STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING

BULLETIN NO. 66-58

Quality of Ground Waters in California 1958

EDMUND G. BROWN
Governor

November, 1960

HARVEY O. BANKS
Director of Water Resources

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GOVERNOR

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STATE OF CALIFORNIA
Department of Water Resources
SACRAMENTO

November 28, 1960

Honorable Edmund G. Brown, Governor, and
Members of the Legislature of the
State of California

State and Regional Water Pollution Control Boards

Gentlemen:

I have the honor to transmit herewith a report on the quality of ground waters in California during calendar year 1958. This is the fourth in a continuing series of reports on the ground water monitoring program conducted by the Department of Water Resources.

Under this program, water samples from representative wells in ground water basins throughout the State are collected and analyzed, and an annual evaluation is made of ground water quality conditions.

This report, for the period from January through December 1958, includes mineral and radiological analyses of ground waters from 53 monitored areas in California. The report on this program for 1959 is in preparation and is scheduled for completion during 1960.

Sincerely yours,

Harvey O. Banks

HARVEY O. BANKS
Director

ACKNOWLEDGMENTS

The statewide ground water quality monitoring program, reported herein, comprises the yearly collection of about 1,400 ground water samples from 53 areas located throughout the State. This extensive coverage is made possible through the cooperation of many agencies and persons.

The United States Geological Survey, Ground Water and Quality of Water Branches, furnished considerable technical and financial assistance. Many of the analyses presented herein were made by the United States Geological Survey Quality of Water Branch at its Sacramento laboratory, under provisions of a continuing cooperative agreement with the Department of Water Resources.

Valuable field assistance and cooperation of the following agencies and persons is gratefully acknowledged:

County Agencies

Alameda County Flood Control and Water Conservation District

Butte County Farm Advisor

Colusa County Farm Advisor

Del Norte County Farm Advisor

Glenn County Farm Advisor

Humboldt County Farm Advisor

Kern County Farm Advisor

Kings County Farm Advisor

Los Angeles County Flood Control District

Madera County Farm Advisor

Mendocino County Farm Advisor

Monterey County Flood Control and Water Conservation District

Orange County Air and Water Pollution Control District

Sacramento County Farm Advisor

San Bernardino County Flood Control and Water Conservation District

Siskiyou County Farm Advisor

Sonoma County Farm Advisor

Stanislaus County Farm Advisor

Sutter County Farm Advisor

Tehama County Farm Advisor

Tulare County Farm Advisor

Yolo County Farm Advisor

Yuba County Farm Advisor

Public Agencies

Central California Irrigation District

Merced Irrigation District

San Joaquin Local Health District

Turlock Irrigation District

Private Organizations

California Water and Telephone Company, National City

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ORGANIZATION

CALIFORNIA WATER COMMISSION

SUMMARY OF CONDITIONS
1958

While degradation of the quality of ground water from such sources as industrial and urban wastes and use and reuse of waters for irrigation has continued to increase, the major threat to ground water quality in California in 1958 was sea-water intrusion. In many of the State's coastal basins, where the draft on ground water has exceeded the safe yield, ground water levels have been so lowered as to permit landward encroachment of salt water. Among the areas showing such degradation are: Santa Clara Valley; Pajaro Valley; Salinas Valley; Oxnard Plain Basin; West Coast Basin; East Coastal Plain; San Luis Rey Valley, Mission Basin; and Tia Juana Valley Basin. In other basins, both coastal and inland, significant increases or decreases in mineral concentration in individual wells were noted. These changes, however, appear to be local in extent and do not necessarily indicate basin-wide water quality trends. Except in coastal areas subject to intrusion, or in individual wells situated near specific sources of degradation, ground water quality did not change significantly from that found in 1957.

THE GROUND WATER QUALITY MONITORING PROGRAM

The use of ground water in California has increased tremendously since the turn of the century. The necessary water development to supply a rapidly expanding economy, together with the shortage of suitable surface storage sites, has so stimulated development of ground water that approximately one-half of the State's present seasonal water requirements, of about 25,000,000 acre-feet, are supplied from underground storage. As each succeeding surface water storage unit becomes more costly to develop, the use of underground reservoirs as a source of supply becomes more attractive.

The present widespread dependence upon ground water, together with the need for more intensive utilization of underground storage to meet increased future water needs, requires constant vigilance coupled with remedial action, where necessary, to assure that the quality of ground water remains suitable for all intended uses. In view of the extensive occurrence of ground water and its relatively slow rate of movement, the determination of ground water quality and detection of changes therein requires reliable long-term observation and records. To help meet this need, a statewide program of observation and compilation of records of ground water quality was initiated by the Department of Water Resources in 1953.

Presented in this report are the analyses and evaluations of water samples collected during 1958. Data for previous periods are included in the following reports: California Department of Public Works, Division of Water Resources, Water Quality Investigations, Report No. 14, "Ground Water Quality Monitoring Program in California", Progress Report 1953-1954; and California Department of Water Resources, Division of Resources Planning, Bulletins No. 66, "Quality of Ground Waters in California, 1955-1956", and "Quality of Ground Waters in California, 1957".

The ground water quality monitoring program is authorized by Section 229 of the Water Code, which directs that the department shall:

> ". . . investigate conditions of the quality of all waters within the State, including saline waters, coastal and inland, as related to all sources of pollution of whatever nature and shall report thereon to the Legislature and to the appropriate regional water pollution control board annually, and may recommend any steps which might be taken to improve or protect the quality of such waters."

The objectives of the program are:

(1) To provide information on the prevailing mineral quality of ground waters.

(2) To provide a reliable continuing check on quality of ground waters.

(3) To secure data relating to significant changes in mineral quality, to evaluate the causes for these changes and to identify and delineate the areas affected by such changes.

(4) To notify the appropriate regulatory agencies regarding the findings of the program.

(5) To provide the required data on ground water quality for the purpose of water development planning and construction.

During 1958, water samples were collected and analyzed from 53 ground water basins or portions of basins in California. Requests and suggestions from regional water pollution control boards and other interested water agencies were considered in selecting areas for monitoring.

Monitored areas fall into the following broad categories: areas where water quality problems are known to exist; areas where extensive use is made of the ground water resources and where there are potential water quality problems; and areas in which ground water is not presently used extensively, but where it is desirable to secure data on native water quality conditions in anticipation of future development.

Frequency of sampling depends largely on the nature and imminence of the quality problem. Only a minimum number of wells necessary to delimit accurately the problem or to evaluate ground water conditions are included in the monitoring network. The selection of individual wells is governed to a large extent by the availability of well logs. Sufficient information is desirable for each well such as depth, aquifers encountered, and depths of perforations to assure that data obtained are useful. Wells are added to or dropped from the network according to changing ground water conditions in an area. For example, a well showing prominent effects of sea-water intrusion is generally removed from productive use and, in many instances, sampling becomes impracticable. Accordingly, another well is substituted, if possible.

In 1958, the program was expanded to include radiological determinations in addition to the usual mineral analyses in all of the monitored areas. This provides background information for the evaluation of the effects of the ever-increasing uses of radioactive materials.

The information presented in the text for each monitored area includes a brief description of the area, evaluation of water quality problems, the number of wells sampled in 1958 and an evaluation of the data collected during the reporting period.

To facilitate geographical orientation, the areas are grouped by water pollution control regions, the boundaries of which, in general, coincide with those of the major drainage basins of the State. These regional boundaries and the areas included in this monitoring program are shown on Plate 1.

The region and basin numbers in this report are based on a decimal system in the form x-xx.xx. The number to the left of the dash refers to the region of a water pollution control board. On the right of the dash, the first digit or digits refer to the basin, valley or area. Digits to the right of the decimal, if any, refer to the sub-basin number. These numbers are used to identify the monitored areas in the text, in the data tables, and on Plate 1. A "monitored area" is defined as that portion of a ground water basin which lies within the limits of an established network of monitored wells. It does not necessarily include the entire ground water basin.

Reference should be made to the appendixes for more detailed information than is given in the main text. A tabulation showing the number of wells in each monitored area and the sampling times, as well as a summary of information pertaining to occurrence, development, and use of ground water for each of the monitored areas is presented in Appendix A. The location of the monitored wells and other pertinent data thereon, together with an explanation of the well numbering system, are presented in Appendix B. Ground water analyses obtained during 1958 are presented in Appendix C by monitored areas. Also included in Appendix C are discussions of laboratory methods and procedures and criteria for appraising the suitability of water for various uses. The results of radiological analyses of wells tested in 1958 as well as a discussion of procedures and interpretation are presented in Appendix D.

QUALITY OF GROUND WATERS IN CALIFORNIA, 1958

NORTH COASTAL REGION (No. 1)

The North Coastal Region extends approximately 270 miles from north to south, ranges in width from 180 miles at the Oregon boundary to about 30 miles in the southern portion, and encompasses an area of about 19,000 square miles. It comprises all of the basins draining into the Pacific Ocean from the California-Oregon state line southerly to the northern boundary of Lagunitas Creek drainage area in Marin County (Plate 1).

Nineteen ground water basins in the North Coastal Region have been identified. As of 1958, eleven of these basins were included in the monitoring program. These are Smith River Plain, Butte Valley, Shasta Valley, Scott River Valley, Mad River Valley, Eureka Plain, Eel River Valley, Ukiah Valley, Sanel Valley, Alexander Valley, and Santa Rosa Valley.

Smith River Plain (1-1)

Smith River Plain is located adjacent to the coast in the northwestern portion of Del Norte County. The plain extends approximately 18 miles north to south, varies in width from about four to seven miles, and encompasses an area of about 70 square miles. It is the largest alluvial area in the county (Appendix A).

The ground waters of Smith River Plain are generally a magnesium bicarbonate type of excellent mineral quality. However, there are several potential sources of ground water degradation. Among these are a threat of sea-water intrusion along the coast, encroachment of brackish water from Lake Earl, and possible local contamination from septic tanks in the vicinity of Crescent City. Monitoring of the area was initiated in 1956 to maintain a check on these possible sources of degradation. In 1958 samples were collected from 17 wells.

Although the 1958 analyses showed slight increases in total dissolved solids in some of the monitored wells, the concentrations generally remained low. Boron concentrations increased in a few wells during the period from December 1957 to October 1958. The greatest increase, 0.0 to 1.1 parts per million (ppm), occurred in well 16N/1W-15C1, located approximately two miles northeast of Crescent City (Appendix B). There were few changes in other mineral constituents during this period. Total dissolved solids ranged from 44 to 284 ppm in samples collected in Smith River Plain during 1958 (Appendix C). Sodium comprised from 4 to 51 percent of base constituents, and total hardness varied from 14 to 190 ppm. Gross radioactivity in the monitored wells ranged from 0.17 to 4.51 micromicrocuries per liter ($\mu\mu c/l$), well below the provisional recommended limit for drinking water of 100 $\mu\mu c/l$, suggested by the United States Bureau of Standards. Radiological analyses of ground water are presented in Appendix D.

Butte Valley (1-3)

Butte Valley lies in the northeastern part of Siskiyou County, about 30 miles south of the Oregon border and east of the Cascade Range. The valley floor is an irregularly-shaped area comprising approximately 130 square miles.

Ground water in Butte Valley is generally a bicarbonate type, with moderate mineral concentrations, although locally some wells produce water high in mineral content. These highly mineralized ground waters probably originate in buried playa deposits which occur in the east side of the valley. A monitoring program was established in Butte Valley in 1957.

Analyses of samples collected from 11 wells in July and August 1958, compared with those collected in August 1957, showed slight boron increases in five of the monitored wells. The largest increase, 0.0 to 0.5 ppm, occurred in well 46N/2W-25R2, located 2.5 miles southwest of Macdoel. These increases are probably due to infiltration of localized waters containing high boron concentrations. The highly mineralized water from well 47N/1W-23H1, located in the eastern part of the valley, did not change significantly. Total dissolved solids in this well were 2,744 ppm in 1958 and 2,670 ppm in 1957. Excluding well 47N/1W-23H1, total dissolved solids did not exceed 364 ppm, and total hardness was 136 ppm or less. Sodium ranged from 17 to 75 percent of base constituents. Gross radioactivity ranged from 1.36 to 34.39 μμc/l in the sampled wells.

Shasta Valley (1-4)

Shasta Valley is located between the Klamath Mountains and the Cascade Range in the central part of Siskiyou County. The valley is nearly oval in shape, has a north-south length of about 30 miles, a maximum east-west width of about 15 miles, and includes an area of approximately 250 square miles.

The ground waters in Shasta Valley are generally of excellent mineral quality. However, waters high in sodium, boron, and potassium, probably due to the migration of poor quality waters known to be present in certain geologic formations in the area, are found in some wells in the northeastern portion of the valley. The presence of these highly mineralized waters and the possibility that they might degrade the good quality waters prompted the establishment of a monitoring program in this area in 1957.

In 1958, samples were collected from eight wells in Shasta Valley. Comparison of analyses of samples taken from six of these wells in 1958 with those of 1957 showed significant boron increases in two wells. Boron in well 44N/5W-32F1, located four miles east of Montague, increased from 0.57 to 1.3 ppm; and in well 43N/6W-21R1, located two miles northwest of Gazelle, from 0.0 to 0.7 ppm. There were no other significant changes in concentration of mineral constituents in ground water samples collected in this area in 1958. Total hardness ranged from 101 to 369 ppm, with three wells showing greater than 200 ppm. Total dissolved solids ranged from 184 to 724 ppm, with only one well exceeding the upper limit for class 1 irrigation water. Gross radioactivity in the sampled wells did not exceed 9.22 $\mu\mu c/l$.

Scott River Valley (1-5)

Scott River Valley is located in the western portion of Siskiyou County, and lies about 28 miles south of the California-Oregon boundary. The valley has a north-south length of 22 miles, a maximum width of about 10 miles, and comprises an area of approximately 80 square miles.

The ground waters of Scott River Valley are generally of excellent mineral quality and are suitable for most beneficial uses, although most are moderately hard. In 1957, a monitoring network was established to detect any change in water quality.

The analyses of ground water samples collected from four wells during 1958 show only slight changes in mineral constituents. Small amounts of boron were found in three wells which were boron-free in 1957. The greatest boron concentration, 0.8 ppm, occurred in well 44N/9W-34R1, located near Fort Jones. Total dissolved solids did not exceed 286 ppm, chlorides were less than 11 ppm, and total hardness was moderate. In 1958, the gross radioactivity did not exceed 3.54 $\mu\mu c/l$ in the monitoring wells.

Mad River Valley (1-8)

Mad River Valley lies north of Humboldt Bay in Humboldt County, and is bordered on the north and east by the Coast Range, and on the west by the Pacific Ocean. The monitored portion of the valley is approximately rectangular in shape, averages about six miles in a north-south direction, and extends inland from the coast an average of about three miles.

Ground waters in Mad River Valley are characteristically a magnesium bicarbonate type suitable for most beneficial uses. However, there are indications that sea-water intrusion exists in the coastal segment of this valley. A monitoring program was established in 1957 to observe the extent of sea-water intrusion and the quality of ground waters in the basin.

In 1958, analyses were made of samples collected from 10 wells in Mad River Valley. Comparison of these analyses with those of 1957 shows that chlorides have continued to increase in well 6N/1W-1P1, located near the mouth of Mad River in the area of sea-water intrusion. Chlorides in this well were 1,460 ppm in February 1957; 2,520 ppm in December 1957; and 2,736 ppm in August 1958. Total dissolved solids in the monitoring wells ranged from 111 to 5,448 ppm; chlorides, from 7 to 2,736 ppm; boron from 0.0 to 1.7 ppm; and total hardness, from 43 to 1,125 ppm. Percent sodium ranged from 7.4 to 77. The highest mineral concentrations were found in wells located adjacent to the coast. The maximum gross radioactivity was 9.59 $\mu\mu$ c/l.

Eureka Plain (1-9)

Eureka Plain is located on Humboldt and Arcata Bays between the Eel and Mad River Valleys in Humboldt County. It is approximately 6 miles wide, 12 miles long, and includes about 70 square miles. Elk River is the principal stream in the basin.

Except for water from a few wells near the coast, the chemical quality of ground water in Eureka Plain is good. Most waters from the alluvium are calcium-magnesium bicarbonate in character and are moderately hard, while waters from the dune sand near the coast are sodium chloride in character.

The monitoring program for this area was established in 1958 with the collection of samples from two wells. Analyses showed high percent sodium, 75, and moderately high boron concentration, 0.72 ppm, in well 5N/1E-18Q1, located only a few hundred feet from Arcata Bay. Well 5N/1E-20Q1, located approximately one and one-half miles farther inland, contained water of excellent quality. In this well, total dissolved solids were 238 ppm; chlorides, 35 ppm; and percent sodium, 37. The maximum gross radioactivity observed during 1958 was 7.90 $\mu\mu c/l$.

Eel River Valley (1-10)

Eel River Valley is the largest valley fill area in Humboldt County. The monitored portion is about 8 miles wide at the coast, extends inland about 12 miles to the confluence of the Eel and Van Duzen Rivers, and includes an area of about 75 square miles.

The ground waters of this area are generally hard, but are suitable for most uses. A seaward hydraulic gradient exists over the entire basin most of the year. However, heavy pumping during a short period in the summer season lowers the water table below sea level in an area adjacent to the coast. When this condition exists, saline water from the tidal portion of Eel River enters and degrades fresh-water bearing deposits. To maintain continuous observation on the quality of ground water in this area, a monitoring program was established in 1956.

In 1958, samples were collected from 12 wells in Eel River Valley. Two of these wells (3N/2W-13J1 and 3N/2W-27G1), located in the tidal portion of the river, showed evidence of sea-water intrusion. Since 1957, these two wells have shown increases in total dissolved solids from 842 to 2,904 ppm and from 694 to 3,446 ppm, respectively. Chlorides in these wells also increased, rising from 390 to 1,502 ppm and from 300 to 1,615 ppm, respectively. The remaining monitoring wells showed no significant changes in mineral concentrations. Water in those wells located outside the area of sea-water intrusion, although moderately to very hard, was of excellent mineral quality.

In the wells tested in 1958, the gross radioactivity did not exceed 11.60 $\mu\mu c/l$.

Ukiah Valley (1-15)

Ukiah Valley comprises about 65 square miles of alluvial fill area along the Russian River in the east-central portion of Mendocino County. The valley is approximately 22 miles in length, and varies in width up to 5 miles.

Highly mineralized ground waters occur along the eastern edge of the valley, probably originating from mineralized springs in the area. In order to detect quality changes in this valley a monitoring network was established in 1953.

Analyses of samples taken from 11 wells in 1958 show only minor changes in mineral constituents in all but one of the monitored wells. The exception is well 17N/12W-18A1, located in the northern portion of the monitored area. The boron concentration in this well increased from 45 ppm in 1957 to 76 ppm in 1958. Due to the poor quality, this well is no longer in use. The source of this degradation is believed to be waters migrating from an underlying and adjacent geologic formation known to contain waters with high boron concentrations. Well 14N/12W-26K1, located at the southern end of the valley, contained 3.0 ppm boron which also exceeds the limit recommended for irrigation use.

Percent sodium in the monitoring wells ranged from 13 to 86, with only one well (17N/12W-18A1) containing greater than 37 percent sodium. Total hardness ranged from 82 to 246 ppm. The maximum gross radioactivity was found to be 10.99 $\mu\mu c/l$.

Sanel Valley (1-16)

Sanel Valley is an irregularly shaped area located in the southeastern portion of Mendocino County. It is traversed by the Russian River in a north-south direction and comprises an area of about 11.5 square miles.

Ground waters in Sanel Valley are characteristically magnesium-calcium bicarbonate in type, and are generally suitable for most beneficial uses. However, ground waters in localized areas contain high boron concentrations. Due to the presence of this high boron, a monitoring program was established in the area in 1956.

A comparison of mineral analyses of samples collected from five wells in 1958 with those collected in 1957 indicated no significant changes in nature or concentration of mineral constituents. In 1958, the total dissolved solids ranged between 194 and 324 ppm. The highest boron concentration was 1.1 ppm in well 13N/11W-18B1, located approximately 1.5 miles north of Hopland. Boron in the other monitoring wells was 0.38 ppm or less. Sodium did not exceed 15 percent of the base constituents in any of the water sampled. The highest observed gross radioactivity was 6.61 μμc/l.

Alexander Valley (1-17)

Alexander Valley lies along the Russian River in the north-central portion of Sonoma County. The monitored area has a length of approximately 14 miles, an average width of about 1.5 miles, and comprises about 20 square miles.

Ground water in Alexander Valley is generally of low mineral content and suitable for most beneficial uses; however, waters high in boron occur in local areas throughout the valley. It is believed these boron concentrations are derived from connate water or from juvenile water rising along faults. Disposal of winery waste water into unlined ponds is a potential source of degradation of ground water in the northern portion of Alexander Valley. To detect quality changes, a monitoring program was established in this area in 1957.

Samples were collected from eight wells in Alexander Valley during July 1958. Comparison with those collected in January 1957, showed that boron concentration decreased from 1.8 to 0.7 ppm in well 10N/9W-18R1, located about 0.5 mile northeast of Geyserville, and increased from 0.06 to 0.80 ppm in well 11N/10W-33G1, located approximately five miles northwest of Geyserville. There were no other significant changes in mineral concentrations. The maximum total dissolved solids concentration was 444 ppm. The highest boron concentration was 1.15 ppm, with four wells yielding waters containing boron in excess of 0.5 ppm. Percent sodium ranged from 9 to 92 with only one well showing greater than 60 percent, the upper limit for class 1 irrigation water. Gross radioactivity did not exceed 4.75 μμc/l.

Santa Rosa Valley (1-18)

Santa Rosa Valley is located in the south-central portion of Sonoma County. The area monitored comprises about 150 square miles, has a length of about 25 miles, and ranges in width from about 4 to 12 miles. Bennett, Rincon, and Kenwood Valleys, which lie east of Santa Rosa Valley, are also included in this monitored area.

The quality of ground water in Santa Rosa Valley is generally satisfactory for most uses. However, high concentrations of boron occur locally, and sodium percentages in certain wells are in excess of those recommended for irrigation use. A monitoring network was established in this area during 1957.

Comparison of analyses of samples taken from 21 wells in 1958 with those of 1957 showed marked boron increases in three wells: 0.01 to 0.76 ppm in well 5N/9W-3F1, located one mile southeast of Bloomfield; 0.09 to 0.84 ppm in well 7N/8W-18Q1, located approximately three miles west of Santa Rosa; and 0.23 to 1.00 ppm in well 7N/7W-29D1, located approximately two miles southeast of Santa Rosa. Percent sodium also increased in wells 5N/9W-3F1 and 7N/8W-18Q1 from 36 to 77 percent and from 40 to 68 percent, respectively. The sources of these increases may be deep-lying poor quality ground waters rising along faults. Total dissolved solids did not exceed 614 ppm and the maximum boron concentration was 1.00 ppm. Percent sodium ranged from 19 to 77, with four wells showing greater than 60 percent sodium. Gross radioactivity did not exceed 11.09 $\mu\mu c/l$.

SAN FRANCISCO BAY REGION (No. 2)

San Francisco Bay Region includes all of the basins which drain into San Francisco Bay, San Pablo Bay, and that portion of Suisun Bay below Antioch. It includes parts of Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara and San Mateo Counties, and all of San Francisco County. The region extends about 125 miles from north to south, averages 45 miles in an east-west direction and comprises an area of about 4,400 square miles (Plate 1).

Within the boundaries of the San Francisco Bay Region, 11 major ground water basins have been identified. As of 1958, only four of these basins, Clayton, Ygnacio, Santa Clara, and Livermore Valleys, were included in the ground water quality monitoring program. For purposes of discussing ground water quality, Santa Clara Valley has been divided into two areas, East Bay and South Bay.

Clayton Valley (2-5)

Clayton Valley is located in north central Contra Costa County and extends from the foot of Mt. Diablo to Suisun Bay. It has a length of about 10 miles, a maximum width of about 3 miles, and an area of about 20 square miles.

The ground waters in Clayton Valley are predominantly a magnesium-calcium bicarbonate type, very hard, but otherwise of good to excellent mineral quality. A ground water quality monitoring program was established in this area in 1957.

Although no serious water quality problems are presently apparent in Clayton Valley, boron concentrations in two of the nine wells sampled in 1958 were high enough to suggest a potential problem. Well 2N/1W-32Q1, located two miles east of Concord, and well 2N/2W-26B1, located two miles north of Concord, contained boron concentrations of 0.65 and 0.70 ppm, respectively. Boron in the latter well had decreased from 1.2 ppm in August 1957. A nitrate concentration of 50 ppm was found in water from well 2N/1W-31D1, adjacent to Concord. This exceeds the limit for drinking water of 44 ppm, recommended by the California State Department of Public Health. Four other wells showed nitrate concentrations between 30 and 33 ppm. Possible sources of these high nitrates are septic tank effluent and/or fertilizers. Total dissolved solids ranged from 461 to 1,110 ppm, with only one well showing greater than 700 ppm. The maximum observed gross radioactivity was 5.13 $\mu\mu c/l$.

Ygnacio Valley (2-6)

Ygnacio Valley is located in northern Contra Costa County and is separated from Clayton Valley on the east by the Concord fault which forms a hydrologic barrier between the two ground water basins. The monitored area is about ten miles long, varies in width from one to six miles, and includes an area of about 20 square miles.

