. W. Malone.
William J. Moran.
C. C. Taylor.
A. E. Holgate.
A. C. Bruhns.
Fred W. Clayton.
Round Mountain—J. W. E. Taylor.
Silver Peak—Harry H. Hughes.
Sparks—Robert F. Quinn.
Sulphur—J. G. Huntington.
Stewart—C. J. Preece.
Tonopah—C. A. Liddell.
Tuscarora—Chester L. Woodward.
Virginia City—Walter G. Reid.
Howard S. Squires.
Wadsworth—Nye W. Tognoni.
Wells—J. L. Vandiver.
John D. Franklin.
Winnemucca—W. A. Wentz.
A. V. Tallman.

CALIFORNIA

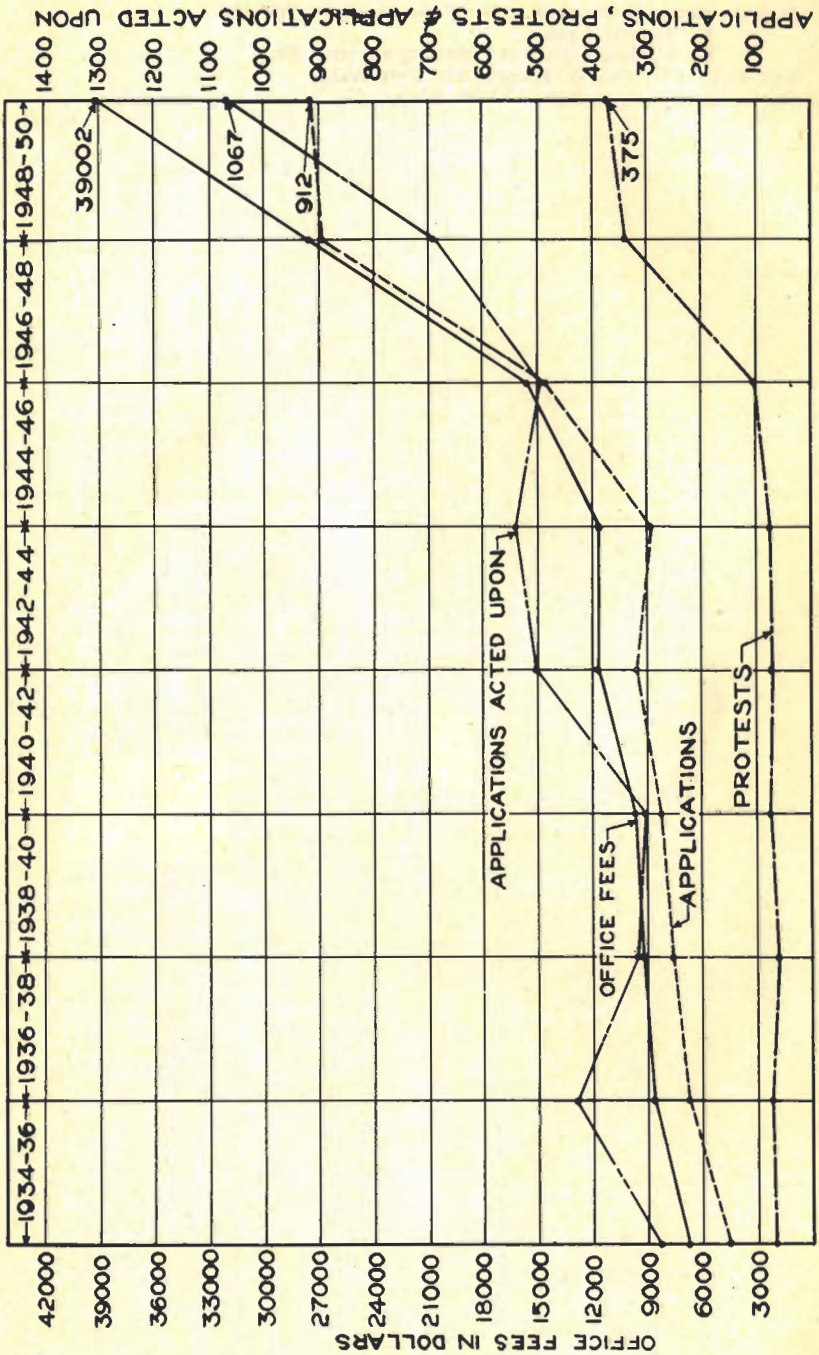
Alturas—W. J. Archer, P. O. Box 167.
Robert W. Haselwood.
Benton—Joseph Markert.
Berkeley—R. E. Tilden, 2829 Benvenue Ave.
Riverside—Robert R. Reid.
Sacramento—G. F. Engle, 1857 Forty-fourth St.
San Francisco—T. L. Phillips, Chief Engineer, W. P. R. R. Co., Mills Bldg.

OREGON

Burns—Mott V. Dodge.
Portland—Harry D. Willis, Room 714, Wheatherly Bldg.

UTAH

Ogden—Louis H. Baukol, care of Southern Pacific Co.
B. Russell Lyon.
K. W. Kennedy, 1544 Twenty-seventh St.
Salt Lake City—C. R. Hagen, 218 Felt Bldg.
St. George—Leo A. Snow, Snow Bldg.


APPLICATIONS, PROTESTS & APPLICATIONS ACTED UPON
OFFICE FEES IN DOLLARS
1934-36
1936-38
1938-40
1940-42
1942-44
1944-46
1946-48
1948-50
39002
1067
912
375
APPLICATIONS ACTED UPON
OFFICE FEES
APPLICATIONS
PROTESTS

CHAPTER III

Applications for Water Rights

An all-time high was reached during this biennium in the number of applications filed to appropriate water. From July 1, 1948, to June 30, 1950, there were 912 applications filed. Of this number there were 375 protests to the granting of applications filed. All of the protested applications require field investigations to be made and, in many instances, hearings have to be held. During the past two years over thirty hearings were held. There were 48 rulings issued covering 192 applications to appropriate. During this period there were four appeals filed on rulings that were issued.

The increase in work of the office is reflected by the office receipts which, during the 1948–1950 biennium, amounted to $39,002.24. The receipts during the 1946–1948 biennial amounted to $27,541.28 and during the 1944–1946 period the receipts were $15,680.02. The large increase in receipts during the 1948–1950 period is due, to a great extent, to the increase of applications, extensions of time, and protest fees.

Some 1,067 applications were acted upon during the 1948–1950 period. This represents action on 419 applications filed during this biennium and 648 filed prior to July 1, 1948. This number is by far the greatest number of applications acted upon during any similar period. During the preceeding biennium, 688 applications were acted on.

The chart on page 20 illustrates graphically the growth of the office. It is important to note the number of applications to appropriate ground water. Of the 503 applications filed to appropriate water for irrigation purposes, 299 were to appropriate from ground water:

MANNER OF USE COMPARISON

	1948–1950	1946–1948	1944–1946	1942–1944	1940–1942
Irrigation	503	328	159	96	101
Mining and milling	49	56	28	26	75
Stockwater	239	329	179	104	46
Domestic	36	54	13	7	21
To change point of diversion, etc.	55	43	27	26	11
Municipal	15	5	10	9	8
Power	5	8	1	.....	6
Fish rearing	14	8	5		
Manufacturing	2	5	1	3	3
Quasi-municipal	34	57	61	19	37
Others*	.....	2	3	3	10
Total	912	895	487	293	318

*Includes railroad, bathing, recreational, gravel washing, etc.

Pertinent information regarding water applications filed in this office since its creation will be found on page 9. The status of applications and certificates issued will be found under the following chapters:

1. Status of applications filed during the biennium 1948–1950, Chapter XXI.

2. Status of applications filed prior to July 1, 1948, upon which action has been taken during the past biennium, Chapter XXII.

3. Certificates issued under permits during the 1946–1948 biennium, Chapter XXIII.

CHAPTER IV

Adjudication of Water Rights

Section 1, Chapter 4, Statutes of 1903, provided a law creating the Office of State Engineer and furnished a method for the determination of the relative rights in and to waters already appropriated. Several amendments were subsequently made, with the result that our water law is now admirably adapted to conditions in Nevada, and has been declared constitutional in its entirety by decisions rendered by the Supreme Court of Nevada.

Amendatory Acts were passed during the 1907 and 1909 sessions of the Legislature. In 1913 a new water law was enacted and the old water law repealed in its entirety. The new law was approved on March 22, 1913. Under this Act the water law was greatly broadened, both as to the adjudication procedure on the determination of vested rights and the appropriation of water procedure on the determination of vested rights and the appropriation of water procedure by application to the State Engineer. Subsequent amendments to the laws relating to the adjudication procedure were enacted in the following sessions of the Legislature, viz, 1915, 1917, 1919, 1921, 1925, 1931, 1933, and 1937. A brief description of these various amendments may be found in Chapter 6 of the 1936–1938 Biennial Report, wherein a summary of the laws enacted by the Nevada Legislature relating to water and the Office of State Engineer is given. The statutory procedure to determine the relative rights in and to the waters of a stream system under a claim of vested right is set forth in sections 18 to 58 of the water law. A summary of this procedure may be found on page 60 of the 1950 Compiled Water Laws of Nevada, which is available upon request.

PROOFS OF APPROPRIATION FILED DURING THE YEARS OF THE PRESENT BIENNIUM

During this period the following proofs of appropriation, which are claims of vested water rights, have been filed for future use in the determination of the relative rights and also to make a record of such claims. A condensed statement giving the salient data is herewith given in the order of:

1. Proof serial number.
2. Date filed.
3. Name of claimant.
4. Source of water supply.
5. Location by county.
6. Use claimed.

02352....9–10–48....Mary Wright Bain; Newton Creek; Washoe County; Irrigation, stockwater, and domestic.

02353....9–20–48....Howard N. Sharp; Blue Eagle; Jack and Stone House Springs; Nye County; Irrigation and domestic.

02354—3–30–50....Mrs. B. Menzi; Underground; Washoe County; Irrigation, stockwater, and domestic.

02355....6– 6–50....Monitor Livestock Company; Wadsworth Creek; Nye County; Stockwater.

02356....6– 6–50....Monitor Livestock Company; Black Rock Creek; Nye County; Stockwater.

02357....6- 6-50....Monitor Livestock Company; Mill Canyon Creek; Nye County; Stockwater.
02358....6- 6-50....Montior Livestock Company; Wallace Canyon Creek; Lander County; Stockwater.
02359....6- 6-50....Monitor Livestock Company; Morgan Creek; Nye County; Stockwater.
02360....6-27-50....John and Bernice Elaine Kincaid; Indian Creek Spring; Nye County; Irrigation and domestic.

ADJUDICATIONS IN PROCESS AND COMPLETED DURING BIENNIUM

KALAMAZOO CREEK

Kalamazoo Creek is located on the easterly slope of Sheel Creek Range in White Pine County, in and about Township 20 N., Range 66 E., M. D. B. & M. There are two claimants to the waters of this source, namely, B. H. Robison and George H. Eldridge.

January 20, 1948—Claimant B. H. Robison filed Exceptions to Order of Determination.

RODEO CREEK

Rodeo Creek is located westerly from the southern end of Pyramid Lake in Washoe County, on the easterly slope of Pah Rah Range of Mountains, and flows in a northerly direction toward Pyramid Lake. There is one claimant, namely, Ira G. Blundell.

October 2, 1948—Decree filed. 58.36 acres of cultural land.

WARM SPRINGS AND BIG SPRINGS

Warm Springs and Big Springs are located on the westerly slope of Hat Mountain, and on the easterly side of Surprise Valley, in northern Washoe County and being about in Township 40 and 41 N., Range 18 E., M. D. & M. There is one claimant, namely, R. M. Miller.

October 2, 1948—Decree filed. 102.86 acres of cultural land.

FRANKTOWN CREEK

Franktown Creek is located just westerly of Washoe Lake in Washoe County. Its source is the drainage on the easterly slope of the Sierra Nevada Mountains into Little Valley. There are some nine claimants who have consolidated their water rights by forming the "Franktown Creek Irrigation Company."

June 12, 1949—Petition by Franktown Creek Irrigation Company requesting the determination of the relative rights in and to the waters of Franktown Creek.

NEWTON CREEK

Newton Creek forms on the westerly slope of the Washoe Mountains and flows westerly through the northeasterly portion of T. 17 N., R. 20 E.

September 10, 1948—Petition filed by Mary Wright Bain through her agent, Robert F. Quinn, requesting an adjudication and determination of the relative rights of the waters of Newton Creek and tributaries.

EGAN CREEK

Egan Creek heads in several springs on the west side of Telegraph Mountain in the Egan Range, White Pine County. It flows eastward into Steptoe Valley.

March 20, 1950—Petition filed by claimant, K. A. Barton, through his attorney, W. Howard Gray, to determine the relative rights of the various claimants to the waters of Egan Creek and tributaries.

June 12, 1950—Report of field investigation filed.

June 5, 1950—State Engineer entered Order Granting Petition.

CHAPTER V

Water Distribution

HUMBOLDT WATER DISTRIBUTION DISTRICT

The Humboldt Water Distribution District was created by an order of the State Engineer in 1947. All adjudicated streams in Elko, Humboldt, Pershing, and the north portion of Lander and Eureka Counties are included in this district. The district office is located in the First National Bank Building, Elko, Nevada.

QUINN RIVER

(See 1946–1948 Biennial Report)

A water commissioner and a hydrographer were employed for the 1948 and 1949 irrigation seasons. The court directed the State Engineer not to employ a commissioner during the 1950 season because of pending litigation on the stream system.

Three gaging stations are maintained by the State Engineer in cooperation with the water users and U. S. Geological Survey. These stations are located on McDermitt Creek, East Fork Quinn River, and the Quinn River near Flat Creek.

SALMON CREEK

(See Chapter XIV)

The hydrographic work on the Salmon River has been under the supervision of the Humboldt Water Distribution District's supervising commissioner. All records and compilations as well as the installation of all gaging stations have been made by the district office and personnel.

THOUSAND SPRINGS CREEK

In June of 1950, personnel of the Humboldt Water Distribution District made measurements of the diversions from Thousand Springs Creek at the request of one of the water users. A direct billing was made to the water user to compensate for this service.

LITTLE HUMBOLDT RIVER

A water commissioner is employed during the irrigation season with his headquarters at Paradise. The stock-water distribution during the nonirrigation season is handled by the district commissioner stationed at Winnemucca. Four recording gaging stations are operated by the State Engineer in cooperation with the water users and the U. S. Geological Survey. One of these stations (Little Humboldt, Chimney Dam Site) will be discontinued in September of 1950.

There is an absolute need for measuring devices in the diversion ditches on the Little Humboldt Stream System. Every effort will be made to have these measuring devices installed during the coming year. Some work should be done on the headgates and diversion structures.

HUMBOLDT RIVER

A great deal of work has been done on the Humboldt River during the past biennium. A brief resumé of what has been accomplished will be outlined in this report. The details will be covered in the reports of the supervising water commissioner and the report on the Humboldt Survey which is now in progress.

The water supply on the Humboldt River System has been adequate during the past two years to supply the irrigation needs; however, holdover storage in the Rye Patch reservoir is becoming critically low. Unless there is an above-normal runoff during the winter of 1950–1951, there will be a critical period during the early part of the 1951 irrigation season when the water supply may be below the irrigation need.

The method of bookkeeping has been revised and two sets of books are now kept; one in the State Engineer's office and one in the district office at Elko. The new system gives a much more detailed cost breakdown than the one formerly used.

The new budget forms have been prepared and are being rechecked for possible errors. In preparing this budget, which is used for assessment purposes, all the water rights on the Humboldt River System were checked at least twice. It is now felt that for the first time the entire water rights on the system are listed for assessment purposes.

Complete priority tables have been prepared for the lands with water rights below Palisade. The area above Palisade is about 75 percent complete in the preparation of priority tables.

Complete daily records of diversions are kept for the area of the river below Palisade. It has been impossible to properly regulate and get a daily diversion record above Palisade; however, definite steps are being taken to remedy this situation.

During the past few years a stream-gaging program for the Humboldt System has been carried on through the cooperation of the State Engineer, the water users, and the U. S. Geological Survey. Two new stations have been constructed during the past biennium, one on the lower Humboldt River below Lovelock and one on the main river near Valmy, Nevada.

In addition to these stations, the Humboldt District has maintained four weekly recording stations in Starr Valley on Herder Creek, Ackler Creek, and Right and Left Boulder Creeks. A weekly recorder was installed on the main Humboldt River at Reinhart Lane near Winnemucca. Innumerable staff gage stations have been maintained throughout the entire system. Additional recording stations are needed and will be installed as finances permit.

Through the efforts of the State Engineer and the Distribution District, a program of beaver removal was started by the State Fish and Game Commission on the streams in northeastern Nevada. During the winter of 1948–1949, 662 beaver were removed from the Humboldt River and 305 from other streams in the State. During 1949–1950, 927 beavers were removed from the Humboldt River, 310 from the Little Salmon River, and about 460 from the rest of the State. There are still several areas on the Humboldt River and some of its tributaries where beaver removal is necessary. Within the next two years it is hoped that the beaver population will be reduced to the point where they will no longer be detrimental to the water users.

An attempt has been made to have the water users install headgates and measuring devices at their diversion points. Much remains to be done on this problem; however, some progress was made during the past year. Five meter gates were installed at diversion points on the Witter and Mahoney ranches near Beowawe, Nevada. Three con-

trolled metering stations with recorders and five Parshall flumes with recorders were installed in Lovelock Valley. As well as the foregoing measuring devices, one radial gate, five Calco Type 101 gates, and a diversion dam have been installed and constructed in Lovelock Valley. Several ranches in Elko are installing metal headgates. In the Battle Mountain area, several meter gates will be installed during the fall of 1950.

DUCKWATER DISTRIBUTION

Considerable work has been done toward improving the water distribution system on Duckwater Creek in Nye County, Nevada. Parshall flumes or meter gates have been installed in all the ditches receiving water. A new diversion structure was constructed by the Indian Service at the Big Warm Spring and new canals dug to deliver water to the ranches of the Indians, as well as to serve the lower water users. Two diversion boxes to handle flood and waste water, and a waste-water ditch, were constructed in the lower valley. This work has been done entirely at the expense of the water users.

Some additional improvements should be made and it is expected that this work can be done during the next biennium. The following is a brief outline of what is needed:

Every ranch has some local stretches where the channel requires cleaning. With the exception of the Indian lands, all the other water users should put new diversion structures in the channel and new headgates in their diversion ditches. Some repair work must be done on the two waste-water boxes and some cleaning and strengthening of the lower bank of the "Tail Ditch" is needed.

The State Engineer feels that the improvement program on Duckwater Creek, started about four years ago, is about 75 percent complete. The fine spirit of cooperation of the water users has made the success of the plan possible.

CURRANT CREEK DISTRIBUTION

During the past biennium a program of improvement to the distribution system on Currant Creek was started. The work has progressed satisfactorily to date. All but two ditches on the system have either Parshall flumes or weirs installed in them, and it is expected that the remaining ditches will have measuring devices placed in them during the 1950 irrigation season.

Almost every ditch needs a new headgate and some type of diversion structure should be placed in the stream channel at several of the diversion points. Every effort should be made to have this work done as soon as possible.

The water supply has been poor on Currant Creek during most of the past three irrigation seasons and the services of a water commissioner has been required to distribute the water between the water users. Because of the proximity of Currant and Duckwater Creeks, under most circumstances, one water commissioner can serve both districts.

WHITE RIVER

For several years no water commissioner has been needed on the White River System. The State Engineer's office has, on several

occasions, made trips into the area to measure the water and to settle small questions that have arisen over the diversion of the water.

At the request of the water users, a water commissioner was employed for the 1950 irrigation season.

Considerable work has been done toward improving the water distribution systems on White River. Two Parshall flumes were put in the ditches conveying water from the Lund Spring. Several new flumes were placed in the ditches delivering water from the springs near Preston. A record of the flow of these springs is being made by the Ground-Water Division of the U. S. Geological Survey.

On the White River, measuring flumes were placed in all the diversion ditches. There is a need for headgates in all the ditches and it is expected that these gates will be installed during the next two years.

BAKER-LEHMAN CREEKS

For several years a water commissioner has been employed to distribute the waters of Baker and Lehman Creeks in White Pine County.

The State Engineer, in cooperation with White Pine County and the U. S. Geological Survey, installed gaging stations on both Baker and Lehman Creeks. These stations will be maintained for at least two more years. During the next two years the State of Utah will cooperate with the State of Nevada and the M. S. G. S. in obtaining the stream-flow record.

Some work has been done in improving the distribution system. A 4-foot Parshall flume was placed at the measuring point designated as such by the decree. Some improvement has been made in the distribution ditches. However, considerable work remains to be done.

PAHRANAGAT LAKE

(See page 236)

VIRGIN RIVER

No water commissioner has been employed on this stream system. The State Engineer has, on several occasions, sent a representative to this area to measure water diversions and settle minor controversies on water distribution matters.

Two 4-foot Parshall flumes have been ordered, one each by the Bunkerville and Mesquite Irrigation Companies. These flumes will be placed in the Bunkerville and Mesquite Canals upon delivery.

MUDDY RIVER

Two gaging stations have been installed on the Muddy River by the State Engineer in cooperation with the water users and the U. S. Geological Survey. One station is at the "Home Ranch" weir and the other in the "Narrows" below Glendale.

A water commissioner is employed throughout the year on the Muddy River System.

CHAPTER VI

Conserving Nevada Water Resources

By HUGH A. SHAMBERGER, *Assistant State Engineer.*

This article was written as one of the chapters of the booklet entitled "Conservation and Nevada," issued by the Nevada State Department of Public Instruction for use by the schools of Nevada.

It has been said that "next to the air he breathes, water is man's greatest necessity." This saying has particular significance in Nevada because we have but a limited supply of water. That is why conservation of water is so important.

All growing things depend on water. It is the lifeblood of civilization. We usually accept water, like air, as a matter of course and seldom stop to think that without it life would be impossible.

Water can be conserved by means of:

1. Watershed protection.
2. Water storage.
3. Prevention of canal and ditch losses.
4. Proper irrigation.
5. Control of ground water.

Before we study the things that we can do to conserve and make better use of our limited water resources, we should learn something about water and the water cycle.

WATER—ITS ORIGIN

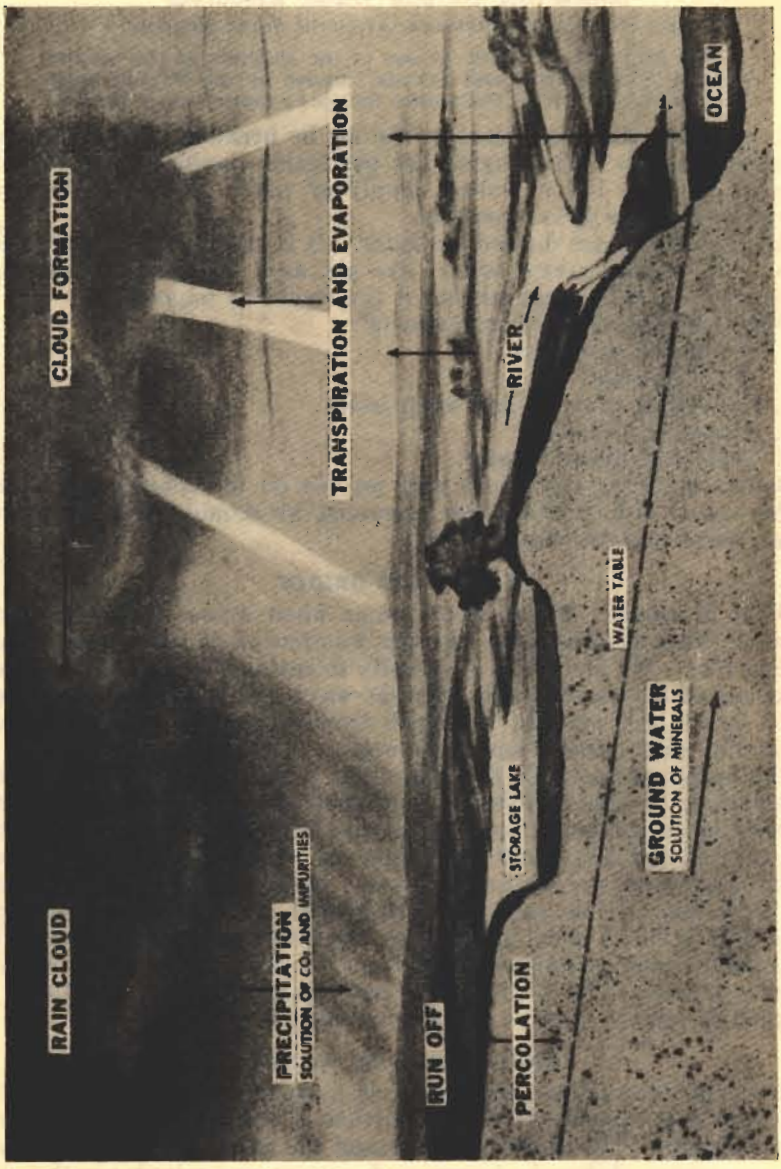
What is water? We all know water when we see it in rivers, or lakes, or when it comes from the tap, but few of us know more about it than that. We know it is a necessity to sustain life and that we can make use of it in a thousand different ways, but as long as we get as much as we need without too much trouble, few of us worry about where the water comes from or of what it is made.

The origin of water in the beginning is more or less a matter of speculation. Probably water is a product of the forces and elements at work when the planet we live on was formed. Whether the earth was created first and water came later, or whether both were present in the beginning, no one really knows. Most authorities believe that the earth was lifeless until water appeared. The first living things were plants, which were followed by the lower orders of animal life. Both plants and animals originated and lived in water. Man is still a water animal. Our bodies are about two-thirds water. Without a continuous supply of pure water we would die.

COMPOSITION OF WATER

In chemistry we learn that water is a combination of two gases—hydrogen and oxygen—in the proportion of two parts hydrogen and one of oxygen. This is written H_2O and the chemical name is hydrogen monoxide. When hydrogen and oxygen are mixed together in proportions of water they do not form water, but a transparent gas which is not water. Some outside force such as an electric spark is necessary to unite the gases to form water.

The importance of water chemically lies in the fact that it has the



The water cycle from War Department technical manual—TM5-296.

ability to dissolve solids, gases, and other liquids. Water is thus known as the universal solvent, and because of its solvent power all natural waters contain substances in solution which have been picked up from both the atmosphere and the soil. Rain water, while relatively pure, contains many kinds of dust particles and dissolved gases which have been taken from the air, and after reaching the ground it continues to dissolve and transport everything it can from the land surface.

THE WATER CYCLE

Nature has provided what is called "the water cycle" by means of which all water in existence can be located. It also explains the constant movement of waters on the earth and how and why the quantities of water in the various phases of the "water cycle" change from time to time.

In the first step of the cycle, water goes into the atmosphere by evaporation from open bodies of water, such as streams, oceans, lakes, and any other water surfaces exposed to the atmosphere. Much water is also evaporated from the soil when the water is near the land surface. Water is also drawn from the ground and released into the atmosphere by plants. This process is called transpiration.

The second step is precipitation. Air masses laden with moisture may move for long distances before cooling sufficiently to condense the moisture obtained from the first step of the cycle and make it fall, as rain or snow, or to form as dew.

In the third step the precipitated water moves downgrade by various routes. Some of the water percolates into the soil; a part runs off the surface and is collected in gullies, creeks, rivers, lakes, and the oceans. A part of the water that infiltrates (sinks) in the soil emerges as springs and seeps back into creeks and streams.

All water eventually returns to the atmosphere and is redeposited by precipitation at other places, often long distances away. For example, the greater part of the precipitation on the Sierra Nevada mountains and other watersheds in Nevada is water that evaporated from the Pacific Ocean and has been carried inland.

You can readily see that water moves restlessly and eternally between open bodies of water, the skies, and the land, and that it is a transient (moving) resource. Water may be wasted through inefficient use at some point in its cycle, but rarely is it permanently lost. Water may escape from a region where it is badly needed to a region that already has too much. The total quantity, however, is not reduced or increased; all of it is still available for use somewhere at some future time.

DISTRIBUTION OF WATER

Precipitation takes place where air is cooled enough to release some of its moisture content. This necessary cooling is accomplished, among other ways, when air flows up a land slope. Consequently, there is more precipitation in most of the mountainous parts of the west than in the valleys where the combinations that bring rainfall occur less frequently. Mountain precipitation, much of which is in the form of snow, is the main source of our water.

The topography of Nevada consists of a series of long, narrow basins called valleys. The valleys are separated by narrow parallel ranges

of somewhat barren mountains, running mostly north and south, with occasional divides running east and west. Nevada's mountain ranges are from 5 to 20 miles wide at the base, and valleys between are about the same width. The total area of valleys is about equal to that of mountains.

Precipitation conforms to the mountain pattern. Contrasts in elevation frequently produce equally pronounced contrasts in amount of precipitation. The higher the elevation the more rain and snow. This can be observed by noticing the different types of vegetation as we travel from one elevation to another or by merely observing the distribution of snow on the mountains. Oftentimes at or near the base of the mountains there is no snow at all, but as we look upward towards the tops of the mountains snow begins to appear and as we look higher and higher the amount of snow increases until no bare areas can be seen. The higher peaks usually are the whitest and we know they contain the most snow.

All surface drainage flows toward the floor of the valley. Here it may collect and form a "playa" (a playa lake is an unvegetated, flat area underlain with clay materials. Generally it is a part of a "lake plain" which means bottom of an ancient lake that has dried up). If it doesn't go into a playa lake the water goes into a central drainage channel and finally finds its way into one of our major rivers.

NEVADA—MOST ARID STATE

Nevada is the most arid (has the least rainfall) of our forty-eight States, with an average normal precipitation of 8.87 inches per year. The heaviest annual precipitation, more than 20 inches, is in the high mountains, mostly in the northern part of the State. The lightest precipitation, averaging 3.1 inches per year, is in southern Nye County near Death Valley. Most valleys where farming is practiced have an annual rainfall of less than 10 inches. Dry farming, which requires 15 to 18 inches of rain annually, is impossible because parts of Nevada receiving that much precipitation are mountainous and not suitable for farming.

OUR WATERSHEDS

What is a watershed? Simply stated, a watershed or drainage basin is an area of land from which a stream gets its water supply. The watershed may be small, such as the watershed of Clear Creek in Douglas and Ormsby Counties which is about 15 square miles in area. Or it may be large, as for instance, the area of the watersheds of the Humboldt River above Lovelock which is 13,700 square miles; and that of the Carson River above Carson City which is 876 square miles.

A watershed, then, is a combination of hills and valleys. How the higher forested and grassy slopes of a watershed are managed, largely determines the kind of spring runoff when the snow melts—whether the water from melting snow will be held back, or whether it will come down in flood proportions.

When mountain forests and perennial grasses are burned off or overgrazed, there is less opportunity for water to get into the ground to replenish underground reservoirs and streams. In undisturbed natural conditions, soil, vegetation, and available moisture tend to be in balance. Plant growth is adjusted to the amount of rainfall and the size

of stream channels to the runoff they must carry. When man carelessly or ignorantly upsets this balance by destroying the plant cover, we often have dust bowls, ruined valleys, silted reservoirs, and disastrous floods.

TYPE OF RUNOFF

In addition to the total yield of water from watershed areas, the way in which water is yielded to streams and irrigation reservoirs is of paramount importance. It can come as a seepage flow, filtered and free of sediment, or as a flash flood carrying much erosion debris. In arid States, where supplies are limited and water must be stored, it is important that the storage capacities of our reservoirs be maintained in order to stabilize the operation of the irrigation projects dependent upon them. Therefore, one of the best ways to conserve our water supplies is to decrease, as far as possible, the rate of filling of the reservoirs with sediment. Where the protective plant growth is lacking, because of fire or overgrazing, soil is rapidly eroded from

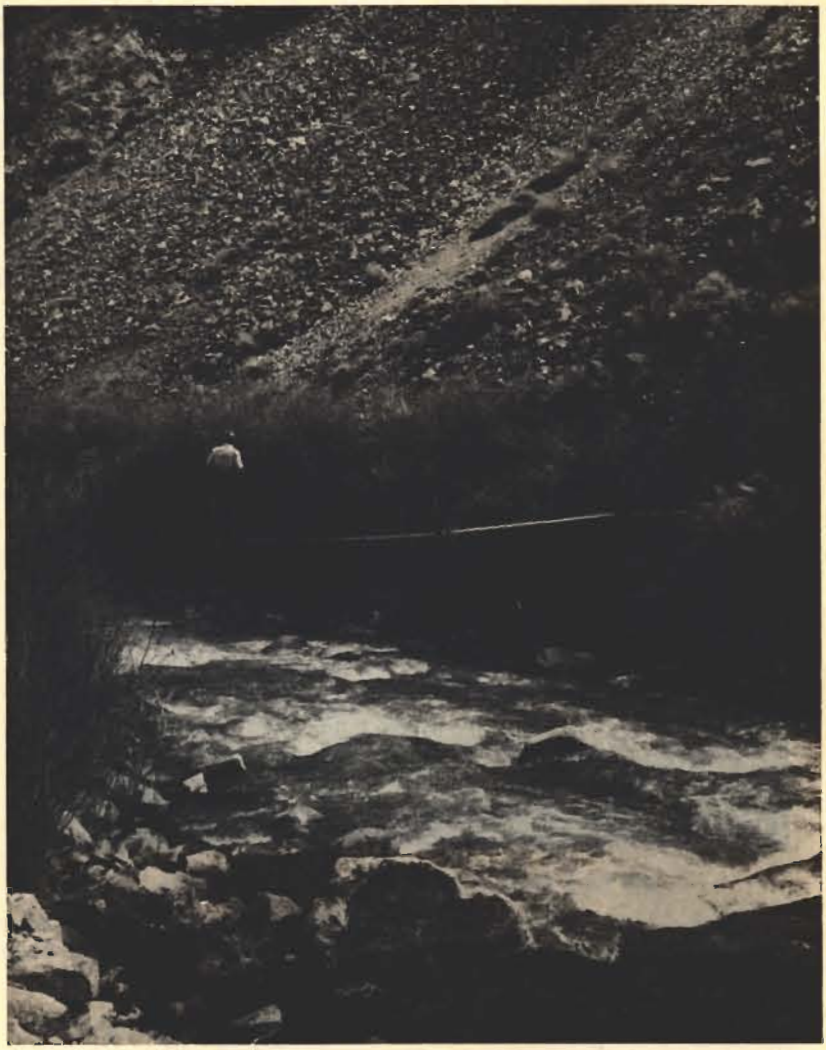
Rye Patch Reservoir on Humboldt River near Lovelock.

areas where it was a great asset, and carried to the reservoirs where it is a liability. Under these same conditions there is a rapid runoff of water causing floods and untold damage.

IMPORTANCE OF WATERSHED PROTECTION

How to obtain the most water from a watershed without destroying the soil and the protective plant cover is a major problem of watershed management. We know that only a small part of the precipitation on our high drainage area goes into streams, or underground reservoirs, and still less reaches our irrigation reservoirs. Most of the rain and snow that falls in Nevada goes back into the atmosphere by means of evaporation and transpiration.

If good perennial grasses (grasses that live from year to year) are



Our Nevada streams have a total flow of about two million acre-feet of water annually.
—Courtesy Nevada Highway Department.

grazed or burned out, less desirable weeds, grasses, and shrubs will come in, thus decreasing the forage capacity. The amount of water used by plants, which might otherwise be available for stream flow, is not large. Evaporation alone, where no plants are available, is capable of consuming a major part of the precipitation. Evaporation from bare soil during the summer months is sufficient to dry out the soil to considerable depths between storms. Also of importance, the unpalatable shrubs and plants which invade areas as the result of fire or overgrazing show greater water usage than the more palatable and higher forage-yielding grass species.

When plant cover declines, evaporation increases because of greater exposure of ground surfaces. Over much of our drainage area the evaporation rate of water is high and, by itself, is capable of using up most of the water available in the soil. This represents a loss in water for which there is no economic return. On the other hand, use of water by plants, especially those growing during the low water-yielding period, represents a use of water for which there is some return in forage for wildlife and livestock.

OUR RIVERS

Our Nevada rivers and streams have a flow of about two million acre-feet of water annually. Of this amount about 1,750,000 acre-feet is placed to beneficial use in the raising of crops and pasture. An acre-foot is the amount of water contained on one acre when covered to a depth of one foot. An acre of land, which, if square, would be 208 feet on each side, contains 43,560 square feet; therefore, an acre-foot contains 43,560 cubic feet of water and as there are 7.48 gallons of water in a cubic foot, an acre-foot of water contains 325,829 gallons. Acre-feet is used to express the storage capacity of a reservoir. For example, the capacity of Lake Mead is 30,500,000 acre-feet, or the capacity of Lahontan Reservoir is 273,600 acre-feet. Or we might speak of the amount of water required to raise alfalfa in a particular area as being 4 acre-feet per acre. This means that during the growing season the farmer must put 4 acre-feet of water on each acre of cropland in order to produce a crop.

Of the total annual flow of water in Nevada, more than 50 percent is available only to that narrow western area of the State which lies in the foothills of the Sierra Nevadas and to the eastern part of the State along the Humboldt River.

The principal rivers in Nevada are the Truckee, Carson, Walker, and Humboldt Rivers. The Truckee River empties into Pyramid Lake; the Carson River into the Carson Sink; the Walker River into Walker Lake; and the Humboldt River into the Humboldt Sink. In looking at the map of Nevada you will notice that none of the waters of these rivers reach the Pacific Ocean and the area was, therefore, called by John C. Fremont the "Great Basin." In fact, the greater part of our State drains inland. In the northeastern portion of the State, the waters of the Owyhee, Bruneau, Jarbidge Rivers and Salmon Falls Creek flow into the Snake River, a tributary of the Columbia River which flows into the Pacific Ocean. In the very southern portion of the State, the waters of the Virgin and Muddy Rivers flow into the Colorado River, which empties into the Gulf of California. Along the

eastern edge of the State, in the vicinity of Baker, the drainage is eastward into the Bonneville Basin.

With the exception of the drainage into the Snake River, Colorado River, and Bonneville Basin, all of the drainage is in the Lahontan Basin which covers the major portion of the State and is a sub-basin of the Great Basin.

The average annual flow of all surface streams in the 17 Western States is about 350 million acre-feet. The two million acre-feet of stream flow in Nevada is about six-tenths of one percent of the total stream flow for these 17 Western States. This again emphasizes the scarcity of water in Nevada and the great need for continued effort in conservation practices.

CONSERVING RIVER WATER

How do we conserve the waters of our rivers and streams? In most irrigated areas in the west the flood flows of rivers occur during periods when there is but little, if any, need for irrigation water. Later, during the hot summer months, when the need for water is greatest, the flow of rivers is smallest. Unless some means are provided for storing the early surplus water, most of it is lost to beneficial use. Storage of water in surface reservoirs, during periods of high flows, and later diversion from these reservoirs, when needed for irrigation, is therefore essential to utilize fully our water supplies. Some reservoirs are constructed primarily for storage of water for irrigation purposes; some to control floods, and many reservoirs for both purposes, plus the generation of hydro-electric power. When reservoirs serve more than one purpose, they are called "multiple-purpose reservoirs."

MAJOR DAMS AND RESERVOIRS

You will be interested in some of the major water storage projects in Nevada. One of the first of these projects was the Newlands Project started in 1903. The main feature of this project was the construction of an earth fill dam on the Carson River, a few miles west of Fallon, Nevada. This dam is 124 feet high, has a crest length of 1,400 feet, and will store 273,600 acre-feet of water. The water supply for the reservoir is derived from the Truckee and Carson Rivers. Water from the Truckee River is conveyed to the reservoir through a 31-mile canal, having its inlet at the Derby diversion dam on the Truckee River a few miles west of Fernley. This canal has a capacity of about 1,000 cubic feet per second. The water is used to irrigate many thousands of acres of land in the Fallon and Fernley areas. Other features of the project include the control dams at the outlet of Lake Tahoe, a hydroelectric power plant at Lahontan Dam, and many miles of canals, power and telephone lines.

Another well known project is the Rye Patch Dam which was constructed in 1935 and 1936 on the Humboldt River. This dam, 23 miles north of Lovelock, is also an earth fill dam. It has a maximum height of 80 feet and a crest length of 800 feet. The reservoir formed by Rye Patch dam will store 183,000 acre-feet of water. This water is used to irrigate more than 30,000 acres of land in the Lovelock Valley

and is under the control of the Pershing County Conservation District. The cost of this project, as with all Bureau of Reclamation projects, must be paid by the people who directly benefit from it. The usual period of repayment is forty years. No interest is charged on the amount owed. If a dam is constructed by the Bureau of Reclamation, and if flood control is one of the purposes of the project, that portion of the cost attributed to flood control is paid by the Federal Government and does not need to be repaid.

The Boca Dam and Reservoir constructed on the Little Truckee River, near where it joins the Truckee River, is still another Bureau of Reclamation project. Although this dam is located in California, it benefits land in Nevada and its cost is being repaid by the Washoe County Conservation District. The dam, constructed in 1937 and 1938, is a rock-fill structure, 110 feet high, and has a crest length of

Wild Horse Reservoir on Owyhee River in Elko County.

1,650 feet. It creates a reservoir capacity of 40,800 acre-feet. The water impounded in the reservoir will be used to irrigate about 30,000 acres of land in the Truckee Meadows in the vicinity of Reno and Sparks. An agreement was entered into between the Conservation District and the Sierra Pacific Power Company providing for joint operation and use.

Principal reservoirs with their respective capacities and sources of water supply are shown in the following table:

PRINCIPAL NEVADA STORAGE RESERVOIRS

Sub-basin and reservoir	*Source of supply*	*Location*	*Capacity, acre-feet*	*Purpose*
Truckee River—				
Lake Tahoe	Truckee River	Nevada and California	685,000*	Power, irrigation
Boca	Little Truckee River	Near Boca, California	41,000	Power, irrigation
Donner Lake	Donner Creek	Near Truckee, California	10,000	Power, irrigation
Independence Lake	Independence Creek	12 miles N. W. of Boca in California	20,000	Power, irrigation
Carson River—				
Lahontan	Carson and Truckee Rivers	Near Fallon, Nevada	273,600	Power, irrigation
Walker River—				
Topaz	West Walker River	Nevada and California	59,000	Irrigation
Bridgeport	East Walker River	Near Bridgeport, California	42,000	Irrigation
Weber	Walker River	Near Schurz, Nevada	13,000	Irrigation
Humboldt River—				
Metropolis	Bishop Creek	Near Wells, Nevada	30,000†	Irrigation
Willow Creek	Willow Creek	Near Midas, Elko County	15,000	Irrigation
Pitt-Taylor	Humboldt River	Near Humboldt City, Pershing County	30,000	Irrigation
Rye Patch	Humboldt River	Near Rye Patch, Pershing County	183,000	Irrigation
Owyhee River—				
Wild Horse Dam	Owyhee River	Near Mountain City, Elko County	32,000	Irrigation

*Active storage capacity between water-surface elevation of 6,223.3 and 6229.1 feet above mean sea level.
†Annual storage about one-third of this because of limited water supply.

The 1940 agricultural census listed 200 storage reservoirs in Nevada. Of this number, 168 had capacities of less than 100 acre-feet.

The Bureau of Reclamation and the Corps of Engineers have made studies for storage and better river control on the Truckee, Carson, Walker, Humboldt and Little Humboldt Rivers. Also, work has been done on the Meadow Valley Wash and Muddy River in Lincoln and Clark Counties.

Any discussion of dams in Nevada should include Hoover Dam on the Colorado River near Boulder City. This, also, was a Bureau of Reclamation project and is the greatest construction job of its kind in the world. The dam—the world's highest—is constructed of concrete. It is 727 feet high. The reservoir created by the dam is known as Lake Mead, which is over 115 miles long and contains 30,500,000 acre-feet of water. It is used for storage of irrigation water, for control of flood waters, and for the development of large amounts of hydro-electric power. Sixty-seven miles downstream from Hoover Dam, on the Colorado River, the Bureau of Reclamation is now completing another dam, known as Davis Dam. This dam, a rock and earth fill type, is 130 feet high and has a crest length of 1,300 feet. The reservoir created by Davis Dam reaches almost to Hoover Dam and will hold 1,600,000 acre-feet of water. Both Hoover Dam and Davis Dam are half in Nevada and half in Arizona, because the common boundary between these States follows the Colorado River.

RECORDS OF STREAM FLOW

To obtain data for determining the feasibilities of storage projects and water distribution, we must measure stream flow. The United States Geological Survey, Surface Water Division, and the State of Nevada through the Office of State Engineer, work cooperatively on stream measurement. In 1949, 64 stations to measure water were in operation. These stations contain an automatic recorder which continuously records the gage height, which is the elevation of the water above an established point in the stream. From these recordings the flow of the stream is determined. The longer the period of record, the more important it becomes in the studies of stream flow.

SNOW SURVEYS

Most Nevadans have heard about Snow Surveys. This is a program which is carried out on a cooperative basis between the U. S. Soil Conservation Service, the Nevada Agricultural Experiment Station, and the Office of State Engineer. It is known as the Nevada Cooperative Snow Survey. Every spring, on March 1 and April 1, snow surveys are made to determine the water content of the snow on designated snow courses. We now have 110 such snow courses throughout the State and from these measurements forecasts are made to estimate the total amount of water that will flow in the rivers during the year. This work is very important to the water users because it gives them a close estimate of the amount of water that will be available each year.

GROUND WATER

Water flowing or pumped from below the surface of the earth is known as ground water. It is a part of the earth's endless and complex

water cycle, by means of which water moves between the sea, the skies, and the land. The main source of ground water is the precipitation that falls on the watersheds of our numerous valleys. An appreciable quantity of the precipitated water sinks into the ground. Some of this water, as it passes downward, is retained in the soil and is held there until withdrawn by plant life. The remainder of the water moves

Snow survey in the Lamoille Valley, Elko County.

downward to underground aquifers which are saturated layers usually of sand and gravel that will transmit water. The water moving through these underground aquifers is called "ground water" and the top of the zone of saturation is known as the water table. Thus, the main difference between surface water and ground water is that the former flows on the land surface, and the latter flows beneath the land surface.

GROUND-WATER STUDIES

In Nevada there are more than forty-four valleys that have underground water reservoirs of sufficient size to support much agricultural development. Studies of these underground reservoirs by the State Engineer's Office, and the United States Geological Survey, Division of Ground Water, indicate that Nevada's acreage of irrigated lands can be appreciably increased by use of ground water. Heretofore, development of these lands has been less attractive than other lands closer to market which have available surface water for irrigation.

Preliminary estimates by the State Engineer's office and the U. S. Geological Survey, Ground-Water Division, places the amount of recoverable ground water in 44 of Nevada's valleys at about 400,000 acre-feet per year, with an average pumping lift of 50 feet. By pumping lift we mean the distance the water must be raised or pumped to bring it to the land surface. It is estimated that 150,000 acres of the existing and new farm land will ultimately benefit by the development of ground water. At present, land is being irrigated by ground water in about 20 of these valleys.

In addition to the use of ground water for irrigation, 90 percent of our cities and towns secure their domestic water supply from ground-water sources.

In 1943 the State of Nevada, through the State Engineer's office, entered into a cooperative agreement with the United States Geological Survey, Ground-Water Division, to make a study of the ground-water resources of Nevada. Since then, studies have been completed in many valleys. Some work has been done and is being done in practically all the valleys that show promise of ground-water reservoirs capable of economic development. Funds to carry on this program have been appropriated in equal amounts every two years by the State of Nevada and the Federal Government.

The major purpose of ground-water studies is to determine the average annual amount of water that goes into the underground reservoir each year. This is rather a complex engineering study and considerations are given to the size of the watershed, the precipitation that falls on the watershed, the type of vegetation, the condition of the watershed, the amount of water consumed by native plants, and the inflow and outflow from the valley.

CONSERVING GROUND WATER

How can we conserve ground water? Perhaps the most important step in conserving our ground-water resources is not to overdevelop them. For instance, suppose that the average annual recharge to a certain ground-water basin is 10,000 acre-feet. If the pumping from this basin does not exceed 10,000 acre-feet yearly, the ground-water levels will eventually reach equilibrium and the pumping lift will remain virtually the same year after year. On the other hand, if the annual pumpage is, say 20,000 acre-feet, the water table would keep lowering each year, as 10,000 acre-feet would have to be pumped from storage and there would come a time when pumping would not be economical because of the great depth from which the water would have

Developing underground water in Big Smoky Valley, Nye County. Pumping 1,800 gallons per minute.

to be pumped. This condition has resulted in many valleys in California, Arizona and other Western States where they did not have the necessary ground-water laws to control pumping.

In a recent study made by the Carson City office of the United States Geological Survey, Ground-Water Division, it was determined that 1,500,000 acre-feet of ground water was annually lost in Nevada by transpiration from plants, such as greasewood, salt grass and willows. Using this ground water to grow beneficial crops would certainly be a conservation measure. For example, in one valley in which a ground-water study has been made, the transpiration area consisted of some 35,800 acres of greasewood and 10,500 acres of salt grass. The water table was about 5 feet below the surface of the ground in the salt grass area and from 10 to 15 feet in the greasewood area. It was estimated that in the valley mentioned the greasewood would annually transpire 0.4 acre-foot of water per acre and the salt grass would transpire 0.7 acre-foot of water per acre. Thus, the total use of water by the greasewood amounted to 14,320 acre-feet and by the salt grass 7,350 acre-feet. In other words, 21,670 acre-feet was being returned to the atmosphere each season without supporting beneficial crops. Pumping this water for the irrigation of selected lands in the area could be done in such a way that the ground water would be generally lowered beyond reach of the salt grass and greasewood roots and the loss through nonbeneficial vegetation would be reduced. The water would still reach the atmosphere, but beneficial crops would have replaced the nonbeneficial salt grass and greasewood.

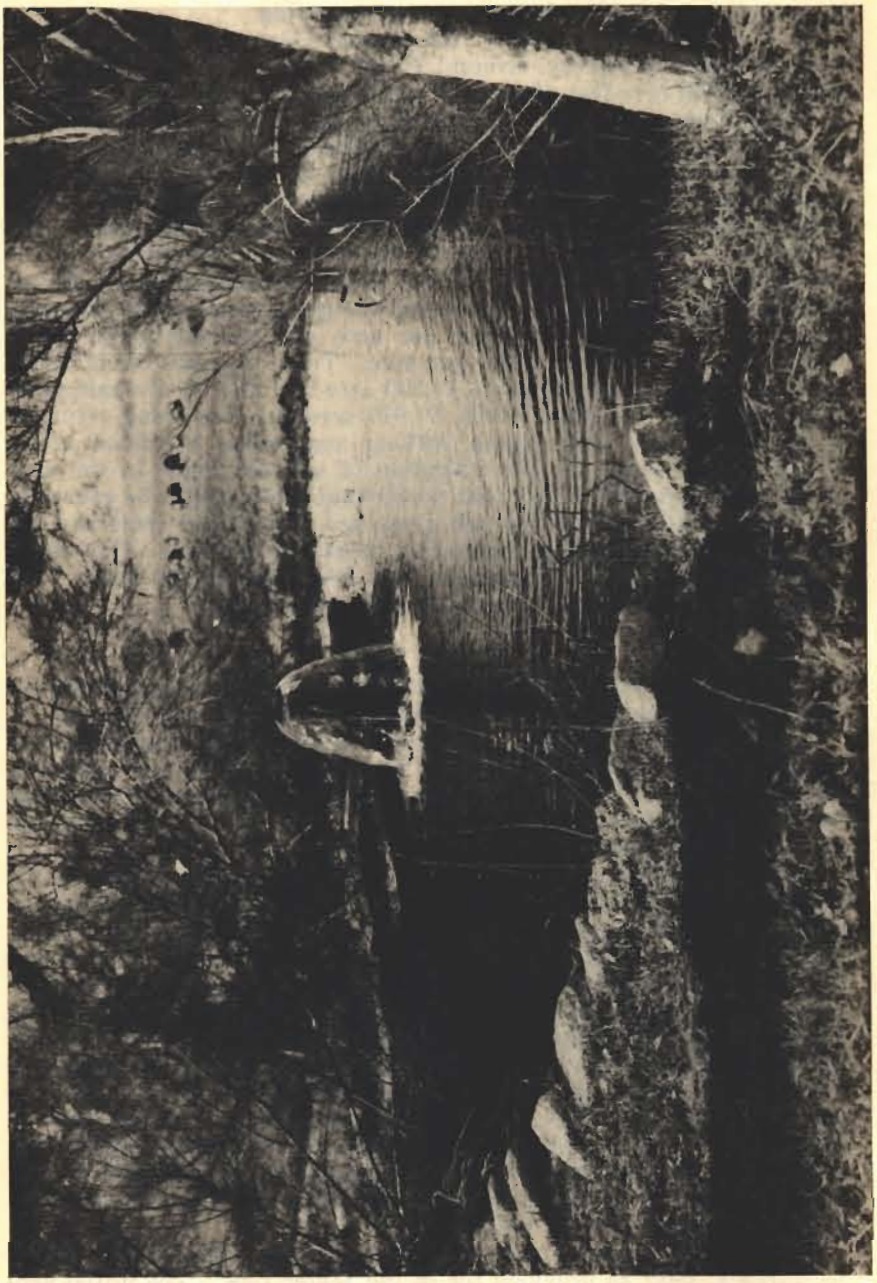
WATER LAW

It was in the interest of conservation and protection of our State's limited water supply that the Office of State Engineer was created.

Nevada early adopted the "appropriation doctrine" because its supply of water, even with the highest beneficial use, was not enough to supply its needs. Under the Nevada Water Law there are two classes of water rights by appropriation. These are: (1) vested rights and (2) permitted rights.

(1) The so-called vested rights are rights that were initiated in the early days of the State's development before definite laws concerning appropriation of water existed and before the Office of the State Engineer had been created. Although the Legislative Act of 1903 created the Office of State Engineer, it failed to provide a specific method by which future water rights could be legally acquired. However, on March 1, 1905, the Legislature amended the 1903 Act and provided the method of initiating and perfecting a water right by application to the State Engineer for permission to appropriate and apply water to beneficial use. Therefore, water rights which were initiated prior to March 1, 1905, are classed as vested rights. The magnitude and extent of vested rights are determined by a process of adjudication by the State Engineer as outlined in the Water Law, or by a civil action in a Court of Competent Jurisdiction.

(2) Permitted rights are rights that have been acquired subsequent to March 1, 1905, as provided for in the Water Law. The initial step necessary for appropriation of water is the filing with the State Engineer of an application for permission to appropriate and apply the



Water flows without pumping from artesian wells.—Courtesy Nevada Highway Department.

water to beneficial use. Following the receipt of the application and supporting map, notice of such application is published in a newspaper having general circulation in the county within which the source is located. Any permit issued by the State Engineer under such application gives the applicant a temporary right, which will ripen into a legal and complete appropriation only upon completion of the works of diversion, the placing of the water to beneficial use, and the filing of proofs thereof. Following the completion of the provisions of said permit, a certificate of appropriation is then issued. Since beneficial use is the basis, the measure, and the limit of the right to the use of water, the amount of water allowed in the final certificate is determined by the amount of water placed to beneficial use, which in no case can exceed the amount of water sought in the original application.

GROUND-WATER ACT

In 1939 Nevada enacted a ground-water law. Under this Act it is provided that all underground waters within the boundaries of the State belong to the public, and, subject to existing rights of the use thereof, are subject to appropriation for beneficial use only under the laws of the State relating to the appropriation and use of water. Under this law, the State Engineer has control of diversion of ground water and can limit withdrawals to prevent depletion of the ground-water reservoirs. Ground water must be appropriated in the same manner as surface water is appropriated. The law provides that all well drillers must be licensed and must file a log (record of formations drilled through) of every well drilled. The State Engineer thereby obtains a great deal of information relating to underground formations that is helpful in the study and control of ground water.

MORE ABOUT CONSERVATION

From the time that water is stored or diverted for irrigation until it is made available in the root zones of the plants, it is susceptible to losses through evaporation, transpiration, seepage, and misuse. The losses through evaporation and transpiration, while large, are relatively small compared to those from seepage and poor application of water. In many of our major irrigation projects, canal losses between the point of diversion from the river and the point of delivery to a farm will vary from 15 percent to over 60 percent. Then after the water arrives at the field to be irrigated, losses vary from 15 percent to more than 70 percent.

SUMMARY

The earth is a sphere 8,000 miles in diameter, 25,000 miles in circumference, with a surface of approximately 200,000,000 square miles, of which about one-third is land surface and two-thirds water surface. Life is supported mainly by a thin layer of top soil which covers the land at an average plow depth of about 7 inches. From this soil layer comes the world's annual production of food and fibre products. Less than half the earth's soils are suitable for crop production.

From 500 to 1,000 years are required by nature to produce a single

inch of top soil. Yet, all of this good work of nature may be destroyed by man in a relatively few years by careless land management.

Water, essential for human existence, is a limited resource which should be utilized on a long time basis and to the best advantage, if this nation is to receive the maximum benefit from its use. We now know that in our cutting of timber and use of grazing lands we have not always proceeded wisely. Many of the results of past practices have created present problems of great detriment to the people. These problems are:

Increasing number and intensity of floods.
Depleting of ground waters in many sections.
Eroding of lands.
Losing tillable soils.
Exhausting surface water stores.
Filling of reservoirs with silt.
Increasing intensity of drainage problems.
Contaminating and polluting of water supplies.

If these ill effects of the past are to be repaired and are to be avoided in the future, the steps to be taken should be controlled by the simple basic principle of *conservation and proper water use.*

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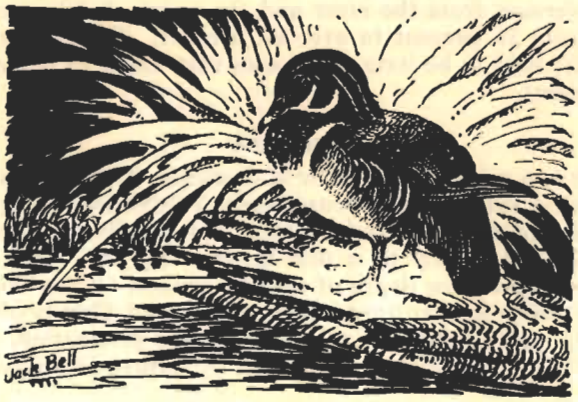

CHAPTER VII

Cooperative Ground-Water Investigations in Nevada

By THOMAS W. ROBINSON, *District Engineer, United States Geological Survey, Water Resources Division, Ground-Water Branch.*

The State-wide program of investigating the ground-water resources of Nevada, in cooperation with the State Engineer, was begun in July 1945 as the result of an appropriation of $35,000 for the fiscal biennium by the Legislature of that year. Actually, however, the present program of ground-water investigation was begun a year earlier, in July 1944, in Las Vegas and Pahrump Artesian Basins by local cooperation through the State Engineer. The study of these basins was later incorporated in the State-wide program. The Legislature in 1947 appropriated $40,000 to continue the study during that fiscal biennium, but in 1949 the Legislature reduced this amount by 25 percent to $30,000 for the fiscal biennium ending June 30, 1951.

As a result of this reduction in funds it was necessary to curtail some phases of the ground-water studies. After careful appraisal, in conference with the State Engineer, of the cost and value of each phase of the ground-water program it was decided to eliminate the test-well drilling phase. It was apparent that there was insufficient funds to carry on efficiently the operation of the rotary well rig purchased with cooperative funds in 1945, and also other phases of the ground-water program. As a result, it was mutually agreed to dispose of the well rig. Accordingly, after advertisement, it was sold to the highest bidder in June 1950 for the sum of $3,016. The proceeds of this sale were set aside in a special fund for test drilling purposes only, until liquidated. During the period the rotary drill rig was operated, a total of 2,760 feet of test holes were drilled, at a cost of $7,600, exclusive of casing.

During the period from July 1944 to the present time some phase of ground water has received attention in nearly every part of the State. Broadly speaking, the ground-water studies may be grouped into three general phases, although the work is all closely related. These are: (1) Detailed studies of ground-water conditions in selected areas or valleys. These areas or valleys are selected on the basis of need for information because of existing or anticipated ground-water development. Such studies are quantitative in nature, and involve estimates of recharge, discharge, and the quantity of ground water that may be developed by wells. (2) Reconnaissance studies of undeveloped valleys or areas to evaluate the possibilities for future ground-water development. These studies are principally qualitative, made only for the purpose of determining whether conditions for the development of ground water are favorable or unfavorable. (3) Ground-water information furnished by special request. This phase of the work ranges from inquiries by individuals such as farmers and ranchers for information concerning the drilling of a well for the development of ground water, to requests from Federal, State, and local agencies for information concerning the development of a ground-water supply for a specific purpose or in a particular area. About

305 such inquiries were received during the biennium 1948–1950. In addition, 14 reports have been made to the Bureau of Land Management during the past year in connection with the development of ground water under the Pittman Act.

In order that the results of the investgiations in the various parts of the State may become available to the public, a report is prepared and published on each area studied. Most of the reports are published in a series of State of Nevada Water Resources Bulletins by the State Engineer, although a few are put out in mimeographed or typewritten form. Up to June 30, 1950, 19 reports, 8 in bulletin form, 5 in mimeographed form, and 5 in typewritten form, and 1 printed in the Quarterly of the Colorado School of Mines, have been made available to the public. In addition, one report is in press and three reports are undergoing final revision preparatory to publishing, making a grand total of 23 reports. At some future date the mimeographed and typewritten reports will be included in the series of Water Resources Bulletins. The reports that are available in one form or another are listed below:

Progress Report on the Ground-Water Resources of Las Vegas Artesian Basin (mimeographed). 1945.

Water Resources Bulletin No. 2. Ground Water in Lovelock Valley, Nevada. 1946.

Water Resources Bulletin No. 3. Water Levels and Artesian Pressure in Wells in Las Vegas Valley and in Other Valleys in Nevada, 1931–1945. 1947.

Ground Water in the Vicinity of Elko, Nevada (mimeographed). 1947.

Water Resources Bulletin No. 4. Well Data in Las Vegas and Indian Spring Valleys, Nevada. 1947.

Water Resources Bulletin No. 5. Geology and Water Resources of Las Vegas, Pahrump, and Indian Spring Valleys, Clark and Nye Counties, Nevada. 1948.

Water Resources Bulletin No. 6. Ground Water in Las Vegas, Pahrump, and Indian Spring Valleys, Nevada (A Summary). 1947.

Water Resources Bulletin No. 7. Geology and Ground Water in the Meadow Valley Wash Drainage Area, Nevada, Above the Vicinity of Caliente. 1948.

Geology of Clear Creek Dam Site, Ormsby and Douglas Counties, Nevada (typewritten manuscript). 1948.

Ground Water in Spanish Springs and Sun Valleys, Washoe County, Nevada (mimeographed). 1948.

Water Resources Bulletin No. 10. Ground Water in Paradise Valley, Humboldt County, Nevada. 1949.

Ground-Water Conditions in the Vicinity of Tonopah, Nye County, Nevada (typewritten manuscript). 1948.

Ground-Water Appraisal for Stock Water on the West Slope of Black Mountain, Mineral County, Nevada (typewritten manuscript). 1948.

Ground Water in Goshute-Antelope Valley, Elko County, Nevada (mimeographed). 1949.

Test-Well Drilling in Argenta Swamp, Lander County, Nevada (typewritten manuscript). 1949.

Water Resources Bulletin No. 8. Ground Water in White River Valley, White Pine, Nye, and Lincoln Counties, Nevada. 1949.

Ground Water in the Austin Area, Lander County, Nevada (typewritten manuscript). 1949.

Ground Water in Nevada (Quarterly of the Colorado School of Mines). 1950.

Ground-Water Conditions in Whisky Flat, Mineral County, Nevada (mimeographed). 1950.

The report in press, entitled "Preliminary Report on Ground Water in Fish Lake Valley, Nevada and California," will be available shortly after the close of the biennium as Water Resources Bulletin No. 11.

At the close of the biennium 19 investigations are in progress in areas or valleys located in 12 counties of the State. The current investigations are in various stages of completion. For most of them the field work is from 50 to 100 percent complete. The stage of preparation of reports for these investigations varies according to the amount of field work. For some, the report has not been started, on others is essentially complete.

In addition to field investigations of specific areas or valleys, a network of about 250 observation wells has been established over the State. Measurements of water levels in all of these wells are made twice each year, March and September, and in a smaller selected group of about 75 once each month. In addition, 15 automatic water-level recorders, which record continuously the fluctuation of the water level, were maintained on 14 wells and 1 spring. The water-level measurements are valuable in interpreting the general ground-water situation in the State in the spring and fall. In the Humboldt River Basin they are very important in forecasting the magnitude of the spring runoff.

Five test wells were drilled during the spring of 1949. These wells were drilled with funds provided in the appropriation for the fiscal biennium ending June 30, 1949.

Regarding the five test wells, one was drilled in Clark County, two in Elko County, one in Lander County, and one in Lincoln County. All of the wells were put down in carefully selected areas for the purpose of obtaining needed information on the geologic and hydrologic conditions, and on the quality of the ground water. In this respect, all of the wells were very successful, and the results obtained justified the cost many times over. For example, the test well in the Argenta Swamp revealed the presence of about 150 feet of very good water-bearing materials, and definitely established the presence of a large ground-water reservoir in this locality. At the town of Mesquite, in Clark County, test-well drilling established the presence of a supply of ground water of excellent quality which could be developed between depths of 155 to 210 feet. This information was vital to the people of Mesquite and the adjacent area as they had been plagued by an unsatisfactory water supply ever since the first settlers arrived in the Virgin River Valley. Of the two water sources that supplied the town of Mesquite, one was so poor in quality that it was unfit for human consumption, and the other failed in time of drought and during periods of freezing temperature. In 1946 and 1947 the shortage was critical, and during the winter of 1948–1949 it became so acute that

water had to be hauled by tank wagon from Beaver Dam Wash, a distance of 11 miles. Based on the information obtained by the test well, the town of Mesquite sank a well and developed an excellent supply of water that is adequate for all of their requirements.

All test-well drilling in 1949 was by contract with local well drillers. A total of 1,006 feet of 8- and 6-inch holes were drilled. The depth of the holes ranged from 110 to 287 feet, and averaged 201 feet. Total cost of the contracts for the five wells was $5,083. To this should be added the cost of replacing casing taken from stock. This, at current prices, is estimated to be about $1,600, making a grand total of about $6,700. The average cost for drilling, casing, and testing was about $6.66 per foot. Supervision costs are not included in these costs. Four of the wells were finished as permanent wells and will be used as observation wells for recording water-level fluctuations.

CHAPTER VIII

Cooperative Stream Measurement Work in Nevada

By L. R. SAWYER, *Engineer-in-Charge, United States Geological Survey, Water Resources Division, Surface Water Branch.*

The program of stream gaging carried on under the Nevada-U. S. Geological Survey cooperative program is fundamentally the work of collecting basic data relative to surface-water supplies. Reliable and comprehensive water supply data are necessary for the efficient and orderly development and use, not only of water, but of all resources of the State. Every industry, including agriculture, mining, power production, tourist trade, and even life itself, is ultimately dependent on water.

The Federal responsibility for the development of the water resources of the country has been recognized by the Congress of the United States, and since 1905 appropriations have been made for cooperative investigations with the States and other political subdivisions. These appropriations are available only for cooperative work requested by State and local interests, and it is therefore important that the present and future needs of the State and local interests be given careful consideration in planning and financing this work.

The basic data collected under the cooperative stream-gaging program is closely connected with the investigation of ground-water resources reported in Chapter VII of this report. Records of stream flow are used to determine the recharge to ground-water reservoirs, and ground-water supplies are available for supplementary surface runoff. For this reason the two programs are closely coordinated.

The need for more basic water supply information is shown by the requests for such information received during the period covered by this report. Information to satisfy all requests was not always available, and additional gaging stations were needed. Eight gaging stations were constructed during the biennium, three in the Quinn River Basin, one on the South Fork of Humboldt River below the proposed Hylton Dam, one on Huntington Creek above this proposed reservoir, one on Muddy River at the Narrows near Glendale, one on Muddy River near Moapa, and one on Humboldt River near Lovelock.

The two stations near the proposed Hylton Reservoir were financed by the U. S. Engineers and those in the Quinn River Basin, and on the Muddy River by local water users in cooperation with the Geological Survey.

Continuous water-stage recorders were installed at all of these gaging stations, and are housed in galvanized corrugated metal pipe structures. Gaging cableways for making highwater measurements were constructed at five of these stations.

The State of California continued its appropriation of $1,000 for operation of gaging stations in the Carson and Truckee River Basins, and the Bureau of Reclamation has also transferred $1,500 during the 1949–1950 fiscal year for this purpose.

In addition to the operation of existing stations and construction of new ones, additional water-supply data was gathered for special purposes.

The extreme cold and accumulation of snow on various drainage areas during the winter of 1948–1949 developed a potential flood threat of grave proportions. At the request of the State Engineer, a survey of the Meadow Valley Wash area was made in February 1949. This survey showed that on February 15, 1949 there was a total of about 500,000 acre-feet of snow storage on the drainage area above Caliente. This large quantity of water represented a real flood threat. The results of this survey were made available to the Corps of Engineers and to the Mayor and City Council of Caliente, who were taking active measures to protect that city from flood damage in so far as possible.

The Nevada Cooperative Snow Surveys helped greatly in this work by loaning needed equipment, and aiding in interpretation of results.

Less comprehensive reports, based on available snow surveys and observations of field engineers, were made for the Humboldt and Carson River Basins, and for the Ely area.

Weekly reports of stream flow and runoff forecasts were made to the Corps of Engineers during the runoff period, in order that all preventative measures could be started promptly. However, the snow melting proceeded slowly and gradually, and no floods resulted.

Rising costs and limited funds have necessitated some curtailment of the cooperative program, and two gaging stations have been discontinued. These stations were located on Owyhee River at Mountain City and Meadow Valley Wash near Panaca. Careful appraisal of the needs of the State indicates that the discontinuance of those stations would result in the least loss to the State-wide program.

The gaging stations operated in and for the State of Nevada are listed below. Locations and descriptions of these stations are given in the report of the State Engineer for the biennium 1944–1946, except for stations installed during the biennium 1946–1948 which are described on page 37 of that biennial report, and those installed during the biennium 1948–1950 hereinafter described.

SALMON FALLS CREEK BASIN

Salmon Falls Creek near San Jacinto.

OWYHEE RIVER BASIN

Wild Horse Reservoir near Gold Creek.
Owyhee River near Gold Creek.
Owyhee River at Mountain City. (Discontinued December 31, 1948.)
Owyhee River near Owyhee.

HUMBOLDT RIVER BASIN

Humboldt River near Elko.
Humboldt River near Carlin.
Humboldt River at Palisade.
Humboldt River near Argenta.
Humboldt River at Battle Mountain.
Humboldt River at Comus.
Humboldt River near Rose Creek.
Humboldt River near Imlay.
Rye Patch Reservoir near Rye Patch.
Humboldt River near Rye Patch.

Humboldt River near Lovelock.*
Marys River below Hot Springs Creek near Deeth.
Lamoille Creek near Lamoille.
North Fork Humboldt River at Devils Gate near Halleck.
South Fork Humboldt River near Lee.
South Fork Humboldt River near Elko.
South Fork Humboldt above Dixie Creek near Elko.*
Huntington Creek near Lee.*
Pine Creek near Palisade.
Rock Creek near Battle Mountain.
Little Humboldt River near Paradise Valley.
Little Humboldt River at Chimney Dam Site near Paradise Valley.
Martin Creek near Paradise Valley.
Cottonwood Creek near Paradise Valley.
Humboldt-Lovelock Irrigation Light & Power Company's Feeder Canal near Imlay.

QUINN RIVER BASIN

Quinn River near McDermitt.*
East Fork Quinn River near McDermitt.*
McDermitt Creek near McDermitt.*

PYRAMID AND WINNEMUCCA LAKES BASIN

Pyramid Lake near Nixon.
Truckee River at Tahoe, California.
Truckee River near Truckee, California.
Truckee River at Farad, California.
Truckee River at Reno.
Donner Creek near Truckee, California.
Little Truckee River near Hobart Mills, California.
Franktown Creek at Franktown.

CARSON RIVER BASIN

East Fork Carson River near Markleeville, California.
East Fork Carson River near Gardnerville.
Carson River near Carson City.
Carson River near Fort Churchill.
Silver King Creek near Coleville, California.
Wolf Creek near Markleeville, California.
Silver Creek near Markleeville, California.
Markleeville Creek near Markleeville, California.
Pleasant Valley Creek near Markleeville, California.
West Fork Carson River above Woodfords, California.
West Fork Carson River at Woodfords, California.
Clear Creek near Carson City.

WALKER LAKE BASIN

Walker Lake near Hawthorne.
Bridgeport Reservoir near Bridgeport, California.
East Walker River near Bridgeport, California.
East Walker River near Yerington.
West Walker River below East Fork, near Coleville, California.

*Gaging stations established during the biennium.

West Walker River near Hudson.
East Fork West Walker River near Bridgeport, California.
Topaz Reservoir near Topaz, California.

VIRGIN RIVER BASIN

Virgin River at Littlefield, Arizona.
Muddy River near Moapa.*
Muddy River near Glendale.*
Meadow Valley Wash near Panaca. (Discontinued December 31, 1949.)

COLORADO RIVER MAIN STEM

Lake Mead at Hoover Dam.
Colorado River below Hoover Dam.

MINOR BASINS

Baker Creek near Baker.
Lehman Creek near Baker.

Fifty of these gaging stations are financed under the cooperative program, with State, Federal, and local water users' funds, and nine by Federal noncooperative funds.

The gaging station on Salmon Falls Creek near San Jacinto is operated under the supervision of T. R. Newell, District Engineer for the U. S. Geological Survey in Boise, Idaho, and is operated in cooperation with the Salmon River Canal Co., Ltd., of Twin Falls, Ida. The two gaging stations on the Colorado River are operated under a cooperative agreement between the Bureau of Reclamation and the U. S. Geological Survey office at Tucson, Arizona, in charge of District Engineer John Gardiner. The gaging station on the Virgin River at Littlefield, Arizona, is also under the supervision of Mr. Gardiner. Records for gaging stations Nos. 2, 4, and 6 in the Pyramid and Winnemucca Lakes Basin are furnished by Walter Bell, Federal Court Watermaster. Records for Carson River at Fort Churchill are furnished by the Newlands Project.

Location and Description of Gaging Stations Established During the Biennium, 1948–1950

HUMBOLDT RIVER BASIN

Humboldt River Near Lovelock

Location—Water-stage recorder, lat. 40°03′, long. 118°28′, in NE¼ sec. 11, T. 25 N., R. 31 E., 600 feet below breached dam of Lovelock Land and Development Co., and 9 miles south of Lovelock.