The ground waters of Ygnacio Valley are varied in type, with sodium or calcium the predominant cations. Quality is generally poor, usually class 2 or 3 for irrigation. This condition prompted the inclusion of Ygnacio Valley in the monitoring program in 1957. Samples were taken from eight wells in 1958. Total dissolved solids ranged from 548 to 2,270 ppm, with only one well showing less than 700 ppm; chlorides, from 87 to 663 ppm with only two wells showing less than 175 ppm; boron, from 0.16 to 6.7 ppm, with two wells showing less than 0.5 ppm; and total hardness from 244 to 1,300 ppm. Percent sodium ranged from 18 to 72 with only one well exceeding 60 ppm, the upper limit for class 1 irrigation water. Nitrates in well 2N/2W-36E1, near Concord, were 118 ppm. In samples collected during 1958, gross radioactivity did not exceed 5.57 $\mu\mu c/l$.

Santa Clara Valley (2-9)

East Bay Area. The East Bay Area of Santa Clara Valley is located in Alameda County between San Francisco Bay and the foothills of the Diablo Range. The monitored portion comprises about 140 square miles of alluvial land, which extends northerly from the Alameda-Santa Clara county line a distance of about 40 miles and varies in width from 2 to 11 miles.

The ground water reservoir formed in alluvial material which has been deposited by Alameda Creek between the town of Niles and San Francisco Bay, is termed the "Niles cone". Because of prolonged overuse of ground water supplies in this portion of the monitored area, the water table has been lowered below sea level for many years allowing saline bay waters to invade shallow water-producing gravels. In recent years, saline waters have also been detected in deeper water-bearing zones, which are separated from the shallower zones by extensive clay layers.

To maintain surveillance on the quality of ground water in these areas subject to sea-water intrusion, a program was established in 1953 to monitor both the upper and lower aquifers. During 1958, samples were collected from 23 wells in this area.

During the period of record, 1953-1958, chloride concentrations in a few wells have shown considerable variations. For example, well 4S/1W-30C2, located directly west of Centerville, contained chlorides of 112 ppm in August 1954; 261 ppm in October 1955; 1,046 ppm in June 1956; and 559 ppm in January 1958. Fluctuations in the chloride content of individual wells in this area are not uncommon, however, and do not necessarily indicate trends. The area of sea-water intrusion has increased from about 660 acres in 1953 to approximately 2,630 acres in 1958. Plate 2 shows the approximate extent of intrusion in the Centerville area during 1953, 1957 and 1958.

Significant ranges of mineral constituents in samples collected during 1958 from the 23 East Bay wells are as follows: total dissolved solids, from 220 to 1,240 ppm; chlorides, from 23 to 1,600 ppm; and boron, from 0.18 to 0.97 ppm. Nitrates of 70 and 68 ppm were found in samples from wells 2S/3W-34A2 and 4S/1W-33G3, respectively. The first well is located near San Leandro and the second approximately two miles southeast of Centerville.

South Bay Area. The South Bay Area of Santa Clara Valley included in the monitoring program lies within Santa Clara County and extends from Palo Alto southerly to San Jose. The monitored area is approximately 20 miles long, varies in width from 5 to 12 miles, and comprises about 150 square miles.

Sea-water intrusion has existed in the tidelands area adjacent to San Francisco Bay for many years. This prompted the inclusion of the South Bay Area in the monitoring program in 1953.

Comparison of analyses of samples from 10 wells in 1958 with those of 1957 or earlier showed increases in total dissolved solids or specific conductance in all but one of the 10 wells. The greatest increase occurred in well 6S/1W-16A1, located approximately six miles west of San Jose, where total dissolved solids increased from 259 ppm in August 1957, to 541 ppm in October 1958. Chloride concentrations of 215 ppm and 186 ppm in wells 5S/3W-35G1 and 6S/3W-1B1, respectively, both located in the Palo Alto area, indicate possible saline degradation. Total dissolved solids did not exceed 741 ppm. Percent sodium ranged from 20 to 73. The maximum observed gross radioactivity was 5.73 $\mu\mu c/l$.

Livermore Valley (2-10)

Most of Livermore Valley is located in the eastern portion of Alameda County, although a minor area extends into Contra Costa County. The monitored area has an east-west length of about 14 miles, varies in width from 3 to 6 miles, and encompasses an area of about 50 square miles.

A monitoring program was established in 1953 due to the dependence of the area on ground water supplies, and the presence in the ground water of boron and nitrates in excessive quantities.

Analyses of samples collected from 31 wells in 1958 showed no basin-wide changes in ground water quality. However, the boron concentration in well 2S/2E-27C1, located about three miles north of Livermore, decreased from 27 to 11.1 ppm between October 1957 and May 1958. Chlorides in this well increased from 1,110 to 1,370 ppm between May and October 1958. Well 3S/2E-12M1, located approximately three miles east of Livermore, showed a boron concentration of 9.1 ppm. Six wells contained nitrate concentrations in excess of 30 ppm, the highest being 113 ppm in well 3S/2E-26J1, located about four miles southeast of Livermore. Gross radioactivity did not exceed 15.90 $\mu\mu c/l$.

CENTRAL COASTAL REGION (No. 3)

The Central Coastal Region extends from the southern boundary of Pescadero Creek Basin in San Mateo County to the northeastern boundary of Rincon Creek Basin in Ventura County. The region is characterized by narrow coastal strips and coastal valleys with moderate slopes toward the ocean, backed by mountain ranges paralleling the coast. It averages 50 miles in width and encompasses an area of approximately 11,000 square miles (Plate 1).

Valley areas in the Central Coastal Region, except for a few isolated sections, receive moderate rainfall, and depend largely on ground water as a source of supply. Approximately 90 percent of the water requirements of this region are supplied from ground water sources. Nineteen ground water basins, eighteen of which are utilized intensively to supply irrigation water, have been identified in the Central Coastal Region. Five of these ground water basins have been included in the program. These are Pajaro, Salinas, Carmel, Santa Maria River, and Cuyama Valleys.

Pajaro Valley (3-2)

Pajaro Valley comprises an irregularly shaped area of about 75 square miles lying in the Pajaro River drainage basin below Chittenden Pass.

Ground waters in Pajaro Valley occur in three distinct zones, designated the shallow, intermediate, and deep zones. The shallow zone extends from land surface to a depth of about 100 feet. The intermediate zone lies between 100 and 300 feet and the deep zone occurs below 400 feet. Shallow zone ground water is often of poor quality. Ground water in the intermediate zone is generally suitable for most irrigation uses, and is the main source of supply. The limited data available concerning water quality in the deep zone indicate it to be of excellent mineral quality. Sea-water intrusion into intermediate zone ground water adjacent to Monterey Bay prompted the inclusion of Pajaro Valley in the monitoring program in 1953.

In general, ground waters in Pajaro Valley not affected by sea-water intrusion, are of good to excellent mineral quality. The predominant type is calcium-magnesium bicarbonate of low to moderate total dissolved solids, chlorides, and boron. The presence of chlorides in significant amounts is limited to small areas adjacent to Monterey Bay.

Comparison of analyses of samples taken from 31 wells in 1958 with those of 1957 showed no appreciable changes in ground water quality. Total dissolved solids in sampled wells ranged from 204 to 1,894 ppm; and chlorides, from 17 to 796 ppm, with six wells showing chlorides in excess of 175 ppm, the upper chloride limit for class 1 irrigation water. The limit of sea-water intrusion in Pajaro Valley is shown on Plate 3. Gross radioactivity did not exceed 8.58 μμc/l.

<u>Salinas Valley (3-4)</u>

The monitored portion of Salinas Valley is approximately 40 miles in length, varies in width from 2 to 10 miles, and contains about 300 square miles of highly productive irrigated and dry-farmed land.

Ground waters in Salinas Valley occur principally in three aquifers. These consist of an upper unconfined aquifer and two lower confined aquifers. The lower aquifers are known as the 180-foot aquifer and the 400-foot aquifer. A serious water quality problem exists, caused by the intrusion of sea water into overdrawn fresh-water aquifers in the portion of Salinas Valley adjacent to Monterey Bay. Two miles inland from the bay shore, ground water in the upper aquifer has been degraded to such an extent by saline water that it is either unfit for agricultural use, or is near the upper limit of quality suitable for such use. Ground waters in the portions of Salinas Valley not subject to sea-water intrusion, while hard, are of good to excellent mineral quality.

A monitoring program was established in Salinas Valley in 1953 to observe the status of sea-water intrusion into the 180-foot and 400-foot aquifers, and to detect significant changes.

Samples collected from 55 wells in this area during 1958 showed increases in chlorides in a few wells located adjacent to the tidal portion of Salinas River. A slight inland advance of sea-water intrusion in both the 180 and the 400-foot aquifers has occurred since 1957 (Plate 4). Chlorides in well 13S/2E-30L1, which draws from the 180-foot aquifer, increased from 166 ppm in July 1957, to 232 ppm in June 1958. This well has shown a progressive increase in chlorides since August 1954, at which time the chloride concentration was 103 ppm. The largest increase in chlorides occurred in well 14S/2E-5R2, where chlorides increased from 122 to 264 ppm between July 1957 and June 1958. Eleven of the 55 monitored wells showed chloride concentrations in excess of 180 ppm. The range in chlorides was from 21 ppm in a well located approximately three miles east of Salinas, to 566 ppm in a well located approximately one mile southwest of Castroville. Gross radioactivity did not exceed 12.73 $\mu\mu c/l$.

Carmel Valley (3-7)

Carmel Valley is located about three miles south of the City of Monterey, and is a long, alluvium-filled valley, extending eastward from the coast a distance of about 23 miles. However, only the coastal portion of Carmel Valley, which might be susceptible to sea-water intrusion, is included in the monitoring program. The area monitored is about one mile in width, and extends from the coast about three miles inland.

Ground waters of Carmel Valley are a calcium bicarbonate type and, with the exception of hardness and iron, are of excellent mineral quality.

A monitoring program was established in this area in 1953 to detect sea-water intrusion. Data from the sampling program indicate that there has been no significant variation in mineral characteristics of ground water during the period of record. There has been no evidence of sea-water intrusion in the monitored wells to date.

Analyses of samples collected from seven wells in 1958 showed no significant changes in mineral constituents during the period of record. Chlorides ranged from 46 to 152 ppm. Total dissolved solids were below 700 ppm in all wells except one, which contained 864 ppm. Boron concentrations and percent sodium were well below recommended limits. Hardness, however, was high, ranging from 215 to 426 ppm. Iron concentrations in wells 16S/1W-13Q2 and 13L1, in the western portion of the monitored area, were 2.0 and 0.57 ppm, respectively, above the limiting value (0.3 ppm) recommended for drinking water by the United States Public Health Service. The maximum gross radioactivity observed was 11.06 $\mu\mu c/l$.

Santa Maria River Valley (3-12)

The Santa Maria River Valley occupies parts of San Luis Obispo and Santa Barbara Counties. The ground water basin extends inland from the ocean along the Santa Maria River, a distance of 28 miles, ranges up to 9 miles in width and includes about 180 square miles.

Ground waters of this valley are a calcium-magnesium sulfate type. The waters are low in boron and percent sodium and are suitable for irrigation of most crops. They are, however, very hard and sulfates greatly exceed the recommended limit of 250 ppm for drinking water.

The monitoring program in Santa Maria River Valley, which was established in 1953, is primarily concerned with the detection of degradation in quality of ground water that might result from oil field operations or sea-water intrusion. While most of the oil field brine is conveyed to the ocean by pipe line, there is a possibility that ground water quality could be degraded by accidental spillage of oil field brines or percolation from sumps. In addition, should ground water levels near the ocean be depressed below sea level, the producing ground water aquifers would be threatened with sea-water intrusion.

Although a few of the wells have shown gradual degradation, with increases in chlorides, sulfates, and total dissolved solids, there has been no significant basin-wide variation in mineral quality during the period 1953-1958. Analyses of 26 samples obtained from 20 wells in 1958 show a wide range in total dissolved solids content, from 326 to 2,148 ppm. Percent sodium ranged from 18 to 66, with only one of the wells exceeding 44 percent sodium. Total radioactivity determinations were made for 9 of the 20 minotired wells in Santa Maria River Valley in 1958. The values range from 0.30 to 2.30 $\mu\mu c/l$.

Cuyama Valley (3-13)

Cuyama Valley occupies portions of Santa Barbara, Ventura, Kern, and San Luis Obispo Counties. The ground water basin extends along the Cuyama River, a distance of 35 miles, varies from 1 to 4 miles in width, and comprises about 125 square miles.

The character of the ground water in Cuyama Valley is generally calcium-magnesium sulfate. Although the water is not well suited for domestic purposes, due to extreme hardness and high sulfate concentrations, it is low in boron and percent sodium and is suitable for irrigation of a variety of crops. Historically, the ground waters in this basin have contained low to moderate chloride concentrations. Possible degradation of ground water quality by oil industry wastes and mineralized springs, principally in the northern and northwestern part of the basin, prompted the establishment of a monitoring program in 1953.

Comparison of analyses of samples obtained from 14 wells in 1958 with those of the five preceding years indicates that, with the following exceptions, only minor variations in mineral quality have occurred in this period. From June 1956 to December 1958, chlorides in well 10N/25W-23E1, located in the northeast portion of Cuyama Valley, increased from 78 to 278 ppm. Sodium also increased, from 145 to 239 ppm in this well during the same period. Analyses of water from well 10N/26W-23P1, located about 1.5 miles south of Cuyama River in the north-central portion of the valley, exhibit similar variations during this period. Historically, the ground waters in this valley have contained low to moderate chloride concentrations, ranging up to about 100 ppm. The high chlorides in wells 10N/25W-23E1 and 10N/26W-23P1 may indicate degradation by oil well brines. The analysis of a sample taken from well 10N/25W-30F1, located in the central part of Cuyama Valley about 0.5 mile south of the river, reveals a nitrate concentration of 415 ppm. The reason for this extremely high concentration has not as yet been determined. Total dissolved solids in the monitoring wells ranged from 705 to 3,557 ppm; sulfates, from 344 to 2,398 ppm; and total hardness, from 225 to 2,156 ppm. Total radioactivity of samples taken from 10 of the 14 monitoring wells during 1958 was 3.20 $\mu\mu c/l$ or less.

LOS ANGELES REGION (No. 4)

The Los Angeles Region extends from the southeastern boundary of the watershed of Rincon Creek in Ventura County to the Los Angeles-Orange County boundary, a distance of approximately 100 miles. It extends from the Pacific Ocean inland to the drainage divide, an average distance of 50 miles, and occupies an area of approximately 4,260 square miles (Plate 1). The region is characterized by broad coastal plains and inland valleys, backed by mountainous topography. The Ventura, Santa Clara, Los Angeles, and San Gabriel Rivers are the principal streams of this region.

The ground water supply of the region has been extensively developed. In many areas, the safe yields of the basins have been exceeded. Supplemental water supplies are imported from Mono and Owens Valleys and the Colorado River.

Sixteen ground water basins and 40 sub-basins have been identified in the Los Angeles Region. The following basins or sub-basins have been included in the monitoring program: Oxnard Plain Basin, West Coast Basin, Central Coastal Plain Pressure Area and Los Angeles Forebay Area, and Main San Gabriel Basin.

Oxnard Plain Basin (4-4.01)

The Oxnard Plain Basin is located in the coastal portion of Ventura County. It is a flat, gently sloping plain, roughly triangular in shape, comprising approximately 73 square miles. This area fronts on the Pacific Ocean for a distance of 16 miles and extends inland a maximum distance of about 8 miles.

The main water-bearing zones in Oxnard Plain Basin are called, in order of depth, the Oxnard, the Mugu, and the Fox Canyon aquifers, all of which are open to the sea. The intrusion of sea water into the Oxnard aquifer at Port Hueneme and the Mugu and Oxnard aquifers near Point Mugu has been evident for several years. At Port Hueneme, the sea-water front has moved inland into the Oxnard aquifer for distances of more than one and one-half miles from the shore line. The intrusion is caused by excessive pumpage of ground water, resulting in lowered water levels and the creation of a landward hydraulic gradient. The monitoring program in Oxnard Plain Basin was initiated in 1953. Wells in the present program are situated in and around the area of sea-water intrusion.

Ground waters in Oxnard Plain Basin are predominantly calcium-sodium sulfate in character and are, where not affected by sea-water intrusion, suitable for irrigation of most crops, except those sensitive to boron. The character shifts to sodium chloride in the areas of intrusion. The waters are hard and marginal for domestic use because of their high sulfate content.

Comparison of analyses of 36 samples taken from 19 wells in Oxnard Plain Basin in 1958 with those of the five preceding years indicates that significant variations in mineral quality have occurred in the intruded area. The lines of equal chloride concentration, shown on Plate 5, indicate that sea-water intrusion is advancing in two areas, one located near Port Hueneme and the other near Mugu Lagoon.

In the Port Hueneme area, a significant advance of sea water into fresh water aquifers has occurred between 1957 and 1958. In the area between Hueneme Road and Pleasant Valley Road, the lines of intrusion marked by the 500 ppm isochlor advanced eastward apparently as far as 1,700 feet. In the area just west of Ventura Road, the intrusion moved northward about 1,000 feet. The maximum landward advance of sea-water encroachment shown by the 500 ppm isochlor was 1.8 miles in 1958, as compared with 1.5 miles in 1957.

In the vicinity of Mugu Lagoon, the extent of sea-water intrusion cannot be accurately determined due to the absence of water wells and essential analyses data. While the 500 ppm isochlor is indicated for 1958 at approximately the same position as shown in 1957, a gradual increase in the chloride content of the waters of some of the intruded wells is noted.

Wells sampled in Oxnard Plain Basin in 1958 show the following ranges for mineral constituents: total dissolved solids from 615 to 13,996 ppm; chlorides from 37 to 6,808 ppm; sulfates from 193 to 1,155 ppm; and boron from 0.0 to 2.80 ppm. Total hardness ranged from 230 to 4,360 ppm. No significant changes in total dissolved solids, total hardness, chlorides, or general character of the ground water are apparent outside the areas of intrusion. The level of total radioactivity of samples from 13 of the monitoring wells did not exceed 19 $\mu\mu c/l$.

West Coast Basin (4-11.02)

West Coast Basin is located in a portion of the coastal plain in the southwestern part of Los Angeles County adjacent to Santa Monica Bay. It is approximately 19 miles long and averages 9 miles in width. In general, its surface is a gently rolling, lightly eroded plain, with an area of about 160 square miles.

The principal aquifers underlying West Coast Basin comprise the Silverado water-bearing zone and the "400-foot gravel" in the San Pedro formation. A condition of overdraft exists in the basin, resulting in sea-water intrusion extending more than one mile inland along the Santa Monica Bay coast into the Silverado water bearing zone. Industrial waste discharges have affected wells in the Torrance and Athens areas. Monitoring programs for each of these areas are currently in effect to detect and to determine the extent of ground water impairment. These areas are treated in detail in the discussions which follow.

Area of Sea-Water Intrusion. The area monitored for sea-water intrusion occupies about 15 square miles of the coastal plain along Santa Monica

Bay in the western part of West Coast Basin. The area extends from about Culver Boulevard southward to the vicinity of the City of Redondo Beach.

The mineral character of the ground waters in this area which are not influenced by sea-water intrusion is sodium bicarbonate to calcium bicarbonate. In the intruded area, the character changes to sodium chloride.

Water from well 4S/14W-17D3, located 0.7 mile inland from the ocean showed a chloride ion concentration of 4,880 ppm in May 1958. Test holes drilled by the Los Angeles County Flood Control District in the southern portion of the sea-water intrusion front near Redondo Beach indicate the existence of high chloride waters in that area. Sea water is, in general, continuing to advance landward in most portions of the intrusion front in this basin.

During 1958, 11 samples were obtained from 8 monitoring wells in this area. The analyses of these samples show the following ranges in mineral constituents: total dissolved solids from 441 to 8,500 ppm; and chlorides from 83 to 4,880 ppm.

Early in 1958 the chloride content of some of the wells influenced by sea-water intrusion showed a slight decrease. Later in the year significant increases were noted in waters from some of these wells. In well 3S/15W-12G1, located in the City of El Segundo about 1.7 miles from the ocean, chlorides increased from 285 ppm in October 1956, to 1,840 ppm in May 1958. Total dissolved solids in this well increased from 804 to 4,457 ppm during the same period. Between March 1953, and March 1958, well 3S/15W-12H2, located about 1.9 miles from the ocean, showed an increase in chlorides from 112 to 310 ppm. Total dissolved solids also increased from 270 to 1,170 ppm in this well during this period. No similar increases were noted in analyses of water from the other monitored wells.

The status of sea-water intrusion in West Coast Basin is shown on Plate 6.

Torrance Area. The Torrance Area is located in the interior portion of West Coast Basin. The area is bounded by 190th Street on the north, Main Street on the east, Pacific Coast Highway on the south, and Santa Monica Bay on the west, and comprises about 30 square miles. Wells chosen for monitoring are situated in and around the City of Torrance.

Wastes from the oil and other heavy industries discharged to surface sumps and drainage channels in and near the City of Torrance have seriously affected ground water quality in the upper aquifers. Impairment of water quality in the lower water-bearing zones could occur by interchange of water through improperly constructed or abandoned wells or by hydraulic continuity between aquifers.

The monitoring program in Torrance Area was instituted in accordance with a recommendation of the Los Angeles Regional Water Pollution Control Board (No. 4) following a survey of industrial waste discharges directed by the Board in 1953 and 1954.

During 1958, 16 samples were obtained from 8 monitoring wells in the Torrance area. Waters from approximately one-half of the monitored wells have shown little or no change in mineral character or concentration. Data for the remainder of the wells indicate fluctuations in mineral concentrations but do not indicate a trend. Total dissolved solids ranged from 320 to 1,257 ppm, and total hardness ranged from 70 to 576 ppm in samples taken in 1958. Tests for total radioactivity were made on samples from four of the eight monitoring wells in 1958. In these samples total radioactivity was quite low, not exceeding 4.7 $\mu\mu c/l$.

Athens Area. The Athens Area occupies about 50 square miles in the interior portion of the South Coastal Plain. It extends approximately from Florence Avenue north of the City of Inglewood to 190th Street on the south, and from Sepulveda Boulevard on the west to Alameda Boulevard on the east.

The character of the ground water varies from calcium bicarbonate to calcium-sodium bicarbonate-chloride. The water in the deep water-bearing zones is moderately hard to very hard, but is suitable for prevailing beneficial uses.

Ground water monitoring in the Athens Area was initiated in 1953 following a survey of industrial waste disposal which was conducted in this area under the direction of the Los Angeles Regional Water Pollution Control Board. Wells chosen for monitoring are grouped in the vicinity of the City of Gardena. They have been selected to detect deterioration of ground water quality resulting from past and present oil well, oil refinery, and other industrial wastes discharged to surface channels and sumps.

Ten samples were collected from six wells in this area during 1958. Well 3S/13W-31F1, located near Laguna Dominguez, and producing from a semi-perched water body, yielded water of marginal quality. Chlorides in this well were 344 ppm in March 1958. In general, the quality of water from most of the wells sampled did not change significantly between 1957 and 1958. No radiological analyses were made for wells in this area during 1958.

Central Coastal Plain Pressure Area and Los Angeles Forebay Area (4-11.03 and 4-11.04)

Central Coastal Plain Pressure Area and Los Angeles Forebay Area are sub-basins of the Coastal Plain, Los Angeles County. They extend northwest-southeast about 22 miles and average about 12 miles in width. The monitored area occupies about 30 square miles, includes portions of both the Central Coastal Plain Pressure Area and the Los Angeles Forebay Area, and is centered in the vicinity of the City of Huntington Park.

Ground water in this area is very hard. It ranges in character from calcium bicarbonate to calcium-sodium bicarbonate-sulfate. Hydrocarbon tastes and odors have been noted in well waters in this area.

The monitoring program in Central Coastal Plain Pressure and Los Angeles Forebay area was established in 1953 to observe the duration of polluting effects from past industrial waste discharges.

Comparison of analyses of eight samples taken from five monitoring wells in 1958 with those of the five previous years reveals little change in concentration of mineral constituents. Chlorides did not exceed 62 ppm, and total hardness ranged from 200 to 335 ppm. The highest total radioactivity in samples taken from the monitored wells in 1958 was 5.8 μμc/l.

Main San Gabriel Basin (4-13.01)

Main San Gabriel Basin occupies an area of approximately 115 square miles lying along the base of the San Gabriel Mountains in eastern Los Angeles County. The valley slopes gently from the San Gabriel Mountains southward about 9 miles to the Merced and Puente Hills.

Ground waters of Main San Gabriel Basin are predominantly calcium bicarbonate in character. Although the waters are moderately hard to very hard, they are satisfactory for present beneficial uses. In recent years, rapid changes from agricultural land use to residential and industrial development has caused a large increase in the quantity of sewage and industrial wastes in this area. A lag in providing waste disposal facilities may cause water quality problems.

A monitoring program was established in this area in 1953 to detect any water quality changes which might be attributable to the disposal of large quantities of sewage and industrial wastes.

Comparison of analyses of 16 samples obtained from 10 wells in 1958 with those of the 5 preceding years shows that minor variations in mineral quality have occurred. A trend of increase in mineral concentrations is indicated in ground water throughout the basin; however, this increase is slight.