Remarks—Re-established June 13, 1950. Records equivalent to those obtained in 1912–1927 (fragmentary) at former station 900 feet downstream, except for changes in regimen caused by storage in Rye Patch Reservoir and irrigation development in Lovelock Valley.

South Fork Humboldt River Above Dixie Creek, Near Elko

Location—Water-stage recorder, lat. 40°41′, long. 115°49′, in SW¼ sec. 5, T. 32 N., R. 55 E., 2 miles above Dixie Creek and 10½ miles southwest of Elko.

Remarks—Established December 4, 1948.

*Gaging stations established during the biennium.

Huntington Creek Near Lee

Location—Water-stage recorder, lat. 40°35′, long. 115°43′, in NE¼ sec. 12, T. 31 N., R. 55 E., 7 miles west of Lee.

Remarks—Established December 3, 1948.

QUINN RIVER BASIN

Quinn River Near McDermitt

Location—Water-stage recorder, lat. 41°47′, long. 117°48′, in SW¼ sec. 15, T. 45 N., R. 37 E., about 1½ miles above Flat Creek, and 13 miles south of McDermitt.

Remarks—Established October 1, 1948.

East Fork Quinn River Near McDermitt

Location—Water-stage recorder, lat. 41°59′, long. 117°35′, in sec. 9, T. 47 N., R. 39 E., 1 mile downstream from South Fork, and 7 miles east of McDermitt.

Remarks—Established October 1, 1948.

McDermitt Creek Near McDermitt

Location—Water-stage recorder, lat. 41°58′, long. 117°50′, in SE¼SE¼ sec. 8, T. 47 N., R. 37 E., 6½ miles southwest of McDermitt.

Remarks—Established October 1, 1948.

VIRGIN RIVER BASIN

Muddy River Near Moapa

Location—Water-stage recorder, lat. 36°43′, long. 114°42′, in SE¼ sec. 15, T. 14 S., R. 65 E., three-quarters of a mile downstream from Home Ranch, 5 miles northwest of Moapa, and 9½ miles upstream from Meadow Valley Wash.

Remarks—Established October 1, 1948.

Muddy River Near Glendale

Location—Water-stage recorder, lat. 36°39′, long. 114°32′ in sec. 7, T. 15 S., R. 67 E., at the Narrows, and 2 miles southeast of Glendale.

Remarks—Established February 8, 1950.

Surface water supplies for the period covered by this report varied from fair to good. Records for the base-gaging station on the Humboldt River at Palisade for the water years ending September 30, 1948 and 1949 show that the discharge was 71 percent and 114 percent, respectively, of the 39-year normal. Runoff from the West Walker River, draining from the Sierra Nevada, was 73 percent and 78 percent of its 37-year normal for the same periods. The need for collecting runoff records over a long period of time as a basis for reliable plans for water development and distribution is emphasized by these yearly variations in stream flow.

The detailed information collected as a result of these cooperative investigations is published in the annual water-supply papers of the Geological Survey. The published reports are available for consultation at the State Engineer's Office, the State Library, and the Geological Survey suboffice at Carson City, and also at several district offices of the Survey, in addition to many educational institutions and public libraries scattered throughout the States. Current data in advance of publication and information for previous year can be furnished in blueprint form on application to the Engineer-in-Charge, P. O. Box 327, Carson City, Nevada.

CHAPTER IX

Nevada Cooperative Snow Surveys, 1948–1950

By CLYDE E. HOUSTON, *Irrigation Engineer, Division of Irrigation and Water Conservation, Soil Conservation Service, U. S. D. A.*

The Nevada Snow Survey Program was continued under the cooperative agreement between the State Engineer, Agricultural Experiment Station, and Division of Irrigation of Soil Conservation Service.

During each of the 1949 and 1950 snow survey seasons over 100 snow courses were surveyed with results and forecasts published in March and April of each year. The publication "Federal-State Cooperative Snow Surveys and Irrigation Water Forecasts for Nevada" is sent to about 450 requesting individuals and organizations. Irrigation season forecasts are made for the following gaging stations:

1. Owyhee River near Owyhee.
2. Lamoille Creek near Lamoille.
3. South Fork of the Humboldt River near Elko.
4. Humboldt River at Palisade.
5. Martin Creek near Paradise.
6. East Walker River near Bridgeport, California.
7. West Walker River near Coleville, California.
8. East Carson River near Gardnerville.
9. West Carson River at Woodfords, California.
10. Carson River near Carson City.
11. Carson River at Fort Churchill.
12. Lake Tahoe.
13. Truckee River at Farad, California.

Forecast meetings were held each year during the first week in April in the following irrigation communities representing the listed acreage of irrigated land:

Location	Acres	Location	Acres
Minden	40,000	Elko	170,000
Fallon	50,000	Winnemucca	90,000
Yerington	100,000	Lovelock	20,000

These meetings, attended by representatives of irrigation farmers, irrigation districts, and Federal and State agencies, are for the purpose of pooling all available hydrologic information to determine irrigation season water supplies.

Since the last biennial report eight snow courses have been established and entered into the Nevada network. These are:

McAfee Forks, located in the White Mountains above Fish Lake Valley, to assist with the Cooperative Ground-Water Study in that area.

Pine Canyon and Mathew Canyon in eastern Lincoln County, to assist with flood-flow forecasting of Meadow Valley Wash.

Berry Creek and Bird Creek in White Pine County, to assist with forecasts of Duck Creek flow for the smelter at McGill.

Robinson Summit and Kimberly in White Pine County, to assist with flood-flow forecasting for the city of Ely.

Disaster Peak in northern Humboldt County, to assist with the distribution of the waters of McDermitt Creek.

The permanent snow-course marking program was continued this biennium. There remain but three courses in the State to be permanently marked. Plans call for completing this five-year program by the end of 1950.

Again it must be noted that without the combined effort of many individuals and organizations there would be no snow-survey program in Nevada. The following organizations contributed funds, labor, and data to the work:

U. S. Soil Conservation Service.
U. S. Forest Service.
U. S. Geological Survey.
U. S. Fish and Wildlife Service.
U. S. Navy.
U. S. Bureau of Reclamation.
U. S. Weather Bureau.
Nevada State Engineer.
Nevada Agricultural Experiment Station.
Nevada Agricultural Extension Service.
California Division of Water Resources.
California Cooperative Snow Surveys.
Oregon Cooperative Snow Surveys.
City of Ely, Nevada.
Truckee-Carson Irrigation District.
Washoe County Water Conservation District.
Walker River Irrigation District.
Owyhee Irrigation District.
Sierra Pacific Power Company.
Virginia City Water Company.
Deep Springs School.
Kennecott Copper Corporation.
Union Pacific Railroad.
Amalgamated Sugar Company.

CHAPTER X

Cooperative Use of Water Studies

By CLYDE E. HOUSTON, *Irrigation Engineer, Division of Irrigation and Water Conservation, Soil Conservation Service, U. S. D. A.*

Nevada agriculture is maintained by three natural resources—the range, the farm land, and the water. Here, probably more so than elsewhere, each resource is dependent upon and contributes to the other for the greatest beneficial use of all three. Average annual precipitation for the State as a whole is only about nine inches with lesser amounts falling in the arable valleys. Most of the annual precipitation falls in the nongrowing season which means that successful agriculture is dependent upon irrigation. Similar to most of the West there is less water in Nevada than productive land upon which to apply it. Also, most of the existing surface water is diverted for the irrigation of agricultural crops. The growth of Western population has greatly expanded the markets for Western agricultural products. The economic outgrowth of this situation creates a demand for increased production on existing lands, and a need for more irrigated land upon which to settle that portion of the increased population desiring to farm. With a limited water supply, the best means for satisfying these demands is by a more efficient use of existing supplies. Probably the last frontier in Nevada water development is ground water. Development and recovery of ground water is costly which, in itself, imposes careful use.

There is a need for basic information concerning use of water by agricultural crops grown in Nevada, and for a determination of the necessary losses incident to irrigation. Recognizing this need, Nevada's State Engineer has entered into an agreement with the Nevada Agricultural Experiment Station and Division of Irrigation and Water Conservation, Soil Conservation Service, Research, to undertake research aimed at determining (1) the basic consumptive use of the more important agricultural crops grown in the State, (2) irrigation efficiencies practical and feasible under Nevada conditions, (3) resulting water application requirements and farm deliveries, and (4) use of water by phreatophytes in irrigated and irrigable areas in Nevada.

Initial work started with the crop year of 1950. An evapotranspiration station was established at the Experiment Station farm in Reno. This consists of four 3′ x 6′ double consumptive-use tanks and a class A evaporation station with a hydrothermograph. The tanks are planted, two to alfalfa, and two to an alfalfa, fescue, bromegrass pasture mix. All water applied to the tanks is measured and every six weeks the soil is saturated and pumped out with both amount applied and extracted measured. Alfalfa and pasture yields are measured. A one-quarter acre alfalfa forage experimental plot has been set up and all water applied is measured with a six-inch Parshall flume and continuous recorder. Soil samples are obtained before and after each irrigation and oven dried to determine the actual amount of water needed and placed in the root zone of the crop. At the end of the irrigation season a complete inventory of water placed on the land and into the soil, as well as that lost by deep percolation, will be

obtained. Yields will also be determined. Evaporation stations were established in Moapa Valley, near Contact, Nevada, and Upper Carson Valley. It is planned to extend the soil moisture and consumptive-use work to these and other areas at some future date.

Any investigation of the use of irrigation water should begin with a determination of the consumptive requirement by the crop itself, neglecting losses from conveyance to the farm and field, as well as those of percolation below the root zone and field runoff. Preliminary to the more extensive field work outlined above is a report entitled "Consumptive Use of Irrigation Water by Crops in Nevada," published in July 1950, as Nevada Agricultural Experiment Station Bulletin 185. In this bulletin, consumptive-use data were developed for 26 areas in the State for which climatological records are available. This is the first of several publications to be issued as irrigation information becomes available from the above-mentioned program. This bulletin and later refinements will be valuable to water interests and agricultural workers as an aid in formulating and carrying on their programs.

CHAPTER XI

Well Drillers

The 1947 Legislature added a new section to the underground water law (Sec. 7A, Chapter 178, Stats. 1947), providing for the licensing of well drillers subsequent to July 1, 1947. During the past biennium there were 76 licensed drillers of which, 21 were from California, Utah, and Idaho.

One of the provisions of section 7A of the underground water law is that logs of all wells drilled must be submitted to the State Engineer within 30 days following completion. Since July 1, 1947, we have received some 1,348 well logs. The drillers have been doing a good job in submitting logs and all have been very cooperative with this office.

The licensed well drillers of Nevada have perfected an organization known as "Nevada Water Well Contractors and Drillers Association." The constitution and bylaws were adopted at a meeting in Tonopah, May 20, 1950. On November 9, 1949, the well drillers met in Reno and decided to form an organization. A committee was appointed consisting of Wm. S. Wright, chairman; Mel Meyer, E. C. Ferguson, S. R. McKinney, and Avery Blanchard to prepare proposed constitution and bylaws. This committee met in Tonopah on November 19, 1949 and, with the assistance of Assistant State Engineer Hugh A. Shamberger, prepared a proposed constitution and bylaws which were subsequently adopted at the May 20 meeting in Tonopah. Officers elected were as follows: President, S. R. McKinney, Las Vegas, and Vice President, Wm. Wright, Dyer.

BOARD OF DIRECTORS

District 1 (Consisting of Esmeralda, Nye, Clark, and Lincoln Counties): Bert Hairgrove, Las Vegas; E. C. Ferguson, Tonopah; and M. E. McKinney, alternate, Las Vegas.

District 2—J. D. Hill, Ely; Avery Blanchard, Wells; and R. Blanchard, alternate, Wells.

District 3—R. L. Norris, Reno; Warren W. Overholser, Fernley; and Mel Meyer, alternate, Reno.

The names of well drillers licensed up to June 30, 1950, their license number and addresses are herewith given. Such licenses must be renewed July 1, 1950.

License No.	*Name*	*Address*
1	J. J. Barry	W. Star Route, Fallon, Nevada
2	J. C. Faretto & Son	736 Humboldt St., Reno, Nevada
3	Mel Meyer	Rt. 1, Box 10, Reno, Nevada
4	Louis Clarkson	Box 1242, Elko, Nevada
5	Fred E. Hummel	Box 57, Winnemucca, Nevada
6	Jesse J. Harrison	Box 41, Carson City, Nevada
8	Roscoe Moss Co.	4360 Worth St., Los Angeles, California
9	John Frewalt	Box 386, Las Vegas, Nevada
10	Harvey Meyer	Box 122, Carson City, Nevada
11	R. L. Norris & Son	222 Sage St., Reno, Nevada
13	Keener Drilling & Equip. Co.	Box 830, Winnemucca, Nevada
14	J. D. Hill	Box 694, Ely, Nevada

Licence No.	*Name*	*Address*
15	Warren W. Overholser	Box 73, Fernley, Nevada
16	C. J. Brackney	Box 82, Fallon, Nevada
17	Canemona Inc.	Box 2065, Las Vegas, Nevada
18	Henry L. Nelson	Box 1316, Eureka, Nevada
20	Wm. L. Helm	125 N. Bruce St., Box 1261, Las Vegas
21	E. J. Brockman & Son	918 W. 6th St., Corona, California
22	Earl Miller	Vegas Heights, 320 Lawry, Las Vegas
23	Dennis Smith	Garrison, Utah
24	E. C. Ferguson	Box 202, Tonopah, Nevada
25	C. O. Keaster	Box 190, Al Tahoe, California
26	Geo. Dalton	Rt. 1, Box 214, Fallon, Nevada
28	J. B. Reynolds	633 Humboldt St., Fallon, Nevada
29	John Champion	Rt. 1, Box 150B, Reno, Nevada
30	Darell Free	Box 1, Pioche, Nevada
31	Rodgers & Smith	3200 Palomino Lane, Las Vegas, Nevada
32	Ed Frevert	Gardnerville, Nevada
34	A. G. Klinger	Box 344, Boulder City, Nevada
35	Joseph E. Metz	Box 547, North Las Vegas, Nevada
37	Louis R. Simmons	Gerlach, Nevada
39	Prince McIntyre	Box 1289, Las Vegas, Nevada
40	Miller & Heinz Drilling Co.	712 Tonopah Drive, Las Vegas, Nevada
41	Isbell Construction Co.	Box 2351, Reno, Nevada
44	Harden & Company	Rt. 3, Boise, Idaho
45	S. R. McKinney	1400 Norman, Las Vegas, Nevada
47	Stanley Ford	Pahrump, Nevada
51	C. C. Scott	Box 26, Beaumont, California
52	Munk Plumbing & Electrical	Box 85, Lovelock, Nevada
53	M. F. Smith	223 Fremont, Las Vegas, Nevada
55	Scott Brothers Drilling Co.	307 F St., Bakersfield, California
56	Wm. S. Wright	Dyer, Nevada
57	Allen Brothers	Box 45, Smith, Nevada
58	Frank N. Quinn	Box 953, Cedar City, Utah
62	A. E. Hosack & Son	707 6th Ave., So., Nampa, Idaho
63	H. G. (Bert) Hairgrove	216 N. 11th St., Las Vegas, Nevada
64	James L. Hogan	Box 1990, Las Vegas, Nevada
65	C. E. Robertson	679 5th St., Box 18, Wells, Nevada
66	Fred D. Smith	Box 862, Las Vegas, Nevada
67	Loomis Well Drilling Co.	65 Lower Main St., Placerville, Calif.
68	W. L. Peterson	Austin, Nevada
70	Charlie Cribbs	Gen. Del., Las Vegas, Nevada
71	Martin L. Schaub	Box 95, Fernley, Nevada
72	J. N. Rogers	Box K, Manhattan, Nevada
74	Shuey Drilling Co.	W. Star Route, Fallon, Nevada
75	C. C. Moon Drilling Co.	665 West St., Reno, Nevada
76	Barber Bridge Drilling Corp., Ltd.	3020 Empire Ave., Burbank, Calif.
78	Author W. House	Box 220, North Las Vegas, Nevada
79	Martin & Sons	Box 1881, Las Vegas, Nevada
81	V. Cannon & E. K. Farnham	Denio, Oregon, via Winnemucca, Nev.
82	Clyde L. Van Epps	Box 43, Coleville, California
83	Avery Blanchard	Box 434, Wells, Nevada
84	Western Well Drilling Co.	522 W. Santa Clara St., San Jose, Calif.
85	Chanda Drilling Co.	Cr. L. Chanda, Kings Beach, Calif.
86	Moss Drilling Co.	Box 394, Lucerne Valley, Calif.
87	Walsh & Nicolnides	Longandale, Nevada
88	The Tower Co.	Oakley, Idaho
89	J. Hy Peterson & Sons	115 N. 5th West, Bountiful, Utah
90	Robert R. Blanchard	Box 434, Wells, Nevada
91	Aitken & Kidder, Inc.	915 San Fernando Rd., Newhall, Calif.
92	Water Well Drilling Assoc.	915 San Fernando Rd., Newhall, Calif.
93	Geo. W. Norcutt	133 E. Richards St., Fallon, Nevada
94	Star Well Drilling & Pump Co.	Live Oak Highway, Yuba City, Calif.
95	Joe Flaniken	Gen. Del., Alpaugh, Calif.
96	Davis-Alcorn Drilling Co.	Cr. Wm. Kearney, Gazette Bldg., Reno
97	Lukins Bros. Power Well Drillers	Box 35, Tahoe Valley, Calif.

CHAPTER XII

New Laws Affecting Water

This chapter will deal briefly with legislation passed by the 1949 session of the State Legislature pertaining to water and which comes under the administration of the State Engineer.

PRESCRIPTIVE RIGHTS

Sec. 8, Chap. 190, Stats. 1917 (As amended, Chap. 83, 1949).

This section was amended by adding the following language:

> "Provided, no prescriptive right to the use of such water or any of the public water appropriated or unappropriated can be acquired by adverse user or adverse possession for any period of time whatsoever, but any such right to appropriate any of said water shall be initiated by first making application to the state engineer for a permit to appropriate the same as in this act provided and not otherwise."

The Supreme Court of Nevada in Case No. 3533 entitled "In the Matter of the Application of Dan Filippini to the State Engineer of Nevada, for Permission to Appropriate the Waters of Duff Creek, No. 11450," rendered a decision dated January 28, 1949 to the effect that a water right could be obtained by adverse use. The above amendment was added in order to prevent the acquiring of a water right by adverse possession subsequent to March 1949.

OFFICE HOURS

Sec. 17, Chap. 140, Stats. 1913 (As amended, Chap. 83, 1949).

As amended, the office hours of the State Engineer will be from 8 a. m to 12 m., and from 1 p. m. to 5 p. m. each day, Saturdays, Sundays, and holidays excepted.

HYDROGRAPHIC FUND

Sec. 46, Chap. 140, Stats. 1913 (As amended, Chap. 83, 1949).

Under the 1913 section, no provision was made for the reimbursement of this fund. The amendment provides that the court shall designate by order the method of collection of the money which, when collected, shall be used to reimburse the said hydrographic fund.

DISTRIBUTION OF WATER ON STREAMS WHERE RIGHTS WERE DECREED OTHER THAN BY STATUTORY ADJUDICATION

Sec. 46½, Chap. 159, Statutes 1947 (As amended, Chap. 83, 1949).

The addition to this section clarifies the procedure for obtaining money from the hydrographic fund, and also as to the cost of administration in the distribution of water.

TIME WITHIN WHICH TO TAKE ACTION ON WATER APPLICATIONS

Sec. 63, Chap. 140, Stats. 1913 (As Amended, Sec. 83, 1949).

This section, as amended in 1947, provided that the State Engineer shall take action on applications to appropriate water within one year from the final date for filing protests and that in case of a protested

application action can be delayed upon written authority from applicant and protestant. The 1949 amendment provides that action on an unprotested application can be delayed by written authority from the applicant.

FEES

Sec. 73, Chap. 106, Stats. 1921 (As amended, Chap. 83, 1949).

This amendment increased the fees of the State Engineer as follows:

For filing applications, increased from $20 to $25.

For filing applications to change, increased from $25 to $30.

For filing any protest, increased from $1 to $10.

For filing an extension of time, increased from $1 to $5.

For filing any assignment of water right, $1 for each water right assigned.

CHAPTER XIII

State Engineer's Interpretation of Certain Aspects of the Ground-Water Law

(Chap. 178, Stats. of 1939, as amended by Chap. 43, Stats. of 1947, and Chap. 103, Stats. of 1949.)

Section 1 provides that all underground water belongs to the public and, subject to all existing rights, is subject to appropriation for beneficial use only under the laws of the State relating to the appropriation and use of water and not otherwise. The procedure for the appropriation of underground water is the same as for the appropriation of surface water, and is set out in sections 59 to 74 of the General Water Law.

It also provides that the State Engineer may make such rules and regulations, within the terms of this Act, as may be necessary for the proper execution of the provisions of the 1939 Act. The following interpretations are in accordance with this provision.

Section 2 defines the following words: "person," "aquifer," "artesian well," "waste," "well driller," and "general water law."

Section 3. The purpose of this section is to make it unnecessary for a person to incur the expense of making an application to appropriate water for purely domestic purposes. In section 4, provision is made for the designation of areas within which the State Engineer has jurisdiction over the distribution of ground water and in section 9 it is provided that in such areas the State Engineer may compel the owner of a well, who is using water therefrom without a legal right to do so, to cease such use until he has complied with the laws pertaining to the appropriation of water. The provisions of section 9 do not apply to domestic wells as provided for in section 3, providing such use does not exceed two gallons per minute.

The provisions of section 7a relating to licensed well drillers apply to domestic wells and water wells for any other purpose and such drillers are bound by the rules and regulations of the State Engineer as to construction of such wells.

The owner of a domestic well that was drilled subsequent to March 25, 1939 (see sec. 9b) acquires no legal water right unless he complied with the laws relating to the appropriation of water; however, he does have the legal right of usage. On the other hand, the owner of a domestic well tapping artesian water (a well in which the water rises above the level where it was first encountered) that was drilled prior to March 22, 1913, or a domestic well tapping percolating water that was drilled prior to March 25, 1939, would have a vested right. The magnitude of such vested right is based on the amount of water placed to beneficial use. If a well tapping percolating water was drilled prior to March 25, 1939 and no use was made until subsequent to such date, the owner will not have a vested right as the right must have been developed prior to such date. The same applies to wells tapping artesian water.

The term "domestic use" as herein applied, extends to culinary and household purposes, the watering of a family garden, lawn, and the watering of domestic animals such as milk cows, horses, etc.

The State Engineer construes the term "two gallons per minute" (0.00446 c.f.s.) to mean that the owner can use a quantity of water equal to 2,880 gallons every 24 hours (1,440 minutes in each 24 hours), not necessarily in a continuous flow, but rather when the water is needed during the 24-hour period.

Section 4 provides a method for the designation of a basin and supervision of underground water development.

The petition can be signed by anyone having a permit to appropriate underground water, or by anyone who can substantiate a vested right as defined in section 9b.

Supervision and regulatory measures cannot be exercised on wells having vested rights unless such vested rights have been adjudicated or apply to wells coming under the provisions of section 3, except as to controlling waste. In other words, if it should become necessary to restrict withdrawals of water due to over-depletion, such restrictive measures cannot be taken against unadjudicated vested rights, unless water from such wells is being wasted.

Section 5 provides for the employment of a well supervisor, payment of salary, etc., and is self-explanatory.

Section 6. The first part of this section provides that every person desiring to drill a well in any basin or portion therein *that has been designated* as provided for in section 4 shall first obtain a permit to appropriate water from such source prior to drilling said well. In undesignated areas a person may drill and develop water, but prior to placing such water to beneficial use, a permit to appropriate water must be secured in order to legalize his diversion.

The question of legal diversion as herein used and the necessity thereof merits discussion. In an undesignated area, if a person has a well and uses the water therefrom without obtaining a permit to appropriate the water, or without having a vested right as described in section 9b, and providing the well is not a domestic well under the provisions of section 3, such use is considered to be illegal. There is but little the State Engineer can do to restrict this use until such time as the area is legally designated pursuant to section 4, whereupon the owner could be forced to either obtain a permit or to discontinue using the water as provided for in section 9. In undesignated areas the owners of legal water rights who are affected by such illegal use may petition the State Engineer to proceed under the provisions of section 8 if the illegal use is from a flowing artesian well, or they may petition the State Engineer to designate the area and exercise regulatory measures.

Section 7. This section relates to the construction of a well tapping artesian water. It provides, among other things, that perforations must not be placed in a pipe above the confining impervious materials. This provision is necessary because in many instances if an artesian well is closed off and there are perforations above the confining beds, the artesian pressure causes the water to escape through such perforations and the well therefore cannot be controlled. Detailed regulations for drilling wells are furnished the well drillers.

Section 7A. This section provides for the licensing of well drillers, the keeping of a log of each well drilled and submission of such log to the State Engineer within 30 days following the completion of such well.

It provides that no person shall drill for water without first obtaining a well driller's license.

The State Engineer is empowered to prepare rules and regulations relating to well drilling.

Section 8. This section provides a method whereby the State Engineer can control waste of water from an artesian well located anywhere within the State, regardless of whether it is located within a designated area or not. The procedure to be followed is for the State Engineer to notify the owner of such well which is wasting water, by registered mail, to abate or at least to take proper steps to abate such waste within 15 days from the date of the letter. If the owner fails to do this the State Engineer is empowered to take such steps as may be necessary to stop the waste. The cost of such repair is first paid by the State Engineer from the Water Distribution Fund as provided for in section 5, but becomes a lien on the property of the well owner following the filing of a statement of costs with the County Recorder within 30 days after completing the repair. Such lien may be enforced in the same manner as provided by law for the enforcement of mechanics' liens.

Section 9 clearly sets forth the only method whereby a legal right to appropriate water can be obtained from wells not having a vested right as defined in section 9B. Such method is by complying with the provisions of the general water law pertaining to the appropriation of water, *i. e.*, by making application for permission to appropriate water. This indicates that the owners of domestic wells, as set forth under section 3, would not have a gained legal appropriation in the sense of a water right, but they will have a perpetual right to use such water without unnecessary interference.

The section further provides that following a designation of the area, as provided for in section 4, anyone using water, other than provided for in section 3, without the right to use such water either under a vested right or a permitted right must, following notice by the State Engineer, either proceed with acquiring a permit or cease using water therefrom. If such owner refuses to cease using water from such well and fails to initiate proceedings to secure a permit he shall be deemed guilty of a misdemeanor.

Section 9A. The first paragraph of this section is positive. Any underground water right, under whatever claim of right and no matter when established may be lost by five successive years of nonbeneficial use. This applies only to the extent of the nonuse. In other words, if a person had acquired a water right for 3 c.f.s. of water and failed to use 1 c.f.s. during any five successive years he would lose the right of use for the 1 c.f.s. of water which would revert to the public or to junior appropriators. If such right was an undetermined right, *i. e.*, a vested right that had not been determined by an adjudication procedure, the loss would be by forfeiture. If the right was a determined right, *i. e.*, a vested right determined by adjudication or a perfected permitted right as evidenced by a certificate of appropriation, the loss would be by abandonment.

In the case of an unperfected permitted right (undetermined right) the five-year nonuse period can only start on or subsequent to the original time set when the permit was issued within which water is to

be placed to beneficial use. Therefore, extensions of time as provided for in the general water law (Sec. 69, Chap. 140, Stats. 1913) as applied to underground water cannot cover a period longer than five years subsequent to the original date set in the permit within which to place water to beneficial use.

The right to use underground water, no matter under what claim of title, may be lost by abandonment. In determining abandonment the intent to abandon by the owner of the well must be clearly evident. There is no time element involved in abandonment.

In either the case of forfeiture or abandonment the owner of the right affected must be notified by registered mail and may appeal the ruling of the State Engineer in the manner provided in section 75, chap. 253, Statutes of 1915 of the general water law. If an appeal is not taken within the time provided by said section the ruling of the State Engineer becomes final.

It is evident from the language of section 3 that underground water which is used only for domestic purposes and where the draught does not exceed 2 gallons per minute is not subject to the above forfeiture or abandonment provisions.

Section 9B. Existing water rights to the use of underground water are recognized. This means water rights that have been established prior to March 15, 1947, whether by the application and permit procedure or by having acquired a vested right.

The section defines vested underground water rights and differentiates between two classes of water which are: (1) water from an artesian well or from a definable aquifer, and (2) percolating water, the course and boundaries of which are incapable of determination. To acquire a vested right under the first classification it must have been developed and used prior to March 22, 1913, and to acquire a vested right under the second classification the development and use must have been prior to March 25, 1939.

The method of the determination of whether water is in a definable aquifer or whether it is percolating water, the course and boundaries of which are incapable of determination, is left to the State Engineer. When the facts are not clear the State Engineer will assume that the water comes under the classification of "percolating water, the course and boundaries of which are incapable of determination."

The section further provides for the adjudication of vested underground water rights. Following a petition from a claimant of vested water rights to adjudicate such rights and if the State Engineer finds justification for such procedure he will proceed to designate the area pursuant to section 4 of this Act. The procedure is then the same as set forth in the general water law (Secs. 18 to 36). In such designation the area can include all claimed underground water rights in any one drainage basin. The definition of "drainage basin" as used herein is interpreted to mean "ground water" drainage basin.

Section 10. Several provisions are set forth in this section and will be discussed in the order that they appear.

First, it provides that the State Engineer shall prescribe all necessary rules and regulations within the terms of this Act for administration purposes. The interpretations, rules and regulations herein set forth are prepared in conformity to this provision.

It is provided that the State Engineer may require certain information from all holders of permits and claimants of vested rights including water usage and if for irrigation the acreage water is placed on.

That the State Engineer may conduct pumping tests to determine if overpumping is indicated and to obtain other necessary hydrologic information.

That the State Engineer shall determine if there is unappropriated water in the area and shall issue permits only if he finds that there is unappropriated water available.

It is provided that each appropriation of ground water shall relate to a specific quantity and that such right must allow for a reasonable lowering of the static water level at the appropriator's well. The State Engineer is to determine the extent of reasonable lowering and in such determination shall consider the economics of pumping water for the general type of crops produced and may consider the effect of such water use on the economy of the area in general. It is the policy of the State Engineer to restrict further diversions when (1) The safe yield has been reached, and (2) when the water table has been lowered to a level from which the pumping lift approaches the maximum economical limit, and (3) when further diversion will adversely affect the economy of the area in general, whichever occurs first.

It further provides that a right to appropriate ground water does not guarantee the permittee the right to have the water level in his well maintained at any level higher than is necessary for a reasonable pumping lift. This means that such permittee has no regress if other permits are granted in the area, although further appropriations under such permits cause the water level to drop or affect free-flow conditions. The State assumes, as a matter of public policy, the right to insure the largest beneficial use of the natural supply and that when the water level declines the burden is upon owners of existing wells, ultimately, to obtain their legal yield by increased pumping if necessary.

Provision is made for the State Engineer to hold a hearing to determine whether the water supply in any area is adequate for the needs of all permittees and vested-right claimants. By virtue of the ground-water studies being carried on under the cooperative program between the United States Geological Survey and the Office of State Engineer this information will in most cases be available prior to any great development. If the determination is negative, then withdrawals are to be restricted according to priority. Of course under such conditions and to exercise such control the basin must be designated in accordance to section 4.

In a legally designated basin the State Engineer may restrict drilling in any particular portion of the basin if he determines that additional wells would cause undue interference with the water supply from existing wells. Therefore, such provision empowers the State Engineer with the right to deny a permit on the grounds that if water should be diverted at such proposed point of diversion it would cause undue interference with an existing water right. The State Engineer may make a general order restricting further drilling in a portion of a legally designated area, but such an order is subject to be reviewed

by the District Court pursuant to section 75 of the General Water Law.

Section 11 provides that the State Engineer, his assistants or authorized agents, may enter any premise where a well covered by this Act is located.

Section 12 describes a misdemeanor and sets forth the penalty therefor.

Section 13 provides that each section of the Act is an independent section, and the holding of any section as unconstitutional shall not affect any other section.

Section 14 repeals certain Acts in conflict.

CHAPTER XIV

SALMON RIVER

On August 26, 1947 some thirteen applications (11978 to 11988, inclusive, and 12411 and 12412) were filed by water users of the Little Salmon River in Elko County to appropriate additional water. All of these applications were protested by the Salmon River Canal Company, Ltd., of Twin Falls, Idaho. A digest of the general history of the use of water from the Little Salmon River, litigation appurtenant thereto, the events leading up to the filing of the thirteen applications, and the present work being done by the State Engineer is herewith set forth:

DESCRIPTION OF SALMON RIVER STREAM SYSTEM

Salmon River, sometimes referred to as Salmon Falls Creek, originates in Nevada and extends for many miles in Nevada, running in a general northerly direction, crosses the northern boundary line into the State of Idaho, and originally was a tributary to the Snake River. However, with the construction of a dam by the predecessors of the Salmon River Canal Company, the waters of Salmon River are captured and diverted to bench lands lying southerly of Twin Falls, Idaho. The major portion of the waters of Salmon River are supplied from the drainage areas of what is known as O'Neil Basin and Shoshone Creek. The river leaves the O'Neil basin through a narrow gorge and confluences with Jakes Creek on the Vineyard Ranch. In the O'Neil Basin the most southerly tributary is Sun Creek which, together with Camp Creek, forms the start of Salmon Rivr. The river flows in a northeasterly direction being joined by Cottonwood Creek and Canon Creek. Near the center of T. 45 N., R. 62 E., it is joined by the Waters of North Fork Salmon River which originates near the Idaho-Nevada State line and flows southerly. The river then flows in a southeasterly direction through the Narrows heretofore mentioned, to the confluence with Jakes Creek. Jakes Creek has as its tributaries Willow or Dry Creek, and Nall Creek, and flows in a general northerly direction to its confluence with Salmon River. The river then flows northerly to the State line being joined by Trout Creek and Shoshone Creek a few miles south of the State line. Shoshone Creek, a principal tributary of the Salmon River, rises in Idaho, and flows southerly, crossing the Nevada-Idaho State line in the northwest portion of T. 47 N., R. 66 E. It then flows in a general westerly direction and joins the main stream at the lower end of the San Jacinto Meadows, just above the "Narrows."

STATE AND FEDERAL DECREES

On March 1, 1923 a Judgement and Decree was entered in the District Court of the Fourth Judicial District of the State of Nevada in and for the County of Elko "In the Matter of the Determination of the Relative Rights in and to the waters of Salmon River and its Tributaries, in Elko County, Nevada." This decree was signed by E. J. L. Taber, District Judge, acting under section 5489 of the Revised Laws of Nevada, as his term had expired at the date of his

Decreed owner	Proof No.	Source	Present owner	Acres	Acre-feet
James R. Capell	01412	Canon Creek	O. F. Boies	37.79	129
O'Neil Bros. Land & Stock Co.	01411	Salmon River, Canon Creek, Pole Creek, Cottonwood Creek	O. F. Boies	840.66	2,782
W. P. Helsley	01410	Wilson, Willow and Lime Creeks	W. Lester Agee	319.77	1,076
O'Neil Bros. Land & Stock Co.	01411	North Fork Salmon River and Salmon River	Robert J. Agee	469.80	1,466
O'Neil Bros. Land & Stock Co.	01411	Sun Creek, Deer Creek, Springs and Swamps	William Gilmer	449.47	1,534
William H. Gilmer	01401	Camp Creek	William Gilmer	149.80	534
Vineyard Land & Stock Co. (Hubbard Ranch)	01413	Jakes Creek and Willow or Dry Creek	Albert H. and H. Vance Agee and Oren F. Boies	1,015.97	2,891
Vineyard Land & Stock Co. (Vineyard Ranch)	01413	Salmon River and Jakes Creek	Albert H. and H. Vance Agee and Oren F. Boies	1,318.44	4,214
Vineyard Land & Stock Co. (San Jacinto, Bridge, Trout and Nall Creek properties)	01413	Salmon River, Nall, Trout, and Shoshone Creeks	Salmon River Canal Co., Ltd.	8,831.98	25,712
Total				13,433.68	40,338

signing the decree; therefore a similar decree was signed by the new judge, J. M. McNamara, on March 3, 1923. This decree adjudicated all the vested water rights on Salmon River and tributaries in Nevada and provided for 40,338 acre-feet of water appurtenant to 13,433.68 acres of land as shown by the tabulation on page 71.

The Salmon River Canal Co., Ltd., successor to Twin Falls Salmon River Land & Water Co., is the owner of a project devised and constructed under the provisions of the Carey Act of Congress, whereby water coming down Salmon River is impounded by means of a dam and reservoir located in Idaho a few miles north of the Nevada-Idaho State line. The dam was completed in 1911 and its use for irrigation began in June of that year. The appropriation was acquired under three permits issued by the State Engineer of the State of Idaho. These permits were (1) No. 2659 for 1500 c.f.s. with a priority of December 29, 1906, (2) No. 3267 for 500 c.f.s. with a priority as of August 22, 1907, and (3) No. 5519 for 1000 c.f.s. with a priority as of September 7, 1909. It was intended by the project to reclaim 150,000 acres of land, but because of the limited water supply the project was reduced from time to time. In 1929 the Commissioner of Reclamation, State of Idaho, issued license and certificates of water rights under the three permits mentioned above. The certificates contain in substance the following language:

> The irrigable part of 991 forty-acre legal subdivisions, covering a gross acreage of 39,285.83 acres, which constitutes that portion of the Twin Falls Salmon River Land & Water Company's Carey Act Project which is now being served by this company's irrigation system.

Under the certificates, the water is to be used in conjunction with and upon the same lands.

The capacity of the Salmon Falls Canal Company reservoir is about 182,650 acre-feet. Water is appurtenant to some 35,000 acres within the project, although from our records it appears that at no time has there been more than 25,000 acres under actual irrigation during any one season.

Prior to 1915 there was considerable litigation between the Twin Falls Salmon River Land & Water Company (succeeded by the Salmon River Canal Company, Ltd.) and the Vineyard Land & Stock Co., a corporation. The matter was taken into the District Court of the United States for the District of Idaho, Southern Division, and a decision was entered July 7, 1915. On March 23, 1916 the decree by Frank S. Dietrich, District Judge, in the above-entitled matter, was entered. The trial court decreed that the Vineyard Land & Stock Co. was entitled to 12,500 acre-feet of water to satisfy their rights which were prior to those of the Salmon River Canal Company, Ltd. At that time the Vineyard Land & Stock Company was the owner of the Hubbard Ranch, the Vineyard Ranch and the San Jacinto Ranch each located on the Salmon River, and the Bridge Ranch on Shoshone Creek, a tributary to Salmon River. In addition to those mentioned, the company owned small ranches on Nall Creek and Trout Creek, together with certain lands in Idaho on Shoshone Creek. The 12,500 acre-feet was to satisfy all the prior rights on these ranches.

Subject to the prior rights of the Vineyard Land & Stock Company to use 12,500 acre-feet, the Twin Falls Salmon River Land & Water Company and Salmon River Canal Company, Ltd., were given the right to use the waters of Salmon River and tributaries under the permits granted by the State of Idaho and at the rates specified therein, up to 235,000 acre-feet, for each irrigation season. The decree further provided that the 12,500 acre-feet of water decreed to the Vineyard Land & Stock Company is restricted to the lands for which said appropriations were made, such lands being contiguous to or in close vicinity of the Salmon River and tributaries. In the decree the Vineyard Land & Stock Company was given an additional right, subsequent to the right given the Twin Falls Salmon River Land & Water Company and the Salmon River Canal Company, in the amount of 12,000 acre-feet with a priority of May 1, 1911; the water under such right to be diverted through the High Line or Harrell Canal.

The decree further provided that the Vineyard Land & Stock Company was to install uniform measuring devices at all points of diversions. This decree, as rendered by Judge Dietrich of the District Court of the United States for the Southern Division of the District of Idaho, was appealed by the Vineyard Land & Stock Company to the U. S. Circuit Court of Appeals, Ninth Circuit. In a decision rendered August 6, 1917, by District Judge Wolverton, the Dietrich decree was affirmed (245 Federal Reporter, p. 9).

The Salmon River Canal Company, Ltd., successor to the Twin Falls Salmon River Land & Water Company, in March of 1934, filed a petition for the adoption of rules for the guidance of those charged with the duty of administering the Federal Decree with the District Court of the United States, for the District of Idaho, Southern Division, and proposed 11 rules and instructions to govern the distribution of water awarded to the respective parties. In an opinion filed January 16, 1935, District Judge Cavanaugh recommended the adoption of 10 rules. The Vineyard Land & Stock Company appealed the decision to the Circuit Court of Appeals, Ninth Circuit, and in a decision by Circuit Judge Mathews the rules promulgated by District Judge Cavanaugh were drastically curtailed (85 Federal Reporter, 2d Series, p. 769).

The Dietrich decree of 1916 only involved the water rights owned by the Vineyard Land & Stock Company in Nevada and the Twin Falls Salmon River Land & Water Company rights in Idaho. The decree was in no way binding on other water users in Nevada.

VINEYARD LAND & STOCK CO.—CHANGES IN OWNERSHIP

On December 24, 1921, the Vineyard Land & Stock Company assigned their holdings, including their water rights on the Salmon River and tributaries, to the Utah Construction Company.

On November 14, 1945, the Utah Construction Company deeded such right to Russell Wilkins and Martin Wunderlich.

Prior to the aforementioned transfer, the Utah Construction Company assigned certain lands on Shoshone Creek, in Idaho, to Fred Hoops. This transfer conveyed 1,070 acre-feet of water.

On March 27, 1946, Russell Wilkins and Martin Wunderlich, doing

business under the name and style of the U C Land & Cattle Company, assigned the Hubbard and Vineyard ranch property, together with appurtenant water and range rights, to the following:

Undivided one-half interest to Oren F. Boies.
Undivided one-quarter interest to Albert H. Agee.
Undivided one-quarter interest to H. Vance Agee.

The described lands contained 10,419.63 acres, more or less, and included, but without limitation thereto, 2,360.13 acre-feet of water annually out of the aggregate rights decreed and adjudicated to such lands in the District Court of the United States in and for the District of Idaho, Southern Division, together with any other water rights which may be attached.

By deed dated May 24, 1947, Russell Wilkins and Martin Wunderlich, co-partners doing business under the name and style of The U C Land & Cattle Company, assigned their San Jacinto, Trout Creek and Nall Creek ranches, together with appurtenant water rights, range rights and other deeded property, to Salmon River Canal Co., Ltd. The deed conveyed, but without limitation thereto, 8,000.87 acre-feet of water annually out of the aggregate rights decreed and adjudicated to such lands in the District Court of the United States in and for the District of Idaho, Southern Division, together with any other rights which may be attached.

The Bridge Ranch, on Shoshone Creek in Nevada, was sold by Wilkins and Wunderlich to Roscoe Nelson. This assignment conveyed 892.26 acre-feet of water.

A recapitulation of the disposition of the 12,500 acre-feet of water which was by the Dietrich decree made the maximum diversion by the Vineyard Company on its lands in Idaho and Nevada is as follows:

	Acre-feet
Reduction for railroad and other rights of ways by amendments to decree	176.74
Sold to Fred Hoops by Utah Construction Company for use on Idaho lands	1,070.00
Sold to Roscoe Nelson by Wilkins and Wunderlich	892.26
Sold to Agee, et al., for the Vineyard and Hubbard ranches	2,360.13
Sold to Salmon River Canal Co.	8,000.87
Total in decree	12,500.00

APPLICATIONS TO APPROPRIATE

This, then, brings us up to the start of the present controversy. As mentioned earlier, on August 26, 1947, thirteen applications were filed to appropriate the waters of the Salmon River and tributaries. The applicants, application numbers, sources and amounts applied for are given on page 75.

Applications Nos. 11987 and 12412 are to appropriate a total of 5.4 c.f.s. for use on the Vineyard Ranch. Under "remarks" it is stated that in the "Abstract of Claims to the Waters of the Salmon River and its Tributaries" issued in 1916 by the State Engineer of Nevada, there is listed 1,139.54 acres as being irrigated on the Vineyard Ranch by water from Salmon River and that this acreage would normally

Application No.	Applicant	Source	Amount applied for (c.f.s.)	Acres to be irrigated
11978	Robert J. Agee	North Fork Little Salmon River	0.74	74.11
11979	Robert J. Agee	Salmon River	0.19	18.62
11980	Walter M. Gilmer	Sun Creek and Tributaries	2.8	207.34
11981	Walter M. Gilmer	Sun Creek and Tributaries	4.47	447.33
11982	Walter M. Gilmer	Camp Creek	6.4	640.49
11983	Walter M. Gilmer	Sun Creek	3.48	347.58
11984	Esther Teressa Boies	Cottonwood Creek	0.98	97.73
11985	Esther Teressa Boies	Cottonwood Creek	1.93	193.15
11986	Esther Teressa Boies	Cottonwood Creek	1.08	107.62
11987	O. F. Boies, Albert H. Agee, and H. V. Agee	Salmon River	4.93	1,058.84
			Supplemental irrigation	
11988	O. F. Boies, Albert H. Agee, and H. V. Agee	Willow or Dry Creek	6.16	736.84
			Supplemental irrigation	
12411	Albert Agee	Willow or Dry Creek	3.0	367.58
			Supplemental irrigation	
12412	Albert Agee	Salmon River	0.47	80.70
			Supplemental irrigation	

require 11.40 c.f.s. of water. Further, that by the decree of the U. S. District Court in Idaho, this land was reportedly decreed approximately 1,800 acre-feet, or 6.00 second feet. That the purpose of Applications Nos. 11987 and 12412 is to obtain the difference between 11.40 c.f.s. and 6.00 c.f.s. or 5.4 c.f.s.

Applications 11988 and 12411 are to appropriate a total of 9.16 c.f.s. of water for use on the Hubbard Ranch. It is stated under "remarks" that the Abstract of the State Engineer, mentioned above, listed 1104.42 acres as being irrigated from Willow Springs or Dry Creek and in the decree of the U. S. District Court this land was decreed approximately 560 acre-feet or 1.88 c.f.s. Applicant states that the 1,104.42 acres would require 11.04 c.f.s., and it is the purpose of the application to appropriate the difference between 11.04 c.f.s. and 1.88 c.f.s., or 9.16 c.f.s.

Application 11982, in name of Walter M. Gilmer, is to appropriate 6.40 c.f.s. of the waters of Camp Creek, which is to be conveyed by means of a ditch to Sun Creek and there used for the irrigation of lands adjacent to Sun Creek.

Protests were filed to the granting of permits under all of the applications except 11983. The protest on Application No. 11983 came in too late for official filing. The dates the protests were filed are as follows:

April 24, 1948—Applications Nos. 11978, 11980, 11981, 11984, 11985, and 11986.

June 16, 1948—Applications Nos. 11979 and 11982.

August 4, 1948—Applications Nos. 11987, 11988, 12411, and 12412.

The basis of the protests, in brief, were:

1. That the waters of such source have been adjudicated by the State Engineer of Nevada and a decree entered by the Fourth Judicial District of Nevada on March 3, 1923; and
2. That pursuant to said decree, all of the waters of Salmon River and its tributaries for use in Nevada were determined, and there is no water available to appropriate; and
3. That protestant is the owner of ranches in Elko County and is possessed of adjudicated rights on the Salmon River and its tributaries on the said stream system below the points of diversion on said applications; that the granting of said applications would deprive protestant of the waters to which it is entitled to use pursuant to said decree; and
4. That irreparable damage would be inflicted upon protestant if said applications were granted in violation of said protestants' adjudicated rights and in violation of the water law of the State of Nevada; and
5. Protestant prays that the applications be denied.

On March 23, 1949, a hearing was held on these applications by the office of State Engineer, in Elko, Nevada. Following the hearing briefs were filed by applicants and protestants. The matter now rests with the State Engineer.

APPLICATIONS TO CHANGE POINTS OF DIVERSION AND PLACE OF USE TO IDAHO LANDS:

The Salmon River Canal Company, Ltd., on May 4, 1949, filed eight

applications to change the points of diversion and places of use. These applications, being numbered 12888 to 12895, inclusive, are herewith listed:

Application No.	Amount To Be Changed c. f. s.	Amount To Be Changed Acre-feet	Number of acres transferred from
12888	8.583	2,189	858.23
12889	1.55	388	154.97
12890	19.414	4,629	1,911.3
12891	3.214	797	321.39
12892	7.321	2,447	732.40
12893	2.744	542	274.20
12894	35.956	12,251	3,595.95
12895	0.364	65	10.70
Totals	79.146	23,308	7,859.14

The Salmon River Canal Co., Ltd., in their applications, are proposing to transfer all of the waters made appurtenant under State decree to the San Jacinto ranch with the exception of 167.52 acre-feet of water made appurtenant to 139.87 acres at the San Jacinto ranch headquarters. Application No. 12895 is to change 65 acre-feet of water appurtenant to 10.7 acres of land adjacent to the northern terminus of the Vineyard ranch.

With the exception of Application No. 12895 the applications were published and were protested November 18, 1949 by Walter Gilmer, H. A. Agee, A. H. Agee, R. J. Agee, J. L. Vandiver, and Mrs. O. F. Boies. Application No. 12895 has not as yet been published. The basis of the protests are, in brief, as follows:

1. That protestants are water users on the Salmon River and have now pending before the State Engineer applications for said water; that they seek permission to use the water in a proportion which is in consonance with Nevada's equitable apportionment; and
2. That the State Engineer is without jurisdiction or power to transfer property belonging to the State of Nevada; and
3. Such waters are not subject to transfer to a foreign State whereby the State of Nevada would lose title to the water; and
4. That the water rights claimed to have been appropriated by the applicant have been abandoned by physical acts of abandonment; and
5. That such transfer would deprive the State of its reasonable proportion of the waters; and
6. That the economy of the State of Nevada would be seriously impaired * * *.

It is to be noted that these applications are to change water decreed by State adjudication, rather than the amounts under the Federal decree. Also, such applications do not intend to transfer certain waters appurtenant to the Trout Creek and Nall Creek properties.

It is stated in the application that the waters will be conveyed through a canal 30 feet wide with an average depth of 6 feet and a gradient of 0.37. The supporting maps show the alignment of the canal and its terminus near the northerly end of the San Jacinto ranch property. The water is to be conveyed to a reservoir having 182,650 acre-feet capacity.

WORKS OF DIVERSION

In 1946, shortly after purchasing the San Jacinto ranch and water rights, the Salmon River Canal Co. began construction of approximately 10 miles of new channel. Starting at the point specified in the application, *i. e.*, in the SE¼ NE¼ section 20, T. 45 N., R. 64 E., and being near the town of Contact, the canal was constructed in a general northerly direction following the general course of the river. A very small portion of the Salmon River channel was used and to all extent and purpose the river channel, following the completion of the canal, was dried up.

The canal conveyed water appurtenant to the San Jacinto lands in a more or less direct route to the river beyond the lands heretofore irrigated and thence to the reservoir in Idaho, and is used on their project lands, which, according to information furnished, have never received sufficient water.

The Salmon River Canal Company has been using through their down stream reservoir and canal system, all of the water available under the water rights purchased by them except only certain rights which were retained on the Nevada lands for use by the Salmon River Cattle Association as follows:

(a) Domestic water for use around the San Jacinto headquarters 100 miners inches (2 c.f.s.) from the spring near San Jacinto for use on the S½S½NW¼, N½SW¼, SW¼SW¼, sec. 14, Township 46 N., Range 64 E.

(b) Five acre-feet per season from Trout Creek for use on the Canyon Ranch in Townships 45 North, Range 65 E. and 44 North 64 E.; to be used on the same lands and to be diverted in the same manner as theretofore.

(c) 100 acre-feet per season for irrigating the meadows on Nall Creek.

We understand the above reservations are listed in the deed between the Canal Company and the Cattlemen's Association recorded in Elko County.

HYDROGRAPHIC PROGRAM

The State Engineer realized that he had little data, such as stream flows, duty of water and actual acreage under irrigation, on which to make a complete study of all of the various factors that should be taken into consideration. He further realized that a decision made on the current applications now pending would no doubt lead to extended litigation and that for the benefit of all concerned the matter of the use of water between the two States should, if possible, be settled by agreement which could be incorporated into an inter-State compact. It was then the opinion of the State Engineer that detailed hydrographic and duty of water studies should be made. Accordingly, a meeting was arranged, during May 1949, in Elko between the Salmon River Canal Co., Ltd., and the water users in Nevada.

The proposition of engaging the services of an hydrographer was discussed and met with the full agreement of all parties. It was agreed that the State Engineer could budget pursuant to section 52 of the Water Law (Stats. 1931, Chap. 209). The total budget submitted for 1949 was $1,206.69 and was based on a charge of three cents per acre.

The Salmon River, being within the Humboldt Water Distribution District, the actual field work was placed under the charge of the Supervising Water Commissioner, George Hennen.

Due to the lateness of the season the high-water period had passed and there was neither time nor sufficient money available to install recorders. Nevertheless, a series of staff gages were installed and rating curves developed. Staff gages were placed as indicated on the accompany sketch. A summary of the measurements is herewith listed:

Sun Creek, May 25–July 31	Acre-feet
Above Gilmer ranch	1,052
Deer Creek (a tributary)	292
Total flow	1,344
Below Gilmer ranch	617
Depletion	727

Camp Creek, May 25–July 17	Acre-feet
Above Gilmer ranch	2,816
Below Gilmer ranch	2,385
Depletion	431

Cottonwood Creek, May 25–July 17	Acre-feet
Above Boies ranch	1,107
Diversions above	1,111
Total	2,218
Below Boies ranch	2,315
Pick-up	97

Canon Creek, June 12–July 31	Acre-feet
Above Boies ranch	1,569
Pole Creek tributaries	167
Salmon River	1,772
Total	3,508
Salmon River below Boies	3,308
Depletion	200

North Fork Salmon River, June 10–July 31	Acre-feet
Below Agee	3,359

Jakes Creek, May 24–July 31	Acre-feet
Dry Creek above Hubbard ranch	664
Jakes Creek above Hubbard	560
Total	1,224
Jakes Creek below Hubbard	760
Depletion	464

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Shoshone Creek, May 24–July 31	Acre-feet
Shoshone Creek	1,678

On January 31, 1950, the parties concerned were again brought together at a meeting in Elko. The results of the 1949 hydrographic program was outlined and it was suggested by the State Engineer that such studies should be carried on for at least an additional two-year period and that sufficient money be raised to enable the installation of several records and the services of an hydrographer throughout the run-off period. Duty of water studies in the O'Neil Basin were discussed and it was suggested by the State Engineer that recorders be placed on Camp Creek above and below the lands being irrigated. Obtaining then the total acreage irrigated and the stream depletion, the net duty of water could be determined. Camp Creek afforded the best opportunity for such study as beaver dams on the other streams would make accurate measurements impossible. It was agreed by all parties to continue the studies and, as a result, a budget was entered in the amount of 15 cents an acre, or a total of $6,341.40. The following recorder stations were installed:

Camp Creek—Two continuous recorders with bridgeway.

Jakes Creek below Hubbard Ranch—One weekly recorder.

Salmon River below Vineyard Ranch—One monthly recorder with cableway.

Shoshone Creek—One weekly recorder.

In addition to maintaining the recorder stations, measurements are also being made at the staff gage stations that were installed in 1949. The service of a hydrographer was obtained earlier so that good seasons records should result.

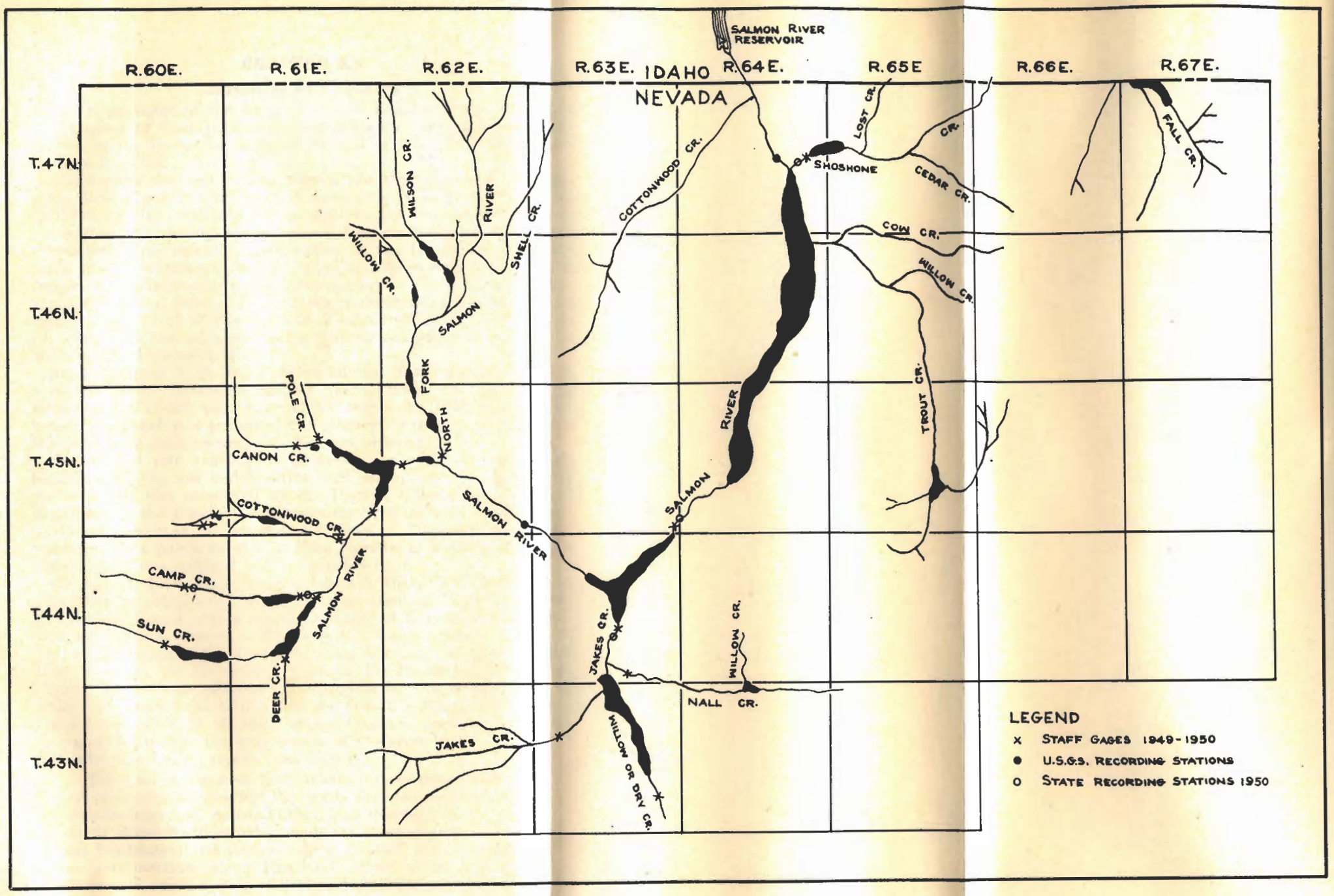
The United States Geological Survey offices in Elko and Boise, as well as the Salmon River Canal Co., are assisting in rating the river at the station installed below the Vineyard Ranch on the Salmon River.

In addition to our stations, the United States Geological Survey is operating two stations on the Salmon River. One is located near San Jacinto and below all Nevada diversions, and the other is located in the Narrows above the Vineyard Ranch. Both of these are shown on the accompanying map.

The area involved is within a recently organized Soil Conservation District and this service will assist in obtaining areas of irrigated lands, as well as the interpretation of the data obtained.

Another source of assistance is being furnished under a cooperative program between the Soil Conservation Service, Division of Engineering, Experiment Station, and the Office of State Engineer, designed to make studies on duty of water. Under this program work is now being conducted on Nall Creek, a small tributary to Jakes Creek. A sketch showing the stream system, the irrigated lands, and location of gaging stations considered in this report, is appended for reference.

The full cooperation of the Salmon River Canal Co., Ltd., and the Nevada water users is to be highly praised.


SALMON RIVER RESERVOIR
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T.43N.
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RIVER
SHELL CR.
COTTONWOOD CR.
LOST CR.
CR.
SHOSHONE
CEDAR CR.
FALL CR.
COW CR.
WILLOW CR.
WILLOW CR.
SALMON
FORK
NORTH
POLE CR.
CANON CR.
COTTONWOOD CR.
SALMON RIVER
RIVER
SALMON
TROUT CR.
CAMP CR.
SUN CR.
SALMON RIVER
DEER CR.
JAKES CR.
WILLOW CR.
NALL CR.
JAKES CR.
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CHAPTER XV

Humboldt River Survey

The Department of the Army, Corps of Engineers, was authorized by Congress to make preliminary examination and surveys for flood control on the Humboldt River in Nevada by the Flood Control Act of June 28, 1938.

The district engineer of the Sacramento District, Corps of Engineers, held a public hearing at Winnemucca, Nevada, on September 26, 1938, to give local interests an opportunity to express themselves on matters concerning the proposed flood-control survey. Shortly thereafter, a preliminary investigation of the Humboldt River was made by the Sacramento District Office and an adverse report on the project was submitted to the division engineer. The division engineer concurred in the findings of the district engineer and submitted the report to the Chief of Engineers at Washington, D. C., on February 21, 1939, with the recommendation that no comprehensive survey be made on the Humboldt River.

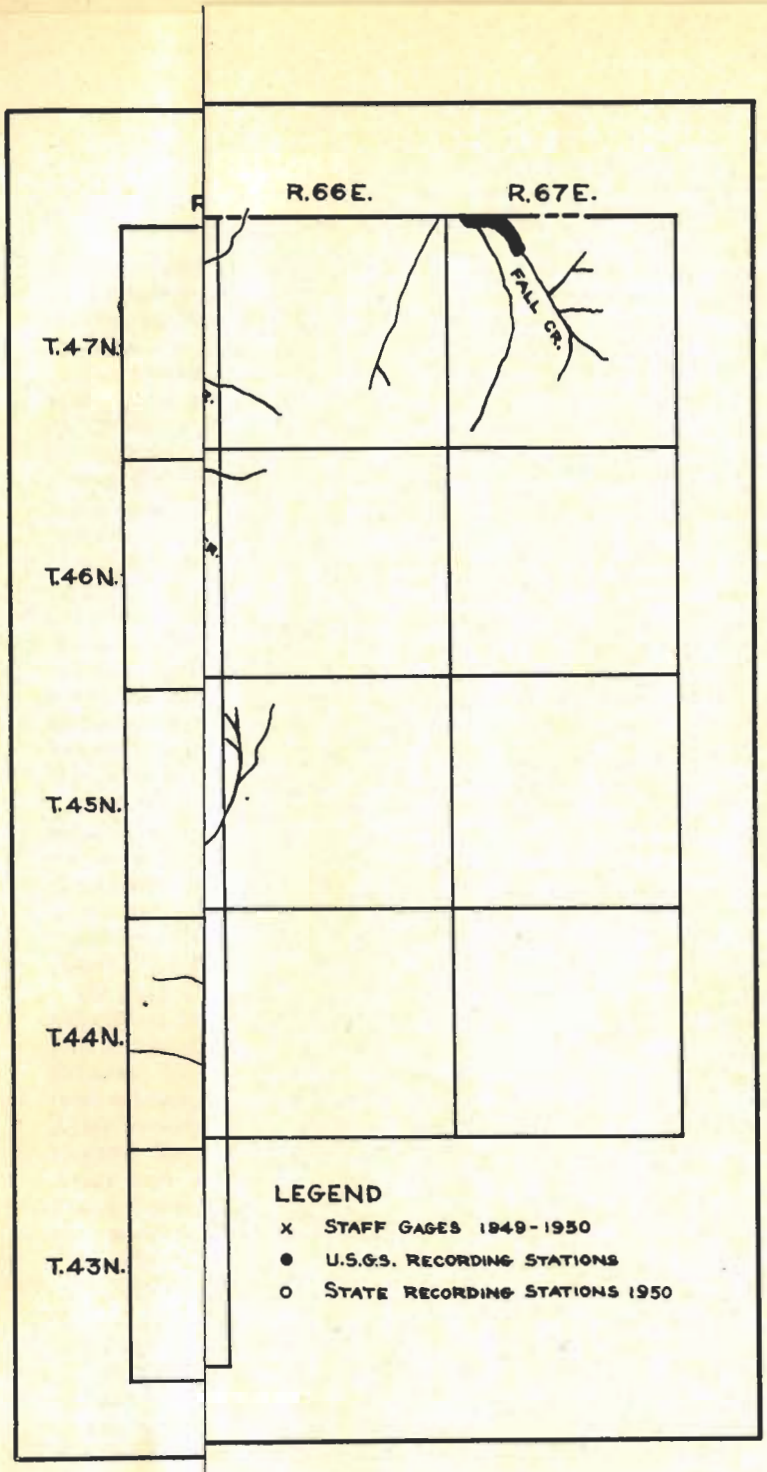
State Engineer A. M. Smith, being advised in the matter, asked for a review of the Humboldt project by the Board of Engineers for Rivers and Harbors and on or about March 25, 1940, he appeared before this board and presented the problem to them. As a result of this meeting a comprehensive survey was ordered.

During the war years little progress was made on the survey. Shortly after the war ended active work on the survey was resumed and a report was submitted by the District Office of the Corps of Engineers to the Chief of Engineers on September 15, 1948. Prior to the submission of his report to the Chief of Engineers, the district engineer held a public hearing in Elko, Nevada, at which time the proposed report was outlined and commented upon.

On July 22, 1949, Major General Lewis A. Pick, Chief of Engineers, submitted the reports of the District and Division Engineers, Rivers and Harbors Board, and his report as Chief of Engineers to Governor Pittman for examination and comment. These reports, with some reservations, were approved by Governor Pittman on July 27, 1949. After receiving the Governor's approval, the Humboldt River Flood Control Report was submitted to Congress by the Secretary of the Army and it has been included in the Omnibus Rivers and Harbors Flood Control Bill, H. R. 5472, an appropriation measure, which will be considered during the next session of Congress.

Briefly, the Army's report is as follows:

> The district engineer finds that the most practicable plan of improvement meeting the needs for flood control, water conservation and redistribution, and drainage in the Humboldt River Basin would provide for three storage reservoirs on headwaters tributaries, minor channel improvements at critical locations along Humboldt River above Rye Patch Reservoir, and a system of drainage canals, a pumping plant, and a dike to confine water to the lower portion of Humboldt Lake, for drainage improvement in Lovelock Valley.



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The State Engineer and the members of the Humboldt River Advisory Board realized that before a program of flood control and water conservation would be approved by the water users, many questions would have to be answered. Through their efforts Senate Bill 78 was introduced and passed by the last session of the Nevada Legislature. This bill provides for an additional two-year study of the Humboldt River System, under the direction and supervision of the State Engineer.

Active work, under authority granted by this legislation, began on July 1, 1949. However, the State Engineer through his Humboldt River Water Commissioner, Mr. George Hennen, began gathering factual information on river channel conditions several months earlier.

The Humboldt River Survey, as presently outlined, will not duplicate the work done by the Corps of Engineers, but will be in addition and supplementary thereto. It is hoped that the information obtained will point the way to acceptance of the U. S. Corps of Engineers' report, which is still subject to some modifications, by those who are directly affected by its provisions.

The study being made by the State has been broken down into four interrelated sections which are as follows:

I. Type of organization that can be set up to best serve the interests of the water users and which will have authority to enter into contractual obligations with the government.

II. Benefits and costs that the individual water users can expect under the flood control and water conservation program.

III. Stream flow regulation and operation of the reservoirs for conservation purposes. (Flood control operation is fixed by the U. S. Corps of Engineers.)

IV. Irrigation and channel improvements that are necessary for the utilization of the flood control and water conservation program.

Section I. At present there is no Act, such as the Irrigation District Act, which can be made applicable to the Humboldt River area above Rye Patch Dam. The Pershing County Water Conservation District adequately covers the Lovelock Valley area. Some special legislation is necessary to create a legal entity that will have authority to do the things required under the program. It will not be very difficult to set up the boundaries of the district and draw up a suitable Act. The principal question in the legislation is the method of assessment to be adopted. Two methods of assessment are being studied. One method would assess the land having water rights on the Humboldt System in proportion to the benefits such land will receive; the other would assess all property within the boundaries of the watershed area equally. The final selection of the assessment plan would be up to the people within the district boundaries. A comparison of costs to water users under the two plans will be made.

Section II. Sections I and II both include costs. Section II, however, contemplates a study of cost to the water users to take advantage of the flood and water conservation benefits. The "costs" here will be an intelligent guess rather than a detailed estimate.

It is expected that some reasonable figure of costs and benefits can be ascertained through field investigations and personal contact with the individuals concerned.

Section III. The State Engineer of Nevada is responsible, under the law, for the regulation of the use of water of the Humboldt River System. Each water user has a decreed right which must be respected under all conditions and it will be the duty of the State Engineer to regulate the reservoirs and natural stream flow in such a way that the rights of the individual water user are protected.

Operational studies, in addition to those made by the Corps of Engineers, will be made. Without having gone into this problem in detail it now appears that some of the assumptions made by the Army Engineers do not fit the true condition and it may be necessary to suggest some modification of portions of the present report.

Most of the water users contacted so far are more concerned over the handling of the water than any other one thing.

Section IV. The irrigation and channel study is primarily a field investigation problem to determine existing conditions. Most of the field work done to date has been on this. The facts gathered so far show that the carrying capacity of the channels of the Humboldt River and its tributaries are far below the capacity needed for the proper handling and conservation of the water. On the main river and all tributaries, overflow and flooding take place at relatively low-stream flow stages.

The obvious solution is the removal of dams and obstructions and either straightening, widening, or deepening the channel. Unfortunately this is not as simple as it sounds. Assuming that all necessary easements to do the work were granted, the costs involved would probably be prohibitive.

Limited time and finances for the Humboldt Survey make it necessary to confine the studies to the channel below the proposed dams.

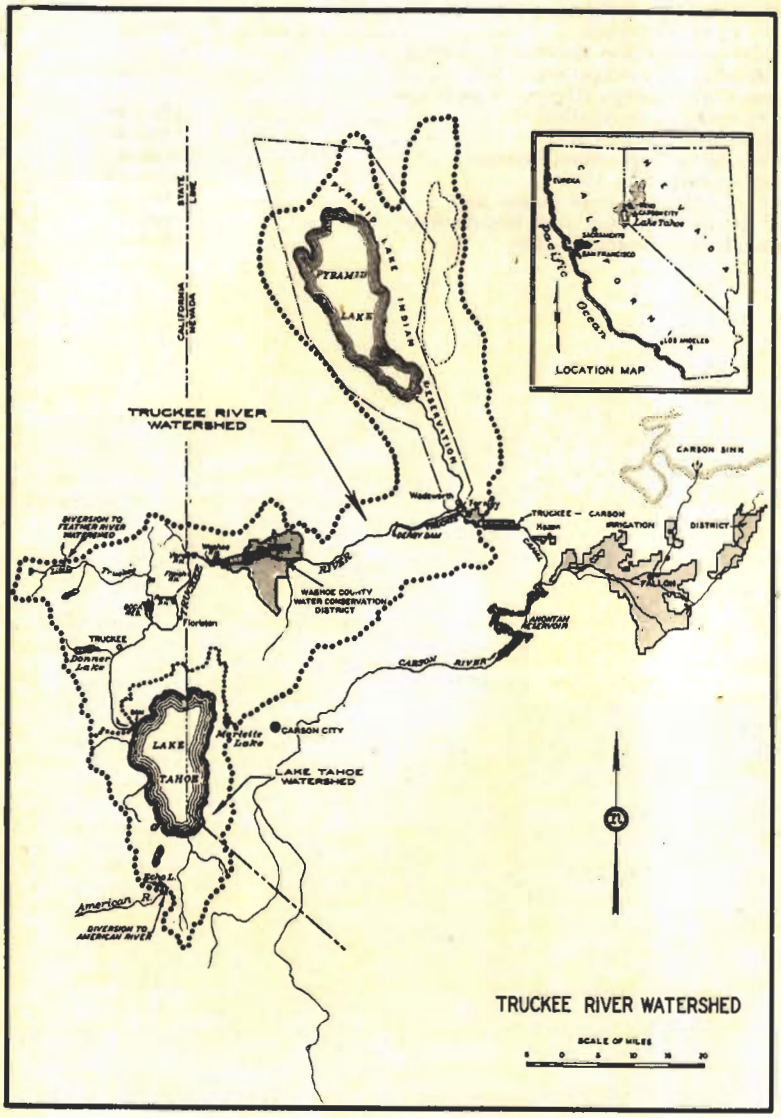
The information given to the Corps of Engineers on the river channel capacity below Palisade has been found to be incorrect. Since their flood-control studies were based on a channel of given capacity it may be necessary to modify the flood-control operation to suit the actual conditions. In any event, the present estimated cost for channel improvement will probably be too low.

In the Humboldt study nothing will be done on the drainage portion of the flood-control report.

CHAPTER XVI

Index to Important Data Printed in Previous Biennial Reports

Oftentimes it is necessary to refer to certain outstanding articles or important data printed in preceeding Biennial Reports. The following list will give a ready reference:


TRUCKEE RIVER WATERSHED
LOCATION MAP
PACIFIC OCEAN
LAKE TAHOE
SAN FRANCISCO
LOS ANGELES
PYRAMID LAKE INDIAN RESERVATION
PYRAMID LAKE
STATE LINE
CALIFORNIA
NEVADA
Wadsworth
Nixon
Fernley
Hazen
TRUCKEE - CARSON IRRIGATION DISTRICT
CARSON SINK
DIVERSION TO FEATHER RIVER WATERSHED
Truckee
Verdi
Floriston
TRUCKEE
Donner Lake
WASHOE COUNTY WATER CONSERVATION DISTRICT
LAHONTAN RESERVOIR
CARSON RIVER
Marlette Lake
CARSON CITY
LAKE TAHOE
LAKE TAHOE WATERSHED
Echo L.
American R.
DIVERSION TO AMERICAN RIVER
TRUCKEE RIVER WATERSHED
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CHAPTER XVII

Joint Report on the Use of Water in the Lake Tahoe Watershed

Prepared by THE STATE ENGINEERS OF NEVADA AND CALIFORNIA

INTRODUCTION

During the past two years, several applications to appropriate private water from Lake Tahoe and the sources tributary thereto have been protested by the downstream Truckee River water users. The basis for these protests is the concern of the downstream users over possible impairment of their Truckee River water supply, because of increasing upstream use, occasioned by a growing population around Lake Tahoe.

A full comprehension of the facts pertaining to the use of water around Tahoe, and the probable future effect on downstream users, is a necessary background for action on pending and future applications and the protests thereto. Since both the upstream source and the downstream use lie partly in California and partly in Nevada, an investigation to develop the facts in the matter was undertaken jointly by the two States.