Samples from well 1S/10W-19N1, located near an unlined flood control channel which conveyed Colorado River water until late in 1957, showed a gradual increase in chlorides and sulfates between 1953 and 1957, followed by a slight decrease in 1958. The analyses indicate that channel seepage has affected the ground water near this well. The nitrate content in well 1S/11W-2G1, located in Azusa near the San Gabriel River, increased from 41 to 73 ppm between December 1957, and November 1958. The reason for the increase is not known. Gross radioactivity for the seven monitored wells tested for radioactivity in 1958 did not exceed 3.3 $\mu\mu c/l$.

CENTRAL VALLEY REGION (No. 5)

The Central Valley Region averages 120 miles in width and is more than 500 miles in length. It extends from the California-Oregon line southward to the Tehachapi Mountains, and from the Coast Range on the west to the Sierra Nevada on the east (Plate 1). The region comprises a drainage area of approximately 59,000 square miles, and includes nearly 44 percent of the valley and mesa lands of the State.

Two major valleys, the San Joaquin and the Sacramento, are located in this region. These valleys contain the largest bodies of usable ground water in the State. The presence of numerous potential sources of water quality impairment requires that constant vigilance be maintained to assure the continued usefulness of this important source of water supply.

Of 29 ground water basins identified in this region, Redding Basin, Upper Lake Valley, Kelseyville Valley, and almost all of the Sacramento and San Joaquin Valleys have thus far been included in the monitoring program. For convenience, the discussion and data for the Sacramento and San Joaquin Valleys are presented in this report by counties.

Redding Basin (5-6)

Redding Basin lies in the south central portion of Shasta County. The monitored area includes primarily the Cow Creek, Stillwater, Anderson, and Cottonwood Valleys. Its maximum dimensions are approximately 21 miles north to south, and 22 miles east to west; it comprises an area of about 280 square miles.

Ground waters in Redding Basin are generally of excellent mineral quality, magnesium-calcium or magnesium-sodium bicarbonate in type. Total dissolved solids are generally less than 200 ppm. Moderately high sodium percentages occur in limited areas. Redding Basin was included in the monitoring program in 1957.

Samples were collected from 27 wells in Redding Basin during 1958. The analyses show that total dissolved solids did not exceed 366 ppm and chlorides were 98 ppm or less. Boron ranged from 0 to 2.23 ppm with only one well containing more than 0.57 ppm. The waters were soft to slightly hard, the total hardness not exceeding 178 ppm. Percent sodium ranged from 15 to 78, with three wells having greater than 60 percent sodium. The highest gross radioactivity in the sampled wells was 10.83 $\mu\mu c/l$.

Upper Lake Valley (5-13)

Upper Lake Valley, which borders on and lies north of Clear Lake in Lake County, extends about seven miles north from the shore line of Clear Lake, and includes an area of about 16 square miles.

The ground waters of Upper Lake Valley are generally excellent in quality, although boron is present in excessive amounts in a few of the wells in the western and southern portions of the valley. The need to detect any migration of the high boron waters into other wells prompted the establishment of a monitoring program in the area in 1953.

Boron concentrations in 12 of the 13 monitoring wells did not exceed 0.4 ppm in 1958. However, the boron concentration in well 15N/10W-10E1, located in the western portion of the valley, was 70 ppm. This well contained the highest total dissolved solids, 1,290 ppm, chlorides, 456 ppm, and percent sodium, 85. This well, 112 feet deep, is not perforated in the alluvium, but draws water from an underlying older consolidated formation which typically contains poor quality water. Although this well produces water which is not representative of that now found in the alluvium, it is included in the monitoring program because its poor quality waters are a potential source of degradation of surrounding good quality waters.

With the exception of well 15N/10W-10E1, ground waters sampled in Upper Lake Valley during 1958 were of good to excellent mineral quality. Total dissolved solids in the remaining wells ranged from 89 to 1,040 ppm and chlorides from 2.7 to 127 ppm. Percent sodium did not exceed 38. The gross radioactivity was quite low in the monitored wells, ranging from 1.9 to 5.59 $\mu\mu c/l$.

Kelseyville Valley (5-15)

Kelseyville Valley is a gently rolling plain in Lake County. It is bordered by Clear Lake on the north, extends about seven miles in a north-south direction, and encompasses an area of approximately 30 square miles.

Ground waters in Kelseyville Valley are magnesium bicarbonate in type and are slightly to moderately hard. Except for the presence of high concentrations of boron in the eastern and northern portions of the valley, the ground waters are generally very good in quality. In order to detect any degradation of ground waters in those portions of the valley adjacent to the areas of high boron, a monitoring program was established in Kelseyville Valley in 1953.

Analyses of samples taken from nine wells during 1958 showed the following results: total dissolved solids ranged between 178 and 669 ppm. Chlorides did not exceed 27 ppm. The highest concentration of boron was 0.71 ppm in well 13N/9W-12M1, located in the northeast part of the valley. This was an increase from the 0.34 ppm boron found in this well during 1957. Two other wells, located west of Kelseyville, showed boron concentrations in excess of 0.5 ppm, the upper limit recommended for boron-sensitive crops. Gross radioactivity of samples collected from wells in Kelseyville Valley during 1958 ranged from 0.17 to 6.77 $\mu\mu c/l$.

Sacramento Valley (5-21)

The Sacramento Valley floor area comprises about 5,000 square miles. The area includes that portion of the Central Valley which extends generally northward from the Cosumnes River to the vicinity of Red Bluff. It is bordered on the east by the Sierra Nevada and on the west by the Coast Range. The ground water storage capacity of the Sacramento Valley, between the depths of 20 and 200 feet below land surface, is about 30,000,000 acre-feet.

Almost all of the Sacramento Valley is now included in the ground water quality monitoring program. Sutter County, Sacramento County, and a portion of Yolo County have been reported previously; Butte, Colusa, Glenn, Tehama, and Yuba Counties, and the portion of Yolo County not previously reported are included in this report.

Tehama County. The monitored area in Tehama County is bounded on the south by Glenn and Butte Counties, extends north a distance of about 30 miles, and varies in width from 6 to 18 miles.

Ground waters in Tehama County are generally of excellent mineral quality, bicarbonate in type, with calcium the predominant cation. However, calcium is seldom present in concentrations greater than 50 percent of the total cations. Although boron concentrations are usually quite low, there is evidence of high boron concentrations in ground waters to the north and east of the monitored area.

A monitoring program was initiated in Tehama County in 1957 to provide essential ground water quality data and to detect any migration of the aforementioned high boron waters.

During 1958, samples were collected from 24 wells in Tehama County. Total dissolved solids in these samples ranged between 114 and 424 ppm; chlorides did not exceed 46 ppm, and the highest boron concentration was

0.53 ppm, which was found in well 26N/2W-14F1, located in the east central edge of the area. The sodium percentage in this well was 84, the highest found in the area. The second highest sodium percentage was 55 percent. Total hardness ranged between 17 and 282 ppm, with 19 of the 24 wells yielding waters with total hardness less than 150 ppm. Little change in mineral concentrations or characteristics since 1957 was detected in any of the wells. Gross radioactivity in the monitored wells did not exceed 10.36 μμc/l during 1958.

Glenn County. The monitored portion of Glenn County includes only the valley floor area lying generally between the Sacramento River on the east and the nonwater-bearing rocks of the northern Coast Range on the west. It is bounded on the north by Tehama County and on the south by Colusa County. It extends about 25 miles north to south and 15 miles east to west.

Ground waters of Glenn County are bicarbonate in type, and generally of excellent mineral quality. Chloride and boron content are quite low, total dissolved solids are generally less than 470 ppm, and the average total hardness is about 200 ppm. Of four natural gas fields in the county, only one, Ord Bend Field, produces a significant amount of poor quality waste water. This waste consists of about 2 gpm of highly saline water (13,700 to 15,400 ppm total dissolved solids) which is wasted directly to the land surface.

Because of the importance of ground water to the economy of Glenn County, together with the lack of water quality data, a monitoring program was established in this area in 1957.

Comparison of analyses of samples collected from 22 wells in Glenn County during 1958 with those of 1957 showed little change in mineral constituents. The greatest change noted occurred in well 18N/4W-2F1, located in the southwestern part of the monitored area, in which chlorides increased from 54 to 98 ppm. During 1958, gross radioactivity did not exceed 5.70 μμc/l in wells tested in Glenn County.

Butte County. The monitored portion of Butte County includes only the valley floor area. It extends from Tehama County on the north to Sutter County on the south, and is bounded generally by the Sacramento River on the west and the foothills of the Sierra Nevada on the east. The monitored area is approximately 40 miles in length north to south, and varies in width from about 10 to 20 miles.

Ground waters of Butte County are bicarbonate in type and are generally very good in mineral quality. Total dissolved solids are usually quite low and vary between 100 and 400 ppm. Chloride and boron content is also low. Sodium is generally less than 25 percent of base constituents. There are, however, individual wells wherein nitrate content and sodium percentages are quite high. Ground waters in Butte County are generally soft, although a few wells yield moderately hard waters.

There are little historic data available regarding ground water quality in Butte County. This lack of data, together with the importance of ground water to the economy of Butte County, prompted its inclusion in the ground water quality monitoring program in 1957.

A comparison of analyses of samples collected from 23 wells in 1958 with those taken in 1957 reveals few significant changes. One of the most notable of these occurred in well 22N/1E-9M1, located about 4 miles north of Chico, where the total dissolved solids increased from 457 ppm in 1957 to 669 ppm in 1958. The nitrate content in this well increased from 50 to 77 ppm, and hardness from 357 to 420 ppm. Nitrate content in well 21N/2E-30C1, located in the east central part of the monitored area, decreased from 109 ppm in 1957 to 65 ppm in 1958. Gross radioactivity in wells tested in Butte County during 1958 was very low, the highest count being 7.99 μμc/l.

Colusa County. The monitored area in Colusa County includes most of the valley floor area. It is bounded on the east by Butte Creek and the Sacramento River, and on the west by the nonwater-bearing rocks of the Coast Range. The area extends from Glenn County on the north, to Yolo County on the south; it is about 32 miles north to south and ranges between 15 and 20 miles east to west.

The ground waters of Colusa County are quite variable, both as to mineral characteristics and to the concentrations of the principal constituents. The quality ranges from excellent to poor. Ground waters high in chlorides and sodium percentages are found scattered throughout the area. Ground waters in the area are generally slightly to moderately hard, although a few wells have yielded extremely hard water.

Due to the increasing importance of ground water to the economy of the county, and the expected increase in ground water utilization, a monitoring program was initiated during 1957 in Colusa County with the sampling of about 30 wells located throughout the valley floor area.

During July 1958, samples were taken from 27 wells in this area. Chlorides in these samples varied between 5.5 and 294 ppm. Boron ranged from 0.01 to 2.2 ppm, with the highest value in well No. 13N/2W-29R1, which is located in the southwest corner of the monitored area about five miles southwest of Arbuckle. Nitrates ranged between 0.2 and 16 ppm, with the exception of well 15N/2W-32R1, located six miles north of Arbuckle, which yielded water containing a nitrate concentration of 42 ppm. This was an increase from 19 ppm in 1957. Sodium percentage, which exceeded 60 percent in four of the monitored wells, ranged between 13 and 82 percent. The maximum gross radioactivity found in the monitored wells during 1958 was 9.3 μμc/l.

Sutter County. The monitored portion of Sutter County is bounded generally by the Feather River on the east and the Sacramento River on the west; these rivers generally comprise the eastern and western boundaries, respectively, of Sutter County. The county is situated in the Sacramento Valley proper and is, for the most part, underlain by water-bearing deposits. Almost all of the county is included in the ground water quality monitoring program.

Ground waters in Sutter County are generally bicarbonate in type, and are moderately hard. Although magnesium is the dominant cation, it is usually present in only slightly greater concentrations than calcium or sodium. An area which yields ground waters containing excessive amounts of sodium chloride extends from about three miles south of Yuba City southward a distance of 11 miles, and thence southwestward across the Sutter By-Pass to Robbins. The source of this sodium chloride is probably entrapped evaporatives or rising connate brines. To detect possible migrations of these highly mineralized waters, a monitoring program was established in Sutter County in 1953. Earlier records of ground water quality are available from previous ground water investigations in this area.

During 1958, samples were collected from 27 wells in Sutter County. Comparison of these samples with those of 1957 reveals slight to moderate increases in total dissolved solids in 19 wells. Total dissolved solids in the 1958 samples ranged between 159 and 954 ppm in all wells except well 12N/2E-14B1, located near Robbins in the southwestern part of the area, in which total dissolved solids were 2,290 ppm. Chloride concentrations in the sampled wells varied between 2.4 and 1,340 ppm. The highest chloride concentration was found in the aforementioned well 12N/2E-14B1. Chlorides in this well have increased fairly steadily during the period 1954 to 1958. Five wells located in the vicinity of Robbins yielded water with boron in excess of 0.5 ppm, the upper limit recommended for irrigation of boron-sensitive crops. Sixteen scattered wells yielded water with total hardness exceeding 200 ppm. Gradual increases in chlorides, sodium, and total dissolved solids were noted in several wells in the southeastern part of the area during the five-year period, 1953 to 1958. During 1958, gross radioactivity in the wells tested ranged from 0.0 to 26.63 μμc/l.

Yuba County. The portion of Yuba County which is included in the monitoring program includes only the valley floor area. It is bounded by Sutter County on the west and extends to the foothills of the Sierra Nevada on the east. This valley floor portion is approximately 25 miles in maximum north-south length, and varies between 8 and 12 miles in east-west width.

Ground waters in Yuba County are generally of good to excellent mineral quality and are usable for all present purposes. However, saline water is found in the southern part of the county. The source of these saline waters has not, as yet, been determined.

Although Yuba County was included in the monitoring program as a part of the Sutter-Yuba monitoring area prior to 1957, there were few wells sampled in this portion of the area and little data were available. During 1958 the areas were separated and an expansion of the monitoring program in Yuba County was initiated.

Ranges of pertinent constituents in the six wells sampled in Yuba County during 1958 were as follows: total dissolved solids, from 157 to 308 ppm; chlorides, from 7 to 49 ppm; and boron concentrations, from 0.00 to 0.60 ppm, with only one well exceeding 0.26 ppm. Sodium percentages ranged from 17 to 41 percent of base constituents. One of the monitored wells in Yuba County was tested for radioactivity during 1958. The gross radioactivity in this well was 2.10 μμc/l.

Yolo County. The area of Yolo County included in the monitoring program lies mainly in the eastern portion of the county on the Sacramento Valley floor. The Capay Valley portion, however, extends along Cache Creek from the Town of Capay northwesterly to Rumsey in the western portion of the county. The total monitored area includes about 650 square miles.

The ground waters of Yolo County are predominantly bicarbonate in type. The most serious quality problem is the presence, throughout the county, of possibly injurious concentrations of boron. High concentrations of chloride have also been found adjacent to the Sacramento River and in other local areas. The ground water is generally very hard.

A monitoring program was established in Capay Valley in 1953 and expanded in 1957 to include the present monitored area described above.

Analyses of samples collected from 33 wells in 1958 showed class 2 or 3 irrigation water in 24 of the wells. High boron concentrations were the principal cause of degradation in these wells. Comparison of 1958 analyses with those of 1957 showed only slight changes in mineral constituents in most wells. Boron increased in a few wells; the most notable increase occurred in well 11N/2E-22A1, near the Sacramento River, where boron increased from 0.84 to 4.6 ppm. Well 10N/2W-18F1, in the Capay Valley, showed an increase in chlorides from 191 ppm in July 1957 to 350 ppm in July 1958. Well 7N/3E-9J1, located about seven miles southeast of Davis, showed an exceptionally large increase in nitrate, from 1.2 to 124 ppm. Such high concentrations of nitrates frequently indicate contamination of the ground water from a surface source. The ground waters were mostly very hard, with total hardness ranging from 68 to 824 ppm. The highest count of gross radioactivity found in the monitored wells was 12.60 $\mu\mu c/l$.

Sacramento County. This monitored area comprises most of Sacramento County. The only areas not included are a small area in the Sacramento-San

Joaquin Delta where little ground water is used, and the area along the eastern boundary which is underlain by formations that yield negligible quantities of ground water.

Ground waters in Sacramento County are generally of excellent mineral quality, although there are localized areas where water quality is a problem. The ground waters generally contain less than 350 ppm total dissolved solids and less than 0.3 ppm boron. Sodium percentages seldom exceed 50 percent and total hardness is generally less than 200 ppm. An industrial waste (from the Aerojet-General plant) in the eastern portion of the county contains potassium perchlorate ($KClO_4$) and ammonium perchlorate (NH_4ClO_4) in solution. The perchlorates of potassium and ammonium are reported to be toxic to plant life to approximately the same extent as boron. Accordingly, analyses of samples near this waste discharge include tests for these industrial components.

A monitoring program was established in Sacramento County in 1955 to record the present ground water quality and to detect changes due to existing sources of degradation.

During 1958, samples were taken from 28 wells in Sacramento County. Total dissolved solids in these samples ranged between 114 and 494 ppm. Chloride concentrations did not exceed 44 ppm, and boron ranged between 0.00 and 0.53 ppm. Sodium percentages did not exceed 43 percent and hardness was less than 280 ppm. No significant changes in ground water quality were detected, and no prevailing trends were discernible. Perchlorate ion (ClO_4) and ammonium ion (NH_4) concentrations did not exceed 0.5 ppm in any samples analyzed, indicating that these constituents were not present in amounts toxic to plant life. Gross radioactivity was 10.53 μμc/l or less in the tested wells.

San Joaquin Valley (5-22)

The San Joaquin Valley floor comprises about 10,000 square miles of irrigable lands and extends from the Tehachapi Mountains northward to the vicinity of the Cosumnes River. Underlying this valley is the largest ground water reservoir in the State. The storage capacity of this great reservoir, to a depth of 200 feet below land surface, has been estimated at 100,000,000 acre-feet. A bed of diatomaceous clay, generally known as the Corcoran clay, continuous throughout most of the San Joaquin Valley, separates this reservoir into upper and lower ground water zones. This clay bed is about 40 to 50 feet thick and generally lies between 300 and 350 feet below the land surface. Wells in the western portion of the valley draw water principally from the lower zone, due mainly to the poor quality of upper zone waters. Wells in the remainder of the valley produce good quality waters from both zones. Most of the San Joaquin Valley has been included in the monitoring program and is reported hereinafter by counties.

San Joaquin County. The area of San Joaquin County included in the monitoring program comprises most of the valley floor portion of the county. The area extends from the Sacramento county line on the north to the Stanislaus county line on the south, and varies in width from about 14 to 30 miles.

Ground water in San Joaquin County is generally suitable for both domestic and agricultural uses, although some of the water contains moderately high boron concentrations. In the vicinity of the City of Stockton, a threat to water quality exists due to saline water bodies which underlie the area and extend under most of the delta lands at varying depths in the northwestern part of the county.

A monitoring program was established in the vicinity of Stockton in 1953, and extended to include most of the county in 1957, to detect degradation of good quality waters by the migration of poor quality waters which are located primarily in the western part of the county.

Fourteen of the 37 wells sampled in 1958 contained boron concentrations in excess of 0.5 ppm, the highest being 1.7 ppm in well 2S/5E-23P1, located approximately 16 miles southwest of Stockton. In general, the boron concentrations remained approximately the same as found in previous years, with the higher concentrations located primarily in the western portion of the monitored area.

Total dissolved solids exceeded 700 ppm in 9 of the monitoring wells located in the southwestern part of the county, some showing increases over concentrations found in previous analyses. Well 2N/6E-29N1, located about 3 miles northeast of Stockton, showed an increase in total dissolved solids from 408 ppm in July 1954, to 944 ppm in September 1958. Total dissolved solids in wells 2S/4E-36P1 and 2S/5E-28L1, located near Tracy, increased from 320 to 847 ppm, and from 615 to 730 ppm, respectively, between 1957 and 1958.

Chlorides in a few wells near Stockton were high, but there was no indication of increased degradation of surrounding waters. Ground waters throughout the monitored area were predominantly very hard, with 20 of the monitored wells showing greater than 200 ppm total hardness. Percent sodium was high in a few wells, particularly in the vicinity of Stockton. Sulfates exceeded 250 ppm in 2 adjacent wells located approximately 24 miles south of Stockton. Gross radioactivity in the monitored wells ranged from 0.0 to 24.74 μμc/l during 1958.

Stanislaus County. The monitored portion of Stanislaus County covers approximately 800 square miles and includes all of the valley floor area in the county except an area of about 185 square miles in the north central portion.

Ground waters in the east side of the monitored area are generally bicarbonate in type and of excellent mineral quality. The west side ground waters are chiefly a calcium-magnesium bicarbonate type of good to excellent quality. Sodium chloride type waters containing high concentrations of total dissolved solids have been found in the trough of the valley. Waters moderately high in boron and sulfate also occur in the west side of the county. These potential sources of ground water degradation in Stanislaus County prompted the establishment of an annual monitoring program in the area in 1957.

Analyses of samples collected from 54 wells in Stanislaus County in 1958 showed, in general, about the same ranges of mineral constituents as those samples collected in 1957. Twenty-one wells contained total dissolved solids in excess of 700 ppm. Well 3S/13E-32D1, located about six miles southwest of La Grange, adjacent to the Tuolumne River, showed an increase in total dissolved solids from 2,760 ppm in September 1957 to 3,164 ppm in July 1958. On the other hand, total dissolved solids in well 7S/8E-22K1, located about 14 miles west of Newman, decreased from 1,180 to 664 ppm during the same period. Chlorides in the latter well also decreased significantly, dropping from 602 to 77 ppm. Boron, in well 7S/8E-22K1, however, increased from 0.14 to 0.6 ppm during this ten-month period. Boron concentrations decreased in several other wells, but not in sufficient magnitude to indicate a general improvement in the quality of ground water supplies. Waters from 24 of the 54 monitored wells contained boron concentrations of 0.5 ppm or greater. Chlorides ranged from a low of 3 ppm to a high of 1,628 ppm, with 14 wells having more than 175 ppm chloride. Only 2 wells contained more than 60 percent sodium, the highest being 84 percent in well 4S/11E-5M1, located on the south bank of the Tuolumne River, about 2 miles west of Hickman. Hardness ranged from soft to very hard, exceeding 200 ppm in 31 wells. Sulfate concentrations in excess of 250 ppm were found in 4 of the monitored wells, virtually the same in that respect as shown by the 1957 analyses. Gross radioactivity ranged from 0.0 to 52.28 $\mu\mu c/l$.

Merced County. Two separate areas are included in the monitoring program in Merced County. One area lies along the west side of the San Joaquin River between the Stanislaus and Fresno county lines. This area varies in width from 6 to 16 miles, is about 32 miles in length, and includes about 300 square miles. It encompasses the land in Merced County served by Central California Irrigation District. The second area is located east of the San Joaquin River in the central part of the county. It is from 10 to 12 miles in width, about 40 miles in length, and includes an area of about 400 square miles. Merced Irrigation District, and a portion of Turlock Irrigation District, are located in this second area. A monitoring program was established in Merced County during 1957 to maintain surveillance on water quality conditions, and to detect possible movement of mineralized water near the trough of the valley.

Although ground waters west of the San Joaquin River have a high chloride content, the predominant anions are sulfate and bicarbonate. Wells east of the river, less than 200 feet in depth, yield calcium bicarbonate water of excellent quality. Ground waters from the deeper wells are of similar anionic composition; however, they generally have a much higher sodium content.

Wells on the west side of the San Joaquin River yielded waters of variable mineral quality in 1958. Total dissolved solids ranged from 391 to 2,946 ppm and percent sodium from 26 to 64. Waters from 4 of the 13 monitoring wells in this area contained total dissolved solids in excess of 1,000 ppm, with the highest value (2,946 ppm) found in well 11S/10E-23K1, located in the southwestern portion of the monitored area. Eight wells yielded water containing boron concentrations in excess of 0.50 ppm, the highest of which was 3.0 ppm in well 12S/11E-3C1, located in the extreme southern portion of the monitored area. Samples from wells 11S/10E-23K1, located about 7 miles south of Los Banos, and 12S/11E-3C1, located about 6 miles southwest of Dos Palos, contained sulfates of 1,043 and 528 ppm, respectively. Well 11S/10E-23K1 also contained 73 ppm nitrates. These concentrations exceed the sulfate and nitrate limits for drinking water recommended by the State Board of Public Health (Appendix C). Total hardness varied from 133 to 1,371 ppm in the west side wells.

Wells sampled on the east side of the San Joaquin River yielded waters of good to excellent mineral quality in 1958. Twenty of the 33 monitoring wells in this area contained total dissolved solids concentrations below 300 ppm, and 29 wells contained sodium percentage below 50. Maximum values were 624 ppm total dissolved solids and 68 percent sodium, found in well 6S/10E-28K1, located approximately two miles southwest of Irwin. Boron ranged from 0 to 1.4 ppm and total hardness was below 200 ppm in all but two of the east side wells.

Gross radioactivity in the entire monitored area of Merced County ranged from 0.47 to 79.31 $\mu\mu$c/l, with the high value found in well 7S/11E-4M1, located about three miles southwest of Livingston. This value of 79.31 $\mu\mu$c/l was the highest value of gross radioactivity found in the Northern California portion of the monitoring program. However, it was below the provisional safe limit of 100 $\mu\mu$c/l.

Madera County. All of the valley floor land in Madera County is included in the monitoring program. It extends from the foothills on the east to the San Joaquin River on the west, and from the Merced county line on the north to the Fresno county line on the south.

Calcium-sodium bicarbonate type waters of excellent mineral quality are found, generally, in wells less than 350 feet deep. Water in the lower zones in the western part of the county, effectively confined by the Corcoran clay, is predominantly of sodium bicarbonate type, with sodium percentages often exceeding limits recommended for irrigation waters. Wells in the western part bordering the San Joaquin River yield waters high in chlorides.

The existence of high chloride concentrations in portions of the aquifers and high percentage sodium in the lower water-bearing zones, prompted the inclusion of Madera County in the monitoring program in 1957.

Comparison of the analyses of sampled collected from 27 wells in 1958 with those collected in 1957 showed no significant changes in water quality in Madera County. Water in 24 of the 27 wells sampled was of excellent mineral quality. Three wells, however, remained excessively high in percent sodium, ranging from 83 to 98 percent. These three wells were all adjacent to the San Joaquin River in the southwest part of Madera County. Sodium ranged from 27 to 98 percent of base constituents. The highest count of gross radioactivity found in waters sampled in Madera County in 1958 was 15.94 $\mu\mu c/l$.

Fresno County. The monitored area in Fresno County includes that portion of the valley floor area which extends from the Sierra Nevada foothills on the east to the base of the Diablo Range on the west, and from the Merced County line on the north to the Kings County line on the south. The total area is approximately 2,500 square miles.

There are two major water-bearing zones in the west side area, each of which contain water of variable quality. The upper zone extends to a depth of 200 to 300 feet below the surface and yields a calcium-magnesium sulfate type water with total dissolved solids as high as 3,000 ppm and sodium percentage of about 35. The lower zone yields a sodium sulfate water with a total dissolved solids concentration of about 800 ppm and sodium from 70 to 90 percent. This lower zone furnishes about 80 percent of the ground water supply in the area.

A serious water quality problem exists in the west side area of Fresno County. Highly mineralized waters occur in both the upper and lower ground water zones. High boron concentrations are found in ground waters in local areas and, in addition, there is evidence of ground water degradation by oil field wastes. For example, wastes from Raisin City Oil Field operations were, for many years, discharged into unlined sumps with final disposal being achieved by evaporation and percolation. As a result, wells adjacent to these sumps have contained waters with chloride concentrations and sodium percentages in excess of the general level of ground waters in the area. These wastes are presently being disposed of by injection into the underlying saline water body through deep wells.

These existing and potential problems prompted the inclusion of Fresno County in the monitoring program in 1953. During 1958, samples were collected from 63 wells in the county; 49 wells were in the west side area, 8 wells in the vicinity of the Raisin City Oil Field, and 6 wells in the area served by the Fresno Irrigation District.

Comparison of 1958 analyses with those of 1957 or earlier showed no significant changes in concentrations of mineral constituents. Thirty of the 63 monitored wells contained class 3 irrigation waters, due primarily to excessive boron or high percent sodium. Twenty-three were class 2. Only those wells in the eastern portion of the monitored area near Fresno were predominantly of excellent mineral quality. The greatest increase in boron, from 0.6 ppm in 1957 to 2.1 ppm in 1958, occurred in well 20S/15E-25D2, located in the southern portion of the west side area. Well 12S/13E-9C1, located in the northern portion of the area, showed a decrease in boron from 6.8 to 3.8 ppm between 1957 and 1958. Seventeen wells contained chloride concentrations greater than 200 ppm, the highest being 1,040 ppm in well 14S/15E-31N1, located approximately 6 miles south of Mendota. These concentrations remained virtually unchanged from those shown in 1957. Twenty-one wells produced waters with percent sodium of 70 or greater. Wells 20S/15E-26M1, located about 2 miles northeast of Coalinga, and 20S/17E-9R1, located about 1 mile west of Huron, contained nitrate concentrations of 65 and 53 ppm, respectively. Forty-one wells contained sulfate concentrations in excess of 250 ppm, the limiting sulfate concentration recommended for drinking water. Gross radioactivity ranged from 0.0 to 29.12 $\mu\mu c/l$.

Tulare County. The portion of Tulare County included in the ground water quality monitoring program comprises the valley floor area between the western Sierra Nevada foothills and the Kings county line. This area occupies approximately the western one-third of the county. Its maximum dimensions are about 58 miles north to south and 37 miles east to west.

Ground waters in the eastern half of the monitored area, along the Sierra foothills, are of calcium bicarbonate type with total dissolved solids averaging approximately 250 ppm. This water is typical of the shallow-to-moderate-depth ground water zones deriving recharge from the Sierra streams. Sodium bicarbonate type water occurs at greater depths and to the west of those areas containing calcium bicarbonate type water. Percent sodium in this water frequently exceeds 75 percent.

The ground water quality monitoring program in Tulare County was begun in 1957. In 1958 samples were collected from 11 monitoring wells. There are, in addition, considerable data on water quality in Tulare County made available through the cooperation of the United States Geological Survey, which has recently conducted special water quality investigations in much of the southern portion of the monitored area.

Ground water of excellent quality was found in wells in the northwestern portion of the monitoring area during 1958. Wells in the southern portion, however, produced waters with high percent sodium, reaching 95 in well 24S/27E-32P1, located about 12 miles southeast of Earlimart. This well was also moderately high in boron, increasing from 0.40 to 0.93 ppm boron during the period from June 1957 to August 1958. Analyses showed high chlorides and high total dissolved solids in wells immediately south of the Tule River near the Kings County line.

Well 22S/23E-6A1, for instance, contained 657 ppm chlorides, and well 22S/23E-7A2 contained 1,844 ppm total dissolved solids, the highest values found in 1958. Boron ranged from 0.00 to 0.93 ppm in the sampled wells. The highest count of gross radioactivity was 22.0 $\mu\mu c/l$.

Kern County. The monitoring program in Kern County encompasses that area extending from the northern boundary of Kern County south to Wheeler Ridge, and from the Tehachapi Mountains on the east to the Coast Range on the west. The area is approximately 60 miles in length and averages 35 miles in width.

Ground waters in Kern County vary considerably in mineral characteristics. High concentrations of boron and other minerals occur throughout large portions of the monitored area, particularly in the south and west. The discharge of oil field waste waters is a potential source of pollution to local water supplies, since its disposal is often accomplished through the use of percolation basins. Ground water in the vicinity of Devils Den Oil Field area contains mineral concentrations in excess of those recommended for domestic use and for irrigation of most crops. Because of the possibility of ground water quality impairment by disposal of oil field wastes, the Central Valley Regional Water Pollution Control Board has adopted requirements for the disposal of wastes from most of the oil fields in Kern County. The resultant improvement in waste disposal practices has considerably lessened the threat to ground water quality.

A monitoring program was begun in the Devils Den and Edison Oil Field areas in 1953 to maintain a check on effects of waste water disposal. The remainder of the monitoring area was added in 1957.

Analyses of samples collected from 41 monitoring wells in 1958 showed no significant changes in mineral quality as compared to previous years. Sixteen wells contained total dissolved solids in excess of 700 ppm, the upper limit for class 1 irrigation waters, the highest being 4,610 ppm in well

31S/24E-28B1, located about 3 miles northeast of Ford City. Chlorides exceeded 175 ppm in 11 wells, located primarily in the southern and western portions of the monitored area. High concentrations of boron were found in wells scattered throughout the southern half of the monitored area. Twenty wells contained boron concentrations greater than 0.5 ppm, the highest being 7.7 ppm in well 27S/20E-34G1, southwest of Lost Hills. Thirteen of the 41 monitored wells contained greater than 60 percent sodium. Ground waters in the area south of Bakersfield showed relatively low sodium percentages. The water here, however, was extremely hard, reaching a high of 1,840 ppm total hardness. Sulfates exceeded the recommended limit for drinking water, of 250 ppm, in 12 of the sampled wells, the highest concentrations occurring in the Devils Den Oil Field area. Well 25S/19E-7P1, for instance, showed 2,230 ppm sulfates. Gross radioactivity in the tested wells ranged from 0.0 to 39.33 $\mu\mu c/l$.

LAHONTAN REGION (No. 6)

The Lahontan Region consists of that area in California generally east of the drainage divide of the Sierra Nevada, and the Tehachapi, San Gabriel, and San Bernardino Mountains (Plate 1). This region includes an area of approximately 33,000 square miles extending over 600 miles along the eastern boundary of California.

The water supply for the southern portion of this region consists mainly of pumped ground waters and, to a minor extent, diverted surface waters. The growth of some areas in the southern portion of the region has been affected by the limited water supply. Precipitation is sporadic and generally less than five inches per year in the Antelope Valley-Mojave River area.

Fifty-eight ground water basins have been identified in this region. However, only that portion of Lower Mojave River Valley between Barstow and Yermo has been included in the monitoring program.

Lower Mojave River Valley, Barstow to Yermo (6-40)

The portion of lower Mojave River Valley ground water basin included in the monitoring program extends from the City of Barstow about 25 miles eastward to the City of Yermo. It varies in width from two to seven miles and comprises about 160 square miles.

The character of ground waters in this area ranges from sodium-calcium bicarbonate to sodium-calcium bicarbonate-sulfate. The waters are moderately hard to very hard, but are generally suitable for present beneficial uses. Discharges of sewage effluents and industrial wastes to the dry river bed at Barstow and Nebo, create a threat to ground water quality. Taste and odor problems have caused abandonment of some wells east of the City of Barstow. Ground waters in this vicinity contain boron in excess of limits recommended for irrigation, and fluoride and sulfate concentrations in excess of limits specified in drinking water criteria.

The monitoring program in Lower Mojave River Valley was established in 1953 to observe the trends of ground water quality. Twenty-eight samples were taken from 14 monitoring wells in this area in 1958.

Comparison of analyses of well waters obtained in 1958 with those of the seven preceding years indicates that minor variations in mineral quality have occurred in this period. Although slight increases or fluctuations were noted in mineral concentrations in some wells, no significant trends were noted. Total radioactivity in samples from 7 of the 14 wells sampled in 1958 ranged from 2.2 to 31.9 $\mu\mu c/l$. The 31.9 $\mu\mu c/l$ level was found in a sample from well 9N/1W-10G1, located near the river about two miles east of Barstow, and is the highest count found in ground water within the Lahontan Region as well as the Southern California District in 1958. However, the radioactivity level in this well is much below the maximum permissible concentration for drinking water. As the area of higher radioactivity has not been defined, it is planned to expand the radiological monitoring program in the vicinity of this well.

COLORADO RIVER BASIN REGION (No. 7)

The Colorado River Basin Region is bounded on the north by the southern boundary of the Mojave River watershed, on the south by the California-Mexico boundary, and on the west by the San Bernardino Mountains and the San Jacinto and Peninsular Ranges. The Colorado River and the Nevada state line bound the area on the east (Plate 1). This region comprises all basins draining into the Colorado River and Salton Sea. The region has an average width of more than 125 miles, averages about 150 miles in length, and includes an area of approximately 20,000 square miles.

Forty-six ground water basins have been identified in this region, one of which has been included in the monitoring program.

Coachella Valley (7-21)

Coachella Valley includes an area of about 690 square miles lying along the Whitewater River in Riverside County. It is approximately 65 miles long, trends generally in a southeasterly-northwesterly direction, and ranges in width from about 3 miles at the northwestern end to 20 miles at the southeastern end.

The mineral character of ground waters in this area is quite variable. Calcium is usually the predominant cation in the northwestern portion of the basin near the areas of replenishment from the Whitewater River system, while sodium is the predominant cation in the southeastern portion of the basin. Bicarbonates are generally the predominant anions; however, sulfates are becoming more prominent in several wells in the northern portion of the area.

A shallow perched-water zone which contains an accumulation of rain water, waste water, and irrigation return water, having a high mineral content, exists in Coachella Valley. There is a possibility that degraded waters of the shallow zone can move through abandoned or improperly constructed wells or through interconnected aquifers into the deeper zone.

The monitoring program in the Coachella Valley ground water basin was initiated in 1953 to detect any pollution or degradation through interconnected ground water zones, and to show any quality changes produced by imported water. In general, the area included in this monitoring program is the same area that uses Colorado River water to supply most of its water requirements. During 1958, 24 samples were taken from 12 monitoring wells in Coachella Valley.

Comparison of 1958 analyses with those of previous years shows wide variations in mineral concentrations in three wells. Total dissolved solids in well 6S/7E-25E1, located about four miles southwest of the City of Coachella, increased from 1,521 ppm in July 1954, to 2,340 ppm in September 1955, decreased to 263 ppm in April 1956, and has been in the range of 260 to 464 ppm since that time. Well 7S/8E-22M1, located about three miles southwest of the Whitewater River, has shown a trend of increasing chloride concentrations, rising from 85 ppm in July 1954, to 350 ppm in October 1958. Nitrates in well 5S/7E-33C1, located about two miles southwest of Indio, increased from 41 ppm in March 1957, to 141 ppm in October 1958. The reasons for these increases are not known. Most of above noted significant water quality changes appear to be localized.

In 1958, waters from four of the monitoring wells, located in the southern part of the valley, contained concentrations of fluoride exceeding 1.5 ppm, the recommended limit for drinking water. Three of these wells produced waters containing sodium in excess of 75 percent of base constituents. Total radioactivity in the 12 monitoring wells sampled in 1958 ranged from 0.2 to 7.6 $\mu\mu c/l$.

SANTA ANA REGION (No. 8)

Santa Ana Region comprises the entire drainage area of the Santa Ana River, as well as all coastal basins draining into the Pacific Ocean between the Los Angeles-Orange county line on the north and west, and the drainage divide between Muddy and Moro Canyons on the south (Plate 1). This region extends about 25 miles along the coast and includes an area of approximately 2,850 square miles.

Nine ground water basins and 27 sub-basins have been identified in this region. Three of these basins have conditions warranting their inclusion in the monitoring program. These basins are East Coastal Plain Pressure Area (coastal portion), Chino, and Bunker Hill Basins.

Production of ground water in a number of basins in this region has exceeded the safe yield for several years, resulting in lowered ground water levels and increased pumping costs. The use of supplemental Colorado River water, by both direct delivery and through spreading operations, is becoming more prevalent.

East Coastal Plain Pressure Area (8-1.01)

East Coastal Plain Pressure Area occupies a ten-mile wide portion of the coastal plain in Orange County. The area fronts on the ocean a distance of about 15 miles between the Los Angeles-Orange county line and Newport Beach and comprises approximately 180 square miles. A major ground water quality problem exists in this area, caused by sea-water intrusion and the disposal of oil well brines. Ground waters in East Coastal Plain Pressure Area not affected by salt-water intrusion are suitable for present beneficial uses. The better quality waters are generally sodium or calcium bicarbonate in character, while the ground water intruded by salt water shifts to a calcium or sodium chloride type. The ground waters are moderately hard in character.

Salt-water intrusion of the aquifers in this area may originate as sea water, oil well brines discharged to land surface, or migration of connate waters. Due to the similar characteristics of these degrading waters it is difficult to identify the source. While sea water is believed to have intruded the aquifers located southwest of the Newport-Inglewood fault zone (Plate 7), there is no evidence of movement of sea water northward through the faulted zone, except in the Santa Ana gap area.

The monitoring program in East Coastal Plain Pressure Area was established in 1953 to detect impairment to ground water quality caused by disposal of oil well brines and by sea-water intrusion. During 1958, 55 samples were taken from 28 monitoring wells.

In the area affected by intrusion of salt water, the total dissolved solids and chlorides have increased rapidly. As an example, well 6S/10W-6L2, located in the Santa Ana gap, has experienced a progressive increase in chlorides from 21 ppm in September 1953 to 2,638 ppm in September 1958. The continued landward advance of sea water in the Santa Ana gap is illustrated by the 500 ppm isochlor shown on Plate 7, which has advanced as much as one-half mile along the flanks of the gap since 1957. Total dissolved solids in the sampled wells ranged from 204 to 8,010 ppm, chlorides ranged from 11 to 3,558 ppm, and hardness from 102 to 3,896 ppm. The maximum count of total radioactivity in samples taken from 13 monitoring wells in 1958 was 5.0 $\mu\mu c/l$.

<u>Chino Basin (8-2.01)</u>

Chino Basin occupies a valley area northwest of the Santa Ana River, and extends over portions of Los Angeles, San Bernardino and Riverside Counties. The basin is about 20 miles in length, averages 12 miles in width, and comprises about 237 square miles. The monitored area comprises the southern portion of the basin.

Ground waters in Chino Basin are predominantly calcium bicarbonate in character, and are moderately hard to very hard. The waters are otherwise of good quality and suitable for domestic and irrigation uses.

A number of industrial establishments in the San Bernardino County portion of Chino Basin discharge wastes to land. Monitoring of the area was begun in 1953 to detect the effects on ground water quality of local disposal of domestic and industrial wastes to land, and of importation of Colorado River water. Most of the monitoring wells are situated below the critical waste discharges. The greatest concentration of wells is south of the Ontario International Airport near the aircraft maintenance and overhauling facilities. Twelve samples were taken from eight monitoring wells in Chino Basin in 1958.

Comparison of 1958 analyses with those of the five preceding years shows a few significant changes in water quality. Well 2S/7W-27A1, located about 0.4 mile east of Cucamonga Creek, shows a decrease in total dissolved solids from 715 ppm in 1954 to 500 ppm in 1958. Nitrates increased from 35 ppm in June 1957, to 46 ppm in December 1958. In general, wells showing high nitrates are located near Cucamonga Creek, downstream from the Ontario-Upland sewage disposal plant. Total radioactivity of samples obtained from eight wells in Chino Basin during 1958 ranged from 0.5 to 5.2 $\mu\mu c/l$.

<u>Bunker Hill Basin (8-2.06)</u>

Bunker Hill Basin is located in the Upper Santa Ana Valley in San Bernardino County. The valley abuts against the high, rain-catching San Bernardino Mountains for a distance of 20 miles. Bunker Hill Basin is approximately eight miles in width and encompasses about 92 square miles in the eastern portion of this plain.

Ground waters in Bunker Hill Basin are predominantly calcium bicarbonate in character. They range from slightly hard to very hard but they are otherwise of good quality.

Local disposal of domestic and industrial wastes to land constitutes a potential source of ground water quality impairment in this area. A monitoring program was initiated in 1953 to detect quality changes which might result from percolation of these wastes to ground water. Originally, monitoring wells were selected near the site of the waste disposal sumps of the Culligan Zeolite Company north of the City of San Bernardino. Since then, additional wells have been selected for sampling along the reach of the Santa Ana River below Redlands sewage treatment plant and Norton Air Force Base. Twenty-four samples were obtained from nine monitoring wells in Bunker Hill Basin during 1958.

Comparison of analyses for 1958 with those of the five preceding years indicates some fluctuations in mineral concentration without evidence of any definite trend except as noted in the following discussion. Well 1N/4W-29E3, located near sumps of the Culligan Zeolite Company formerly used for disposal of wastes containing sulfuric acid, shows significant increases in both calcium and sulfate ion concentrations, and in total dissolved solids as illustrated in the following tabulation:

Date Sampled	Calcium ppm	Sulfate ppm	Total Dissolved Solids ppm
12-15-54	66	34	280
9-20-55	77	60	290
9-13-56	86	82	438
9-25-57	107	142	475
3-13-58	113	158	541
5-15-58	112	174	514
9-23-58	108	146	480

A similar trend was noted in water from well 1N/4W-29F1, located in the same area. No significant changes were noted in sodium or chloride concentrations in these two wells. Well 1S/3W-8M1, located below the City of Redlands sewage treatment plant, shows a continuous increase in total dissolved solids from 178 ppm in August 1955 to 350 ppm in May 1958.

Total radioactivity in samples taken from seven wells in 1958 ranged from 1.7 to 14.9 μμc/l. The ground water samples collected in 1958, which equalled or exceeded 10 μμc/l radioactivity, were taken from wells 1S/4W-13F2, 1S/4W-13F3, and 1S/4W-13G1, with 10.0, 14.9, and 14.7 μμc/l, respectively. These wells are located southwest of the Norton Air Force Base main sewage plant. The plant effluent is conveyed by an open ditch, which passes near these wells, to the Santa Ana River. No definite conclusions can be drawn from the data presently available.

SAN DIEGO REGION (No. 9)

The San Diego Region comprises all basins draining into the Pacific Ocean from the drainage divide between Muddy and Moro Canyons in Orange County on the north, to the California-Mexico boundary on the south. The region averages 45 miles in width and occupies an area of approximately 3,830 square miles (Plate 1).

Fifty-four ground water basins have been identified in this region. Of these, the following areas have been included in the monitoring program: San Luis Rey Valley, Mission Basin; El Cajon Valley; and the portion of Tia Juana Valley located within the United States.

San Luis Rey Valley, Mission Basin (9-7.01)

San Luis Rey Valley is a long, narrow river valley in northern San Diego County, extending approximately 30 miles inland from the Pacific Ocean. The area monitored is the lower portion of the valley, now called Mission Basin, a hydrologic division of San Luis Rey Valley, extending inland to Bonsall Narrows about 8 miles from the ocean. The monitored area comprises about 6 square miles. The principal pumping zone consists of about 100 feet of unconfined permeable sands and gravel occurring beneath a section of fine sand, silt or clay.

The character and mineral quality of ground water in this area is extremely variable. The waters are generally very hard and are of poor mineral quality, but are extensively used for domestic and agricultural purposes. Deterioration of ground water quality in wells near the coast has been evident for many years. This deterioration is attributed to an adverse salt balance, inflow of water of inferior quality from adjacent older sediments, and seawater intrusion. Under present and expected future conditions of development, continued impairment may render more and more of the ground water unsuitable for domestic use and irrigation.

A ground water monitoring program was begun in 1953 to observe the effects on water quality of sea-water intrusion, inflow from older sediments, and an adverse salt balance.

Twenty-two samples were taken from 13 monitoring wells in 1958. The wells are divided into two groups for the discussion of water quality. One group is in the area influenced by sea-water intrusion and the other group is in the inland area affected by other quality problems.

In the sea-water intrusion area, 13 samples were collected from 7 wells. Analyses of these samples show that total dissolved solids ranged from 910 to 20,000 ppm, chlorides from 170 to 8,550 ppm, sulfates from 135 to 1,142 ppm, and boron from 1.65 to 2.5 ppm. Water from well 11S/5W-23E1, located 0.7 mile from the ocean, contained 20,000 ppm total dissolved solids, the highest concentration found in this area. This is believed to be due to the intrusion of sea water.

In the inland area, nine samples were taken from six monitoring wells. Analyses of these samples show the following ranges: total dissolved solids from 460 to 1,918 ppm, and chlorides from 99 to 677 ppm. Wells in this area located near the river produced ground water of good quality. Poorer quality water was found in wells near the foothills. The chloride concentration in well 11S/4W-5K1, located in the valley near the river, was 99 ppm in March 1958, while well 11S/4W-8J1, located near the foothills, showed a chloride content of 636 ppm in the same month.

Comparison of analyses for the period 1953 to 1958 shows that the mineral concentrations in ground waters have increased, and that the chloride content has increased substantially. The most notable chloride increase occurred in well 11S/5W-23E1, located in San Luis Rey River channel 250 feet north of the mouth of Lawrence Canyon in which chlorides increased from 3,600 to 8,540 ppm between October 1953 and October 1958. The highest count of total radioactivity of samples taken from eight monitoring wells in 1958 was 8.6 μμc/l.

El Cajon Valley (9-16)

El Cajon Valley is a small inland valley in the southwestern portion of San Diego County. It is approximately 5 miles wide, 4 miles long, and comprises an area of about 22 square miles. The valley is tributary to the middle portion of the San Diego River. It is surrounded by low hills except for a small opening into the San Diego River Valley.

Ground waters of El Cajon Valley are predominantly sodium chloride in character. The waters are moderately hard to very hard, and are high in total dissolved solids, chlorides, and nitrates. This water is considered to be generally of inferior quality for domestic use. The area was included in the monitoring program in 1953 to detect changes in quality due to use and reuse of water and changes resulting from the importation of Colorado River water. Nineteen samples were collected from 10 monitoring wells in El Cajon Valley during 1958.

Analyses indicate that a gradual increase in mineral concentration has occurred in El Cajon Valley during the period 1953 to 1958. However, it is difficult to determine the significance of quality changes because of large fluctuations in mineral concentrations. Of special note is well 16S/1W-3C2, located near the City of El Cajon, in which the mineral quality has fluctuated widely in the last three years. Total dissolved solids in this well increased from 1,130 ppm in April 1956, to 2,292 ppm in July 1957, and then decreased to 1,021 ppm in November 1958. The chlorides and nitrates varied in a similar manner in waters from this well. Total dissolved solids in the monitored wells ranged from 789 to 2,289 ppm, chlorides ranged from 197 to 782 ppm, and nitrates ranged from 0 to 160 ppm. Total hardness varied from 167 to 868 ppm in the monitored wells during 1958. Total radioactivity in 9 samples collected during 1958 did not exceed 5.9 μμc/l.

Tia Juana Valley Basin (9-19)

Tia Juana Valley Basin, the most southerly ground water basin in the San Diego Region, is situated approximately 15 miles south of the City of San Diego. The ground water basin extends along the Tia Juana River into Mexico. The monitored area is the portion of the valley lying along the lower reach of the river from the United States-Mexico boundary to the ocean. This area is about 5 miles in length, averages 1.5 miles in width and includes an area of approximately 7 square miles.