AUTHORITY FOR REPORT

On March 27, 1947, the Governor of Nevada approved Senate Bill 101 which then became Chapter 173, Statutes of Nevada 1947, which provided as follows:.

"WHEREAS, Lake Tahoe is an interstate lake of great commercial and scenic value; and

WHEREAS, There are decreed water rights on Lake Tahoe for irrigation, power, municipal, and domestic purposes in Nevada, the magnitude of which approaches the total storage capacity of Lake Tahoe; and

WHEREAS, The recreational and commercial development of the Lake Tahoe area may, in time, be impeded due to lack of unappropriated water for domestic and industrial purposes; therefore,

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

The state engineer, for and on behalf of the State of Nevada, with the approval of the governor, is authorized to cooperate with the United States government and the State of California, in making a study of the various problems pertaining to the future needs and uses of the waters of Lake Tahoe in the area adjacent thereto, and if it appears that at some future period there may be a shortage of water, to study ways and means of developing a supplemental water supply so that the development of the area will not be impeded and existing water rights not jeopardized."

Acting pursuant thereto the Nevada State Engineer requested the State Engineer of California and the U. S. Bureau of Reclamation to participate in the investigation. Because of the public interest involved and upon the recommendation of the State Engineer of California, California's participation in the investigation was approved by C. H.

A LAKE TAHOE SCENE NEAR CAVE ROCK

Purcell, Director of the Department of Public Works of the State of California. Authority for the Department to participate in such an investigation is contained in section 226 of the Water Code of California.

The U. S. Bureau of Reclamation declined to enter into the investigation because of the lack of funds and personnel for such purpose.

PERSONNEL EMPLOYED ON INVESTIGATION

Actual field work in California was begun early in January and completed by the end of August 1948. The major parts of the work, however, were done during the months of June, July, and August. Fred Paget, Senior Hydraulic Engineer, and Raymond Nesbit, Assistant Hydraulic Engineer conducted the field work.

In Nevada, field work was begun in June and completed in August 1948. The compilation of the records obtained was completed in September 1948. The program in Nevada was under the general direction of Hugh A. Shamberger, Assistant State Engineer. Some preliminary research work was done by S. R. DuBravac. The gathering of information in the field was all done by Raby J. Newton, Special Assistant, who also compiled the data.

SCOPE OF INVESTIGATION AND REPORT

The details of the program were worked out at a meeting held at the State Engineer's office in Carson City, Nevada, on January 6, 1948. It was decided that the two States would proceed independently in gathering data as to the use of water in each State, but that the general procedure in obtaining this information, type of data, and method of preparation in report form would be uniform so that the separate reports, when combined, would have the effect of one report covering the entire area under investigation.

As decided at this meeting, field data were obtained on: (a) 1948 population using water, (b) Source of water used, (c) Location, amount of water used and type of use, (d) Character of water right.

These data were taken from actual records where available but otherwise were obtained by personal interview with resort managers, home owners, and those in charge of various water systems.

About half the water used in the Lake Tahoe watershed is brought to the consumer by organized water systems, some of which are public utilities selling water under the jurisdiction of the Public Utilities Commission, while others are cooperative nonprofit organizations. The other half of the water used is through small privately owned systems serving mostly one establishment.

Population figures were obtained for each month throughout the year. The figures for camps and resorts were, in general, taken from the records. For homes no records were available and a census was taken. Fairly accurate information was secured as to the number of people occupying homes during the nontourist season, but during the tourist season when accurate information was not available, estimates had to be made. In such cases it was assumed that each home would be occupied by four people during July and August and two people during June and September. This assumption was based upon

averages for the housing units for which accurate information was available.

The source of the water used was determined as to whether it came from wells, springs, creeks, lakes lying above Lake Tahoe, or from Lake Tahoe itself.

In addition to determining the location of the water use and the amount used, the type of use was determined; as to whether it was domestic use for dwellings and resorts, recreational use for camps, irrigation use for golf courses, truck garden or meadow pasture, or industrial use.

Water rights differ in the two States. In Nevada, water rights are by appropriation only; in California, the riparian doctrine exists as well as the appropriation procedure.

In California the use of water within the area is being made under claim of right by appropriation, by riparian ownership and by ownership of lands overlying percolating ground water. The appropriative rights fall into two categories; those initiated prior to December 19, 1914, the effective date of the Water Commission Act (now California Water Code), and those initiated subsequent to that date pursuant to the provisions of said Code. The water rights in the latter category are the only ones of record in the office of the Department. The extent of the others, as a whole, are unknown and could be ascertained only by an adjudication pursuant to law. Hence, beyond a general classification, no attempt was made to ascertain all the facts regarding the various rights within the basin.

In Nevada there are two classes of water rights by appropriation. The first of these includes vested rights initiated in the early days of the State's development, before any definite law concerning appropriation of water existed, and before the Office of the State Engineer had been created. The other includes the permitted rights that have been acquired subsequent to March 1, 1905, as provided for in the Water Law of Nevada.

This report combines and summarizes the data gathered and presented in separate reports by the State of Nevada and California, presenting them under the following headings, in the order listed: (a) Present Use of Water, (b) Estimated Future Use of Water, (c) Effect of Increased Use of Water, (d) Summary and Conclusions, (e) Recommendations. In the appendix to this report are included four sheets of an overall summary, listing by sectors, data pertinent to the use of water around Lake Tahoe.

PRESENT USE OF WATER

POPULATION

The population of Lake Tahoe, during 1948, was at the maximum during July and August, averaging 27,500 for the two months. The average for the year was 9,000. These figures include the week-end and holiday crowds, as well as the all-week vacationists and summer dwellers.

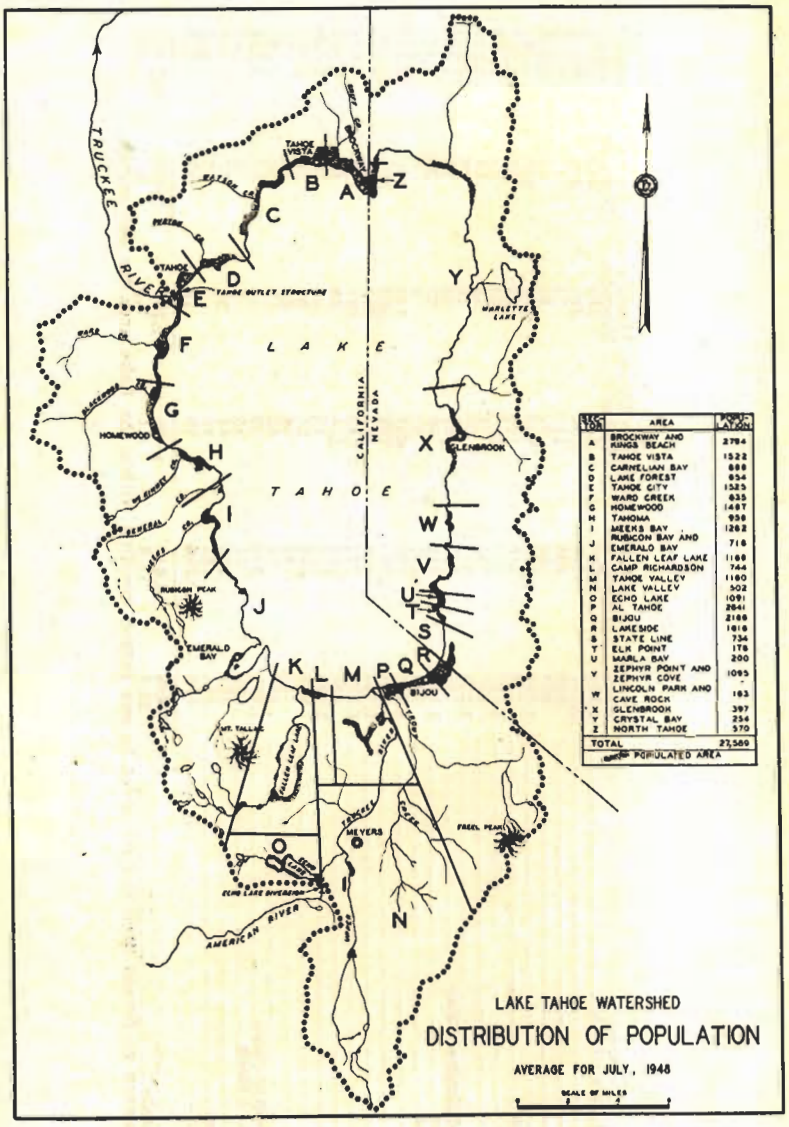
Table I on page 8 lists the average monthly population figures for the 26 sectors into which, for convenience of the investigation, the area around Lake Tahoe was arbitrarily divided. The average population figures for July, the month of maximum population, are tabulated upon a map of the lake area at page 10. The detailed data covering the separate population counts in California and Nevada are set forth in tables at the end of the California and Nevada reports, respectively.

1948 POPULATION FIGURES FOR LAKE TAHOE WATERSHED

Sector	Average Population During Month						
	January	February	March	April	May	June	July
Brockway and King's Beach	553	558	560	577	628	1,416	2,794
Tahoe Vista	212	226	223	237	316	838	1,522
Carnelian Bay	34	34	34	34	83	442	896
Lake Forest	97	97	97	97	132	256	654
Tahoe City	228	230	230	306	325	875	1,525
Ward Creek Area	37	37	37	37	85	471	835
Homewood	64	64	64	66	222	716	1,467
Tahoma	18	18	18	18	57	410	956
Meeks Bay	16	16	16	16	72	495	1,282
Rubicon Bay and Emerald Bay	4	4	4	8	41	275	718
Fallen Leaf Lake	25	25	25	25	63	428	1,189
Camp Richardson	8	8	8	8	22	296	744
Tahoe Valley	336	339	353	377	540	837	1,180
Al Tahoe	214	214	214	419	777	2,061	2,841
Bijou	307	305	330	328	480	1,313	2,166
Lakeside	126	126	125	138	230	857	1,616
Lake Valley	39	41	41	52	155	341	502
Echo Lake	29	51	40	16	15	74	1,091
State Line	15	15	15	15	46	407	734
Elk Point	29	29	29	29	39	103	182
Marla Bay	13	13	13	13	13	98	196
Zephyr Point, Zephyr Cove	18	18	22	35	53	497	1,095
Lincoln Park, Cave Rock	7	7	7	9	15	74	183
Glenbrook	29	27	27	39	62	242	397
Crystal Bay Area	7	7	7	7	29	205	254
North Tahoe	19	19	19	19	88	426	570
Totals	2,484	2,528	2,558	2,925	4,588	14,453	27,589
Percentage of totals	2.3	2.3	2.4	2.7	4.3	13.4	25.6

Sector	Average Population During Month: August	September	October	November	December	*Total person-months	Percentage of total by sectors
Brockway and King's Beach	2,802	1,348	604	569	564	12,973	12.0
Tahoe Vista	1,477	743	293	220	218	6,525	6.1
Carnelian Bay	900	498	114	34	34	3,137	2.9
Lake Forest	654	252	97	97	97	2,627	2.4
Tahoe City	1,575	1,325	308	306	230	7,463	6.9
Ward Creek Area	715	419	119	80	37	2,909	2.7
Homewood	1,462	749	224	64	64	5,226	4.9
Tahoma	957	335	51	18	18	2,874	2.7
Meeks Bay	1,278	513	67	16	16	3,803	3.5
Rubicon Bay and Emerald Bay	735	274	44	10	10	2,127	2.0
Fallen Leaf Lake	1,180	412	50	25	25	3,472	3.2
Camp Richardson	744	301	22	8	8	2,177	2.0
Tahoe Valley	1,211	830	631	342	347	7,323	6.8
Al Tahoe	2,841	1,320	766	289	274	12,230	11.3
Bijou	2,161	1,238	463	314	362	9,767	9.1
Lakeside	1,579	792	182	138	128	6,037	5.6
Lake Valley	497	332	155	39	39	2,233	2.1
Echo Lake	1,094	175	14	14	25	2,638	2.4
State Line	734	316	21	21	15	2,354	2.2
Elk Point	182	88	46	39	29	824	0.8
Marla Bay	196	98	13	13	13	692	0.6
Zephyr Point, Zephyr Cove	1,077	510	33	18	18	3,394	3.1
Lincoln Park, Cave Rock	187	71	15	7	7	589	0.5
Glenbrook	374	255	44	28	31	1,555	1.4
Crystal Bay Area	254	192	10	7	7	986	0.9
North Tahoe	570	256	19	19	19	2,043	1.9
Totals	27,436	13,642	4,405	2,735	2,635	107,978	100
Percentage of totals	25.4	12.6	4.1	2.5	2.4	100	

*A person-month as herein used is equivalent to one person residing within the Lake area for one month.



SECTION	AREA	POPULATION
A	BROCKWAY AND KINGS BEACH	2794
B	TAHOE VISTA	1522
C	CARNELLIAN BAY	888
D	LAKE FOREST	654
E	TAHOE CITY	1525
F	WARD CREEK	635
G	HOMEWOOD	1487
H	TAHOMA	938
I	MEEKS BAY	1262
J	RUBICON BAY AND EMERALD BAY	716
K	FALLEN LEAF LAKE	1168
L	CAMP RICHARDSON	744
M	TAHOE VALLEY	1180
N	LAKE VALLEY	502
O	ECHO LAKE	1091
P	AL TAHOE	2841
Q	BIJOU	2188
R	LAKESIDE	1818
S	STATE LINE	734
T	ELK POINT	178
U	MARLA BAY	200
Y	ZEPHYR POINT AND ZEPHYR COVE	1095
W	LINCOLN PARK AND CAVE ROCK	183
X	GLENBROOK	397
Y	CRYSTAL BAY	254
Z	NORTH TAHOE	570
TOTAL		23,569

A segregation of the total population by States is tabulated below:

State	Average population during July	Total person-months per year	Average during year
California	23,978	95,541	7,962
Nevada	3,611	12,437	1,036
Totals	27,589	107,978	8,998

HOUSEHOLD USE

Based upon experience gained over the past thirty-five years in the administration of the California Water Code, the California Division of Water Resources has found that a seasonal per capita allowance for use of water at camps, dwellings, and resorts such as are encountered in the Tahoe area, varies from 5 gallons per day for a campground with poor water facilities, to 50 gallons per day for a dwelling with plumbing throughout and having an adequate water supply. All types of camps and dwellings were found in the Tahoe area; however, on the assumption that development in the future will tend toward higher types of dwellings with adequate water facilities, the per capita use of water has been taken as 50 gallons per day for the purposes of this report.

Sewage disposal at Lake Tahoe is by septic tanks and cesspools, which contribute a high percentage of the unconsumed portion of the water required for household use to the ground water. With allowance for some consumption by overlying vegetation, the water returned from this source is estimated as 50 percent of the gross household requirement.

The net household use has been determined by computing the gross use on the basis of 50 gallons per day per capita and then applying the factor of 50 percent thereto for sewage disposal return.

On the basis of 50 gallons per day and 30.5 days for an average month, the use per person is 1,525 gallons per month. For the 1948 total population at Lake Tahoe, of 108,000 person-months, the total household water use during 1948 was 505 acre-feet. Applying the 50 percent return factor the net use amounts to about 250 acre-feet.

IRRIGATION

Irrigation is practiced around the Lake for lawns, golf courses, and meadow pastures. The lawns and golf courses are irrigated by sprinkling; the pasture lands by wild flooding. Since excess water used for irrigation over and above that which can be dissipated by evaporation and plant transpiration returns to the water body, either by surface runoff or by deep percolation, the actual net use of water for irrigation cannot exceed a certain maximum for each type of irrigation.

Duty of water studies made by the Division of Water Resources in the high, mountain valleys of northeastern California indicate that the net use of water for meadow-pasture irrigation for a season, extending from April 15 to September 30, is in the order of 2.66 acre-feet per acre. Applying the same duty for irrigation for the

season June 15 to October 15 in the Tahoe area gives a net requirement of 1.7 acre-feet per acre.

Golf course irrigation and the use of water for sprinkling lawns and for garden irrigation, as practiced around the resorts and many of the homes, are assigned the same net use as that for meadow-pasture irrigation.

Based upon the above, the net use of water for all forms of irrigation reported herein has been taken as 1.70 acre-feet per acre.

DOMESTIC IRRIGATION

In California, only lawns and gardens over 1,000 square feet in area were measured and noted. In Nevada, all lawns and gardens were inventoried. The totals were:

		Total use at 1.70 acre-feet per acre
In California (acres)	46.54	79.1
In Nevada (acres)	5.04	8.6
Total	51.58	87.7

At 1.70 acre-feet per acre per year, the use for domestic irrigation around Tahoe during 1948 was 88 acre-feet.

INCIDENTAL SPRINKLING

On the California side it was observed that about one house in every ten had a small patch of grass or flowers which appeared to be watered by occasional sprinkling and that at other homes without lawns or gardens, some sprinkling was done on dusty areas and surrounding native shrubbery.

To cover this use an allowance of 80 gallons per day per unit was made, which for a three-month's season amounts to .0221 acre-foot for each unit. For the 3,570 units involved the total for 1948 was 78.9 acre-feet.

In Nevada the requirement for sprinkling was estimated as one-half the amount used for domestic irrigation which resulted in a 1948 use of 4.3 acre-feet.

The total use for sprinkling for the entire Tahoe area in 1948 was 83.2 acre-feet.

GOLF COURSE IRRIGATION

There are four golf courses around Lake Tahoe, three in California with a total irrigated area of 174 acres and one in Nevada with an irrigated area of 25 acres.

The net irrigation requirement of the 199 acres in the four golf courses at 1.70 acre-feet per acre is 338 acre-feet.

PASTURE IRRIGATION

There are 850 acres of irrigated meadow pasture land in California and 577 acres in Nevada; a total of 1,427 acres. At 1.70 acre-feet per acre the net use for irrigation was 2,426 acre-feet in 1948.

INDUSTRIAL USE

The main use of water by industry in the Tahoe watershed is the diversion by the Pacific Gas & Electric Company from Echo Lake of 2,000 acre-feet per annum for generating electrical power in its American River power plants.

A concrete mixing plant and a sawmill use another 2 acre-feet per annum.

On the Nevada side of the Lake there is no industrial use of water.

TOTAL NET CONSUMPTIVE USE OF WATER IN LAKE TAHOE WATERSHED DURING 1948

Type of use	Net unit water requirement	Net Water Used in Acre-Feet		
		California	Nevada	Total
Household use	25 g.p.d. per capita	224	29	253
Domestic irrigation	1.70 acre-feet per acre	79	9	88
Incidental sprinkling	Estimated	79	4	83
Golf course irrigation	1.70 acre-feet per acre	296	42	338
Pasture irrigation	1.70 acre-feet per acre	1,445	981	2,426
Industrial use		2,002	0	2,002
Totals		4,125	1,065	5,190

ESTIMATED FUTURE USE OF WATER

The Tahoe region is primarily a recreational area. Future development around Lake Tahoe will be reflected in the construction of additional facilities to serve the recreational pursuits of the increasing population. These additional facilities will be mainly housing units and perhaps a few additional golf courses. Such development will progressively replace areas of irrigated meadow pasture and water-consuming vegetation and thereby partly offset the contemplated increase in water demand for other purposes.

Reliable statistics are not available upon which the population trend at Lake Tahoe can be predicted. It might be reasonable to assume that the population at Tahoe may double in 25 years.

As to the ultimate population, an estimate is made assuming full occupancy of what now appears to be feasible building sites. Such an area would encompass the entire 72-mile perimeter of the lake for one-half mile back of the shore line. It would be subdivided into lots varying from small city lots on flat lands to 5- and 10-acre tracts on rough lands. An overall average would be 2 lots per acre. Further estimating that each lot would be occupied by 4 persons during July and August, the population for these months could be roughly in the order of 200,000 persons. This figure is not to be construed as a forecast or prediction of ultimate population but it is used in this report to indicate what the effect would be upon the lake level if such population should be attained.

The uses of water and the requirements therefore in the Tahoe area for 1948 are set forth in the preceding chapter under six segregations, namely: Household Use, Domestic Irrigation, Incidental Sprinkling, Golf Course Irrigation, Pasture Irrigation, and Industrial Use. Estimates of the probable effect on these uses due to future increased development, follow:

HOUSEHOLD USE

The demand for this purpose would be increased in direct proportion to the increase in population and would be as tabulated below:

Status of population	Population average during July and August	Net increase in annual consumptive use (acre-feet)	Equivalent inches over lake
1948 population	27,500	.....	.....
Population doubled	55,000	253	1/40
Utlimate possible population*	200,000	1,590	1/6

*Based upon a possible occupancy of strip ½-mile wide, around entire lake, with average of 8 persons per acre.

DOMESTIC IRRIGATION

As the population increases, building cannot proceed without the removal of water-consuming vegetation. Roads and building sites are completely denuded, while for any lawn or garden areas, the deep rooted shrubs and trees are first removed. It therefore appears that the increase in use for lawns and flower beds would be offset by the water saved due to the removal of native vegetation.

INCIDENTAL SPRINKLING

For those houses where no lawn or flower garden is planted but where some water would be used for sprinkling native shrubbery and for laying the dust, the amount that would be used would likewise be compensated for by the water saved due to removal of native vegetation from access roads and building sites.

GOLF COURSE IRRIGATION

The golf courses at Glenbrook, Brockway, and Tahoe City are in constant use during the summer. The one at Bijou is not used much. No known plans are now being contemplated for additional golf courses but with future population increase the building of additional courses might be expected. If these are built, however, they would logically be on the open meadow land now irrigated for pasture. Consequently no increase for this purpose can be foreseen.

PASTURE IRRIGATION

As regards pasture irrigation, there is little likelihood that the area will increase. On the contrary it is probable that construction of additional housing units will enroach upon a portion of the area now irrigated so that the use for irrigated pasture will decrease as development around Tahoe proceeds. No estimate of the possible decrease is attempted, it being merely assumed for the purpose of this report that there will be no increase in the use of water for pasture irrigation.

INDUSTRIAL USE

There appears to be no reason to predict any industrial expansion, within the area, which would increase the use of water for industrial purposes.

EFFECT OF INCREASED USE OF WATER

Additional use of water in the Lake Tahoe watershed will, over the years, affect the runoff down the Truckee River in two ways. (1) It will reduce in volume the amount in the lake and so reduce the water-surface elevation. (2) At low stages the reduced water-surface elevations will reduce the possible gravity flow over the outlet rim of the lake.

Thus, the effect upon the lake of the increased use of water is modified by the reduced gravity outflow, the former tending to lower the water surface and the latter tending to build it back up again so that the decreases in water-surface elevation fluctuates.

To ascertain the combined effect of these two factors a study was made based upon the operation of Lake Tahoe during the 24-year period between October 1917 and September 1941, the longest period of record during which the lake failed to fill.

Using the record of monthly discharge from Tahoe during the 24-year period, the effect of a yearly increase in use of 250 acre-feet, due to doubling the population, was evaluated.

EFFECT UPON LAKE LEVEL

The use of 250 acre-feet per year for 24 years amounts to 6,000 acre-feet, equivalent to a depth of .05′ over the 120,000-acre area of Lake Tahoe. However, due to the fact that the gravity flow of water over the outlet is reduced during periods of low water, the greatest reduction of water surface-elevation during the 24-year period studied was approximately .01′.

EFFECT UPON RATE OF OUTFLOW

At low stages of Lake Tahoe the outlet rim of the lake above the outlet structure becomes the limiting control. Under such conditions, due to the decreased head, there would be an actual decrease in the amount of water that could flow from the lake by gravity. The maximum reduction in flow indicated over the 24-year period studied was 3.6 second feet at elevation 6,224.94. Below this elevation the difference gradually reduced from 3.6 second-feet to zero as the water surface reached the elevation of the outlet of the lake.

EFFECT UPON QUANTITY OF OUTFLOW

The discharge from Lake Tahoe was reduced in 17 of the 24 years. The total indicated reduction during the 24 years was approximately 4,500 acre-feet; an average annual reduction of 188 acre-feet. (The difference between the 4,500 acre-feet reduction and the 6,000 acre-feet of increased use is accounted for by a difference of .013′ in elevation of the water surface at the end of the period studied.) Considering each season individually, while the maximum annual reduction of 600 acre-feet occurred in 1923–1924, the greatest percentage decrease was in 1932–1933, when the annual reduction amounted to 160 acre-feet or 3.1 percent of the total discharge of 5,150 acre-feet for that season.

EFFECT UPON PUMPING FROM LAKE

During the 24-year study period there were four years during which water was pumped from the lake. In each instance, when the pumping was begun, the water surface of the lake, due to evaporation, was dropping at the rate of .01′ per day. The maximum decreases in lake level during years of pumping, due to increased use of water, was found not to exceed a maximum of .01′. Thus the time of pumping should not be advanced by more than one day.

The maximum increase in the pumping head of .008′ in 1934, with pump and motor overall efficiency of 50 percent and a price for power of 1¢ per kwh., would for pumping the same amount of water, add to the total pumping cost for the year about $4. During each of the other three years of pumping the added cost would be less.

EFFECT ON POWER

Water from Lake Tahoe, in passing through the power plants along the Truckee River, generates power through a total head of 435 feet. Assuming a plant efficiency of 75 percent and a power value of 2.5 mills per kilowatt-hour, the value of each acre-foot through the Truckee River plants would be 83½¢. Thus, over the 24-year period the loss of a total of 4,500 acre-feet of Truckee River flow due to doubling the population at Tahoe, would amount to $3,760, or an average of $157 per year.

EFFECT UPON IRRIGATION SUPPLY

The average annual reduction in Truckee River flow would be 188 acre-feet per year. The total gross annual irrigation supply to the Truckee-Carson Irrigation District is 350,000 acre-feet. If the average annual shortage of 188 acre-feet was considered as applying only to the Truckee-Carson Irrigation District, (neglecting the Washoe County Water Conservation District and other irrigated areas in Truckee Meadows) it would amount to an average annual shortage of .05 percent (5/100 of 1 percent) of this gross supply.

ULTIMATE POSSIBLE DEVELOPMENT

The above figures apply to an increase of population in the Lake Tahoe watershed of double the 1948 population. For an ultimate possible population of 200,000 during July and August (7.3 times the 1948 population) the foregoing figures on reduction of lake level, reduced outflow, increased pumping life, and loss to power and irrigation would be on the order of six times as large.

SUMMARY AND CONCLUSIONS

1. The population of Lake Tahoe during 1948 was at its maximum during July and August, averaging 27,500 for two months. The average for the year was 9,000. The total person-months was 108,000.

2. Various estimates of the future population around Lake Tahoe have been made. It appears that the population may double in 25 years. Assuming that if what now appear to be feasible building sites were occupied, the ultimate population could be in the order of 200,000 persons during July and August.

3. The Lake Tahoe region is primarily a recreational area. Future development will progressively require additional housing units and perhaps additional golf courses. Such facilities may ultimately occupy all the livable area around Lake Tahoe to the exclusion of presently irrigated meadow lands and a considerable area of native vegetation. It, therefore, is believed that the increased demand for water due to the growth of population around Lake Tahoe will be for domestic and recreational purposes only.

4. Should additional golf courses be constructed, as the population grows, the increase in use of water for their irrigation will be largely, if not entirely, offset by water salvaged from presently irrigated meadow lands and areas now covered by native vegetation. It, therefore, appears that there will be no increase in demand on the waters of the basin due to additional golf courses.

5. The increased demand for water for domestic purposes will be confined to that required for household use. Any increase for the other domestic uses considered in this report, i. e., lawn and garden irrigation and sprinkling dust and native vegetation around dwellings, camps, and roads, will probably be compensated for by water salvaged from the native vegetation replaced by such facilities.

6. The estimated daily requirement for household use around Lake Tahoe is 50 gallons per capita. Disposal of the unconsumed portion thereof is by means of cesspools and septic tanks, which procedure results in a high percentage of return as sewage underground. Allowing for some consumption by overlying vegetation, it is estimated that such return is 50 percent of the daily gross requirement of 50 gallons per capita or 25 gallons. The daily net consumptive use per capita, therefore, amounts to 25 gallons.

7. The present household net consumptive use, on the basis of the average annual population of 9,000 for 1948, amounts to 28 acre-feet per year per 1,000 persons, or an annual total consumptive use of about 250 acre-feet.

8. Assuming double the population, the net increase in use will be about 250 acre-feet per year. For a future population of 200,000 which might be the ultimate possible, such increase would amount to about 1,600 acre-feet per year.

9. The 250 acre-feet increase in use estimated to be required for double the population is equivalent to a depth of approximately 1/40″ over the surface of Lake Tahoe, and for a 24-year period, the longest period of record during which the lake failed to fill, is equivalent to a depth of 6/10″ over the surface of Lake Tahoe.

10. With double the population the amount of water discharged from Lake Tahoe into the Truckee River would be reduced on the average about .2 percent (2/10 of 1 percent). The most extreme condition was indicated in the year 1932–1933 when the reduction in discharge amounted to 3.1 percent of the 5,150 acre-feet discharged that year. Such percentages are, in general, below the percentage of accuracy that can be obtained in measuring the discharge.

11. The increase in use would result in a decrease in power generation in the Truckee River plants to a value of approximately $157 per year.

12. The average decrease in the supply of irrigation water would amount to approximately .05 percent (5/100 of 1 percent) of the requirements of the Truckee-Carson Irrigation District.

13. It is estimated that about 40 percent of the indicated increase in use will be appropriated under the code procedures of the two States and thereby be subject to protest by downstream users.

14. The negligible effect, if any, of such appropriations in depleting the waters of Lake Tahoe is apparent.

15. The water-rights owners around Lake Tahoe were not parties to the Truckee River Decree or Truckee River Agreement, hence are not bound thereby.

16. Granting the applications now pending or those that may be filed within the foreseeable future for the appropriation of the waters of Lake Tahoe and its tributary streams for use within the Tahoe basin for domestic purposes and recreational uses allied therewith will have little effect, if any, toward depleting the waters of Lake Tahoe to the detriment of downstream users.

17. Although not germane to this report it is suggested here that population growth at Tahoe will create sanitation problems in connection with sewage disposal which will call for careful consideration to prevent pollution of water supplies.

RECOMMENDATIONS

1. In view of the importance to the public welfare of both States of the development of Tahoe as a recreational area, it is recommended that as regards applications for the appropriation of water for domestic and recreational use in the Tahoe watershed, it be the general policy for the present to grant such applications, after due consideration of each application, pursuant to law.

2. Since it appears that at no period within the foreseeable future will there be any water shortage in the area because of increasing population demands at Tahoe, it is recommended that no study be given at present to ways and means of developing a supplemental water supply as suggested by the Nevada enabling legislation, Chapter 173, Statutes of 1947.

3. It is recommended that further study be made within the next three or four years for the purpose of obtaining the trend of population and to gather additional data on the use of water in the Tahoe area.

Dated June 20, 1949.

Original signed by
ALFRED MERRITT SMITH,
State Engineer of Nevada.

Dated May 27, 1949.

Original signed by
EDWARD HYATT,
State Engineer of California.

APPENDIX

Following is a table, pages 104–113, containing certain data pertinent to the use of water at Lake Tahoe, as compiled by sectors. Pages 104–109 of this table list resorts, homes, and camps separately. Pages 110 and 111 combines them all in one overall summary.

A diagram is also included showing, for the past 49 years, the fluctuation of Lake Tahoe water surface and the total monthly discharge from the lake.

TABULATION OF DATA PERTINENT TO USE OF WATER AT LAKE TAHOE

(Summary of Resorts by Sectors)

Sector	Resorts	Number of Consumers by Monthly Averages											
		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
A	Brockway; Kings Beach	77	81	84	90	138	458	957	964	404	119	89	83
B	Tahoe Vista	37	51	48	47	119	358	642	654	311	100	42	40
C	Carnelian Bay	2	2	2	2	2	16	24	24	20	2	2	2
D	Lake Forest	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
E	Tahoe City	47	47	47	52	71	149	619	669	619	44	44	44
F	Ward Creek Area	6	6	6	6	9	89	167	167	89	15	9	6
G	Homewood	8	8	8	8	87	294	592	592	300	66	8	8
H	Tahoma	10	10	10	10	19	193	471	476	181	25	10	10
I	Meeks Bay	12	12	12	12	68	404	964	960	404	63	12	12
J	Rubicon-Emerald Bays	-----	-----	-----	-----	6	105	225	225	105	6	-----	-----
K	Fallen Leaf Lake	3	3	3	3	24	227	513	513	227	15	3	3
L	Camp Richardson	4	4	4	4	17	265	680	680	270	17	4	4
M	Tahoe Valley	87	90	93	99	113	194	372	390	207	118	88	98
N	Lake Valley	4	4	4	15	25	40	40	40	25	15	4	4
O	Echo Lake	27	49	38	14	13	22	43	46	20	12	12	23
P	Al Tahoe	38	38	38	61	163	556	611	611	315	168	98	83
Q	Bijou	77	75	98	96	196	544	965	964	483	183	84	132
R	Lakeside	60	60	59	72	132	301	543	543	249	95	69	62
S	State Line	15	15	15	15	40	214	325	325	124	15	15	15
T	Elk Point Country Club	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
U	Marla Bay	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
V	Zephyr Point; Zephyr Cove	4	4	8	21	31	254	618	618	254	8	4	4
W	Lincoln Park; Cave Rock	-----	-----	-----	2	3	15	53	53	25	8	-----	-----
X	Glenbrook	5	5	5	17	34	105	167	167	113	18	5	5
Y	Crystal Bay Area	2	2	2	2	2	60	90	90	90	2	2	2
Z	North Tahoe	14	14	14	14	83	262	406	406	174	14	14	14
Total		539	580	598	662	1,395	5,125	10,087	10,177	5,009	1,128	618	654

SUMMARY OF RESORTS BY SECTORS—*Continued*

Sector	Total consumer months	Source of Water (Consumer Months) Surface water	Wells	Lake Tahoe	Lawns and garden, acres irrigated
A Brockway; Kings Beach	3,544	3,544	------	------	1.00
B Tahoe Vista	2,449	864	410	1,175	0.14
C Carnelian Bay	100	------	------	100	
D Lake Forest					
E Tahoe City	2,452	2,452	------	------	2.50
F Ward Creek Area	575	72	503		
G Homewood	1,979	1,081	------	898	8.25
H Tahoma	1,425	------	------	1,425	2.75
I Meeks Bay	2,935	------	256	2,679	2.00
J Rubicon-Emerald Bays	672	222	------	450	0.50
K Fallen Leaf Lake	1,537	1,537			
L Camp Richardson	1,953	------	------	1,953	0.75
M Tahoe Valley	1,949	------	1,949	------	0.50
N Lake Valley	220	220			
O Echo Lake	319	263	56		
P Al Tahoe	2,780	2,453	327	------	0.14
Q Bijou	3,897	------	2,970	927	2.07
R Lakeside	2,245	104	2,141	------	0.65
S State Line	1,133	128	1,005	------	0.04
T Elk Point Country Club	------	------	------	------	1.15
U Marla Bay					
V Zephyr Point; Zephyr Cove	1,828	1,828			
W Lincoln Park; Cave Rock	159	------	159		
X Glenbrook	646	646			
Y Crystal Bay Area	346	------	------	346	
Z North Tahoe	1,429	985	------	444	0.23
Total	36,572	16,399	9,776	10,397	22.67

TABULATION OF DATA PERTINENT TO USE OF WATER AT LAKE TAHOE

(Summary of Homes by Sectors)

Sector Homes	Number of Consumers by Monthly Averages											
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
A Brockway; Kings Beach	476	477	476	487	490	958	1,837	1,838	944	485	480	481
B Tahoe Vista	175	175	175	190	197	457	812	823	432	193	178	178
C Carnelian Bay	32	32	32	32	81	426	872	876	478	112	32	32
D Lake Forest	97	97	97	97	112	216	429	429	214	97	97	97
E Tahoe City	172	174	174	245	245	614	746	746	614	255	253	177
F Ward Creek Area	31	31	31	31	52	162	328	328	170	64	31	31
G Homewood	56	56	56	58	135	422	875	870	449	158	56	56
H Tahoma	8	8	8	8	38	217	485	481	154	26	8	8
I Meeks Bay	4	4	4	4	4	91	318	318	109	4	4	4
J Rubicon-Emerald Bays	4	4	4	8	33	112	289	296	114	36	10	10
K Fallen Leaf Lake	22	22	22	22	39	201	676	667	185	35	22	22
L Camp Richardson	4	4	4	4	5	31	64	64	31	5	4	4
M Tahoe Valley	241	241	252	268	413	618	739	739	597	497	246	241
N Lake Valley	35	37	37	37	130	275	409	404	281	140	35	35
O Echo Lake	2	2	2	2	2	52	738	738	155	2	2	2
P Al Tahoe	176	176	176	358	614	1,205	1,880	1,880	855	598	191	191
Q Bijou	230	230	232	232	284	769	1,201	1,197	755	280	230	230
R Lakeside	66	66	66	66	97	544	1,021	1,022	542	87	69	66
S State Line	----	----	----	----	5	6	9	9	5	5	5	----
T Elk Point Country Club	29	29	29	29	39	103	182	182	88	46	39	29
U Marla Bay	13	13	13	13	13	98	196	196	98	13	13	13
V Zephyr Point; Zephyr Cove	12	12	12	12	20	153	217	219	156	23	12	12
W Lincoln Park; Cave Rock	7	7	7	7	12	59	130	134	46	7	7	7
X Glenbrook	24	22	22	22	28	122	175	177	127	26	23	26
Y Crystal Bay Area	5	5	5	5	27	145	164	164	102	8	5	5
Z North Tahoe	5	5	5	5	5	164	164	164	82	5	5	5
Total	1,926	1,929	1,941	2,242	3,120	8,220	14,956	14,961	7,783	3,207	2,057	1,962

SUMMARY OF HOMES BY SECTORS—*Continued*

Sector	Total consumer months	Source of Water (Consumer Months) Surface water	Wells	Lake Tahoe	Lawns and garden, acres irrigated
A Brockway; Kings Beach	9429	9,429			
B Tahoe Vista	3,985	3,358	159	468	
C Carnelian Bay	3,037	985	------	2,052	
D Lake Forest	2,079	2,079			
E Tahoe City	4,415	4,405	10		
F Ward Creek Area	1,290	636	590	64	0.50
G Homewood	3,247	3,094	76	77	3.00
H Tahoma	1,449	------	112	1,337	
I Meeks Bay	868	16	124	728	3.50
J Rubicon-Emerald Bays	920	920	------	------	9.00
K Fallen Leaf Lake	1,935	1,855	80	------	6.27
L Camp Richardson	224	------	8	216	
M Tahoe Valley	5,092	------	5,092	------	0.29
N Lake Valley	1,855	1,074	781	------	0.73
O Echo Lake	1,699	1,699			
P Al Tahoe	8,300	2,480	5,790	30	
Q Bijou	5,870	------	5,870		
R Lakeside	3,712	1,542	2,170		
S State Line	44	44			
T Elk Point Country Club	824	143	633	48	0.11
U Marla Bay	692	------	------	692	0.23
V Zephyr Point; Zephyr Cove	860	816	------	44	0.20
W Lincoln Park; Cave Rock	430	170	52	208	0.25
X Glenbrook	794	270	27	497	2.56
Y Crystal Bay Area	640	141	44	455	0.28
Z North Tahoe	614	614			
Total	64,304	35,770	21,618	6,916	26.92

TABULATION OF FACTORS PERTINENT TO USE OF WATER AT LAKE TAHOE

(Summary of Camps by Sector)

Sector Camps	Number of Consumers by Monthly Averages											
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
B.....Tahoe Vista	-----	-----	-----	-----	-----	23	68	-----	-----	-----	-----	-----
D.....Lake Forest	-----	-----	-----	-----	20	40	225	225	38	-----	-----	-----
E.....Tahoe City	9	9	9	9	9	112	160	160	92	9	9	9
F.....Ward Creek Area	-----	-----	-----	-----	24	220	340	220	160	40	40	-----
J.....Rubicon-Emerald Bays	-----	-----	-----	-----	2	58	204	214	55	2	-----	-----
M.....Tahoe Valley	8	8	8	10	14	25	69	82	26	16	8	8
N.....Lake Valley	-----	-----	-----	-----	-----	26	53	53	26	-----	-----	-----
O.....Echo Lake	-----	-----	-----	-----	-----	-----	310	310	-----	-----	-----	-----
P.....Al Tahoe	-----	-----	-----	-----	-----	300	350	350	150	-----	-----	-----
R.....Lakeside	-----	-----	-----	-----	1	12	52	14	1	-----	-----	-----
S.....State Line	-----	-----	-----	-----	1	187	400	400	187	1	1	-----
V.....Zephyr Point; Zephyr Cove	2	2	2	2	2	90	260	240	100	2	2	2
X.....Glenbrook	-----	-----	-----	-----	-----	15	55	30	15	-----	-----	-----
Total	19	19	19	21	73	1,108	2,546	2,298	850	70	60	19

SUMMARY OF CAMPS BY SECTORS—*Continued*

Sector	Total consumer months	Source of Water (Consumer Months) Surface water	Wells	Lake Tahoe	Lawns and garden, acres irrigated
B.....Tahoe Vista	91	91			
D.....Lake Forest	548	.....	.....	548	
E.....Tahoe City	596	596			
F.....Ward Creek Area	1,044	.....	1,044		
J.....Rubicon-Emerald Bays	535	535			
M.....Tahoe Valley	282	12	270	.....	2.00
N.....Lake Valley	158	.....	158		
O.....Echo Lake	620	620			
P.....Al Tahoe	1,150	1,150			
R.....Lakeside	80	80			
S.....State Line	1,177	1,177			
V.....Zephyr Point; Zephyr Cove	706	60	.....	646	
X.....Glenbrook	115	.....	.....	115	
Total	7,102	4,321	1,472	1,309	2.00

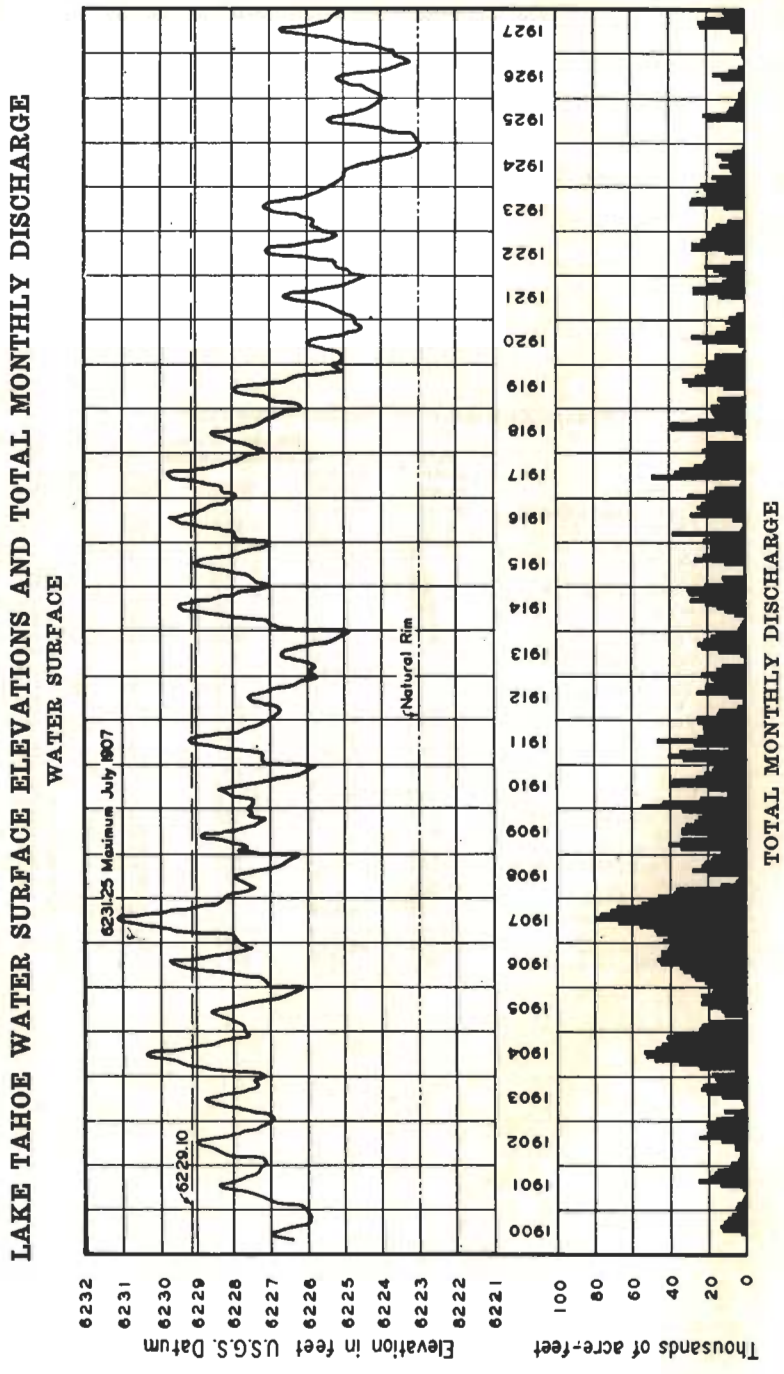
TABULATION OF FACTORS PERTINENT TO USE OF WATER AT LAKE TAHOE

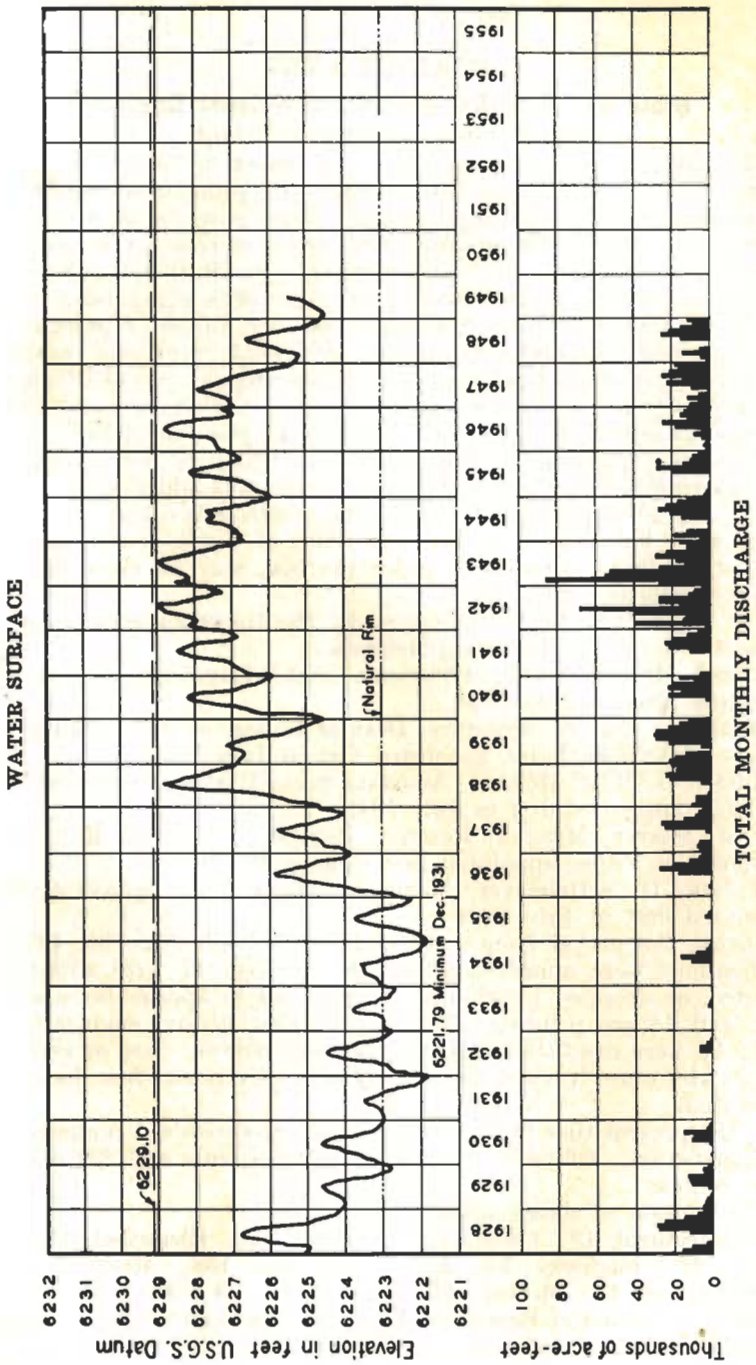
(Overall Summary by Sectors)

Sector	Number of Consumers by Monthly Averages											
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Resorts, Homes, and Camps												
A Brockway; Kings Beach	553	558	560	577	628	1,416	2,794	2,802	1,348	604	569	564
B Tahoe Vista	212	226	223	237	316	838	1,522	1,477	743	293	220	218
C Carnelian Bay	34	34	34	34	83	442	896	900	498	114	34	34
D Lake Forest	97	97	97	97	132	256	654	654	252	97	97	97
E Tahoe City	228	230	230	306	325	875	1,525	1,575	1,325	308	306	230
F Ward Creek Area	37	37	37	37	85	471	835	715	419	119	80	37
G Homewood	64	64	64	66	222	716	1,467	1,462	749	224	64	64
H Tahoma	18	18	18	18	57	410	956	957	335	51	18	18
I Meeks Bay	16	16	16	16	72	495	1,282	1,278	513	67	16	16
J Rubicon-Emerald Bays	4	4	4	8	41	275	718	735	274	44	10	10
K Fallen Leaf Lake	25	25	25	25	63	428	1,189	1,180	412	50	25	25
L Camp Richardson	8	8	8	8	22	296	744	744	301	22	8	8
M Tahoe Valley	336	339	353	377	540	837	1,180	1,211	830	631	342	347
N Lake Valley	39	41	41	52	155	341	502	497	332	155	39	39
O Echo Lake	29	51	40	16	15	74	1,091	1,094	175	14	14	25
P Al Tahoe	214	214	214	419	777	2,061	2,841	2,841	1,320	766	289	274
Q Bijou	307	305	330	328	480	1,313	2,166	2,161	1,238	463	314	362
R Lakeside	126	126	125	138	230	857	1,616	1,579	792	182	138	128
S State Line	15	15	15	15	46	407	734	734	316	21	21	15
T Elk Point Country Club	29	29	29	29	39	103	182	182	88	46	39	29
U Marla Bay	13	13	13	13	13	98	196	196	98	13	13	13
V Zephyr Point; Zephyr Cove	18	18	22	35	53	497	1,095	1,077	510	33	18	18
W Lincoln Park; Cave Rock	7	7	7	9	15	74	183	187	71	15	7	7
X Glenbrook	29	27	27	39	62	242	397	374	255	44	28	31
Y Crystal Bay Area	7	7	7	7	29	205	254	254	192	10	7	7
Z North Tahoe	19	19	19	19	88	426	570	570	256	19	19	19
Total	2,484	2,528	2,558	2,925	4,588	14,453	27,589	27,436	13,642	4,405	2,735	2,635
Percentage of total	2.3	2.3	2.4	2.7	4.3	13.4	25.6	25.4	12.6	4.1	2.5	2.4

OVERALL SUMMARY BY SECTORS—*Continued*

Sector	Total consumer months	Source of Water (Consumer Months) Surface water	Wells	Lake Tahoe	Lawns and garden, acres irrigated
A Brockway; Kings Beach	12,973	12,973	------	------	1.00
B Tahoe Vista	6,525	4,313	569	1,643	0.14
C Carnelian Bay	3,137	985	------	2,152	
D Lake Forest	2,627	2,079	------	548	
E Tahoe City	7,463	7,453	10	------	2.50
F Ward Creek Area	2,909	708	2,137	64	0.50
G Homewood	5,226	4,175	76	975	11.25
H Tahoma	2,874	------	112	2,762	2.75
I Meeks Bay	3,803	16	380	3,407	5.50
J Rubicon-Emerald Bays	2,127	1,677	------	450	9.50
K Fallen Leaf Lake	3,472	3,392	80	------	6.27
L Camp Richardson	2,177	------	8	2,169	0.75
M Tahoe Valley	7,323	12	7,311	------	2.79
N Lake Valley	2,233	1,294	939	------	0.73
O Echo Lake	2,638	2,582	56		
P Al Tahoe	12,230	6,083	6,117	30	0.14
Q Bijou	9,767	------	8,840	927	2.07
R Lakeside	6,037	1,726	4,311	------	0.65
S State Line	2,354	1,349	1,005	------	0.04
T Elk Point Country Club	824	143	633	48	1.26
U Marla Bay	692	------	------	692	0.23
V Zephyr Point; Zephyr Cove	3,394	2,704	------	690	0.20
W Lincoln Park; Cave Rock	589	170	211	208	0.25
X Glenbrook	1,555	916	27	612	2.56
Y Crystal Bay Area	986	141	44	801	0.28
Z North Tahoe	2,043	1,599	------	444	0.23
Total	107,978	56,490	32,866	18,622	51.59
Percentage of total	100	52.3	30.4	17.3	


LAKE TAHOE WATER SURFACE ELEVATIONS AND TOTAL MONTHLY DISCHARGE
WATER SURFACE
6231.25 Maximum July 1907
6229.10
Natural Rim
Elevation in feet U.S.G.S. Datum
6232
6231
6230
6229
6228
6227
6226
6225
6224
6223
6222
6221
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
Thousands of acre-feet
100
80
60
40
20
0
TOTAL MONTHLY DISCHARGE


WATER SURFACE
TOTAL MONTHLY DISCHARGE
Elevation in feet U.S.G.S. Datum
Thousands of acre-feet
6232
6231
6230
6229
6228
6227
6226
6225
6224
6223
6222
6221
100
80
60
40
20
0
6229.10
Natural Rim
6221.79 Minimum Dec. 1931
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
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1951
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1953
1954
1955

CHAPTER XVIII

State Board of Registered Professional Engineers

By STANLEY G. PALMER, *Secretary.*

The Engineer's Registration Law, as passed in 1919, with amendments in 1935, 1947, and 1949, defines the practice of professional engineering in the following terms: "The practice of professional engineering within the meaning and intent of this act includes any professional service such as surveying, consultation, investigation, evaluation, planning, and design, or responsible supervision of construction or operation in connection with any public or private utilities, structure, building, machines, equipment, processes, works, or projects, wherein the public welfare or the safeguarding of life, health, or property is concerned or involved, when such professional services require the application of engineering principles and data."

The 1949 amendments included the addition of the classification Engineering-in-Training. This classification was added in order that young engineering graduates and others with equivalent training in basic work but who lack the four years of professional experience beyond graduation, required under the law, may be registered in a sub-professional grade.

The registration board appointed by the Governor consists, at the present time, of the following members:

Alfred Merritt Smith, Chairman, State Engineer, Carson City, appointed first in July 1939.

Stanley G. Palmer, Secretary, Dean of College of Engineering, University of Nevada, Reno, appointed first in July 1941.

Huston D. Mills, Member, Assistant State Highway Engineer, Carson City, appointed first in July 1941.

A. J. Shaver, Member, Resident Engineer, Colorado River Commission, Las Vegas, appointed first in July 1939.

William H. Settelmeyer, Member, Elko County Surveyor, Elko, appointed first in July 1939.

During the period from July 1, 1948, through June 30, 1950, 61 applications were approved of the 96 received, 17 were withdrawn, rejected, or dropped for failure of applicant to appear for examination, and 18 are pending. Nineteen of the licensed engineers have died; 22 were dropped for nonpayment of renewal fees, or resigned; and 3, who were dropped for nonpayment of renewal fees, have been reinstated.

At the present time there are a total of 487 registered engineers and land surveyors. Of these, 248 are Nevada residents and 239 reside in other States.

The division of classifications is as follows:

Architectural, 19; Chemical, 14; Civil, 210; Electrical, 41; Geological, 19; Highway, 33; Land Surveyors, 158; Mechanical, 33; Metallurgical, 31; Mining, 137; Structural, 34; Miscellaneous, 26.

The distribution of Registered Engineers and Land Surveyors residing in Nevada is as follows:

Churchill County—Fallon	8
Clark County—Las Vegas, Overton, Boulder City, Henderson	57
Douglas County—Gardnerville, Minden	2
Elko County—Elko	5
Esmeralda County—Goldfield, Silver Peak	1
Eureka County—Eureka	1
Humboldt County—Winnemucca, Sulphur	5
Lander County	0
Lincoln County—Pioche, Bristol Silver, Panaca	7
Lyon County—Wellington, Yerington	3
Mineral County—Hawthorne, Mina	3
Nye County—Tonopah, Gabbs	7
Ormsby County—Carson City	40
Pershing County—Imlay, Lovelock	3
Storey County—Fernley, Virginia City	5
Washoe County—Reno, Sparks	87
White Pine County—Ruth, Kimberly, McGill, Ely	14
Total	248

FINANCIAL REPORT

July 1, 1948, through June 30, 1950

Bank balance July 1, 1948		$3,218.39
RECEIPTS		
Fees and bond interest, July 1, 1948—June 30, 1949	$2,277.40	
Fees and bond interest, July 1, 1949—June 30, 1950	2,132.00	
		4,409.40
Total (receipts plus bank balance)		$7,627.70
DISBURSEMENTS		
Expenses and per diem of board secretary	$575.50	
Salary of assistant to board secretary	1,981.95	
Withholding tax on assistant's salary	270.10	
Board meeting expenses (travel, per diem, and examinations)	1,375.08	
Expense of sending delegate to National Council meeting, August 26–29, 1948	186.80	
Office expense, including printing, supplies, and incidentals	660.50	
Telephone calls	77.22	
Postage	175.99	
National Council State Boards of Engineering Examiners dues	200.00	
Returned checks	10.00	
Refunds on applications	70.00	
Miscellaneous expense	12.10	
Total disbursements		$5,595.24
Total (receipts plus bank balance less disbursements)		2,032.55
Bank balance, June 30, 1950		$2,032.55
TOTAL ASSETS		
Bank balance, June 30, 1950		$2,032.55
United States bonds		2,000.00
Total		$4,032.55

Until 1947 there was no specific Act relating to land surveyors. Such an Act was passed by the 1947 Legislature. This requires that any professional, practicing land surveyor in Nevada must be registered as a land surveyor, even though he holds other registration as a

professional engineer. The law provides for the giving of the additional classification of land surveyor to those registered professional engineers in Nevada who applied for such classification not later than 30 days after notification by the board, and, in any event, not later than 90 days after the passage and approval of the Act. All others were required to take a written examination. At the present time there are 158 licensed land surveyors in the State of Nevada. Each County Recorder has been furnished with a list of the licensed land surveyors and with a supplementary list whenever additional surveyors are granted registration.

The amended law also requires that every applicant for registration as a professional engineer appear before the board for examination. The examination may be written or oral as determined by the board on the basis of applicant's education and experience.

CHAPTER XIX

Irrigation Districts and Companies

IRRIGATION COMPANIES

Muddy River Irrigation Company, Preston Irrigation Company, Lund Irrigation Company, Bunkerville Irrigation Company, Mesquite Irrigation Company, Alamo Irrigation Company, Panaca Irrigation Company, Pacific Reclamation Company, Franktown Irrigation Company, Ash Springs Irrigation Company, and Hiko Irrigation and Water Company.

IRRIGATION DISTRICTS

Walker River Irrigation District, Pershing County Conservation District, Truckee-Carson Irrgiation District, and Washoe County Water Conservation District.

WALKER RIVER IRRIGATION DISTRICT

Officers—William Seyden, President; Richard B. Day, Vice President; John H. Wichman, Treasurer; Carl O. Gelmstedt, Secretary-Manager; M. Dellamonica and Manuel Farias, Directors; William M. Kearney, Attorney.

Office—Courthouse, Yerington, Nevada.

Organized November 25, 1918.

Irrigable acres, 160,000.

Irrigated acres, 55,000.

PERSHING COUNTY CONSERVATION DISTRICT

Officers—Ruth C. Ruddell, President; Edward Garaventa, Vice President; Henry Anderson, Treasurer; John Holmstrom, Lester Munk, Lester Hanson, Myrtle B. Anker, and Frank Quilici, Directors; Robert S. Leighton, Secretary-Manager; Sanford A. Bunce, Attorney.

Office—Courthouse, Lovelock, Nevada.

Organized February 1926.

Irrigable acres, 36,000.

Irrigated acres, 25,000.

WASHOE COUNTY WATER CONSERVATION DISTRICT

Officers—Edward M. Peckham, President; Robert J. Flich, Vice President; Ernest Capurro, Treasurer; E. S. Yoakam, Secretary; Ernest Kleppe, Carl Stoddard, and C. J. Gault, Directors; Chester C. Taylor, Engineer-Manager; Chas. M. Merrill, Attorney.

Office—29 East First Street, Reno, Nevada.

Organized June 1929.

TRUCKEE-CARSON IRRIGATION DISTRICT

Officers—John Konda, President; George G. Miller, Vice President; John R. Hannifan, Secretary-Treasurer; Marlo Peraldo, Marvin Weishaupt, Jack Olson, Fred F. Kirn, and John C. Thornton, Directors; Phil W. Hiibel, Project Manager; James W. Johnson, Attorney.

Office—Fallon, Nevada.

Organized November 25, 1918.

Irrigable acres, 72,354.

Irrigated acres, 60,000.

LUND IRRIGATION COMPANY

Officers—A. N. Carter, President; George W. Fawcett, Vice President; Leland Hendrix, Secretary-Treasurer; Milton Gardner and Vance McKenzie, Directors.
Office—Lund, Nevada.
Organized 1907.

MESQUITE IRRIGATION COMPANY

Officers—Dee M. Hughes, President; Iren Tobler, Vice President; Vernon Pollock, Secretary-Treasurer; Luther Hafen, Director; Max Hafen, Resident Agent.
Office—Mesquite, Nevada.
Organized June 8, 1925.
Irrigable acres, 2,200.
Irrigated acres, 1,600.

BUNKERVILLE IRRIGATION COMPANY

Officers—Ferlin Hunt, President; Will Leavitt, Vice President; Wendell Leavitt, Secretary-Treasurer; Durrell Adams, Director.
Office—Bunkerville, Nevada.
Organized June 25, 1925.
Irrigable acres, 1,200.
Irrigated acres, 985.

PANACA IRRIGATION COMPANY

Officers—James A. Wadsworth, President; Bert Findley, Vice President; Wm. M. Adair, Secretary-Treasurer; E. T. Gentry and Henry Johnson, Directors.
Office—Panaca, Nevada.

FRANKTOWN CREEK IRRIGATION COMPANY

Officers—Alvin Cliff, President; William Pedroli, Vice President; Henry Heidenreich, Secretary-Treasurer; George Leonard, John Jackson, Fred Cliff, and R. F. I. Raymond, Directors; M. A. Diskin, Attorney.
Office—First National Bank Building, Reno, Nevada.
Organized 1947.
Irrigable acres, 2,719.
Irrigated acres, 2,100.

MUDDY VALLEY IRRIGATION COMPANY

Officers—Mads B. Jorgensen, President; Clarence A. Lewis, Vice President; Joseph N. Skousen, Secretary-Treasurer; Edwin Marshall, Louis Adams, and John E. Whipple, Directors.
Office—Overton, Nevada.
Irrigable acres, 4,500.
Irrigated acres, 3,000.

PRESTON IRRIGATION COMPANY

Officers—J. R. Bradley, President; Wesley Reid, Vice President;

Charles Funk, Secretary-Treasurer; Lowell Peterson and Clifford Peacock, Directors.
Office—Preston, Nevada.
Organized March 24, 1911.

ALAMO IRRIGATION COMPANY

Officers—John P. Wright, President; Joe Steele, Vice President; Dan Stewart, Secretary-Treasurer; Harvey Frehner and Lowell Ercanbrack, Directors.
Office—Alamo, Nevada.
Organized 1922.
Irrigable acres, 822.
Irrigated acres, 725.

PACIFIC RECLAMATION COMPANY

Officers—Ensign Hill, President; Wayne Bake, Vice President; Lawrence Bohne, Secretary-Treasurer; Clifford Hepworth, Watermaster.
Office—Wells, Nevada.

ASH SPRINGS IRRIGATION COMPANY

Officers—Gardner Chism, President; Edwin Higbee, Vice President; Leonard Wadsworth, Secretary-Treasurer; Milt Steele and Cyril Holaday, Directors.
Office—Alamo, Nevada.
Organized 1947.
Irrigable acres, 840.
Irrigated acres, 840.

HIKO IRRIGATION AND WATER COMPANY

Officers—George E. Nesbitt, President; Wm. U. Schofield, Vice President; Wm. U. Schofield, Jr., Secretary-Treasurer; Louise O. Whipple and J. Alfred Hanse, Directors.
Office—Hiko, Nevada.
Organized October 21, 1948.
Irrigable acres, 900.
Irrigated acres, 600.

CHAPTER XX

Quasi-Cooperating Agencies

There are a number of State and Federal Agencies that cooperate closely with the Office of State Engineer. A listing of these agencies and offices are herewith listed:

SOIL CONSERVATION SERVICE

Reno State Office—University Station—
George Hardman, State Conservationist.
J. Earl Neal, State Administrative Assistant.

Yerington Work Group Office and Work Unit Headquarters—
Sumner Hatch, District Conservationist.
Adrien Kuffer, Work Unit Conservationist.

Gardnerville Work Unit Headquarters—
H. Bruce Shawe, Work Unit Conservationist.

Fernley Work Unit Headquarters—
Charles E. Matson, Work Unit Conservationist.

Elko Work Group Office and Work Group Headquarters—
Royce D. Hermansen, District Conservationist.
Duane F. Collins, Work Unit Conservationist.
Matthew C. Bensen, Work Unit Conservationist.

Paradise Valley Work Unit Headquarters—
Lavette T. Turner, Work Unit Conservationist.

Wells Work Unit Headquarters—
Blaine O. Halliday, Work Unit Conservationist.

Ely Work Group Office and Work Unit Headquarters—
Gale C. Johnson, District Conservationist.
Alexander G. Bodenstein, Work Unit Conservationist.
Rudolph J. Marti, Work Unit Conservationist.

Caliente Work Unit Headquarters—
Jesse L. Fowler, Work Unit Conservationist.

Overton Work Unit Headquarters—
Durrell E. Evans, Work Unit Conservationist.

FARMERS' HOME ADMINISTRATION

State Director—R. W. Hollenberg, 16 Beale Street, San Francisco 5, California. Phone YUkon 6-3111.

State Field Representative—Eldon R. Campbell, San Francisco, California.

County Supervisors—Merton E. Domonoske, Fallon, Nevada; Donald D. Brown, Overton, Nevada; Noal F. Clark, Room 9, Lunsford Bldg., Reno, Nevada.

WEATHER BUREAU

Western Area Engineer—Vernon W. Rupp, Box 2002, Sacramento 9, California.

EXTENSION SERVICE

Administration—

Director of Agricultural Extension—Cecil W. Creel, University of Nevada, Reno, Nevada.

Assistant Director County Agent Work—Thomas E. Buckman, University of Nevada, Reno, Nevada.

District Extension Agents—

Leonard A. Anker, Douglas and Ormsby Counties, Courthouse, Minden, Nevada.

J. Kirk Day, Humboldt and North Lander Counties, Federal Building, Winnemucca, Nevada.

Wm. H. Helphinstine, Eureka and White Pine Counties, Courthouse, Ely, Nevada.

James G. Johnson, Esmeralda, South Lander, and Nye Counties, Tonopah, Nevada.

County Extension Agents—

Washoe County—Archie R. Albright, State Bldg., Reno, Nevada.

Lincoln County—Ferron Bunker, Caliente, Nevada.

Pershing County—Fred C. Batchelder, Federal Bldg., Lovelock, Nevada.

Lyon County—Louie A. Gardella, Federal Bldg., Yerington, Nevada.

Elko County—Mark W. Menke, Federal Bldg., Elko, Nevada.

Clark County—John H. Wittwer, Federal Bldg., Las Vegas, Nevada.

Churchill County—Charles R. York, Federal Bldg., Fallon, Nevada.

PRODUCTION AND MARKETING ADMINISTRATION

State Committee—

State Director—E. A. Settelmeyer, University of Nevada, Reno, Nevada.

Execution Assistants—Edward C. Reed, University of Nevada, Reno, Nevada; Charles A. Sewell, Elko, Nevada; Roland J. Snyder, Yerington, Nevada.

Director Extension Service—C. W. Creel, Ex Officio.

BUREAU OF LAND MANAGEMENT

E. R. Greenslet, Regional Chief, Division of Range Management, Post Office Bldg., Reno, Nevada.

Albert L. Simpson, Manager, District Land Office, Post Office Bldg., Reno, Nevada.

Range Managers—

Nevada District 1—Delbert Fallon, Elko, Nevada.

Nevada District 2—Derrel S. Fulwider, Winnemucca, Nevada.

Nevada District 3—A. L. Rohwer, Post Office Bldg., Carson City, Nevada.

Nevada District 4—Jesse L. Kirk, Ely, Nevada.

Nevada District 5—A. W. Magelby, Federal Bldg., Las Vegas, Nevada.

California District 1—Virgil L. Bottini, 226 South Main Street, Bishop, California.

California District 2—Logan D. Morton, Bank of America, Bldg., Susanville, California.

BUREAU OF RECLAMATION

Region III—Boulder City, Nevada—
Regional Director, E. A. Moritz.
Reginal Planning Engineer, E. G. Nielsen.
Region IV—32 Exchange Place, Salt Lake City 8, Utah—
Regional Director, E. O. Larson.
Regional Planning Engineer, Reid Jerman.
Area Engineer, Fallon, Nevada, W. H. Slattery.

NEVADA EXPERIMENT STATION

Director, Charles E. Fleming, University of Nevada, Reno.
Chemist, M. R. Miller, University of Nevada, Reno.
Agriculture Economist, Howard Mason, University of Nevada, Reno.

FEDERAL POWER COMMISSION

Regional Engineer, Lesher S. Wing, Custom House, 555 Battery Street, San Francisco, California.

CORPS OF ENGINEERS

Sacramento District, District Engineer, Wright Bldg., Sacramento 8, California.

Los Angeles District, District Engineer, 751 South Figueroa Street, Los Angeles 14, California.

U. S. FOREST SERVICE

C. J. Olsen, Regional Forester, Ogden Utah.

Humboldt National Forest—
Alfred R. Torgerson, Forest Supervisor, Elko, Nevada.
Rangers—
W. J. Cloward, Gold Creek, Nevada.
R. C. Kuehner, Mountain City, Nevada.
W. L. Price, Jarbidge, Nevada.
T. E. Brierley, Lamoille, Nevada.

Nevada National Forest—
John W. Parker, Forest Supervisor, Ely, Nevada.
Rangers—
M. I. Bishop, Baker, Nevada.
H. C. Hoffman, Las Vegas, Nevada.
A. A. Murchie, Ely, Nevada.
H. L. Jensen, Ely, Nevada.

Toiyabe National Forest—
Clarence E. Favre, Forest Supervisor, Reno, Nevada.
Rangers—
U. H. Zuberbuhler, Minden, Nevada.
A. M. Cusick, Austin, Nevada.
L. F. Smith, Bridgeport, California.
E. A. Hanson, Carson City, Nevada.
L. E. McKenzie, Paradise Valley, Nevada.
G. D. Swainston, Wellington, Nevada.
J. M. Buckhouse, Austin, Nevada.

CHAPTER XXI

Status of Applications Filed During the Period from July 1, 1948, to June 30, 1950

Following is a condensed statement giving the salient data in connection with applications filed during the period from July 1, 1948, to June 30, 1950, in the order of:

1. Application serial number.
2. Date of filing.
3. Name of applicant.
4. Source of water supply.
5. Purpose of appropriation.
6. Action on application.
7. Status of permits as of June 30, 1950.

Reference marks used throughout Chapter XXI denote: *Protested applications; G. S. Good standing; †Application to change.

12520.... 7- 1-48....State of Nevada, Department of Highways; Unnamed spring; Irrigation of lawn and trees, domestic and general public use. Approved October 29, 1948, for 0.05 c.f.s. G. S.
12521.... 7- 1-48....Lloyd Sweeney; Underground; Irrigation and domestic; Approved December 14, 1948, for 6.0 c.f.s. G. S.
12522.... 7- 1-48....Frank E. Gowen, Lloyd T. Jones and Rebecca Salton; Las Vegas Artesian Basin; Irrigation and domestic; Approved January 13, 1949, for 2.0 c.f.s. G. S.
12523.... 7- 1-48....Fred L. Cole, Elcey Cole Williams and Florence Livingston; A pond; Mining; Approved January 10, 1949, for 2.0 c.f.s. G. S.
12524.... 7- 6-48....Julius Redelius; An unnamed spring; Mining, milling and domestic;* No action.
12525.... 7- 6-48....Ralph Windsor; The 103 Spring; Stockwatering; Approved September 9, 1949, for 0.01 c.f.s. G. S.
12526.... 7- 6-48....Ralph Windsor; Bramer Spring; Stockwatering; Approved September 9, 1949, for 0.008 c.f.s. G. S.
12527.... 7- 6-48....Ralph Windsor; Clay pit overflow; Stockwatering; No action.
12528.... 7- 7-48....B. H. Robison; Kalamazoo Creek; Irrigation and domestic;* No action.
12529.... 7- 8-48....Howard N. Sharp; Goat Ranch Springs; Stockwatering; Approved January 9, 1950, for 0.016 c.f.s. G. S.
12530.... 7- 9-48....Josephine Rinehart; Blue Lakes; Irrigation and domestic;* No action.
12531.... 7- 9-48....Charles F. Ragsdale; Drainage canal; Irrigation; Cancelled September 31, 1949, because of failure of applicant to comply with provisions of permit.
12532.... 7- 9-48....Melvin Schwake; Underground; Irrigation; Approved January 10, 1949, for 2.50 c.f.s. G. S.
12533.... 7-12-48....William H. and Blanche I. Brown; Underground; Irrigation and domestic; Approved May 5, 1949, for 0.02 c.f.s. G. S.
12534.... 7-12-48....Fred L. Cole, Elcey Cole Williams, Florence Livingston; A pond; Washing placer gravel; Approved January 10, 1949, for 2.0 c.f.s. G. S.
12535.... 7-14-48....Phillip A. Drake; Underground; Irrigation and domestic; Withdrawn by applicant November 18, 1948.
12536.... 7-14-48....Lawrence O'Toole; Knox Creek; Irrigation;* No action.
12537.... 7-14-48....Lawrence O'Toole; Crane Creek; Irrigation;* No action.
12538.... 7-17-48....Jay William Fowler; Underground; Irrigation and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12539.... 7-15-48....T. A. McCall; Arasta Well; Stockwatering; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12540.... 7-15-48....One Eleven Bar Cattle Company; Underground; Stockwatering and domestic; Approved November 18, 1948, for 0.0125 c.f.s. G. S.
12541.... 7-15-48....One Eleven Bar Cattle Company; Underground; Stockwatering and domestic; Approved November 18, 1948, for 0.008 c.f.s. G. S.
12542.... 7-15-48....One Eleven Bar Cattle Company; Underground; Stockwatering and domestic; Approved November 18, 1948, for 0.008 c.f.s. G. S.
12543.... 7-16-48....Emil Baumann; Underground; Stockwatering and domestic; Approved January 4, 1949, for 0.016 c.f.s. G. S.
12544.... 7-16-48....Emil Baumann; Underground; Stockwatering; Approved January 4, 1949, for 0.019 c.f.s. G. S.