Ground waters in Tia Juana Valley Basin are sodium chloride in character. They are of poor mineral quality, but are being used for domestic and agricultural purposes. The poor quality of this ground water is probably due to adverse salt balance, reuse of water, sea-water intrusion, or a combination of these conditions.

During the period since 1947, quality degradation has been noted in waters from several wells in the coastal area. The coastal portion of this basin was included in the monitoring program in 1953 to determine the extent and rate of ground water deterioration. Samples were obtained from 13 monitoring wells in 1958.

A continued increase in mineral concentration is evident in 4 observation wells which are situated across the lower end of the Tia Juana Valley Basin between 0.7 mile and 1.5 miles from the ocean. Chlorides in well 19S/2W-5C6, located about 1 mile inland from the ocean, increased from 649 to 5,150 ppm between August 1953 and June 1958. This change is attributed to the movement of salt water in the producing aquifer.

Some wells located inland from the present observation wells and south of the Tia Juana River have recently been removed from use due to degraded water quality. These wells include former monitoring well 19S/2W-5G1, located about 1.3 miles inland from the ocean, in which chlorides increased from 836 ppm in August 1953, to 1,886 ppm in July 1957. Though the source of this degradation is not positively identified, it is believed that intruding salt water may be affecting the quality in this area.

Mineral content in wells located farther inland has increased progressively during the period of record. This increase is probably due to an adverse salt balance, migration of connate waters from older sediments which border the valley, or both. Chlorides in well 19S/2W-2E1, located nearly 4 miles inland from the ocean, increased from 638 ppm in 1953, to 871 ppm in 1958. Total dissolved solids in these inland wells ranged from 1,450 to 10,640 ppm; chlorides from 416 to 5,150 ppm; and sulfates from 30 to 500 ppm. Total hardness ranged from 73 to 3,069 ppm in these wells. Nine samples taken from monitoring wells in Tia Juana Valley Basin in 1958 were tested for total radioactivity. The maximum count found was 11.2 μμc/l.

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1-1 Smith R
1-3 Butte V
1-4 Shasta
1-5 Scott Ri
1-8 Mad Ri
1-9 Eureka
1-10 Eel Rive
1-15 Ukiah
1-16 Sanel V
1-17 Alexan
1-18 Santa R

SAN FR

2-5 Claytor
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3-2 Pajaro
3-4 Salinas
3-7 Carmel
3-12 Santa M
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STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING

QUALITY OF GROUND WATERS IN CALIFORNIA

MONITORED AREAS

1958

SCALE OF MILES
10 0 10 20 30 40 50

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NORTH COASTAL REGION (NO. 1)

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1-4 Shasta Valley
1-5 Scott River Valley
1-8 Mad River Valley
1-9 Eureka Plain
1-10 Eel River Valley
1-15 Ukiah Valley
1-16 Sonel Valley
1-17 Alexander Valley
1-18 Santa Rosa Valley

SAN FRANCISCO BAY REGION (NO 2)

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2-6 Ygnacio Valley
2-9 Santa Clara Valley
East Bay Area
South Bay Area
2-10 Livermore Valley

CENTRAL COASTAL REGION (NO. 3)

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3-4 Salinas Valley
3-7 Carmel Valley
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3-13 Cuyama Valley

LOS ANGELES REGION (NO. 4)

4-4.01 Oxnard Plain Basin
4-11.02 West Coast Basin
Area of Sea-Water Intrusion
Torrance Area
Athens Area
4-11.03 &
4-11.04 Central Coastal Plain Pressure Area and Los Angeles Forebay Area
4-13.01 Main San Gabriel Basin

CENTRAL VALLEY REGION (NO. 5)

5-6 Redding Basin
5-13 Upper Lake Valley
5-15 Kelseyville Valley
5-21 Sacramento Valley
Tehama County
Glenn County
Butte County
Colusa County
Sutter County
Yuba County
Yolo County
Sacramento County
5-22 San Joaquin Valley
San Joaquin County
Stanislaus County
Merced County
Madera County
Fresno County
Tulare County
Kern County

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6-40 Lower Mojave River Valley, Barstow to Yermo

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7-21 Coachella Valley

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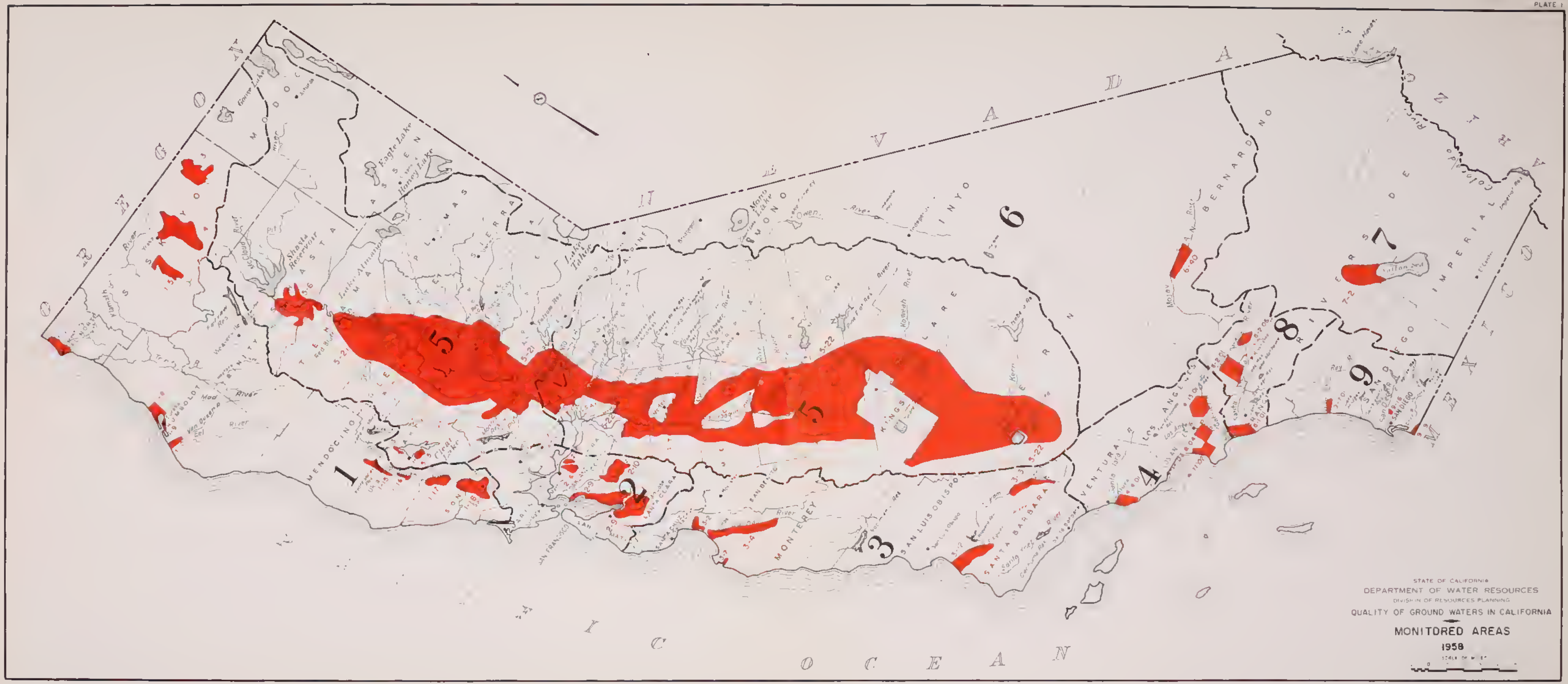
8-1.01 East Coastal Plain Pressure Area
8-2.01 China Basin
8-2.06 Bunker Hill Basin

SAN DIEGO REGION (NO. 9)

9-7.01 San Luis Rey Valley, Mission Basin
9-16 El Cajon Valley
9-19 Tia Juana Valley Basin




HAYWARD
NILES
DECOTO
CENTERVILLE
IRVINGTON
MISSION SAN JOSE
WARM SPRINGS
NEWARK
ALVARADO
Mt Eden
RUSSELL CITY
The Lagoon
Palomares Creek
Dry Creek
San Lorenzo Creek
Alameda Creek
Coyote Hill Slough
Patterson Slough
Newark Slough
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LINE OF 350 PARTS PER MILLION CHLORIDE CONCENTRATION IN UPPER AQUIFER
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1957
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LINE OF 350 PARTS PER MILLION CHLORIDE CONCENTRATION IN CENTERVILLE AQUIFER
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HAYWARD FAULT
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STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING
QUALITY OF GROUND WATERS IN CALIFORNIA
STATUS OF SEA-WATER INTRUSION
SANTA CLARA VALLEY, EAST BAY AREA
SCALE OF FEET
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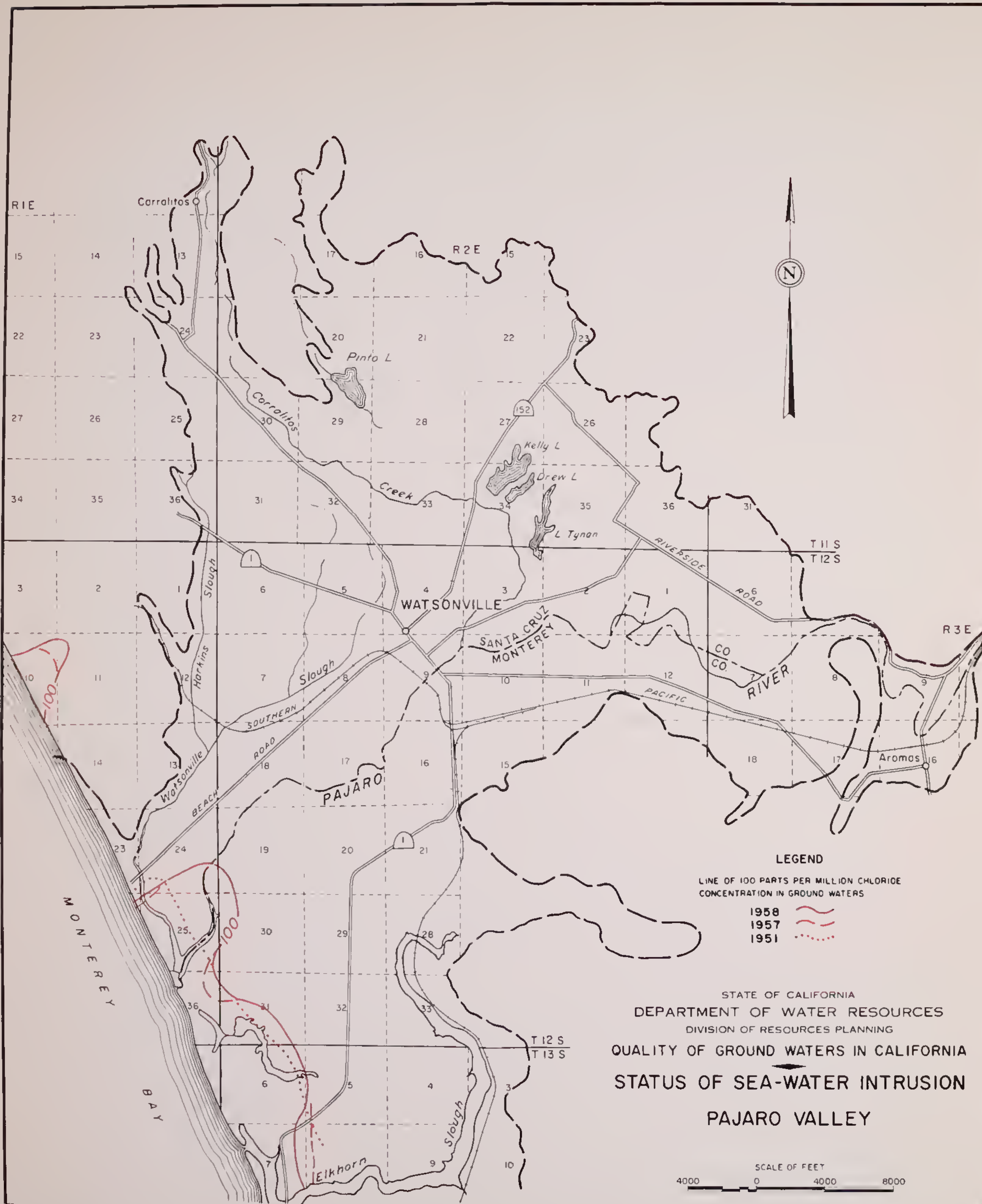
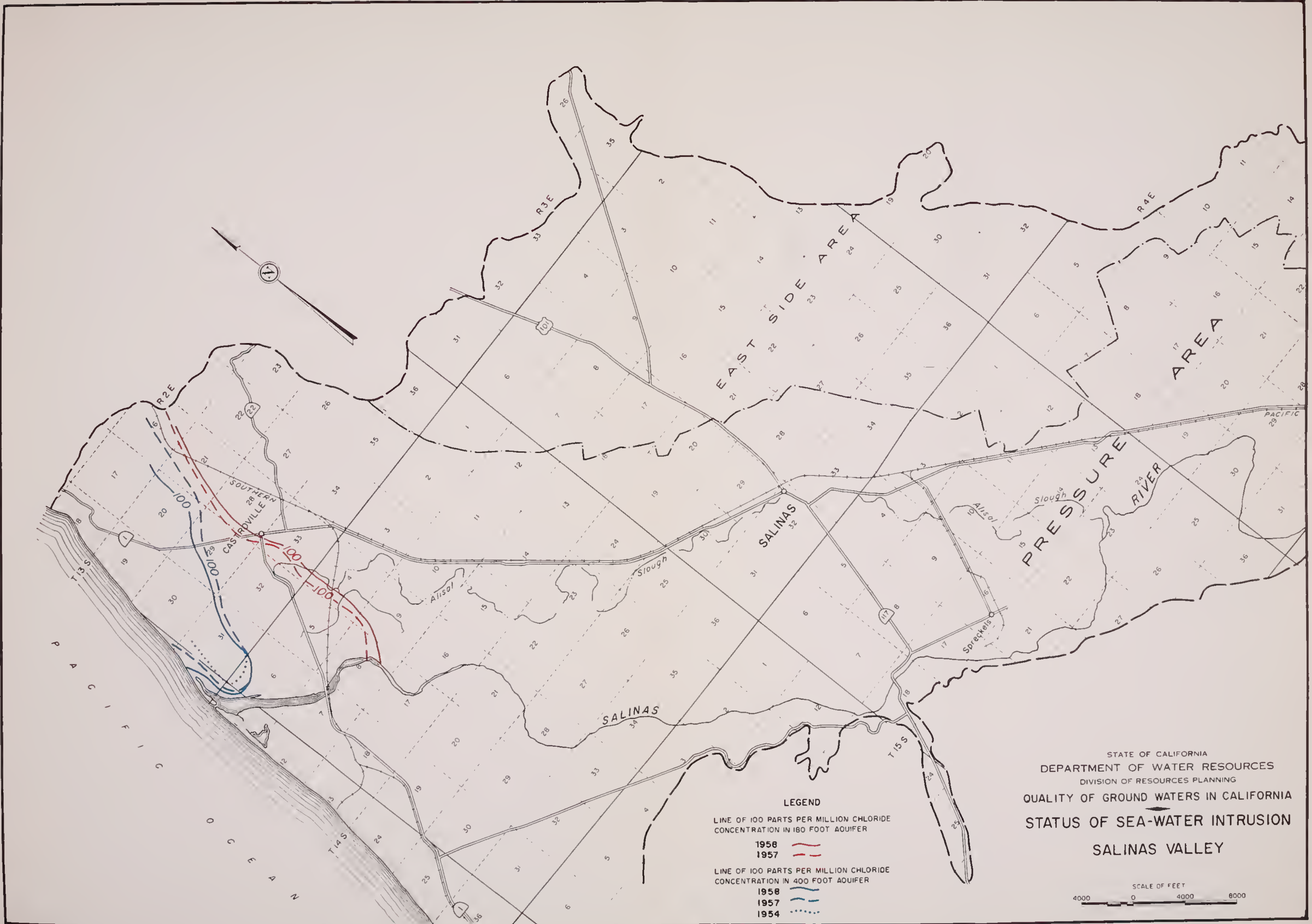


STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING

QUALITY OF GROUND WATERS IN CALIFORNIA

STATUS OF SEA-WATER INTRUSION
PAJARO VALLEY


EAST SIDE AREA
PRESSURE AREA
PACIFIC OCEAN
SALINAS
CASTROVILLE
Spreckels
SALINAS RIVER
Alisal Slough
SOUTHERN PACIFIC
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LEGEND
LINE OF 100 PARTS PER MILLION CHLORIDE CONCENTRATION IN 180 FOOT AQUIFER
1958
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LINE OF 100 PARTS PER MILLION CHLORIDE CONCENTRATION IN 400 FOOT AQUIFER
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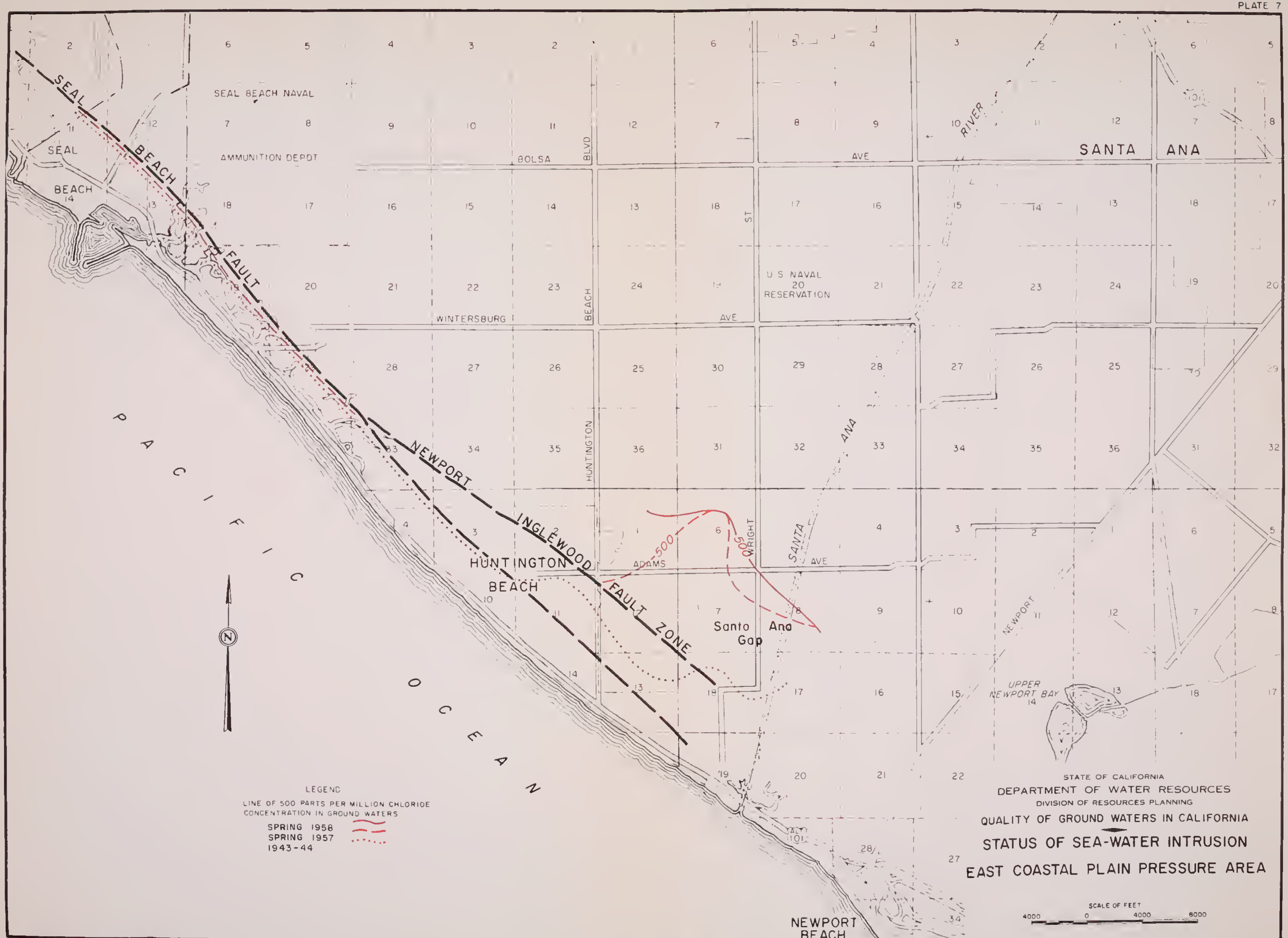
STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING
QUALITY OF GROUND WATERS IN CALIFORNIA
STATUS OF SEA-WATER INTRUSION
SALINAS VALLEY
SCALE OF FEET
4000 0 4000 8000


LEGEND
LINE OF 500 PARTS PER MILLION CHLORIDE CONCENTRATION IN GROUND WATERS
1958
1957
1954
STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING
QUALITY OF GROUND WATERS IN CALIFORNIA
STATUS OF SEA-WATER INTRUSION
OXNARD PLAIN PRESSURE AREA
SCALE OF FEET
2000 0 2000 4000 6000
PACIFIC OCEAN
OXNARD
PORT HUENEME
NAVAL RESERVATION
POINT MUGU NAVAL RESERVATION
MUGU LAGOON
MOUNTAINS
R23W R22W
R22W R21W
R21W
T1N T1S
SOUTHERN PACIFIC RAILROAD
FIFTH STREET
WOOLEY ROAD
LAGUNA ROAD
ETTING ROAD
HUENEME ROAD
PLEASANT VALLEY ROAD
500

DEPARTMENT OF WATER RESOURCES 1958


SEAL BEACH FAULT
NEWPORT INGLEWOOD FAULT ZONE
SEAL BEACH NAVAL AMMUNITION DEPOT
SEAL BEACH
BOLSA AVE
WINTERSBURG AVE
ADAMS AVE
HUNTINGTON BEACH BLVD
WRIGHT ST
SANTA ANA
SANTA ANA RIVER
U S NAVAL RESERVATION
HUNTINGTON BEACH
Santa Ana Gap
500
PACIFIC OCEAN
UPPER NEWPORT BAY
NEWPORT BEACH
LEGEND
LINE OF 500 PARTS PER MILLION CHLORIDE CONCENTRATION IN GROUND WATERS
SPRING 1958
SPRING 1957
1943-44
STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING
QUALITY OF GROUND WATERS IN CALIFORNIA
STATUS OF SEA-WATER INTRUSION
EAST COASTAL PLAIN PRESSURE AREA
SCALE OF FEET
4000 0 4000 8000

APPENDIX A

MONITORING AREA INFORMATION

NUMBER OF MONITORING WELLS AND SAMPLING TIMES
1958

Monitored Area	No. of Wells	No. of Times Sampled, 1958	Period During Which Samples Were Collected
NORTH COASTAL REGION (No. 1)			
Smith River Plain (1-1)	17	1	June to October
Butte Valley (1-3)	11	1	July and August
Shasta Valley (1-4)	8	1	July
Scott River Valley (1-5)	4	1	July
Mad River Valley (1-8)	10	1	August and September
Eureka Plain (1-9)	2	1	September
Eel River Valley (1-10)	12	1	September
Ukiah Valley (1-15)	12	1	July to September
Sanel Valley (1-16)	5	1	July to September
Alexander Valley (1-17)	8	1	July
Santa Rosa Valley (1-18)	21	1	July
SAN FRANCISCO BAY REGION (No. 2)			
Clayton Valley (2-5)	9	1	August
Ygnacio Valley (2-6)	8	1	August
Santa Clara Valley (2-9)			
East Bay Area	23	1	January to December
South Bay Area	10	1	October
Livermore Valley (2-10)	31	2	May and October
CENTRAL COASTAL REGION (No. 3)			
Pajaro Valley (3-2)	31	1	July and August
Salinas Valley (3-4)	55	1	June and July
Carmel Valley (3-7)	7	1	August
Santa Maria River Valley (3-12)	20	1	November
Cuyama Valley (3-13)	14	1	May to December
LOS ANGELES REGION (No. 4)			
Oxnard Plain Basin (4-4.01)	19	2	April and October
West Coast Basin (4-11.02)			
Area of Sea-Water Intrusion	8	2	March and October
Torrance Area	8	2	March and October
Athens Area	6	2	March and October
Central Coastal Plain Pressure Area and Los Angeles Forebay Area (4-11.03 and 4-11.04)	5	2	June and December
Main San Gabriel Basin (4-13.01)	10	2	June and December
CENTRAL VALLEY REGION (No. 5)			
Redding Basin (5-6)	27	1	August to October
Upper Lake Valley (5-13)	13	1	July
Kelseyville Valley (5-15)	9	1	July
Sacramento Valley (5-21)			
Tehama County	24	1	July and August
Glenn County	22	1	July
Butte County	23	1	May to October

NUMBER OF MONITORING WELLS AND SAMPLING TIMES
1958
(Continued)