12545.... 7-17-48....E. S. Bowman; Underground Pahrump Artesian Basin; Irrigation; Approved January 13, 1949, for 3.0 c.f.s. G. S.
12546.... 7-17-48....E. S. Bowman; Underground Pahrump Artesian Basin; Irrigation; Approved January 13, 1949, for 3.0 c.f.s. G. S.
12547.... 7-17-48....E. S. Bowman; Underground Pahrump Artesian Basin; Irrigation; Approved January 13, 1949, for 3.0 c.f.s. G. S.
12548.... 7-19-48....Grover C. Barton; Chimney Creek; Stockwatering and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12549.... 7-19-48....Louis Bartlett; Lakeside Spring; Municipal, quasi-municipal and domestic;* No action.
12550.... 7-22-48....Joe Romaine and Ernest Fattor; Underground; Industrial and domestic; Approved March 25, 1949, for 0.5 c.f.s. G. S.
12551.... 7-24-48....T. R. Rempp; Seepage area; Irrigation; No action.
12552.... 7-27-48....J. E. Stead and Marian M. Stead; Underground; Irrigation and domestic; Approved April 21, 1949, for 0.26 c.f.s. G. S.
12553.... 7-27-48....J. E. Stead and Marian M. Stead; Underground; Irrigation and domestic; Approved November 30, 1948, for 0.25 c.f.s. G. S.
12554.... 7-27-48....J. E. Stead and Marian M. Stead; Underground; Stockwatering and domestic; Approved November 30, 1948, for 0.007 c.f.s. G. S.
12555.... 7-27-48....J. E. Stead and Marian M. Stead; Underground; Stockwatering and domestic; Approved November 30, 1948, for 0.01 c.f.s. G. S.
12556.... 7-27-48....J. E. Stead and Marian M. Stead; Underground; Stockwatering and domestic; Approved November 30, 1948, for 0.001 c.f.s. G. S.
12557.... 7-27-48....J. E. Stead and Marian M. Stead; Underground; Stockwatering and domestic; Approved November 30, 1948, for 0.002 c.f.s. G. S.
12558.... 7-28-48....Laurence L. Royer and Hazel L. Royer; Underground; Irrigation and domestic; Approved November 30, 1948, for 0.1 c.f.s. G. S.
12559.... 7-28-48....William M. Evans and Willie A. Evans; Underground; Irrigation and domestic; Approved November 30, 1948, for 0.1 c.f.s. G. S.
12560.... 7-28-48....Frank A. Buol; Underground; Irrigation and domestic; Approved July 26, 1949, for 3.0 c.f.s. G. S.
12561.... 7-28-48....Frank A. Buol; Underground; Irrigation and domestic; Approved December 14, 1948, for 3.0 c.f.s. G. S.
12562.... 7-30-48....Guy Rogers and Abb Rogers; Unnamed seeps; Mining, milling, and domestic; Approved March 12, 1949, for 1.0 c.f.s. G. S.
12563.... 7-30-48....F. M. Fulstone, Inc.; Underground; Irrigation;* No action.
12564.... 7-30-48....F. M. Fulstone, Inc.; Underground; Irrigation;* No action.
12565.... 8- 4-48....Mt. Rose Up-Ski Corporation; Unnamed spring; Domestic;* No action.
12566.... 8- 4-48....Mt. Rose Up-Ski Corporation; Unnamed spring; Domestic;* No action.
12567.... 8- 5-48....Vern R. and Ralph G. Parman; Unnamed spring; Stockwatering and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12568.... 8- 5-48....Vern R. Parman and Ralph G. Parman; Unnamed spring; Stockwatering and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12569.... 8- 6-48....Dr. Otto Barkan; Lake Tahoe; Domestic; Approved September 16, 1949, for 0.001 c.f.s. G. S.
12570.... 8- 9-48....Onorina Bertolino; Underground; Irrigation; Approved March 4, 1949, for 2.0 c.f.s. G. S.
12571.... 8- 9-48....H. T. Rogers; Bacon Spring; Irrigation and domestic; No action.
12572.... 8-10-48....Orville Jackson; Drilled wells; Irrigation, domestic and stockwatering; Cancelled December 27, 1948, because of failure to refile corrected application within statutory time.
12573.... 8-11-48....George Whittall; Lake Tahoe; General resort and domestic; No action.
12574.... 8-11-48....L. E. Hopkins; Wood's Creek; Irrigation; Approved January 4, 1949, for 18.59 acre-feet per annum. G. S.
12575.... 8-11-48....Richard B. Day; Well; Irrigation and domestic; Approved March 11, 1949, for 2.0 c.f.s. G. S.
12576.... 8-14-48....Clarence A. Lewis and Clarvid A. Lewis; Underground; Irrigation and domestic; Approved January 10, 1949, for 2.25 c.f.s. G. S.
12577.... 8-14-48....Joe Williams; Six Mile Spring; Stockwatering;* Approved December 1, 1949, for 0.009 c.f.s. G.S.
12578.... 8-17-48....E. W., R. A., and Joe B. Fallini; Greasewood Tank; Stockwatering;* Withdrawn by applicant May 8, 1950.
12579.... 8-17-48....E. W., R. A., and Joe B. Fallini; Milk Spring; Stockwatering;* Approved February 8, 1950, for 0.016 c.f.s. G. S.
12580.... 8-17-48....E. W., R. A., and Joe B. Fallini; Pyramid Spring; Stockwatering;* Approved December 1, 1949, for 0.03 c.f.s. G. S.
12581.... 8-17-48....E. W., R. A., and Joe B. Fallini; Underground; Stockwatering;* Approved December 1, 1949, for 0.03 c.f.s. G. S.
12582.... 8-17-48....L. J. Bacoccina; Lower Indian Spring; Domestic and milling; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12583.... 8-17-48....L. J. Bacoccina; Indian Springs; Mining and milling; Cancelled July 19, 1949, because of failure to refile corrected application within Statutory time.
12584.... 8-17-48....Joe Williams; Underground; Stockwatering; Approved December 1, 1949, for 0.009 c.f.s. G. S.

12585.... 8-18-48....George D. Gorton; Scales Spring; Irrigation and domestic;* Withdrawn by applicant January 11, 1950.
12586.... 8-19-48....Clyde Beecher, G. F. Milliman and Fred Elkins; Lake Tahoe; Quasi-municipal and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12587.... 8-20-48....B. M. McDonald and Lillie McDonald; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic; Approved January 4, 1949, for 0.15 c.f.s. G. S.
12588.... 8-20-48....William L. Meikle; Underground (artesian well); Quasi-municipal and domestic; No action.
12589.... 8-21-48....Muller Bros.; Spring seepage areas No. 2 and No. 3 on the Sweetwater Ranch; Irrigation and domestic;* Approved November 3, 1949, for 0.25 c.f.s. G. S.
12590.... 8-21-48....Muller Bros.; Spring seepage area No. 1 on the Sweetwater Ranch; Irrigation;* Approved November 3, 1949, for 0.25 c.f.s. G. S.
12591.... 8-21-48....Muller Bros.; Spring seepage area No. 4 on the Sweetwater Ranch; Irrigation;* Approved November 3, 1949, for 0.25 c.f.s. G. S.
12592.... 8-21-48....Muller Bros.; Spring seepage area No. 5 on the Sweetwater Ranch; Irrigation;* Approved November 3, 1949, for 0.25 c.f.s. G. S.
12593.... 8-21-48....Muller Bros.; Spring seepage area No. 6 on the Sweetwater Ranch; Irrigation and domestic;* Approved November 3, 1949, for 0.5 c.f.s. G. S.
12594.... 8-21-48....Dwight G. Vedder; Underground; Irrigation and domestic; No action.
12595.... 8-23-48....Emmitt L. Biggs; Underground; Irrigation and domestic; Approved February 4, 1949, for 2.5 c.f.s. G. S.
12596.... 8-23-48....Howard N. Sharp; Underground Well No. 1 (Goat Ranch Well); Stockwatering and domestic;* No action.
12597.... 8-24-48....Joe Williams; Underground (Six Mile Well); Stockwatering; Approved February 24, 1949, for 0.019 c.f.s. G. S.
12598.... 8-24-48....Joe Williams; Butte Spring; Stockwatering;* Approved December 1, 1949, for 0.009 c.f.s. G. S.
12599.... 8-26-48....E. L. Cord; Underground Well No. 10; Irrigation; Approved February 4, 1949, for 0.25 c.f.s. Certificate issued.
12600.... 8-26-48....E. L. Cord; Underground Well No. 11; Irrigation; Approved February 4, 1949, for 0.25 c.f.s.; Certificate issued.
12601.... 8-26-48....E. L. Cord; Underground Well No. 12; Irrigation; Approved February 4, 1949, for 0.25 c.f.s.; Certificate issued.
12602.... 8-26-48....E. L. Cord; Stone Cabin Spring; Stockwatering;* Approved February 24, 1950, for 0.009 c.f.s. G. S.
12603.... 8-26-48....E. L. Cord; North Icehouse Spring; Stockwatering;* No action.
12604.... 8-27-48....George Hussman and Sons (James A. and George W.); Lower Pine Valley Spring; Irrigation and domestic; Approved July 8, 1949, for 0.10 c.f.s. G. S.
12605.... 8-31-48....Constant Minerals Separation Process, Inc.; Rabbit Hole Spring; Mining, milling and domestic; Approved October 27, 1949, for 5.0 c.f.s. G. S.
12606.... 9- 2-48....James M. Daniels; Dago Spring; Stockwatering and domestic;* No action.
12607.... 9- 2-48....Mark G. Bradshaw; Underground, known as Jupiter shaft on Survey No. 2988; Mining and milling;* No action.
12608.... 9- 2-48....Rex B. Clark; Trail Creek; Stockwatering; Approved February 1, 1950, for 0.016 c.f.s. G. S.
12609.... 9- 2-48....Rex B. Clark; Underground; Stockwatering; Approved April 22, 1949, for 0.03 c.f.s.; Certificate issued.
12610.... 9- 2-48....Rex B. Clark; Underground; Stockwatering; Approved June 27, 1949, for 0.031 c.f.s.; Certificate issued.
12611.... 9- 4-48....Serafin S. Fernandez; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic; Cancelled September 9, 1949, because of failure of applicant to comply with provisions of permit.
12612.... 9- 4-48....R. H. Burney; Fish Lake; Irrigation;* No action.
12613.... 9- 8-48....E. W., Joe B., and R. A. Fallini Brothers; Buck's Water; Stockwatering; Approved January 26, 1949, for 0.032 c.f.s.; Certificate issued.
12614.... 9- 8-48....Murlyn M. Madden; Pine Springs; Irrigation and domestic;* No action.
12615.... 9- 8-48....Murlyn M. Madden; Deer Springs; Stockwatering;* No action.
12616.... 9- 8-48....Murlyn M. Madden; Rock Springs; Stockwatering;* No action.
12617.... 9- 8-48....Murlyn M. Madden; Quaker Springs; Stockwatering;* No action.
12618.... 9- 8-48....John R. Allen; 3 springs located in tributary to Cornish Canyon of East Range; Mining and milling; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12619.... 9- 8-48....J. D. Murphy; Underground; Irrigation and domestic; No action.
12620.... 9- 8-48....J. D. Murphy; Underground; Irrigation and domestic; Approved March 21, 1949, for 1.0 c.f.s. G. S.
12621.... 9- 8-48....J. D. Murphy; Underground; Irrigation and domestic; No action.
12622.... 9- 8-48....J. D. Murphy; Underground; Irrigation and domestic; No action.
12623.... 9- 8-48....Homer A. Rue; Bradford Springs Nos. 1 and 2; Irrigation and domestic; Approved August 12, 1949. G. S.
12624.... 9- 8-48....Homer A. Rue; Bradford Springs (Three Springs); Irrigation and domestic; Cancelled March 10, 1949, because of failure to refile corrected application within statutory time.

12625.... 9- 9-48....R. D. Goforth and L. A. Horgan; Underground; Irrigation and domestic; Approved February 4, 1949, for 5.0 c.f.s. G. S.
12626.... 9- 9-48....R. D. Goforth and L. A. Horgan; Underground; Irrigation and domestic; No action.
12627.... 9- 9-48....R. D. Goforth and L. A. Horgan; Underground; Irrigation and domestic; No action.
12628.... 9-11-48....Desert Milling Company (A partnership); Incline shaft on Santa Fe mining claim; Metal milling and domestic; Approved January 10, 1949, for 0.10 c.f.s. G. S.
12629.... 9-11-48....Josephine Rinehart; Blue Lakes; Irrigation and domestic; No action.
12630.... 9-13-48....United States of America, Fish and Wildlife Service; Quijinump Spring; Wildlife watering; Approved October 27, 1949, for 0.001 c.f.s. G. S.
12631.... 9-13-48....United States of America, Fish and Wildlife Service; Indian Canyon; Wildlife watering; Approved October 27, 1949, for 0.02 c.f.s. G. S.
12632.... 9-13-48....United States of America, Fish and Wildlife Service; Grapevine Spring; Wildlife watering; Approved October 27, 1949, for 0.005 c.f.s. G. S.
12633.... 9-13-48....United States of America, Fish and Wildlife Service; Canyon Spring; Wildlife watering; Approved October 27, 1949, for 0.001 c.f.s. G. S.
12634.... 9-14-48....E. L. Cord; Cottonwood Spring; Stockwatering;* Approved February 24, 1950, for 0.009 c.f.s. G. S.
12635.... 9-14-48....E. L. Cord; Upper Icehouse Spring; Stockwatering;* Approved February 24, 1950, for 0.009 c.f.s. G. S.
12636.... 9-14-48....E. L. Cord; White Rock Spring; Stockwatering;* No action.
12637.... 9-14-48....E. L. Cord; Curve Spring; Stockwatering;* Approved February 24, 1950, for 0.009 c.f.s. G. S.
12638.... 9-14-48....E. L. Cord; Cave Spring; Stockwatering;* Approved February 24, 1950, for 0.009 c.f.s. G. S.
12630.... 9-14-48....E. L. Cord; Willow Spring; Stockwatering;* Approved February 24, 1950, for 0.009 c.f.s. G. S.
12640.... 9-14-48....E. L. Cord; Underground (Well No. 13); Irrigation; Approved February 4, 1949, for 0.5 c.f.s. Certificate issued.
12641.... 9-14-48....C. A. Hendel and Helen H. Hendel; Underground (Hendel Well); Irrigation and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12642.... 9-15-48....Frank Millsap; Spring (Deadman Gulch); Irrigation and domestic; Withdrawn by applicant July 19, 1949.
12643.... 9-17-48....Lloyd T. Jones; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved February 4, 1949, for 0.2 c.f.s. G. S.
12644.... 9-17-48....J. A. Singer; Underground; Irrigation and domestic; Approved August 12, 1949, for 1.0 c.f.s. G. S.
12645.... 9-18-48....D. W. McCleery; Lake Tahoe; Domestic; Approved August 26, 1949, for 0.002 c.f.s. G. S.
12646.... 9-22-48....Maud H. Goehring; Underground; Placer mining; Approved September 9, 1949, for 1.0 c.f.s. G. S.
12647.... 9-22-48....Fred L. Cole, Elcey Cole Williams, Florence Livingston as executrix of the estate of Florence Kirchen, deceased; Pond fed by seepage (Midas Pond); Placer mining; No action.
12648.... 9-22-48....Fred L. Cole, Elcey Cole Williams, Florence Livingston as executrix of the estate of Florence Kirchen, deceased; Underground (Williamson Well); Ore milling and placer mining; Approved July 8, 1949, for 2.0 c.f.s. G. S.
12649.... 9-25-48....George Whittell; Lake Tahoe; Quasi-municipal;* No action.
12650.... 9-27-48....Loyd Sorensen; Young American Spring; Stockwatering and domestic; Approved January 19, 1950, for 0.02 c.f.s. G. S.
12651.... 9-27-48....C. C. Perrin; Underground; Irrigation and domestic; Approved May 16, 1950, for 3.0 c.f.s. G. S.
12652.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12653.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12654.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12655.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12656.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12657.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12658.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12659.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12660.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12661.... 9-28-48....Leo A. Bourke; Underground; Irrigation and domestic; No action.
12662.... 9-29-48....Joe, Helen and Robert Williams; Bullwhacker Spring; Stockwatering;* Approved May 5, 1949, for 0.019 c.f.s. G. S.
12663.... 9-29-48....Joe, Helen and Robert Williams; Little Cow Canyon Spring; Stockwatering;* Approved May 5, 1949, for 0.019 c.f.s. G. S.
12664.... 9-29-48....Joe, Helen and Robert Williams; Meadow Spring; Stockwatering;* Approved May 5, 1949, for 0.019 c.f.s. G. S.
12665....10- 2-48....Leroy Sharp, James Sharp and Howard Sharp; Andrews Spring; Stockwatering;* No action.
12666....10- 2-48....Leroy Sharp, James Sharp and Howard Sharp; Cazier Spring; Stockwatering;* No action.
12667....10- 2-48....Leroy Sharp, James Sharp and Howard Sharp; Cold Spring; Stockwatering;* No action.
12668....10- 2-48....Leroy Sharp, James Sharp and Howard Sharp; Sawmill Spring; Stockwatering;* No action.

12669....10- 2-48....Leroy Sharp, James Sharp and Howard Sharp; Box Canyon Springs; Stockwatering;* No action.
12670....10- 4-48....Jack G. Hubbard; Snowball Spring; Irrigation and domestic;* No action.
12671....10- 4-48....Jack G. Hubbard; Snowball Spring No. 1; Irrigation and domestic;* No action.
12672....10- 4-48....Jack G. Hubbard; Snowball Spring No. 3; Irrigation;* No action.
12673....10- 4-48....Jack G. Hubbard; Snowball Spring No. 4; Stockwatering;* No action.
12674....10- 5-48....Jack G. Hubbard; Snowball Reservoir Spring; Stockwatering; Cancelled because of failure to supply corrected Map, June 1, 1949.
12675....10- 5-48....John F. and Bernice E. Kincaid; Wild Horse Springs; Stockwatering;* No action.
12676....10- 5-48....M. V. Green; Underground; Irrigation and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12677....10- 5-48....Albert Gubler and Harold R. Ivins; Lund Spring; Irrigation; No action.
12678....10- 6-48....Lahontan Placers; Underground; Placer mining and domestic; Approved January 10, 1949, for 2.0 c.f.s. G. S.
12679....10- 7-48....Ute Vorace Perkins, Assigned to G. M. Perkins and Shirley Perkins; Underground; Irrigation and domestic; Approved March 25, 1949, for 1.25 c.f.s. G. S.
12680....10- 7-48....Elda Clark Crane; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved April 21, 1949, for 1.0 c.f.s. G. S.
12681....10- 7-48....A. G. Walls, James Mortensen and Ernest Douglas; Minnehaha Creek Spring; Mining, milling and domestic; Approved February 4, 1949, for 0.50 c.f.s. G. S.
12682....10- 8-48....Fallini Bros. (E. W., R. A., and J. B.); Last Stand Well; Stockwatering; Approved February 4, 1949, for 0.03 c.f.s. Certificate issued.
12683....10- 8-48....W. J. Stinson; Stone Cabin Spring; Stockwatering; Approved March 12, 1949, for 0.006 c.f.s. G. S.
12684....10-11-48....John U. Birnie; Underground (Well No. 4); Irrigation and domestic; Approved November 3, 1949, for 0.30 c.f.s. G. S.
12685....10-11-48....John U. Birnie; Underground (Well No. 3); Irrigation and domestic; Approved November 3, 1949, for 0.50 c.f.s. G. S.
12686....10-11-48....John U. Birnie; Underground (Well No. 2); Irrigation and domestic; Approved November 3, 1949, for 0.64 c.f.s. G. S.
12687....10-11-48....John U. Birnie; Underground (Well No. 2); Irrigation and domestic; Approved November 3, 1949, for 0.93 c.f.s. G. S.
12688....10-11-48....Ash Springs Irrigation Co. and Alamo Irrigation Co.; Ash Springs and tributaries; Irrigation and domestic; No action.
12689....10-12-48....J. B. Stanfield; Stanfield Well; Irrigation and domestic; Approved March 12, 1949, for 0.50 c.f.s. G. S.
12690....10-13-48....Tony Bruno; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved February 4, 1949, for 0.2 c.f.s. G. S.
12691....10-14-48....Gus Rogers and Abb Rogers; Winnemucca Mountain Spring; Mining, milling and domestic; Approved March 12, 1949, for 1.0 c.f.s. G. S.
12692....10-14-48....Fallini Brothers (E. W., R. A., J. B.); Coyote Pond, located in Unnamed Drainage Basin; Stockwatering; Approved November 15, 1949, for 0.031 c.f.s. G. S.
12693....10-14-48....David F. Harris; Underground; Mining and milling; Approved February 1, 1950, for 1.0 c.f.s. G. S.
12694....10-15-48....Dwight G. Vedder; Underground; Irrigation and domestic; Withdrawn by applicant July 19, 1949.
12695....10-15-48....Dwight G. Vedder; Underground; Irrigation and domestic; Withdrawn by applicant July 19, 1949.
12696....10-15-48....Dwight G. Vedder; Underground; Irrigation and domestic; No action.
12697....10-18-48....Clifford Ray Coon; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved December 1, 1949, for 1.5 c.f.s. G. S.
12698....10-21-48....Guy Pinnell and Vernon C. Ward; Underground; Irrigation and domestic; Approved February 8, 1950, for 0.25 c.f.s. G. S.
12699....10-21-48....William M. Turner; Underground; Irrigation and domestic; Approved February 18, 1949, for 1.0 c.f.s. G. S.
12700....10-21-48....Frank A. Buol; Underground; Irrigation and domestic; Approved February 4, 1949, for 0.5 c.f.s. G. S.
12701....10-21-48....Frank A. Buol; Underground; Irrigation and domestic; Approved February 4, 1949, for 0.5 c.f.s. G. S.
12702....10-22-48....Bartholomae Corporation; Antelope Well No. 8; Irrigation and domestic; Approved June 12, 1950, for 1.75 c.f.s. G. S.
12703....10-23-48....O. H. Nelson; Underground (Las Vegas Artesian Basin); Industrial purposes; Approved February 24, 1949, for 0.5 c.f.s. G. S.
12704....10-26-48....A. E. Hosack & Son; Underground; Irrigation and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12705....10-26-48....Frank Allen; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Withdrawn by applicant, October 24, 1949.
12706....10-27-48....Nanyu Tomiysau; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved March 12, 1949, for 1.0 c.f.s. G. S.

12707....11- 3-48....James M. Daniels; Underground (Yellow Tiger Tunnel); Stockwatering;* No action.

12708....11- 3-48....Charles William Culverwell; Underground; Irrigation and domestic; Approved July 26, 1949, for 1.0 c.f.s. G. S.

12709....11- 3-48....J. K. Barton; Indian Spring; Stockwatering and domestic; Approved March 4, 1949, for 0.03 c.f.s. G. S.

12710....11- 4-48....Murray Wollman; Underground (Las Vegas Artesian Basin, Paradise Valley); Quasi-municipal and domestic; Approved March 21, 1949, for 0.20 c.f.s. G. S.

12711....11- 4-48....Holman F. Barlow and Arthur R. Barlow; Dutch Creek; Power;* No action.

12712....11- 5-48....Homer A. Rue; Bradford Spring No. 3; Irrigation and domestic; Approved May 25, 1949, for 1.50 c.f.s. G. S.

12713....11- 5-48....Homer A. Rue; Bradford Spring No. 4; Irrigation and domestic; Approved May 25, 1949, for 1.50 c.f.s. G. S.

12714....11- 6-48....Wm. C. Goodman; Underground (Well No. 1); Irrigation and domestic; Approved April 11, 1949, for 2.0 c.f.s. G. S.

12715....11- 6-48....Wm. C. Goodman; Underground (Well No. 3); Irrigation and domestic; Approved April 11, 1949, for 2.0 c.f.s. G. S.

12716....11- 6-48....Emory Garrett; Old Sawmill Spring; Stockwatering; Withdrawn by applicant, September 26, 1949.

12717....11- 6-48....Emory Garrett; Mud Springs; Stockwatering; Cancelled September 28, 1949, because of failure to refile corrected application within statutory time.

12718....11- 8-48....F. M. and L. E. Schmidtlein; Underground; Stockwatering; Approved April 11, 1949, for 0.016 c.f.s. G. S.

12719....11-10-48....Wells Power Company; West Fork of Boulder Creek; Power generation; No action.

12720....11-10-48....Wells Power Company; East Fork Boulder Creek; Power generation;* No action.

12721....11-10-48....Wells Power Company; West Fork of East Fork of Boulder Creek; Power generation;* No action.

12722....11-12-48....Homer A. Rue; Bradford Springs No. 1, 2, and 3; Irrigation and domestic; Cancelled July 29, 1949, because of failure to refile corrected application within statutory time.

12723....11-12-48....Mrs. Joyce May Rue; Bradford Springs No. 1, 2, and 3; Irrigation and domestic; Cancelled July 29, 1949, because of failure to refile corrected application within statutory time.

12724....11-15-48....Pacific States Savings and Loan Company; North Fork of Deep Creek; Irrigation; Approved September 22, 1949, for 2,386 acre-feet per annum. G. S.

12725....11-15-48....George Hussman and Sons (James A. and George W.); Upper Pine Valley Spring; Irrigation and domestic; Approved July 8, 1949, for 0.20 c.f.s. G. S.

12726....11-19-48....Nevada-Massachusetts Company; Underground; Milling and domestic; Approved March 12, 1949, for 4.4 c.f.s. Certificate issued.

12727....11-19-48....Nevada-Massachusetts Company; Underground; Milling and domestic; Approved March 12, 1949, for 4.4 c.f.s. Certificate issued.

12728....11-20-48....Union Ice Company of Nevada; Underground; Commercial and domestic; Approved May 5, 1949, for 1.0 c.f.s. G. S.

12729....11-22-48....E. G. and Beulah A. Salyer; Underground (Salyer well); Stockwatering; Approved April 11, 1949, for 0.01 c.f.s. G. S.

12730....11-22-48....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Choke Cherry Spring; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12731....11-22-48....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Side Hill Spring; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12732....11-22-48....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Summit Spring; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12733....11-22-48....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Morgan Spring; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12734....11-22-48....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Willow Spring; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12735....11-22-48....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Warburton Seep; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12736....11-22-48....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Camp Spring; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12737....11-26-48....Rex B. Clark; Underground (Crossing Well); Stockwatering; Approved July 27, 1949, for 0.016 c.f.s. G. S.

12738....11-26-48....A. F. Bordoli; Underground (Stone Corral Well); Stockwatering;* Approved November 15, 1949, for 0.018 c.f.s. G. S.

12739....11-26-48....A. F. Bordoli; Malpais Tank (Flood waters); Stockwatering;* Approved November 15, 1949, for 0.018 c.f.s. G. S.

12740....11-27-48....M. R. Pyle; Indian Spring; Mining and milling; Approved April 11, 1949, for 0.5 c.f.s. G. S.

12741....11-29-48....John F. and Bernice E. Kincaid; Mulligan Spring; Stockwatering;* No action.

12742....11-29-48....Nathan L. Merritt, Jr.; Underground; Irrigation and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.

12743....11-30-48....A. M. and F. M. Crosby and James F. Burke; Underground; Irrigation and domestic; Approved November 3, 1949, for 5.0 c.f.s. G. S.
12744....12- 1-48....Charles B. Eisenberg; Underground; Irrigation and domestic; Approved February 3, 1950, for 0.50 c.f.s. G. S.
12745....12- 2-48....A. C. Roberts; Roberts Spring; Stockwatering;* Approved August 26, 1949, for 0.0125 c.f.s. G. S.
12746....12- 2-48....Frank E. Gowen and Olga Gowen; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic; Approved March 21, 1949, for 1.6 c.f.s. G. S.
12747....12- 3-48....Eureka Livestock Co.; Lone Mountain Spring; Stockwatering;* No action.
12748....12- 3-48....Eureka Livestock Co.; Mud Spring; Stockwatering;* No action.
12749....12- 4-49....Murlyn M. Madden; Butch Spring; Stockwatering;* No action.
12750....12- 4-48....George Whittell; East Ford Third Creek; Quasi-municipal and domestic;* No action.
12751....12- 4-48....George Whittell; Incline Creek; Quasi-municipal and domestic;* No action.
12752....12- 4-48....George Whittell; Unnamed Creek; Quasi-municipal and domestic;* No action.
12753....12- 7-48....Harvey Titus and Madison Locke; Crater Tank; Stockwatering;* Approved September 16, 1949, for 0.0012 c.f.s. G. S.
12754....12- 7-48....Harvey Titus and Madison Locke; Playa Tank (Flood waters); Stockwatering;* Approved September 16, 1949, for 0.0012 c.f.s. G. S.
12755....12- 7-48....Harvey Titus and Madison Locke; Underground (Antelope Well); Stockwatering;* Approved September 16, 1949, for 0.0012 c.f.s. G. S.
12756....12- 7-48....Harvey Titus and Madison Locke; Stone House Creek; Stockwatering;* Denied July 25, 1949.
12757....12- 7-48....Harvey Titus, Madison Locke, and A. F. Bordoli; Tule Spring; Stockwatering;* Approved December 1, 1949, for 0.016 c.f.s. G. S.
12758....12- 7-48....Harvey Titus, Madison Locke, and A. F. Bordoli; Jack's Seep Wash (Flood Waters); Stockwatering;* Approved December 1, 1949, for 0.016 c.f.s. G. S.
12759....12- 8-48....A. J. Slatterly; Barrett Creek; Irrigation; Approved August 12, 1949, for 2.0 c.f.s. G. S.
12760....12- 8-48....John Edrington Smith and Sarah Work Smith; Underground (Las Vegas Artesian Basin, Paradise Valley); Irrigation and domestic; Approved May 5, 1949, for 0.5 c.f.s. G. S.
12761....12- 8-48....Warren C. Hunt, M. D. Hunt, and Donald B. Hunt; Well; Stockwatering;* No action.
12762....12- 8-48....Warren C., M. D., and Donald B. Hunt; Well; Stockwatering;* No action.
12763....12- 9-48....Marlyn M. Madden; Cougar Spring; Stockwatering;* No action.
12764....12- 9-48....Vern R. Smith; Indian Rock Springs; Irrigation. G. S.
12765....12-10-48....Harold A. Hetu; East Point Spring; Irrigation and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12766....12-11-48....Jerome N. Coleman; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved July 8, 1949, for 0.025 c.f.s. G. S.
12767....12-14-48....Hugh K. Tipton, Ann F. Tipton, and Ross G. Tipton; Gold Ace Spring; Irrigation and domestic;† Approved September 9, 1949, for 0.50 c.f.s. G. S.
12768....12-15-48....Round Mountain Gold Dredging Corporation; Underground; Mining, milling and domestic; Approved May 5, 1949, for 3.0 c.f.s. G. S.
12769....12-16-48....Jesse Coleman Harris; Rio Virgin; Irrigation; Approved July 27, 1949, for 1.5 c.f.s. G. S.
12770....12-18-48....Jack G. Hubbard; Silver Springs; Stockwatering;* No action.
12771....12-18-48....Jack G. Hubbard; Moonshine Spring; Stockwatering; Cancelled April 22, 1949, because of failure to refile corrected application within statutory time.
12772....12-18-48....Henry H. Green; Underground (Las Vegas Valley Artesian Basin); Quasi-municipal and domestic; Approved May 5, 1949, for 1.0 c.f.s. G. S.
12773....12-20-48....F. M. and L. E. Schmidtlein; Schmidtlein Well; Stockwatering; Approved April 22, 1949, for 0.03 c.f.s. G. S.
12774....12-20-48....Clarence A. and Clarvid A. Lewis; Well No. 2; Irrigation and domestic; Approved May 25, 1949, for 1.50 c.f.s. G. S.
12775....12-21-48....M. P., M. W., L. J., R. A., H. P., and R. D. Depoli; Underground; Stockwatering and domestic; Approved May 5, 1949, for 0.03 c.f.s. Certificate issued.
12776....12-24-48....J. D. Murphy; Underground; Irrigation and domestic; No action.
12777....12-27-48....L. A. Horgan, M. J. Edsall, M. Novald and George R. Post; Underground; Irrigation and domestic; No action.
12778....12-27-48....William A. Shiner and Theodate Shiner; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved May 10, 1949, for 0.03 c.f.s. G. S.
12779....12-27-48....Edward T. Groves and Gladys M. Groves; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved May 10, 1949, for 0.07 c.f.s. G. S.
12780....12-29-48....Claire Borgerson; Underground (TeePee Seep); Stockwatering;* No action.
12781....12-29-48....Richard G. Miller; Devil's Hole; Propagation of fish for scientific and acquarium purposes; No action.

12782....12-31-48....Jennie E. Nesmith; Underground; Irrigation and domestic; Approved June 22, 1949, for 0.33 c.f.s. Certificate issued.
12783....12-31-48....James M. Daniels; Underground; Stockwatering; Withdrawn by applicant September 26, 1949.
12784....12-31-48....James M. Daniels; Alkali Spring; Stockwatering;* No action.
12785....12-31-48....James M. Daniels; Cactus Spring; Stockwatering;* No action.
12786.... 1- 3-49....Tyrus R. Cobb; Lake Tahoe; Domestic; Approved December 27, 1949, for 0.0016 c.f.s. G. S.
12787.... 1- 3-49....Justus Cramer; Lake Tahoe; Domestic; Approved September 29, 1949, for 0.01 c.f.s. G. S.
12788.... 1- 6-49....Frank A. Buol; Underground; Irrigation and domestic; Approved February 8, 1950, for 1.0 c.f.s. G. S.
12789.... 1- 6-49....E. S. Bowman; Underground (Las Vegas Artesian Basin); Irrigation; Approved June 22, 1949, for 2.0 c.f.s. G. S.
12790.... 1- 6-49....E. S. Bowman; Underground (Las Vegas Artesian Basin); Irrigation; Approved June 22, 1949, for 2.0 c.f.s. G. S.
12791.... 1- 8-49....P. K. Christman, doing business as Xman Trout Ranch; Underground; Commercial fish rearing and domestic;* No action.
12792.... 1- 8-49....P. K. Christman, doing business as Xman Trout Ranch; Flowing Spring; Commercial fish rearing and domestic;* No action.
12793.... 1- 9-49....Byron A. Ercanbrack; Mustang Spring; Stockwatering;* No action.
12794.... 1-14-49....Warren C., Donald B., and M. D. Hunt, Assigned to Frank Arcularius an undivided one-half interest; Well; Stockwatering;* No action.
12795.... 1-14-49....A. A. Calhoun; Dry Wash; Stockwatering; Cancelled October 21, 1949, because of failure of applicant to comply with provisions of permit.
12796.... 1-17-49....Petan Company; Bull Run Creek; Storage for irrigation; Approved June 20, 1949, for 11,220 acre-feet. G. S.
12797.... 1-17-49....Van Horn and Stringfellow; Assigned to Bickel-Dorothy Co., Inc.; Underground; Irrigation;† Withdrawn March 10, 1949 by applicant.
12798.... 1-17-49....J. P. Cayton; Underground; Irrigation;† Approved July 8, 1949, for 3.0 c.f.s. G. S.
12799.... 1-19-49....The Glenbrook Company; Lake Tahoe; Domestic; Approved August 26, 1949, for 0.005 c.f.s. G. S.
12800.... 1-20-49....Dewey Dan; Underground; Irrigation; Approved February 8, 1950, for 3.0 c.f.s. G. S.
12801.... 1-24-49....Roy A. Brown; Underground (Brown Station Dug Well); Stockwatering;* Approved August 16, 1949, for 0.0125 c.f.s. Certificate issued.
12802.... 1-24-49....Clyde E. and Amy E. Franklin; Quinn River; Irrigation; Approved January 9, 1950, for 13.2 c.f.s. G. S.
12803.... 1-25-49....Hidden Valley Ranch (Kenneth Searles); Underground; Irrigation;* No action.
12804.... 1-29-49....Heartwell-Lowe Company; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved June 27, 1949, for 1.3 c.f.s. G. S.
12805.... 1-31-49....Edith B. Ferraro; Cottonwood Creek; Irrigation, stockwatering and domestic;*† No action.
12806.... 2- 3-49....V. E. Greenwald; Lonesome Spring; Stockwatering;* No action.
12807.... 2- 3-49....Roland J. Giroux; Underground; Irrigation and domestic; Approved November 3, 1949, for 0.50 c.f.s. G. S.
12808.... 2- 3-49....Roland J. Giroux; Truckee River; Irrigation, stockwatering and and domestic;† Approved May 25, 1949, for 0.625 c.f.s. G. S.
12809.... 2- 5-49....El Rancho Amigo; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved July 8, 1949, for 4.5 c.f.s. G. S.
12810.... 2- 5-49....El Rancho Amigo; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved July 8, 1949, for 1.4 c.f.s. G. S.
12811.... 2- 5-49....El Rancho Amigo; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved July 8, 1949, for 2.3 c.f.s. G. S.
12812.... 2- 5-49....Charles D. Fechser; Abandoned mining shaft; Stockwatering and domestic; Denied July 21, 1949.
12813.... 2- 8-49....Max C. Fleischmann; Lake Tahoe; Domestic; Approved August 26, 1949, for 0.0046 c.f.s. G. S.
12814.... 2- 8-49....Hans Lisser; Lake Tahoe; Domestic; Approved August 26, 1949, for 0.0016 c.f.s. G. S.
12815.... 2- 9-49....George W. Frey; Drainage water from Fernley-Hazen Drainage Canal; Irrigation and domestic; Approved January 12, 1950, for 6.4 c.f.s. G. S.
12816.... 2-10-49....Dean B. Goddard; Well; Irrigation and domestic; Approved January 12, 1950, for 0.01 c.f.s. G. S.
12817.... 2-10-49....Kenneth J. and Lavina M. Rogers; Well; Irrigation and domestic; Approved February 1, 1950, for 0.01 c.f.s. G. S.
12818.... 2-10-49....August and Sara Wittway; Well; Irrigation and domestic; Approved February 1, 1950, for 0.01 c.f.s. G. S.
12819.... 2-16-49....E. G. and Mamie D. Graser; Pinup Springs; Irrigation and domestic;* Approved September 16, 1949, for 1.0 c.f.s. G. S.
12820.... 2-16-49....W. L. Petersen; Underground (North Lathrop Well); Stockwatering and domestic; Cancelled October 21, 1949, because of failure of applicant to comply with provisions of permit.
12821.... 2-18-49....Heidenreich Brothers; Douglas Spring; Domestic and garden irrigation; Approved June 27, 1949; Certificate issued.

12822.... 2-18-49....Heidenreich Brothers; South Canyon Spring; Garden irrigation and domestic; Cancelled October 21, 1949, because of failure of applicant to comply with provisions of permit.
12823.... 2-21-49....Raymond M. Jensen; Well; Irrigation; Cancelled October 21, 1949, because of failure of applicant to comply with provisions of permit.
12824.... 2-23-49....Van Horn and Stringfellow, Assigned to Bickel-Dorothy Co., Inc.; Underground; Irrigation; Approved July 27, 1949, for 2.0 c.f.s. G. S.
12825.... 2-23-49....E. L. Cleveland; Virgin River; Irrigation; No action.
12826.... 2-24-49....United States of America; Truckee River; Irrigation, stockwatering and domestic;*† Withdrawn by applicant August 17, 1949.
12827.... 2-24-49....Texas A. McCall; Artesian Well; Stockwatering and domestic; Withdrawn by applicant December 22, 1949.
12828.... 2-24-49....United States of America, Forest Service; McFarland Spring; Domestic; Approved October 27, 1949, for 0.0144 c.f.s. G. S.
12829.... 2-24-49....United States of America, Forest Service; Whiskey Springs; Domestic; Approved October 27, 1949, for 0.10 c.f.s. G. S.
12830.... 2-24-49....United States of America, Forest Service; Allen Spring; Stockwatering; Approved July 21, 1949, for 0.0011 c.f.s. G. S.
12831.... 2-28-49....Ellis J. Folsom and Margaret P. Folsom; Tufly Spring; Irrigation and domestic; No action.
12832.... 3- 1-49....C. J. and Jack Kearns; China Garden Creek; Stockwatering and domestic;* No action.
12833.... 3- 1-49....C. J. and Jack Kearns; China Garden Springs and Creek; Irrigation and domestic; Withdrawn by applicant November 6, 1949.
12834.... 3- 1-49....C. J. and Jack Kearns; Underground; Irrigation and domestic; Approved February 1, 1950, for 3.6 c.f.s. G. S.
12835.... 3- 7-49....United States of America, Forest Service; Unnamed spring in Kyle Canyon; Domestic; Approved October 27, 1949, for 0.15 c.f.s. G. S.
12836.... 3- 7-49....United States of America, Forest Service; Unnamed spring in Kyle Canyon; Domestic; Approved October 27, 1949, for 0.10 c.f.s. G. S.
12837.... 3- 7-49....United States of America, Forest Service; Unnamed spring in Kyle Canyon; Domestic; Approved October 27, 1949, for 0.089 c.f.s. G. S.
12838.... 3- 7-49....United States of America, Forest Service; Unnamed spring in Lee Canyon; Domestic; Approved October 27, 1949, for 0.089 c.f.s. G. S.
12839.... 3- 7-49....United States of America, Forest Service; Unnamed spring in Lee Canyon; Domestic; Approved October 27, 1949, for 0.045 c.f.s. G. S.
12840.... 3- 7-49....Byron A. Ercanbrack; Rock Spring; Stockwatering;*† No action.
12841.... 3- 8-49....Bunkerville Water Users Association; Seep Springs; Domestic;† Approved January 19, 1950, for 0.0267 c.f.s. G. S.
12842.... 3- 8-49....Bunkerville Water Users Association; Dud's Spring; Domestic;† Approved January 19, 1950, for 0.1 c.f.s. G. S.
12843.... 3- 8-49....Carl L. Reed; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved July 8, 1949, for 0.80 c.f.s. G. S.
12844.... 3-10-49....Jessie R. Windsor; Cold Springs Drain; Irrigation and domestic; Cancelled October 21, 1949, because of failure of applicant to comply with provisions of permit.
12845.... 3-11-49....James M. Daniels; Storm of flood; Stockwatering;* No action.
12846.... 3-11-49....James M. Daniels; Flood waters; Stockwatering; No action.
12847.... 3-11-49....Paul H. Floyd; Township Creek fed by Shermantown Springs; Milling; Approved December 14, 1949, for 0.04 c.f.s. G. S.
12848.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12849.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;† Withdrawn by applicant August 4, 1949.
12850.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12851.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12852.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12853.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12854.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12855.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12856.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12857.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.

12858.... 3-16-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Withdrawn by applicant August 4, 1949.
12859.... 3-18-49....Everett J. Johnson; Underground; Irrigation; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12860.... 3-18-49....Lillie O. Smith; Underground; Irrigation; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12861.... 3-18-49....Jack D. Forbis; Underground; Irrigation; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12862.... 3-18-49....Mary Frances Forbis; Underground; Irrigation; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12863.... 3-18-49....David W. Riehle; Underground; Irrigation; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12864.... 3-18-49....Ardis Riehle; Underground; Irrigation; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12865.... 3-23-49....Ralph Stone; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved July 8, 1949, for 0.1 c.f.s. G. S.
12866.... 3-23-49....Rose Shapiro; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic; Approved July 8, 1949, for 0.1 c.f.s. G. S.
12867.... 3-25-49....H. N. Sharp; The Seeps; Stockwatering and domestic; No action.
12868.... 3-25-49....H. N. Sharp; Trough Spring; Stockwatering and domestic; No action.
12869.... 3-29-49....Glenard Herman Crayson; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved June 22, 1949, for 1.6 c.f.s. G. S.
12870.... 3-30-49....S. H. Manor; Stage Coach Well; Stockwatering; Approved September 9, 1949, for 0.003 c.f.s. G. S.
12871.... 3-30-49....S. H. Manor; Underground (Bona Well); Stockwatering; Approved September 9, 1949, for 0.003 c.f.s. G. S.
12872.... 3-31-49....Onorina Bertolino; Coyote Hole Spring; Stockwatering; Approved May 16, 1950, for 0.003 c.f.s. G. S.
12873.... 3-31-49....Frank M. Harrington; Sewage water from the city of Wells; Irrigation; Cancelled November 3, 1949, because of failure to refile corrected application within statutory time.
12874.... 3-31-49....Frank M. Harrington; Unnamed spring; Irrigation and domestic; Cancelled November 3, 1949, because of failure to refile corrected application within statutory time.
12875.... 3-31-49....Frank M. Harrington; Unnamed spring; Irrigation and domestic; Cancelled November 3, 1949, because of failure to refile corrected application within statutory time.
12876.... 4- 5-49....Lyle L. Frey; Tony Creek; Irrigation and domestic; Approved February 3, 1950, for 0.80 c.f.s. G. S.
12877.... 4- 7-49....United States of America, represented by the Commanding Officer, Naval Ammunition Depot; Dutch Creek; Municipal and domestic;* No action.
12878.... 4- 9-49....Dorcas Barney; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved July 26, 1949, for 0.01 c.f.s. G. S.
12879.... 4-11-49....Robert A. Thorley; Overflow from Pan-American Wash; Stockwatering; No action.
12880.... 4-13-49....Paradise School District; Underground (Las Vegas Artesian Basin, Paradise Valley); Quasi-municipal and domestic; Approved July 8, 1949, for 0.2 c.f.s. G. S.
12881.... 4-14-49....John H. Conway; Underground (Newman Ranch Well); Irrigation and domestic; Approved August 16, 1949, for 1.0 c.f.s. G. S.
12882.... 4-21-49....Hiko Irrigation and Water Company; Hiko Spring; Irrigation; No action.
12883.... 4-27-49....Clifford Peacock; Underground; Irrigation and domestic; Approved August 12, 1949, for 3.0 c.f.s. G. S.
12884.... 4-28-49....Freeman E. Fairfield; Underground; Irrigation and domestic; Approved September 9, 1949, for 5.0 c.f.s. G. S.
12885.... 4-28-49....Freeman E. Fairfield; Underground; Irrigation and domestic; Approved September 9, 1949, for 5.0 c.f.s. G. S.
12886.... 4-29-49....Stephen B. Allen, Clarence G. Allen, and Gerald L. Allen; Unnamed spring;† Stockwatering; Approved December 14, 1949, for 0.011 c.f.s. G. S.
12887.... 5- 2-49....Arthur C. Dean; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved September 16, 1949, for 0.25 c.f.s. G. S.
12888.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;*† No action.
12889.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;*† No action.
12890.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;*† No action.
12891.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;*† No action.
12892.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;*† No action.

12893.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;*† No action.
12894.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;*† No action.
12895.... 5- 4-49....Salmon River Canal Company, Ltd.; Salmon River; Irrigation and domestic;† No action.
12896.... 5- 5-49....Howard Turley; Underground; Irrigation and domestic; Approved March 9, 1950, for 2.0 c.f.s. G. S.
12897.... 5- 6-49....Louis Angus Danberg; Underground (Middlegate Well); Irrigation and domestic; Approved February 1, 1950, for 2.5 c.f.s. G. S.
12898.... 5- 7-49....Alamo Farmstead Water Association; Well; Irrigation, domestic, and farmstead; Approved November 3, 1949, for 0.133 c.f.s. G. S.
12899.... 5- 7-49....Arlo B. Swallow; Underground; Irrigation and domestic; Approved March 1, 1950, for 2.0 c.f.s. G. S.
12900.... 5- 7-49....Arlo B. Swallow; Underground (Well No. 2); Irrigation and domestic; Approved March 1, 1950, for 2.0 c.f.s. G. S.
12901.... 5- 7-49....Arlo B. Swallow; Underground (Well No. 3); Irrigation and domestic; Approved March 1, 1950, for 2.0 c.f.s. G. S.
12902.... 5- 7-49....Beatrice Katherine Swallow; Underground (Well No. 4); Irrigation and domestic; Approved March 1, 1950, for 2.0 c.f.s. G. S.
12903.... 5- 7-49....Beatrice Katherine Swallow; Underground; Irrigation and domestic; Approved March 1, 1950, for 2.0 c.f.s. G. S.
12904.... 5- 7-49....Beatrice Katherine Swallow; Underground (Well No. 6); Irrigation and domestic; No action.
12905.... 5- 7-49....Richard M. Swallow; Underground (Well No. 10); Irrigation and domestic; No action.
12906.... 5- 7-49....Richard M. Swallow; Underground; Irrigation and domestic; No action.
12907.... 5- 7-49....Richard M. Swallow; Underground (Well No. 12); Irrigation and domestic; No action.
12908.... 5- 7-49....Ethel Burr Swallow; Underground (Well No. 7); Irrigation and domestic; No action.
12909.... 5- 7-49....Ethel Burr Swallow; Underground (Well No. 8); Irrigation and domestic; No action.
12910.... 5- 7-49....Ethel Burr Swallow; Underground (Well No. 9); Irrigation and domestic; No action.
12911.... 5- 9-49....A. A. Christie; Underground; Irrigation and domestic; Approved November 3, 1949, for 1.0 c.f.s. G. S.
12912.... 5-10-49....Edgar T. Hubbert; Underground; Irrigation and domestic; Withdrawn by applicant, June 8, 1949.
12913.... 5-10-49....Rex B. Clark; Jackass Spring; Stockwatering; Approved January 9, 1950, for 0.013 c.f.s. G. S.
12914.... 5-11-49....Jean A. Prentiss; Underground; Irrigation and domestic; Approved February 3, 1950, for 3.0 c.f.s. G. S.
12915.... 5-11-49....J. J. Riffe; Rosebud Creek; Mining; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12916.... 5-12-49....Parley Estes Harris and Parley E. Harris, II; Rio Virgin; Irrigation; No action.
12917.... 5-16-49....Tom Charley, Jr.; Italian Canyon Creek; Irrigation and domestic;* No action.
12918.... 5-18-49....Jack Wollenzien; Underground (Las Vegas Artesian Basin); Irrigation and domestic;* Denied November 30, 1949.
12919.... 5-18-49....Hannah E. Bathurst; Bathurst Well; Quasi-municipal and domestic; Approved November 3, 1949, for 1.0 c.f.s. G. S.
12920.... 5-19-49....Byron A. Ercanbrack; Mustang Spring; Stockwatering;* No action.
12921.... 5-19-49....George Von Tobel; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved September 29, 1949, for 1.6 c.f.s. G. S.
12922.... 5-20-49....J. R. Simplet; Unnamed creek and/or springs; Mining, milling, and domestic; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12923.... 5-23-49....J. R. Simplet; Big Pole Creek; Mining, milling, and domestic; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
12924.... 5-23-49....Peavine Ranches, Connolly and Keough; Well; Stockwatering; Approved March 1, 1950, for 0.0156 c.f.s. G. S.
12925.... 5-26-49....K. A. Barton; Steptoe Slough; Irrigation; Approved April 18, 1950, for 6.4 c.f.s. G.S.
12926.... 5-26-49....Robert and Marcus Slavi; Steptoe Slough; Irrigation; Approved April 18, 1950, for 3.2 c.f.s. G. S.
12927.... 5-26-49....Magnuson Ranch; Steptoe Slough; Irrigation; Approved April 18, 1950, for 6.0 c.f.s. G. S.
12928.... 5-26-49....Leo J. Foppiano; Steptoe Slough; Irrigation; Approved April 18, 1950, for 3.2 c.f.s. G. S.
12929.... 5-26-49....Thomas Thornal; Steptoe Slough; Irrigation; Approved April 18, 1950, for 1.0 c.f.s. G. S.
12930.... 5-26-49....Gust D. Assuras; Steptoe Slough; Irrigation; Approved March 30, 1950, for 6.0 c.f.s. G. S.
12931.... 5-26-49....Gust D. Assuras; Steptoe Slough; Irrigation; Approved March 30, 1950, for 2.0 c.f.s. G. S.
12932.... 5-27-49....Hilman D. Smith; Underground; Irrigation and domestic; No action.

12933.... 5-27-49....Frank A. Brunetti; Underground; Commercial fish hatchery; Approved April 26, 1950, for 1.114 c.f.s. G. S.
12934.... 5-27-49....Mesquite Farmstead Water Association; Underground; Town supply; Approved March 9, 1950, for 0.25 c.f.s. G. S.
12935.... 5-27-49....Rex B. Clark; Trail Creek; Stockwatering and domestic;* No action.
12936.... 5-31-49....Pete and Julian Goicoechea; Fordham Spring; Stockwatering and domestic; Approved September 29, 1949, for 0.02 c.f.s. G. S.
12937.... 5-31-49....Pete and Julian Goicoechea; Lower Fordham Spring; Stockwatering; Approved September 29, 1949, for 0.02 c.f.s. G. S.
12938.... 5-31-49....Pete and Julian Goicoechea; Cracker Johnson Spring No. 1; Stockwatering; Approved December 1, 1949, for 0.02 c.f.s. G. S.
12939.... 5-31-49....Pete and Julian Goicoechea; Cracker Johnson Spring No. 2; Stockwatering; Approved June 13, 1950, for 0.02 c.f.s. G. S.
12940.... 5-31-49....Pete and Julian Goicoechea; East Carbonate Spring; Stockwatering; Approved September 29, 1949, for 0.025 c.f.s. G. S.
12941.... 5-31-49....William L. Fisk; Underground; Stockwatering; Approved December 1, 1949, for 0.006 c.f.s. G. S.
12942.... 5-31-49....Howard Turley; Underground; Irrigation; Withdrawn by applicant August 15, 1949.
12943.... 5-31-49....George N. Swallow; Underground; Irrigation and domestic; No action.
12944.... 5-31-49....George N. Swallow; Underground; Irrigation and domestic; Approved January 9, 1950, for 2.0 c.f.s. G. S.
12945.... 5-31-49....Parley E. Harris II; Rio Virgin; Irrigation; Withdrawn by applicant July 18, 1949.
12946.... 5-31-49....H. L. Gepford; Underground; Irrigation and domestic; No action.
12947.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 562.17 acre-feet. G. S.
12948.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 1,925.52 acre-feet. G. S.
12949.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 2,626.30 acre-feet. G. S.
12950.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 3,023.49 acre-feet. G. S.
12951.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 1,282.01 acre-feet. G. S.
12952.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 14,432.32 acre-feet. G. S.
12953.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 4,154.08 acre-feet. G. S.
12954.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 4,579.42 acre-feet. G. S.
12955.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 15,434.95 acre-feet. G. S.
12956.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 5,000 c.f.s. or 100,000 acre-feet storage. G. S.
12957.... 5-31-49....United States of America, Department of the Interior, Bureau of Reclamation; Humboldt River; Irrigation, stockwatering, and domestic;*† Approved June 12, 1950, for 1,647.18 acre-feet. G. S.
12958.... 6- 3-49....Vern R. Parman and Ralph G. Parman; Mud Meadows Creek and tributaries; Irrigation and domestic;* Approved January 9, 1950, for 2,000 acre-feet. G. S.
12959.... 6- 6-49....Louie J. Sharp; Well; Irrigation and domestic; Approved February 1, 1950, for 1.0 c.f.s. G. S.
12960.... 6- 7-49....John S. Warr and Della Warr; Underground; Irrigation and domestic; Withdrawn by applicant January 6, 1950.
12961.... 6- 8-49....Nevada Stake, L. D. S. Church; Country gravel pit; Irrigation and domestic; Approved June 13, 1950, for 4.0 c.f.s. G. S.
12962.... 6-10-49....Lee Lakin; Corral Canyon Creek; Placer mining;† Approved December 14, 1949, for 2.0 c.f.s. G. S.
12963.... 6-11-49....Delmue Brothers; Dry Valley Creek and its tributaries; Irrigation; No action.
12964.... 6-13-49....Vern R. Parman and Ralph G. Parman; Unnamed Spring; Stockwatering and domestic;* No action.

12965.... 6-14-49....Nanyu Tomiyasu; Underground (Las Vegas Valley Artesian Basin); Irrigation and domestic; Approved December 1, 1949, for 1.0 c.f.s. G. S.

12966.... 6-15-49....Reno Securities Company; Well; Domestic and air-conditioning; Approved November 3, 1949, for 5.0 c.f.s. G. S.

12967.... 6-17-49....Boyd Harford; Underground; Irrigation and domestic; Cancelled May 16, 1950, because of failure of applicant to comply with the provisions of permit.

12968.... 6-17-49....Joseph H. and Florence L. Koenig; Underground; Irrigation and domestic; Approved November 3, 1949, for 1.6 c.f.s. G. S.

12969.... 6-17-49....Victor A. Johnson; Lake Tahoe; Domestic; Approved January 12, 1950, for 0.0008 c.f.s. G.S.

12970.... 6-20-49....Robert E. Haworth; Underground; Irrigation and domestic; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.

12971.... 6-20-49....Bertha E. Haworth; Underground; Irrigation; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.

12972.... 6-27-49....H. N. Sharp; Seep Spring No. 1; Stockwatering and domestic; Cancelled January 6, 1950, because of failure to refile corrected application within statutory time.

12973.... 6-30-49....Lewis Tate Cureton; Well; Irrigation and domestic; Approved December 12, 1949, for 1.2 c.f.s. G.S.

12974.... 7- 5-49....Andrew G. Mainland and Albert L. Toner; Underground; (Las Vegas Artesian Basin); Irrigation and domestic; Approved November 3, 1949, for 0.15 c.f.s. G. S.

12975.... 7- 6-49....Vern R. Parman, Ralph G. Parman and George Schadler; Mahogany Creek; Irrigation and domestic; Approved December 1, 1949, for 0.15 c.f.s. G. S.

12976.... 7- 6-49....Vern R. Parman, Ralph G. Parman and George Schadler; Mahogany Creek; Irrigation and domestic; Approved December 1, 1949, for 0.10 c.f.s. G.S.

12977.... 7- 6-49....Vern R. Parman, Ralph G. Parman and George Schadler; Mahogany Creek; Irrigation and domestic; Approved December 1, 1949, for 0.05 c.f.s. G. S.

12978.... 7- 8-49....Rewana Farms, Inc.; Brooks Well No. 1; Stockwatering and barn use; Approved February 8, 1950, for 0.0062 c.f.s. G. S.

12979.... 7- 8-49....Rewana Farms, Inc.; Brooks Wells Nos. 2A and 2B; Dairy processing plant and domestic; Approved February 8, 1950, for 1.0 c.f.s. G. S.

12980.... 7-11-49....Vern R. Parman and Ralph G. Parman; Donelly Creek; Irrigation and domestic;† Approved November 3, 1949, for 0.4109 c.f.s. G. S.

12981.... 7-13-49....Richard H. and Edith Clough, Stanley L. and Blanch Steele, and S. E. Shuffield; Underground (Las Vegas Artesian Basin); Quasi-municipal; Approved November 15, 1949, for 0.10 c.f.s. G. S.

12982.... 7-15-49....Dale L., Delbert D., Gerald R., and Robert S. Warburton; Tub Spring; Stockwatering and domestic; Approved November 15, 1949, for 0.005 c.f.s. G. S.

12983.... 7-19-49....Consolidated Coppermines Corporation; Steptoe Creek; Irrigation;† Approved November 3, 1949, for 0.62 c.f.s. G. S.

12984.... 7-19-49....Twila D. Brown; Underground; Irrigation; No action.

12985.... 7-21-49....Rex B. Clark; Underground (Kellogg Well); Stockwatering; Approved January 9, 1950, for 0.03 c.f.s. G. S.

12986.... 7-22-49....W. L. Petersen; Underground (Wells Nos. 1, 2, 3, and 4); Irrigation and domestic; No action.

12987.... 7-22-49....D. L. Gandolfo; Underground (Wells Nos. 1 and 2); Irrigation and domestic; No action.

12988.... 7-29-49....United States Government, represented by J. S. Crenshaw, Captain, U. S. Navy, Commanding Officer of the Naval Ammunition Depot; Underground (U. S. Navy Well No. 1); Municipal and domestic; Approved January 9, 1950, for 1.08 c.f.s. G. S.

12989.... 7-29-49....United States Government, represented by J. S. Crenshaw, Captain U. S. Navy, Commanding Officer of the Naval Ammunition Depot; Underground (U. S. Navy Well No. 2); Municipal and domestic; Approved January 9, 1950, for 0.7 c.f.s. G. S.

12990.... 7-29-49....United States Government, represented by J. S. Crenshaw, Captain, U. S. Navy, Commanding Officer of the Naval Ammunition Depot; Underground (U. S. Navy Well No. 3); Municipal and domestic; Approved January 9, 1950, for 0.727 c.f.s. G. S.

12991.... 7-29-49....United States Government, represented by J. S. Crenshaw, Captain, U. S. Navy, Commanding Officer of the Naval Ammunition Depot; Underground (U. S. Navy Well No. 4); Municipal and domestic; Approved January 9, 1950, for 0.668 c.f.s. G. S.

12992.... 7-29-49....United States Government, represented by J. S. Crenshaw, Captain, U. S. Navy, Commanding Officer of the Naval Ammunition Depot; Underground (U. S. Navy Well No. 5); Municipal and domestic; Approved January 9, 1950, for 1.114 c.f.s. G. S.

12993.... 7-29-49....United States Government, represented by J. S. Crenshaw, Captain, U. S. Navy, Commanding Officer of the Naval Ammunition Depot; Underground (U. S. Navy Well No. 6); Municipal and domestic; Approved January 9, 1950, for 1.158 c.f.s. G. S.

12994.... 7-30-49....Elizabeth W. Crozer Campbell; Ground water (Orchard Well); Irrigation and domestic; Approved June 13, 1950, for 0.5 c.f.s. G. S.

12995.... 7-30-49....Elizabeth W. Crozer Campbell; Ground water (Big Well); Irrigation and domestic; Approved June 13, 1950, for 1.0 c.f.s. G. S.

12996.... 8- 2-49....Wayne Wightman; Kitten Creek and Kitten Spring; Stockwatering;* No action.
12997.... 8- 2-49....Arthur K. Bourne; Lake Tahoe; Quasi-municipal and domestic; No action.
12998.... 8- 3-49....Parley Estes Harris and Parley E. Harris II; Rio Virgin; Irrigation;† No action.
12999.... 8- 3-49....Sylvan R. Famel; Underground; Irrigation and domestic; No action.
13000.... 8- 3-49....Sylvan R. Famel; Underground; Irrigation and domestic; No action.
13001.... 8- 3-49....Sylvan R. Famel; Underground; Irrigation and domestic; No action.
13002.... 8- 3-49....Sylvan R. Famel; Underground; Irrigation and domestic; No action.
13002.... 8- 3-49....W. H. Fraser; Underground; Irrigation and domestic; Approved January 9, 1950, for 0.5 c.f.s. G. S.
13004.... 8- 4-49....A. F. Bordoli; Troy Creek; Irrigation;† Approved March 17, 1950, for 0.5 c.f.s. G. S.
13005.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 1); Irrigation and domestic;* No action.
13006.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 2); Irrigation and domestic;* No action.
13007.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 3); Irrigation and domestic;* No action.
13008.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 4); Irrigation and domestic;* No action.
13009.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 5); Irrigation and domestic;* No action.
13010.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 6); Irrigation and domestic;* No action.
13011.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 8); Irrigation and domestic;* No action.
13012.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 9); Irrigation and domestic;* No action.
13013.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 10); Irrigation and domestic;* No action.
13014.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 11); Irrigation and domestic;* No action.
13015.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 12); Irrigation and domestic;* No action.
13016.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 13); Irrigation and domestic;* No action.
13017.... 8- 5-49....Freeman E. Fairfield; Underground (Well No. 14); Irrigation and domestic;* No action.
13018.... 8- 8-49....Warren C. Hunt and Donald B. Hunt; Well; Stockwatering; No action.
13019.... 8- 8-49....H. G. Helm; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved January 19, 1950, for 0.2 c.f.s. G. S.
13020.... 8- 8-49....Dorothy Brooks; Underground; Irrigation; No action.
13021.... 8-10-49....Shirley, Chiatovich, and Humphrey; Mud Spring; Stockwatering;* No action.
13022.... 8-10-49....Shirley, Chiatovich, and Humphrey; Spring (Cave Spring); Stockwatering;* No action.
13023.... 8-10-49....Shirley, Chiatovich, and Humphrey; Red Mountain Spring; Stockwatering;* No action.
13024.... 8-10-49....Shirley, Chiatovich, and Humphrey; "Field's Camp" Spring; Stockwatering;* No action.
13025.... 8-12-49....B. A. and Agnes M. Johnson; Underground; Irrigation and domestic; Approved December 27, 1949, for 0.4 c.f.s. G. S.
13026.... 8-12-49....Leroy H. Gubler; Underground; Irrigation and domestic; Approved January 9, 1950, for 1.6 c.f.s. G. S.
13027.... 8-15-49....Shirley, Chiatovich, and Humphrey; Little Spring; Stockwatering; No action.
13028.... 8-17-49....Andrew C. Fautheree; Underground; Irrigation and domestic; Withdrawn by applicant May 29, 1950.
13029.... 8-24-49....Lee E. Pitts; Dry Creek; Mining, milling, and domestic; Approved March 16, 1950, for 1.0 c.f.s. G. S.
13030.... 8-26-49....Paul Stewart Henrie; Meadow Valley Wash; Irrigation and domestic; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
13031.... 8-26-49....W. C. Goodman and Walter Rosevear; White River and tributaries and Williams Creek and tributaries; Irrigation and domestic;* No action.
13032.... 8-26-49....Dwight G. Vedder; Underground; Irrigation; No action.
13033.... 8-26-49....William J. McCue; Underground; Irrigation and domestic; No action.
13034.... 8-26-49....Frank H. Bartholomew; Lake Tahoe; Domestic; Approved February 1, 1950, for 0.001 c.f.s. G. S.
13035.... 8-31-49....Weld Arnold; Underground; Irrigation and domestic; Approved January 9, 1950, for 0.2 c.f.s. G. S.
13036.... 9- 3-49....Nick Yrazabal; Well; Mining and domestic; No action.
13037.... 9- 7-49....Freeman E. Fairfield; Underground; Irrigation and domestic; No action.
13038.... 9- 7-49....Glen Jones; Underground; Irrigation and domestic; No action.
13039.... 9- 7-49....William J. Moore, Jr.; Underground; Irrigation and domestic; No action.

13040.... 9- 7-49....Joe Schramm; Underground; Irrigation and domestic; No action.
13041.... 9- 7-49....Alden L. Stewart; Underground; Irrigation and domestic; No action.
13042.... 9- 7-49....Harold P. Stewart; Underground; Irrigation and domestic; No action.
13043.... 9- 8-49....Albert Gubler and Leland Hendrix; White River Sloughs; Irrigation;† No action.
13044.... 9-12-49....J. W. Garehime and Edith Garehime; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved January 9, 1950, for 1.0 c.f.s. G. S.
13045.... 9-12-49....Frield E. Anderson; Underground; Irrigation; Approved January 19, 1950, for 0.5 c.f.s. G. S.
13046.... 9-13-49....Amos Epperson; Medicine Spring; Milling; No action.
13047.... 9-15-49....Lester C. Mathews; Underground; Irrigation; Approved February 27, 1950, for 3.0 c.f.s. G.S.
13048.... 9-15-49....Kenneth W. Dunham; Underground; Milling and domestic; No action.
13049.... 9-19-49....United States Government, represented by J. S. Crenshaw, Captain, U. S. N., Commanding Officer; Rose Creek; Municipal and domestic; Approved February 27, 1950, for 2.0 c.f.s. G. S.
13050.... 9-19-49....United States Government, represented by J. S. Crenshaw, Captain, U. S. N., Commanding Officer; Cat Creek; Municipal and domestic; Approved February 27, 1950, for 2.0 c.f.s. G. S.
13051.... 9-23-49....Frank A. Allen, S. D. Allen, and Bert Smith; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved March 9, 1950, for 1.5 c.f.s. G. S.
13052.... 9-23-49....W. D. Gregory; Underground; Irrigation and domestic;* Approved March 20, 1950, for 0.25 c.f.s. G. S.
13053.... 9-26-49....Emery Garrett; Mud Springs; Stockwatering; Cancelled June 30, 1950, because of failure to refile corrected application within statutory time.
13054.... 9-26-49....Ernest J. and Beatrice Koop; Underground; Irrigation and domestic;* No action.
13055.... 9-26-49....Mrs. Esther P. Slagle; Underground; Irrigation and domestic;* No action.
13056.... 9-26-49....Benjamin I. Rankin; Underground; Irrigation and domestic;* No action.
13057.... 9-26-49....George A. Taylor; Underground; Irrigation and domestic; No action.
13058.... 9-27-49....F. M. and L. E. Schmidtlein; Frenchman Creek; Irrigation and domestic; Approved February 28, 1950. Certificate issued.
13059.... 9-27-49....F. M. and L. E. Schmidtlein; Frenchman Creek; Irrigation and domestic; Approved February 28, 1950, for 2.8 c.f.s. Certificate issued.
13060.... 9-27-49....F. M. and L. E. Schmidtlein; Big Smoky Creek; Irrigation and domestic;* No action.
13061.... 9-27-49....F. M. and L. E. Schmidtlein; Big Smoky Creek; Irrigation and domestic;* No action.
13062.... 9-27-49....F. M. and L. E. Schmidtlein; Rock Creek; Irrigation and domestic; Approved February 28, 1950, for 2.8 c.f.s. Certificate issued.
13063.... 9-27-49....F. M. and L. E. Schmidtlein; Sheep Creek; Irrigation and domestic; Approved February 28, 1950, for 2.8 c.f.s. Certificate issued.
13064.... 9-27-49....F. M. and L. E. Schmidtlein; Santa Fee Creek; Irrigation and domestic; Approved February 28, 1950, for 2.8 c.f.s. Certificate issued.
13065.... 9-27-49....F. M. and L. E. Schmidtlein; Shoshone Creek; Irrigation and domestic; Approved March 16, 1950, for 2.8 c.f.s. Certificate issued.
13066.... 9-28-49....Jack M. and Gladys A. Steele; Underground; Domestic; Approved May 16, 1950, for 0.008 c.f.s. G. S.
13067.... 9-28-49....State of Nevada, Department of Highways; Unnamed spring; Irrigation of trees and lawn, domestic, and public use; Approved February 8, 1950, for 0.05 c.f.s. G. S.
13068.... 9-29-49....Bozarth and Rudnick; Mammoth Spring; Stockwatering; No action.
13069.... 9-30-49....Ardene Long and Anita Long; Underground; Irrigation and domestic;* No action.
13070.... 9-30-49....Cecil and Louise Rhoades; Underground; Irrigation;* No action.
13071....10- 3-49....Milt Damron and Maggie Warren; Underground; Irrigation and domestic; Approved March 1, 1950, for 2.0 c.f.s. G. S.
13072....10- 4-49....John George and Lillian Beatrice Nickell; Underground; Irrigation and domestic; No action.
13073....10- 4-49....James Henry and Ruby Thelma Barnes; Underground; Irrigation and domestic;* No action.
13074....10- 4-49....Lee M. Earl and Milton S. Earl; "Earl Well"; Irrigation; Approved February 8, 1950, for 1.0 c.f.s. G. S.
13075....10- 4-49....W. A. Oliver; Unnamed springs; Irrigation and domestic; No action.
13076....10-5-49....Alberteen Patrick Rankin; Underground; Irrigation and domestic;* No action.
13077....10- 7-49....Jesse Louise and Sibyl Lena Nickell; Underground; Irrigation and domestic; No action.
13078....10- 7-49....Edgar Leon and Lois Nadine Nickell; Underground; Irrigation and domestic; No action.

13079....10- 7-49....Orvil Richard Roberts; Underground; Irrigation and domestic;* No action.
13080....10- 7-49....Clarence James and Dorothy Coley; Underground; Irrigation and domestic;* No action.
13081....10-10-49....Segura Brothers (Tony and Domingo); Field, located mouth of Nine-mile canyon, flood waters; Stockwatering and domestic;* No action.
13082....10-10-49....Segura Brothers (Tony and Domingo); Dry Spring; Irrigation and domestic; No action.
13083....10-10-49....Segura Brothers (Tony and Domingo); Peak Spring; Stockwatering and domestic;* No action.
13084....10-10-49....Segura Brothers (Tony and Domingo); Mikkle Spring; Stockwatering and domestic;* No action.
13085....10-10-49....Clifton Carl and Mary Lou Crauthers; Underground; Irrigation and domestic; No action.
13086....10-10-49....Floyd James and Loretta Smith, Assigned to Jerrel Ray Starr; Underground; Irrigation and domestic; No action.
13087....10-10-49....F. M. Fulstone, Inc.; Sage Hen Springs; Stockwatering; Approved March 20, 1950, for 0.001 c.f.s. G. S.
13088....10-10-49....F. M. Fulstone, Inc.; Lower Mud Spring; Stockwatering; No action.
13089....10-11-49....Nevada Fish and Game Commission; Spring Creek; Fish rearing; Approved January 3, 1950, for 3.0 c.f.s. G. S.
13090....10-11-49....Nevada Fish and Game Commission; Snake Creek; Fish rearing; Approved January 3, 1950, for 5.0 c.f.s. G. S.
13091....10-13-49....Hershel Smith; Underground; Irrigation and domestic; No action.
13092....10-13-49....James Smith; Underground; Irrigation and domestic; No action.
13093....10-13-49....Dean Dale Erwin; Underground; Irrigation and domestic; No action.
13094....10-13-49....Drew Martin and Wilma Jean Dugger; Underground; Irrigation and domestic; No action.
13095....10-13-49....Merle Frank and Leatha Olivia Parrish; Underground; Irrigation and domestic; No action.
13096....10-13-49....Sanford Edgar and Ciemmie Ella Hocket; Underground; Irrigation and domestic; No action.
13097....10-13-49....Galen Ross Potter; Underground; Irrigation and domestic; Withdrawn by applicant January 4, 1950.
13098....10-13-49....Uriel Franklin and Hazel Maudene Jarred; Underground; Irrigation and domestic; No action.
13099....10-13-49....Bernal Franklin and Barbara Mae Dugger; Underground; Irrigation and domestic; No action.
13100....10-13-49....Central Pacific Railway Company; Underground (S. P. Well No. 2); Railroad;† Approved May 16, 1950, for 0.231 c.f.s. G. S.
13101....10-13-49....John Urrizaga; Silver Spring; Stockwatering; Approved February 27, 1950, for 0.025 c.f.s. G. S.
13102....10-13-49....John Urrizaga; Robbers Roost Spring; Stockwatering; No action.
13103....10-14-49....George Frank and Anna May Woodall; Underground; Irrigation and domestic; No action.
13104....10-14-49....Ernst Otto and Henrietta Mary Thoene; Underground; Irrigation and domestic;* No action.
13105....10-14-49....Acel Edward and Hazel Vernettie Hicks; Underground; Irrigation and domestic; No action.
13106....10-17-49....Meadow Water and Land Company; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic; No action.
13107....10-17-49....Herbert M. Dixon; Underground (Las Vegas Artesian Basin); Irrigation and domestic;* Approved March 9, 1950, for 0.25 c.f.s. G. S.
13108....10-17-49....Everett O. Baker; Underground; Irrigation; Withdrawn by applicant November 16, 1949.
13109....10-17-49....William Dewey Glenn; Underground; Irrigation and domestic;* No action.
13110....10-17-49....Homer Lockhart; Underground; Irrigation and domestic;* No action.
13111....10-17-49....Gilbert Leslie Sibert; Underground; Irrigation and domestic; No action.
13112....10-17-49....Pharo Arnoldsen; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved February 8, 1950, for 0.1 c.f.s. G. S.
13113....10-18-49....James M. Daniels; Underground (Dixie Spring); Stockwatering;† No action.
13114....10-18-49....Lambertucci Bros.; Drainage Water (Crystal Canyon); Irrigation and domestic; No action.
13115....10-18-49....Lambertucci Bros.; Main Tonopah Canyon and tributaries; Irrigation and domestic; No action.
13116....10-19-49....Heidenreich Brothers; South Canyon Spring; Domestic and garden irrigation; Approved February 8, 1950, for 0.10 c.f.s. G. S.
13117....10-19-49....C. E. Elquist and D. C. Elquist; Underground (Hot Hole Well); Irrigation and domestic; No action.
13118....10-20-49....W. O. Esque; Underground; Irrigation and domestic; No action.
13119....10-20-49....Troy Elton Garver; Underground; Irrigation and domestic; No action.
13120....10-21-49....Jack D. and Lavahn Wilcoxon; Underground; Irrigation and domestic; No action.
13121....10-21-49....Samuel E. and Phyllis J. Wilcoxon; Underground; Irrigation and domestic; No action.

13122....10-21-49....Leonard L. and Vernalene Baker; Underground; Irrigation and domestic; No action.
13123....10-21-49....William Harrison and Ada Mayme Davis; Underground; Irrigation and domestic; No action.
13124....10-24-49....A. L. DeLong and Maude E. DeLong; Shank's Canon; Irrigation and stockwatering;† No action.
13125....10-25-49....Jess Floyd Esque; Underground; Irrigation and domestic; No action.
13126....10-25-49....Samuel and Ruey Alice Wilcoxon; Underground; Irrigation and domestic; No action.
13127....10-26-49....Hiko Irrigation and Water Co.; Hiko Springs; Irrigation; No action.
13128....10-27-49....R. D. Graham, Jr.; Underground; Irrigation and domestic; No action.
13129....10-27-49....R. W. Goodin; Underground; Irrigation and domestic; Withdrawn by applicant February 7, 1950.
13130....10-27-49....R. D. Graham; Underground; Irrigation and domestic; No action.
13131....11- 1-49....Earl David and Jewell Irene Smith; Underground; Irrigation and domestic; Withdrawn by applicant December 20, 1949.
13132....11- 1-49....Jack Weldon and Avis Virginia Hinsley; Underground; Irrigation and domestic; No action.
13133....11- 1-49....James Jay Harrison Jacobs; Underground; Irrigation and domestic; No action.
13134....11- 1-49....Paul Dan Ballard; Underground; Irrigation and domestic;* No action.
13135....11- 1-49....Kid Willis; Underground; Irrigation and domestic; Withdrawn by applicant April 13, 1950.
13136....11- 1-49....Odell Thomas Dunkin; Underground; Irrigation and domestic;* No action.
13137....11- 1-49....Derrill Duane and Dorothy Dimple Morger; Underground; Irrigation and domestic; No action.
13138....11- 1-49....J. T. Dunkin; Underground; Irrigation and domestic;* Withdrawn by applicant February 6, 1950.
13139....11- 2-49....Fallini Brothers; Storm waters of Hot Creek; Stockwatering;† Withdrawn by applicant February 6, 1950.
13140....11- 2-49....Robert Theodore Rodriquez; Underground; Irrigation and domestic; No action.
13141....11- 2-49....Howard Emery Webb; Underground; Irrigation and domestic; No action.
13142....11- 7-49....Archie Leon Flowers; Underground; Irrigation and domestic; No action.
13143....11- 7-49....Victor Albert Supertjno; Underground; Irrigation and domestic;* No action.
13144....11- 7-49....William Bonnie Flowers; Underground; Irrigation and domestic; No action.
13145....11- 7-49....Freda Louise Newman; Underground; Irrigation and domestic; No action.
13146....11- 7-49....Samuel H. Edwards; Underground; Domestic; Approved June 13, 1950, for 0.0008 c.f.s. G. S.
13147....11-10-49....Merrill H. Peterson; Last Chance Spring; Stockwatering and domestic; No action.
13148....11-10-49....Carl Lindsey Norris; Underground; Irrigation and domestic; No action.
13149....11-10-49....Bernard Earl Tyson; Underground; Irrigation and domestic; No action.
13150....11-10-49....Carl Israel; Underground; Irrigation and domestic; No action.
13151....11-14-49....Lonnie Rosenbaum; Underground; Irrigation and domestic; No action.
13152....11-14-49....Byrle Ketner; Underground; Irrigation and domestic; No action.
13153....11-14-49....Helen M. Stein and Johann Hetzel; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved February 28, 1950, for 0.06 c.f.s. G. S.
13154....11-14-49....Doris French; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved April 18, 1950, for 0.2 c.f.s. G. S.
13155....11-14-49....Keith Pohl Pendergraft; Underground; Irrigation and domestic; No action.
13156....11-14-49....Robert M. Tubb; Tubb's Deep Spring; Irrigation and domestic; No action.
13157....11-14-49....Harvey S. Hale; Cow Creek; Irrigation; No action.
13158....11-16-49....Dean Basil Brodrick; Underground; Irrigation and domestic; No action.
13159....1116-49....George Moses Norris; Underground; Irrigation and domestic; No action.
13160....11-16-49....Roy Steadman Echols; Underground; Irrigation and domestic; No action.
13161....11-16-49....Charlie Nelson Cox; Underground; Irrigation and domestic; No action.
13162....11-16-49....William Rollo Norris; Underground; Irrigation and domestic; Withdrawn by applicant June 27, 1950.
13163....11-16-49....Homer Lincoln Probert; Underground; Irrigation and domestic; No action.
13164....11-16-49....Sage and Sand Motel; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic; Approved March 16, 1950, for 0.08 c.f.s. G. S.
13165....11-17-49....Rollo Davis Norris; Underground; Irrigation and domestic; No action.

13166....11-18-49....Auburn Powers; Underground; Irrigation and domestic;* No action.
13167....11-18-49....Wallace Frank Herman Mach; Underground; Irrigation and domestic; No action.
13168....11-18-49....George Lester Nibert; Underground; Irrigation and domestic; No action.
13169....11-21-49....Loyd Kerney Ketner; Underground; Irrigation and domestic; No action.
13170....11-21-49....Steven Andrew Goodrich; Underground; Irrigation and domestic; No action.
13171....11-21-49....Harold Gene Ketner; Underground; Irrigation and domestic; No action.
13172....11-21-49....Kenneth Leo Ketner; Underground; Irrigation and domestic; No action.
13173....11-23-49....Clair Whipple; Esplin Well; Stockwatering;* No action.
13174....11-23-49....Clair Whipple; Griswold Well No. 2; Stockwatering; No action.
13175....11-23-49....Clair Whipple; Griswold Well No. 1; Stockwatering; No action.
13176....11-25-49....Joseph C. Flowers; Lake Tahoe; Domestic; Approved March 9, 1950, for 0.0008 c.f.s. G. S.
13177....11-28-49....John Henry Foth; Underground; Irrigation and domestic; No action.
13178....11-29-49....Everett O. Baker; Underground; Irrigation and domestic; No action.
13179....11-30-49....John Rodgers; Underground (Pioneer Well No. 1); Mining and domestic;* No action.
13180....12- 1-49....United States of America, Fish and Wildlife Service; Rhyolite Spring; Wildlife watering; Approved June 13, 1950, for 0.00013 c.f.s. G. S.
13181....12- 1-49....United States of America, Fish and Wildlife Service; Five Mile Spring; Wildlife watering; Approved April 18, 1950, for 0.03 c.f.s. G. S.
13182....12- 1-49....Thomas Ormachea; Hillside Spring; Stockwatering and domestic;* No action.
13183....12- 1-49....Yomba Shoshone Tribe; Underground; Stockwatering;† No action.
13184....12- 1-49....Yomba Shoshone Tribe; Underground; Stockwatering; No action.
13185....12- 1-49....Yomba Shoshone Tribe; Underground; Stockwatering;† No action.
13186....12- 1-49....Yomba Shoshone Tribe; Underground; Stockwatering;† No action.
13187....12- 2-49....Florence Pairlee Gilchriest; Underground; Irrigation and domestic; No action.
13188....12- 7-49....Carl F. Johnson; Lake Tahoe; Domestic; No action.
13189....12- 8-49....Herman C. Hill and B. H. Kriegh, Jr.; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved April 18, 1950, for 0.06 c.f.s. G. S.
13190....12-15-49....Emma G. Rogers and S. H. Manor; Underground (Montezuma Well); Stockwatering; No action.
13191....12-15-49....S. H. Manor; Underground (Main Line Well); Stockwatering; No action.
13192....12-15-49....Emma G. Rogers; Underground (Midway Well); Stockwatering; No action.
13193....12-15-49....Clarence Clayton Roan; Underground; Irrigation and domestic; No action.
13194....12-19-49....Clyde B. Stark; Bob's Canyon Creek; Irrigation and domestic;* No action.
13195....12-19-49....Clyde B. Stark; Dyer Canyon Creek; Irrigation and domestic;* No action.
13196....12-19-49....Hulda Foth; Underground; Irrigation and domestic; No action.
13197....12-19-49....Herbert William Foth; Underground; Irrigation and domestic; No action.
13198....12-19-49....Raymond La Barry; Underground; Stockwatering;* No action.
13199....12-19-49....Raymond La Barry; Underground; Stockwatering;* No action.
13200....12-19-49....Raymond La Barry; Underground; Stockwatering;* No action.
13201....12-21-49....Preston M. Neilson; Underground; Irrigation and domestic; No action.
13202....12-21-49....Otto Mehr; Underground; Irrigation and domestic; No action.
13203....12-21-49....Great American Mining Corporation; Underground; Mining, milling and domestic; No action.
13204....12-21-49....Great American Mining Corporation; Underground; Mining, milling, and domestic; No action.
13205....12-22-49....Roland J. Giroux; Underground; Propagation of fish; Approved March 17, 1950, for 0.75 c.f.s. G. S.
13206....12-27-49....Joe Eldridge; Smith Creek; Irrigation and domestic; No action.
13207....12-27-49....William Dee Jolly; Underground; Irrigation and domestic; No action.
13208....12-27-49....Franklin Obe Cochran; Underground; Irrigation and domestic; No action.
13209....12-27-49....Earl A. Dillwith; Underground; Irrigation;* No action.
13210....12-27-49....W. E. Dillwith; Underground; Irrigation; No action.
13211....12-27-49....Harry E. Hazard; Underground (Las Vegas Artesian Basin); Irrigation and domestic; Approved March 30, 1950, for 2.0 c.f.s. G. S.
13212....12-27-49....M. S. and Frances Pinjuv; Underground (Las Vegas Artesian Basin); Domestic; Approved April 18, 1950, for 0.1 c.f.s. G. S.
13213....12-28-49....Roy William Gilchriest; Underground; Irrigation and domestic; No action.

13214....12-29-49....Glenn Ray Bolyard; Underground; Irrigation and domestic; No action.
13215....12-30-49....James M. Daniels; Underground (Gold Flat Well No. 1); Stockwatering; No action.
13216....12-30-49....James M. Daniels; Underground (Gold Flat Well No. 2); Stockwatering; No action.
13217....12-30-49....D. V. Romeos; Kid Spring; Stockwatering; No action.
13218....12-30-49....D. V. Romeos; Sheep Spring; Stockwatering; No action.
13219.... 1- 3-50....Fred Linville Gregory; Kious Spring; Irrigation; No action.
13220.... 1- 3-50....Fred Linville Gregory; Cal Young Canon Creek; Irrigation and domestic; No action.
13221.... 1- 3-50....Merrill H. Peterson and Vern R. Smith; School Spring; Stockwatering and domestic; Approved June 21, 1950, for 0.002 c.f.s. G. S.
13222.... 1- 3-50....Bunkerville Irrigation Company; Virgin River; Irrigation and domestic; Approved May 16, 1950, for 1.70 c.f.s. G. S.
13223.... 1- 3-50....Bunkerville Irrigation Company; Virgin River; Irrigation and domestic; Approved May 16, 1950, for 1.70 c.f.s. G. S.
13224.... 1- 5-50....Henry Filippini; Carrico Creek and tributaries; Irrigation and domestic; No action.
13225.... 1- 5-50....Jeanne Ernestine Rydell; Underground; Irrigation and domestic;* No action.
13226.... 1- 9-50....Dee L. Abbott; Underground; Irrigation and domestic; No action.
13227.... 1- 9-50....George D. Gorton; Scale Springs; Frog Raising and domestic; Approved December 16, 1950, for 0.10 c.f.s. G. S.
13228.... 1-11-50....Warren C. Hunt and Donald B. Hunt; Underground (Pine Creek Well); Stockwatering and domestic; No action.
13229.... 1-11-50....Warren C. and Donald B. Hunt; Underground (Salisbury Well); Stockwatering and domestic; No action.
13230.... 1-16-50....Robert E. Taylor; Underground; Irrigation; No action.
13231.... 1-16-50....Alex Heguy; Underground (Well No. 1); Stockwatering; No action.
13232.... 1-16-50....Alex Heguy; Underground (Well No. 2); Stockwatering; No action.
13233.... 1-16-50....Dan Filippini; Underground (Well No. 1); Stockwatering; No action.
13234.... 1-16-50....Dan Filippini; Underground (Well No. 2); Stockwatering; No action.
13235.... 1-16-50....Dan Filippini; Underground (Well No. 3); Stockwatering; No action.
13236.... 1-16-50....Dan Filippini; Underground (Well No. 4); Stockwatering; No action.
13237.... 1-16-50....Dan Filippini; Underground (Well No. 5); Stockwatering; No action.
13238.... 1-16-50....Dan Filippini; Underground (Well No. 6); Stockwatering; No action.
13239.... 1-16-50....Dan Filippini; Underground (Well No. 7); Stockwatering; No action.
13240.... 1-16-50....Dan Filippini; Underground (Well No. 8); Stockwatering; No action.
13241.... 1-16-50....Dan Filippini; Underground (Well No. 1); Irrigation; No action.
13242.... 1-16-50....Dan Filippini; Underground (Well No. 2); Irrigation; No action.
13243.... 1-16-50....Dan Filippini; Underground (Well No. 3); Irrigation; No action.
13244.... 1-23-50....A. E. Wemyss; Underground; Domestic; No action.
13245.... 1-24-50....Joe Saval Estate; Blue Lead Spring; Stockwatering;* No action.
13246.... 1-24-50....Joe Saval Estate; Mud Spring; Stockwatering;* No action.
13247.... 1-24-50....Slim Olsons, Inc., of Nevada; Well; Domestic; Approved June 21, 1950, for 1.0 c.f.s. G. S.
13248.... 1-25-50....Harlis Wilburn Wall; Underground; Irrigation and domestic; No action.
13249.... 2- 1-50....Forrest Vernon Long; Underground; Irrigation and domestic; No action.
13250.... 2- 1-50....Thomas Clark Latham; Underground; Irrigation and domestic; No action.
13251.... 2- 1-50....Don F. Anhder, Jr.; Well; Irrigation; No action.
13252.... 2- 1-50....Don Farrell Anhder, Sr.; Well; Irrigation; No action.
13253.... 2- 3-50....Fallini Brothers; Storage of storm waters of Hot Creek; Stockwatering;* No action.
13254.... 2- 3-50....Dan Filippini; Unnamed spring; Stockwatering; No action.
13255.... 2- 3-50....Charles Kielhofer; Hot Springs (Pearl Springs); Bathing and medicinal; No action.
13256.... 2- 6-50....Ruby Thelma Barnes; Underground; Irrigation and domestic; No action.
13257.... 2- 6-50....Willard Peterson, Clarence Keller, and L. W. Peterson; Ferguson Springs; Stockwatering; No action.
13258.... 2- 8-50....Rex B. Clark; Underground; Stockwatering;† No action.
13259.... 2- 9-50....Henry C. and Hazel H. Nickerson; Underground (Las Vegas Artesian Basin); Irrigation and domestic;† Approved June 21, 1950, for 0.136 c.f.s. G. S.
13260.... 2- 9-50....Orval Edward Long; Underground; Irrigation and domestic; No action.
13261.... 2-10-50....Arcularius Bros. and Hunt Land & Cattle Co.; Underground; Stockwatering and domestic; No action.
13262.... 2-10-50....Arcularius Brothers and Hunt Land & Cattle Co.; Underground (Silver Creek Well); Stockwatering and domestic;* No action.
13263.... 2-10-50....Arcularius Brothers; Underground (San Antone Pass Well); Stockwatering and domestic;* No action.

13264.... 2-14-50....O. L. Sheppard and T. G. Sheppard; Underground (Sheppard Well No. 1); Irrigation and domestic; No action.
13265.... 2-14-50....O. L. Sheppard and T. G. Sheppard; Underground (Sheppard Well No. 2); Irrigation and domestic; No action.
13266.... 2-14-50....Herbert N. Buhl; No Name Creek; Irrigation and domestic;* No action.
13267.... 2-16-50....Clyde B. Stark; Underground (Dyer Flat Well); Stockwatering; No action.
13268.... 2-16-50....Clyde B. Stark; Side Hill Spring; Stockwatering;* No action.
13269.... 2-16-50....Clyde B. Stark; Underground (East Dixie Well); Stockwatering; No action.
13270.... 2-20-50....Robert E. Chiara; All waste and overflow water from placer mining operations of Natomas Mining Company; Irrigation and domestic; No action.
13271.... 2-20-50....W. J. Ford; Underground (T. and G. Well); Irrigation; No action.
13272.... 2-20-50....Jess Gardner; Turner Spring; Irrigation; No action.
13273.... 2-20-50....Jess Gardner; Warm Springs; Irrigation; No action.
13274.... 2-23-50....Bernice Elaine Kincaid; Willow Creek; Irrigation and domestic;* No action.
13275.... 2-23-50....William A. Sherrill; Underground (Las Vegas Artesian Basin); Irrigation and domestic; No action.
13276.... 2-27-50....Ernest Johns; Underground; Irrigation and domestic; No action.
13277.... 2-28-50....Louis F. Maggini; Walter's Canyon; Stockwatering; No action.
13278.... 3- 2-50....Las Vegas Thoroughbred Racing Ass'n.; Underground; Domestic and construction; No action.
13279.... 3- 2-50....E. H. Berryman and B. Cislini; Underground; Irrigation and domestic; No action.
13280.... 3- 3-50....Bill DeLong, Jr.; Quinn River; Irrigation and domestic; No action.
13281.... 3- 6-50....Wm. Stock Farming Co., Inc.; Underground; Irrigation and domestic; No action.
13282.... 3- 6-50....Wm. Stock Farming Co., Inc.; Underground; Irrigation, domestic and stockwatering; No action.
13283.... 3- 6-50....James M. Daniels; Pillar Spring; Stockwatering; No action.
13284.... 3- 6-50....James M. Daniels; Underground (Desert Well); Stockwatering; No action.
13285.... 3- 6-50....James M. Daniels; Small Spring; Stockwatering; No action.
13286.... 3- 6-50....James M. Daniels; Unnamed Spring; Stockwatering; No action.
13287.... 3- 6-50....James M. Daniels; Salsbury Tank; Stockwatering; No action.
13288.... 3- 6-50....James M. Daniels; Antelope Spring; Stockwatering; No action.
13289.... 3- 6-50....James M. Daniels; Underground (Gold Crater Well); Stockwatering; No action.
13290.... 3- 6-50....William Junior Wade; Underground; Irrigation and domestic; No action.
13291.... 3- 6-50....Vern Wilson; Underground; Irrigation and domestic; No action.
13292.... 3- 6-50....John Rugar; Underground (Las Vegas Artesian Basin); Domestic; No action.
13293.... 3- 6-50....Gerald N. Leavitt; Underground (Las Vegas Artesian Basin); Irrigation and domestic; No action.
13294.... 3- 7-50....James M. Daniels; Unnamed Spring; Stockwatering; No action.
13295.... 3- 8-50....Joe Edd Moorhead; Underground; Irrigation and domestic; No action.
13296.... 3- 9-50....Francis Joseph Willemann; Underground; Irrigation and domestic; No action.
13297.... 3-10-50....H. H. Smith; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13298.... 3-10-50....Palamino Water Association; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13299.... 3-10-50....William Robert Duggan; Underground; Irrigation and domestic; No action.
13300.... 3-10-50....Rex B. Clark; Underground; Irrigation; No action.
13301.... 3-10-50....Rex B. Clark; Chiatovich Creek; Irrigation; No action.
13302.... 3-10-50....Rex B. Clark; Chiatovich Creek; Power; No action.
13303.... 3-10-50....Emma J. Clark; Chiatovich Creek; Irrigation and domestic; No action.
13304.... 3-10-50....Emma J. Clark; Underground; Irrigation and domestic; No action.
13305.... 3-13-50....Annie N. Thacker; Willow Creek; Mining; No action.
13306.... 3-15-50....Joseph J. Hannig; Underground (Las Vegas Artesian Basin); Irrigation and domestic; No action.
13307.... 3-15-50....Leonard A. Frechette; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13308.... 3-15-50....Norman T. Annett; Underground (Burbank Canyon Well); Irrigation and domestic; No action.
13309.... 3-15-50....James M. Daniels; Five Mile Spring; Stockwatering; No action.
13310.... 3-15-50....James M. Daniels; Underground (Well No. 1); Stockwatering; No action.
13311.... 3-15-50....James M. Daniels; Underground (Well No. 2); Stockwatering; No action.
13312.... 3-15-50....James M. Daniels; Underground (Well No. 3); Stockwatering; No action.
13313.... 3-15-50....James M. Daniels; Haw's Canyon Creek; Stockwatering; No action.
13314.... 3-15-50....James M. Daniels; Breen Spring; Stockwatering; No action.
13315.... 3-15-50....James M. Daniels; Silver Bow Spring; Stockwatering; No action.
13316.... 3-15-50....James M. Daniels; Corral Spring; Stockwatering; No action.
13317.... 3-15-50....James M. Daniels; Rose Spring; Stockwatering; No action.

13318.... 3-15-50....James M. Daniels; Granite Spring; Stockwatering; No action.
13319.... 3-17-50....Everest Hackett; Underground; Stockwatering; No action.
13320.... 3-17-50....Henry McCleary Timber Company; Cottonwood Creek and tributaries; Irrigation and domestic; No action.
13321.... 3-17-50....Henry McCleary Timber Company; Martin Creek and tributaries; Irrigation and domestic; No action.
13322.... 3-17-50....Henry McCleary Timber Company; Little Humboldt River and tributaries; Irrigation and domestic; No action.
13323.... 3-20-50....James M. Daniels; Underground (Twin Mills); Stockwatering; No action.
13324.... 3-20-50....James M. Daniels; Coyote Springs; Stockwatering; No action.
13325.... 3-20-50....John D. Winters; Underground; Stockwatering; No action.
13326.... 3-21-50....Albert Hicks and Sons; Cranes Creek Spring; Irrigation and domestic; Withdrawn by applicant June 26, 1950.
13327.... 3-21-50....Virginia & Truckee Ry.; Gregory's Canyon Creek; Municipal and domestic;† No action.
13328.... 3-22-50....Bernard Damele; Underground; Stockwatering;* No action.
13329.... 3-22-50....Cavanaugh Brothers; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13330.... 3-22-50....Cavanaugh Brothers; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13331.... 3-22-50....Cavanaugh Brothers; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13332.... 3-22-50....Cavanaugh Brothers; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13333.... 3-23-50....Clifford D. Campbell and Cecil G. Campbell; Underground; Irrigation and domestic; No action.
13334.... 3-24-50....C. E. Keen; Underground; Placer Mining; No action.
13335.... 3-27-50....Avery D. Stitser; Underground; Irrigation and domestic; No action.
13336.... 3-27-50....El Cortez Hotel; Underground (Las Vegas Artesian Basin); Refrigeration; No action.
13337.... 3-27-50....Mrs. Joyce May Rue; Bradford Springs Nos. 1, 2, and 3; Irrigation and domestic; No action.
13338.... 3-27-50....William Clifford Adkins; Underground; Irrigation and domestic; No action.
13339.... 3-28-50....Frank Harrington; Return water from city of Wells Sewer System; Irrigation;* No action.
13340.... 3-28-50....Frank Harrington; Spring; Irrigation;* No action.
13341.... 3-28-50....Hendrix Bros.; Underground (Hendrix Well); Stockwatering; No action.
13342.... 3-28-50....Martin Elicegui; Chimney Springs; Stockwatering and domestic; No action.
13343.... 3-29-50....Little Gem Mining Company; Underground; Mining, milling and domestic; No action.
13344.... 3-29-50....Alex Castaing; Underground (Hurd Artesian Well); Irrigation and domestic; No action.
13345.... 3-30-50....U. S. Department of the Interior, Fish and Wildlife Service, State of Nevada Fish and Game Commission; Paiute Drain Diversion; Recreation and propagation of fish and wildlife; No action.
13346.... 3-30-50....U. S. Department of the Interior, Fish and Wildlife Service, State of Nevada Fish and Game Commission; Paiute Drain Diversion; Irrigation; No action.
13347.... 3-30-50....U. S. Department of the Interior, Fish and Wildlife Service, State of Nevada Fish and Game Commission; Stillwater Slough; Irrigation; No action.
13348.... 3-30-50....U. S. Department of the Interior, Fish and Wildlife Service, State of Nevada Fish and Game Commission; Stillwater Slough; Recreation and propagation of fish and wildlife; No action.
13349.... 3-30-50....U. S. Department of the Interior, Fish and Wildlife Service, State of Nevada Fish and Game Commission; "D Line" Canal; Recreation and propagation of fish and wildlife; No action.
13350.... 3-30-50....U. S. Department of the Interior, Fish and Wildlife Service, State of Nevada Fish and Game Commission; Old Stillwater Slough; Recreation and propagation of fish and wildlife; No action.
13351.... 3-30-50....U. S. Department of the Interior, Fish and Wildlife Service, State of Nevada Fish and Game Commission; Carson River Channel; Recreation and propagation of fish and wildlife; No action.
13352.... 3-30-50....Mrs. B. Menzi; Underground; Irrigation and domestic; No action.
13353.... 3-30-50....Mrs. B. Menzi; Underground; Irrigation, domestic, and recreation; No action.
13354.... 3-30-50....Oliver Smith, Arthur and Leonard Champagne; Hazen Slough; Recreational and propagation of fish; No action.
13355.... 4- 3-50....Walter Dawayne Sweet; Underground; Irrigation and domestic; No action.
13356.... 4- 3-50....Jack Hyde; Underground; Irrigation and domestic; No action.
13357.... 4- 6-50....Willard and L. W. Petersen and Clarence Keller; Underground; Stockwatering;† No action.
13358.... 4- 7-50....Harold A. Hetu; Unnamed seeps; Irrigation; No action.
13359.... 4- 7-50....Delbert Brockman and Garrett Thurman; Underground (Las Vegas Artesian Basin); Irrigation and domestic; No action.
13360.... 4-10-50....Jack Marshall Lantron; Underground; Irrigation and domestic; No action.
13361.... 4-10-50....George R. and Muriel E. Fetic; Underground; Irrigation and domestic; No action.

13362.... 4-17-50....Ebbie H. Davis; Waste water (Las Vegas Disposal Plant); Irrigation; No action.
13363.... 4-24-50....Alvin Franklin Hankins; Underground; Irrigation and domestic; No action.
13364.... 4-28-50....Stanmore Gold Mining Co.; Lappan Creek; Mining, milling, and domestic; No action.
13365.... 5- 3-50....James M. Daniels; Underground (Sulphide Well); Stockwatering; No action.
13366.... 5- 4-50....City of North Las Vegas; Underground; Municipal; No action.
13367.... 5- 4-50....J. H. Meyers and Gladys Meyers, and Jess E. Meyers and Mary Elizabeth Meyers; Underground; Quasi-municipal and domestic; No action.
13368.... 5-10-50....Las Vegas Thoroughbred Racing Association; Underground (Las Vegas Artesian Basin); Race track operation; No action.
13369.... 5-10-50....Las Vegas Thoroughbred Racing Association; Underground (Las Vegas Artesian Basin); Race track operation; No action.
13370.... 5-10-50....Las Vegas Thoroughbred Racing Association; Underground (Las Vegas Artesian Basin); to serve grand stand, club house, and accessory buildings; No action.
13371.... 5-10-50....J. A. Salmans; Lake Tahoe; Domestic; No action.
13372.... 5-10-50....C. R. Moorman and Milo W. Smith; Illipah Creek; Irrigation;* No action.
13373.... 5-11-50....Frank A. and Anna Sagstetter and Mary Agnes Olson; Underground; Quasi-municipal and domestic; No action.
13374.... 5-12-50....Emma G. and H. E. Rogers; Underground; Stockwatering; No action.
13375.... 5-15-50....Fallini Bros. (E. W., R. A., and Joe B.); Reveille Mill Spring; Stockwatering; No action.
13376.... 5-15-50....Fallini Bros. (E. W., R. A., and Joe B.); Rose Spring; Stockwatering; No action.
13377.... 5-15-50....Fallini Bros. (E. W., R. A., and Joe B.); Five Mile Spring; Stockwatering; No action.
13378.... 5-16-50....Charles J. Allen; Liberty Well; Irrigation and domestic; No action.
13379.... 5-16-50....The Glenbrook Company; Lake Tahoe; Domestic; No action.
13380.... 5-17-50....C. M. Trimble; Pollard Creek; Irrigation and domestic; No action.
13381.... 5-23-50....Los Angeles Chemical Company; Underground; Milling and processing clays; No action.
13382.... 5-23-50....Los Angeles Chemical Company; Underground (Bell Pit); Milling and processing clays; No action.
13383.... 5-23-50....Virginia & Truckee Ry. Co.; Duval or Ent Spring; Irrigation and domestic; No action.
13384.... 5-24-50....Donald D. Graham; Underground; Irrigation and domestic; No action.
13385.... 5-24-50....Mr. and Mrs. L. F. Cochran; Upper Pasture Springs; Irrigation and domestic; No action.
13386.... 5-25-50....Bonanza Hotel, Inc.; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13387.... 5-26-50....Duckwater Shoshone Tribe; Underground (Indian Well); Stockwatering; No action.
13388.... 5-26-50....Frank M. Maloney; Clippenger Tunnel; Mining, milling, and domestic; No action.
13389.... 5-26-50....Frank M. Maloney; Upper Ford Spring; Mining, milling, and domestic; No action.
13390.... 5-26-50....Frank M. Maloney; Summit Spring; Mining, milling, and domestic; No action.
13391.... 5-26-50....Frank M. Maloney; Ford Spring; Mining, milling, and domestic; No action.
13392.... 5-29-50....Lawrence O'Toole; Washington Creek; Irrigation and domestic; No action.
13393.... 5-29-50....Wilbur Clark's Desert Inn Co.; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13394.... 5-29-50....Wilbur Clark's Desert Inn Co.; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13395.... 5-29-50....Ellison Ranching Company; Underground (Fish Creek Well); Irrigation and domestic; No action.
13396.... 5-29-50....Angelo Florio; Underground (Hay Ranch Well); Stockwatering and domestic; No action.
13397.... 5-31-50....Sunrise Hotel Corporation; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13398.... 5-31-50....Sunrise Hotel Corporation; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13399.... 5-31-50....Sunrise Hotel Corporation; Underground (Las Vegas Artesian Basin); Quasi-municipal; No action.
13400.... 6- 2-50....Henry McCleary Timber Co.; Cottonwood Creek and tributaries; Irrigation and domestic; No action.
13401.... 6- 5-50....F. Don Wadsworth; Underground; Stockwatering and domestic; No action.
13402.... 6- 5-50....S. T. Clarke; Underground (Well No. 1); Irrigation and domestic; No action.
13403.... 6- 5-50....S. T. Clarke; Underground (Well No. 2); Irrigation and domestic; No action.
13404.... 6- 6-50....V. J. Barndt; Six Mile Stream; Irrigation and domestic; No action.
13405.... 6- 6-50....Monitor Livestock Co.; Willow Creek; Stockwatering; No action.
13406.... 6- 6-50....Monitor Livestock Co.; Butler Creek; Stockwatering; No action.

13407.... 6- 6-50....W. C. Goodman and Walter Rosevear; White River and tributaries, and Williams Creek and tributaries; Irrigation and domestic; No action.
13408.... 6- 6-50....Nevada Gold Dome Mining Co.; Gilman Springs; Mining, milling, and domestic; No action.
13409.... 6- 7-50....Dan Filippini; Duff Creek; Irrigation; No action.
13410.... 6- 9-50....Peter Fells and Ed Parker; Natural spring; Placer mining; No action.
13411.... 6- 9-50....Mr. A. H. Lage; Becky Springs; Domestic; No action.
13412.... 6-12-50....Robert B. Griffith; Big Falls Spring; Irrigation and domestic; No action.
13413.... 6-13-50....Lynn and Anna L. Taylor; Underground; Irrigation and domestic; No action.
13414.... 6-13-50....James M. Daniels; Underground (Roush Well); Stockwatering; No action.
13415.... 6-13-50....Frank W. Welch and Lucille Welch; Truckee River; Irrigation; No action.
13416.... 6-14-50....Silas Cordes; Blue Jacket Creek; Milling, mining, and domestic; No action.
13417.... 6-14-50....L. H. Linde; Lake Tahoe; Domestic; No action.
13418.... 6-14-50....Ed., Jack, and Robert E. Candee; Deadman Gulch; Fish culture and domestic; No action.
13419.... 6-15-50....U. C. Land and Cattle Co.; Thousand Springs Creek; Irrigation and domestic; No action.
13420.... 6-19-50....Garrett W. Beckley; Quinn River and tributaries; Irrigation; No action.
13421.... 6-19-50....Garrett W. Beckley; Bilk Creek; Irrigation and domestic; No action.
13422.... 6-19-50....Garrett W. Beckley; Warm Springs; Irrigation and domestic; No action.
13423.... 6-19-50....Cannon Gardner; Gardner Spring; Stockwatering and domestic; No action.
13424.... 6-19-50....Las Vegas Valley Water District; Lake Mead and The Colorado River; Municipal; No action.
13425.... 6-19-50....Irwin E. Smith; Underground; Irrigation and domestic; No action.
13426.... 6-26-50....C. R. Moorman, Milo Smith, Jess Gardner, W. C. Goodman, Walter Rosevear, Joe Rosevear and Nevin Munsen; Illipah Creek; Stockwatering; No action.
13427.... 6-26-50....Dan Filippini; Underground Well No. 4; Irrigation; No action.
13428.... 6-28-50....Marvin A. Morley; Spring; Irrigation; No action.
13429.... 6-28-50....Josie Cremetti, et al.; East Walker River; Irrigation; No action.
13430.... 6-29-50....Reorganized Silver King Divide Mining Company; Underground; Mining and domestic; No action.
13431.... 6-30-50....Bernard Klassen and Merle S. Peek; Underground; Irrigation and domestic; No action.

CHAPTER XXII

Status of Applications Filed Prior to July 1, 1948

Following is a condensed statement giving the salient data in connection with applications filed prior to July 1, 1948, upon which action has been taken during the present biennium, in the order of:

1. Application serial number.
2. Date of filing.
3. Name of applicant.
4. Source of water supply.
5. Purpose of appropriation.
6. Action on application.
7. Status of permits as of June 30, 1950.

Reference marks used throughout Chapter XXII denote: *Omitted in previous Biennial Reports; G. S. Good standing.

1867....11- 9-10....W. B. Gibbs; Tea Creek; Irrigation; Withdrawn by applicant January 9, 1950.

2158.... 7-26-11....Carrara Portland Cement Co.; Amargosa River; Irrigation and domestic; Cancelled November 3, 1948, because of failure of applicant to comply with the provisions of permit.

2458.... 6-22-12....George Eldredge; Millick Springs; Irrigation; Withdrawn by applicant May 18, 1949.

3292.... 3- 5-15....Summit Lake Irrigation Company; Summit Lake; Irrigation, power and domestic; Cancelled November 18, 1949, because of applicant's failure to comply with provisions of permit.

4852.... 1-19-18....Muddy Valley Irrigation Company; Subsurface waters of Muddy River; Irrigation; Denied January 18, 1949, on grounds applicant no longer interested in said application.

5370.... 1-24-19....Yomba Tribe of Shoshone Indians; Rim Rock Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

6690.... 6- 3-22....Simon Silver Lead Mines Co.; An unnamed spring; Mining and domestic; Denied December 1, 1948, on grounds applicant is no longer interested in this application.

6950.... 8- 9-23....Winnemucca Water & Light Company; Water Canyon; Public utility;* Approved February 18, 1949. G. S.

7012....11-28-23....Nevada Porphyry Gold Mines, Inc.; Granite Canyon; Mining; Cancelled February 17, 1950, because of applicant's failure to comply with provisions of permit.

7017....12- 6-23....Nevada Porphyry Gold Mines, Inc.; Mariposa, Lucky Eleven and Loman Canon and tributaries; Mining; Cancelled February 17, 1950, because of applicant's failure to comply with provisions of permit.

7192.... 8-11-24....Nevada Porphyry Gold Mines, Inc.; Inkhouse Spring and Canyon; Mining; Cancelled February 17, 1950, because of applicant's failure to comply with provisions of permit.

7576....11-18-25....Nevada Porphyry Gold Mines, Inc.; Indian Creek and tributaries; Mining and domestic; Cancelled February 17, 1950, because of applicant's failure to comply with provisions of permit.

7590....12- 2-25....Mrs. Constance Heath; Pilot Peak Spring; Stockwatering; Denied August 28, 1948, on grounds applicant indicated no interest in application.

8018.... 2-25-27....Robert F. and Virginia H. Chambers; Point Spring; Irrigation, stockwatering, and domestic; Cancelled September 3, 1948, because of failure of applicant to comply with the provisions of permit.

8238.... 7-16-27....Yomba Tribe of Shoshone Indians; Union Canyon Spring; Stockwatering and domestic; Withdrawn by applicant August 27, 1948.

8377....11- 5-27....Yomba Tribe of Shoshone Indians; Cottonwood Canyon waters; stockwatering and domestic; Withdrawn by applicant August 27, 1948.

8378....11- 5-27....Yomba Tribe of Shoshone Indians; Mission Canyon waters; Stockwatering and domestic; Withdrawn by applicant August 27, 1948.

8395....11-22-27....Yomba Tribe of Shoshone Indians; Granite Spring; Stockwatering and domestic. Withdrawn by applicant December 29, 1948.

8434.... 1-19-28....Yomba Tribe of Shoshone Indians; Storey Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8435.... 1-19-28....Yomba Tribe of Shoshone Indians; Paint Rock Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8436.... 1-19-28....Yomba Tribe of Shoshone Indians; Cottonwood Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8442.... 2- 6-28....Yomba Tribe of Shoshone Indians; Fagan Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8443.... 2- 6-28....Yomba Tribe of Shoshone Indians; Dumbarton Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8453.... 2-15-38....Yomba Tribe of Shoshone Indians; Calavada Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8560.... 6- 7-28....Frank E. Bell; Red Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8561.... 6- 7-28....Frank E. Bell; an unnamed spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8604.... 6-25-48....Frank E. Bell; Smoked Up Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

8691.... 9-14-28....Dorothy E. Brooks; Underground water; Irrigation; Cancelled January 1, 1949, because of failure of applicant to comply with the provisions of permit.

8736....10-25-28....Yomba Tribe of Shoshone Indians; Jack Rabbit Spring; Stockwatering and domestic; Withdrawn by applicant December 29, 1948.

9088....10-14-29....W. J. England; Ridge Well; Mining and domestic; Cancelled June 10, 1949, because of failure to submit permit fee.

9384....11-22-30....Harvey L. Titus and M. C. Locke; Pritchard Canyon and tributaries; Irrigation and domestic;* Approved March 11, 1949. G. S.

9498.... 7-10-31....Roy Wood Martin; An artesian well; Irrigation and domestic; Cancelled December 19, 1948, because of failure of applicant to comply with provisions of permit.

9578.... 3-25-32....Wm. G. McLoskey; Unnamed springs; Stockwatering and domestic; Denied November 18, 1949, on the grounds that after due notice the applicant indicated no interest.

9596.... 6- 7-32....Elizabeth McNamara; Graham Springs; Mining and milling and domestic; Cancelled October 19, 1949, because of applicant's failure to comply with provisions of permit.

9654.... 3-26-33....Robert A. Hardin; Underground flow of Amargosa River; Irrigation and domestic; Denied November 30, 1948, on the grounds that applicant indicated no further interest in this application.

9853.... 4-11-35....Nevada Standard Mining Corporation; Goodman Tunnel Creek; Mining and domestic; Cancelled August 26, 1948, because of failure of applicant to comply with the provisions of permit.

9842.... 3- 4-35....Ezra Funk; Rye Spring; Irrigation; Cancelled December 4, 1948, because of failure of applicant to comply with the provisions of permit.

9985.... 4-30-36....Muddy Valley Irrigation Company, Inc.; Flood and unappropriated waters of Arrowhead Canyon; Cancelled July 8, 1948, because of failure of applicant to comply with the provisions of permit.

10003.... 7-14-36....Elizabeth K. McNamara; McNamara Spring; Mining, milling, and domestic; Cancelled October 19, 1949, because of failure of applicant to comply with provisions of permit.

10056....12- 1-36....H. F. Christensen; Carson River; Irrigation and domestic; Denied April 13, 1949, on the grounds the records indicated that applicant is no longer interested in said application.

10202.... 2- 2-38....Department of Interior, National Park Service; Las Vegas Wash; Migatory Waterfowl Refuge; Withdrawn by applicant February 21, 1949.

10217.... 3-22-38....Nevada Porphyry Gold Mines, Inc.; Jett Creek; Mining and milling; Cancelled February 17, 1950, because of failure of applicant to comply with provisions of permit.

10289.... 8-29-38....Hugh A. Bain; Twin Canyon Creek; Irrigation; Cancelled February 8, 1949, because of failure of applicant to comply with provisions of permit.

10298.... 9-28-38....E. B. Salinas; Sacramento Creek; Irrigation and domestic; Cancelled March 1, 1948, because of failure of applicant to comply with the provisions of permit.

10339.... 2-15-39....H. D. Cornell; Intermittent Spring; Irrigation; Withdrawn by applicant October 7, 1948.

10394.... 7- 7-39....Alice E. Paddison; Underground; Mining, milling, and domestic and power; Cancelled December 29, 1948, because of failure of applicant to comply with the provisions of permit.

10500.... 5- 8-40....W. W. Hartman; Surface and subsurface water from an unnamed wash; Mining, milling, and domestic; Withdrawn by applicant August 28, 1948.

10550.... 8-15-40....Getchell Mine, Inc.; Ward Spring; Mining and milling; Withdrawn by applicant February 9, 1949.

10572....10-26-40....Harold D. Cornell; An artesian well; Irrigation and domestic; Withdrawn by applicant November 2, 1949.

10649.... 4-19-41....Homer W. Bell and Charles Kialhofer; Unnamed hot springs; Bathing and medical purposes; Cancelled November 18, 1949, because applicant failed to comply with provisions of permit.

10677.... 6- 9-41....H. D. Cornell and Natalie F. Cornell; Underground; Irrigation; Withdrawn by applicant September 20, 1948.

10687.... 7- 3-41....P. M. Anderson; Codle Springs; Mining and domestic; Cancelled June 12, 1950, because applicant failed to file amended application within the statutory time.

10743....10-14-41....International Smelting & Refining Company, Copper Canyon Lease; An underground source; Mining, milling, and domestic; Withdrawn by applicant November 8, 1948.

10765....12-17-42....Thomas A. Campbell; An underground source; Domestic and quasi-municipal; Withdrawn by applicant August 1, 1948.

10774.... 1-26-42....Defense Plant Corporation; A spring; Domestic purposes; Withdrawn by applicant December 27, 1948.

10775.... 1-26-42....Defense Plant Corporation; A spring; Domestic purposes; Withdrawn by applicant December 27, 1948.

10776.... 1-26-42....Defense Plant Corporation; A spring; Domestic purposes; Withdrawn by applicant December 27, 1948.

10777.... 1-26-42....Defense Plant Corporation; A spring; Domestic purposes; Withdrawn by applicant December 27, 1948.

10778.... 1-26-42....Defense Plant Corporation; A spring; Domestic purposes; Withdrawn by applicant December 27, 1948.

10785.... 2-18-42....Roy Cram; Underground; Mining, milling, and domestic; Cancelled February 28, 1950, because of failure of applicant to comply with provisions of permit.

10792.... 3-11-42....Jack Weisberger; Underground; Quasi-municipal and domestic; Cancelled April 24, 1950, because applicant failed to comply with provisions of permit.

10796.... 3-21-42....Elizalde & Co., Ltd.; Amargosa River; Manufacturing and domestic; Cancelled March 10, 1949, because applicant failed to comply with provisions of permit.

10806.... 4- 9-42....Michael J. Hennessy; Artesian Water Las Vegas Valley; Domestic and irrigation; Denied November 30, 1949, on the grounds that the granting thereof would be detrimental to public interests.

10819.... 4-28-42....Georgiana Brearley; Las Vegas Valley Artesian Water; Domestic purpose; Denied November 30, 1949, on the grounds that the granting thereof would be detrimental to the public welfare.

10822.... 5- 6-42....Allison Smith; Underground water; Quasi-municipal purposes (domestic supply); Cancelled December 5, 1949, because of failure of applicant to comply with provisions of permit.

10825.... 5-15-42....M. E. Ward and D. H. Johnston; Las Vegas Artesian Basin; Quasi-municipal purposes; Withdrawn by applicant September 9, 1949.

10826.... 5-15-42....M. E. Ward and D. H. Johnston; Las Vegas Artesian Basin; Quasi-municipal purposes; Withdrawn by applicant September 9, 1949.

10865.... 9-17-42....Donald Benton; Unnamed seep in Ellsworth Wash; Mining and milling; Cancelled December 12, 1949, because of failure of applicant to comply with provisions of permit.

10877....10- 8-42....A. A. and J. M. Daniels; North Spring; Stockwatering;* Approved May 27, 1949. G. S.

10878....10- 8-42....A. A. and J. M. Daniels: Coyote Hole; Stockwatering; Approved May 24, 1949. G. S.

10879....10- 8-42....A. A. and J. M. Daniels; McFee Spring; Stockwatering; Denied April 29, 1949, on the grounds that the waters of McFee Spring will best serve the public interest as a public watering place.

10880....10- 8-42....A. A. and J. M. Daniels; Unnamed seeps; Stockwatering; Approved May 27, 1949. G. S.

10884....10-13-42....R. C. Martin; Bob Martin Spring; Mining, milling, and domestic; Cancelled July 4, 1948, because of failure of applicant to comply with the provisions of permit.

10893....11-12-42....E. R. Van Horn; Underground; Irrigation and domestic; Denied January 18, 1949, on the grounds that after notice by registered mail applicant failed to submit permit fee.

10917.... 1-21-43....P. J. Goumond; Underground Las Vegas Valley Artesian Water Supply; Irrigation and domestic; Withdrawn by applicant August 12, 1949.

10960.... 6- 5-43....Estella C. Beam; Las Vegas Valley Artesian Basin; Quasi-municipal; Withdrawn by applicant August 8, 1948.

10961.... 6- 5-43....A. G. Klinger; Las Vegas Valley Artesian Basin; Irrigation and domestic; Cancelled April 5, 1949, because of failure of applicant to comply with the provisions of permit.

10966.... 7- 3-43....Edward H. Fowler; Underground water in a well; Milling and domestic; Cancelled September 9, 1949, because of failure of applicant to comply with provisions of permit.

10982.... 8-16-43....Martin Magnuson; Steptoe Slough; Irrigation; Approved February 24, 1950. G. S.

11050.... 1-14-44....Department of Highways; Underground; General domestic use; Withdrawn by applicant January 9, 1950.

11094.... 3-27-44....Gilbert Landis and Mary Strozzi; Buck Spring; Stockwatering; Withdrawn by applicant September 11, 1948.

11168.... 9-14-44....Clifton Paxson; Underground water from Las Vegas Artesian Basin; Industrial and domestic; Cancelled September 20, 1948, because of failure of applicant to comply with the provisions of permit.

11182....10-11-44....Ray Van Horn; Underground source Well No. 4; Irrigation; Approved July 27, 1948. G. S.

11183....10-11-44....Ray Van Horn; Underground source Well No. 3; Irrigation;* Approved July 27, 1948. G. S.

11184....10-11-44....Ray Van Horn; Underground source Well No. 2; Irrigation;* Approved July 27, 1948. G. S.

11225....12-28-44....Joe Morrissey; An underground source in the Las Vegas Artesian Basin; Quasi-municipal; Cancelled December 6, 1948, because of failure of applicant to comply with the provisions of permit.

11257.... 4- 1-45....Ralph W. Hunt and M. W. Mann; An underground source in Sandy Valley, Clark County, Nevada; Irrigation and domestic; Cancelled July 5, 1949, because of failure of applicant to comply with provisions of permit.

11259.... 4- 4-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Coyote Hole; Stockwatering;* Approved May 25, 1949. G. S.

11260.... 4- 4-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; McAfee Spring; Stockwatering; Denied April 29, 1949, on the grounds that the waters of McAfee Spring will best serve the public interest as a public watering place.

11261.... 4- 4-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; North Spring; Stockwatering;* Approved May 25, 1949. G. S.

11262.... 4- 4-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Unnamed Seeps; Stockwatering; Denied April 29, 1949, on the grounds that the water of this source is not subject to appropriation.

11282.... 5-14-45....Wm. S. and Josephine M. Harris; Underground water; Irrigation and domestic use; Cancelled August 29, 1948, because of failure of applicant to comply with the provisions of permit.

11317.... 6-22-45....D. G. and Julia Lorenzi; An underground source in the Las Vegas Artesian Basin; Quasi-municipal; Withdrawn by applicant June 20, 1949.

11324.... 7- 7-45....Wayne L. Jenison and Bernice Jenison; An underground source in Las Vegas Artesian Basin; Irrigation and domestic; Cancelled July 5, 1949, because of failure of applicant to comply with the provisions of permit.

11339.... 7-20-45....J. W. Richard; Pahranagat Lake; Irrigation and domestic; Withdrawn by applicant August 1, 1948.

11344.... 7-30-45....G. B. Austin; Camp Spring; Mining, milling, and domestic; Cancelled October 5, 1949, because of failure of applicant to comply with provisions of permit.

11385....10-13-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Big Spring; Stockwatering;* Approved May 25, 1949. G. S.

11386....10-13-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Cow Camp Well; Stockwatering;* Approved May 25, 1949. G. S.

11402....10-19-45....Fred and Goldie Sifford; Firpo's Spring; Mining and domestic; Withdrawn by applicant July 29, 1949.

11404....10-22-45....Robinson Neeman; Browns Creek; Quasi-municipal; Cancelled June 8, 1949, because of failure to refile corrected application within statutory time.

11410....10-26-45....Peter Damele; Underground source; Stockwatering;* Approved August 10, 1948. G. S.

11411....10-26-45....Peter Damele; Underground source; Stockwatering;* Approved August 10, 1948. G. S.

11412....11- 1-45....T. F. Ball and Jeannetta Ball; An underground source in Las Vegas Artesian Basin; Quasi-municipal and domestic; Withdrawn by applicant November 7, 1949.

11417....11- 3-45....M. B. Bates and J. H. Sewell; Underground source by Monitor Well No. 4; Stockwatering; Approved June 13, 1950. G. S.

11420....11- 7-45....E. H. Thomas and H. W. Polk; An underground source in Las Vegas Artesian Basin; Quasi-municipal; Withdrawn by applicant December 2, 1949.

11422....11- 7-45....E. H. Thomas and H. W. Polk; An underground source in Las Vegas Artesian Basin; Quasi-municipal; Withdrawn by applicant December 2, 1949.

11423....11- 7-45....E. H. Thomas and H. W. Polk; An underground source in Las Vegas Artesian Basin; Quasi-municipal; Withdrawn by applicant December 2, 1948.

11429....11-23-45....One Eleven Bar Cattle Co.; Timpiute Mill; Stockwatering and domestic; Cancelled November 11, 1948, because of failure of applicant to comply with the provisions of permit.

11433....11-23-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Horath Spring; Stockwatering;* Approved May 25, 1949. G. S.

11434....11-23-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Indian Garden Spring; Stockwatering;* Approved May 25, 1949. G. S.

11435....11-23-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Willow Spring; Stockwatering;* Approved May 25, 1949. G. S.

11436....11-23-45....Harvey Humphrey, Ernest Shirley, and Stanley Chiatovich; Birch Spring; Stockwatering;* May 25, 1949. G. S.

11441....11-30-45....Carson Indian Agency; Underground; Irrigation; Cancelled October 21, 1949, because of failure of applicant to comply with provisions of permit.

11444....12- 6-45....Archie Corbari, Ben Lai, Sam Wahyou, and John Fox, doing business as Diamond S. Ranch; Pole Creek; Irrigation; Cancelled November 5, 1948, because of failure of applicant to comply with the provisions of permit.

11446....12-11-45....Daniels Brothers (A. A. and J. M. Daniels); Indian Garden Spring; Stockwatering; Denied April 29, 1949, on the grounds that the water and range covered under this application are appropriated and fully utilized.

11447....12-11-45....Daniels Brothers (A. A. and J. M. Daniels); Unnamed spring (sometimes called Willow Spring); Stockwatering; Denied April 29, 1949, on the grounds that the water and range covered under this application are appropriated and fully utilized.

11466....12-21-45....Fallini Brothers, E. W., Joe B., and R. A. Fallini; Underground flow, known as East Side Well; Stockwatering; Approved July 9, 1948. G. S.

11467....12-21-45....Fallini Brothers (E. W., Joe B., and R. A. Fallini); Twin Springs Wash; Stockwatering; Approved April 13, 1949. G. S.

11473....12-26-45....Smith Gold Placers, Inc.; Underground Smith Well; Placer Mining; Withdrawn by applicant February 2, 1950.

11481.... 1-10-46....Harry McNamara; Unnamed seep; Mining and milling; Withdrawn by applicant October 6, 1949.

11485.... 1-10-46....James M. Daniels; Underground (Lebeau Well); Stockwatering; Approved May 27, 1949. G. S.

11489.... 1-16-46....South Side Irrigation Canal Co. (Inc.); Truckee River; Irrigation; Cancelled July 29, 1949, because of failure of applicant to comply with provisions of permit.

11508.... 3- 1-46....Charles J. McGill; Whites Canyon Creek; Irrigation and domestic; Cancelled March 5, 1949, because of failure of applicant to comply with provisions of permit.

11532.... 3-30-46....Jerry Giesler; An underground source in Las Vegas Artesian Basin; Quasi-municipal and domestic; Cancelled June 27, 1949, because of failure of applicant to comply with the provisions of permit.

11536.... 4- 4-46....H. H. Costerisan; Underground; Irrigation; Approved February 18, 1949. G. S.

11537.... 4- 4-46....H. H. Costerisan; Underground; Irrigation; Approved February 18, 1949. G. S.

11538.... 4- 4-46....H. H. Costerisan; Underground; Irrigation; Approved February 18, 1949. G. S.

11539.... 4- 4-46....H. H. Costerisan; Underground; Irrigation; Approved February 18, 1949. G. S.

11540.... 4- 4-46....Buddy A. F. Cayton; Underground; Irrigation; Approved November 29, 1948. G. S.

11553.... 4-25-46....Petan Company; Circle Creek; Stockwatering; Approved October 26, 1948. G. S.

11563.... 4-29-46....Lloyd E. Devore; Mandalay Springs; Irrigation and domestic; Cancelled June 28, 1949, because of failure of applicant to comply with the provisions of permit.

11569.... 5- 4-46....Frank Harrington; Squaw Creek; Irrigation and domestic; Withdrawn by applicant February 3, 1950.

11570.... 5- 6-46....Frank W. Fulstone, T. W. Salchenberger and S. A. Kenover; Underground; Irrigation and domestic; Cancelled September 9, 1949, because of failure of applicant to comply with provisions of permit.

11580.... 5-23-46....Opaco Lumber and Realty Company; An underground source in the Las Vegas Artesian Basin; Quasi-municipal and domestic; Withdrawn by applicant January 30, 1950.

11585.... 6- 1-46....H. S. Staley; Fairbanks Spring; Irrigation and domestic; Cancelled February 17, 1950, because of failure of applicant to comply with provisions of permit.

11588.... 6- 3-46....A. L. Arnold; An underground source in Las Vegas Artesian Basin; Quasi-municipal and domestic; Cancelled August 1, 1948, because of failure of applicant to comply with the provisions of permit.

11609.... 6-12-46....John J. Casey and Myrtle Casey; Dry Lake drainage through Jackpot Reservoir; Stockwatering and domestic; Approved July 26, 1949. G. S.

11619.... 6-19-46....Oran L. Ballinger; Virgin River; Irrigation and domestic; Cancelled July 19, 1949, because of failure of applicant to comply with the provisions of permit.

11635.... 7-15-46....H. J. W. Elges, Ervin Elges, and Charles S. Foster; Unnamed spring; Domestic; Approved October 26, 1948. G. S.

11639.... 7-23-46....Bonanza Lodge, Inc.; An underground source in Las Vegas Artesian Basin; Quasi-municipal and domestic; Cancelled August 26, 1948, because of failure of applicant to comply with the provisions of permit.

11655.... 7-30-46....J. Cutten; Intermountain Mine; Irrigation, milling, and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.

11685.... 9-11-46....Albert Jensen and M. E. Ray; Lime Creek; Mining and milling; Approved September 24, 1948. G. S.

11687.... 9-14-46....H. R. Humphrey, E. J. Shirley, Stanley Chiatovich; Underground; Stockwatering; Approved May 25, 1949. G. S.

11688.... 9-14-46....H. R. Humphrey, E. J. Shirley, Stanley Chiatovich; Underground source; Stockwatering; Approved May 25, 1949. G. S.

11689.... 9-14-46....H. R. Humphrey, E. J. Shirley, Stanley Chiatovich; Underground source; Stockwatering; Approved May 25, 1949. G. S.

11692.... 9-17-46....One Eleven Bar Cattle Co.; Gap Reservoir; Stockwatering; Withdrawn by applicant October 29, 1948.

11693.... 9-17-46....One Eleven Bar Cattle Co.; Pink Hill Reservoir; Stockwatering and domestic; Withdrawn by applicant October 29, 1948.

11697.... 9-25-46....Albert P. Hicks; Cranes Canyon Creek; Irrigation and domestic; Approved August 10, 1948. G. S.

11708....10-10-46....E. L. Cord; Underground source; Stockwatering; Withdrawn by applicant September 18, 1948.
11732....12- 7-46....James A. Daniels; Minnesota Spring; Stockwatering; Approved May 27, 1949. G. S.
11733....12- 7-46....James A. Daniels; Unnamed spring; Stockwatering; Approved May 27, 1949. G. S.
11739....12-23-46....Jess Chance and Jess Chance, Jr.; Underground; Stockwatering; Denied January 3, 1949, on the grounds that it would impair existing rights and be detrimental to public welfare.
11740.... 1- 6-47....Norman Shurtliff and Lester Shurtliff; Underground; Irrigation and domestic; Approved January 9, 1950. G. S.
11752.... 1-14-47....Dudley H. Fay; Las Vegas Artesian Basin; Irrigation and domestic; Cancelled December 29, 1948, because of failure of applicant to comply with the provisions of permit.
11758.... 1-22-47....R. E. Warburton and M. L. Warburton; Cold Spring; Stockwatering; Denied October 8, 1948, on the grounds that the granting thereof would be detrimental to public interests.
11766.... 2- 6-47....William J. Stinson; Omco Spring; Stockwatering; Approved November 7, 1948. G. S.
11767.... 2- 6-47....William J. Stinson; Wild Rose Spring; Stockwatering; Approved November 17, 1948. G. S.
11768.... 2- 6-47....W. L. Fisk; Shady Run Canyon Springs; Domestic and stockwatering; April 18, 1950. G. S.
11769.... 2-10-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; Willow Springs; Stockwatering; Denied March 10, 1950, on grounds that it would be detrimental to public interests.
11770.... 2-10-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; Silver Hill Canyon Creek; Stockwatering; Denied March 10, 1950, on the grounds it would be detrimental to public interests.
11771.... 2-10-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; I. X. L. Canyon Creek; Stockwatering; Denied March 10, 1950, on grounds it would be detrimental to public interests.
11772.... 2-10-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; Alameda Canyon Spring; Stockwatering; Denied March 10, 1950, on grounds it would be detrimental to public interests.
11773.... 2-10-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; The Rocks Spring; Stockwatering; Denied March 10, 1950, on grounds that the granting thereof would be detrimental to public interests.
11774.... 2-10-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; Wood Canyon Spring; Stockwatering; Denied March 10, 1950, on grounds that granting thereof would be detrimental to public interests.
11775.... 2-10-47....Fallon Ice and Cold Storage Co., Inc.; White Rock Creek; Stockwatering; Denied March 10, 1950, on grounds that granting thereof would be detrimental to public interests.
11776.... 2-10-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; Hare Canyon; Stockwatering; Denied March 10, 1950, on the grounds that it would be detrimental to public interests.
11777.... 2-10-47....Fallon Ice and Cold Storage Co., Inc.; Gold Creek; Stockwatering; Denied March 10, 1950, on the grounds that the granting thereof would be detrimental to public interests.
11786.... 2-24-47....Ethyle A. Harrison; An underground source in Las Vegas Artesian Basin; Quasi-municipal and domestic; Cancelled March 5, 1949, because of failure of applicant to comply with provisions of permit.
11811.... 3-25-47....W. H. Thomas; Crane Creek; Placer mining and domestic; Cancelled August 26, 1948, because of failure of applicant to comply with the provisions of permit.
11817.... 4- 4-47....Fallon Ice and Cold Storage Co., Inc., and Nate Merritt, Jr.; Jobes Canyon; Stockwatering; Denied March 10, 1950, on the grounds that the granting thereof would be detrimental to public interests.
11819.... 4- 9-47....John M. Starner; An underground source in Las Vegas Artesian Basin; Irrigation and domestic; Cancelled March 5, 1949, because of applicant's failure to comply with provisions of permit.
11820.... 4-10-47....Hubert R. Spencer; Spire Canyon Spring; Stockwatering; Approved January 27, 1950. G. S.
11821.... 4-10-47....Hubert R. Spencer; Pine Gulch Spring; Stockwatering; Approved April 18, 1950. G. S.
11822.... 4-10-47....Howard Turley; Crehore Basin Spring; Stockwatering; Denied March 10, 1950, on the grounds that it would impair the rights of protestant and that the point of diversion is outside the boundaries of applicant's range allotment.
11823.... 4-10-47....Ray Van Horn; Underground; Irrigation; Approved November 26, 1948. G. S.
11826.... 4-11-47....Matley Brothers; Dry Valley Creek; Irrigation and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
11832.... 4-16-47....W. E. Norris; Dunn Glenn Creek; Irrigation and domestic; Cancelled August 22, 1949, because of failure of applicant to comply with provisions of permit.
11838.... 4-30-47....Vernon Young; Cow Camp Spring; Stockwatering; Approved January 13, 1949. G. S.

11839.... 4-30-47....The United States of America Fish and Wildlife Service; Rye Patch Spring; Stockwatering; Approved November 5, 1948. G. S.

11843.... 5- 2-47....Freeman Ranch; Spring in Fondaway Canyon; Stockwatering; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.

11844.... 5- 2-47....Freeman Ranch; Spring in Tule Canyon; Stockwatering; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.

11851.... 5-17-47....Fish and Wildlife Service, U. S. Department of the Interior; Cold Creek; Fish culture and domestic; Approved January 12, 1950. G. S.

11858.... 5-29-47....Bickel-Dorothy Co., Inc.; An underground source; Irrigation. Approved November 26, 1948. G. S.

11859.... 5-29-47....Bickel-Dorothy Co., Inc.; Underground source; Irrigation; Approved November 26, 1948.

11865.... 5-29-47....E. W., Joe B., and R. A. Fallini, known as Fallini Brothers and Constant Vener; Kawich Valley Wash; Stockwatering; Approved July 8, 1949. G. S.

11867.... 6- 2-47....M. A. Morley; A spring; Mining and domestic; Denied December 1, 1948, on grounds that it would be detrimental to public welfare.

11870.... 6- 9-47....Kenneth F. Johnson; Underground; Quasi-municipal and domestic; Approved January 13, 1949. G. S.

11871.... 6- 9-47....Kenneth F. Johnson; Underground; Quasi-municipal and domestic; Approved July 27, 1949. G. S.

11872.... 6-11-47....Buffalo Valley Mines Company; Mill Creek; Mining, milling, and domestic; Cancelled August 1, 1948, because of failure of applicant to comply with the provisions of permit.

11875.... 6-13-47....Constant Minerals Separation Process, Inc.; Underground (Benny Well); Placer mining and domestic; Approved September 10, 1948. G. S.

11879.... 6-20-47....Vicinti Jauristi; A spring; Stockwatering; Denied July 20, 1948, on grounds it would be detrimental to existing rights of protestant.

11880.... 6-20-47....Vicinti Jauristi; A spring; Stockwatering; Denied July 20, 1948, on grounds it would be detrimental to existing rights of protestant.

11882.... 6-20-47....J. A. Hail; Hail's Well; Stockwatering and domestic; Withdrawn by applicant June 13, 1949.

11888.... 7- 1-47....The Glenbrook Company; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11889.... 7- 1-47....The Glenbrook Company; Lake Tahoe; Irrigation; Approved August 26, 1949. G. S.

11890.... 7- 1-47....The Glenbrook Company; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11891.... 7- 1-47....Mary C. Derby; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11892.... 7- 1-47....Henry S. Russell and Caroline T. Russell; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11893.... 7- 1-47....Ralph D. Brooks and Grace S. Brooks; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11894.... 7- 1-47....Nellie C. Harris; Lake Tahoe; Domestic; Approved September 9, 1949. G. S.

11895.... 7- 1-47....Maryly Krusi Taylor; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11896.... 7- 1-47....Julius Bergen and Mary W. Bergen; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11897.... 7- 1-47....James G. Noyes and Winifred T. Noyes; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11898.... 7- 1-47....Maryly Krusi Taylor; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11899.... 7- 1-47....J. E. Cook; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11900.... 7- 1-47....Gwendolen Browne; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11901.... 7- 1-47....H. R. Jepsen and Charlotte Jepsen; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11902.... 7- 1-47....Edward S. Clark and Elizabeth C. Clark; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11903.... 7- 1-47....Rebecca G. Soule and Ada G. Fraser; Lake Tahoe; Domestic; Approved September 16, 1949. G. S.

11904.... 7- 1-47....Mrs. Amy Requz Russell; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.

11905.... 7- 2-47....Josephine B. Dewey; Underground source in Las Vegas Artesian Basin; Quasi-municipal and domestic; Cancelled August 26, 1949, because of failure of applicant to comply with provisions of permit.

11906.... 7- 1-47....B. & L. Ranch, % Geo. Lott; Underground area around Hubbard Field; Irrigation; Approved January 10, 1949. G. S.

11907.... 7- 7-47....Peter B. Cook, Jr.; Lake Tahoe; Domestic; August 26, 1949. G. S.

11910.... 7-10-47....A. J. Blackley; Willow Spring; Stockwatering; Approved December 3, 1948. G. S.

11911.... 7-10-47....A. J. Blackley; Sage Hen Spring; Stockwatering; Approved November 4, 1948. G. S.

11912.... 7-14-47....R. H. Bergstrom; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.
11918.... 7-18-47....C. C. Perrin; Burke Channel and its tributaries; Irrigation and domestic; Approved April 26, 1950. G. S.
11923.... 7-23-47....E. J. Shirley, Stanley Chiatovich and H. R. Humphrey; Coyote Spring; Stockwatering; Approved May 25, 1949. G. S.
11925.... 7-23-47....The Glenbrook Company; Lake Tahoe; Domestic; August 26, 1949. G. S.
11926.... 7-24-47....Madison Locke and H. L. Titus; Pigeon Well; Stockwatering; Approved September 16, 1949. G. S.
11927.... 7-24-47....Madison Locke and H. L. Titus; Underground source; Stockwatering; Approved September 16, 1949. G. S.
11928.... 7-24-47....Madison Locke and H. L. Titus; Burnt Cabin Spring; Stockwatering; Approved September 16, 1949. G. S.
11929.... 7-24-47....Madison Locke and H. L. Titus; Red Spring; Stockwatering; Approved September 16, 1949. G. S.
11930.... 7-24-47....Madison Locke and H. L. Titus; Limestone Spring; Stockwatering; Approved September 16, 1949. G. S.
11931.... 7-24-47....Madison Locke and H. L. Titus; Stingler Spring; Stockwatering; Denied July 25, 1949, on grounds that the source applied for is within the grazing district in which the applicant has no grazing rights.
11932.... 7-24-47....Madison Locke and H. L. Titus; Bassit Spring; Stockwatering; Denied July 25, 1949, on grounds that the source applied for is within the grazing district in which the applicant has no grazing rights.
11933.... 7-24-47....Madison Locke and H. L. Titus; San Springs Valley Wash; Stockwatering; Approved September 16, 1949. G. S.
11934.... 7-24-47....Madison Locke and H. L. Titus; San Springs Valley Wash; Stockwatering; Approved September 16, 1949. G. S.
11935.... 7-24-47....Madison Locke and H. L. Titus; San Springs Valley Wash; Stockwatering; Approved September 16, 1949. G. S.
11936.... 7-24-47....Madison Locke and H. L. Titus; San Springs Valley; Stockwatering; Approved September 16, 1949. G. S.
11937.... 7-24-47....Madison Locke and H. L. Titus; San Springs Valley Wash; Stockwatering; Approved September 16, 1949. G. S.
11938.... 7-24-47....Madison Locke and H. L. Titus; Tank Springs; Stockwatering; Approved September 16, 1949. G. S.
11943.... 7-30-47....Gordon G. Hair; Underground; Irrigation and domestic; Approved December 15, 1948. G. S.
11948.... 8- 4-47....H. M. Rich; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.
11949.... 8- 4-47....William Waller Hawkins; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.
11950.... 8- 4-47....Margaret C. Hawkins; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.
11951.... 8- 6-47....Henrietta Bunkowski; Bunkowski Drainage Canal; Irrigation; Approved May 2, 1950. G. S.
11952.... 8- 7-47....Charles W. Goodrich; Underground water in Las Vegas Artesian Basin; Irrigation and domestic; Cancelled October 25, 1949, because of failure of applicant to comply with provisions of permit.
11954.... 8-11-47....The St. Lawrence Mining Company; Grouse Spring; Milling and domestic; Approved December 15, 1948.
11955.... 8-11-47....B. & L. Ranch; Truckee River; Irrigation, domestic, and stockwatering; Approved January 10, 1949. G.S.
11956.... 8-11-47....B. & L. Ranch; Truckee River; Irrigation, domestic, and stockwatering; Approved January 10, 1949. G. S.
11957.... 8-11-47....B. & L. Ranch; Steamboat Creek; Irrigation and domestic; January 10, 1949. G. S.
11958.... 8-11-47....B. & L. Ranch; Thomas Creek; Irrigation, domestic and stock; Approved January 10, 1949. G. S.
11959.... 8-13-47....Kenneth Amundson and Margaret Amundson; Lake Tahoe; Domestic; Approved September 9, 1949. G. S.
11963.... 8-14-47....G. I. Dumond & Co.; Toe Jam Canyon Creek; Mining and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
11965.... 8-14-47....A. J. Blackley; Pinchot Spring; Stockwatering; Approved December 3, 1948. G. S.
11966.... 8-14-47....A. J. Blackley; Gap Spring; Stockwatering; Approved November 4, 1948. G. S.
11969.... 8-19-47....Lyle L. Frey; Charters Spring; Irrigation; Withdrawn by applicant October 4, 1949.
11971.... 8-20-47....C. W. and Elsye E. Piper; Underground source in Las Vegas Artesian Basin; Quasi-municipal; Cancelled June 27, 1949, because of failure of applicant to comply with the provisions of permit.
11974.... 8-22-47....C. P. Ronnow; Leww Well No. 2; Irrigation and domestic; Withdrawn by applicant August 16, 1948.
11976.... 8-22-47....Alice A. Hagarty; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.
11977.... 8-26-47....Madison Locke and H. L. Titus; Shale Spring; Stockwatering; Denied July 25, 1949, on grounds that the source applied for is within the grazing district in which the applicant has no grazing rights.