Monitored Area	No. of Wells	No. of Times Sampled, 1958	Period During Which Samples Were Collected
CENTRAL VALLEY REGION (No. 5) (Continued)			
Sacramento County (5-21) (Continued)			
Colusa County	27	1	July
Sutter County	27	1	June to October
Yuba County	6	1	June to September
Yolo County	33	1	July
Sacramento County	28	1	July
San Joaquin Valley (5-22)			
San Joaquin County	37	1	June to November
Stanislaus County	54	1	June to September
Merced County	46	1	July to September
Madera County	27	1	July
Fresno County	63	1	July
Tulare County	11	1	August and September
Kern County	41	1	July and August
LAHONTAN REGION (No. 6)			
Lower Mojave River Valley, Barstow to Yermo (6-40)	14	2	May and October
COLORADO RIVER BASIN REGION (No. 7)			
Coachella Valley (7-21)	12	2	May and October
SANTA ANA REGION (No. 8)			
East Coastal Plain Pressure Area (8-1.01)	28	2	May and September
Chino Basin (8-2.01)	8	2	July and December
Bunker Hill Basin (8-2.06)	9	2	March and October
SAN DIEGO REGION (No. 9)			
San Luis Rey Valley, Mission Basin (9-7.01)	13	2	March and October
El Cajon Valley (9-16)	10	2	June and October
Tia Juana Valley Basin (9-19)	13	2	June and November

GENERAL INFORMATION ON MONITORED AREAS
1958
NORTH COASTAL REGION No. 1

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Smith River Plain (1-1)	The principal source of ground water in the Crescent City area is the marine terrace deposits of the Battery formation. River terrace and flood plain deposits along the Smith River are locally important sources. Aquifers of the area are interconnected and unconfined.	Moderate to extensive development for irrigation, municipal, domestic, and stock water supplies. Ground water meets half of water requirements and is supplemented by surface water. Yields of wells range from about 20 gallons per minute (gpm) for wells in the marine formation to 340 gpm in the stream channel and flood plain deposits.
Butte Valley (1-3)	The valley is a large structural depression developed in a volcanic region and was formerly the site of a Pleistocene lake. Ground water is contained in various lava flows and to a lesser extent in alluvial, glaciofluvial, and lake deposits. Except for local confinement, aquifers of this area are interconnected and unconfined.	Moderate to extensive development for irrigation, domestic and stock watering supplies. The finegrained, relatively impermeable deposits do not yield large amounts of water, except along the eastern border of the valley where irrigation wells yield 900 to 3,000 gpm.
Shasta Valley (1-4)	Ground water is contained principally in the Pluto's Cave basalt, which is a strongly jointed, black volcanic rock, and is also contained in lenses of coarser grained young alluvium. Other less important water bearing formations include older alluvium, glacial deposits, the Umpqua formation, and other volcanic rocks. Except for local confinement in the volcanics, ground water is unconfined.	Moderate to extensive development for domestic and stock watering needs. There is only limited development for irrigation and municipal needs. Well yields range from 120 to 4,000 gpm and average about 1,300 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Scott River Valley (1-5)	The only water bearing formation of importance is the younger alluvium comprised of stream channel, flood plain, and alluvial fan deposits. The most permeable deposits are located between Ft. Jones and Etna. Confinement occurs in the west side alluvial fans; otherwise, ground water is unconfined.	Ground water forms only a small portion of the total amount of water used. Although there is moderate to extensive development for domestic use and stock supplies, there is only limited development for irrigation. Yield of irrigation wells located in the stream channel and flood plain deposits range from 1,250 to 2,500 gpm.
Mad River Valley (1-8)	Alluvium constitutes the major source of ground water and includes stream terrace, flood plain, and estuarine deposits; other water bearing formations include the semi-consolidated Hookton formation and dune sand. Confined ground water occurs in the Hookton formation, which consists of continental and marine deposits.	Slight to moderate development principally for domestic and irrigation supplies. Other uses include municipal and industrial. Wells yield up to 100 gpm.
Eureka Plain (1-9)	The principal aquifer is the Hookton formation, of continental and marine origin, which contains confined ground water. Unconfined ground water occurs in alluvium and dune sand but these are of limited area and thickness.	Slight development for domestic, irrigation and stock watering purposes. Wells in the Hookton formation yield from 10 to 30 gpm.
Eel River Valley (1-10)	The major source of ground water is the alluvium. Secondary sources include dune sand and older semi-consolidated sediments. Confined aquifers occur in the older sediments and unconfined conditions exist in the alluvium.	Moderate to extensive development for domestic, irrigation, and some municipal use. Wells yield up to 30 gpm in the older formations and more than 600 gpm in the alluvium.

GENERAL INFORMATION ON MONITORED AREAS
1958

Monitored Area	Occurrence of Ground Water	Development and Use of Ground Water
Ukiah Valley (1-15)	The major source of ground water is the alluvium comprised of flood plain, stream terrace, and channel deposits. Semi-consolidated older sediments exposed on the edges of the valley constitute a secondary source. Aquifers in this area are unconfined.	Slight to moderate development for domestic and industrial use, and some for irrigation. The terrace deposits yield up to 15 gpm. Wells in alluvium yield from 50 to 200 gpm.
Sanel Valley (1-16)	The principal aquifer is the unconsolidated alluvium deposited by the Russian River. Ground water is generally unconfined with the exception of local pressure effects.	Slight to moderate development for irrigation, domestic, and municipal requirements. Wells located in terrace deposits yield from 5 to 50 gpm and those in coarse alluvium yield from 750 to 1,250 gpm.
Alexander Valley (1-17)	The principal aquifers are the younger alluvium and the Glen Ellen formation; older consolidated and volcanic rocks produce meager yields of local importance.	Moderate development for domestic purposes, and limited development for irrigation needs. The alluvium yields from 200 to 500 gpm, and the Glen Ellen formation produces up to 400 gpm.
Santa Rosa Valley (1-18)	The principal sources of ground water include the Sonoma volcanics, the Glen Ellen formation, and the Merced formation. Local confinement is common due to geologic structure and variable lithology.	Extensive development for domestic, municipal, industrial, irrigation, and stock watering uses. Wells in the area yield up to 1,500 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958
SAN FRANCISCO BAY REGION No. 2

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Clayton Valley (2-5)	Chief sources of ground water are the Recent alluvium and the Pittsburg formation underlying Clayton Valley. The Concord fault forms a hydrologic barrier between Clayton Valley and Ygnacio Valley. Several pressure depth zones probably once existed, but deepening of wells and increased pumping resulted in pressure relief and the ground water reservoir functions as free ground water.	Limited development and use of ground water for irrigation and domestic supplies. The yield of wells is not known, although is only moderate at best.
Ygnacio Valley (2-6)	Recent alluvium and the Pittsburg formation are the water bearing units. Initially, several pressure zones existed, however, deepening of wells and increased pumping has caused the ground water reservoir to function as unconfined. Water levels were, at one time, lower on the Ygnacio Valley side of the hydrologic barrier.	Limited development and use of ground water for irrigation and domestic supplies. The yield of wells is not known, although is only moderate at best.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Santa Clara Valley (2-9) **East Bay Area**	In this area ground water is contained chiefly in alluvial fan deposits interfingered with bay deposits. At least two major water-bearing zones occur, each distinguishable by its hydraulic character. The upper zone is unconfined along the hills and confined towards the bay, whereas the lower zone is wholly confined. However, at least three additional aquifers occur in the lower zone of the Niles Cone. Semi-consolidated continental deposits of Plio-Pleistocene age exposed near Mission San Jose and dipping beneath the alluvium constitute a secondary aquifer and are probably of importance to the very deep wells of the entire area. The Niles, San Lorenzo and San Leandro alluvial cones support the greatest ground water development because of their large deposits of permeable materials. North of Alvarado, the San Lorenzo and San Leandro cones supply most of the ground water; to the south, the Niles cone is the chief source of ground water.	Extensive development for all uses but principally for urban, irrigation and industrial requirements. Wells range from low yield small domestic wells to large irrigation and industrial wells that produce up to 2,000 gpm.
Santa Clara Valley (2-9) South Bay Area	Since this area is contiguous to the East Bay area, the occurrence of ground water is similar. The Plio-Pleistocene deposits are utilized more due to their greater extent and thickness, although the alluvium supplies a large portion of the ground water. In general, an upper and lower aquifer are recognized. The lower aquifer yields most of the water pumped in this area.	Extensive development since ground water supplies about 95 per cent of water requirements. The principal uses are for agriculture, public supply, and industry. Well yields range from a few gpm to over 1,700 gpm. Large deep wells average over 500 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Livermore Valley (2-10)	The geological structure of Livermore Valley is complicated by numerous faults that affect the quality and movement of ground water. Sources of ground water include stream, floodplain, shallow lake deposits of Recent age, and the Livermore formation which is composed of older semi-consolidated alluvial deposits. The Livermore formation exhibits both confined and unconfined ground water characteristics. Deposits of Recent alluvium comprise the chief aquifer and contain unconfined ground water, except in the vicinity of Pleasanton where lacustrine clays confine permeable beds. In some areas, wells derive most or all of their supply from the Livermore formation.	Moderate to extensive development, as virtually all water utilized is supplied by ground water. Well yields are small near the perimeter of the valley and increase toward the center of the valley; yields range from less than 10 gpm to about 2,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958
CENTRAL COASTAL REGION No. 3

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Pajaro Valley (3-2)	Sources of ground water are Quaternary continental sediments interfingered with marine sediments, dune sands, and poorly consolidated older sediments. The ground water body is divided areally into a forebay area, an upper pressure area, and a valley floor pressure area. One shallow unconfined zone and two lower confined zones have been identified. The main pumping zone lies between 100 and 300 feet, and the aquifers extend beneath and are open offshore to the sea floor.	Moderate to extensive development for all purposes since there is only a small surface supply. Irrigation consumes the largest amount of ground water. Wells range from small capacity domestic wells to large irrigation wells yielding more than 1,000 gpm.
Salinas Valley (3-4)	Ground water is contained chiefly in the valley fill deposits which consist of alluvium grading into marine deposits toward Monterey Bay. The aquifers are open to the sea where the continental shelf is incised by submarine canyons. An upper unconfined aquifer and two lower confined aquifers, respectively known as the 180-foot aquifer and the 400-foot aquifer, occur in Lower Salinas Valley. The 400-foot aquifer is part of the Paso Robles formation which is exposed along the valley margins.	Extensive development for irrigation and domestic needs; moderate development for stock watering, municipal, and industrial supplies. Wells range from low capacity domestic wells to large irrigation wells that produce up to 3,700 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Carmel Valley (3-7)	Ground water is derived from the alluvium deposited in Carmel Valley. The water-bearing deposits are generally thin but thicken to almost 100 feet as they extend out beneath Monterey Bay. The aquifers are interconnected and unconfined.	Moderate development for irrigation and domestic supplies and some stock watering use. Yield of wells ranges from about 10 to 375 gpm.
Santa Maria River Valley (3-12)	Chief sources of ground water are the unconsolidated sediments of Plio-Pleistocene and Recent age, namely, the Paso Robles formation, the Orcutt formation, and the Recent alluvium. The ground water is contained in a single large reservoir, which is unconfined in the eastern three-fourths of the basin and confined by fine grained alluvial deposits near the ocean.	Extensive development for irrigation and some development for public supply and industrial requirements. Wells yield from about 300 to 2,200 gpm and average about 1,000 gpm.
Cuyama Valley (3-13)	Ground water occurs principally in the alluvium and older continental sediments. The alluvium is most important in the western part of the basin, whereas the older deposits are important in the eastern portion; however, many wells are perforated in both. Except for small areas in the south central part, the basin is considered to be unconfined.	Extensive development for irrigation; other minor uses are domestic and stock watering. Well yields range from less than 600 gpm to 4,400 gpm and average about 1,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958
LOS ANGELES REGION No. 4

Monitored Area	Occurrence of Ground Water	Development and Use of Ground Water
Oxnard Plain Basin (4-4.01)	Continental and marine sediments are the chief sources of ground water in this area; however, a few wells are supplied from fractured Tertiary volcanic rocks. The main water-bearing zones are called, in order of depth, the Oxnard, the Mugu, and the Fox Canyon aquifers, all of which are open to the sea. Most wells in this area obtain water from the Oxnard aquifer. The aquifers in this area are confined.	Extensive development to serious overdraft on the ground water reservoir. Ground water is utilized for agriculture, urban development, military installations and industry. Wells yield from 900 to 1,100 gpm.
West Coast Basin (4-11.02)	The principal water-bearing deposits, of Pleistocene and Recent Age, consist of fluvial sediments comprised of a number of rather distinct water-bearing zones called the Gaspur water bearing zone, the "200-foot sand", the Gardena water-bearing zone, the "400-foot gravel", and the Silverado water-bearing zone. Ground water in most of the area is confined by clays and silts. Faults cutting the aquifers retard ground water inflow from the east. Merging of aquifers occurs along the east side and in the western half of the basin. The seaward extension of the Silverado and other merged zones is open to the sea.	Extensive development for municipal, industrial, irrigation, and domestic supplies. Overdraft is of major proportions. Ground water meets about 60 percent of water requirements which necessitates the importation of supplemental supplies. Yields of wells range from 300 to 2,000 gpm, and average about 500 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and Use of Ground Water
Central Coastal Plain Pressure Area and Los Angeles Forebay Area (4-11.03 & 4-11.04)	The principal source of ground water is from sediments of Pleistocene and Recent age. Clay strata overlie and confine the aquifers in the pressure area. The forebay area is unconfined.	Moderate to extensive development for municipal, industrial, and irrigation needs and only limited development for domestic use. Water requirements far exceed the available ground water supply, resulting in extensive use of imported water supplies. Wells yield up to 5,000 gpm and average about 600 gpm.
Main San Gabriel Basin (4-13.01)	Alluvial sediments of Pleistocene and Recent age comprise the principal aquifer. The ground water reservoir is essentially unconfined.	Development moderate to extensive, principally for municipal, irrigation, and industrial supplies. Ground water meets the water requirements. Wells yield up to 5,500 gpm and average about 1,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

CENTRAL VALLEY REGION No. 5

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Redding Basin (5-6)	Ground water occurs chiefly in formations of alluvial and/or volcanic origin, ranging from Pliocene to Recent age. The water bearing formations in order of decreasing age are the Tuscan and the Tehama formations, the Red Bluff gravels, and the Quaternary alluvium. The Quaternary alluvium contains unconfined ground water. Confined to partially-confined conditions occur in the Tehama and Tuscan formations.	Domestic, municipal and industrial requirements are met largely by ground water. Due to ample available surface supplies, irrigation by ground water is not extensive. West of Cottonwood, wells commonly produce 500 to 800 gpm, while in the southeastern portion of the basin the wells yield 1,000 to 2,000 gpm.
Upper Lake Valley (5-13)	Unconsolidated to poorly consolidated sediments deposited in Clear Lake during Quaternary time and alluvium comprise the principal aquifers of the area. Ground water occurs in strata and lenticular beds of sand and gravel. Fine grained lake sediments confine the aquifers in the lower portion of the valley.	Moderate to extensive development for irrigation, domestic, and stock watering needs. Wells in the areas of unconfined ground water yield an average of about 350 gpm, whereas wells in the confined area yield about 230 gpm.
Kelseyville Valley (5-15)	Conditions of ground water occurrence are similar to Upper Lake Valley. Volcanic detritus comprises a notable portion of the water bearing sediments. Confinement occurs in aquifers beneath Clear Lake and extends inland a distance of about one mile.	Extensive development for irrigation, domestic, and stock watering needs. Overall average yield of wells is approximately 450 gpm. Wells located in the confined area have slightly higher yields than those in the unconfined area.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Sacramento Valley (5-21)		
Tehama County	Ground water occurs chiefly in formations of alluvial and/or volcanic origin, ranging from Pliocene to Recent age. The water-bearing formations in order of decreasing age are the Tuscan and Tehama formations, the Red Bluff gravels and the Quaternary alluvium. The Red Bluff arch separates the Sacramento Valley from Redding Basin. Quaternary alluvium is thicker and assumes greater importance in the Sacramento Valley than north of the structural arch. Ground water conditions are similar to Redding Basin.	Moderate to extensive development for all requirements. Irrigation wells produce an average of 470 gpm.
Glenn County	Quaternary alluvium constitutes the chief aquifer of this area. However, in the northern portion theTehama formation is an important aquifer. Recent alluvium overlies older alluvium to a depth of 40 to 125 feet which in turn is underlain by the Tahama formation. The Stony Creek-Willow Creek alluvial plain and fan area is the most important ground water producing area. For the most part, ground water is unconfined but confined water occurs in the Willows area.	Approximately 60 percent of the irrigation and virtually all of the municipal, industrial and domestic water needs are met by ground water. Yields of wells range from shallow domestic wells producing a few gpm to large deep wells producing up to 750 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Butte County	Ground water occurs chiefly in Quaternary alluvium and in the Tuscan formation. The alluvium is composed of Recent and Pleistocene gravels, sands, and clays in variable mixtures. The Tuscan formation is of volcanic origin and dips westerly beneath the alluvium at a low angle. Deep wells in the valley obtain water from both alluvial and volcanic deposits. Although generally considered to be unconfined, there is evidence of local or partial confinement of the aquifers.	Moderate to extensive development of ground water for all uses. Wells near the Sacramento river produce up to 4,000 gpm from alluvium. There are many large irrigation wells producing more than 1,000 gpm.
Colusa County	Conditions of ground water occurrence are similar to Glenn County and other westside counties of the Sacramento Valley. The principal water bearing formations are the Quaternary alluvium and the underlying Plio-Pleistocene Tehama formation. The Quaternary alluvium is divided into the Recent alluvium, which extends to a depth of 100 feet, and the underlying Pleistocene alluvium which occurs to 200 feet. The alluvium consists of deposits laid down on alluvial fans, the Sacremento Basin, and stream channels. The groundwater of this area is considered generally as being unconfined or partially confined.	Essentially all of the domestic and municipal as well as most of the irrigation requirements are met by ground water. Large irrigation wells produce over 500 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Sutter County	Principal source of ground water is the alluvium deposited during Pleistocene to Recent times. The wells of large yield are generally located in the permeable floodplain deposits. Deep wells in the eastern portion of the area produce water from Pliocene volcanic sands and gravels. In general, the aquifers are unconfined but there are some zones and areas of partial confinement.	Extensive development for all consumptive uses to the point of overdraft on the ground water supply. Wells west of the Feather River yield an average of about 800 gpm. South of the Bear River, wells yield about 950 gpm.
Yuba County	Principal sources of ground water include unconsolidated channel deposits of the Quaternary alluvium and the underlying late Tertiary formation comprísed of volcanic ash falls and water laid volcanics. Pleistocene alluvium exposed toward the foothills region constitute an important local source of supply to domestic, stock and small irrigation wells. The large deeper wells of the area derive water from both the alluvium and the volcanics. Saline waters occur beneath the fresh water. Ground water is generally unconfined but there is confinement in the deeper zones and in local areas.	Extensive development for all requirements. Although the average yield is about 850 gpm, individual wells produce up to 2,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Yolo County	The principal aquifer comprises the stream channel and terrace deposits composed of unconsolidated silt, sand, and gravel of Recent age. The Tehama formation, a Plio-Pleistocene formation of continental origin, is a secondary aquifer. The alluvial deposits are unconfined, but the Tehama is locally confined. Only the Recent stream channel and terrace deposits are of importance in Capay Valley.	Moderate development for irrigation, domestic, and stock watering needs. Most of the wells in Capay Valley are shallow domestic wells which produce up to 60 gpm. In the Sacramento Valley portion of the area, wells yield up to 3,000 gpm.
Sacramento County	Recent alluvium and semi-consolidated Plio-Pleistocene continental sediments comprise the principal aquifers. Tertiary volcanics are of local importance in the eastern portion of the county. The aquifers are generally unconfined. Perched water bodies are locally common.	Moderate development for municipal, irrigation, industrial and domestic supplies. Use of ground water in the areas adjacent to the rivers is minimized by the availability of inexpensive surface water. Average yield of wells in this area is about 400 gpm.
San Joaquin Valley (5-22)		
San Joaquin County	The principal sources of ground water are unconsolidated alluvium and Tertiary and Quaternary continental sediments. A sedimentary volcanic formation called the Mehrten formation is an important aquifer in the eastern part of the valley. Fine grained delta deposits impede movement of ground water across the delta. A confined deep zone occurs in the Tracy area, otherwise, the aquifers are essentially unconfined or locally confined.	Extensive development for all requirements. Approximately 70 percent of the ground water pumped is utilized for irrigation. The Mehrten formation is reported to produce up to 1,350 gpm, and the alluvial sediments produce over 2,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Stanislaus County	Recent alluvium and the underlying Pliocene to Pleistocene, Modesto, Riverbank, and Turlock Lake formations are the principal water bearing units. An upper and lower water-bearing zone has been differentiated. An extensive diatomaceous silty clay called the "Corcoran Clay" confines lower zone water, of a different type from the upper zone water. This clay bed occurs primarily in the western portion of the county. Older formations of continental origin are locally important aquifers in and near the eastern foothills.	Extensive development for industrial and municipal needs, but only moderate development for irrigation. Large irrigation wells on the valley floor yield more than 1,000 gpm.
Merced County	Occurrence of ground water is similar to Stanislaus County; however, the confining clay member is more widespread, and occurs beneath most of the central part of the area. The confining bed pinches out east of Merced and Cressey and west of Gustine.	Moderate development for domestic and irrigation needs. Ground water is the principal source of municipal and industrial supplies. Yields of irrigation wells range from about 500 to more than 3,000 gpm and the average is about 1,400 gpm. Distribution of wells is closely related to areas of inadequate surface supplies.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and Use of Ground Water
Madera County	The confining clay which separates the water-bearing materials and confines the lower zone, occurs beneath the western portion of the county and pinches out about 3 miles west of Madera.	Extensive development of ground water for all requirements. Domestic, municipal, and industrial needs are largely met by sub-surface supplies. Large capacity wells are capable of yielding at least 1,000 gpm.
Fresno County	Most of the monitored area includes only the west side of the valley where the upper zone water is markedly different from upper zone east side water. Most of the deep wells are perforated in both the upper and lower zones. Tracing of the confining clay member shows the sediments to be downwarped into an asymmetrical syncline whose western limb is steeply tilted. Depth to the confining clay ranges to 900 feet below land surface.	Nearly all water requirements are met by ground water on the west side. The chief use is for irrigation; other uses include domestic, industrial, and stock watering. The ground water supply of this area is overdrawn. Both upper and lower zone wells yield about 1,300 gpm.

GENERAL INFORMATION ON MONITORED AREAS

1958

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
Tulare County	Occurrence of ground water in this area is similar to adjacent eastside counties of the San Joaquin Valley. The eastern edge of the Corcoran clay in this area extends from Earlimart northward to Tulare and thence northwesterly. Ground water below the Corcoran clay is confined. The eastern two-thirds of the monitored area contains unconfined ground water.	Extensive development for irrigation, domestic and municipal supplies. Large irrigation wells produce more than 1,000 gpm.
Kern County	The confining clay bed pinches out or becomes discontinuous south of a line between Buttonwillow and Delano. However, confinement outside of the confining clay area occurs as the result of fine grained lake sediments of Buena Vista and Kern Lakes and also due to poorly sorted, fine-grained alluvial deposits. Unconfined to semi-confined ground water overlies the confined area.	Extensive development for all uses to the extent of overdrawing the ground water reservoir. Yield of wells range from 100 to 2,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958
LAHONTAN REGION No. 6

Monitored Area	Occurrence of Ground Water	Development and Use of Ground Water
Lower Mojave River Valley, Barstow to Yermo (6-40)	Recent alluvial deposits of the Mojave River constitute the principal aquifer which is unconfined and is underlain and flanked in some areas by older deposits which also yield considerable water to wells.	Moderate to extensive development sufficient to meet all current needs. Principal use is for public supply. Other important uses are railroad and military. Irrigation well yields range from 300 to 3,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958
COLORADO RIVER BASIN REGION No. 7

Monitored Area	Occurrence of Ground Water	Development and Use of Ground Water
Coachella Valley (7-21)	The water-bearing deposits consist of unconsolidated sand, gravel, and silt capped in the lower portion of the valley by fine-grained lake bed sediments. Flowing wells exist in the area overlain by the lake bed sediments. A shallow perched zone, recharged by accumulated return flow, lies above the main aquifer.	Limited to moderate development as the ground water supply is supplemented by local and imported surface supplies. Wells yield up to 2,000 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958
SANTA ANA REGION No. 8

Monitored Area	Occurrence of Ground Water	Development and use of Ground Water
East Coastal Basin Pressure Area (8-1.01)	The major water-bearing deposits include continental and marine sediments of Recent, Pleistocene and Pliocene age. In general, the sediments occur as interfingering lenses of gravel, sand, silt, and clay. The Recent deposits which occur in the gap areas contain the Talbert water-bearing zone and the "80-foot gravel". Three water-bearing zones have been differentiated in the Pleistocene sediments, and one in the Pliocene sediments. The Newport-Inglewood uplift parallels the coast about one half mile inland and retards lateral movement of ground water in the older sediments but not in the Recent sediments.	Extensive development mainly for irrigation. Other uses include municipal, industrial, and domestic. Ground water supplies meet only a portion of water requirements. Wells yield up to 1,000 gpm from the Recent alluvium and more than 2,000 gpm from the Pleistocene sediments.
Chino Basin (8-2.01)	Recent alluvium and older alluvial sediments comprise the principal aquifers of the basin. The coarsest gravels occur along the northern margin of the basin. Although deep wells tap confined ground water along the southwestern margin of the basin, most of the basin is unconfined.	Extensive development for all uses but principally for irrigation. Ground water supplies meet only a portion of the present requirements. Well yields range from 150 to 1,800 gpm.
Bunker Hill Basin (8-2.06)	The principal sources of ground water are the Recent and older alluvium comprising the valley fill. In the southwest portion, relatively impermeable sediments interbedded with permeable strata create a pressure area in which wells flowed during wet years.	Extensive development principally for irrigation and municipal needs; other uses include domestic and industrial requirements. Well yields range from 180 to 1,140 gpm.