11993.... 9- 1-47....Mt. Wheeler Ranch; Underground Well No. 2; Irrigation; Approved February 24, 1949. G. S.
11994.... 9- 1-47....Mt. Wheeler Ranch; Underground Well No. 3; Irrigation; Approved February 24, 1949. G. S.
11995.... 9- 1-47....Mt. Wheeler Ranch; Underground Well No. 1; Irrigation; Approved February 24, 1949. G. S.
12005.... 9-10-47....R. H. and Mary C. Burney; Lower Icehouse Spring; Stockwatering and domestic; Denied April 12, 1950, on the grounds that no resurvey was made and resulting map not filed in accordance with State Engineer's Ruling dated January 30, 1950.
12006.... 9-10-47....R. H. and Mary C. Burney; Upper Icehouse Spring; Stockwatering and domestic; Denied April 12, 1950, on the grounds that no resurvey was made and resulting map not filed in accordance with State Engineer's Ruling dated January 30, 1950.
12014.... 9-23-47....Roy A. Brown; Underground; Stockwatering; Approved August 16, 1949. G. S.
12015.... 9-24-47....A. C. Marshall; Orahana Spring; Stockwatering; Approved July 9, 1948. G. S.
12016.... 9-24-47....A. C. Marshall; Cow Wells Springs; Stockwatering; Approved July 9, 1948. G. S.
12017.... 9-24-47....A. C. Marshall; Dipping Vat Well; Stockwatering; Approved July 22, 1948. G. S.
12018.... 9-24-47....A. C. Marshall; Ten Mile Well; Stockwatering; Approved July 9, 1948. G. S.
12019.... 9-24-47....A. C. Marshall; McCullough Spring; Stockwatering; Approved September 24, 1948. G. S.
12020.... 9-24-47....A. C. Marshall; Little Well; Stockwatering; Approved July 9, 1948. G. S.
12021.... 9-24-47....A. C. Marshall; Smith's Well; Stockwatering; Approved July 9, 1948. G. S.
12022.... 9-24-47....A. C. Marshall; Hyland Spring; Stockwatering; Approved July 9, 1948. G. S.
12024.... 9-25-47....United States of America, U. S. Forest Service; Recreational and domestic; Approved September 9, 1949. G. S.
12029.... 9-30-47....Clara Corporation; Underground (Battle Mountain Artesian Belt); Irrigation and domestic; Approved December 15, 1948. G. S.
12041....10-13-47....Samuel Angus; Las Vegas Artesian Basin; Domestic and irrigation; Cancelled April 10, 1950, because of failure of applicant to comply with the provisions of permit.
12042....10-13-47....Samuel Angus; Las Vegas Artesian Basin; Domestic and irrigation; Cancelled April 10, 1950, because of failure of applicant to comply with the provisions of permit.
12043....10-14-47....Floyd R. Lamb and Carlton P. Lamb; Gold Spring; Stockwatering; Approved September 16, 1949. G. S.
12044....10-14-47....Floyd R. Lamb and Carlton P. Lamb; Horse Spring; Stockwatering; Approved September 16, 1949. G. S.
12045....10-14-47....W. R. Campbell; Underground; Domestic; Approved December 15, 1948. G. S.
12047....10-14-47....John L. and Marion E. Harvey; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.
12050....10-15-47....A. C. Marshall; McClanahan Spring; Stockwatering; Approved July 9, 1948. G. S.
12051....10-15-47....A. C. Marshall; North Cresent Spring; Stockwatering; Approved July 9, 1948. G. S.
12052....10-17-47....Homer Black; Mohawk Canyon; Mining, milling, and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12053....10-18-47....Glenn E. Womble and Ann E. Womble; Las Vegas Artesian Basin; Irrigation and domestic; Denied December 1, 1948, on grounds that after due notice, applicant failed to submit permit fee for recording and issuing.
12054....10-20-47....G. F. Barkley, Jr.; Milton Canon Creek; Irrigation and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12055....10-20-47....Constant Minerals Separation Process, Inc.; Rabbit Hole Springs; Mining, milling, and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12056....10-20-47....H. Foster and Mary Wright Bain; Unnamed spring; Irrigation and domestic. Withdrawn by applicant August 18, 1948.
12057....10-22-47....Alma Woods; Reynolds Creek; Stockwatering; Approved May 27, 1949. G. S.
12058....10-22-47....Alma Woods; Kelly Creek; Stockwatering; Approved August 10, 1948. G. S.
12059....10-22-47....J. J. Ballard and Roy Persson; White's Creek; Irrigation; Approved August 12, 1949. G. S.
12062....10-25-47....Constant Vener; Underground; Stockwatering; Denied August 12, 1948, on grounds that it would contravene policy of 1925 Stockwatering Act.
12063....10-25-47....Constant Vener; Underground; Stockwatering; Denied August 12, 1948, on grounds it would contravene policy of 1925 Stockwatering Act.
12066....11- 1-47....W. W. Whitaker; Kelly's Well; Stockwatering; Approved December 14, 1949. G. S.
12067....11- 1-47....W. W. Whitaker; Derringer Well; Stockwatering; Approved December 14, 1949. G. S.

12068....11- 3-47....R. B. Stewart; Unnamed springs in Greggs Canyon; Irrigation; Approved February 18, 1949. G. S.
12071....11-10-47....Royal Leavitt; Virgin River; Irrigation and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12074....11-14-47....Joe Capurro; Fulton Spring; Stockwatering and domestic; Approved February 24, 1949. G. S.
12076....11-15-47....M. E. Grout; Tamarisk Spring; Stockwatering; Denied October 19, 1948, on grounds that it would contravene provisions of section 2 of 1925 Stockwatering Act.
12077....11-15-47....M. E. Grout; Rock Hill Well; Stockwatering; Approved December 3, 1948. G. S.
12078....11-15-47....M. E. Grout; Columbus Marsh Well; Stockwatering; Approved December 3, 1948. G. S.
12096....11-17-47....Elmer Jones; Steamboat Creek and Boyington Slough; Irrigation; Approved March 19, 1949. G. S.
12097....11-17-47....Carl S. Myers; Old Roman Spring; Stockwatering; Approved July 13, 1948. G. S.
12098....11-17-47....Carl S. Myers; Battle Ax Spring; Stockwatering; Approved July 13, 1948. G. S.
12099....11-17-47....Carl S. Myers; Rattlesnake Spring; Stockwatering; Approved July 13, 1948. G. S.
12102....11-19-47....Albert Romeo; Romeo Basin; Stockwatering; Denied July 11, 1949, on grounds it would be detrimental to public interests.
12104....11-19-47....Roy A. Brown; Brown Well No. 2; Irrigation and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12105....11-20-47....Allison Smith; Underground; Stockwatering and domestic; Denied July 11, 1949, on grounds it would contravene provisions of section 2 of 1925 Stockwatering Act.
12106....11-20-47....Gabbs Valley Cattle Co.; Ford Ranch Wells; Stockwatering and domestic; Denied October 19, 1948, on grounds it would contravene section 2 of 1925 Stockwatering Act.
12107....11-20-47....Gabbs Valley Cattle Co.; Paradise Springs; Stockwatering and domestic; Denied October 19, 1948, on grounds it would contravene section 2 of 1925 Stockwatering Act.
12108....11-20-47....Gabbs Valley Cattle Co.; Willow Springs; Stockwatering and domestic; Denied October 19, 1948, on grounds.
12109....11-21-47....Gordon M. Reid; Well; Irrigation; Approved December 15, 1948. G. S.
12111....11-24-47....Joseph V. and Annette Snyder; Lake Tahoe; Domestic; Approved November 3, 1949. G. S.
12114....11-25-47....C. H. Baker and Arthur L. Baker; Dun Glen Creek; Mining and domestic; Approved October 29, 1948. G. S.
12115....11-29-47....James O. Greenan; Willow Creek; Mining and milling; Approved September 25, 1948. G. S.
12116....11-29-47....Roy Visbeek; Underground; Domestic and stock; Denied August 4, 1949, on grounds it would be detrimental to existing rights.
12117....11-29-47....Roy Visbeek; Underground; Domestic and stock; Approved September 9, 1949. G. S.
12118....11-29-47....Richard R. Hanian and Freeman E. Fairfield; All clouds over applicant's ranch in Nevada; Irrigation; Cancelled March 6, 1950, because of failure to refile corrected application within statutory time.
12119....12- 2-47....Gabbs Valley Cattle Co.; Obrien Springs; Stockwatering and domestic; Denied October 19, 1948, on grounds it would be detrimental to public welfare and contravene section 2 of the 1925 Stockwatering Act.
12120....12- 2-47....Gabbs Valley Cattle Co.; Pactola Springs; Stockwatering and domestic; Approved November 30, 1948. G. S.
12121....12- 4-47....Thomas Buckley; Underground, Trail Creek; Irrigation; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12122....12- 4-47....W. J. Ford; Coyote Spring; Stockwatering; Denied October 8, 1948; on grounds it would contravene section 2 of 1925 Stockwatering Act.
12124....12- 8-47....E. G. and Beulah A. Salyer; Salyer Well; Stockwatering; Cancelled October 27, 1948, because of failure to refile corrected application within statutory time.
12127....12-11-47....Jesse Coleman Harris; Rio Virgin; Irrigation; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12128....12-12-47....Angela Besso, Frank Besso, Emery Besso, and Carrie Besso; Truckee River; Irrigation and domestic; Approved July 13, 1948. G. S.
12130....12-16-47....Otto Curnow; Underground; Irrigation and domestic; Approved September 10, 1948. G. S.
12133....12-19-47....Vern R. Parman and Ralph G. Parman; Underground; Irrigation and domestic; Approved August 10, 1948. G. S.
12134....12-19-47....Vern R. Parman and Ralph G. Parman; Underground; Irrigation and domestic; Approved August 10, 1948. G. S.
12137....12-22-47....Robert L. and Nellie J. Abbott; Rio Virgin; Irrigation and domestic; Approved August 16, 1949. G. S.
12138....12-22-47....Roy A. Brown; Underground; Stockwatering; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.

12139....12-22-47....Roy A. Brown; Underground; Stockwatering; Approved April 26, 1950. G. S.
12140....12-22-47....Roy A. Brown; Underground; Stockwatering; Approved April 26, 1950. G. S.
12142....12-26-47....Frank Millsap; Spring; Irrigation and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12143....12-27-47....Fallini Bros. and Constant Vener; Camp's Well; Stockwatering; Approved October 29, 1948. G. S.
12144....12-29-47....R. E. McCulley; Hidden Spring; Stockwatering and domestic; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12146....12-29-47....R. E. McCulley; Lost Spring; Stockwatering and domestic; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12147....12-29-47....R. E. McCulley and Vesta McCulley; McCulley Spring; Stockwatering and domestic; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12148....12-29-47....R. E. McCulley and Vesta McCulley; Martinson Spring No. 1; Stockwatering and domestic; Approved October 29, 1948. G. S.
12149....12-29-47....R. E. McCulley and Vesta McCulley; Martinson Spring No. 2; Stockwatering and domestic; Approved October 29, 1948. G. S.
12150.... 1- 2-48....Mildred D. Wall; Las Vegas Artesian Basin; Irrigation and domestic; Approved August 10, 1948. G. S.
12151.... 1- 5-48....Wendell L. Leavitt; Rio Virgin; Irrigation; Approved September 9, 1949. G. S.
12152.... 1- 6-48....T. A. McCall; White Mound Springs; Stockwatering and domestic; Approved September 10, 1948. G. S.
12153.... 1- 6-48....T. A. McCall; Underground; Stockwatering and domestic; Approved January 13, 1949. G. S.
12154.... 1- 6-48....T. A. McCall; Underground; Stockwatering and domestic; Approved March 4, 1949. G. S.
12156.... 1- 7-48....State of Nevada, Fish and Game Commission; Underground; Fish propagation and domestic; Approved April 13, 1949. G. S.
12157.... 1- 8-48....Washoe County; Spring No. 1; Fish culture and domestic; Approved July 13, 1948. G. S.
12158.... 1- 8-48....Washoe County; Spring No. 2; Fish culture and domestic; Approved July 13, 1948. G. S.
12159.... 1- 8-48....Washoe County; Spring No. 3; Fish culture and domestic; Approved July 13, 1948. G. S.
12160.... 1- 8-48....Washoe County; Galena Creek; Fish culture; Approved July 13, 1948. G. S.
12161.... 1- 8-48....W. F. Sauer; Unnamed spring; Domestic; Denied July 6, 1949, on grounds that it would be detrimental to existing rights.
12165.... 1-14-48....Clark Barton and A. E. Yost; Freeman Creek; Irrigation and domestic; Denied March 7, 1950, on grounds it would conflict with existing rights and be detrimental to public welfare.
12168.... 1-15-48....J. Karr; Morgan Spring; Stockwatering and domestic; Withdrawn by applicant July 1, 1948.
12169.... 1-15-48....J. Karr; Summit Springs; Stockwatering and domestic; Withdrawn by applicant July 1, 1948.
12170.... 1-16-48....Bartholomae Corporation; Underground; Irrigation and domestic; Approved June 12, 1950. G. S.
12171.... 1-16-48....Bartholomae Corporation; Underground; Stockwatering and domestic; Approved June 12, 1950. G. S.
12172.... 1-16-48....Bartholomae Corporation; Underground; Irrigation and domestic; Approved June 12, 1950. G. S.
12173.... 1-16-48....Bartholomae Corporation; Underground; Stockwatering; Denied May 5, 1950, on grounds it would be detrimental to public welfare.
12174.... 1-16-48....Bartholomae Corporation; Underground; Stockwatering; Denied May 5, 1950, on grounds it would be detrimental to public welfare.
12175.... 1-16-48....Bartholomae Corporation; Segura Well; Stockwatering; Approved June 12, 1950. G. S.
12176.... 1-16-48....Bartholomae Corporation; Klobe Hot Springs; Stockwatering; Approved June 12, 1950. G. S.
12177.... 1-16-48....Bartholomae Corporation; Faulkner Creek Channel; Stockwatering; Approved June 12, 1950. G. S.
12178.... 1-16-48....Bartholomae Corporation; Faulkner Creek Channel; Stockwatering; Approved June 12, 1950. G. S.
12179.... 1-16-48....Bartholomae Corporation; Daggett Creek; Stockwatering; Withdrawn by applicant April 7, 1949.
12180.... 1-16-48....Bartholomae Corporation; Daggett Creek; Stockwatering; Withdrawn by applicant April 7, 1949.
12181.... 1-16-48....Bartholomae Corporation; Daggett Creek; Stockwatering; Withdrawn by applicant April 7, 1949.
12182.... 1-16-48....Bartholomae Corp.; Allison Creek; Stockwatering; Approved June 12, 1950. G. S.
12183.... 1-16-48....Bartholomae Corp.; Allison Creek; Stockwatering; Approved June 12, 1950. G. S.
12184.... 1-16-48....Bartholomae Corp.; Sullivan Creek; Stockwatering; Approved June 12, 1950. G. S.
12185.... 1-16-48....Bartholomae Corporation; Cockalorum Channel; Stockwatering; Denied May 5, 1950, on grounds it would be detrimental to public welfare.

12186.... 1-16-48....Bartholomae Corporation; Cockalorum Channel; Stockwatering; Denied May 5, 1950, on grounds it would be detrimental to public welfare.
12187.... 1-16-48....Bartholomae Corporation; Cockalorum Channel; Stockwatering; Approved June 12, 1950. G. S.
12188.... 1-16-48....Bartholomae Corporation; Cockalorum and Fish Creek; Stockwatering; Denied May 5, 1950, on grounds it would be detrimental to public welfare.
12189.... 1-16-48....Bartholomae Corporation; Fish Creek Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12190.... 1-16-48....Bartholomae Corporation; Fish Creek Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12191.... 1-16-48....Bartholomae Corporation; Fish Creek Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12192.... 1-16-48....Bartholomae Corporation; Fish Creek Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12193.... 1-16-48....Bartholomae Corporation; Nine Mile Canyon Channel; Stockwatering; Withdrawn by applicant August 19, 1949.
12194.... 1-16-48....Bartholomae Corporation; Antelope Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12195.... 1-16-48....Bartholomae Corporation; Antelope Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12196.... 1-16-48....Bartholomae Corporation; Antelope Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12197.... 1-16-48....Bartholomae Corporation; Antelope Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12198.... 1-16-48....Bartholomae Corporation; Antelope Valley Channel; Stockwatering; Approved June 12, 1950. G. S.
12199.... 1-16-48....Bartholomae Corporation; Fish Creek Well Canyon; Stockwatering; Approved June 12, 1950. G. S.
12200.... 1-16-48....Bartholomae Corporation; Fish Creek Well Canyon; Stockwatering; Approved June 12, 1950. G. S.
12201.... 1-16-48....Bartholomae Corporation; Fish Creek Well Canyon; Stockwatering; Approved June 12, 1950. G. S.
12202.... 1-16-48....Bartholomae Corporation; Fish Creek Well Canyon; Stockwatering; Approved June 12, 1950. G. S.
12203.... 1-16-48....Bartholomae Corporation; Fenstermaker Channel; Stockwatering; Approved June 12, 1950. G. S.
12204.... 1-16-48....Bartholomae Corporation; Fenstermaker Channel; Stockwatering; Approved June 12, 1950. G. S.
12205.... 1-16-48....Bartholomae Corporation; Fenstermaker Channel; Stockwatering; Approved June 12, 1950. G. S.
12206.... 1-16-48....Bartholomae Corporation; Fenstermaker Channel; Stockwatering; Approved June 12, 1950. G. S.
12207.... 1-16-48....Bartholomae Corporation; Fenstermaker Channel; Stockwatering; Approved June 12, 1950. G. S.
12208.... 1-16-48....Bartholomae Corporation; Cedar Creek Channel; Stockwatering; Approved June 12, 1950. G. S.
12209.... 1-16-48....Bartholomae Corporation; Cedar Creek Channel; Stockwatering; Approved June 12, 1950. G. S.
12210.... 1-16-48....Bartholomae Corporation; Cedar Creek Channel; Stockwatering; Approved June 12, 1950. G. S.
12211.... 1-16-48....Bartholomae Corporation; Antelope Meadow Channel; Stockwatering; Approved June 12, 1950. G. S.
12212.... 1-16-48....Bartholomae Corporation; Antelope Meadow Channel; Stockwatering; Approved June 12, 1950. G. S.
12213.... 1-16-48....Bartholomae Corporation; Fish Creek Channel; Stockwatering; Approved June 12, 1950. G. S.
12215.... 1-19-48....A. Nuti; Underground source; Irrigation and domestic; Approved July 13, 1948. G. S.
12216.... 1-19-48....Ralph Windsor; Spring; Irrigation; Cancelled October 28, 1948, because of failure to refile map within statutory time.
12217.... 1-19-48....Ralph Windsor; Roger Spring; Irrigation; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12218.... 1-19-48....J. E. Stead and/or Marian M. Stead; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.
12219.... 1-19-48....J. E. Stead and/or Marian Stead; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.
12220.... 1-19-48....J. E. Stead and/or Marian M. Stead; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.
12221.... 1-19-48....J. E. Stead and/or Marian M. Stead; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.
12222.... 1-19-48....J. E. Stead and/or Marian M. Stead; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.
12223.... 1-19-48....J. E. Stead and/or Marian M. Stead; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.
12224.... 1-19-48....J. E. Stead and Marian M. Stead; Haden Spring; Irrigation and domestic; Withdrawn by applicant July 26, 1948.
12225.... 1-21-48....A. J. Frade; Underground; Irrigation and domestic; Cancelled October 28, 1948, because of failure to refile application within statutory time.
12226.... 1-21-48....Henry E. Heidenreich; South Fork of Jumbo Canyon; Irrigation and domestic; Approved February 27, 1950. G. S.
12229.... 1-23-48....John Tisdale; Rio Virgin; Irrigation and domestic; Approved September 9, 1949. G. S.

12230.... 1-23-48....The U C Land & Cattle Co.; Well No. 5; Stockwatering; Approved October 27, 1948. G. S.
12231.... 1-23-48....The U C Land & Cattle Co.; Well No. 5; Irrigation and domestic; Approved October 27, 1948. G. S.
12232.... 1-23-48....The U C Land & Cattle Co.; Well No. 6; Irrigation and domestic; Approved October 27, 1948. G. S.
12233.... 1-23-48....The U C Land & Cattle Co.; Well No. 6; Stockwatering; Approved October 27, 1948. G. S.
12235.... 1-26-48....James R. Clark; Robison Creek; Irrigation and domestic; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12236.... 1-26-48....James R. Clark; Jim Bob Creek; Irrigation and domestic; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12237.... 1-26-48....John Jay Casey; Underground; Irrigation and domestic; Cancelled March 16, 1950, because of failure to refile corrected map within statutory time.
12241.... 1-29-48....St. Elmo Mining Co., Inc.; Cornwall Springs; Mining, milling, and domestic; Approved January 4, 1949. G. S.
12242.... 1-29-48....H. E. Rowntree; Underground; Irrigation and domestic; Approved August 13, 1948. G. S.
12243.... 1-30-48....W. J. Ford; Underground; Stockwatering and domestic; Approved December 3, 1948. G. S.
12244.... 2- 4-48....Dale B. Perkins and Ruby Perkins; Underground; Irrigation; Approved November 29, 1948. G. S.
12246.... 2- 6-48....Frank Thorley; Bob Hamilton Spring; Stockwatering; Approved July 22, 1948. G. S.
12247.... 2- 6-48....Frank Thorley; Rock Corral Spring; Stockwatering; Approved July 22, 1948. G. S.
12248.... 2- 9-48....J. R. Berns; Underground; Irrigation and domestic; Approved July 22, 1948. G. S.
12249.... 2- 9-48....Lester C. Mathews; Underground; Irrigation; Approved July 22, 1948. G. S.
12250.... 2- 9-48....The U C Land & Cattle Co.; Well No. 1; Domestic and stockwatering; Approved October 28, 1948. G. S.
12251.... 2-10-48....The U C Land & Cattle Co.; Well No. 2; Domestic and stockwatering; Approved October 28, 1948. G. S.
12252.... 2-10-48....The U C Land & Cattle Co.; Well No. 3; Domestic and stockwatering; Approved October 28, 1948. G. S.
12253.... 2-10-48....The U C Land & Cattle Co.; Well No. 4; Domestic and stockwatering; Approved October 28, 1948. G. S.
12254.... 2-11-48....Ida E. Allen; Underground; Fish propagation and domestic; Approved July 13, 1948. G. S.
12255.... 2-11-48....Ida E. Allen; Underground; Stockwatering; Approved July 13, 1948. G. S.
12256.... 2-11-48....Melvin A. Robison and Melbourne A. Robison; Shingle Creek; Irrigation; Approved December 3, 1948. G. S.
12258.... 2-11-48....Reorganized Silver King Divide Mining Company; Gilbert's Creek; Mining and milling; Withdrawn by applicant October 28, 1948.
12259.... 2-13-48....August Bunkowski; Bunkowski Drainage Canal; Irrigation; Approved May 2, 1950. G. S.
12260.... 2-13-48....August Bunkowski; Bunkowski Drainage Canal; Irrigation; Approved May 2, 1950. G. S.
12261.... 2-13-48....August Bunkowski; Bunkowski Drainage Canal; Irrigation; Approved May 2, 1950. G. S.
12262.... 2-13-48....August Bunkowski; Underground; Stockwatering and domestic; Approved July 9, 1948. G. S.
12263.... 2-13-48....August Bunkowski; Underground; Stockwatering and domestic; Approved July 9, 1948. G. S.
12264.... 2-13-48....August Bunkowski; Underground; Stockwatering and domestic; Approved July 9, 1948. G. S.
12265.... 2-13-48....August Bunkowski; Underground; Stockwatering and domestic; Approved July 9, 1948. G. S.
12268.... 2-18-48....Orville C. Finley; Artesian wells; Irrigation and domestic; Approved January 26, 1949. G. S.
12269.... 2-19-48....Norman D. Brown; Underground; Stockwatering; Approved July 13, 1948. G. S.
12270.... 2-19-48....Norman D. Brown; Underground; Stockwatering; Approved July 13, 1948. G. S.
12271.... 2-19-48....Norman D. Brown; Underground; Stockwatering; Approved July 13, 1948. G. S.
12272.... 2-19-48....Norman D. Brown; Underground; Stockwatering; Approved July 13, 1948. G. S.
12273.... 2-19-48....Norman D. Brown; Underground; Stockwatering and domestic; Approved July 13, 1948. G. S.
12274.... 2-21-48....Darrel R. Rytting; Unnamed spring; Domestic; Approved June 27, 1949. G. S.
12275.... 2-24-48....F. M. Fulstone, Inc.; Underground; Irrigation and domestic; Approved November 5, 1948. G. S.
12276.... 2-24-48....F. M. Fulstone, Inc.; Underground; Irrigation and domestic; Approved November 5, 1948. G. S.
12277.... 2-24-48....F. M. Fulstone, Inc.; Underground; Irrigation and domestic; Approved November 5, 1948. G. S.
12278.... 2-24-48....F. M. Fulstone, Inc.; Underground; Irrigation and domestic; Approved September 25, 1948. G. S.

12279.... 2–25–48....Ora and Mildred S. Crawford; Underground; Quasi-municipal and domestic purposes; Approved January 26, 1949. G. S.
12280.... 2–26–48....Plymouth Land & Stock Company; Underground; Stockwatering and domestic; Approved July 14, 1948. G. S.
12281.... 2–26–48....Dugan S. and Mina S. Albright; Underground; Domestic and garden irrigation; Approved January 10, 1949. G. S.
12282.... 2–26–48....Jay Robb; Underground; Irrigation and domestic; Approved October 26, 1948. G. S.
12284.... 2–28–48....Merrill H. Peterson; Ash Tree Spring; Domestic and stockwatering; Approved February 18, 1949. G. S.
12285.... 3– 1–48....Louis D. Barber, Birdena A. Barber, Walter W. Smith, and Reva H. Smith; Underground; Irrigation and domestic; Approved November 12, 1948. G. S.
12286.... 3– 1–48....William Robert Rogers; Underground; Irrigation and domestic; Approved May 27, 1949. G. S.
12287.... 3– 1–48....William Robert Rogers; Underground; Irrigation and domestic; Approved May 27, 1949. G. S.
12288.... 3– 1–48....William Robert Rogers; Underground; Irrigation and domestic; Approved May 27, 1949. G. S.
12289.... 3– 1–48....Tarr Land Company; Underground; Irrigation and domestic; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12290.... 3– 1–48....Tarr Land Company; Underground; Irrigation and domestic; Cancelled October 28, 1948, because of failure to refile corrected application within statutory time.
12291.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12292.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12293.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12294.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved December 14, 1948. G. S.
12295.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved December 14, 1948. G. S.
12296.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12297.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12298.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12299.... 3– 1–48....Paradise Valley Corporation; Underground; Irrigation and domestic; Approved December 14, 1948. G. S.
12300.... 3– 1–48....Paradise Calley Corporation; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12301.... 3– 1–48....Maggie M. Wilkerson; Underground; Stockwatering and domestic; Approved September 10, 1948. G. S.
12302.... 3– 2–48....H. W. Parker; Underground; Irrigation and domestic; Cancelled September 28, 1948, because of failure to refile corrected application within statutory time.
12303.... 3– 3–48....E. J. and Anita Leveille; Underground; Stockwatering and domestic; Approved August 12, 1948. G. S.
12304.... 3– 3–48....G. C. Smith; Underground; Stockwatering and domestic; Approved August 13, 1948. G. S.
12305.... 3– 3–48....G. C. Smith; Underground; Stockwatering and domestic; Approved August 13, 1948. G. S.
12306.... 3– 3–48....Beatrice E. Hinds; Underground; Irrigation and domestic; Approved September 10, 1948. G. S.
12307.... 3– 3–48....Charles Groso; Underground; Stockwatering; Approved March 25, 1949. G. S.
12308.... 3– 3–48....Charles Groso; Underground; Domestic; Approved March 25, 1949. G. S.
12309.... 3– 3–48....Amos and Ettore Mencarini; Underground; Stockwatering and domestic; Approved August 13, 1948. G. S.
12311.... 3– 5–48....Harold's Club, Inc.; Underground; Air conditioning and domestic; Approved July 14, 1948. G. S.
12312.... 3– 5–48....Louise M. Kuser; Underground; Domestic; Approved July 22, 1948. G. S.
12313.... 3– 8–48....H. L. Gepford; Underground; Irrigation and domestic; Approved January 12, 1950. G. S.
12314.... 3– 8–48....Cowles Brothers; Cottonwood Spring; Stockwatering and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12315.... 3– 8–48....Cowles Brothers; North Cottonwood Spring; Stockwatering and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12316.... 3–10–48....John W. Kelley and Bette C. Kelley; Underground; Quasi-municipal and domestic; Approved July 27, 1948. G. S.
12317.... 3–10–48....John W. Kelley and Bette C. Kelley; Underground; Quasi-municipal and domestic; Approved July 27, 1948. G. S.
12318.... 3–10–48....Gladys E. Szpotowiski; Underground; Quasi-municipal and domestic; Approved July 27, 1948. G. S.
12319.... 3–10–48....Merrill H. Peterson; Chalk Spring; Domestic and stockwatering; Approved July 27, 1948. G. S.
12320.... 3–12–48....United States of America, Forest Service; Dishrag Spring; Stockwatering; Approved February 18, 1949. G. S.

12321.... 3-12-48....G. C. McVicar; Underground; Irrigation; Approved August 13, 1948. G. S.
12322.... 3-12-48....G. C. McVicar; Underground; Irrigation; Approved August 13, 1948. G. S.
12323.... 3-12-48....G. C. McVicar; Underground; Domestic; Approved August 13, 1948. G. S.
12324.... 3-12-48....G. C. McVicar; Underground; Stockwatering and domestic; Approved August 13, 1948. G. S.
12325.... 3-12-48....G. C. McVicar; Underground; Domestic; Approved August 13, 1948. G. S.
12326.... 3-13-48....Nevada Chemical Company; Underground; Milling; Approved August 13, 1948. G. S.
12327.... 3-13-48....Nevada Chemical Company; Underground; Milling; Approved August 13, 1948. G. S.
12328.... 3-13-48....Nevada Chemical Company; Underground; Milling; Approved August 13, 1948. G. S.
12329.... 3-13-48....Nevada Chemical Company; Underground; Milling; Approved August 13, 1948. G. S.
12330.... 3-13-48....Louis Damonte; Truckee River; Irrigation, domestic, and stock; Approved November 22, 1948. G. S.
12331.... 3-13-48....Joe Capurro; Truckee River; Irrigation, domestic, and stock; Approved November 22, 1948. G. S.
12332.... 3-13-48....Louis Damonte; Truckee River; Irrigation and domestic; Withdrawn by applicant April 25, 1950.
12333.... 3-13-48....Joseph N. Filipelli; Truckee River; Irrigation and domestic; Withdrawn by applicant April 25, 1950.
12334.... 3-13-48....Wm. C. Avansino; Truckee River; Irrigation, domestic, and stock; Approved November 22, 1948. G. S.
12335.... 3-13-48....H. E. Cafferata and John Granata; Truckee River; Irrigation, domestic, and stock; Approved November 22, 1948. G. S.
12336.... 3-13-48....Frank Margrave; Truckee River; Irrigation, domestic, and stock; Approved May 11, 1949. G. S.
12337.... 3-13-48....Frank DeLucchi; Truckee River; Irrigation, domestic, and stock; Approved November 22, 1948. G. S.
12338.... 3-13-48....M. E. Cafferata; Truckee River; Irrigation, domestic, and stock; Approved November 22, 1948. G. S.
12339.... 3-15-48....A. J. Schmid; Underground; Irrigation and domestic; Approved May 10, 1949. G. S.
12340.... 3-15-48....C. G. Wines; Underground; Irrigation and domestic; Approved August 16, 1948. G. S.
12341.... 3-15-48....Timothy Linscott; Underground; Stockwatering and domestic; Approved October 25, 1948. G. S.
12342.... 3-15-48....F. W. Settelmeyer; Underground; Stockwatering and domestic; Approved September 10, 1948. G. S.
12343.... 3-15-48....C. F. Chidwick; Underground; Irrigation and domestic; Approved September 10, 1948. G. S.
12344.... 3-15-48....Lester M. Farias; Underground; Stockwatering and domestic; Approved October 26, 1948. G. S.
12345.... 3-15-48....Mrs. C. A. McVicar; Underground; Stockwatering and domestic; Approved September 10, 1948. G. S.
12346.... 3-15-48....Mrs. C. A. McVicar; Underground; Stockwatering and domestic; Approved September 10, 1948. G. S.
12347.... 3-16-48....S. V. Seddon; Underground; Stockwatering and domestic; Approved August 18, 1948. G. S.
12348.... 3-16-48....S. V. Seddon; Underground; Stockwatering; Approved August 18, 1948. G. S.
12349.... 3-16-48....Elizabeth Martin; Copenhagen Creek; Stockwatering; Approved April 15, 1949. G. S.
12350.... 3-17-48....S. H. Manor; Stage Coach Well; Stockwatering; Cancelled January 6, 1949, because of failure to file supporting map within statutory time.
12351.... 3-17-48....S. H. Manor; Underground; Stockwatering; Cancelled January 6, 1949, because of failure to file supporting map within statutory time.
12352.... 3-17-48....Mabel Batjer; Underground; Domestic; Approved September 10, 1948. G. S.
12353.... 3-17-48....George Leonard; Underground; Irrigation; Withdrawn by applicant September 6, 1949.
12354.... 3-20-48....Mrs. Fern L. Talcott; Underground; Irrigation and domestic; Withdrawn by applicant August 11, 1948.
12355.... 3-23-48....William M. Turner; Underground; Irrigation and domestic; Approved February 18, 1949. G. S.
12356.... 3-23-48....Armando A. Francisco; Underground; Stockwatering; Approved November 17, 1948. G. S.
12357.... 3-23-48....Wells Power Company; West Fork of East Fork Boulder Creek; Power generation; Cancelled November 4, 1948, because of failure to refile corrected application within statutory time.
12358.... 3-23-48....Wells Power Company; West Fork of Boulder Creek; Power generation; Cancelled November 4, 1948, because of failure to refile corrected application within statutory time.
12359.... 3-23-48....Wells Power Company; East Fork Boulder Creek; Power generation; Cancelled November 4, 1948, because of failure to refile corrected application within statutory time.
12361.... 3-25-48....James M. Daniels; Crater Well; Stockwatering; Withdrawn by applicant September 26, 1949.
12366.... 3-25-48....J. B. Reynolds and Katie Reynolds; Underground; Irrigation and domestic; Approved March 25, 1949. G. S.

12367.... 3-25-48....J. B. Reynolds and Katie Reynolds; Underground; Irrigation and domestic; Approved March 25, 1949. G. S.
12368.... 3-25-48....J. B. Reynolds and Katie Reynolds; Underground; Irrigation and domestic; Approved March 25, 1949. G. S.
12369.... 3-25-48....J. B. Reynolds and Katie Reynolds; Underground; Irrigation and domestic; Approved March 25, 1949. G. S.
12370.... 3-25-48....The Roman Catholic Bishop of Reno; Underground; Irrigation and domestic; Approved February 24, 1949. G. S.
12371.... 3-25-48....Central Mercantile; Underground; Domestic and commercial; Approved October 26, 1948. G. S.
12372.... 3-25-48....Annie Fulstone; Underground; Irrigation; Approved October 25, 1948. G. S.
12373.... 3-25-48....Frank B. Mann; Underground; Stockwatering and domestic; Approved September 29, 1948. G. S.
12374.... 3-25-48....Bruno Fenili; Underground; Irrigation and domestic; Approved October 26, 1948. G. S.
12375.... 3-25-48....Walter R. Schwake; Underground; Stockwatering and domestic; Approved October 25, 1948. G. S.
12376.... 3-25-48....Andrew C. Sayre; Underground; Stockwatering and domestic; Approved October 25, 1948. G. S.
12377.... 3-25-48....Andrew C. Sayre; Underground; Stockwatering; Approved October 25, 1948. G. S.
12378.... 3-25-48....John H. Wichman; Underground; Stockwatering and domestic; October 26, 1948. G. S.
12379.... 3-25-48....Wines Bros.; Underground; Domestic and commercial; Approved October 26, 1948. G. S.
12380.... 3-25-48....Warren Simpson; Underground; Stockwatering and domestic; Cancelled June 27, 1949, because of failure of applicant to comply with provisions of permit.
12381.... 3-25-48....Warren Simpson; Underground; Stockwatering; Cancelled June 27, 1949, because of failure of applicant to comply with provisions of permit.
12382.... 3-26-48....Emory Garrett; Mud Springs; Stockwatering; Cancelled November 3, 1948, because of failure of applicant to refile corrected application within statutory time.
12383.... 3-26-48....Emory Garrett; Old Sawmill Spring; Stockwatering; Cancelled November 3, 1948, because of failure to refile corrected application within statutory time.
12384.... 3-26-48....Carlton O. and W. E. Rouse; Seepage water from drainage ditch; Irrigation; Approved February 4, 1949. G. S.
12385.... 3-26-48....W. J. Stinson; Tuffley Spring; Irrigation and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12386.... 3-26-48....Marion R. McCann; Las Vegas Artesian Basin; Irrigation and domestic; Approved July 27, 1948. G. S.
12387.... 3-29-48....Dan J. Ronnow; Underground; Irrigation and domestic; Approved October 27, 1948. G. S.
12389.... 3-31-48....Wilbur and Carl O. Rouse; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.
12390.... 4- 1-48....James H. Davis and W. B. McKnight; Docking Corrals Springs; Stockwatering and domestic; Approved December 1, 1949. G. S.
12391.... 4- 1-48....James H. Davis and W. B. McKnight; Wagon Tire Springs; Stockwatering and domestic; Approved December 1, 1949. G. S.
12392.... 4- 1-48....James H. Davis and W. B. McKnight; Unnamed spring; Stockwatering and domestic; Approved December 1, 1949. G. S.
12393.... 4- 3-48....A. D. Drumm, Jr.; West Well; Stockwatering and domestic; Approved August 12, 1949. G. S.
12394.... 4- 3-48....A. D. Drumm, Jr.; East Well; Stockwatering and domestic; Approved August 12, 1949. G. S.
12395.... 4- 3-48....J. Everett Clark, Allice B. Clark, William Everett Clark and John Everett Clark, Jr.; Underground; Quasi-municipal and domestic; Approved February 4, 1949. G. S.
12396.... 4- 3-48....Lee E. Pitts; Underground; Mining and milling; Withdrawn by applicant March 2, 1950.
12397.... 4- 3-48....Congress Mining Company; Horseshutem Spring; Mining, milling, and domestic; Denied June 13, 1950, on grounds it would be detrimental to public welfare.
12398.... 4- 7-48....James T. McKay; Underground; Stockwatering and domestic; Approved January 10, 1949. G. S.
12399.... 4- 7-48....James T. McKay; Underground; Domestic; Approved January 10, 1949. G. S.
12400.... 4- 7-48....E. R. Larson and M. B. Larson; Underground; Mining; Approved October 25, 1948. G. S.
12401.... 4- 7-48....Louis G. Scatena; Underground; Irrigation and domestic; Cancelled July 19, 1949, because of failure to refile corrected application within statutory time.
12402.... 4- 8-48....Cleo H. Bullard and Pauline M. Bullard; Underground; Quasi-municipal and domestic; Cancelled May 8, 1950, because of failure of applicant to comply with the provisions of permit.
12403.... 4- 9-48....A. C. Dinsmore, J. L. McCoy, and Lyle Donohue; Little Log Spring; Mining and milling; Denied October 4, 1949, on grounds indicating applicants are no longer interested.
12404.... 4- 9-48....A. C. Dinsmore and John L. McCoy; Underground; Mining and milling; Denied October 4, 1949, on the grounds that records show applicants are no longer interested.

12405.... 4-10-48....A. L. Varnes and T. C. Barber; Well; Irrigation and domestic; Approved November 5, 1948. G. S.
12406.... 4-10-48....Eugene Besswanger; Underground; Irrigation and domestic; Withdrawn by applicant August 27, 1948.
12407.... 4-10-48....Henry McCleary Timber Company; Irrigation and domestic; Approved December 5, 1948. G. S.
12408.... 4-10-48....E. L. Cord; Piper Spring; Stockwatering; Approved February 24, 1950. G. S.
12409.... 4-12-48....J. J. Hall, E. J. Primm, A. J. Sneed, and Elmer West; Underground; Air conditioning and domestic; Approved December 15, 1948. G. S.
12413.... 4-14-48....E. L. Cord; East Ice House Spring; Stockwatering; Approved February 24, 1950.
12415.... 4-17-48....Gallio Brothers; Underground; Irrigation and domestic; Approved March 4, 1949. G. S.
12417....4-17-48....Alice Cardelli; Carson River; Irrigation and domestic; Cancelled March 10, 1949, because of failure to refile corrected application within statutory time.
12418.... 4-19-48....Fred L. Cole, Elcey Cole Williams and Florence Livingston; Pond fed by seepage water from Manhattan Gulch; Placer mining; Withdrawn by applicant July 3, 1948.
12419.... 4-19-48....Fred L. Cole, Elcey Cole Williams and Florence Livingston; Pond fed by seepage water from Manhattan Gulch; Placer mining; Withdrawn by applicant June 25, 1949.
12420.... 4-19-48....Fred L. Cole, Elcey Cole Williams, and Florence Livingston; Underground; Placer mining; Approved July 8, 1949. G. S.
12421.... 4-19-48....Fred L. Cole, Elcey Cole Williams, and Florence Livingston; Underground; Placer mining and domestic; Withdrawn by applicant June 28, 1949.
12422.... 4-26-48....Vern R. Parman and Ralph G. Parman; Unnamed spring; Irrigation and domestic; Approved August 10, 1948. G. S.
12423.... 4-26-48....Vern R. Parman and Ralph G. Parman; Underground; Irrigation and domestic; Approved August 10, 1948. G. S.
12424.... 4-28-48....Meadows Water & Land Co., Inc.; Underground; Quasi-municipal; Approved August 12, 1948. G. S.
12425.... 4-29-48....A. W. and Hildreth Hannefield; Surface flows from the Las Vegas City Disposal Plant; Irrigation; Approved October 30, 1948. G. S.
12427.... 5- 1-48....Norman Shurtliff and Lester Shurtliff; Underground; Irrigation and domestic; Approved March 4, 1949. G. S.
12428.... 5- 1-48....Norman Shurtliff and Lester Shurtliff; Underground; Irrigation and domestic; Approved March 14, 1949. G. S.
12429.... 5- 1-48....Norman Shurtliff and Lester Shurtliff; Underground; Irrigation and domestic; Approved March 4, 1949. G. S.
12430.... 5- 1-48....Elizabeth Martin and Fernando Segura; Underground; Stockwatering; Approved April 15, 1949. G. S.
12431.... 5- 3-48....William J. Stinson; Lou Spring; Stockwatering; Approved November 17, 1948. G. S.
12432.... 5- 3-48....William J. Stinson; Simon Spring; Stockwatering; Approved November 17, 1948. G. S.
12433.... 5- 3-48....William J. Stinson; Granite Springs; Stockwatering; Approved November 17, 1948. G. C.
12434.... 5- 4-48....Orville C. Finley; Schultz Spring; Irrigation and domestic; Approved January 26, 1949. G. S.
12435.... 5- 5-48....Jay Mathews and Sam Mathews; Underground; Irrigation; Approved November 5, 1948. G. S.
12436.... 5- 7-48....Chester Barton; Underground; Irrigation and domestic; Approved October 25, 1948. G. S.
12437.... 5- 8-48....E. J. Shirley, S. M. Chiatovich, and H. R. Humphrey; Inman Spring; Stockwatering and domestic; Approved May 25, 1949. G. S.
12438.... 5- 8-48....E. J. Shirley, S. M. Chiatovich, and H. R. Humphrey; Barney Spring; Stockwatering and domestic; Approved May 25, 1949. G. S.
12439.... 5- 8-48....Louise Semenza; Underground; Air conditioning and domestic; Approved November 5, 1948. G. S.
12440.... 5-11-48....A. C. Sayre, Cora Sayre, Andrew Sayre, and Melvin Sayre; West Fork of Walker River; Irrigation and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12441.... 5-12-48....Round Mountain Gold Dredging Corporation; Underground; Mining, milling, and domestic; Withdrawn by applicant December 10, 1948.
12442.... 5-12-48....Round Mountain Gold Dredging Corporation; Underground; Mining, milling, and domestic; Approved December 14, 1948. G. S.
12443.... 5-12-48....Round Mountain Gold Dredging Corporation; Underground; Mining, milling, and domestic; Withdrawn by applicant December 10, 1948.
12444.... 5-12-48....Round Mountain Gold Dredging Corporation; Underground; Mining, milling, and domestic; Withdrawn by applicant December 10, 1948.
12445.... 5-12-48....Round Mountain Gold Dredging Corporation; Underground; Mining, milling, and domestic; Approved January 26, 1949. G. S.
12446.... 5-13-48....Constant Vener; Keystone Spring; Stockwatering; Approved November 15, 1949. G. S.
12447.... 5-13-48....Constant Vener; Underground; Stockwatering; Approved November 15, 1949. G. S.

12448.... 5-17-48....Jean A. Prentiss; Well; Irrigation and domestic; Approved November 4, 1948. G. S.
12457.... 5-20-48....Samuel A. Warner and Ida M. Warner; Underground; Irrigation and domestic; Approved October 29, 1948. G. S.
12458.... 5-20-48....Lawrence W. Perkins; Well; Irrigation and domestic; Approved November 29, 1948. G. S.
12459.... 5-20-48....Lawrence W. Perkins; Well; Irrigation; Approved November 29, 1948. G. S.
12460.... 5-20-48....Las Vegas Land and Water Co.; Underground source in the Las Vegas Artesian Basin; Irrigation; Approved September 29, 1948. G. S.
12461.... 5-21-48....Rudolph Schwartz; Underground; Irrigation and domestic; Approved March 11, 1949. G. S.
12463.... 5-24-48....Myrl Y. Farnsworth; Underground; Irrigation and domestic; Approved September 29, 1948. G. S.
12464.... 5-24-48....Myrl Y. Farnsworth; Underground; Irrigation and domestic; Approved September 29, 1948. G. S.
12465.... 5-25-48....S. H. Hunewill & Co.; Underground; Stockwatering and domestic; Approved October 26, 1948. G. S.
12466.... 5-25-48....S. H. Hunewill & Co.; Underground; Stockwatering and domestic; Approved October 26, 1948. G. S.
12467.... 5-27-48....Minerva Scheelite Mining Company; Underground; Mining, milling, and domestic; Approved September 29, 1948. G. S.
12468.... 5-27-48....William J. Stinson; Petrified Spring; Stockwatering; Approved November 17, 1948. G. S.
12469.... 5-27-48....William J. Stinson; Iron Tank Spring; Stockwatering; Approved May 5, 1949. G. S.
12470.... 5-28-48....B. R. and Barbara Russell; Underground; Irrigation and domestic; Approved February 4, 1949. G. S.
12474.... 6- 2-48....Lahontan Placers; Underground; Placer mining and domestic; Approved January 10, 1949. G. S.
12475.... 6- 2-48....Lewis E. Ball and Mable June Ball; Las Vegas Artesian Basin; Irrigation and domestic; Approved January 4, 1949. G. S.
12476.... 6- 2-48....John Bernard Wentz and Ruth Wentz; Las Vegas Artesian Basin; Irrigation and domestic; Approved January 13, 1949. G. S.
12477.... 6- 3-48....Elizalde & Co., Ltd.; Amargosa River; Irrigation and domestic; Approved May 16, 1950. G. S.
12483.... 6- 5-48....W. T. Stewart; Underground; Stockwatering; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12484.... 6- 5-48....El Rancho Amigo; Underground; Irrigation and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12485.... 6- 5-48....El Rancho Amigo; Underground; Irrigation and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12486.... 6- 5-48....El Rancho Amigo; Underground; Irrigation and domestic; Cancelled February 1, 1949, because of failure to refile corrected application within statutory time.
12487.... 6- 8-48....Joe Filippini; Underground; Irrigation and domestic; Approved May 10, 1949. G. S.
12488.... 6-10-48....Arthur E. Gray and Agnes Leinsteiner; Hot Springs; Irrigation, bathing, and domestic; Approved May 16, 1950. G. S.
12489.... 6-10-48....Arthur E. Gray and Agnes Leinsteiner; Underground; Irrigation, domestic, and bathing; Approved January 10, 1949. G. S.
12490.... 6-10-48....Mark M. Butler; Lynn Creek; Placer Mining; Approved December 14, 1948. G. S.
12491.... 6-10-48....D. G. Lorenzi; Underground; Quasi-municipal; Approved November 30, 1948. G. S.
12492.... 6-10-48....Wayne Gardner and Cannon Gardner; Underground; Irrigation; Approved December 3, 1948. G. S.
12493.... 6-10-48....Ernest H. Gubler; Underground; Irrigation; Approved November 5, 1948. G. S.
12494.... 6-10-48....Joe Capurro; Truckee River; Irrigation, domestic, and stockwatering; Approved November 22, 1948. G. S.
12495.... 6-10-48....Joe Capurro; Truckee River; Irrigation, domestic, and stockwatering; Approved November 22, 1948. G. S.
12496.... 6-10-48....Joe Capurro; Truckee River; Irrigation, domestic, and stockwatering; Approved November 22, 1948. G. S.
12497.... 6-10-48....Joe Capurro; Truckee River; Irrigation, domestic, and stockwatering; Approved November 22, 1948. G. S.
12498.... 6-11-48....Henry Seeman; Gardnerville-Minden sewage disposal plant; Irrigation; Approved January 4, 1949. G. S.
12500.... 6-15-48....K. W. Raymond; Underground; Irrigation and domestic; Cancelled December 30, 1948, because of failure to refile corrected application within statutory time.
12501.... 6-15-48....Bernice H. Raymond; Underground; Irrigation and domestic; Cancelled December 30, 1948, because of failure to refile corrected application within statutory time.
12502.... 6-15-48....Ada H. Jefferson; Artesian well; Irrigation and domestic; Approved April 22, 1949. G. S.
12503.... 6-15-48....Louis Perozzi; Underground; Irrigation and domestic; Approved July 26, 1949. G. S.
12504.... 6-16-48....Henry K. Sakai; Underground; Irrigation and domestic; Approved November 30, 1948. G. S.

12505.... 6-16-48....Emma G. Rogers and Harry E. Rogers; Underground; Stockwatering; Denied May 31, 1950, on grounds it would be detrimental to existing rights.
12506.... 6-16-48....Emma G. Rogers and Harry E. Rogers; Underground; Stockwatering; Denied May 31, 1950, on grounds it would be detrimental to existing rights.
12507.... 6-18-48....Hugh C. Crutchfield; Underground; Irrigation and domestic; Approved July 21, 1949. G. S.
12508.... 6-18-48....Hugh C. Crutchfield; Underground; Irrigation and domestic; Approved July 21, 1949. G. S.
12513.... 6-18-48....Byron A. Ercanbrack, Lowell M. Ercanbrack, and Max W. Ercanbrack; Canyon Spring; Stockwatering; Withdrawn by applicant October 28, 1948.
12515.... 6-23-48....Marvin B. and Lucy K. Humphrey; Lake Tahoe; Domestic; Approved August 26, 1949. G. S.
12516.... 6-25-48....J. H. Gates, E. J. Kearns, Lewis E. Walton, Grace Hayes, and Bill Doches; Underground; Quasi-municipal and domestic; Approved November 30, 1948. G. S.
12517.... 6-28-48....Clair Whipple; White River and Hot Creek Channel; Irrigation; Approved November 30, 1948. G. S.
12518.... 6-28-48....Nevin Munson; White River; Irrigation; Approved February 28, 1950. G. S.
12519.... 6-29-48....Security Industrial Corporation; Juniata Big Spring; Milling and domestic; Approved November 30, 1948. G. S.

CHAPTER XXIII

Certificates Issued Under Permits, 1948–1950

Following is a condensed statement giving the salient data in connection with Certificates issued under permits during the biennium for the period July 1, 1948, to June 30, 1950, in the order of:

1. Certificate number.
2. Book number.
3. Permit number.
4. Name of appropriator.
5. Source of water supply.
6. Purpose of appropriation.
7. Amount of water in cubic feet per second, unless otherwise noted.
8. Date of certificate issued.

3131	10	10718	El Rancho Hotel, Inc.; Underground; Quasi-municipal	0.47	9–22–48
3132	10	11163	Callahan Zinc-Lead Company, Inc.; Underground; Mining, milling, and domestic	0.20	9–22–48
3133	10	11659	Palmer-Murphy Cattle Company; Underground; Stockwatering	0.0187	9–22–48
3134	10	5249	A. J. Blackley and Oscar Rudnick; Chiatovich Creek; Irrigation	1.2264	9–22–48
3135	10	11027	Wm. E. Rinehart; Cherry Gulch Spring; Stockwatering	0.038	9–22–48
3136	10	12311	Harold's Club, Inc.; Underground; Air conditioning and general	0.25	9–22–48
3137	10	11850	Charles W. Williams; Ute Springs; Irrigation and domestic	0.75	9–22–48
3138	10	11314	E. A. Henroid; Underground (Henroid Well No. 2); Stockwatering	0.016	9–22–48
3139	10	11131	Town of North Las Vegas (Unincorporated); Underground (Las Vegas Artesian Basin); Municipal	0.33	9–22–48
3140	10	10553	El Rancho Hotel, Inc.; Underground (Las Vegas Artesian Basin); Quasi-municipal	0.20	9–22–48
3141	10	10863	V. E. Greenwald; Larry's Seep; Stockwatering	0.005	9–22–48
3142	10	11287	A. A. Daniels and J. M. Daniels, known as Daniels Bros.; Underground; Stockwatering	0.005	9–22–48
3143	10	11156	Hotels El Rancho, Inc.; Underground (Las Vegas Artesian Basin); General hotel and domestic	0.292	9–22–48
3144	10	11159	Ernest Higbee and Erwin Burns; Dry Channel and tributaries; Stockwatering	0.005	9–22–48
3145	10	11374	Floyd A. Walsh and A. Roy Nesbitt; Barton Spring; Stockwatering	0.0031	9–28–48
3146	10	11945	Sierra Pacific Power Company; Truckee River; Municipal and domestic	1.441	9–28–48
3147	10	11847	Sierra Pacific Power Company; Truckee River; Municipal and domestic	1.75	9–28–48
3148	10	12309	Amos and Ettore Mencarini; Underground; Stockwatering and domestic	0.003125	12– 6–48
3149	10	10832	Grover C. Jackson; Underground (Artesian Wells); Irrigation and domestic	0.56	12– 6–48
3150	10	11060	Less Lytle; Underground (Lytle Well); Irrigation	0.89	12– 6–48
3151	10	11312	Kenneth Gubler; Underground; Irrigation	0.7791	12– 6–48
3152	10	10617	Department of Highways; Chiatovich Creek; Highway maintenance and domestic purposes	0.015	12– 6–48
3153	10	10795	Louise Morgan; Underground; Irrigation and domestic	0.246	12– 6–48
3154	10	11283	Gus D. and Helen P. Corey; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.025	12– 6–48
3155	10	11480	Harold J., Geraldine M., and Mayme V. Stocker; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.04	12– 6–48
3156	10	11405	Charlie and Elizabeth Hammond; Hiko Spring; Stockwatering and domestic	0.002	12– 6–48

3157	10	11406	Charlie and Elizabeth Hammond; Willow Spring; Stockwatering and domestic	0.002	12- 6-48
3158	10	11407	Charlie and Elizabeth Hammond; Sacatone Spring; Stockwatering and domestic	0.002	12- 6-48
3159	10	11408	Charlie and Elizabeth Hammond; Dripping Spring; Stockwatering and domestic	0.002	12- 6-48
3160	10	11493	Charlie and Elizabeth Hammond; Discovery Spring; Stockwatering and domestic	0.001	12- 6-48
3161	10	11488	B. L. and Vivian Doches; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.01	12-20-48
3162	10	10669	Louis Perozzi; Underground; Quasi-municipal and domestic	0.25	12-20-48
3163	10	11359	Callahan Zinc-Lead Company; Underground; Milling	0.20	12-20-48
3164	10	11289	McCullough Tool Company; Underground; Stockwatering	0.00156	12-20-48
3165	10	11290	McCullough Tool Company; Underground (Well No. 2 North); Stockwatering	0.00156	12-20-48
3166	10	11291	McCullough Tool Company; Underground (Well No. 3 North); Stockwatering	0.00156	12-20-48
3167	10	11292	McCullough Tool Company; Underground (Gouge Eye Well); Stockwatering	0.00156	12-20-48
3168	10	11294	McCullough Tool Company; Underground (Well No. 2 South)	0.00156	12-20-48
3169	10	11295	McCullough Tool Company; Underground (Milk Ranch Well); Stockwatering	0.00156	12-20-48
3170	10	11296	McCullough Tool Company; Underground (Dan Riordan Well); Stockwatering	0.00156	12-20-48
3171	10	11298	McCullough Tool Company; Underground (Grassey Well); Stockwatering	0.00312	12-20-48
3172	10	11141	E. G. Salyer and Beulah A. Salyer; Underground (Prospect Well); Stockwatering	0.0078	12-20-48
3173	10	11120	E. G. Salyer and Beulah A. Salyer; Tonopah Spring; Stockwatering and domestic	0.006	12-20-48
3174	10	9698	The Nevada Company; Upper Union Canyon Springs; Mining, milling, and domestic	0.02	12-20-48
3175	10	10872	Salvador Urrutia; Black Springs; Irrigation and domestic	0.025	12-20-48
3176	10	6357	G. M. Erquiaga and Raymond J. Dufurrena; McConnell and Buffalo Creeks (The flood and surplus waters from Buffalo Ranch); Irrigation and domestic	4.8	12-20-48
3177	10	11155	Clara V. James and S. P. James, Sr.; Underground (Las Vegas Valley Artesian Basin); Irrigation and domestic	0.0391	1-14-49
3178	10	11487	Gene Pace; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.02	1-14-49
3179	10	11032	Amalgamated Pioche Mines and Smelter Corporation; Underground; Municipal supply and domestic	0.15	1-14-49
3180	10	11410	Peter Damele; Underground (Dry Farm Well); Stockwatering	0.017	1-14-49
3181	10	11411	Peter Damele; Underground (Highway Well); Stockwatering	0.017	1-14-49
3182	10	10766	B. H. Robison; Piermont Creek; Irrigation	3.0	1-14-49
3183	10	10630	Eastland Heights Water Company, as trustee a cooperative organization; Underground; Quasi-municipal and domestic	0.24	1-24-49
3184	10	11431	Nick Pahor; Underground (Las Vegas Valley Artesian Basin); Domestic	0.045	1-24-49
3185	10	11711	Eastland Heights Water Company, a cooperative organization; Underground (Las Vegas Valley Artesian Basin); Quasi-municipal and domestic	0.30	1-24-49
3186	10	4462	James Ryan one-half interest; J. H. and Emma Conway one-half interest; Delamar Flat Reservoir; Stockwatering	0.025	1-24-49
3187	10	11308	Byron A. Ercanbrack; Rock Spring; Stockwatering	0.00223	1-24-49
3188	10	3651	Manuel Chabagno; Golconda Canon; Irrigation and domestic	0.9541	1-24-49
3189	10	12439	Louise Semenza; Underground (Well No. 1); Air conditioning and domestic	0.24	1-24-49
3190	10	12378	John H. Wichman; Underground (Artesian Well); Stockwatering and domestic	0.022	1-26-49
3191	10	10752	Harvey S. Haie; Cedar Creek; Irrigation	1.0145	1-26-49
3192	10	10590	A. A. Calhoun; Underground (Naquinta Valley Well); Stockwatering and domestic	0.017	1-28-49
3193	10	11731	Harnedy and Dane; Underground; Irrigation and domestic	0.02	1-28-49
3194	10	10294	A. M. Thompson and Roy Waite; Juanetta Spring; Irrigation	0.152	2-18-49
3195	10	11437	Town of North Las Vegas (Unincorporated); Underground (Las Vegas Artesian Basin); Municipal	0.33	2-18-49

3196	10	11552	Bertrom R. and Barbara P. Russell; Underground (Well); Irrigation and domestic	0.15	2–18–49
3197	10	11244	Carl M. and Effie M. Martin; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.08	3– 4–49
3198	10	11553	Petan Company, a copartnership; Circle and/or Duck Creek; Stockwatering	0.16	3– 4–49
3199	10	12254	Ida E. Allen; Underground (South Well); Fish propagation	0.067	3– 4–49
3200	10	12255	Ida E. Allen; Underground (North Well); Stockwatering	0.003	3– 4–49
3201	10	12399	James T. McKay; Underground and domestic	0.022	3– 4–49
3202	10	12398	James T. McKay; Underground; Stockwatering and domestic	0.044	3– 4–49
3203	10	12269	Norman D. Brown; Underground (Artesian Well No. 10); Stockwatering	0.02	3– 4–49
3204	10	12270	Norman D. Brown; Underground (Artesian Well No. 4); Stockwatering	0.02	3– 4–49
3205	10	12272	Norman D. Brown; Underground (Artesian Well No. 3); Stockwatering	0.03	3– 4–49
3206	10	12273	Norman D. Brown; Underground (Artesian Wells Nos. 5, 6, 7, 8, and 9); Stockwatering and domestic	0.10	3– 4–49
3207	10	12280	Plymouth Land & Stock Company; Underground (Artesian Well No. 1); Stockwatering and dipping	0.03	3– 4–49
3208	10	11802	Sierra Pacific Power Company; Truckee River; Municipal and domestic	2.38	3– 4–49
3209	10	10962	Douglas County; Underground; Airport and domestic	0.11	3– 4–49
3210	10	10549	Getchell Mine, Inc.; Unnamed spring; Mining, milling, and domestic	0.02228	3– 4–49
3211	10	10614	John H. Conway; Underground (Meadow Valley Wash Well No. 2); Irrigation and domestic	0.408	3– 4–49
3212	10	3440	Warren C. Hunt and Ethelyn Leona Hunt, his wife, and Donald B. Hunt and Esther Cecilia Hunt, his wife, as joint tenants with the right of survivorship; Northumberland Springs; Irrigation	0.124	3– 4–49
3213	10	8393	H. T. Rogers; Nigger Creek; Irrigation	1.512	3– 4–49
3214	10	12379	Wines Brothers; Underground (Artesian Well); Domestic and commercial	0.025	3– 7–49
3215	10	12540	One Eleven Bar Cattle Company; Underground (Sundown Well); Stockwatering and domestic	0.0125	3– 7–49
3216	10	12541	One Eleven Bar Cattle Company; Underground (South Western Well); Stockwatering and domestic	0.008	3– 7–49
3217	10	12542	One Eleven Bar Cattle Company; Underground (Honest John Well); Stockwatering	0.008	3– 7–49
3218	10	11567	Thomas E. Sharp; Underground (Las Vegas Valley Artesian Basin); Irrigation and domestic	0.30	3– 7–49
3219	10	12262	August Bunkowski; Underground (Artesian Wells Nos. 1 and 2); Stockwatering and domestic	0.015	3–21–49
3220	10	12263	August Bunkowski; Underground (Artesian Well No. 5); Stockwatering and domestic	0.006	3–21–49
3221	10	12264	August Bunkowski; Underground (Artesian Well No. 3); Stockwatering and domestic	0.01	3–21–49
3222	10	12265	August Bunkowski; Underground (Artesian Well No. 4); Stockwatering and domestic	0.02	3–21–49
3223	10	12321	G. C. McVicar; Underground (Three Artesian Wells); Irrigation	0.33	3–21–49
3224	10	12322	G. C. McVicar; Underground (Two Artesian Wells); Irrigation	0.15	3–21–49
3225	10	12323	G. C. McVicar; Underground (An Artesian Well); Domestic purposes	0.033	3–21–49
3226	10	12324	G. C. McVicar; Underground (Two Artesian Wells); Stockwatering and domestic	0.044	3–21–49
3227	10	12325	G. C. McVicar; Underground (An Artesian Well); Domestic	0.03	3–21–49
3228	10	12373	Frank B. Mann; Underground (Four Artesian Wells all located in the same 40-acre tract); Stockwatering and domestic	0.03	3–21–49
3229	10	12375	Walter R. Schwake; Underground (Artesian Well); Stockwatering and domestic	0.04	3–21–49
3230	10	12342	F. W. Settelmeyer; Underground (Artesian Well); Stockwatering and domestic	0.006	3–21–49
3231	10	12306	Beatrice E. Hinds; Underground (Artesian Well); Irrigation and domestic	0.06	4– 6–49

3232	10	11255	A. J. Wood and Lela C. Wood; Underground (Las Vegas Valley Artesian Basin); Quasi-municipal and domestic	0.07	4- 6-49
3233	10	11409	Theodore Werner, three-fourths interest, and Afton Thornton Werner, one-fourth interest; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.10	4- 6-49
3234	10	12015	A. C. Marshall; Orahana Spring; Stockwatering	0.0015	4- 6-49
3235	10	12016	A. C. Marshall; Cow Wells Spring Nos. 1 and 2; Stockwatering	0.0023	4- 6-49
3236	10	12017	A. C. Marshall; Underground (Dipping Vat Well); Stockwatering	0.0023	4- 6-49
3237	10	12018	A. C. Marshall; Underground (Ten Mile Well); Stockwatering	0.0036	4- 6-49
3238	10	12019	A. C. Marshall; McCullough Spring; Stockwatering	0.0023	4- 6-49
3239	10	12020	A. C. Marshall; Underground (Little Well); Stockwatering	0.0022	4- 6-49
3240	10	12021	A. C. Marshall; Underground (Smith's Well); Stockwatering	0.0023	4- 6-49
3241	10	12022	A. C. Marshall; Hyland Spring; Stockwatering	0.0026	4- 6-49
3242	10	12050	A. C. Marshall; McClanahan Spring; Stockwatering	0.0011	4- 6-49
3243	10	12051	A. C. Marshall; North Cresent Spring; Stockwatering	0.0011	4- 6-49
3244	10	7553	Clyde B. Stark; Cow Canyon Springs and tributaries; Irrigation and domestic	0.02	4-13-49
3245	10	11670	Jess Chance and Jess A. Chance, Jr.; Underground; Stockwatering	0.01	4-13-49
3246	10	12303	E. J. and Anita Leville; Underground (Artesian Well); Stockwatering and domestic	0.0013	4-13-49
3247	10	12301	Maggie M. Wilkerson; Underground (Artesian Well); Stockwatering and domestic	0.025	4-13-49
3248	10	12376	Andrew C. Sayre; Underground (Artesian Well); Stockwatering and domestic	0.03	4-18-49
3249	10	12377	Andrew C. Sayre; Underground (Artesian Well); Stockwatering	0.03	4-18-49
3250	10	11347	L. H. Hamp; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.085	4-18-49
3251	10	5119	David Francis; Camp Valley Wash; Irrigation and domestic	0.454	4-21-49
3252	10	11328	R. J. Kaltenborn (Trustee) and Jerome Mack; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.10	4-21-49
3253	10	12143	E. W. Fallini, R. A. Fallini, J. B. Fallini, known as Fallini Brothers; Underground (Camp's Well); Stockwatering	0.032	4-21-49
3254	10	3447	Jesusa Saval and Marius Allard; Lee Canon Creek; Irrigation and domestic	0.0885	4-21-49
3255	10	12726	Nevada - Massachusetts Company; Underground (Well No. 3); Milling and domestic	0.89	4-21-49
3256	10	12727	Nevada - Massachusetts Company; Underground (Well No. 2); Milling and domestic	0.89	4-21-49
3257	10	12320	U. S. of America, Forest Service; Dishrag Spring; Stockwatering	0.002	5-23-49
3258	10	11605	Floyd R. Lamb and Carlton P. Lamb; Cliff Spring; Stockwatering and domestic	0.0063	5-23-49
3259	10	11606	Floyd R. Lamb and Carlton P. Lamb; Unnamed drainage basin through Sundown Reservoir; Stockwatering and domestic	0.0063	5-23-49
3260	10	11607	Floyd R. Lamb and Carlton P. Lamb; Shirley Spring; Stockwatering and domestic	0.0063	5-23-49
3261	10	11608	Floyd R. Lamb and Carlton P. Lamb; Indian Spring; Stockwatering and domestic	0.0063	5-23-49
3262	10	11610	Floyd R. Lamb and Carlton P. Lamb; Live Oak Spring; Stockwatering and domestic	0.0063	5-23-49
3263	10	11625	Floyd R. Lamb and Carlton P. Lamb; Black Rock Spring; Stockwatering and domestic	0.0063	5-23-49
3264	10	11660	Floyd R. Lamb and Carlton P. Lamb; Kihibab Spring; Stockwatering and domestic	0.0063	5-23-49
3265	10	11668	Floyd R. Lamb and Carlton P. Lamb; Pony Spring; Stockwatering and domestic	0.0063	5-23-49
3266	10	11669	Floyd R. Lamb and Carlton P. Lamb; Lambs Pond; Stockwatering and domestic	0.0063	5-23-49
3267	10	12157	Washoe County, Nevada; Spring No. 1; Fish culture and domestic	0.50	6-17-49
3268	10	12158	Washoe County, Nevada; Spring No. 2; Fish culture and domestic	0.50	6-17-49
3269	10	12159	Washoe County, Nevada; Spring No. 3; Fish culture and domestic	0.50	6-17-49
3270	10	12160	Washoe County, Nevada; Galena Creek; Fish culture	2.00	6-17-49

3271	10	11500	Ebbie H. Davis; Underground (Las Vegas Artesian Basin); Stockwatering and domestic	0.01	6-17-49
3272	10	10846	Iris O. Smith; Sink Hole Spring; Irrigation and domestic	0.018	6-17-49
3273	10	10507	J. A. Hail and Lew Cook, as (Buck Horn Cattle Company); Big Creeks; Irrigation and domestic	0.785	8-22-49
3274	10	11881	Security Industrial Corporation; Little Juanita Spring; Domestic	0.025	8-22-49
3275	10	11157	Hotels El Rancho, Inc.; Underground (Las Vegas Artesian Basin); General hotel supply and domestic	0.292	8-22-49
3276	10	11472	Thomas Young; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.05	10-28-49
3277	10	6652	Bolton E. Minister, Bolton F. Minister, Rob Roy Minister; Walker River; Irrigation and domestic	2.00	10-28-49
3278	10	11894	Nellie C. Harris; Lake Tahoe; Domestic	0.0008	10-28-49
3279	10	11895	Maryly Krusi Taylor; Lake Tahoe; Domestic	0.0013	10-28-49
3280	10	11896	Julius Bergen and Mary W. Bergen; Lake Tahoe; Domestic	0.0013	10-28-49
3281	10	11889	The Glenbrook Company; Lake Tahoe; Irrigation	0.20	10-28-49
3282	10	11891	Mary C. Derby; Lake Tahoe; Domestic	0.0008	10-28-49
3283	10	11892	Henry S. Russell and Caroline T. Russell; Lake Tahoe; Domestic	0.0008	10-28-49
3284	10	11893	Ralph D. Brooks and Grace S. Brooks; Lake Tahoe; Domestic	0.0013	10-28-49
3285	10	11897	James G. Noyes and Winifred T. Noyes; Lake Tahoe; Domestic	0.0008	10-28-49
3286	10	11901	H. R. Jepsen and Charlotte Jepsen; Lake Tahoe; Domestic	0.0016	10-28-49
3287	10	11907	Peter B. Cook, Jr.; Lake Tahoe; Domestic	0.0008	10-28-49
3288	10	11912	R. H. Bergstrom; Lake Tahoe; Domestic	0.0008	10-28-49
3289	10	11948	H. M. Rich; Lake Tahoe; Domestic	0.0008	10-28-49
3290	10	11949	William W. Hawkins; Lake Tahoe; Domestic	0.0016	10-28-49
3291	10	11950	Margaret C. Hawkins; Lake Tahoe; Domestic	0.0024	10-28-49
3292	10	11976	Alice A. Hagarty; Lake Tahoe; Domestic	0.0008	10-28-49
3293	10	12532	Melvin Schwake; Underground; Irrigation	1.953	10-28-49
3294	10	11571	Marie Streshley, Bill Givens, and W. L. Petersen; Underground; Stockwatering and domestic	0.047	10-28-49
3295	10	11667	Marie Streshley, Bill Givens, and W. L. Petersen; Old Rock Cabin Spring; Stockwatering and domestic	0.047	10-28-49
3296	10	12281	Dugan S. and Mina S. Albright; Underground (Hamilton Well); Domestic and garden irrigation	0.025	10-28-49
3297	10	11865	E. W., Joe B., and R. A. Fallini, known as Fallini Brothers; Kawich Valley Wash (Kawich Tank); Stockwatering	0.03	10-28-49
3298	10	10443	Roy A. Judd; Jumbo Creek; Irrigation and domestic	0.7527	10-28-49
3299	10	12515	Marvin B. Humphrey and Luch K. Humphrey; Lake Tahoe; Domestic	0.0008	10-28-49
3300	10	12465	S. H. Hunewill and Company, a partnership; Underground; Stockwatering and domestic	0.025	10-28-49
3301	10	12466	S. H. Hunewill and Company, a partnership; Underground (Two artesian wells); Stockwatering and domestic	0.04	10-28-49
3302	10	10918	T. O. McKinnon; Tule Spring; Domestic and garden irrigation	0.10	10-28-49
3303	10	11345	State of Nevada, Fish and Game Commission; Unnamed springs (Hill Creek Springs); Fish culture	1.50	10-28-49
3304	10	10675	Eloise and John M. Bunker; Underground; Domestic and quasi-municipal	0.02	12-14-49
3305	10	10847	Matilda R. Russell; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.134	12-14-49
3306	10	10942	Theodore Michelas; Underground (Las Vegas Artesian Basin); Quasi-municipal	0.20	12-14-49
3307	10	10952	William M. Stratman and Elda Clark Crane; Underground (Las Vegas Valley Artesian Basin); Irrigation and domestic	0.20	12-14-49
3308	10	11143	Lola Buck; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.02	12-14-49
3309	10	11514	Ebbie H. Davis; Underground (Whistler Well); Stockwatering	0.00265	12-14-49
3310	10	11515	Ebbie H. Davis; Underground (Tip Top Well); Stockwatering	0.008	12-14-49
3311	10	11516	Ebbie H. Davis; Underground (Knob Hill Well and Knob Hill Spring); Stockwatering	0.00234	12-14-49