GENERAL INFORMATION ON MONITORED AREAS
1958
SAN DIEGO REGION No. 9

Monitored Area	Occurrence of Ground Water	Development and Use of Ground Water
San Luis Rey Valley, Mission Basin (9-7.01)	Unconsolidated Recent alluvial deposits along the course of the San Luis Rey River constitute the principal source of ground water. The water-bearing sediments are unconfined and extend off-shore. The principal pumping zone consists of about 100 feet of highly permeable sands and gravel occurring beneath a section of fine silt, sand, or clay.	Ground water is extensively utilized for irrigation and municipal needs and to a lesser extent for domestic uses. Overdraft exists along the coastal portion. Well yields range up to 2,180 gpm and average 500 gpm.
El Cajon Valley (9-16)	Ground water is obtained principally from fractured and weathered zones in crystalline rocks. The Tertiary sediments in the area are poorly permeable and yield very little water.	Development of ground water principally for domestic use and, to a small extent, for irrigation and municipal supplies. Well yields range from 1 to 300 gpm.
Tia Juana Valley Basin (9-19)	Ground water is derived principally from Recent alluvium underlying the valley. A shallow upper zone and a lower confined zone occur in the monitored portion of the valley.	Extensive development principally for irrigation. Other uses include domestic, municipal, and military. Yield of wells range from 60 to 1,480 gpm.

APPENDIX B

WELL DATA

Well Numbering System

Wells selected for inclusion in the ground water quality monitoring network are assigned numbers by township, range and section, based upon their location. The numbering system is the same as that utilized by the United States Geological Survey. Under this system each section is divided into 40-acre plots, which are lettered as follows:

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Wells are numbered within each of these 40-acre plots according to the order in which they are located. For example, a well having a number 3N/6E-24A2, MDB&M, is located in Township 3 North, Range 6 East, and in Section 24, Mount Diablo Base and Meridian. It is further identified as the second well located in the 40-acre plot lettered A. Analyses of water samples reported herein are from wells located throughout the State; therefore, they are referenced to Humboldt Base and Meridian, San Bernardino Base and Meridian, as well as the Mount Diablo Base and Meridian. The appropriate reference grid is indicated in appendixes B and C in the column headed "State Well Number and Other Number."

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
		SMITH RIVER PLAIN (1-1)									
16N/1W-2C1	0.15 mile east of Highway 101 on Elk Valley Road.	Albert Short	1953	Dom.	----	6	30		---	Yes	Yes
16N/1W-7F1	2.0 mile northwest of Northcrest Drive on Old Mill Road.	Lawrence Cadra	1953	Dom.	----	48[c]	15		Yes	Yes	Yes
16N/1W-15C1	1.2 mile south of junction of Highways 101 and 199 on west side of 101.	L. L. Early	----	Dom.	----	6	30		---	Yes	Yes
16N/1W-16D1	1.2 mile north of Crescent City on Northcrest Drive.	Pine Grove School	----	Dom.	36	48[c]	15		---	Yes	Yes
16N/1W-17K	0.2 mile west of Northcrest Drive on Westwood Lane.	S. R. Mattson	1956	Dom.	50	6	28		No	---	Yes
16N/1W-18F1	1 mile northeast of Crescent City.	North-Cal Plywood Co.	----	Dom.	54	8	35		No	Yes	Yes
16N/1W-20A2	225 feet north of Coolidge Avenue, 40 feet west of Burchell Street.	Albert Fullen	----	Dom.	----	---	25		No	Yes	Yes
16N/1W-20H1	225 feet south of Coolidge Avenue, 75 feet east of Harold Avenue.	Walter Storey	1946	Dom.	40	6	31		No	Yes	Yes
17N/1W-[illegible]G1	2.75 mile south of Smith River and 400 feet east of old Highway 101.	Evo Mello	1951	Irr.	----	12	50		No	Yes	Yes
17N/1W-9A1	2.0 mile northwest of Fort Dick on Lower Lake Road.	R. H. Emmerson	1956	Irr.	----	12	25		No	Yes	Yes
17N/1W-14C1	0.5 mile north of Fort Dick on Old Highway 101 at Redwood School.	Redwood School	1950	Dom.	----	6	215		Yes	---	Yes
17N/1W-15E1	1.5 miles west of Fort Dick.	Paul E. Johnson	----	Irr.	----	12	43		No	Yes	Yes
17N/1W-32M1	3.5 miles north of Crescent City at end of Mill Road.	Ed McLaughlin	1874	Dom.& Stock	----	60[c]	12		No	---	Yes
18N/1W-5G1	650 feet east of Highway 101 and 700 feet south of Gilbert Creek.	Ray W. Struebing	1952	Dom.	----	6	60		No	Yes	Yes
18N/1W-17R2	Between Shipashore and Highway 101 at mouth of Smith River.	M. J. Sierka	----	Dom.	----	48[c]	31		No	---	Yes
18N/1W-26D1	0.25 mile south of Highway 101 on Westbrook Lane.	Arnold Samuelson	----	Irr.	----	12	57		No	Yes	Yes
18N/1W-34N2	2.0 miles southwest of the City of Smith River.	Jepsen	1946	Dom.& Stock	8	10	27		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)
c Dug Well

WELL DATA

1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		BUTTE VALLEY (1-3)									
45N/1E-2L1	9.0 miles east of Mt. Hebron.	L. D. Parsons	1954	Irr.	---	---	---		---	---	Yes
45N/1E-9C2	7.5 miles east of Mt. Hebron.	Albert Beck	1954	Irr.	---	16	197		Yes	---	Yes
46N/1E-15D1	Macdoel	K. Holbrook	1952	Irr.	---	18	265		---	---	Yes
45N/2W-1F1		Delos Mills	1953	Irr.	4265.4	16	140		Yes	Yes	Yes
46N/1W-2F1	3.5 miles northeast of Macdoel.	R. Cheyne	1952	Irr.	4241.6	18	300		Yes	Yes	Yes
46N/1W-17B1	On west side of highway at Macdoel.	G. Osborn & Son	1948	Irr.	4246.2	20	80		---	---	Yes
46N/2W-25R2	2.5 miles southwest of Macdoel.	Butte Valley Irr.Dist.	1950	Irr.	4256.2	18	116		Yes	---	Yes
47N/1E-29N1	8.0 miles northeast of Macdoel.	F. E. Johnson	1952	Irr.	---	18	300		Yes	Yes	Yes
47N/1W-23H1	0.75 mile east of Southern Pacific May Siding.	Elveno Harrison	1949	Irr.	4236.1	16	210		---	Yes	Yes
47N/1W-34Q1	4.0 miles northeast of Macdoel.	Butte Valley Farms	1953	Irr.	4237.2	18	358		Yes	Yes	Yes
48N/1W-28F1	3.0 miles west of Dorris.	John Liskey	---	Irr.	---	---	---		---	---	Yes
		SHASTA VALLEY (1-4)									
42N/5W-20J1	300 feet east of bridge over Shasta River.	Ernest Spada	1952	Dom.	2882.0	8	40		---	---	Yes
42N/6W-10J1	0.3 mile west of Highway 99.	G. G. Maxwell	1946	Dom.	2841.0	6	110		---	---	Yes
43N/5W-2C1		Big Springs Irr.Dist.	---	Irr.	---	16	100		---	Yes	Yes
43N/6W-21R1	2.0 miles northwest of Gazelle.	Dougherty & Son	1953	Irr.	---	16	212		---	Yes	Yes
44N/4W-6M1	0.75 mile NE of Ranchhouse-Old Kegg Place.	J. C. Martin	1952	Irr.	---	16	110		---	Yes	Yes
44N/5W-32F1	4.0 miles east of Montague. 200 ft. SE of Ranch House.	S. D. Nelson	1952	Irr. Dom.	---	---	75		---	Yes	Yes
44N/5W-34H1	Rt. 1, Box 85	H. Silva	1952	Irr.	2637.0	16	96		Yes	Yes	Yes
45N/6W-19E1	2.0 miles east of Yreka.	G. Weldon	1944	Dom.	2540.0	12	425		No	Yes	Yes
		SCOTT RIVER VALLEY (1-5)									
42N/9W-2G1	0.28 mile north of Cory Road extension; 0.37 mile west of East Side Road.	C. W. Black	1948	Irr.	2750.0	16	76		Yes	Yes	Yes
42N/9W-10Q1	Etna, California	C. R. McConnell	---	Irr.	---	---	---		---	---	Yes
42N/9W-24F1	3.2 miles south-southeast of Ft. Jones on East Side Road.	L. L. Lukes	1953	Irr.	2735	16	205		Yes	Yes	Yes
44N/9W-34S1	Fort Jones	O. E. Heinke	1951	Dom. Stk.	---	8	120		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)

b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
HB&M		MAD RIVER VALLEY (1-8)									
5N/1E-4H1	Bayside	F. G. Ensley	1951	Dom	-	24	19		-	-	Yes
5N/1E-8J1	At drying kiln.	Lane Portland Lumber Co.	1952	Ind	5	8	210		-	-	Yes
6N/1E-7M1	5 miles northwest of Arcata. 500 feet northwest of house.	Frank Coleman	1948	Irr & Dom	11	10	20		-	-	Yes
6N/1E-16N1	2 miles north of Arcata east of Highway 101.	N. T. Peugh	-	Irr	-	12	30		-	-	Yes
6N/1E-17D1	2.5 miles north of Arcata west of Highway 101.	Mrs. Iverson	-	Irr	16	12	46		-	-	Yes
6N/1E-19Q1	1 mile northwest of Arcata.	N. Holgerson	1950	Dom & Stk	19	8	108		Yes	-	Yes
6N/1E-30N1	1 mile west of Arcata	Albert Simons	-	Dom & Stk	12	14	37		-	-	Yes
6N/1E-32F1	Southwest part of Arcata at Arcata Plywood Plant.	Arcata Plywood	1951	Ind	3	12	640		-	-	Yes
6N/1W-1H1	1 mile west of Washington School, McKinleyville.	Ace Bulb Farm	-	Irr & Dom	-	16	31		-	-	Yes
6N/1W-1F1	6 miles northwest of Arcata and 1,000' northwest of ranch house.	J. M. Vieira	1947	Ind	10	12	16.5		-	-	Yes
		EUREKA PLAIN (1-9)									
5N/1W-18Q1	—	Arcata Redwood Co.	1950	Ind & Dom	4	12	370		Yes	-	Yes
5N/1W-20Q1	—	L. L. Spinney	1949	Dom	22	8	157		Yes	-	Yes
		EEL RIVER VALLEY (1-10)									
2N/1W-4D1	Near Pleasant Point School, 2 miles west of Fortuna.	Alex Capaul	1948	Irr	-	14	48		-	Yes	Yes
2N/1W-7A1	2 miles east of Ferndale on Waddington Road.	Harold Wilson	1948	Irr	-	12	50		-	Yes	Yes
2N/1W-12D1	0.5 mile northwest of Rohnerville in ravine southwest of house.	Albert Johnson	1952	Irr & Dom	70	-	114		Yes	-	Yes
2N/1W-17G1	0.5 mile south of Waddington.	Charles Angerson	1930	Irr	40	12	40		Yes	Yes	Yes
3N/1W-18D2	3/4 mile northwest of Loleta, east end of machine storage building.	Chris Peterson	1900	Irr & Dom	-	8	75		-	-	Yes
3N/1W-29C1	3 miles west of Ferndale southwest of Highway 101.	Chester Goble	1956	Irr	-	12	125		-	Yes	Yes
3N/1W-30N1	1 mile northwest of Grant Union School.	Ray Tedson	1946	Irr	19	14	48				
3N/2W-2A2	7 miles northwest of Fortuna.	Joe V. Tosta	1947	Irr	-	8	16		-	-	Yes

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									Log	Water levels	Analyses
HB&M		EEL RIVER VALLEY (1-10) (Cont.)									
3N/2W-13J1	1 mile south of Loleta.	E. E. Tanferani	1947	Irr	10	14	38		Yes	Yes	Yes
3N/2W-27G1	2.5 miles northwest of Ferndale, 0.5 mile west of Island School.	R. M. Christiansen	1948	Irr	9	14	45		-	-	Yes
3N/2W-32G1	3/8 mile northwest of Ranch barns near green hunting shack.	Russ Connick Company	1950	Irr	5	12	268		-	-	Yes
3N/2W-35M1	2 miles northeast of Ferndale.	F. C. Lorenzen	1947	Irr	13	14	42		Yes	Yes	Yes

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b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		UKIAH VALLEY (1-15)									
14N/12W-5K1	0.8 mile north of Highway 101 and 400 feet south of Ukiah-Boonville Road.	Gilley	----	Dom.	----	6	94		No	Yes	Yes
14N/12W-11N1	4 miles south of Talmadge on River Road.	Louis Johnson	----	Dom.	----	----	30		No	Yes	Yes
14N/12W-26K1	7.5 miles south of Ukiah; 0.2 mile west of Highway 101.	Marcus Mehtonen	----	Dom.	----	8	300		No	Yes	Yes
15N/12W-8D1	1 mile north of Ukiah on Highway 101 and 0.15 mile west of Orrs Spring Road.	Mayfield	----	Dom.	----	6	165		No	Yes	Yes
15N/12W-16E1	----	City of Ukiah	----	Mun.	----	6 x 6	22		No	No	Yes
15N/12W-21H1	Talmadge, California	Regina Water Co.	----	Mun.	----	----	----		----	No	Yes
15N/12W-35D1	50 feet west of River Road and 0.8 mile south of Talmadge Post Office.	D. Broggi Ranch	----	Dom. Irr.	----	12	60		----	Yes	Yes
16N/12W-5D1	1.25 mile off 101 on West Road and 3 miles north of Calpella; on west side of Russian River.	Frank Brown	1948	Dom.	----	64	25		----	Yes	Yes
16N/12W-9Q1	Redwood Valley Road at substation and 0.15 mile north of intersection of East Road and Calpella Road and 750 feet east of East Road.	Pacific Gas & Electric Company.	1951	Ind.	----	8	64		Yes	Yes	Yes
17N/12W-18A1	On Tomki Road being an extension of West Road 7 miles north of Calpella on Redwood Valley Road.	H. L. Miller	1953	Dom.	----	8	57		----	Yes	Yes
17N/12W-28M1	0.4 mile north of Calpella on Redwood Valley Road.	Harry Mathews	1920	Dom.	----	48	32		----	Yes	Yes
MDB&M		SANEL VALLEY (1-16)									
12N/11W-2F1	At Pieta on west side of Highway 101.	A. De Marcantonio	----	Dom.	----	10	72		----	Yes	Yes
13N/11W-7D1	3.0 miles north of Hopland; 100 feet east of Highway 101.	E. F. Hawn	----	Irr.	----	----	41		----	Yes	Yes
13N/11W-18E1	1.25 miles north of Hopland and 0.38 mile east of Highway 101.	A. Damiano	----	Irr.	----	12	35		----	Yes	Yes
13N/11W-19N1	On Boonville Road; just off Highway 101 in Hopland.	Hopland Public Utility District.	----	Mun.	----	----	----		----	Yes	Yes
13N/11W-30H1	1.0 miles south of Hopland on East River Road.	Grace Ranch	----	Dom. Irr. Stk.	----	----	----		----	----	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		ALEXANDER VALLEY (1-17)									
9N/8W-7Q1	3.0 miles southeast of Jimtown. 0.10 mile weat of Ranch Headquarters in pasture	Redwood Hereford Ranch	—	Irr. Dom.	—	—	490		—	Yes	Yes
9N/9W-1P1	1.2 miles south of Jimtown; 0.75 mile west of Highway 128 at end of lane in orchard near Russian River.	Henry Dick	1945	Irr.	—	12	90		—	Yes	Yes
10N/9W-18R1	0.5 mile northeast of Geyserville and 300 feet east of Highway 128	H. B. Remmel	—	Irr.	—	48	14		—	Yes	Yes
10N/9W-26L1	1.5 miles northwest of Jimtown; 0.75 mile west of Redwinery Road.	Wm. D. Dana	1955	Irr.	—	12	320		Yes	Yes	Yes
10N/9W-32R1	1.0 mile north of Lytton on Highway 101 at Springfield Sawmill.	Springfield Mill Co.	—	Ind.	—	—	245		—	No	Yes
11N/10W-28N1	0.75 mile northeast of Asti and 0.23 mile east of Highway 101	Italian Swiss Colony	—	Irr.	—	60	19		—	—	Yes
11N/10W-33A1	0.25 mile east of winery at Asti.	Italian Swiss Colony	—	Ind. Dom.	—	24	20		—	—	Yes
11N/10W-33G1	300 feet north of Asti Store	C. Pellegrini	—	Dom.	—	—	18		—	Yes	Yes

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QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		SANTA ROSA VALLEY (1-18)									
5N/9W-3F1	1 mile southeast of Bloomfield.	Roland Mattri	-	Irr	-	8	800		-	-	Yes
6N/7W-18R1	3/8 mile south of junction of Petaluma Hill and Crane Canyon Roads.	John J. Wilson	9-39	Irr	160	8	250		-	-	Yes
6N/7W-30D1		Tex Carley	-	Irr	-	16	-		-	-	Yes
6N/8W-3B1	7/8 mile west of Highway 101 on Wilder Road off Belleview Road about 0.2 mile.	G. Mallory	-	Dom	110	-	60		Yes	-	Yes
6N/8W-16R1	597 Wilfred Road.	S. Pedlazini	1950	Irr	90	8&6	1,204		-	-	Yes
6N/8W-35A2	Just off Highway 101 in Cotati.	Cotati Public Utility District	1946	Mun	110	12	660		-	-	Yes
6N/9W-2G1	157 McKinley Street, Sebastopol.	City of Sebastopol Water Dept.	-	Mun	-	-	552		-	-	Yes
7N/6W-29F1	In town of Kenwood.	Kenwood Fire Dept.	1948	Dom Mun	415	10	112		Yes	-	Yes
7N/7W-15C1	On State Highway 12 about 3 miles east of Santa Rosa.	Mrs. Mead Clark	1939	Irr Dom	375	-	397		-	-	Yes
7N/7W-29D1	2 miles northeast of Santa Rosa in Bennett Valley.	Earl Bethards	1947	Irr Dom	240	9	588		-	Yes	Yes
7N/8W-3L1	3/8 mile northwest of intersection of Mendocino Avenue and Highway 101 on south side of Highway.	W. E. Samuelson	1946	Dom	150	8	150		Yes	-	Yes
7N/8W-5G1	1 mile east of Fulton on north side of Fulton Road.	C. Bordessa	1943	Dom	140	8	110		Yes	-	Yes
7N/8W-18[illegible]1	1 mile south of village store on Guerneville Road.	Harry Rasmussen	1947	Irr	80	12	811		-	-	Yes
7N/8W-24A4	City Well #4	City of Santa Rosa	1940	-	-	16&12	1000		-	-	Yes
7N/8W-33M1	1/8 mile east of end of Yuba Drive at Naval Air Station fence.	A. Marks	-	Irr Dom	85	-	452		Yes	Yes	Yes
7N/9W-9F1	1/2 mile south of Vine Hill School on Vine Hill Road.	C. W. Gilbert	1938	Irr	280	6	226		-	-	Yes
7N/9W-29R1	A Dairy	Al Helwig	-	Irr Dom	-	-	512		-	-	Yes
7N/9W-36M1	3/8 mile north of Sebastopol at Meat Co. Plant	Sebastopol Meat Co.	1937	Ind Irr	70	8	88		Yes	-	Yes
8N/8W-20Q1	In field south of Faught Home, lowermost of two wells	H. A. Faught	-	-	-	-	312		-	-	Yes
8N/9W-36F1	3395 Woolsey Road.	E. B. Bussman	1945	Irr	-	12&10	1048		-	-	Yes
9N/10W-1C1	2.5 miles northwest of Healdsburg on Dry Creek Road.	Frei Bros. Winery	-	Dom Ind	-	-	209		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
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QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

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M.D.B.& M.											
		CLAYTON (2-5)									
1N/1W-4A1	0.1 mile east of Bailey Road; .6 mile north of Clayton Road.	G. Curletto	-	Dom. & Irr.	-	12	300		-	-	Yes
1N/1W-4R1	One mile northwest of Ygnacio Avenue, (Walnut Creek Highway) ¼ mile south of Clayton Road.	S. H. Cowell Foundation	-	-	-	8	125		-	-	Yes
2N/1W-30J1	Northwest corner of Willow Pass Road and Natoma Drive, at Concord city limits.	Fred Baker	-	Dom.	-	-	600		-	-	Yes
2N/1W-30K1	Three-fourths of a mile south of Contra Costa Canal. Turn west on San Vincente Drive; right on Santa Rita.	Jack Disbrow	-	Dom.	-	-	60		-	-	Yes
2N/1W-31D1	One block east of City Hall to north side of Willow Pass Road and Esperanza Drive.	Mr. and Mrs. F. Dorville	-	Dom.	-	6	75		Yes	-	Yes
2N/1W-32Q1	Two miles east of Concord; two miles north of Clayton Road on Mendocino Drive; 1300 feet northwest/Penkinger on Clayton Road; 1150 feet northeast of Clayton on Mendocino.	Mr. Housden	-	Dom.	-	-	-		-	-	Yes
2N/2W-13P1	0.5 mile west of Port Chicago Highway on Bates Avenue. 0.1 south on Ogilvie driveway from Bates.	R. B. Ogilvie	1945	Dom.	-	-	150		-	-	Yes
2N/2W-26B1	One mile west of State Highway 24, (Market Street) .5 mile southeast of Arnold Industrial Highway.	Mr. Bertinoia	-	Dom.	-	8	60		-	-	Yes
2N/2W-36J1	Five blocks southeast from Willow Pass on Clayton Road turn south on Oakland Avenue. Two blocks to intersection of Oakland and Atlantic.	J. D. Nailen	-	Dom.	-	-	-		-	-	Yes
		YGNACIO VALLEY (2-6)									
1N/1W-7A1	0.1 mile northeast from Treat Lane on San Miguel Road. 3/4 mile northwest from Oakgrove Road.	A. Sebastiani	-	Dom.	-	-	-		-	-	Yes
1N/1W-19B1	0.5 mile south of Ygnacio Valley Road on Oakgrove Road 0.25 mile east of Oakgrove on Arbolado thence 0.1 mile north on Avellano Drive.	James A. Ganley	-	Dom. & Irr.	-	-	-		Yes	-	Yes
1N/1W-29G1	One mile southwest of Oakgrove Road (No.Gate Road), and Walnut Avenue Fork.	Mrs. M. E. Davis	-	Dom.	-	8	50		-	-	Yes
1N/2W-11N1	Turn east on Monument Road. Turn south on Geraldine Drive to Hookston Road; west one block to Hook residence on left, facing north.	Chester Hook	1951	Irr.	-	-	65		-	-	Yes
1N/2W-13P1	Six miles north on Bancroft Road from Ygnacio Valley Road.	John E. Wells	1951	Dom. & Irr.	-	8	60		Yes	-	Yes
1N/2W-35D1	On Newell, 1½ blocks west on Main Street.	D. R. Johnson	1951	Irr.	-	8	54		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
M.D.B. & M.		YGNACIO VALLEY (2-6) (Cont.)									
2N/2W-27R1	East of Pacheco	F. H. Dunham	-	Dom.	-	12	160		-	-	Yes
2N/2W-36E1	Concord	________	-	Dom.	-	-	40		-	-	Yes