3312	10..11517	Ebbie H. Davis; Underground (Water Lilly Well); Stockwatering	0.008	12-14-49
3313	10..11745	Roland H. Wiley; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.05	12-14-49
3314	10..10805	George F. Gove; Gove Spring; Irrigation	0.286	12-14-49
3315	10..11299	George F. Gove; Asa More Canyon Creek; Irrigation	0.5792	12-14-49
3316	10..12393	A. D. Drumm, Jr.; Underground (West Well); Stockwatering and domestic	0.0063	12-14-49
3317	10..12341	Timothy Linscott; Underground (Two artesian wells); Stockwatering and domestic	0.025	12-14-49
3318	10..12436	Chester Barton; Underground; Irrigation and domestic	0.25	12-14-49
3319	10..11767	W. J. Stinson; Unnamed or Wild Rose Spring; Stockwatering	0.015	12-14-49
3320	10..12432	W. J. Stinson; Simon Spring; Stockwatering	0.015	12-14-49
3321	10..12433	W. J. Stinson; Granite Springs; Stockwatering	0.015	12-14-49
3322	10..12468	W. J. Stinson; Petrified Spring; Stockwatering	0.009	12-14-49
3323	10..10928	Iris O. Smith; Point of Rock Springs; Irrigation	0.30	12-14-49
3324	10..11087	Iris O. Smith; Unnamed spring; Irrigation and domestic	0.2625	12-14-49
3325	12613	E. W., Joe B., and R. A. Fallini (Brothers); Buck's Water; Stockwatering	0.032	12-14-49
3326	10..10376	Nevada Nile Corporation; Humboldt River; Irrigation	5.27	12-14-49
3327	10..10545	J. B. O'Mar and A. E. Evans; Underground (Artesian Well); Mining and milling	0.118	12-14-49
3328	10..11383	Reno Newspapers, Inc.; Unnamed spring; Domestic	0.00054	12-14-49
3329	10..11510	Kenneth C. and Zelda Lawrence; Underground (Lawrence Well); Irrigation and domestic	0.03	12-14-49
3330	10..12552	J. E. Stead and/or Marian M. Stead; Underground (Well No. 7); Irrigation and domestic	0.2508	12-14-49
3331	10..12553	J. E. Stead and/or Marian M. Stead; Underground (Wells Nos. 8 and 9); Irrigation and domestic	0.085	12-14-49
3332	10..12554	J. E. Stead and/or Marian M. Stead; Underground (Well No. 10); Stockwatering and general use	0.007	12-14-49
3333	10..12555	J. E. Stead and/or Marian M. Stead; Underground (Well No. 11); Stockwatering and domestic	0.01	12-14-49
3334	10..12556	J. E. Stead and/or Marian M. Stead; Underground (Well No. 12); Stockwatering and domestic	0.001	12-14-49
3335	10..12557	J. E. Stead and/or Marian M. Stead; Underground (Well No. 13); Stockwatering and domestic	0.002	12-14-49
3336	10..12775	M. P., M. W., L. J., R. A., H. P., and R. D. Depaoli; Underground; Stockwatering and domestic	0.03	12-14-49
3337	10..10991	P. J. Goumond; Underground (Las Vegas Artesian Basin); Irrigation and domestic	1.00	12-14-49
3338	10..11142	P. J. Goumond; Underground (Las Vegas Artesian Basin); Irrigation	0.09	12-14-49
3339	10..11337	P. J. Goumond; Underground; Irrigation	0.13	12-14-49
3340	10..11342	P. J. Goumond; Underground; Irrigation and domestic	0.13	12-14-49
3341	10..11578	P. J. Goumond; Underground (Las Vegas Artesian Basin); Irrigation and domestic	2.66	12-14-49
3342	10..11379	Lambert Van Der Meer and Malena Van Der Meer; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.07	12-14-49
3343-1	10..11413	Arthur L. Dial and Helen M. Dial; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic; One-fourth interest	0.01125	12-14-49
3343-2	10..11413	Maybelle Davis; Underground (Las Vegas Artesian Basin); Quasi-municipal; One-fourth interest	0.01125	12-14-49
3343-3	10..11413	Harry Mack; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.0225	12-14-49
3344	10..11989	James and Ida Compston; Minnehaha Spring; Stockwatering	0.0125	12-14-49
3345	10..11990	James and Ida Compston; Sheep Corral Spring; Stockwatering	0.0125	12-14-49
3346	10..11996	James and Ida Compston; Deep Spring; Stockwatering	0.0125	12-14-49
3347	10..10733	William E. Licking; Humboldt River (Old Channel and Argenta or Tule Slough); Irrigation	694.89 a. f. 34.89 a. f	12-14-49

3348	10-11201	A. F. Bordoli; Underground (Buttes Well); Stockwatering	0.0156	12-14-49
3349	10-12502	Ada H. Jefferson; Underground; Irrigation	0.0237	12-14-49
3350	10-12821	Heidenreich Brothers; Douglas Spring; Domestic and garden irrigation	0.03	12-14-49
3351	10-11076	Albert S. Gubler and Margaret Gubler; White River Slough; Irrigation	1.461	12-14-49
3352	10-11078	Ernest H. Gubler; White River Slough; Irrigation	1.0242	12-14-49
3353	10-10845	A. L. Simpson; Cave Spring; Stockwatering	0.0008	12-14-49
3354	10-11138	Fred T. and Ola May Roberts; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.03	12-14-49
3355	10-11427	D. L. Stewart; Stewart Spring; Stockwatering	0.003	12-14-49
3356	10-11525	D. L. Stewart; Jump Up Spring; Stockwatering	0.003	12-14-49
3357	10-11081	R. J. Kelly and V. E. Greenwald; Underground (Well No. 1); Stockwatering	0.016	12-14-49
3358	10-11082	R. J. Kelly and V. E. Greenwald; Underground (Well No. 2); Stockwatering	0.016	12-14-49
3359	10-11083	R. J. Kelly and V. E. Greenwald; Underground (Well No. 3); Stockwatering	0.016	12-14-49
3360	10-11285	Daniels Brothers (A. A. and J. M. Daniels); Underground (Bonnie Clare Well); Stockwatering	0.01	12-14-49
3361	10-12495	Joe Capurro; Truckee River; Irrigation, stockwatering and domestic	40 a. f per annum	12-14-49
3362	10-12496	Joe Capurro; Truckee River; Irrigation, stockwatering and domestic	10.00 a. f.	12-14-49
3363	10-12497	Joe Capurro; Truckee River; Irrigation, stockwatering and domestic	18.75 a. f. per annum	12-14-49
3364	10-11388	Norman L. White and Marion S. White; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.08	12-23-49
3365	10-11644	United States of America, Fish and Wildlife Service; Bootleg Spring; Wildlife watering	0.001	12-23-49
3366	10-11645	United States of America, Fish and Wildlife Service; Perkins Spring; Wildlife watering	0.001	12-23-49
3367	10-11646	United States of America, Fish and Wildlife Service; Deadman Springs; Wildlife watering	0.002	12-23-49
3368	10-11647	United States of America, Fish and Wildlife Service; Wagon Spring; Wildlife watering	0.001	12-23-49
3369	10-11816	Fish and Wildlife Service, U. S. Department of the Interior; Willow Spring Creek; Fish culture and domestic	4.00	12-23-49
3370	10-11641	United States of America, Fish and Wildlife Service; Lamb Spring; Wildlife watering	0.001	12-23-49
3371	10-11642	United States of America, Fish and Wildlife Service; Quartz Spring; Wildlife watering	0.001	12-23-49
3372	10-11643	United States of America, Fish and Wildlife Service; Sheep Spring; Wildlife watering	0.001	12-23-49
3373	10-8259	Helen D. Williams, and Helen D. Williams, as guardian of the persons and estates of Joseph T. Williams, Jr., and Robert Gale Williams; Pott Holes Springs and tributaries; Stockwatering and domestic	0.047	12-23-49
3374	10-8260	Helen D. Williams, and Helen D. Williams, as guardian of the persons and estates of Joseph T. Williams, Jr., and Robert Gale Williams; Big Cow Canyon and tributaries; Stockwatering and domestic	0.047	12-23-49
3375	10-10921	George Eldridge; South Millick Spring; Irrigation	0.79	12-23-49
3376	10-10993	George Eldridge; North Millick Spring; Irrigation	0.60	12-23-49
3377	10-11035	Joe Eldridge; Partridge Spring; Stockwatering	0.003	12-23-49
3378	10-11421	Waale-Camplan & Tiberti, Inc.; Underground (Las Vegas Artesian Basin); Quasi-municipal	0.40	1- 9-50
3379	10-12111	Joseph V. Snyder and Annette Snyder; Lake Tahoe; Domestic	0.0008	1- 9-50
3380	10-3576	Harvey S. Hale; Hot Spring; Irrigation and domestic	0.74	1- 9-50
3381	10-12339	A. J. Schmid; Underground (Two Artesian Wells); Irrigation and domestic	0.05	1- 9-50
3382	10-12782	Jennie E. Nesmith; Underground (Artesian Well); Irrigation and domestic	0.33	1- 9-50

3383	10	11467	Fallini Brothers; Twin Spring Wash; Stockwatering	0.0320	1- 9-50
3384	10	12580	E. W., R. A., and Joe B. Fallini (Fallini Brothers); Pyramid Spring; Stockwatering	0.032	1- 9-50
3385	10	12581	E. W., R. A., and Joe B. Fallini (Fallini Brothers); Underground (Charlie's Water); Stockwatering	0.032	1- 9-50
3386	10	12682	Fallini Brothers; Underground (Last Stand Well); Stockwatering	0.032	1- 9-50
3387	10	11426	Nevada Rosegold Placers, Inc.; Underground (Two wells); Placer mining and domestic	3.00	1- 9-50
3388	10	11241	Coverton K. Ryerse and Alice M. Ryerse; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.085	1-18-50
3389	10	11499	The Nunn Company; Underground (Two Wells); Milling and domestic	0.78	1-18-50
3390	10	11748	Edgar Edwards; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.025	1-18-50
3391	10	11763	O. G. Hairgrove, Goldyn Jo Hairgrove, and H. G. Hairgrove; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.005	1-18-50
3392	10	12599	E. L. Cord; Underground (Well No. 10); Irrigation	0.25	1-18-50
3393	10	12600	E. L. Cord; Underground (Well No. 11); Irrigation	0.25	1-18-50
3394	10	12601	E. L. Cord; Underground (Well No. 12); Irrigation	0.25	1-18-50
3395	10	12640	E. L. Cord; Underground (Well No. 13); Irrigation	0.50	1-18-50
3396	10	4710	D. L. Stewart; Cart Spring; Stockwatering and domestic	0.0015	1-18-50
3397	10	12156	State of Nevada, Fish and Game Commission; Underground (Five Artesian Wells); Fish propagation and domestic	0.6684	1-18-50
3398	10	12523	Fred L. Cole, Elcey Cole Williams, and Florence Livingston, as executrix of the Estate of Florence L. Kirchen; a pond; Mining	2.00	1-18-50
3399	10	12534	Fred L. Cole, Elcey Cole Williams, and Florence Livingston, as executrix of the Estate of Florence L. Kirchen; a pond; Washing placer gravel	2.00	1-18-50
3400	10	11502	D. V. Romeos; Goat Spring; Stockwatering	0.0025	1-18-50
3401	11	3046	Lee Reborse and Verna M. Reborse; Stone Corral Springs; Irrigation	0.2222	2-20-50
3402	11	4174	Mrs. Vivienne W. Maunula; Whites Stream; Irrigation and domestic	0.0186	2-20-50
3403	11	10312	William and Elizabeth Rabe; Folsom Spring; Domestic and recreation	0.05	2-20-50
3404	11	10062	R. J. Bradshaw; Mud Springs; Stockwatering	0.003	2-20-50
3405	11	10498	Darell H. Free and Lena C. Free; Wilson Creek; Irrigation and domestic	0.73	2-20-50
3406	11	11944	Reorganized Silver King Divide Mining Co.; Underground; Mining, milling, and domestic	0.0245	2-20-50
3407	11	12610	Rex B. Clark; Underground; Stockwatering	0.016	2-20-50
3408	11	12609	Rex B. Clark; Underground; Stockwatering	0.016	2-20-50
3409	11	10321	Henry C. Nickerson and Hazel H. Nickerson; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.136	2-20-50
3410	11	11124	A. I. Stoner; Underground (Las Vegas Artesian Basin); Manufacturing	0.04456	2-20-50
3411	11	11338	Paul Taddey and Pearl Taddey; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.07	2-20-50
3412	11	11497	Russell D. Smith and Blanche L. Smith; Underground (Las Vegas Artesian Basin); General hotel supply and Domestic	0.05	2-20-50
3413	11	11511	Frank J. Seibert; Las Vegas Creek; Irrigation	0.40	2-20-50
3414-1	11	11662	William F. May; Underground (Las Vegas Artesian Basin); Well No. 17; Irrigation and domestic	0.0125	2-20-50
3414-2	11	11662	Joseph H. Sandahl; Underground (Las Vegas Artesian Basin); Well No. 17; Irrigation and domestic	0.0125	2-20-50
3414-3	11	11662	Wm. E. Daugherty; Underground (Las Vegas Artesian Basin); Well No. 17; Irrigation and domestic	0.025	2-20-50

3414-4	11 11662	Sophie Moore; Underground (Las Vegas Artesian Basin); Well No. 17; Irrigation and domestic	0.025	2-20-50
3414-5	11 11662	Clarence E. Lane; Underground (Las Vegas Artesian Basin); Well No. 17; Irrigation and domestic	0.025	2-20-50
3414-6	11 11662	Floyd J. Behmer; Underground (Las Vegas Artesian Basin); Well No. 17; Irrigation and domestic	0.075	2-20-50
3415	11 11720	Fay Bresnan Kantor; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.07	2-28-50
3416	11 11838	Vernon Young; Cow Camp Spring; Stockwatering	0.000625	2-28-50
3417	11 10033	Mrs. Gwendolen Browne; Sharpe Spring; Irrigation and domestic	0.05	2-28-50
3418	11 10954	Joe Pieretti, Frank Guirlani, and Pete Bianucci; Unnamed spring; Domestic	0.00334	2-28-50
3419	11 12307	Charles Groso; Underground (Artesian Well); Stockwatering	0.01	2-28-50
3420	11 12308	Charles Groso; Underground (Artesian Well); Domestic	0.01	2-28-50
3421	11 5533	The San Antone Ranch and Cattle Company; Peavine Creek; Storage for irrigation and domestic	1,022.0 a. f.	2-28-50
3422	11 11521	Town of Mina; Spearmint Canyon Springs; Municipal and domestic	0.08325	3- 3-50
3423	11 10564	Green L. and Lucy Storm; Spring Valley Creek; Mining and milling	1.00	3- 3-50
3424	11 11414	William J. and Elizabeth Dubbell; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.031	3- 3-50
3425	11 12068	R. B. Stewart; Greggs Canyon; Irrigation	0.2529	3-22-50
3426-1	11 11478	Floyd Lamb; Pahranagat Lake; Irrigation	729.60 a. f.	3-22-50
3426-2	11 11478	J. W. Richard; Pahranagat Lake; Irrigation	1,397.60 a. f.	3-22-50
3427	11 12271	Norman D. Brown; Underground (Well No. 2); Stockwatering	0.01	3-22-50
3428	11 12343	C. F. Chidwick; Underground; Irrigation and domestic	0.066	3-22-50
3429	11 11199	Howard N. Sharp and Minnie J. Sharp; Antelope Spring; Stockwatering and domestic	0.0031	3-22-50
3430	11 12579	Fallini Brothers; Milk Spring; Stockwatering	0.016	3-22-50
3431	11 11022	George Eldridge; Underground (Morman Jack Well); Stockwatering	0.025	3-22-50
3432	11 10679	Eleanore F. Fish; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.30	4- 3-50
3433	11 11144	Eleanore F. Fish; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.22	4- 3-50
3434	11 10848	Nate Mack, Jennie Mack, R. J. Kaltenborn, and Eva Mae Kaltenborn; Underground (Las Vegas Artesian Basin); Quasi-municipal	0.10	4- 3-50
3435	11 11286	Daniels Brothers; Underground (Lookout Well); Stockwatering	0.0031	4- 3-50
3436	11 13058	F. M. Schmidtlein and L. E. Schmidtlein; Frenchman Creek; Irrigation and domestic	1.1105	4- 3-50
3437	11 13059	F. M. Schmidtlein and L. E. Schmidtlein; Frenchman Creek; Irrigation and domestic	2.3615	4- 3-50
3438	11 13062	F. M. Schmidtlein and L. E. Schmidtlein; Rock Creek; Irrigation and domestic	2.3615	4- 3-50
3439	11 13063	F. M. Schmidtlein and L. E. Schmidtlein; Sheep Creek; Irrigation and domestic	2.3615	4- 3-50
3440	11 13064	F. M. Schmidtlein and L. E. Schmidtlein; Santa Fee Creek; Irrigation and domestic	1.1105	4- 3-50
3441	11 11694	One Eleven Bar Cattle Company; Underground (Timpiute Well); Stockwatering	0.008	4- 3-50
3442	11 12345	Mrs. C. A. McVicar; Underground (Artesian Well); Stockwatering and domestic	0.002	4- 3-50
3443	11 12346	Mrs. A. C. McVicar; Underground (Artesian Well); Stockwatering and domestic	0.002	4- 3-50
3444	11 12352	Mabel Batjer; Underground (Artesian Well); Domestic	0.025	4- 3-50
3445	11 11829	Old English Gold Corporation; Troy Creek; Power and domestic	0.85	4- 3-50
3446	11 11428	Benny Binion and Teddy Jane Binion; Underground (Las Vegas Artesian Basin); Quasi-municipal and domestic	0.08	4-21-50

3447	11	10554	Ella Marian L. Dana and Sidney H. Vail; Dana-Vail Spring; Stockwatering and domestic	0.008	4-21-50
3448	11	12520	State of Nevada, Department of Highways; Unnamed Spring; Irrigation of lawn and trees (domestic and general public use)	0.0035	4-21-50
3449	11	12014	Roy A. Brown; Underground (Dry Lake Well); Stockwatering	0.006	4-21-50
3450	11	12801	Roy A. Brown; Underground (Brown Station Dug Well); Stockwatering	0.0125	4-21-50
3451	11	13065	F. M. Schmidtlein and L. E. Schmidtlein; Shoshone Creek; Irrigation and domestic	1.1105	4-21-50
3452	11	12340	C. G. Wines; Underground (Three Artesian Wells); Irrigation and domestic	0.08	4-21-50
3453	11	12043	Floyd R. Lamb and Carlton P. Lamb; Gold Spring; Stockwatering	0.0065	4-21-50
3454	11	12044	Floyd R. Lamb and Carlton P. Lamb; Horse Spring; Stockwatering	0.0073	4-21-50
3455	11	7382	Henry Filippini; Unnamed spring on the NW side of Red Mountain; Stockwatering	0.016	5-12-50
3456	11	7383	Henry Filippini; Unnamed or Rock Spring; Stockwatering	0.016	5-12-50
3457	11	7387	Henry Filippini; Unnamed spring (Wholeys Spring No. 2); Stockwatering	0.003	5-12-50
3458	11	7400	Henry Filippini; Red Mountain Spring No. 2; Stockwatering	0.002	5-12-50
3459	11	7401	Henry Filippini; Red Mountain No. 4 Spring; Stockwatering	0.002	5-12-50
3460	11	7500	Henry Filippini; Addington or Red Mountain Spring; Stockwatering	0.0019	5-12-50
3461	11	7512	Henry Filippini; Granite Spring No. 1; Stockwatering	0.017	5-12-50
3462	11	7513	Henry Filippini; Blue Rock Spring; Stockwatering	0.017	5-12-50
3463	11	7514	Henry Filippini; Placer Gulch Spring; Stockwatering	0.017	5-12-50
3464	11	7543	Henry Filippini; Dry Creek Springs; Stockwatering	0.003	5-12-50
3465	11	7544	Henry Filippini; Summit Spring; Stockwatering	0.003	5-12-50
3466	11	9236	Henry Filippini; Laborde Well No. 5; Stockwatering	0.037	5-12-50
3467	11	10958	Leonard W. Noblitt and Mary Noblitt; Underground (Las Vegas Artesian Basin); Irrigation and domestic	0.02	5-12-50
3468	11	12430	Mrs. Elizabeth Martin and Fernando Segura; Underground; Stockwatering	0.016	5-12-50
3469	11	12349	Elizabeth Martin; Copenhagen Creek; Stockwatering	0.008	5-12-50
3470	11	12045	W. R. Campbell; Underground; Domestic and irrigation	0.06	5-12-50

CHAPTER XXIV

Office Finances

Statement showing receipts and disbursements of State Engineer's office accounts, and statements of receipts and disbursements of other accounts controlled by this office for the period July 1, 1948, to June 30, 1950.

STATE ENGINEER'S FUND

Statement of Receipts and Disbursements, July 1, 1948, to June 30, 1950

Balance July 1, 1948	$8,918.22	
Receipts July 1, 1948, to June 30, 1950	39,002.24	
Disbursements July 1, 1948, to June 30, 1950—		
Deposited with State Treasurer	.....	$25,183.90
Paid for publications, refunds, etc.	.....	13,098.46
Balance July 1, 1950	.....	9,638.10
	$47,920.46	$47,920.46
Cash Reconcilement—		
Balance, Carson Branch, First National Bank of Nevada, July 1, 1950	$8,278.10	
Less outstanding checks	1,147.00	
	$7,131.10	
Plus check returned by bank	7.00	
	$7,138.10	
Revolving Fund	2,500.00	
Balance July 1, 1950	$9,638.10	

STATEMENT OF FEES COLLECTED BY THE STATE ENGINEER FROM JULY 1, 1948, TO JUNE 30, 1950, INCLUSIVE

Month and year	Total fees received	Proofs of appropriation	Applications	State fees	Recording permits	Proofs of commencement	Proofs of completion	Proofs of beneficial use	Protests	Clerical	Blue prints	Excess collections	Advance for certificates
1948													
July	$1,288.15	.....	$375.00	$240.00	$531.00	$6.00	$5.00	$3.00	$5.00	$67.50	$15.65	$40.00	
August	1,679.93	.....	687.50	427.50	427.93	30.00	15.00	6.00	10.00	47.00	22.00	.....	$7.00
September	1,550.00	$10.00	550.00	340.00	487.10	24.00	21.00	14.00	8.00	65.50	11.00	10.40	9.00
October	1,490.00	10.00	6.75	415.00	150.00	18.00	13.00	9.00	9.00	101.00	62.00	24.00	4.00
November	1,260.50	.....	287.50	172.50	631.50	6.00	3.00	5.00	2.00	72.00	17.00	54.00	10.00
December	1,572.80	.....	625.00	380.00	384.50	25.00	14.00	10.00	41.00	63.00	10.30	1.00	19.00
Totals	$8,841.38	$20.00	$3,200.00	$1,975.00	$2,612.03	$109.00	$71.00	$47.00	$75.00	$416.00	$137.95	$129.40	$49.00
1949													
January	$1,253.65	.....	$350.00	$225.00	$487.50	$15.00	$19.00	$7.00	$22.00	$68.00	$44.15	$4.00	$12.00
February	1,335.00	.....	250.00	160.00	674.00	29.00	32.00	31.00	21.00	88.00	2.00	24.00	24.00
March	1,900.95	.....	575.00	420.00	628.70	23.00	24.00	24.00	34.00	86.00	72.25	1.00	13.00
April	714.00	.....	175.00	105.00	220.00	33.00	18.00	16.00	32.00	71.00	14.00	2.00	28.00
May	1,786.70	.....	600.00	405.00	450.00	38.00	26.00	23.00	31.00	114.00	44.70	25.00	30.00
June	1,313.00	.....	535.00	400.00	105.50	12.00	10.00	8.00	21.00	193.00	12.50	15.00	1.00
Totals	$8,303.30	.....	$2,485.00	$1,715.00	$2,565.70	$150.00	$129.00	$109.00	$161.00	$620.00	$189.60	$71.00	$108.00
1949													
July	$1,191.00	.....	$210.00	$150.00	$294.00	$32.00	$15.00	$35.00	$140.00	$274.00	$5.00	$30.00	$6.00
August	2,065.80	.....	630.00	430.00	425.50	54.00	49.00	34.00	60.00	338.00	26.30	1.00	18.00
September	1,675.50	.....	450.00	305.00	475.00	39.00	24.00	24.00	50.00	276.00	21.50	3.00	8.00
October	2,883.00	.....	1,005.00	685.00	393.00	11.00	7.00	22.00	480.00	246.00	26.00	6.00	2.00
November	2,175.00	.....	780.00	525.00	311.00	16.00	12.00	10.00	220.00	252.00	1.00	.....	48.00
December	1,604.60	.....	570.00	380.00	359.60	13.00	15.00	14.00	60.00	143.00	7.00	23.00	20.00
Totals	$11,594.90	.....	$3,645.00	$2,475.00	$2,258.10	$165.00	$122.00	$139.00	$1,010.00	$1,529.00	$86.80	$63.00	$102.00
1950													
January	$1,432.00	.....	$425.00	$290.00	$346.00	$6.00	$9.00	$7.00	$100.00	$199.00	$1.00	$5.00	$34.00
February	1,861.01	.....	450.00	310.00	517.10	9.00	21.00	16.00	50.00	287.16	168.75	6.00	26.00
March	2,350.20	.....	1,035.00	695.00	201.00	24.00	25.00	13.00	70.00	237.00	28.20	1.00	21.00
April	1,240.70	$10.00	300.00	205.00	327.00	10.00	20.00	8.00	140.00	189.00	8.70	1.00	22.00
May	1,756.25	.....	345.00	235.00	534.15	33.00	30.00	19.00	70.00	380.00	100.10	.....	10.00
June	1,622.50	50.00	600.00	405.00	94.50	44.00	23.00	6.00	130.00	255.00	6.00	3.00	6.00
Totals	$10,262.66	$60.00	$3,165.00	$2,140.00	$2,019.75	$126.00	$128.00	$69.00	$560.00	$1,547.16	$312.75	$16.00	$119.00
Grand totals	39,002.24	80.00	12,495.00	8,305.00	9,455.58	550.00	450.00	364.00	1,806.00	4,112.16	727.10	279.40	378.00

STATEMENT OF DISBURSEMENTS FROM STATE ENGINEER'S FUND FOR PERIOD JULY 1, 1948, TO JUNE 30, 1950

Month and year	Total disbursements	Publications	Refunds	Recording certificates	Blue prints	Deposited with State Treasurer	Recording certificates under proofs of appropriation
1948							
July	$1,032.39	$100.00	$40.00	$13.00	$14.07	$865.32	
August	1,708.93	587.50	135.00	.....	.....	986.43	
September	1,525.90	350.00	185.40	17.00	.....	973.50	
October	1,595.60	662.50	195.50	.....	.....	737.60	
November	1,930.52	887.50	104.00	.....	37.52	901.50	
December	1,693.05	712.50	6.00	29.00	22.90	922.65	
Totals	$9,486.39	$3,300.00	$665.90	$59.00	$74.49	$5,387.00	
1949							
January	$1,472.07	$487.50	$104.00	$6.00	.....	$865.57	$9.00
February	1,861.00	662.50	150.50	12.00	.....	1,036.00	
March	1,436.16	50.00	49.50	24.00	$36.84	1,275.82	
April	1,249.50	712.50	2.00	38.00	.....	497.00	
May	1,438.99	287.50	26.00	10.00	30.49	1,085.00	
June	1,095.50	300.00	40.00	6.00	.....	749.50	
Totals	$8,553.22	$2,500.00	$372.00	$96.00	$67.33	$5,508.89	$9.00
1949							
July	$1,420.00	$225.00	$255.00	.....	.....	$940.00	
August	1,832.00	425.00	13.50	$3.00	.....	1,390.50	
September	1,914.02	677.50	3.00	.....	$40.52	1,193.00	
October	2,022.50	72.50	106.00	.....	.....	18.44	
November	2,306.50	932.50	.....	28.00	.....	1,346.00	
December	1,787.10	732.50	38.00	32.00	.....	984.60	
Totals	$11,282.12	$3,065.00	$415.50	$63.00	$40.52	$7,698.10	
1950							
January	$1,456.59	$380.00	$35.00	$44.00	$40.59	$957.00	
February	1,493.26	235.00	6.00	42.00	.....	1,210.26	
March	1,484.00	160.00	32.50	18.00	8.50	1,265.00	
April	1,456.63	465.00	41.00	23.00	28.63	899.00	
May	1,466.15	135.00	15.00	15.00	.....	1,301.15	
June	1,604.00	642.50	3.00	1.00	.....	957.50	
Totals	$8,960.63	$2,017.50	$132.50	$143.00	$77.72	$6,589.91	

STATEMENT OF EXPENDITURES FROM APPROPRIATION FOR SUPPORT OF STATE ENGINEER'S OFFICE FOR THE PERIOD FROM JULY 1, 1948, TO JUNE 30, 1950

Month and year	Statutory salaries	Office salaries	Travel expense	Office expense	Equipment	Total	Appropriation by Legislature
Balance July 1, 1948	----------	----------	----------	----------	----------	----------	$33,723.85
1948							
July	$1,067.90	$1,242.04	$250.65	$166.50	----------	$2,727.09	
August	1,067.90	1,418.79	234.42	112.24	$285.99	3,119.34	
September	1,067.90	1,408.07	210.77	265.56	35.51	2,987.81	
October	1,067.90	925.80	234.38	116.90	----------	2,344.98	
November	1,067.90	925.80	265.92	227.42	----------	2,487.04	
December	1,067.90	1,269.53	354.69	40.10	----------	2,732.22	*13.15
Totals	$6,407.40	$7,190.03	$1,550.83	$928.72	$321.50	$16,398.48	$33,737.00 16,398.48
Balance January 1, 1949	----------	----------	----------	----------	----------	----------	$17,338.52
1949							
January	$1,067.90	$1,354.53	$383.78	$127.69	----------	$2,933.90	
February	1,067.90	1,349.73	144.31	188.59	----------	2,750.53	
March	1,067.90	1,269.53	137.93	76.88	----------	2,552.24	
April	1,067.90	1,513.28	187.90	105.37	----------	2,874.45	
May	1,067.90	1,517.46	222.49	131.68	----------	2,939.53	
June	1,068.30	1,847.77	280.84	80.37	$7.22	3,284.50	
Totals	$6,407.80	$8,852.30	$1,357.25	$710.58	$7.22	$17,335.15	$17,338.52 17,335.15
Reverted July 1, 1949	----------	----------	----------	----------	----------	----------	$3.37
1949							
July	$1,283.32	$1,314.14	$201.03	$234.48	----------	$3,032.97	$71,080.00
August	1,283.32	1,606.69	130.24	201.80	$177.10	3,399.15	†9,320.00
September	1,283.32	1,499.52	622.18	168.72	2,562.77	6,136.51	*740.00
October	1,283.32	1,366.64	177.53	318.84	16.60	3,162.93	
November	1,283.32	1,518.89	296.04	210.60	----------	3,308.85	
December	1,283.32	1,493.20	142.56	156.58	----------	3,075.66	
Totals	$7,699.92	$8,799.08	$1,569.58	$1,291.02	$2,756.47	$22,116.07	$81,140.00 22,116.07
Balance January 1, 1950	----------	----------	----------	----------	----------	----------	$59,023.93

1950							
January	$1,283.32	$1,504.14	$69.02	$179.59	$14.00	$3,050.07	
February	1,283.32	1,533.29	343.84	236.14	7.00	3,403.59	
March	1,283.32	1,654.64	45.07	160.85	51.15	3,195.03	
April	1,283.32	1,426.57	151.77	141.54	.....	3,003.20	
May	1,283.32	1,366.64	297.99	56.32	78.56	3,082.83	*$21.00
June	1,283.32	1,591.64	220.15	145.67	135.44	3,376.22	
Totals	$7,699.92	$9,076.92	$1,127.84	$920.11	$286.15	$19,110.94	$59,044.93
							19,110.94
Balance July 1, 1950	.....	.....	.....	.....	.....	.....	$39,933.99

*Miscellaneous receipts. †Transfer by controller.

HUMBOLDT WATER DISTRIBUTION DISTRICT

Statement of Receipts and Disbursements July 1, 1948, to June 30, 1949

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948				$34,111.15
1948				
July	$1,935.00	$955.61	$2,890.61	
August	1,702.60	1,282.03	2,984.63	
September	1,188.00	2,478.82	3,666.82	$49.59
October	1,300.00	2,116.86	3,416.86	
November	1,025.00	754.09	1,779.09	
December	1,283.00	1,412.68	2,695.68	557.28
	$8,433.60	$9,000.09	$17,433.69	$34,718.02
				17,433.69
Balance January 1, 1949				$17,284.33
1949				
January	$1,075.00	$1,004.51	$2,079.51	
February	1,075.00	1,191.37	2,266.37	$85.12
March	1,197.40	392.36	1,589.76	
April	1,638.40	863.61	2,502.01	498.23
May	2,087.40	970.98	3,058.38	203.95
June	2,535.40	2,858.43	5,393.83	31,650.03
	$9,608.60	$7,281.26	$16,889.86	$49,721.66
				16,889.86
				$32,831.80
Less transfer of delinquencies for 1947 tax receipts				196.63
Balance July 1, 1949				$32,635.17

HUMBOLDT WATER DISTRIBUTION DISTRICT—STATEMENT OF DISBURSEMENTS JULY 1, 1949, TO JUNE 30, 1950, INCLUSIVE (HUMBOLDT RIVER)

	Compensation	Travel	U. S. Geologic Survey	Telephone and telegraph	Rent	Car, gas, and oil	Other expense	Supplies, equipment	Miscellaneous	Advisory Board	Total
1949											
July	$1,734.05	$151.95	.....	$12.56	.....	$344.37	$177.80	$694.60	$0.75	.....	$3,116.08
August	1,269.55	18.50	$248.94	4.50	.....	377.36	453.65	1,001.72	78.60	.....	3,452.82
September	1,093.55	90.00	163.21	10.65	.....	215.39	29.70	5.20	.....	$133.80	1,741.50
October	946.80	24.00	175.00	6.59	.....	120.57	28.70	39.25	.....	33.55	1,374.46
November	723.80	126.25	175.00	.36	.....	96.47	.....	157.08	.....	92.39	1,371.35
December	1,224.26	145.25	756.77	10.35	.....	91.51	23.20	162.57	.....	109.20	2,523.11
	$6,992.01	$555.95	$1,518.92	$45.01	.....	$1,245.67	$713.05	$2,060.42	$79.35	$368.94	$13,579.32
1950											
January	$817.55	$109.00	.....	$7.45	.....	$118.72	$50.37	$421.34	.....	.....	$1,524.43
February	812.50	219.60	.....	10.72	.....	66.19	150.03	134.39	.....	.....	1,393.43
March	737.60	87.96	.....	10.45	.....	77.43	24.34	283.46	.....	.....	1,221.24
April	518.55	57.25	$873.22	12.69	.....	84.42	122.32	549.98	.....	.....	2,218.43
May	1,596.80	67.75	30.50	15.72	.....	127.75	91.75	1,394.29	.....	.....	3,324.56
June	1,313.55	35.00	119.39	21.73	.....	206.61	69.54	399.78	.....	.....	2,165.60
	$5,796.55	$576.56	$1,023.11	$78.76	.....	$681.12	$508.35	$3,183.24	.....	.....	$11,847.69
Transferred to Little Humboldt and Quinn Rivers	.....	.....	*$1,023.11*	.....	.....	.....	.....	.....	.....	.....	*$1,023.11*
Nevada Cattle Company receipt May 25, 1950	.....	.....	.....	.....	.....	.....	.....	*$28.05*	.....	.....	*28.05*
											$10,796.53

HUMBOLDT WATER DISTRIBUTION DISTRICT—STATEMENT OF DISBURSEMENTS JULY 1, 1949, TO JUNE 30, 1950, INCLUSIVE (LITTLE HUMBOLDT)

	Compensation	Travel	U. S. Geologic Survey	Telephone and telegraph	Car, gas, and oil	Other expense	Supplies, equipment	Totals
1949								
July	$258.00	$17.25	----------	----------	$18.04	$105.00	$50.00	$448.29
August	373.50	17.25	----------	$4.09	89.72	170.64	38.70	693.90
September	315.50	34.50	----------	15.57	63.38	----------	1.50	430.45
October	256.25	21.56	----------	10.50	43.88	2.00	----------	334.19
November	231.25	16.00	----------	----------	40.19	22.60	35.00	345.04
December	152.50	16.00	----------	----------	31.64	10.40	5.80	216.34
	$1,587.00	$122.56	----------	$30.16	$286.85	$310.64	$131.00	$2,468.21
1950								
January	$137.50	----------	----------	----------	$41.28	$30.67	$2.20	$211.65
February	137.50	----------	----------	----------	31.07	2.50	----------	171.07
March	174.50	$9.25	----------	$3.35	5.56	----------	----------	192.66
April	508.00	67.75	----------	5.95	24.61	20.00	17.00	643.31
May	402.50	16.00	----------	----------	66.83	141.60	78.64	705.57
June	402.50	48.00	----------	4.60	103.93	60.90	4.95	624.88
	$1,762.50	$141.00	----------	$13.90	$273.28	$255.67	$102.79	$2,549.14
Transferred from Humboldt	----------	----------	$62.58	----------	----------	----------	----------	62.58
								$2,611.72

HUMBOLDT WATER DISTRIBUTION DISTRICT—STATEMENT OF DISBURSEMENTS JULY 1, 1949, TO JUNE 30, 1950 (QUINN RIVER)

	Compensation	Travel	U. S. Geologic Survey	Telephone and telegraph	Car, gas, and oil	Other expense	Totals
1949							
July	$61.00	$30.75	.....	$4.55	$74.01	.....	$170.31
August	.....	.....	.....	.....	15.87	$50.00	65.87
September	.....	25.25	.....	.....	10.12	.75	36.12
	$61.00	$56.00	.....	$4.55	$100.00	$50.75	$272.30
1950							
April	.....	$17.25	.....	.....	.....	.....	$17.25
May	.....	24.00	.....	.....	$7.30	.....	31.30
June	.....	.....	.....	.....	7.13	.....	7.13
	.....	$41.25	.....	.....	$14.43	.....	$55.68
Transfers from Humboldt	.....	.....	960.53	.....	.....	.....	960.53
	.....	$41.25	$960.53	.....	$14.43	.....	$1,016.21

HUMBOLDT WATER DISTRIBUTION DISTRICT—STATEMENT OF DISBURSEMENTS JULY 1, 1949, TO JUNE 30, 1950 (HUMBOLDT GENERAL)

	Compensation	Travel	U. S. Geologic Survey	Telephone and telegraph	Rent	Car, gas, and oil	Other expense	Supplies, equipment	Miscellaneous	Insurance, retirement	Totals	Industrial commission
1949												
July	$175.00	.....	$216.57	$5.00	$75.00	$23.03	$43.78	$62.40	$5.06	$103.02	$708.86	
August	185.00	.....	.....	5.00	75.00	.....	37.01	3.68	.....	149.88	455.57	
September	175.00	.....	.....	6.70	75.00	16.49	110.37	4.13	.....	137.35	525.04	
October	175.00	.....	.....	5.00	75.00	.....	44.62	11.88	.....	107.67	419.17	
November	175.00	.....	.....	21.05	75.00	.....	91.30	64.64	.....	100.90	527.89	
December	175.00	.....	.....	5.00	75.00	.....	13.75	1.61	.....	421.84	692.20	$114.76
	$1,060.00	.....	$216.57	$47.75	$450.00	$39.52	$340.83	$148.34	$5.06	$1,020.66	$3,328.73	$114.76
1950												
January	$187.50	.....	$175.00	$32.15	$75.00	.....	$27.55	$8.70	.....	$78.75	$584.65	
February	287.50	$19.75	184.25	14.75	75.00	.....	52.74	270.55	.....	79.38	983.92	
March	200.00	14.75	18.92	38.40	75.00	$4.50	61.90	14.70	.....	84.38	512.55	
April	200.00	.....	9.25	32.58	75.00	.....	40.45	52.81	.....	152.90	562.99	
May	210.95	.....	.....	16.85	75.00	.....	.....	1,351.98	.....	80.00	1,734.78	
June	168.76	.....	.....	26.78	75.00	3.45	3.00	220.40	.....	80.57	557.96	
	$1,254.71	$34.50	$387.42	$161.51	$450.00	$7.95	$185.64	$1,919.14	.....	$555.98	$4,956.85	

NOTE—The expenditures covered by this statement affect the entire Distribution District. At the end of each six-months' period the charges will be pro rated and placed against the proper account, however, the first pro rating covered an entire calendar year and it was impossible to segregate the charges for this report which covers fiscal year periods.

HUMBOLDT WATER DISTRIBUTION DISTRICT—STATEMENT OF DISBURSEMENTS JULY 1, 1949, TO JUNE 30, 1950 (SALMON RIVER)

	Compensation	Travel	Telephone and telegraph	Car, gas, and oil	Other expense	Supplies, equipment	Total
1949							
July	$264.00	$9.25	----------	$29.95	$75.00	$57.71	$435.91
August	273.00	----------	----------	73.27	77.50	----------	423.77
September	8.00	----------	----------	63.39	1.00	----------	72.39
October	----------	----------	----------	5.24	----------	----------	5.24
	$545.00	$9.25	----------	$171.85	$153.50	$57.71	$937.31
1950							
February	----------	$21.50	----------	----------	----------	----------	$21.50
March	$193.00	111.50	$8.43	$1.52	$0.75	$71.31	386.51
April	661.50	149.00	.45	65.21	48.15	922.73	1,847.04
May	405.00	10.50	.95	95.53	61.48	2.35	575.81
June	240.00	8.00	----------	98.46	60.00	.75	407.21
	$1,499.50	$300.50	$9.83	$260.72	$170.38	$997.14	$3,238.07

HUMBOLDT WATER DISTRIBUTION DISTRICT—STATEMENT OF DISBURSEMENTS JULY 1, 1949, TO JUNE 30, 1950 (HUMBOLDT SURVEY)

	Compensation	Travel	Telephone and telegraph	Car, gas, and oil	Other expense	Supplies, equipment	Miscellaneous	Totals
1949								
July	$416.66	----------	----------	----------	$0.60	----------	----------	$417.26
August	416.66	----------	----------	----------	----------	$1,194.52	$78.60	1,689.78
September	416.66	$85.50	----------	$11.02	94.97	16.73	----------	624.88
October	416.66	100.25	----------	30.07	58.72	----------	----------	605.70
November	416.66	----------	$2.50	23.43	8.90	----------	----------	451.49
December	----------	51.55	4.95	28.12	14.00	20.75	----------	119.37
	$2,083.30	$237.30	$7.45	$92.64	$177.19	$1,232.00	$78.60	$3,908.48
1950								
January	$416.66	----------	----------	$16.09	----------	$9.35	----------	$442.10
February	416.66	----------	----------	16.46	$5.55	326.00	----------	764.67
March	416.66	----------	----------	7.41	----------	----------	----------	424.07
April	416.66	----------	----------	10.22	12.50	36.25	----------	475.63
May	416.66	$8.00	----------	4.90	59.70	11.00	----------	500.26
June	416.66	96.00	----------	----------	----------	----------	----------	512.66
Totals	$2,499.96	$104.00	----------	$55.08	$77.75	$382.60	----------	$3,119.39

HUMBOLDT WATER DISTRIBUTION DISTRICT

Statement of Receipts and Disbursements from July 1, 1949, to June 30, 1950

	Disbursements	Receipts
Balance July 1, 1949	.....	$32,635.17
Receipts July 1, 1949, to June 30, 1950	.....	53,296.47
Humboldt River	$24,375.85	
Little Humboldt	5,079.93	
Quinn River	1,288.51	
Humboldt General	8,285.58	
Salmon River	4,175.38	
Humboldt Survey	7,027.87	
	$50,233.12	$85,931.64
		50,233.12
		$35,698.52
Transfer to cover delinquent taxes for 1948 tax receipts		436.54
Balance July 1, 1950		$35,261.98

MUDDY RIVER DISTRIBUTION DISTRICT

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948	.....	.....	.....	$1,764.28
1948				
August	$250.00	$10.50	$260.50	
September	.....	293.18	293.18	
	$250.00	$303.68	$553.68	$1,764.28
				553.68
Balance January 1, 1949	.....	.....	.....	$1,210.60
1949				
January	$260.00	$74.71	$334.71	
May	.....	16.00	16.00	
June	230.00	.....	230.00	1,154.25
	$490.00	$90.71	$580.71	$2,364.85
				580.71
Balance July 1, 1949	.....	.....	.....	$1,784.14
1949				
July	.....	$10.00	$10.00	
November	.....	333.47	333.47	
December	$360.00	243.91	603.91	
	$360.00	$587.38	$947.38	$1,784.14
				947.38
Balance July 1, 1950	.....	.....	.....	$836.76

CURRANT AND DUCKWATER DISTRIBUTION DISTRICT

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948	----------	----------	----------	$2,115.46
1948				
July	$258.00	$109.50	$367.50	
August	492.50	542.99	1,035.49	
September	542.50	234.63	777.13	
October	----------	21.00	21.00	
November	225.00	72.80	297.80	621.73
	$1,518.00	$980.92	$2,498.92	$2,737.19
				2,498.92
Balance January 1, 1949	----------	----------	----------	$238.27
1949				
January	----------	$10.50	$10.50	
May	$350.00	39.10	389.10	170.33
June	310.00	139.45	449.45	2,919.60
	$660.00	$189.05	$849.05	$3,328.20
				849.05
Balance July 1, 1949	----------	----------	----------	$2,479.15
1949				
July	$300.00	$83.30	$383.30	
August	310.00	119.80	429.80	
September	310.00	89.15	399.15	
October	300.00	88.80	388.80	
November	----------	15.50	15.50	
December	----------	37.60	37.60	323.68
	$1,220.00	$434.15	$1,654.15	$2,802.83
				1,654.15
				$1,148.68
Transfer to cover delinquent taxes for 1948 receipts	----------	----------	----------	4.69
Balance January 1, 1950	----------	----------	----------	$1,143.99
1950				
January	$75.00	----------	$75.00	
February	25.00	$5.25	30.25	
March	25.00	----------	25.00	
June	375.63	----------	375.63	2,019.60
	$500.63	$5.25	$505.88	$3,163.59
				505.88
Balance July 1, 1950	----------	----------	----------	$2,657.71

BAKER AND LEHMAN DISTRIBUTION DISTRICT

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948	.....	.....	.....	$502.39
1948				
August	$120.00	.....	$120.00	
October	300.00	.....	300.00	
	$420.00	.....	$420.00	$502.39
				420.00
Balance January 1, 1949	.....	.....	.....	$82.39
1949				
May	$40.00	$16.00	$56.00	74.91
June	120.00	2.00	122.00	689.21
	$160.00	$18.00	$178.00	$846.51
				178.00
Balance July 1, 1949	.....	.....	.....	$668.51
1949				
July	$120.00	$1.60	$121.60	
August	120.00	13.00	133.00	
September	120.00	6.50	126.50	
October	60.00	6.50	66.50	
November	.....	3.00	3.00	
December	.....	11.60	11.60	
	$420.00	$42.20	$462.20	$462.20
				$206.31
Transfer to cover delinquent taxes for 1948 tax receipts	.....	.....	.....	.10
				$206.21
1950				
May	$32.50	.....	$42.50	
June	139.50	.....	139.50	689.21
	$172.00	.....	$172.00	$895.42
				172.00
Balance July 1, 1950	.....	.....	.....	$723.42

PAHRANAGAT LAKE DISTRIBUTION DISTRICT

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948	.....	.....	.....	$1,114.91
1948				
July	$75.00	.....	$75.00	
August	75.00	$13.50	88.50	
September	75.00	.....	75.00	
November	75.00	.....	75.00	
	$300.00	$13.50	$313.50	$1,114.91
				313.50
Balance January 1, 1949	.....	.....	.....	$801.41
1949				
January	$48.00	$56.00	$104.00	
May	.....	16.00	16.00	
June	102.50	46.91	149.41	935.46
	$150.50	$118.91	$269.41	$1,736.87
				269.41
				$1,467.46
Less transfer of delinquencies on 1948 tax receipts	.....	.....	.....	11.84
Balance as of July 1, 1949	.....	.....	.....	$1,455.62
1949				
July	$75.00	$632.53	$707.53	
August	75.00	4.25	79.25	
September	75.00	4.25	79.25	
October	75.00	4.25	79.25	
November	.....	4.25	4.25	†211.08
December	.....	8.05	8.05	*10.31
	$300.00	$657.58	$957.58	$1,677.01
				957.58
Balance January 1, 1950	.....	.....	.....	$719.43
1950				
June	$100.00	.....	$100.00	$936.84
	$100.00	.....	$100.00	$1,656.27
				100.00
Balance July 1, 1950	.....	.....	.....	$1,556.27

*Overpayment of 1948 taxes. †Miscellaneous receipts.

LAS VEGAS ARTESIAN BASIN DISTRICT

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948	.....	.....	.....	$5,880.93
1948				
July	$300.00	$323.01	$623.01	
August	300.00	77.97	377.97	
September	300.00	85.55	385.55	65.00
October	300.00	44.55	344.55	
November	300.00	149.25	449.25	
December	.....	11.15	11.15	
	$1,500.00	$691.48	$2,191.48	$5,945.93
				2,191.48
Balance January 1, 1949	.....	.....	.....	$3,754.45
1949				
January	$300.00	$32.15	$332.15	
February	300.00	371.35	671.35	414.47
March	300.00	69.65	369.65	
April	300.00	67.42	367.42	
May	300.00	11.15	311.15	
June	300.00	24.20	324.20	3,416.50
	$1,800.00	$575.92	$2,375.92	$7,585.42
				2,375.92
Balance July 1, 1949	.....	.....	.....	$5,209.50
1949				
July	$340.28	$65.47	$405.75	
August	333.33	96.88	430.21	
September	333.33	70.20	403.53	
October	333.33	76.16	409.49	
November	333.33	53.57	386.90	
December	333.33	77.66	410.99	89.16
	$2,006.93	$439.94	$2,446.87	$5,298.66
				2,446.87
Balance January 1, 1950	.....	.....	.....	$2,851.79
1950				
January	.....	$139.00	$139.00	
February	$333.33	36.15	369.48	
March	333.33	60.11	393.44	
April	333.33	34.32	367.65	
May	333.33	29.37	362.70	
June	333.33	45.27	378.60	3,491.50
	$1,666.65	$344.22	$2,010.87	$6,343.29
				2,010.87
Balance July 1, 1950	.....	.....	.....	$4,332.42

PAHRUMP VALLEY ARTESIAN BASIN DISTRICT

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948	----------	----------	----------	$1,672.29
1948				
February	----------	----------	----------	134.29
December	$300.00	----------	$300.00	
	$300.00	----------	$300.00	$1,806.58 300.00
Balance January 1, 1949	----------	----------	----------	$1,506.58
1949				
February	----------	$200.00	$200.00	
May	----------	48.00	48.00	
June	----------	----------	----------	800.00
	----------	$248.00	$248.00	$2,306.58 248.00
Balance July 1, 1949	----------	----------	----------	$2,058.58
1949				
July	----------	$28.26	$28.26	
August	$72.00	----------	72.00	
September	----------	3.60	3.60	
	$72.00	$31.86	$103.86	$2,058.58 103.86
				$1,954.72
Transfer to cover delinquent 1948 tax receipts	----------	----------	----------	26.04
Balance January 1, 1950	----------	----------	----------	$1,928.68
1950				
January	$333.33	----------	$333.33	
February	----------	$17.17	17.17	1,000.00
	$333.33	$17.17	$350.50	$2,928.68 350.50
Balance July 1, 1950	----------	----------	----------	$2,578.18

UNDERGROUND WATER

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948	.....	.....	.....	$26,484.18
1948				
July	$165.00	$104.96	$269.96	
August	68.00	327.44	395.44	
September	30.00	175.24	205.24	
October	155.00	7,579.53	7,734.53	
November	.....	1,009.92	1,009.92	
December	.....	79.97	79.97	
	$418.00	$9,277.06	$9,695.06	$26,484.18
				9,695.06
Balance January 1, 1949	.....	.....	.....	$16,789.12
1949				
January	$170.00	$135.90	$305.90	
February	15.00	1,105.93	1,120.93	
March	215.50	5,289.47	5,504.97	
April	175.00	161.01	336.01	
May	15.00	1,876.23	1,891.23	
June	215.00	7,408.03	7,623.03	
	$805.50	$15,976.57	$16,782.07	$16,789.12
				16,782.07
Reverted July 1, 1949	.....	.....	.....	$7.05
Appropriation by Legislature	.....	.....	.....	$30,000.00
1949				
July	$180.00	$5.00	$185.00	
August	125.30	172.12	297.42	
September	219.75	116.36	336.11	
October	4,812.03	98.39	4,910.42	
November	15.00	66.62	81.62	
December	119.75	12.60	132.35	
	$5,471.83	$471.09	$5,942.92	$30,000.00
				5,942.92
Balance January 1, 1950	.....	.....	.....	$24,057.08
1950				
January	$203.90	$94.69	$298.59	
February	10.00	189.00	199.00	
March	181.00	29.22	210.22	
April	5,093.57	38.00	5,131.57	
May	15.00	24.60	39.60	
June	186.00	72.67	258.67	
	$188.90	$5,948.75	$6,137.65	$24,057.08
				6,137.65
Balance July 1, 1950	.....	.....	.....	$17,919.43

COOPERATIVE STREAM MEASUREMENT

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948				$5,167.86
1948				
July				270.62
August	$2,223.46	$270.62	$2,494.08	300.00
October	2,730.26		2,730.26	
	$4,953.72	$270.62	$5,224.34	$5,738.48
				5,224.34
Balance January 1, 1949				$514.14
1949				
April				456.80
May	$1,270.94		$1,270.94	300.00
				$1,270.94
1949				
December				$9,200.00
Disbursements		$3,347.86		3,347.86
Balance January 1, 1950				$5,852.14
1950				
February	$2,246.45		$2,246.45	
June				1,058.00
				$6,910.14
				2,246.45
Balance July 1, 1950				$4,663.69

COOPERATIVE SNOW SURVEY

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1949

Month and year	Salaries	Administration	Total	Receipts
Balance July 1, 1948				$1,399.36
1948				
August		$166.42	$166.42	
September		72.50	72.50	
November		219.88	219.88	
December		35.40	35.40	
Totals		$494.20	$494.20	$1,399.36
				494.20
Balance January 1, 1949				$905.16
1949				
February		$6.75	$6.75	
March	$618.50	88.61	707.11	
May		41.75	41.75	
June	149.00		149.00	
Totals	$767.50	$137.11	$904.61	$905.16
				904.61
Reverted July 1, 1949				$0.55
1949				
October		$22.40	$22.40	
November		20.89	20.89	
December	$67.00	62.60	129.60	$3.000.00
Totals	$67.00	$105.89	$172.89	$172.89
				$2,827.11
1950				
January		$67.00		
February		81.23		
March		743.55		
April		423.46		
May		80.00		
June		20.00		
Totals		$1,415.24		$2,827.11
				1,415.24
Balance July 1, 1950				$1,411.87

WELL DRILLERS LICENSE FUND

Statement of Receipts and Disbursements from July 1, 1948, to June 30, 1950

Month and year	Administration	Receipts
Balance July 1, 1948		$245.24
1948		
September		$53.00
October	$15.00	
November	19.95	35.00
December	1.00	
Totals	$35.95	$332.24
		35.95
Balance January 1, 1949		$296.31
1949		
January		15.00
March		5.00
April	$15.00	
May	1.00	17.00
Totals	$16.00	$333.31
		16.00
Balance July 1, 1949		$317.31
1949		
July		$115.00
September	$10.56	22.00
October	16.00	
November		7.00
Totals	$26.56	$461.31
		26.56
Balance January 1, 1950		$434.75
1950		
January	$72.82	7.00
March		32.00
April	6.10	
	$78.92	$473.75
		78.92
Balance July 1, 1950		$394.83

CHAPTER XXV

COLORADO RIVER COMMISSION

Synopsis of Proceedings June 1, 1948, to January 1, 1950

FOREWORD

My last report covered the biennium June 1, 1946, to May 31, 1948. The past two years have been eventful, particularly for Southern Nevada. More than two successful years of operation of the Basic Magnesium Project at Henderson, Nevada, have been favorably concluded by the Colorado River Commission. The State assumed control of this project on March 30, 1948, by contract with War Assets Administration. The Colorado River Commission took title for a consideration of $1 in cash, and the agreement provides for payment thereafter of all net revenues derived from operation of the property for 20 years, or until a total of $24,000,000 has been paid, whichever is earlier. An arbitration committee was appointed to settle any controversies. If the seller, War Assets Administration, should procure a purchaser from private industry after one year has elapsed, the Commission shall reconvey the property to the government, excluding only the electric, water, and sewerage systems. After three years the arbitration committee may meet at the call of the seller and agree upon a lesser total minimum payment by the State, but if the government is not satisfied with the revenue it may request reconveyance on three-months' notice.

The contract also provides that if revenue from the property does not provide sufficient funds for proper upkeep and maintenance the State shall have the right to supply the deficiency from its own funds, or to reconvey the plant and property to General Service Administration, subject to outstanding leases, upon three months' written notice of its intention.

The operation of the Basic project created a great amount of work for the Commission, but has been very satisfactory to the Commission and to General Services Administration, which is now its Federal successor to WAA. More than $5,000,000 has been paid on the State's obligation, of which $600,000 is from profits earned in operation, and the remainder from sale of surplus property. The financial showing for the period is especially good, considering the many ups and downs incident to the sweeping changes in operation at the plant which were necessary during a time of national financial unrest. The financial statement published herein shows unusually good progress with this immense, complex enterprise. A solid foundation for the existing industries at Henderson was established by John V. Mueller, a member of the Colorado River Commission, who temporarily had agreed to take charge of the project. On November 12, 1949, S. R. DuBravac was appointed Project Manager. He and Mueller have interviewed a great number of manufacturing companies desiring to lease plant space and obtain electric power and water, with the satisfactory result that 75 percent of the large buildings at the site are now leased, and

during the year 1951 several large new industries will go into operation. The numerous procedures that brought about this satisfactory situation are related in the following abstract of the Commission's proceedings during the period:

SUMMARY OF MINUTES OF MEETINGS

The proceedings at all meetings were taken by Soundscriber or Wire-recorder, and full copies of the transcriptions are filed in the office of the secretary at Carson City. A condensed summary of the more important proceedings follows, headed by the date and place of each meeting. With but few exceptions the entire Commission was present at all meetings. Names of other persons present, except where pertinent to the transactions, have been omitted.

LAS VEGAS, NEVADA, JULY 1, 1948

Gabbs Housing.

Mr. John Loman of Cleveland, Ohio, and A. J. Conours of Gabbs, Nevada, both representing Basic Refractories, Inc., of Cleveland, appeared with their attorney, William Woodburn, of Reno, Nevada.

The object of this company was to reserve and obtain control, if possible, of some 75 houses at Gabbs townsite for the benefit of present and future employees. The houses were built by War Assets Administration at the time a large mining, quarrying and milling operation of magnesite was installed there during the war to supply the reduction plant at Henderson (BMI) with calcined magnesia. Much of the equipment for that purpose had been sold and removed since the war, but Basic Refractories and Standard Slag Co. contemplated continuing the mining and shipping of magnesite to their eastern plants. Their output was 40,000 tons per year.

The Commission voted for the Attorney General and J. V. Mueller to take the matter up with WAA, with a view of obtaining control of the housing for benefit of the State and the lessees.

Caliente's Appeal for Small Industries.

A committee from the town of Caliente appeared before the Commission, consisting of Lloyd C. Denton, Gus H. Gottfredson, Evan H. Edwards and Phil Dolan. They wished to learn if any progress had been made toward getting some smaller industries to investigate Caliente as a location, with the possibility of obtaining electric energy from Boulder Dam. They feared a collapse of the town as a result of its elimination as a division point on the Union Pacific Railroad following installation of Diesel motive power by the railroad. They had previously written the Commission regarding this. Governor Pittman informed them that he had a letter from the president of the railroad, Mr. Ashby, saying that the railroad's extensive housing at Caliente would be left intact, and would be available for renting to industrial laborers. The Commission could promise nothing in the way of industry for Caliente, but would endeavor to route small industries unsuitable for location at Henderson out to Caliente.

Need of Power Contracts With Lessees at BMP.

Next was considered the necessity of present lessees at Basic taking

out long-term contracts for power; the major lessees being Stauffer Chemical Co. and Western Electrochemical Company. Mr. Bible, Attorney General, stated that he and Mr. Smith had prepared a draft of a model contract for discussion with the lessees. It was agreed that Bible and Smith try to reach an agreement on this power contract with representatives of the two lessees present.

Protection for Nevada's Power.

In accordance with a motion that had been passed at a meeting held in Las Vegas, April 3, Secretary Smith read a letter dated May 12, 1948, that had been drafted and sent to the Secretary of the Interior, Julius A. Krug, in regard to safeguarding Nevada's power. The letter follows:

Dear Mr. Secretary:

In accordance with the Boulder Canyon Project, Adjustment Act (54 Stats. 774) and the General Regulations approved and promulgated for generation and sale of power thereunder dated May 20, 1941, the State of Nevada was allocated 17.6259 percent of the firm energy generated at Hoover Dam power plant.

The government's obligation to deliver energy to the State is set forth in Section 10 (a) of the Master Contract between the U. S. of America and the State of Nevada dated May 29, 1941, and reads as follows:

"10. (a) Subject to:

(i) * * * * * * * and
(ii) * * * * * * * *; the

United States will deliver to the State energy in quantity to which the State is entitled hereunder, and in accordance with the State's load requirements."

Also see Section 8 (b) and (9 (a) of the same contract.

Section 4 (b) (iv) of the said General Regulations provides the manner in which the States (Arizona and Nevada) may withdraw and use the energy allocated to each. This section in part provides as follows:

"Except as hereinabove provided in this article, each of the States of Arizona and Nevada may at any time prior to May 31, 1987, enter into a contract or contracts with the United States which shall entitle it to all or any part of the energy allocated it for use within such State. Such contract or contracts shall continue in force until May 31, 1987, but shall obligate the United States to deliver energy, and the State to take and/or pay for the same, only in accordance with notices of withdrawal of energy and notices of relinquishment of energy given as hereinafter provided."

So much of the energy allocated to the States not contracted for by them and not in use by them or the Metropolitan Water District of Southern California shall be taken and paid for by the other allottees according to specified percentages for each allottee. Section 4 (b) (iv), under "Schedule of Withdrawal of Energy," also provides: "* * * *.

All energy taken by the State shall first be released by the City, the Company, and the Nevada-California Electric Corporation severally in the proportion of their respective obligations with reference thereto. In the event that energy required by the State shall be in quantity exceeding that which the above allottees are obligated so to release, such excess, to the extent that energy allocated to the State may be in use by the District shall be released by the District."

All of the energy allocated to the States is now being generated upon machinery installed for use by other allottees, and is in use by them, except such energy as has been withdrawn by Nevada. This generating machinery, however, remains the property of the Government. It is apparent when such energy is diverted to the States, that subject to physical facilities for delivery it may still be generated in the same manner as when it is in use by other allottees, and upon the same generators. In accordance with the contract and regulations it is the responsibility of the Bureau of Reclamation to see that the States receive the energy allocated to them when withdrawals are made.

Recently a question has arisen as to whether a condition might develop under which it would be impossible for the State of Nevada to take the energy to which it is entitled.

Generators and appurtenant transformers and switching equipment are installed at the request of the respective allottees to meet their demands. There are spaces for 15 major unit generators of 82,000 KVA and 2 units of 40,000 KVA in Hoover Dam Power Plant. Major unit generators have been installed in 12 spaces; two more are requested by the State of Arizona. One of the two smaller generators has been installed. There now remains available only one space for a major unit designated as N-8, on the Nevada side of the power plant, and one space for a so-called half unit, A-9, on the Arizona side of the plant.

If for any reason other allottees should request and have generators installed in the two remaining spaces, would Nevada be prevented from taking the remainder of its allocation of energy? The State has requested and is in process of contracting for use of Generator N-7 after June 1, 1951, at which time it will assume the annual charges upon that unit. The State will require an additional unit, or the equivalent of the capacity of another unit from some other source in the power plant in order to withdraw its full allocation, but it cannot legally at this time assume the responsibility of requesting a second generator in order to hold a space for it in the power plant.

The foregoing details are explanatory of a request which is hereby made that you take such steps as may be necessary in order to protect the State of Nevada's interest and rights to generating capacity through which it may withdraw and use its full allotment of energy from Hoover Dam Power

Plant; and to put each allottee on notice that no generating machinery and equipment shall be installed at said power plant in such a manner that it may in any event preclude Nevada from withdrawing the full allotment of energy to which it is entitled at any time in the future.

Respectfully yours,
COLORADO RIVER COMMISSION OF NEVADA
By (s) ALFRED MERRITT SMITH, *Secretary.*
(s) ALAN BIBLE,
Attorney General for Nevada, Legal Advisor.

Proposal by City to Supply Standby to Nevada and Arizona for Surrender of Rights in G-3.

Smith stated that the Engineering Committee of the Colorado River Commission, acting under instructions from Governor Pittman, had met in conference with representatives of War Assets Administration; the Los Angeles Department of Water and Power; the U. S. Bureau of Reclamation, Region III; the Edison Company; Arizona Power Authority and the Metropolitan Water District in Los Angeles on June 18, 1948.

At that time the City made a proposal to Arizona and Nevada to supply them with some standby energy in return for surrender of rights in Section G-3, which was Nevada's right to 44,000 KW in Generators A-1 and A-2. The offer did not include emergency standby, but they proposed to supply emergency standby at a fixed rate per hour for each allottee. No action was taken.

Proposal for Pooling of All Generators.

The pooling of all generating resources at Boulder was discussed. Over-all pooling was considered impractical by the City, the District, and Edison Company, and also by the Bureau's representatives from Boulder City. The major difficulty and objection was that changes in the present operative plan and high expenses would be required to install switches on the low-voltage side, and the differences in voltage and character of service necessary for each allottee. However, some changes in the mechanical arrangements in order to effect economy and better service were discussed, and certain improvements were considered possible and practical.

Shasta Dam Report by Shaver.

There was considerable discussion of the possibility of the Commission, on behalf of the State, contracting for some part of 90,000 KW that was made available for use by Nevada from Shasta Dam Power Plant in California. This entire subject is covered in a report written by A. J. Shaver by order of the Commission. That report has been published and copies are available at the office of A. J. Shaver, Resident Engineer, Colorado River Commission, Las Vegas, Nevada.

Power Market Survey Report.

Secretary Smith reported upon progress being made with the Nevada power market survey which had been placed under his supervision for the State. The survey was being made in cooperation with

the Federal Power Commission, western division. Numerous conferences had been held, and trips made about the State, and there had been a considerable exchange of correspondence. We may state here that the report has been completed and was published by the Nevada State Printer as finally approved by the Federal Power Commission in February 1949.

There was much discussion of the problems connected with the operation of Basic Magnesium Project which will be omitted here. The verbatim records are available in the office of the secretary.

LAS VEGAS, NEVADA, AUGUST 27, 1948

Overdrafts and Shortages.

A. J. Shaver reported upon a conference he had attended with the City of Los Angeles and Edison Company on July 30, relative to the reported overdraft of energy charged to the State of Nevada for the operating year 1947–1948, which was in the amount of 10,566,321 kilowatt-hours. The City and Edison had arrived at a charge of 2.993 mills for all kilowatt hours overdrawn by the State for the operating year. It was then decided that Nevada would write the City and Edison a letter giving them our anticipated shortages or overdrafts for the operating year 1948–1949, with a suggestion of the procedure we would like to have followed. Mr. Shaver had objected to the charge of 2.993 mills as excessive and gave reasons therefor later in the meeting.

Power Contracts for Stauffer and WECCO.

Secretary Smith said that he and the Attorney General had presented contract forms for withdrawal of power to the Stauffer and Western Electrochemical companies. The companies had asked many questions in regard to the contracts, which would require further consideration. It was requested that William Doak, Manager of Utilities at Basic Magnesium Project, be present at such conferences.

Protection for Nevada Power.

In response to the request of the Commission for full protection of Nevada's allotment of 18 percent of the total firm energy at Hoover Dam, by letter dated May 12, 1948, to the Secretary of the Interior, Mr. Smith reported receipt of the following letter dated July 7, 1948, from William E. Warne, Assistant Secretary of the Interior:

> My dear Mr. Smith:
>
> Reference is made to your letter of May 12, 1948, relative to reservation of generating capacity at Hoover power plant for the State of Nevada.
>
> Consideration has been given to your request that steps be taken to protect the State of Nevada's interests and rights to generating capacity through which it may withdraw and use its full allotment of energy from Hoover Dam power plant. You stated that your State has requested and is in the process of contracting for the use of generator N-7 after June 1, 1951. It is assumed that the use of Unit N-7 would take care of the State's additional needs at that time.
>
> No allottee has requested installation of Unit N-8 or A-9.

If some agency other than Nevada makes such a request first, then will be the time to consider the question you are now raising. It is impossible at the present time to predict the conditions that will exist if and when some allottee other than Nevada requests the installation of N-8 and A-9, but if and when that occurs such request will not be acted upon without giving full consideration to the views and rights of your State.

The need for generating capacity from which Nevada may withdraw and use its full allotment of energy is recognized. Regional Director Moritz informs me that during a conference in Boulder City, May 8, 1948, with representatives of the State of Arizona and your operating agent relative to arrangement of switching facilities for Units A-3 and A-4 there was considerable discussion about arranging all new equipment so that generating units or capacity therein may be reassigned if and when the States require additional capacity.

Sincerely yours,

(s) WILLIAM E. WARNE,
Assistant Secretary of the Interior.

Nevada Allocation of Davis Power.

Mention was made of a memorandum from the Secretary of the Interior setting forth Nevada's allocation of energy from Davis Dam power plant as being 45,000 kilowatts or the capacity of one generator. No designation of kilowatt-hours was made.

In regard to the housing at Gabbs, the secretary had received a letter dated July 15, 1948, from War Assets Administration as follows:

Dear Mr. Smith:

This office has read with considerable interest the suggestion, proposed in your letter of 13 June 1948, that the State of Nevada take over certain portions of real and personal property at the Basic Magnesium Projects, Gabbs, Nevada, under terms similar to those under which it had taken over the Basic Magnesium Project at Henderson, Nevada.

Inasmuch as the War Assets Administration has withdrawn to its Washington office the responsibility for all further negotiations concerning the disposal of this facility, your letter has been referred to that office for the particular attention of Mr. Henry Burt, Industrial Division, Office of Real Property Disposal.

Although you will, of course, hear from our Washington office, it may be that you will wish to communicate directly with Mr. Burt at this time.

Very truly yours,

(s) R. B. BRADFORD,
Regional Director.

WAA Declines to Transfer Gabbs Housing to Nevada.

Smith stated he had a letter from WAA dated July 29, 1948, stating that a transfer of the Gabbs housing to Nevada would be impossible at this time. The letter follows:

Dear Mr. Smith:

Mr. Bradford has forwarded us your letter of July 13 in which you request that the War Assets Administration transfer to the Colorado River Commission the housing development at Gabbs, Nevada.

This Administration is aware of the interest of Basic Refractories, Inc. and the Standard Slag Company, and is at present negotiating with these companies for the disposal of the industrial site at Gabbs. These disposals will also include lease of the houses in question.

It would seem to this Administration to be more practical to deal with the disposal of the housing at the same time as the industrial site rather than to have the Colorado River Commission handle part and the War Assets Administration the remainder.

Furthermore it would be impossible for War Assets Administration to transfer this property to the Commission at this time because we have not yet received transfer of title to the land from the Interior Department and it may be some little time before this transfer has been completed.

Sincerely yours,

(s) M. L. GODMAN, *Deputy Administrator,*
Office of Real Property Disposal, WAA.

No further action in this matter was suggested by the Commission.

Petition for Sanitarium.

A letter, accompanied by a petition signed by various persons, had been addressed to the Commission by Harley S. Bradley. It requested the Commission's endorsement of a project to establish a sanitarium and health resort adjacent to Las Vegas on government land.

The matter was tabled by the Commission for the reason that it was outside the field of their official duties, and Mr. Bradley was so informed by letter.

N. R. A.

The Commission decided to continue a sustaining membership in the National Reclamation Association at $150 annually. Governor Pittman was urged to attend the annual meeting in Oklahoma City as do many Western Governors, Senators, Members of Congress, and Federal Bureau officials.

N. W. C. C.

The Commission ordered that its annual contribution to the National Water Conservation Conference be continued in the sum of $250.

Colorado River Water Users Association.

Secretary Smith stated that the Directors of the Colorado River

Water Users Association had arranged a trip throughout the Colorado River Basin to contact membership. He suggested that A. J. Shaver be allowed to go on the trip for Nevada, which was agreed to, also, that the Commission participate in meeting past current expenses to the extent of $200.

Consolidated Operation of Parker and Davis.

Mr. Shaver read the draft of a bill prepared by the Assistant Secretary of the Interior designed to consolidate the operation and maintenance of Parker and Davis dams. No action was taken pending further study as to effect on Basic Magnesium Project.

School Property at BMP.

Mr. Mueller stated that the school board at Henderson had met and requested that the Colorado River Commission waive the claim to real estate and personal property of Henderson School District and expedite its transfer to the school district. The principle of transfer was agreed to, but the method was objected to as cumbersome. A motion was passed stating that immediately upon the Commission receiving a clear title and deed to the Basic Magnesium property from WAA, said title and deed would be transferred to the Henderson School District.

BMP Shows Profit.

There followed two or more hours of executive session. Mr. Mueller presented a written report of operations at BMP. He stated that operations up to that time showed a net profit of about $170,000 to the State.

Power Allocation Shortage for Lessees.

A long discussion ensued as to total power available to the State and its allocation. It was apparent that if a number of companies asking space and power at BMP should be granted leases, Nevada could not allot sufficient power to Basic to supply their combined requirements. The Engineering Committee was instructed to meet and give it further study.

WAA Objections to SNPCO Underwriting N-7.

A conference was arranged with Mr. Eugene Hunnicutt, an official of WAA, to be held at Boulder City to hear objections to a proposed contract by the State with Southern Nevada Power Company in order to underwrite Generator N-7.

Agreement on BMP Wage Schedules.

Mueller informed the Commission that he had agreed upon wage schedules with local labor unions and that Ralph Alsup, their representative, would submit the labor contract to Attorney General Bible for review.

LAS VEGAS, NEVADA, SEPTEMBER 24, 1948

Overton Power Overdraft.

This meeting was taken up entirely with discussions relating to power supply and policies to be followed by BMP.

A committee appeared from Overton Power District No. 5 consisting of Superintendent Bryner and two other members of their board of

directors. Because of a lack of knowledge of the law governing withdrawals of energy from Boulder Dam power plant, Overton District was faced with a power shortage before they could withdraw and obtain additional power. They had not placed a withdrawal order with the Commission in time to secure power within six months, and, as a result of intervening withdrawal orders by other power users, they would now be obliged to wait 12 months for extra power. Due to misunderstanding, they had submitted only an estimate of their power requirements instead of a definite power withdrawal order duly authorized by their board of directors. Their problem was now to secure more power when needed without having to pay a high price for overdraft.

It was pointed out that Southern Nevada Power Company had withdrawn more power than they might need, but would have to pay for the total amount withdrawn. It was decided that if Southern Nevada Power Company had more than they needed, the excess might be delivered to Overton. The government's billing to Nevada would be for total kilowatt-hours withdrawn, regardless of distribution. This might afford relief to Overton. Nothing more could be done. It was agreed that the Commission should be more careful in the future in looking out for the power requirements of its contractors, and help them in interpreting the complexities of the General Regulations of the Nevada Power Contract with the Bureau of Reclamation.

WAA Disapproves CRC-SNPCO Contract re N-7.

Mr. Eugene Hunnicutt of War Assets Administration was present and was asked to discuss the status of Sections G-7 and T-7 (Generator N-7) and the contract that the Commission had made with Southern Nevada Power Company as a means of financing and securing that machinery under existing Nevada laws.

Mr. Hunnicutt stated that before beginning a discussion of the N-7 problem he wished, on behalf of WAA, to compliment the Colorado River Commission on the excellent work they had done in operating the Basic Magnesium Project during the first quarter. He extended the congratulations of the Administration to the Commission for its splendid job.

Hunnicutt Says Col. Reilly, of WAA, Without Power to Approve.

Mr. Hunnicutt stated that he had at first to say something distasteful to him. At the time the contract was made between the Commission and Southern Nevada Power Company in regard to N-7 generator, both parties understood that the representative of WAA present, Colonel Reilly, was speaking for WAA, and probably Colonel Reilly himself was acting in good faith and thought he had authority to enter into such a contract and approve it. It turned out that Colonel Reilly did not have such authority, and the contract was not approved by WAA.

Reason for Disapproval.

The major reason for disapproval of the contract was that 45,000 kilowatt of capacity in N-7 was to be delivered to Southern Nevada Power Company in return for assuming the financial obligation.

WAA felt that outside disposal of that much capacity might jeopardize the success of BMP, which was still their responsibility and project until sale had been completed to Nevada. Large prospective lessees would not be interested in plant space without assurance of ample power.

Smith Explains SNPCO N-7 Contract.

Smith explained that there was apparently no other way for the State to legally acquire N-7 than by the said contract except to have the Governor convene a special session of the Legislature and endeavor to have it approve expenditures of State funds to make the annual payments. The enactment of such legislation could not be guaranteed, and moreover, a special session would be very expensive to the State.

Important Statement by Hunnicutt.

Hunnicutt stated that WAA would allow the annual charges as an operating expense of Basic Magnesium Plant. Governor Pittman replied that if our profits were not enough to meet the annual charges we could not call on the State Treasury for money and we would be left in a very bad position.

Mueller stated that the plant had made $200,000 profit in the first quarter under unusual expense; that expense would decrease; that we are now earning about $40,000 a month; and that valuable leases were being negotiated which would increase profits. He believed we might safely take over N-7 on the basis that annual charges on N-7 could be paid out of plant operation profits.

Attorney General Bible stated that such a contract might be made between the United States and the State of Nevada if the United States is agreeable to deducting charges from operation profits. He said he had been assured by Mr. Mueller that the Stauffer Company and Western Electrochemical Company, as of that day, were perfectly willing to underwrite the cost of the power they would use.

Abrogation of Contract with SNPCO.

After prolonged discussion it was decided that without approval of WAA there could be no contract between Southern Nevada Power Company and the Commission with respect to N-7, and the existing contract was void.

It was moved by Cahlan that on the basis of the statement of the Attorney General we assume we have no contract with Southern Nevada Power Company, and must formulate new methods to acquire power for our operation. The motion was carried.

Pooling of Power.

There followed much debate as to pooling a rate for Boulder and Davis energy, and the complexities posed by the Southern Nevada Power Company contract for Boulder energy, likewise contracts with Stauffer and Western Electrochemical companies. The necessity for a uniform pooled rate for all power users was stressed, and of getting agreements with power contractors as soon as possible in order that Nevada might withdraw its full allotment of Boulder energy in time to prevent losing 4 percent of it to Arizona under terms of the Boulder Canyon Project Act.

LAS VEGAS, NEVADA, OCTOBER 12, 1948

Payments on N-7 To Be Operative Charge at BMP.

Governor Pittman reminded the Commission that War Assets Administration had refused to approve the contract between the Commission and Southern Nevada Power Company by which the latter would underwrite Generator N-7 in return for 45,000 kilowatts of its capacity. The refusal was based on the grounds that Basic Magnesium Project should have first priority on all power from N-7. As an aid to some other plan, WAA had agreed to allow payments on N-7 as an operative charge against BMP. In order to secure the annual payments, in case operative profits were not enough, it was necessary to secure firm power contracts with lessees, but first a rate had to be agreed upon and established for all BMP lessees.

Allocations of All Hoover Power.

At the last meeting, William Doak, Manager of Utilities, had been requested to prepare a schedule of allocations of power and rates.

Mueller stated that on the previous Friday WECCO people in Los Angeles had assured him that they alone were willing to underwrite N-7 for $320,000 a year. He emphasized that we had been advertising an abundance of cheap power and must promptly determine the quantity and rate, and we must also very soon get energy withdrawals running with the Bureau of Reclamation so power would be available.

After much discussion as to how the total available power from Boulder Dam and Davis Dam should be allocated, and after having heard statements from John E. Whipple, Director from Overton Power District No. 5; E. H. Snyder, President, Combined Metals Mining Co., Pioche, Nevada; Lieut. Governor Cliff Jones, Las Vegas; Lloyd Compton, General Manager, Southern Nevada Power Co., and others, the following motion was made and passed unanimously:

> The Commission shall go on record as establishing a division of all available power on the basis of 622,000,000 kilowatt hours for Basic Magnesium Plant, and 355 million kilowatt hours for the three contractors, Southern Nevada Power Co., Overton Power District, and Lincoln County Power District, on a basis of 977,000,000 kilowatt hours available to the State of Nevada from Boulder and Davis dams.

Following was a discussion as to firming all power for Nevada, but no decisions were made.

Order to Withdraw All Davis Dam Power.

Commissioner Mueller stated that if we do not withdraw from Davis the 45,000 kilowatts alloted to Nevada when it becomes available in 1950, it will be put to use by other allottees and a year's advance notice will have to be given before we can recapture it. Mr. E. Moritz and Mr. H. McPhail had advised them that Nevada could legally withdraw all of the 45,000 kilowatts, and resell any unused portion by obtaining approval of the Bureau. By so withdrawing the 45,000 kilowatts, such power could be substituted for the energy now purchased from California allottees for use at Basic, and a saving made over present cost of energy for Basic without waiting until 1951 when the present contract terminates.

Mueller moved that the 45,000 kilowatts from Davis be withdrawn as soon as available, and that Wm. Doak and A. J. Shaver be authorized to request the withdrawal from the Department of Interior. The motion was passed unanimously.

LAS VEGAS, NEVADA, OCTOBER 13, 1948

Only three members were present, to-wit: John V. Mueller, A. E. Cahlan, and J. M. Murphy.

Determination of BMP Rates.

In the matter of allocation of power to Basic and present State contractors, it was determined that BMP would separate from the balance of State contractors and be on their own, securing power for the plant at the best rate possible. E. H. Snyder, President of Combined Metals Co., who was present, requested time to think over the entire matter. J. H. Buehler, Lloyd Compton, and Snyder stated that separating the State contractors from Basic contractors would be an excellent move.

Insurance.

Insurance of $1,000,000 on Henderson Townsite and coverage of automobiles was authorized by motion made by Cahlan, seconded by Murphy, and carried.

Promotion Expenses.

John V. Mueller was authorized to charge expenses on promotion trips to the BMP promotion fund in accordance with the Letter of Intent. Motion made by Murphy, seconded by Cahlan, and carried.

Contract Maintenance Costs.

Authority to contract maintenance costs at BMP was authorized by motion made by Cahlan, seconded by Murphy, and carried.

Basic to Prepare Power Withdrawal Order.

On motion made by Cahlan, seconded by Murphy, and carried, Acting Manager Mueller, of the Basic Plant, was authorized to notify the Colorado River Commission that steps should be taken to withdraw Boulder power for use at the plant.

BMP Manager Appointment Deferred.

Discussion was had as to appointing John V. Mueller as General Manager of Basic Magnesium Plant, but the matter was dropped after Attorney General Bible reported that it was not possible for a member of the Colorado River Commission to hold title as manager.

Transfer of Boulder-BMP Power Lines.

The status of conditions at Basic Plant was discussed and the acting manager advised the members present that power studies would continue and negotiations for the transfer of the transmission lines extending from Boulder Dam to Basic to the Department of the Interior would be carefully studied, keeping in mind the favorable situation that now exists in the present use of the two lines and facilities. That time was an important element in dealing with prospective lessees was brought to the attention of the meeting.

LAS VEGAS, NEVADA, NOVEMBER 12, 1948

Overton District Desire to Elect Directors.

A letter from the Mesquite Town Board was read, indicating a desire to have the directors of Overton Power District elected by the people instead of appointed by the County Commissioners as the law provides. This being outside the jurisdiction of the Commission, the letter was ordered filed.

The subject of the disapproval by WAA of the CRC contract with Southern Nevada Power Co. to underwrite Generator N-7 was brought up.

WAA Formal Rejection of SNPCO-CRC N-7.

Mr. Smith read an excerpt from the transcript of the meeting of September 24, 1948, in which Attorney General Bible stated the necessity of a formal rejection of the contract, in writing, by WAA, giving the reasons. Mr. Eugene Hunnicutt, present at that time for WAA, had stated that as soon as he returned to Washington (and he was leaving that night) he would prepare and submit the formal disapproval. Up to this time, November 12, 1948, the written disapproval had not been received by the Commission's secretary.

Mr. Mueller was requested by the Governor to at once get in touch with WAA and obtain the required formal rejection of the contract for our record.

Power Withdrawals.

Requests for withdrawals of additional power by Lincoln County Power District and Overton Power District were presented and approved, bringing total withdrawals at this time up to 270,000,000 kilowatt hours per year.

Shasta Dam Power.

The next item on the agenda was "Shasta Dam Power Contract," and the request for Shasta Dam Power by Truckee-Carson Irrigation District under the proposed contract.

After a short discussion as to the priority or urgency of this matter, the Governor passed the matter over, to be brought up later on in the meeting.

Use of Banks 8 and Y.

A proposed contract between the Bureau of Reclamation and the Commission, under which the Commission would receive a part of its energy through Transformer Bank 8 at Basic, was discussed. Resident Engineer Shaver said that although Bank Y at Boulder had been dedicated to Nevada, we were being pushed off it, and the United States Government and resale customers were using its capacity, compelling us to take energy through Bank 8 at Basic at a higher cost. He considered it advisable to definitely learn and establish what our rights were in Bank Y before signing any contract.

Mr. C. P. Christensen, representing the Bureau at Boulder, was present and said they had consulted the Bureau's counsel before drafting the contract, and he held that Bank Y had not been assigned to the exclusive use of any agency, and that agencies entitled to receive

energy from Boulder Power Plant have a proportionate right in its capacity.

The secretary was asked to obtain a statement of rights in Bank Y with the assistance of Mr. Shaver.

Storage of Magnesium Ingots.

Reference was made to a letter from WAA to the Governor, requesting an extension of an agreement for storage of magnesium metal ingots at Basic which would terminate November 1, 1948. The Secretary had replied that the request would be acted upon at a meeting to be held in Las Vegas on this date.

Mueller moved that the letter be turned over to the Acting Manager of BMP Plant for early execution of the extension agreement as we received $150 per month for the storage and needed to collect it as it came due. The motion was seconded by Smith and unanimously carried.

Power Market Survey.

Smith reported upon progress on the Nevada Power Market Survey, stating that the steps recently taken by its Commission in allocating Boulder and Davis energy would call for some revision of the report manuscript. His remarks were followed by a statement by J. L. Lisk, present for the Western Division of the Federal Power Commission, who said he thought they would have the report in a preliminary stage by the middle of December, 1948.

Banks 8 and Y.

Consideration of the proposed agreement regarding use of capacity in Bank Y, and the supplying of shortage to Nevada through Bank 8 was resumed. Compton, Advisory Engineer, explained negotiations in regard to the Agreement, saying that this matter had been under discussion for two years, and his company had made payments to the Commission, and that the money was being held in escrow pending execution of an agreement so that Edison Company can bill the State of Nevada.

Shaver said Compton, for Southern Nevada Power Company, should be allowed to go ahead and have the agreement executed, as he was the principal user of energy through Bank 8. He said, however, that the contract allowed only 8,000 kilowatts to be transferred from Bank Y to Bank 8, which was not enough, for in the previous month 10,000 kilowatts had been transferred. He said when the Bureau made a renewal of contracts with Kingman and Needles for unused Metropolitan District power to be delivered through Bank Y, the State should be consulted before forcing Nevada off Bank Y.

Mueller asked for time to read the contract to see what changes were contemplated. Shaver further explained that due to unsatisfactory load shifts we had been compelled to buy 13,000 kilowatts of Los Angeles steam power instead of 3,000 kilowatts, and so were being penalized some $12,500 because of being shoved off of Bank Y. He thought as a matter of equity the Bureau might pick up a part of that charge, but thought we could not afford to press the point.

At the request of Mr. Mueller the matter was put over for action

during the afternoon session. Note: The matter was not brought up again at this meeting.

Nevada Contractors Request for A-9.

An official request in writing for installation of Generator A-9, presented by Lincoln County Power District No. 1, Overton Power District No. 5, and Southern Nevada Power Company was read. It was ascertained that the three contractors wanted the generator for their exclusive use and would pay all charges. The proposal read as follows:

> Lincoln County Power District No. 1, Overton Power District No. 5 and Southern Nevada Power Co. hereby jointly request the Colorado River Commission of Nevada to arrange with the United States of America for the installation of Generator A-9, and its associated transformation and switching equipment at Hoover Dam Power Plant, the capacity to be 62,500 KVA, the energy delivery voltage to be 69,000 volts. It is further requested that the installation of Generator A-9 and its associated equipment be consumated at the earliest possible date consistent with due and proper procedure.
>
> Duly certified copies of the resolutions adopted by the Board of Directors of Lincoln County Power District No. 1, the Board of Directors of Overton Power District No. 5, both municipal corporations, and Southern Nevada Power Company, a corporation, are attached hereto, requesting and authorizing the Colorado River Commission of Nevada to proceed immediately with the necessary arrangements with the United States of America for the installation of Generator A-9 and its associated equipment at Hoover Dam Power Plant.

It was moved, seconded, and passed unanimously, that the Commission make the application for installation of Generator A-9 according to the request of the three State contractors.

Total Davis Power Ordered.

The Secretary stated that in accordance with action taken at the meeting of October 11, 1948, he had made application for the total power to be allocated to Nevada from Davis Dam Power Plant to be made available at the earliest possible date, and that we should be informed of the probable date of the beginning of delivery.

The letter of application was dated October 16, 1948, and on October 20 the following reply was received from the Bureau of Reclamation:

> My dear Mr. Smith:
>
> This will acknowledge receipt of your letter of October 16, 1948, advising that the State of Nevada and its Colorado River Commission desire to enter into negotiations for a contract covering delivery of Davis energy to the State.
>
> The Bureau of Reclamation now has before the Secretary of the Interior for approval as to form a draft of contract covering the delivery of Davis energy to the Arizona Power Authority. In order to accord the two sovereign States equal

opportunities with respect to Davis energy, it is believed desirable that negotiations with Nevada be deferred until we have the benefit of the Secretary's views relative to the contract now before him.

Nevada's need for an early negotiation of a contract for Davis energy is recognized, and it will be advised as soon as we are in a position to enter negotiations. If we are fortunate in obtaining the appropriations that we request from the Congress for continuing the construction of the Davis Dam Project, our present construction schedule indicates that the five units in the Davis Power Plant will be placed in operation between July 1, 1950 and June 1, 1951.

Sincerely yours,

(s) R. L. DOUGLAS,
Acting Regional Director.

Rate Complaint of Overton Silica Sand Companies.

Paul G. Nunn, of the Nunn Company, Overton, Nevada, appeared before the Commission and stated that he was compelled to pay an unfair rate for power by Overton Power District No. 5. He said they were paying about two cents per kilowatt-hour for their silica sand operations, while household users were paying a fraction over one cent, and efforts to have the Board of Directors correct this condition had been unavailing.

Attorney General Bible said that Mr. Nunn's attorney, Cal Corey, had brought the matter to his attention. Bible stated that no State regulatory body had any supervision over the rates of the Power District; neither the Colorado River Commission, nor the Public Service Commission. It was his opinion that the Nevada law is defective; and that the only remedy the Nunn Company has would be to attempt to have the Legislature set up or designate some type of over-all regulatory body.

Mr. Whipple, one of the Overton Power District directors, defended the charges made against the District by the Nunn Company and also by the Silica Sand Company of Overton, saying that the District had been put to much expense to install heavier copper wire principally for the two silica sand companies and for other reasons. He requested a full investigation, and invited the Commission to their next board meeting.

Smith recommended that the Chairman appoint a committee to investigate the complaint, saying that although the Commission had no authority, it could offer advice, and would probably be helpful. It was moved and passed that such a committee be appointed; whereupon the Chairman designated Messrs. Shaver and Doak, electrical engineers, as such committee.

Shasta Power Discussed.

During the afternoon the Commission considered requests for electric energy to be delivered from the Federal Shasta Dam Power Plant in northern California that had been made by the Truckee-Carson Irrigation District (Newlands Project) and by the City of Reno, also the City of Sparks. Letters and telegrams were read by the Secretary.

The proposal of obtaining Federal power from Shasta Dam was disapproved by Commissioners Mueller and Cahlan because of several objections, principal of which were lack of available transmission facilities and the small amount of energy applied for.

Smith referred to the proposed contract submitted by the Bureau of Reclamation and read letters showing that the State would be under no obligation after making contract until transmission facilities had been provided by the Bureau.

After further discussion, Mueller proposed that the matter be disposed of by holding a general meeting at which all interested parties be invited to appear.

After further debate the Commission decided to hold a special meeting at Carson City to consider the matter on December 17, 1948.

CARSON CITY, NEVADA, DECEMBER 17, 1948

Shasta Dam Power Hearing.

In addition to the members of the Commission, 37 persons appeared, representing the City of Reno, City of Sparks, Pacific Gas & Electric Co., Sierra Pacific Power Co., Eureka Mining Co., Nevada State Farm Bureau, Churchill County Chamber of Commerce, Hawthorne Power Co., Carson City Chamber of Commerce, Reno Chamber of Commerce, United States Bureau of Reclamation, City of Winnemucca, Washoe County Board of Supervisors, and others.

There followed discussions and statements which required 35 single-spaced, typewritten pages of transcription.

Opposition to the entry of Shasta Dam power into northern Nevada was expressed or inferred by various statements made by representatives of the Sierra Pacific Power Company and the Pacific Gas & Electric Company.

A list of questions that had been prepared by Secretary Smith was covered, point by point, by the representatives of the Bureau of Reclamation present, who were unable to answer some of the questions, although most of them were satisfactorily disposed of. The Commission at a later meeting decided to send the list of questions to the Secretary of the Interior for full reply. No action was taken at this meeting in regard to Federal power from Shasta Dam, which was a hearing at which all present were invited to make statements.

LAS VEGAS, NEVADA, JANUARY 8, 1949

Shasta Dam Power.

The offer of the Bureau of Reclamation to supply electric power to the State by contract was first brought up, and a desire to take action with respect to applications that had been made for such power by the City of Reno, City of Sparks and City of Fallon was expressed.

The Commission decided to submit the list of questions that had been prepared by Commissioner Smith to the Secretary of the Interior for written answers from the government. Most of the questions had already been answered at the meeting in Carson City on December 17, 1948, by J. P. Elmore, and attorneys and engineers from Region No. 2 of the Bureau, who were present at that meeting, but more detailed answers were desired directly from the Secretary of the Interior.

The Commission, upon motion by Cahlan, seconded by Mueller,

decided to have A. J. Shaver, Resident Engineer, make a study and report on the Shasta Dam power situation within 30 days.

Governor Pittman said we should outline specifically what we want Shaver to do, and that we should make it our purpose to hold the available Shasta Dam power for future use by the State.

Secretary Smith stated that prior to the last meeting he had submitted his list of questions to Mr. J. P. Elmore, Chief, Marketing and Sales Division, USBR, Region No. 2, and to attorneys Davis and Graham while they were in his office, and he had made a record of their answers in brief form. These questions and answers were read and discussed, but the answers were not considered sufficiently authoritative. Mr. Shaver was asked to send the questions to the Secretary of the Interior, also to include some additional inquiries that had been suggested. On April 9, 1949, a letter was received from Hon. J. A. Krug, Secretary of the Interior, containing detailed replies, which was made a part of the minutes.

Generator N-8.

Mr. Shaver asked that serious consideration be given the proposal to install Generator N-8 at this time instead of the smaller unit A-9, as transformer facilities were already installed for major unit N-8, and the acquiring of the additional capacity of 20,000 kilowatts might be cheaper per killowatt of installed capacity than the 62,500 kilowatts presumed to be in A-9. He also warned that Metropolitan Water District could recapture N-7, and we then might not find space in the plant for a generator at some future date if unit N-7 should be taken from us, and we should also consider taking our additional capacity from Boulder out at 230 kilowatts, which will later tie in with prospective upstream developments. Pooling of our capacity with Arizona for standby and interchange should also be considered.

Rockwell Bill.

The bill of E. W. Rockwell, consulting electrical engineer, Los Angeles, was approved for $360.

Future Colorado River Power for Nevada.

Secretary Smith announced that in accordance with instructions by the Commission he had made application for one-third of the total energy to be generated at all projects to be constructed in the future on the lower Colorado River. The letter of application dated November 18, 1948, follows:

E. A. Moritz, Director Region III, United States Bureau of Reclamation, Boulder City, Nevada.

Dear Mr. Moritz:

In accordance with a resolution passed by the Colorado River Commission of Nevada at a meeting held in Las Vegas, Nevada, on November 12, 1948, the Commission hereby makes application for electric energy to be generated at any dams that may be constructed in the future on the lower Colorado River by the Bureau of Reclamation, including the proposed Bridge, Glen, and Marble Canyon Dams.

The quantity of electric energy desired for allocation to

the State of Nevada is one-third of the total to be generated at said dams.

Very truly yours,
ALFRED MERRITT SMITH, *Secretary,*
Colorado River Commission of Nevada.

On November 30, 1948, Mr. Smith received the following reply:

Dear Mr. Smith:

This will acknowledge receipt of your letter of November 18, relative to the Colorado River Commission of Nevada's application for electric energy to be generated at any dams that may be constructed by the Bureau of Reclamation in the future on the Lower Colorado River. I assure you that the desires of the Commission will be given full consideration at such time as allocations of electric energy are made from any future power developments on the Colorado River.

Very truly yours,
(s) E. A. MORITZ,
Regional Director.

There followed a general discussion of prospective allocations of all present and proposed power, and of Arizona's proposed Bridge Canyon Project.

Complaint of Silica Sand Companies in Overton.

The Governor's committee, composed of Messrs. Shaver and Doak, which had been appointed to investigate a complaint by the silica sand companies at Overton that they were obliged by the power district to pay excessive power rates, had reported to the Commission by letter. The concluding paragraph, containing recommendations was read, and is as follows:

In summarizing we would make the following suggestions: (1) That a study be made looking toward improving the load factor of the power used. (2) That the power users study the feasibility of off-peak operation, particularly for their mining load with a request to the Overton Power District for an off-peak rate, if off-peak operation is found desirable. (3) That the Overton Power District and the Rural Electrification Administration (since the REA is the governmental agency with authority to recommend rate changes) make a complete study of the Overton Power District's rates, and their bearing on the financial structure of the District; particularly since our study leads us to believe a power rate reduction could be made without seriously unbalancing the financial structure of the Overton Power District.

The Commission directed the committee to send copies of their report to the interested parties.

Boulder to Basic Power Lines.

A letter from Mr. Godman, War Assets Administration, addressed to Commissioner Mueller was read relating to the desire of the Bureau

of Reclamation to acquire the two transmission lines from Boulder Dam to Basic, which were conveyed to the State by the Letter of Intent, March 17, 1948. However, Mr. Godman's letter concludes with a statement that the Bureau has a right to negotiate a purchase, as follows:

> However, this Letter of Intent states in Paragraph No. 21 that the transfer of the property was subject to the rights of the Bureau in negotiating for the acquisition of subject facilities. Accordingly, it has been requested that your Commission, at its convenience, and that of the Bureau of Reclamation, enter into the necessary negotiations to carry out the above-mentioned paragraph of the Letter of Intent.

USBR Offer for Basic Power Lines.

Commissioner Mueller stated he had begun negotiations with the Bureau, which offered a credit of $3,500,000,000, on the State's Basic obligation, but fixed the power transmission cost at about $91,500 per year. He deemed the charge to be excessive, but the subject was still in the negotiation stage.

Secretary Smith read a letter signed jointly by A. W. Thomas, Chairman, Lincoln County Power District, No. 1; S. J. Lawson, President, Southern Nevada Power Company; and John Whipple, President of Overton Power District No. 5, requesting that all details connected with the installation of Generator A-9 by the Bureau of Reclamation be referred to L. H. Compton for Southern Nevada Power Company, J. H. Buehler for Lincoln County Power District, and Irving Bryner for Overton Power District.

Pumping Water for Las Vegas.

Some members of the Commission had been requested to have the Commission consider the possibility of supplying the City of Las Vegas with additional water through the Basic Project-Lake Mead pumping plant system. After some consideration Commissioner Mueller, acting BMP manager, thought the City might be supplied with 4,000,000 gallons per day from the system which had a top capacity of about 30,000,000 gallons per day, of which 20,000,000 per day would ultimately be needed for BMP. No action was taken as there had been no formal request.

Salary of Edmund Muth.

Edmund Muth, an employee in the office of the State Engineer, had been devoting a part of his time to Colorado River Commission work. It was decided to apportion his pay between the two departments on the basis of days worked for each.

Salaries at BMP.

There was discussion as to salaries paid department heads and assistants at BMP, which were somewhat higher than salaries for similar positions in other State work. It was the opinion of the Commission that the BMP salaries were justifiable as they had been established by RFC and WAA. The men were competent, and a lowering of such salaries would probably result in loss of very valuable men.

Publication of Biennial Report.

Secretary Smith stated that he had prepared and published in the Biennial Report of the State Engineer a record of all meetings and transactions for the preceding two years, containing 127 pages, 12 appendices of contracts and reports, and financial tables and statements. He stated that in past years the Secretary's report had been published in the report of the State Engineer at no extra cost to the Commission, but for this period it was so voluminous that he would ask the Commission to pay its share, which would amount to $571 out of a total cost of $1,412 for the book.

Commissioner Mueller asked why the Commission had not been asked what it wanted printed, objecting particularly to the inclusion of a certain study that had been made by a private company of the BMP. Smith said he had prepared the record as in past years, including all important documents; that it had become a considerable task in addition to his regular work and that he would be very glad to be relieved of it. As it stood, he was entrusted with keeping the records and endeavored to have them complete.

It was decided that in the future the report of all proceedings be submitted to the Commission for approval before publication. The payment of the Commission's share of the cost of printing the 1946–1948 report in the sum of $571 was approved.

Monthly Summary of Expenses Ordered.

The bookkeeping and financial accounting, having substantially increased, came up for discussion. Commissioner Cahlan expressed a fear that certain expenses might possibly be criticized by the Legislature. After some debate it was decided to ask the Secretary to prepare a monthly statement of all expenses and submit same to the Commission for approval. The motion as prepared by Attorney General Bible and submitted by Commissioner Cahlan is as follows:

> Regular disbursements made against the Colorado River Commission, such as claims of salaries, stamps, rents, clerical help, travel, per diem and expenses of that nature do not have to be presented to the Commission before they are incurred; extraordinary expenses or expenses incurred for extra services or electrical engineering, whatever they might be, must first be brought to the attention of the Commission for approval before they are incurred; that at the end of each month the secretary will be instructed to present to the Commission a balance sheet showing the receipts and disbursements for that month and showing the detail for each and every disbursement during the month.

Adjustment of Charges on Sec. G-5.

Shaver stated that an adjustment of charges on this unit had been discussed with our contractors and the Commission, and that the charges set forth by letter dated October 12, 1948, from L. J. Hudlow, Acting Director, USBR, are acceptable and that the Bureau was authorized to bill the Commission for such charges.

Overdrafts of Energy by Nevada.

Mr. Shaver read a letter from Samuel B. Morris, General Manager, Los Angeles Department of Water, Light & Power, dated December 29, 1948, addressed to the Secretary, as follows:

Dear Mr. Smith:

In May of this year there was some correspondence with your representatives relating to excess use of Hoover energy by the State of Nevada during the operating year ending May 31, 1948. Nevada was informed by letter from this Department of the fact that the energy taken by it during such operating year would exceed the State's withdrawal. In a reply dated May 28, 1948, there was expressed the recognition of the necessity of replacing the overdraft with steam-generated energy and the intention of Nevada to pay for the same.

More recently, during the current month, a meeting was held, attended by representatives of Southern California Edison Company, California Electric Power Company, and the City. One of the items considered at the meeting was this overdraft of Hoover energy by the State of Nevada. A composite rate for adjusting the overdraft with the three affected parties was worked out, and the City was authorized, acting in behalf of the group, to inform Nevada of it. The basis for the composite rate as finally determined has been confined to incremental fuel necessary to generate a comparable amount of steam energy plus $0.0001 per kilowatt hour for incremental maintenance. For the purpose of the determination the efficiency of fuel was fixed at 500 kilowatt hours per barrel of fuel oil, and the cost of fuel was fixed at $2.31 per barrel. It may interest you to know that at times during the operating year in which the overdraft occurred, all three of the California agencies involved generated steam kilowatt-hours, the cost of which was substantially twice the kilowatt-hour cost arrived at in this calculation.

With these elements, the per kilowatt-hour composite rate and charge was calculated as follows:

	Per kilowatt-hours
Fuel charge, 500 kw.-hr. at $2.31	$0.004620
Incremental maintenance	0.000100
Gross kw.-hr. charge	$0.004720
Hoover firm energy and generation (credit)	0.001727
Net kw.-hr. charge	$0.002993
	Kilowatt-hours
Amount of overdraft	$10,506,321
Less 6 percent to correct for transmission losses	423,979
Net overdraft	$9,932,342
Net overdraft	9,932,342
Net kw.-hr. charge	0.002993
Charge to Nevada	$29,727.50

We believe the basis followed in calculating the charge is a fair and equitable one to all concerned. However, if there should be any question regarding any of the details of the computation, we shall be glad to hear from you.

In due course bills will be submitted by the several agencies covering their respective shares of the proposed charge.

The difficulty encountered by Nevada in anticipating exactly its Hoover energy requirements is thoroughly appreciated. We can understand the dilemma which confronts Nevada by reason of the fact that a penalty is exacted from it if it underestimates its needs, and a penalty is likewise exacted from it if it overestimates them. However, it would appear that a relatively milder penalty results from overestimation, while a very heavy penalty results from steam replacement. Therefore, it is suggested that Nevada is more economically protected if it will estimate its needs sufficiently high to assure itself of a full supply of hydro energy during the operating year, even though as a result thereof it withdraws some excess energy.

I wish to express my personal appreciation of the friendly and cooperative attitude of the State of Nevada in our many negotiations.

Shaver had formerly written Secretary Smith on this matter on July 23, 1948, as follows:

Dear Mr. Smith:

I am not at all in sympathy with these figures, as it seems to me that the City and Edison Company are both pressing a pretty hard bargain. I say this particularly in view of the fact that the Edison Company in May 1947 generated 195,900,000 kilowatt-hours by steam and Diesel, while in May 1948 they generated only 149,900,000 by steam and Diesel. In April 1948 they generated 203,300,000 kilowatt-hours by steam and Diesel which indicates a drop of nearly 53½ million kilowatt-hours generated by steam and Diesel during the month of May. The Department of Water and Power, in May 1947, generated by steam only 27,100,000. This May 1948 figure of 27,100,000 was 8,672,000 kilowatt-hours less than generated by steam in April 1948, and over 30¼ million kilowatt-hours less generated by steam in May 1948 than in May 1947. It would seem to me that under these conditions, when steam energy so greatly decreased under the previous year and under the previous month, that their argument of incremental steam cost is somewhat out of line. It is interesting to note that the May 1948 California hydro by the Edison Company increased some 109,000,000 kilowatt-hours over the month of April 1948, while the May Hoover Plant output increased slightly over the month of April 1948. Likewise, we find that the output of the aqueduct and Owens Valley plants of the Department increased roughly 13,000,000 kilowatt-hours in May 1948 over April 1948. In other words,

charging us a steam increment cost for this replacement energy created by the overdraft seems entirely out of line when the steam production decreased in such a large amount and the hydro output of each company increased in a considerable amount.

I told Mr. Martindale I would pass these figures on to you for your perusal, and would notify him as to whether or not they would be acceptable to us or whether we would come to Los Angeles to discuss this matter with them further. Since this was referred to the engineering committee by the Commission at its last meeting, I await your response.

It was decided to have Shaver and Doak meet in Los Angeles with the City and try to get a settlement of the overdraft on better terms.

LAS VEGAS, NEVADA, APRIL 13, 14, 1949

Regarding Installation of Unit A-9.

Secretary Smith read a letter from C. P. Christensen, Director of Power, USBR, stating that Mr. Moritz had on March 21 teletyped the Chief Engineer to proceed with specifications for a generator of 62,500 KVA, 80 percent power factor.

Discussion followed as to possible necessity for a special contract with the three Nevada contractors who requested the unit, although their present contracts seemed to fix their responsibility. The Secretary was asked to have the Attorney General write the Commission a letter in regard to it.

The three contractors who had ordered the unit had entered into a formal agreement among themselves as to how they would divide up or apportion the entire capacity of the generator among themselves.

Dues for National Reclamation Association and National Water Conservation Conference.

It was agreed that the Commission continue sustaining memberships—$150 to the NRA and $200 to NWCC.

Colorado River Water Users Association.

It was voted to contribute $250 as the State's share for the support of the CRWUA.

Transformer Bank 3.

Commissioner Mueller stated that Bank 3, one of three transformers installed for use at BMP, had been rented to the U. S. Bureau of Reclamation for use at Parker Dam, during construction, at a rate of $3,000 per month. Return of the transformer had been ordered but there had been some delay, and Mueller was of the opinion that under the contract terms rental was due BMP for the period between notice and delivery. It was stated by William Doak that a formal request for return had been sent to the Regional Director, E. A. Moritz, about October 25, 1948, and under the contract billing would become effective again about December 1, hence the Bureau should be billed from December 1 up to the present time, some four and one-half months.

Bureau Charge for Transmission to BMP.

In negotiations for transfer of the two power lines to the Bureau

by WAA, the Bureau set a figure of $91,500 per year for cost to Nevada for wheeling the State's entire allotment of power. The charge was to be fixed regardless of the quantity of power transmitted over the lines; in other words, there would be no graduated or minimum charge. However, BMP would have the right to use the lines to transmit power to outside private contractors such as Southern Nevada Power Co., and to charge for such use, which would have the effect of reducing the net cost to BMP. It was also thought that the Bureau might reduce the $91,500 figure, which was believed to be too high. It was also thought that Arizona should pay some part of the cost as the South line would be used to transmit Davis Dam energy to Arizona.

The two power lines were a part of the property transferred to Nevada under the Letter of Intent, and their transfer to the Bureau would result in a credit of $3,800,000 on the State's obligation of $24,000,000.

Excess Capacity in Generator N-7.

Southern Nevada Power Co. had made an offer to Mr. Mueller to take the extra 35,000 kilowatts of capacity in N-7 for his company. Upon discussion, it was thought that WAA would not approve the terms of a contract that Mr. Lloyd Compton had submitted on behalf of SNPCO. It was also considered that the excess capacity in N-7 might be more beneficially used on an exchange standby basis with the government. A mutual standby system had been written into the Bureau's contract with Arizona which seemed applicable to Nevada, and it seemed would have, if adopted, the effect of making Nevada's Hoover energy firm without excessive cost.

It was ordered that Mr. Shaver, Mr. Doak, and Mr. Neuman work on the transmission agreement and get it into form to submit to the Commission as soon as possible.

Overdrafts by Nevada.

Mr. Shaver stated that after further negotiations they were no closer to an agreement with the City. He said that if Nevada failed to pay the charge for overdrafts, the City could shut off our power next month, if we overdraw this year, but were not likely to be so arbitrary. He wished to have further talk with the City concerning the overdrafts.

Commission Finances.

Secretary Smith said he had the bookkeeper in the office of the State Engineer prepare a detailed account of business for the preceding three months, by months, in accordance with the order issued. The balance in favor of the Commission was $95,507 on April 1, and had been increasing at the rate of about $3,000 per month.

Colorado River Water Controversy.

Secretary Smith spoke of the efforts being made by California to have the allocation of water for the downstream States clarified by the United States Supreme Court. Nevada was desirous of having such an adjudication made as the right of the State to a definite quantity of water was left in a nebulous and uncertain position. No inter-State compact between Arizona, California, and Nevada had been

made. Until such agreement, State laws might govern on the basis of priorities of claims and beneficial use, with both Arizona and Nevada having priorities over California.

He said that recently it began to look as if the whole matter might be reopened for a hearing. In the event of a revamp Nevada might emerge with more water, and even approach the 900,000 acre-feet requested in the beginning, which had been frowned upon by the Bureau of Reclamation as excessive; the Bureau holding that 300,000 acre-feet was all Nevada could ever use.

The Bureau of Reclamation could not foresee at that time, 20 years ago, what has developed in the water-use picture of today. At that time Las Vegas had only about four thousand people, and desert irrigation could only be accomplished at very high cost, much in excess of possible financial return. Fourteen years ago we began studies with the Bureau in Clark County. They estimated the irrigable area, the cost of water and the possible returns from Las Vegas Valley. At that time such irrigation was clearly beyond economic reason. Now, however, growing as we are, it isn't at all fantastic to foresee a time when there may be 100,000 people in Southern Nevada, not all in Las Vegas, perhaps, but scattered along the river in the vicinity of the increasing developments, such as new large dams and reservoirs, and new land with water made available for it. If Arizona, with considerable success so far, can advance a gigantic proposal, mainly for supplemental irrigation of lands in the Salt River Valley at a cost of about $2,500 an acre; and also ask Uncle Sam to supply the electric power to pump the water up through a 1,000-foot lift, and advance it as a feasible and practical project; certainly the whole Colorado River water situation should be reopened and restudied as to downstream use and division. We have 150,000 acres of land in Southern Nevada that offer a better economic setup than what has been proposed by Arizona.

Smith said if the water fight should result in a re-allocation between Arizona, Nevada, and California, we could go back and insist on the same amount we asked for 23 years ago, which was 500,000 acre-feet. The Colorado River Board, representing all the States, had agreed to that. The Bureau of Reclamation decided we could not use that much water, and at that time we had no adequate reply. Now look at what has happened here during the last ten years—Nevada is surely going to need more water from the Colorado.

Discussion followed, without any action being decided upon.

Boulder Power for Eureka.

A letter from George W. Mitchell, General Manager, Eureka Corporation, Limited, applying for 10,000 kilowatts of power, was read. He stated that they could not yet make a firm commitment for power, but wished to be placed in a position whereby the power would be available to his company at a later date.

Mueller stated it would be necessary for the Eureka Corporation to build a new transmission line the full distance from Boulder to Eureka, and the cost would be in the order of $2,000,000 or more. Communications with Mr. Mitchell indicated that the Eureka Corporation would not be deterred by the cost if they could get ample power.

Doak suggested that in any communications with Eureka Corporation, or any other people considering long-distance transmission lines, we should consider using 230,000 volts transmission rather than 138,000 or 115,000 or any other voltage in order not to complicate the State's power system.

Shasta Dam Power.

Mr. Shaver reported in some detail on his study, so far as he had gone, with special reference to the applications of the cities of Reno, Sparks, and Fallon. It was ordered that the partial report be accepted, and that upon completion of the full report, copies be mailed to the various applicants for power.

Carver Park and Victory Village Housing.

W. M. Brown, James Farndale, and Harold Baldwin appeared in regard to the two housing villages. Mr. Farndale stated that he had received notice from the Washington office of the Housing Authority to deactivate the property. He was greatly concerned, realizing that the housing was needed both for Clark County and for the BMP Carver Park Project. Designated as Nevada 26026, it has 324 family dwelling units, a grocery, meat market and coffee shop. Two dormitory buildings and a dormitory community building had been deactivated before the end of the war and are being offered for sale by the Public Housing Authority. There are 500 family dwelling units in Victory Village, making a total of 824 in both projects. Rents range from $31.50 to $44.50 per month and all are furnished.

Much detail was given by Mr. Farndale relative to the housing, and the necessity of saving it. He thought a resolution by the Commission that the housing be changed from temporary to permanent status would be extremely helpful. Mueller, DuBravac, Shaver, and Col. Julian Moore of WAA, were asked to draw up an appropriate resolution asking that the housing be placed on permanent status.

Nevada Power Survey.

Smith stated that the report, Nevada Power Survey, was about complete, and that mimeographed copies of a synopsis, with introduction and conclusions, as prepared by the Federal Power Commission, had been submitted to the members of the State Legislature while it was in session. The complete report now awaited only formal approval by the Washington office of FPC before printing. He stated that thanks to much efficient voluntary help from various Nevada organizations there would probably be sufficient money left in the original fund of $5,000 appropriated by the Legislature to cover the cost of printing. The fund would have been far from adequate but for the work contributed by the Office of the State Engineer.

Clark County Tax Suit.

Secretary Smith had received unconfirmed information that Clark County had instituted a suit against the Los Angeles Bureau of Light and Power for taxes on energy generated in Nevada and transmitted over lines in Nevada for an amount of $225,000 annually. If such a suit should be decided in favor of Clark County, the $225,000 would be deducted from the $300,000 per year annually paid the State of

Nevada by the Bureau of Reclamation under the provisions of the Boulder Canyon Project Adjustment Act.

Commissioner Cahlan said the Clark County Commissioners had passed such an ordinance last year, and it was yet to be determined if the county had a legal right to levy those taxes.

Mr. Shaver said, in reply to a question by the Governor, that he understood that the tax was based on one cent (1¢) for every thousand kilowatt-hours; and that roughly figured 2,250,000,000 kilowatt-hours, or half of the generation at Boulder, is on the Nevada side.

No action was taken, pending further developments.

LAS VEGAS, NEVADA, MAY 14, 1949

Present at this meeting were Governor Pittman and Commissioners Cahlan and Mueller. Absent were Secretary Smith and Commissioner Murphy. Mr. Shaver acted as Secretary.

The meeting was special and had been called to act on two documents: (1) A Letter of Intent from the War Assets Administration to the Colorado River Commission covering the transfer of Manganese Ore properties to the Commission; and (2) An agreement between War Assets Administration and the Colorado River Commission for sale of personal property at Basic Magnesium Plant.

Manganese Ore Transfer. (1)

Commissioner Mueller moved that the Letter of Intent be approved by the Commission subject to final approval by the State Board of Control, and that the Chairman and Secretary of the Commission be authorized to sign this document for the Commission. Motion unanimously carried.

Personal Property Sales. (2)

It was moved and approved by full vote that the agreement for sale of personal properties at Basic Magnesium Project be approved, subject to final approval by the State Board of Control, and that the Chairman and Secretary of the Commission be authorized to sign the agreement.

Basic Townsite Power.

Messrs. Mueller and Shaver were authorized to negotiate a new contract with Southern Nevada Power Co. for supplying energy to Basic Townsite, as the old contract would expire on June 1, 1949.

LAS VEGAS, NEVADA, JULY 15, 1949

Irving Bryner, Superintendent, Overton Power District, stated that his district was not satisfied with charges against them made as a result of the general emergency outage May 15 to May 20.

Messrs. Shaver and Mueller explained the allocation of charges satisfactorily. Mueller said, as a matter of interest, that at the time of failure of Bank Y, if the BMP lines had not been arbitrarily taken over by Southern Nevada Power Company and the City of Los Angeles for use at that time, the outage would have been 10 days instead of 5.

In order to clear up the allocation of charges, it was requested that Mr. Ludlow, Mr. Compton, and Mr. Mueller meet with Messrs. Morledge and Bryner.

BMP Finances.

Mr. Mueller stated that each month he had furnished the Governor with a financial statement; that the accounts had been audited and found correct and, with attached certificate, had been sent to WAA in Washington. He then submitted the statement for the month of May.

Mr. Mueller stated that $87,500 had been set up as a reserve for extraordinary maintenance and $16,633.01 was in a fund for promotion expense, for which $20,000 was authorized by the Letter of Intent. He further said that their cash balance on May 31 was $232,580.43, and that $246,845.92 had been paid to WAA on our indebtedness.

Interim Power Contract Bills.

The contract of Edison and the City to provide Basic with power, pending the time it can be made available by the Commission, includes a provision that if the output of Hoover Power Plant exceeds 5,750,000,000 kilowatt-hours for the year, our payment figure would be based on the fixed cost of firm energy. If the output fell below 5,750,000,000, an additional charge would be added to be based on the price of petroleum on the theory that shortages in Boulder energy would have to be made up by steam generation, using oil as fuel. For some reason, unsatisfactory to Nevada, City and Edison held that Boulder output fell just below the 5,750,000,000 and, as a result, we had been obliged to pay a very large "oil increment" charge amounting to some $380,000. The major portion was paid by the lessees at Basic using most of the power, yet a substantial sum was also paid by BMP.

It had been held by the Commission that the method of figuring output of plant by the City was in error; that more than 5,750,000,000 kilowatt-hours had been generated and that the sums collected for oil increment should be refunded to the State. Convincing tabulations and statements had been prepared by Commissioner Mueller and his staff to show the Commission had been overcharged.

It was the unanimous opinion of the Commission that an attempt should be made to settle the difference by arbitration or compromise, and in case of failure to proceed with a suit against the California allottees to recover the overcharge.

Transmission to BMP.

Commissioner Mueller objected to the proposed charge of $91,500 per year for transmission of energy over the two lines to BMP, and suggested that the contract be studied further before signing.

Overdraft Charges.

It was debated whether the Commission should endeavor to secure a reduction on the charges for overdraft. Further delay in billing the Nevada contractors was decided against; and upon motion unanimously passed, Mr. Shaver was instructed to bill the contractors in accordance with charges as submitted.

It was decided to negotiate with the City in an effort to arrange a method by which small overdrafts, in the future, would not result in our contractors being penalized for steam generation.

Air Force Engineering Development Site.

A request by the U. S. A. F. for detailed information as to power, water, and land resources was discussed in detail. The required information had been obtained and forwarded to the Air Force.

Withdrawal No. 31.

A withdrawal of 65,000,000 kilowatt-hours, 9947 horsepower, effective July 2, 1951, was approved.

Total Energy Allocations.

There followed prolonged discussion of many problems relating to operations at BMP. In conclusion, it was moved and unanimously passed that Mr. Shaver notify the Nevada contractors of their promise to withdraw up to the total allocation of Hoover energy for Nevada, and if such withdrawal was not made, that the energy be withdrawn for BMP.

Water and Power for Lake Mead Recreational Area, National Park Service.

Mr. Mueller stated that a request had been made of BMP to tap the Lake Mead pipeline for use of water on a development by the National Park Service. The danger of such a procedure was pointed out; as misuse might result in the collapse of three or four miles of the 42-inch diameter main-line pipe. Subject to setting up proper safeguards no objections were offered, but the matter was held for further engineering investigation.

Division of Colorado River Water.

Arizona's bill, S. 75, for diversion and pumping of water for the Arizona Salt River Valley Project was discussed. Attorney General Bible read a letter addressed to Senator Malone stating that the position of the Governor and Alfred Merritt Smith, and of himself, had not changed as a result of proposed amendments by Senators Millikin and O'Mahoney, and other amendments by Senator Downey; and our position was that S. 75 not be considered until after the Litigation Resolution, S. J. 54 (introduced by Senators McCarran, Downey, and Knowland), which we strongly endorsed, had been acted on. S. J. 54 provided for an adjudication of water allocations downstream on the Colorado by the Supreme Court.

The Commission resolved that the letter of the Attorney General to Senator Malone, dated July 8, 1949, be given the complete approval of the Commission.

Other matters relating to BMP operation were considered, but no other formal motions were voted upon.

LAS VEGAS, NEVADA, AUGUST 11, 1949

Mr. Mueller informed the Commission that he was negotiating with the United States Lime Company for purchase of one-half of the Preparation Building at BMP and some of the area adjacent. Proposed sale is in excess of the minimum value set by WAA. The entire Preparation Building figured at $300,000, of which $150,000 would be paid for the portion desired by the U. S. Lime Co., and the State would derive a profit from the sale.

Mr. L. U. Grindell, representing U. S. Lime Co., reported that if

his company could negotiate the purchase of four large rotary kilns, they would establish their complete operation in Henderson as fast as possible. The company would utilize all four of the rotary kilns and were planning to produce two new products they had not made before: (1) Hydrated lime, not yet commercially produced in the West, of which they would produce 2,000 tons per month; and (2) Hicalcium lime, for which his company would not be first on the Pacific Coast among the biggest producers, but would probably be second largest. He said they intend to spend from $300,000 to $400,000 at Henderson on this enterprise, and will employ about 100 men during complete operation; producing their products at Henderson. Mr. Grindell stated that his company could meet all the lime requirements for a large section of the Pacific Coast.

Mr. Mueller plans to have the U. S. Lime Co. pay a yearly fixed rental which would apply on their purchase of the building, known to Basic as the "Preparation Building." This would further benefit Nevada, as the property would be placed on the tax roll. Approval of the Commission was desired by August 26, 1949. The deal had been approved by WAA, and the money would be delivered to the Federal government. In order to get operations started without loss of time, if the sale cannot be consummated immediately, the Commission would agree to a lease for the protection of the U. S. Lime Co., but the company agrees to expedite purchase. They will at once begin to spend money, and want to protect such expenditure. The Commission was requested to grant them a lease. The project seemed very favorable to BMP, as it had been doubtful if the Preparation Building could ever be sold.

By formal motion duly passed, the Commission authorized Mr. Mueller to proceed with negotiations after forwarding the detailed proposal to Governor Pittman for his study and approval.

Manganese Ore Plant Purchase.

Mr. Mueller gave a summary of the details of the purchase, on which the Commission made no profit. The new company is composed of Ray Galenor, Mr. West, Lunsford S. Lory, and one other whose name escaped the record. It appeared that the property had been owned by several individuals whose rights would have to be determined. The mining claims were held under lease by WAA. The Commission still has machinery to sell that had not been sold as yet under an agreement that WAA had with the Whitewater Cement Company owned by a Mr. Guiberson. If the Commission sells personal property other than what has already been sold to Guiberson for more than the minimum figure fixed, then the Commission will make a profit. By having this machinery under its control the Commission can sell it to other industries within the State, which will also benefit because of taxes to be paid by the mine. The new company contemplates a plant to cost about $750,000 at Manganese, which is only a few miles from Basic plant. Processing of the manganese ore would be done at BMP, which would profit thereby.

Housing at Henderson.

Commissioner Mueller, Acting Manager of BMP, reported that the Housing Committee at Henderson was interested in buying the houses.

It was his opinion that if the Commission could get an income of $12 net per month for each of the dwelling houses, which income could be applied to the minimum value of the houses, it would be a good deal, providing that they pay for their own maintenance. (It would amount to $0.50 per month sewage, $1.50 water, $1 police protection, $1 insurance, and $12 rent, plus other items which total about $28 per month). Sale of the houses is held up because money is needed for surveying; approximately $50,000. Mr. Mueller stated that the manufacturing lessees at BMP favor sale of the houses.

CARSON CITY, NEVADA, OCTOBER 5, 1949

Forecast of Available Power.

Resident Engineer A. J. Shaver stated that he had attended an "Integration Meeting" of Hoover Dam power users on August 12, at which meeting 6.0 billion kilowatt-hours were scheduled for the operating year of 1949–1950. The Integration Committee had suggested that if this figure was adopted, it should be reviewed in November and then be rescheduled if necessary. Thereafter, Mr. E. A. Moritz issued a memorandum and recommended that a schedule of 6.0 billion kilowatt-hours for the contract year beginning June 1, 1949, be adopted subject to re-examination in November 1949, with a view to possible adjustment on the basis of additional information that might be available at that time.

An Overcharge Alleged by Overton Power District.

At a meeting in July, Mr. Bryner had questioned charges against Overton Power District for outages during May, feeling that Southern Nevada Power Co. was not paying its proportion of the charge. A meeting had been held which was attended by Messrs. Moriedge, Leavitt, and Whipple, and Bryner of Overton Power District; Ahern and Woods of Lincoln County Power District; Compton for Southern Nevada Power Co.; and Mueller and Shaver for the Commission. At that meeting it was brought out that an agreement had been reached between and signed by the three Southern Nevada contractors apportioning the cost of Generator A-9 between them. It was suggested that the same ratio of apportionment be used in assigning costs to the Southern Nevada Power Co. for their share of the $91,500 a year which the State will pay the Bureau for the use of the 230 KV facilities when the Bureau assumes ownership of the north and south lines from Boulder to Basic. Mr. Mueller said he would hire Mr. E. W. Rockwell, an electrical engineer from Los Angeles, to represent BMP in a discussion of this apportionment, and Shaver had written Rockwell at the request of Mueller. The matter of these charges had been fully explained to Bryner.

Arizona Withdraws Total Power Allocation.

Mr. Smith read from a letter he had received from Mr. Shaver, for presentation to the Commission, dated July 20, 1949. The letter stated in effect that Arizona had served notice of two withdrawals totaling 596 million kilowatt-hours to become effective in March and June 1952. He had also been notified that Arizona had made a third withdrawal for 120 million kilowatt-hours to become effective in July 1952, mak-

ing their total withdrawals 716 million kilowatt-hours. They proposed to make their fourth and last withdrawal in July 1950 for the balance of some 25 million kilowatt-hours.

Under the General Regulations, either State completing all of its withdrawals before April 26, 1950, may claim the unused firm energy of the other State up to 3.9169 percent of the total firm energy of the plant, if the lagging State should have that much unused after April 26, 1950.

The purpose of the letter was to alert the Commission as to a necessity for withdrawing all of its energy without delay if it did not care to lose some of it to Arizona.

Contractors Urged to Withdraw Energy.

On July 20, Shaver had written the three Nevada contractors, SNPCO, LCPD, and OPD that they should complete their withdrawal orders without delay, according to the tentative allocations agreed upon at the meeting of October 12, at which time 386 million were designated for BMP and 355 million for the above-mentioned three State contractors; the total available to Nevada being approximately 741 million kilowatt-hours.

Arizona's or Nevada's Claim to Unused Energy.

It was determined that neither State could claim the other State's unwithdrawn energy until it had first withdrawn all of its own. Mr. Richard Coffey, Regional Counsel for the Bureau of Reclamation in Los Angeles had offered the opinion that the 20 million left of Arizona's unwithdrawn was rather small, and perhaps the two States might agree not to disturb each other's small balances.

Governor Pittman suggested that we should try to have an understanding with Arizona that neither State would withdraw the other's power. Smith thought that might be arranged by correspondence rather than through traveling committees.

> NOTE: This subject of an agreement was taken up with Arizona a little later on, but it was learned that due to a desire of certain elements in Arizona to obtain all power that might become available, no agreement would be satisfactory.

Therefore, Nevada, with the cooperation of lessees at BMP and the three State contractors, who made firm contracts for definite amounts of energy, was able to withdraw its full allocation of energy prior to the April 26, 1950, deadline.

Generator N-7 vs. Generator N-8.

Members of the Commission and its engineers had various talks with Bureau officials on an informal basis regarding generating capacity for the State. Their men feel that the State would be in a better position if it should install Generator Unit N-8 instead of acquiring N-7. They believe that Nevada will be in an insecure position by taking N-7, for N-7 is still subject to recall by Metropolitan Water District. In some quarters an opinion was expressed that the City and Edison might subject the District to "pressure" to recall the unit, at which time Nevada might find no space in Hoover Power Plant to install another unit. Although two years' advance notice would be required to recall (four years if all Hoover power allottees will agree

to Nevada's proposal), the time could mean little and be of no advantage if all space in the power house should be occupied by other generators.

The District had agreed to an amendment to "Agreement Arranging Power Supply May 9, 1942," providing that in consideration of release from its obligation to take over the cost of said Units N-7 and T-7 in 1966, it would extend the option period of said Agreement to four years.

After discussion it was ordered that a meeting be requested with the District's directors as soon as possible in order to clarify and reach a full agreement in regard to N-7.

Additional Engineering Service Proposed.

Smith expressed an opinion that the Commission needed assistance from someone versed in electrical engineering economics to work on the numerous problems until they are straightened out. He stated that the Commission was in good financial position to employ some expert help, as there was a surplus of $105,000 on hand. It was his opinion that several matters were too critically important to be delayed longer. He said such a man could be an attorney familiar with such work, and if necessary he could be authorized to get further engineering help. He said no one on the Commission could afford the time.

Shaver said that he had sometime before submitted a memo listing some of these points, and that no one man could take care of them if he had other imperative duties to take care of.

Cahlan suggested that Smith make a listing of the things necessary to study closely during the coming year. The list could be examined at the next meeting after which someone could be employed if the Commission so ordered. This plan was then agreed to by vote of the Commission.

> NOTE: Subsequently, E. W. Rockwell was employed by the Engineering Committee on behalf of the Commission on a contract agreement, and is still retained in an advisory capacity. No extra help was employed on a permanent salary basis.

Arizona Requests Shasta Dam Power.

Mr. Shaver reported that Sewell Wingfield, Consulting Engineer for the Arizona Power Authority, stated that the Arizona Power Authority had requested consideration of an allocation of Shasta Dam energy for use in the State of Arizona. Wingfield thought there was but little likelihood for them to get an allocation of Shasta power, but stated that he wanted to explore all of the possibilities and thought that some interchange of energy might be worked out.

Colorado River Water for Las Vegas.

There was much discussion of the proposal to pipe water from Lake Mead into Las Vegas, both from engineering and financial viewpoints. It was the sentiment of the Commission that full cooperation should be given the Las Vegas Water District Board and other local officials in working out plans for more water.

Power Withdrawal for BMP.

Mr. Shaver presented Withdrawal Notice No. 32 for 37,265,000 kilowatt-hours per year with demand of 5,703 horsepower of generating capacity to be effective November 13, 1951. This withdrawal was being made by the State of Nevada for use at its Basic Magnesium Project.

After considerable discussion relative to this and other withdrawals for Basic Project not being underwritten by firm contracts with lessees at Basic, the Commission decided not to take action on this withdrawal, but to leave it for consideration at the next meeting.

CARSON CITY, NEVADA, OCTOBER 14, 1949

This was a special meeting called by Governor Pittman to confer with a group of officers and engineers sent out by the U. S. Air Force to investigate sites for an engineering development center.

The visitors explained their mission, and were supplied with information regarding several possible sites in Nevada. They submitted a detailed questionnaire. A number of the questions were answered on the spot with respect to the most favorable site, somewhere in Clark County. The Air Force had employed the firm of Sverdrup & Parcel to make the examination as to sites.

Under date of October 28, 1949, a committee appointed by the Commission composed of A. J. Shaver, Resident Engineer; J. M. Murphy, Member of the Commission; Las Vegas City Engineer; and S. R. DuBravac, Acting Manager, Basic Magnesium Project, made a detailed report to Sverdrup & Parcel covering all of the questions submitted, together with much additional information regarding the Hoover Dam area, in accordance with the wishes of the Air Force.

The mission of the Air Engineering Development Committee was confidential, but not "top secret." Considerable publicity found its way into the press as a natural result of such a group going about the country seeking both general and detailed information.

The Hoover Dam site, however, was not selected, although conceded to have many advantages.

LAS VEGAS, NEVADA, NOVEMBER 12, 1949

Combined Metals Reduction Company of Salt Lake City, E. H. Snyder, President, had been granted an option on buildings at Basic designated as Units 8, 9, 10, and J-2. No purchase price had been agreed upon, and the option only granted the right to negotiate for the buildings. Consideration for the option was $1,000 for a period of three months from January 4, 1949, with provision for extension.

Subsequently, the U. S. Treasury Department requested that equipment be provided and arrangements be made at Basic for the remelting of a large quantity of magnesium ingots stored at Basic, as the metal was deteriorating. Mr. Mueller, Acting Manager at Basic, advised that J-2, which is equipped for melting, would be held available. It was thought by some members that this resulted in a duplicating option on a part of the property under option to Mr. Snyder.

Mueller explained that Mr. Snyder had offered no objection, but had not so stated in writing, although he had sent a telegram. He was sure a letter would be supplied if requested.

After further detailed explanations by Mr. Mueller, the Commission requested him to secure approval of the use of J-2 in writing from Mr. Snyder, which he agreed to do.

Basic Buildings Sold to Miller, Haynes & Smith.

Mr. Mueller stated that the buildings consisted of the Administration Building, the McNeil Building, and three warehouse buildings, and a price of $5,000 had been placed on these wooden structures. All furniture and plumbing had been removed. They were a serious fire hazard to the entire Basic plant, and insurance was prohibitive. It was desired to get the buildings out of the way as soon as possible. They had been advertised for sale, prior to removal of all equipment from them, and one bid of $6,500 had been received. However, Mueller had signed an agreement of sale with Miller, Hayes & Smith, who were lessees at Basic. They had resold the buildings and were moving them.

It appeared that this company had been dilatory with their contract and were moving buildings before certain amendments required by WAA were met and before approval had been attached to the contract.

There followed a long discussion at which the desire of WAA to have the buildings removed as soon as possible, because of fire hazard, was brought out. A defect in the contract was shown, under which the payments might have been extended for an indefinite period of time. Colonel Julian Moore stated that Government agencies had requested permission to remove the fixtures and pay acquisition costs, plus labor, and a considerable amount of money was realized from the material.

The Commission ordered that Mr. DuBravac contact the purchasers of the buildings and obtain from them a satisfactory agreement regarding payments, to be approved by Attorney General Bible.

It was moved and passed that the representative of War Assets Administration be requested to submit a list of proposed sales each week to the Commission through its Secretary at Carson City, for approval by the Commission and the Board of Control.

A difference of opinion arose as to what the cost of power should be as supplied to Basic Townsite by Southern Nevada Power Company. Mr. Compton of SNPCO and the Commission agreed to submit the matter to the Engineering Committee. The Engineering Committee was instructed to reach a solution and to execute a contract with SNPCO as promptly as possible, as the matter had been delayed too long.

Questions by Mr. Lloyd Compton.

Mr. Compton asked the Commission three questions, as follows:

(1) What will be the obligation of the three Nevada contractors in the $91,500 to be charged by the Bureau of Reclamation for the use of the 230 KV line?

(2) What capacity can these three contractors discuss as available to them in N-7?

(3) Has the position of the Commission changed any as to whether or not the present Nevada contractors may have a portion of Davis Dam Power?

None of the questions were immediately answered. Mueller and Smith recommended employing E. W. Rockwell to assist in working out conclusions and details. Mr. Compton, although speaking highly of Mr. Rockwell, thought we could solve our own problems.

Interim Contract Overcharge.

Consideration was resumed of the overcharge by Edison and City for steam power. Smith recommended trying to compromise the dispute, providing that would be favorable to WECCO and Stauffer. He was opposed to taking the matter to court for the reason that it might upset the long and favorable business relationship with the California allottees. If it could not be satisfactorily compromised, and the Basic lessees prefer court action, he said we should follow their desires in dealing with the Californians.

Mr. Mueller had gone to much effort in carefully preparing briefs sustaining Nevada's allegation that an unfair and unjust overcharge had been made for steam and that the output at Boulder had been in excess of five billion seven hundred and eighty million kilowatt-hours, and he doubted the wisdom of trying to secure a compromise.

The contract provided that an Operating Committee shall be appointed to handle disputes on billing, and their findings shall be binding. On this Operating Committee were Mr. Lott for Edison, Mr. Peterson for the City, and Mr. Mueller for the State of Nevada. They had not reached any agreement, as the City and Edison representatives held the bill to be proper and valid.

NOTE: Subsequent to this meeting, Mr. Fred Gibson, General Manager for Stauffer, advised Mr. Smith, Chairman of the Engineering Committee, that they desired to reach a compromise if possible, instead of taking the dispute into court, and that they would like to have Smith's committee confer with the attorneys for Edison and the City. This was done in Los Angeles a few days later, but attorneys for the City and Edison refused to in any way change or modify their original billing; leaving Nevada with no alternative but to either take the matter to court or to accept the bills as they had been rendered. S. R. DuBravac, who had been appointed for Nevada on the Operating Committee, succeeding Mr. Mueller at Mueller's request and by order of the Commission, was present. Lott and Peterson were present, so that both the full Operating Committee, as set up in the contract, as well as the Engineering Committee, had failed to reach an agreement with Californians. This was the end of all efforts to compromise.

Relinquishments of Energy.

Mr. Shaver presented requests for relinquishment of energy as follows:

No. 6. For 4,920,000 kilowatt-hours, 1,000 horsepower capacity, to become effective May 20, 1950, to relinquish energy formerly withdrawn under Withdrawal No. 8. Submitted on behalf of Lincoln County Power District.

No. 7. For 7,600,000 kilowatt-hours, 1,170 horsepower capacity. Effective date about May 20, 1950, to relinquish energy taken under Withdrawal No. 18, which became effective April 10, 1948. The relinquishments were approved.

DuBravac Appointed Manager at Basic.

Upon motion by Commissioner J. V. Mueller, who had been Acting Manager at BMP, S. R. DuBravac was appointed General Manager. By separate motion duly passed by unanimous vote, DuBravac's salary was fixed at $7,400 per year.

The session ended with discussions relating to power supply for BMP, and the methods of disposal of personal property.

LAS VEGAS, NEVADA, DECEMBER 20, 1949

Representatives of the Las Vegas Water District appeared to learn if they could obtain 8,000,000 gallons per day to supplement the Las Vegas artesian water supply. They also asked the Commission if it might not be possible to secure a commitment, or at least an expression of willingness to be supplied in or about the year 1960 with 30,000,000 gallons per day.

The Commission decided to supply 8,000,000 gallons per day until 1960, and whatever additional from the lake that might be needed in the future, and instructed the Engineering Committee to work out details for presentation in final form to the Commission.

The remainder of the meeting was occupied with serious analyses of problems relating to power supply and use at BMP and to listening to the proposals and suggestions of lessees and prospective lessees who were present. These matters were subsequently crystallized in the form of contracts for plant buildings, space, and power.

FINANCIAL

STATEMENT OF DISBURSEMENTS, COLORADO RIVER COMMISSION FUND FOR THE PERIOD JULY 1, 1948, TO JUNE 30, 1959—LAS VEGAS OFFICE

Month and year	Total disbursements	Compensation	Travel expense	Express, postage	Telephone and telegraph	Supplies	Equipment	Rent	Miscellaneous
1948									
July	$1,096.16	$720.00	$216.42	$2.00	$29.22	$18.90		$40.00	$7.50
August	834.28	720.00	74.23	8.61	22.50			40.00	17.90
September	853.56	720.00	87.22	3.50	39.71	7.70		40.00	5.44
October	861.20	720.00	151.85	2.50	37.36			40.00	13.56
November	905.42	720.00	46.70	3.61	69.10		$27.50	40.00	27.50
December	1,240.09	720.00	412.46	7.17	14.26			40.00	5.00
	$5,844.72	$4,320.00	$940.16	$28.47	$234.14	$26.60	$27.50	$240.00	$97.24
1949									
January	$891.32	$720.00	$80.36	$4.44	$42.00	$1.00			$42.96
February	1,112.10	720.00	178.27	3.76	37.24	48.30		$65.00	58.89
March	995.46	720.00	135.72	7.00	20.96		$24.50	65.00	22.50
April	1,274.25	1,080.00	53.05	5.24	28.90	.50		45.00	41.14
May	589.69	360.00	77.73	6.11	22.60	4.75		65.00	52.30
June	962.73	720.00	105.53	5.00	24.50	11.60		65.00	21.30
	$5,835.55	$4,320.00	$633.56	$31.63	$196.20	$66.75	$24.50	$325.00	$239.93
1949									
July	$924.97	$720.00	$82.77	$3.00	$28.79	$4.75		$65.00	$20.75
August	1,022.37	720.00	68.42	5.98	17.55	2.68	$104.44	65.00	21.30
September	827.09	720.00	72.07	8.51	18.50	9.14		65.00	23.15
October	969.18	720.00	127.48	3.50	14.75	6.85		65.00	22.40
November	1,027.07	720.00	182.97	6.00	15.85			65.00	48.35
December	1,121.74	720.00	151.07	8.61	24.80	1.36		65.00	129.31
	$6,015.52	$4,320.00	$684.98	$35.60	$124.45	$24.29	$104.44	$390.00	$315.26
1950									
January	$1,084.64	$720.00	$228.40	$5.95	$43.05	$1.54		$65.00	$20.60
February	1,155.09	720.00	168.91	3.00	49.79	15.35		65.00	3.20
March	1,084.24	720.00	97.60	5.10	21.06	8.00		65.00	64.50
April	1,331.52	720.00	397.58	8.08	62.22			65.00	60.64
May	1,184.48	720.00	318.27	5.54	47.05			65.00	58.59
June	1,119.79	720.00	187.84	7.47	28.95	8.53		65.00	22.00
	$6,911.79	$4,320.00	$1,394.64	$35.94	$272.12	$33.32		$390.00	$257.94

STATEMENT OF RECEIPTS AND DISBURSEMENTS, COLORADO RIVER COMMISSION FUND FOR THE PERIOD JULY 1, 1948, TO JUNE 30, 1950, INCLUSIVE—COMMISSION OFFICE, CARSON CITY

Month and year	Total disbursements	Compensation	Travel expense	Express, postage	Telephone and telegraph	Supplies, equipment	Publications, printing	Miscellaneous	Receipts
Balance July 1, 1948									$46,984.29
1948									
July	$969.91	$430.40	$356.32	$37.00	$77.19				$2,581.41
August	1,269.31	285.46	621.31		326.80	$23.70			2,024.29
September	729.22	313.33	182.90		92.79	7.30		$213.71	2,862.86
October	2,018.62	167.06	342.34	3.74	24.96	40.74	$5.00	24.68	2,797.95
November	1,169.71	197.06	248.56		18.92	26.15		289.02	2,820.02
December	414.00	203.33	173.12		35.55				4,579.79
	$5,571.78	$2,436.78	$2,124.75	$40.74	$208.21	$107.89	$5.00	$516.41	$63,434.92
		Less disbursements—Commission Office						$5,571.78	
		Less disbursements—Las Vegas Office						5,944.72	
									11,516.50
		Balance January 1, 1949							$52,918.42
1949									
January	$1,169.01	$793.53	$178.46	$33.00	$42.60	$32.25		$91.17	*$33,871.37
February	1,871.69	283.33	194.16	3.49	39.22	764.12	$387.00	30.17	6,439.68
March	443.07	288.33	8.77	3.74	36.13	1.40	11.50	87.76	4,734.50
April	448.19	61.50	287.70	49.18	25.80	19.31	13.70	35.43	3,775.57
May	634.58		91.56		82.46	7.50		653.06	2,797.93
June	583.57	308.33	149.50		140.59	14.15			10,421.78
	$5,272.11	$1,815.02	$842.15	$86.34	$382.81	$838.93	$428.35	$877.61	$131,196.35
		Less disbursements—Commission Office						$5,272.11	
		Less disbursements—Las Vegas Office						5,815.51	
									11,087.66
		Balance July 1, 1949							$120,098.69
1949									
July	$291.82		$216.19		$28.80	$86.18	$3.75	$126.50	$2,310.46
August	465.04	$110.00	125.18		72.47	97.39			2,121.42
September	14.43				11.85	2.10			4,063.22
October	320.41		44.50		32.91	42.20			2,807.20
November	753.06	35.33	317.50		120.18	34.04	47.85		415.48
December	256.73	92.50	141.50		8.52	6.35		5.08	2,622.81
	$1,983.71	$238.83	$1,018.67		$306.82	$210.02	$51.60	$131.58	$117,352.06
		Less disbursements—Las Vegas Office						$6,015.33	
		Less disbursements—Commission Office						1,983.71	
									7,999.04
		Balance January 1, 1950							$109,352.02

1949									
January	$584.94	$95.50	$278.22	$1.89	$99.42	$52.98	$34.30	$74.32	$1,724.60
February	832.10	75.00	187.79	51.90	118.20	4.50	16.00		1,027.75
March	428.81	24.38	291.02		83.03		28.16		4,785.91
April	802.49		446.88		118.26	319.75	77.40		4,107.81
May	397.46		202.49		114.27	58.50			1,182.22
June	1,230.75	328.76	447.85		58.29	24.70		231.90	2,396.85
	$4,347.05	$523.14	$2,194.47	$52.89	$613.64	$473.43	$245.30	$327.32	$35,398.15
Less disbursements—Las Vegas Office								$6,311.78	
Less disbursements—Commission Office								4,147.05	
									11,458.83
Balance July 1, 1950									$124,539.32

*$28,543.24 of the receipts for January 1949 is a reimbursement from the Basic Magnesium Project for funds advanced by the Colorado River Commission at the time the State of Nevada took over the Project.

†$2,957.42 of the receipts for June 1949 is a reimbursement for bills paid by the Colorado River Commission and later charged to the Nevada Power Survey Fund.

PAHRANAGAT LAKES AND TRIBUTARIES

An intensive program of improvement and development has been in progress in the Pahranagat Valley in Lincoln County during the past two years.

Two irrigation companies were organized—the Ash Springs Irrigation Company and the Hiko Irrigation Company. The formation of these companies was needed and will be of great benefit to the water users.

The Alamo Irrigation Company and the Hiko Irrigation Company have completed an intensive program of ditch lining. The Alamo Irrigation Project was participated in by 33 farms comprising a total of approximately 923 acres of cropland. Such project consisted of concrete lining of the irrigation ditch serving such farms and was in two sections; part of the ditch running on the east side of the valley and part on the west side. The total length of such ditch was approximately eight miles. The Hiko Irrigation Project consisted of a concrete-lined ditch which extends from Hiko Springs southward for approximately five miles. Under both programs the engineer's work was carried out by the Farmers Home Administration which also loaned money to partially finance the construction.

The water users and the State Engineer have been carrying on a program of water distribution improvement as funds permitted. To date, five Parshall flumes and four Calco meter gates have been installed in ditches or irrigation take-outs for measuring water. Two or three additional meter gates will be installed by individual water users where more than one take-out is desired.

About the first part of April 1949, the main headgate in the "High Line" canal at the Andbers-Higbee diversion was washed out by cloudburst which also caused much damage to the canal in this area. A 36-inch diameter Calco Slide Gate, Model No. 101, was placed in the canal at about 300 to 500 feet above the washed out headgate and the Andbers-Higbee ditch extended to this place. This arrangement improved the Andbers-Higbee diversion.

A schedule for cleaning the "High Line" ditch has been decided upon and the ditch is now cleaned at least three times during each irrigation season. The cleaning is under the supervision of the water commissioner, who also acts as ditch rider for the Alamo and Ash Springs Irrigation Companies.

The work scheduled for the next two years consists of putting a 4-foot Parshall flume in the Ash Springs Creek Channel below the old "Reader Lake" and placing a control gate at the Ash Springs outlet to facilitate cleaning the spring.

The Ash Springs Irrigation Company is now considering the feasibility of lining its ditch system with concrete. Preliminary investigations are now being made of this project by the Farmers Home Administration.