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State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		SANTA CLARA VALLEY, EAST BAY AREA (2-9)									
2S/3W-19F	At Alameda Municipal Golf Course - Approximately 0.6 mile south of bridge on Maitland Drive - Approximately 0.5 mile east of Maitland Drive - (Alameda Fire Department Dril. Tower) on dirt road.	City of Alameda	1955	Mun	-	8	518		-	-	Yes
2S/3W-28H	0.5 mile east of Doolittle Road on 98th Avenue	Ratto Brothers	1928	Irr	10	12	250		Yes	-	Yes
2S/3W-34A2	300 feet south of Davis Street, 2 blocks east of East Shore Freeway.	Ralph A. Zobel	1947	Irr	-	8-33	35		No	-	Yes
2S/3W-34D3	In San Leandro	John A. Jacklich	5-30-34	Dom	-	12	138		-	-	Yes
3S/3W-13B2	300 feet south of Grant Avenue 100 feet west of Nielson Avenue; one block southeast of Grant Avenue, 30 feet southwest of Nielson Avenue. 200 feet north of Via Faisan.	Cianelli	-	Irr	17	10	113		No	-	Yes
3S/2W-31B3	100 feet west of Clawiter Road, 0.25 mile north of Junction with Bay Bridge Road.	M. Bettencourt	1927	Dom Irr	22	10	340		No	-	Yes
3S/3W-24J1	0.15 mile north of Russell Road at the end of Jefferson Street 150 feet west of railroad.	Greenwood Corporation	1931	Dom Irr	11	10	550		-	-	Yes
3S/2W-24J2	350 feet southeast of Russell Road, 1400 feet west of Adams Street. 500 feet east of power line high voltage.	J. Harat	1928	Dom Stk	-	8	80		No	-	Yes
4S/1W-21M1	0.35 mile north of intersection of Fremont Avenue and Shinn Avenue.	H. J. Kaiser	-	Ind	69.70	-	188		No	-	Yes
4S/1W-21R2	50 feet west of Cherry Lane and 0.22 mile southeast of Fremont Avenue.	DeSalles	1946	Irr	-	-	102		No	-	Yes
4S/1W-28D4	.3 mile west of Shinn Avenue, 0.2 mile south of Fremont Avenue. Take left fork.	J. & M. Braga	-	Irr Dom	-	12	280		Yes	-	Yes
4S/1W-28E3	0.2 mile west from intersection of Vargas Lane and Santos Avenue. End of road, 75 feet west of Vargas Lane next to tank house.	Manuel De Salles	-	Irr Dom	-	-	165		-	-	Yes
4S/1W-29D1	500 feet west of Sequoia Avenue.	A. D. Lewis	-	Irr	55.6	-	280		Yes	-	Yes
4S/1W-29M6	125 feet southeast from intersection Central Avenue and Joseph Street, in open on northeast side of tank house.	Rodrigues	1920	Irr	-	-	116		-	-	Yes
4S/1W-30C2	0.15 mile southwest of Intersection Highway 17 and Alder Road; 150 feet northwest of road in open.	Joaquin Silva	1947	-	-	8	298		-	-	Yes
4S/1W-30G1	300 feet southeast from intersection Highway No. 17 and Thornton Avenue. 20 feet southwest of Highway No. 17 in open 20 feet on southeast side of garage.	Cloverdale Creamery	1953	Ind	-	16-10	451		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M	SANTA CLARA VALLEY, EAST BAY AREA (2-9) (Cont.)										
4S/1W-30K2	0.36 mile southwest from intersection Baine Avenue and Highway 17. 311.4 feet southeast from Southern Pacific Railroad to corner of green building to first well then 45 feet southwest to 30K2.	J. F. Booth Company	-	Ind	-	12	268½		Yes	-	Yes
4S/1W-31B3	Fourth lot from intersection of Central Avenue and Willowood Drive 75 feet northeast of Willowood Drive behind Redwood Board Fence.	A.C.W.D.	1950	Mun	-	-	430		-	-	Yes
4S/1W-32A2	0.2 mile southwest of intersection of Mowry Avenue and Highway 17.	F. Maciel	1935	Irr	-	12	175		No	-	Yes
4S 1W-33G3	0.15 mile northwest from intersection of Pacific Gas and Electric Road.	Sodini	-	Irr	-	10	126		Yes	-	Yes
4S/1W-34P2	0.2 mile northwest of Union Street on Highway 17; 200 feet northeast of Broadway.	Grace Mewhinney	-	Garden	-	-	125		-	-	Yes
4S/1W-35F3	0.4 mile east of intersection of Driscoll Road and Olive Avenue, 200 feet north of Olive Avenue in open.	Alameda County Water District	6-23-54	Mun	-	16	400		-	-	Yes
4S/2W-3R1	200 feet east of intersection of new Whipple Road and Alquire Road. 0.1 mile northeast of Freeway; in pump house 50 feet south of tank tower.	Andrada	-	Irr Dom	-	10	422		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M	SANTA CLARA VALLEY, SOUTH BAY AREA (2-9)										
5S/3W-35G1	North of intersection of Palo Alto Avenue and Hale Street.	City of Palo Alto	1923	Mun	50	14	303		Yes	Yes	Yes
6S/1E-8N1	0.6 miles north of Landless Road and 250 feet west Western Pacific Railroad tracks.	Wrigley	-	Irr	-	16	575		-	-	Yes
6S/1E-30M1	1 0 feet north of Brokaw Road and 0.54 mile east of Bayshore Highway.	M. Machado	-	Irr Dom	47	10	250		No	Yes	Yes
6S/1W-11B1	0.6 miles north of Highway 9 and 350 feet east of Tanker Rd.	J. W. Watrows	-	Dom Irr	-	-	360		-	-	Yes
6S/1W-16A1	Southwest side of Santa Clara-Alviso Road and 925 feet southeast of intersection Mountain View Road and Santa Clara-Alviso Road.	R. T. Collier Corp.	1945	Ind	-	12	551		Yes	No	Yes
6S/2W-17D1	0.4 miles southwest of Middlefield Road on Charleston Road	City of Palo Alto	-	Mun	-	-	-		-	-	Yes
6S/2W-24M2	20 feet north of Maude Road and 50 feet west of Mary Road.	M. Yano	-	Irr	-	12	500		-	-	Yes
6S/3W-1B1	East side of Hopkins and 75 feet south of Line.	Palo Alto	1954	Mun	-	14	900		-	-	Yes
6S/3W-2D1	On east corner of intersection of Hawthorne Avenue and Southern Pacific Railroad.	City of Palo Alto	1926	Mun	56	14	367		Yes	Yes	Yes
6S/3W-12C1	Northeast corner of intersection of College Avenue and Park Boulevard. Back of Fire House Number 2.	City of Palo Alto	1931	Mun	32	14	525		Yes	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
		LIVERMORE VALLEY (2-10)									
MDB&M											
2S/2E-27C1	0.3 mile north of Raymond Road and 0.05 mile east of Dagnino Road.	Peter Dagnino	-	Stk Dom	-	-	-		-	-	Yes
3S/1E-3Q1	2 miles northeast of Pleasanton, 0.3 mile south of Highway 50 and 1.0 miles east of Tassajaro Road. 1.5 miles east of Santa Rita Road and 0.25 mile south of Highway 50 at end of private road.	Alameda County	-	Dom Irr	-	-	350		-	-	Yes
3S/1E-8H2	100 feet west of Santa Rita Road and 100 feet south of Arroyo Las Positas (ditch).	U. S. Air Force	-	Dom Irr	-	14	205		Yes	-	Yes
3S/1E-9K1	750 feet west of Martin Avenue and 750 feet north of Pleasanton Avenue.	Melvin Nielson	-	Dom	-	8	155		-	-	Yes
3S/1E-10E1	0.5 mile north of East Avenue, 75 feet west of Hillcrest Avenue.	Roy Kruse	-	Irr	-	-	195		-	-	Yes
3S/1E-10Q2	1.6 miles east of Santa Rita Road, at end of Pleasanton Avenue.	Cecil M. Cope	-	Irr	-	-	-		-	-	Yes
3S/1E-11H1	1.2 miles west of Isabel Avenue on Livermore-Pleasanton Road and 1.2 miles north on dirt road.	E. Hagemann	1949	Dom Irr	372.92	-	303		Yes	Yes	Yes
3S/1E-13P2	0.75 mile south of Livermore-Pleasanton Road on Isabel Avenue and 0.55 mile west of Isabel Avenue.	California Rock and Gravel Co.	1933	Dom	-	12	400		Yes	No	Yes
3S/1E-15L1	500 feet north of Livermore-Pleasanton Road and 200 feet east of Kaiser Road.	H. J. Kaiser	1946	Dom Irr	-	12	304		Yes	-	Yes
3S/1E-16H1	0.2 mile northwest of Livermore-Pleasanton Road and 250 feet west of Kaiser plant office at Radum.	H. J. Kaiser	1945	Ind	360.38	18	305		Yes	No	Yes
3S/1E-16F1	0.15 mile north of Pleasanton-Livermore Road on the east side of Santa Rita Road.	Pleasanton Township Water District	-	Irr	-	-	305		-	-	Yes
3S/1E-19A5	0.8 mile west of Western Pacific Railroad crossing on Bernal Avenue and 0.2 mile north of Bernal Avenue.	San Francisco Water Department	-	Mun Irr	-	12	220		Yes	No	Yes
3S/2E-4H2	0.75 mile west of Livermore turnoff on U. S. Highway 50 and 100 feet north of U. S. Highway 50 and 0.15 mile east.	California Water Service Company	-	Mun	-	-	520		-	No	Yes
3S/2E-4M1	0.05 mile north of Las Positas and 0.4 mile east of Beck Road.	V. Schenone	-	Irr	-	12	193		-	-	Yes
3S/2E-7K1	0.7 mile west of Rincon Avenue and 250 feet north of Olivina Avenue.	H. L. Hagemann	1938	Irr	-	12	230		Yes	Yes	Yes
3S/2E-6F1	0.3 mile west intersection of Highway 50 and gravel road.	Gondoleo	1951	Dom	-	10	147		-	-	Yes
3S/2E-8H1	30 feet south of Elm Street and 30 feet west of Livermore Avenue in Livermore.	California Water Service Company	1929	Mun	473.5	12	625		Yes	Yes	Yes
3S/2E-10E1	0.5 mile north of East Avenue and 75 feet west of Hillcrest Avenue.	J. H. Barber	1948	Dom Irr	-	10	201		Yes	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		LIVERMORE VALLEY (2-10) (Cont.)									
3S/2E-10H1	0.1 mile east of Buena Vista Avenue on East Avenue 0.5 mile north of East Avenue on dirt road.	Amling Devore Nursery	1947	Irr. Dom.	569.1	10	376		Yes	----	Yes
3S/2E-11K1	0.2 mile west of Taylor Avenue and 0.35 mile north of East Avenue.	Twin Nurseries	1942	Irr.	584.9	12	621		Yes	Yes	Yes
3S/2E-12M1	0.2 mile east of Taylor Avenue and 0.35 mile north of East Avenue.	U. S. N.	1942	Mun	603	12	702		----	----	Yes
3S/2E-14A1	0.75 feet east of Los Positas Avenue.	Sam Ray	1943	Dom.	----	8	246		----	----	Yes
3S/2E-15C1	At southeast corner of East Avenue and Madison Avenue.	California Water Service Co.	1957	Mun.	----	30-16	514		Yes	----	Yes
3S/2E-16J1	0.2 mile south of College Avenue on Telsa Road.	Wente Bros. Winery	1941	Ind. Dom. Irr.	----	10-8	501		Yes	No	Yes
3S/2E-17N1	0.45 mile south of Mocho Street and 0.4 mile west of Vallecitos on south side of private road.	W. Wagoner	1929	Irr.	458.38	12	401		Yes	Yes	Yes
3S/2E-19F1	0.35 mile north of Alden Lane on Murdel Lane.	L. Shrigley	1947	Dom.	430	6	380		----	----	Yes
3S/2E-20K1	0.4 mile west of Arroyo Road and o.3 mile south of "C" Street.	F. A. Wagner	1949	Dom. Irr.	----	10	300		Yes	Yes	Yes
3S/2E-26J1	2.5 miles south of Telsa Avenue on Mines Road.	Mocho Ranch	1946	Dom.	----	12	361		----	----	Yes
3S/2E-29D1	0.5 mile south of Alden Lane and 100 feet west of Vallecitos Road.	B. G. Wood	1952	Irr.	466.38	12	500		----	Yes	Yes
3S/3E-19C1	0.4 mile east of Greenville Road and 0.15 mile south of Tesla Road.	Joe Amaral	----	Irr.	740.8	10	300		----	Yes	Yes
3S/1W-1G1	300 feet north of U. S. Highway 50 and 0.9 mile east of Dublin. Well at windmill.	E. B. & J. Nevin	----	Stock	----	----	----		----	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M	PAJARO VALLEY (3-2)										
12S/1E-10J1	4.5 miles north on San Andres Road from intersection of Beach Road, 0.7 mile west. 0.1 mile east of Pacific Ocean, 0.2 mile north of Sunset Beach Road.	Rinaldi Brothers	1957	Dom. Irr.	90.0	12	250		No	Yes	Yes
12S/1E-14J1	0.4 mile north of Dairy Road; 0.5 mile west of San Andres Road.	Roacha	----	Irr.	----	----	---		No	No	Yes
12S/1E-23R1	West end of Beach Road at Palm Beach Camp.	E. L. Padden	1880	Dom.	----	----	300		No	No	Yes
12S/1E-25B2	0.8 mile southeast of Beach Road at intersection of Beach Road and Sunset Beach Road.	Hugo Tottino	----	Irr.	7.0	----	600		No	Yes	Yes
12S/1E-25C1	0.6 mile southeast of Beach Road at intersection of Sunset Beach and Beach Roads.	Tottino	1934	Irr.	----	12	600		Yes	No	Yes
12S/2E-12E1	1199 San Juan Road	Sheehy	1934	Irr.	----	12	200		----	----	Yes
12S/2E-18A3	0.55 mile southwest of Lee Road on northwest side of Beach Road.	Telles Brothers	1945	Irr	----	12	160				
12S/2E-20K1	0.2 mile northwest of Salinas-Watsonville Road 1.2 mile north of Trafoton Road.	Struve	1948	Irr. Stk.	----	12	310		Yes	----	Yes
12S/2E-21L1	0.42 mile east of Salinas and Watsonville Road. 0.73 mile north of Jenson Road	L. P. Cox	1946	Irr.	----	12	200		Yes	----	Yes
12S/2E-29A1	Pajaro		----	Irr	----	----	----		----	----	Yes
12S/2E-29E1	0.5 mile west of Highway #1; 0.65 mile north of Jensen Road.	M. C. Miller	1949	Irr.	159.5	12	310		Yes	Yes	Yes
12S/2E-29L1	Pajaro		----	Irr.	----	----	----		----	----	Yes
12S/2E-29P1	Pajaro	M. C. Miller	1951	Irr.	----	12	397		Yes	----	Yes
12S/2E-30F3	750 feet north of Bluff Road; 100 feet east of Trafton	V. & E. Gray	----	Irr.	106.7	----	400		No	Yes	Yes
12S/2E-30N1	0.15 mile east of Trafton Road; 75 feet south of Bluff Road.	J. Fenaglio	1946	Irr.	71.6	12	180		Yes	Yes	Yes
12S/2E-30P1	Pajaro Springs District	Hurley	----	Irr.	----	----	----		----	----	Yes
12S/2E-31A1	0.18 mile south of intersection of Bluff and Jensen Roads.	A. & E. Tottoni	----	Irr.	----	----	600		Yes	No	Yes
12S/2E-31C1	0.12 mile south of Jensen Road; 0.13 mile northwest of Bluff Road.	Jensen	1947	Irr.	88.8	12	316		No	Yes	Yes
12S/2E-31K1	1.0 mile west of Highway #1 on Springfield Road.	Tornavaca	----	Irr.	30.0	12	219		Yes	Yes	Yes

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b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use a	Ground surface elevation b	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		PAJARO VALLEY (3-2) (Cont.)									
12S/2E-32C1	0.25 miles west of State Highway 1 0.3 miles south of Jensen Road	S. H. Cowell	-	Irr	-	-	342		Yes	-	Yes
12S/2E-32N1	0.3 miles west of Salinas-Watsonville Road (State Highway No. 1). 0.2 miles north of Moss Landing Union School.	G. Hurley	-	Irr	-	12-14"	372		Yes	-	Yes
12S/3E-7B1	0.3 miles south from Riverside Road and 0.1 miles west of Murphy Road.	L. Banovac	-	Irr	-	14	158		-	-	Yes
12S/3E-9J1	0.1 mile west of Aromas Road and 0.4 mile south of Riverside Road.	Tanimura Bros.	-	Irr	-	12	100		-	-	Yes
13S/1E-1A1	At southwest corner of McClusky Slough and 100' south of Giberson Road.	Hurley	-	-	-	-	-		Yes	-	Yes
13S/2E-4K1	1.4 miles southeast of Moss Landing Union School. 1 miles east of State Highway No. 1.		-	Irr	-	-	-		-	-	Yes
13S/2E-5M1	0.45 miles south of Moss Landing Union School and 0.4 miles west of State Highway No. 1.		-	Irr	-	-	-		-	-	Yes
13S/2E-6E3	0.22 mile west of Giberson Road. 1.25 miles west of Struve Road.	John Stucki	3-2-46	Irr	-	12	192		Yes	-	Yes
13S/2E-6F3	1.2 miles west of Highway No. 1 on Giberson Road.	Geo. H. Hurley	1945	Irr	-	12	350		Yes	-	Yes
13S/2E-6R1	On southwest corner of Struve and Giberson Roads.	Giberson	-	Irr	-	-	120		-	-	Yes
13S/2E-7B1	0.3 mile west of Highway No. 1 and 0.6 mile south of McClusky Slough.	E. Capurro	1-46	Irr	-	12	159		Yes	-	Yes
13S/2E-7B2	0.25 mile west of Highway No. 1, 0.65 mile south of McClusky Slough.	E. Capurro	1-46	Irr	-	12	228		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MBD&M		SALINAS VALLEY (3-4)									
13S/2E-7R1	0.75 mile north of Moss Landing and 500 feet northeast of highway	Monterey Bay Salt Co.	----	Dom Ind	-----	-----	740		-----	No	Yes
13S/2E-16E1	1.0 mile northeast of Permanente Plant and 0.3 mile north of Dolan Road.	M. Minhoto	----	Irr	20.0	12	174		Yes	Yes	Yes
13S/2E-17H1	1.0 mile northeast of Permanente Plant, 0.3 mile north of Dolan Road.	Delfino & Calcagno	----	Irr	17.0	12	----		-----	Yes	Yes
13S/2E-19R1	1.0 mile south of Moss Landing, just west of house.	T. Leonardini	1947	Dom Irr	13.0	16 & 10	508		Yes	Yes	Yes
13S/2E-20R2	0.75 mile east of Moss Landing Road 0.4 mile east of Permanente #2 operating pump, thence 100 feet north.	Jennie Tate	----	-----	-----	-----	---		-----	-----	Yes
13S/2E-29C4	1.1 miles northwest of Castroville and 660 feet east of Castroville-Moss Landing Highway.	Permanente Cement Co.	1947	Ind	-----	-----	813		No	No	Yes
13S/2E-30L1	On Shore ranch between building and Tembladero Slough crossing.	J. J. King	----	Irr	-----	-----	---		-----	-----	Yes
13S/2E-31D2	West of buildings on Warnock Shore Ranch.	J. J. King	1945	Irr	-----	16	559		Yes	-----	Yes
13S/2E-31K2	Southwest corner of Junction of Molera and Mulligan Hill Road.	Molera Estate	1944	Dom	-----	12	211		-----	-----	Yes
13S/2E-31M2	0.5 mile north of Mulligan Hill and 0.3 mile northwest of Mulligan Hill Road.	E. Bellone	1952	Irr	8.3	-----	-----		Yes	Yes	Yes
13S/2E-31N2	0.75 mile southwest on Mulligan Hill Road from junction of Molera Road.	E. Bellone, et al.	1947	Irr	-----	16	576		Yes	Yes	Yes
13S/2E-32C1	0.5 mile west of Castroville, and northwest of Molera Road.	O. P. Overhouse	1949	Irr	8.8	16 & 10	562		Yes	Yes	Yes
13S/2E-32J1	0.5 mile west of Castroville.	Cooper Estate	1939	Irr	-----	16	193		Yes	-----	Yes
13S/2E-32N1	1.2 mile north of Nashua on west side of Molera Road.	Molera Estate	----	Irr	-----	16 & 10	602		Yes	-----	Yes
13S/2E-33E1	0.5 mile west of Castroville and 0.3 mile north of Fort Ord Road.	Dorothy V. Orcutt, et al.	----	Irr	-----	12	180		No	-----	Yes
13S/2E-33R1	600 feet west of Salinas-Castroville Highway and 0.25 mile south of Fort Ord Highway.	Caterina Rissotti	----	Irr	24.8	12	-----		-----	-----	Yes
14S/2E-5R2	0.5 mile south of Nashua, 100 feet west of Molera Road.	Molera Estate	----	Irr	15.0	12	191		Yes	Yes	Yes
14S/2E-6Q1	0.25 mile east of Salinas River, 0.5 mile north of Fort Ord Highway.	Mrs. Lottie Martin	1948	Irr	13.0	16 & 10	553		Yes	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
MDB&M		SALINAS VALLEY (3-4) (Cont.)									
14S/2E-6R2	0.25 mile east of Salinas River and 0.25 mile north of Fort Ord Highway.	E. Struve et al.	1948	Irr.	----	16 & 10	604		Yes	Yes	Yes
14S/2E-8M2	0.4 mile east of Neponset Station.	Jacob Jefferson	----	Irr.	14.5	16	---		---	Yes	Yes
14S/2E-9K1	0.15 mile southwest of Blanco-Nashua Road, and 1.3 miles southeast of Monterey Branch Southern Pacific Railroad.	Dorothy V. Orcutt, et. al.	----	Irr.	18.9	12	---		---	Yes	Yes
14S/2E-11D1	0.75 mile east of Salinas-Castroville Highway and 1.0 mile south of Espinosa Road.	J. P. Rodgers	1943	Dom. Irr.	----	12	159		Yes	Yes	Yee
14S/2E-12Q1	1.5 mile east of Salinas-Castroville Highway; 0.8 mile west of Graves-Gularte Road.	E. C. Eaton	----	Irr.	62.0	16	619		Yes	Yes	Yes
14S/2E-14N1	0.5 mile west of junction of Salinas-Castroville Highway and Cooper Road.	L. A. Wilder	----	Dom.	----	10	304		Yes	Yee	Yes
14S/2E-15L1	Just west of Nashua Road and 0.5 mile northwest of its junction with Cooper Road.	Monterey County Bank	----	Irr	23.0	12	175.5		Yes	Yes	Yes
14S/2E-16A1	0.1 mi. SW of Blanco-Nashua Rd. & 1.4 mi. NW of Cooper Rd.	John W. Orcutt	----	Irr.	23	12	---				
14S/2E-18D1	0.75 mile southwest of Neponset Station.	J. G. Armstrong Co.	----	Irr.	6.5	12	135		Yes	Yes	Yes
14S/2W-20M2	1.3 miles northeast of Marina at the intersection of Reservation Rd. and Hwy. 1.	J. G. Armstrong	----	Irr.	----	10	104		Yes	---	Yee
14S/2W-20M1	1.3 miles north east of Marina	J. G. Armstrong	----	Stk.	----	6	140		No	---	Yes
14S/2E-23J1	0.4 mile west of Castroville-Salinas Highway and 0.6 mile west of Graves School.	A. H. Bordges	----	Irr.	38.0	12	200		---	Yes	Yes
14S/2E-24E1	Southeast corner of junction of San Juan Road and Salinas-Castroville Highway.	M. T. DeSerpa	1951	Dom. Irr.	----	12	467		Yes	No	Yes
14S/2E-25B1		M. T. DeSerpa	----	Irr.	----	---	---		---	---	Yes
14S/2W-26A1	3 miles north west of Salinas	----	----	Irr.	----	---	---		---	---	Yes
14S/2W-28D1	2.5 miles east of Marina	M. Girotti	----	Dom.	----	14	---		No	---	Yes
14S/2W-30C2	0.75 mile northeast of Marina	G. R. Detweiler	----	Dom.	----	8	93		Yes	---	Yes
14S/2W-32D	1.3 miles southeast of Marina	H. J. Hillebrand	1953	Dom.	----	10	150		Yes	---	Yes
14S/2W-33H1	1.0 mile northwest of Reservation Rd.	D. Washington	1949	Dom.	----	8	172		Yes	---	Yes
14S/2W-34H3	0.5 mile northwest of Reservation Rd.	C. Fungton	----	Dom.	----	---	---		---	---	Yes
14S/2E-35Q1	0.2 miles east and 1.0 mile south of Blanco School.	David P. McFadden	----	Irr.	----	---	---		---	---	Yes
14S/3E-30E1	0.3 miles west of Calvary Cemetery.	Annie Lanini	----	Irr.	----	12	---		---	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
MDB&M		SALINAS VALLEY (3-4) (Cont.)									
14S/3E-30F1	2 miles west of Salinas.	________	----	Irr.	----	--	---		---	---	Yes
14S/3E-33G1	Northeast corner of Griffen and Alisa Street in Salinas.	P. G. & E.	----	Mun.	47.6	12	---		---	---	Yes
15S/2E-1A1	On Davis Road, 0.5 mile southwest of Junction with Graves-Blanco Road.	James P. Dolan	----	Irr.	34.4	12	---		---	Yes	Yes
15S/2E-2Q1	West of Salinas River and 1.0 mile northwest of Davis Road Crossing.	Lee Jacks	----	Irr.	----	12	---		---	---	Yes
15S/3E-4L1	0.5 mile southwest of junction of Romie Lane and Highway 101 south.	David P. McFadden, et al.	----	Irr.	57.2	12	---		---	Yes	Yes
15S/3E-5Q4	2200 feet south of intersection of Salinas-Monterey Highway and Nissen Road, thence 400 feet east.	------	----	Irr.	----	----	252		Yes	Yes	Yes
15S/3E-7D1	0.5 mile north of Foster Road from Davis Road junction.	F. Giottinini	----	Dom. Irr.	40.0	12	176		Yes	---	Yes
15S/3E-8N1	At junction of Monterey State Highway and Foster Road.	Laura G. Foster	----	Irr.	47.4	12	---		---	Yes	Yes
15S/3E-16M1	0.4 mile west of intersection of Harkins Lane and Spreckels Road in Spreckels, 100 feet north of Spreckels Road.	Spreckels Sugar Co.	----	Irr	58	12	---		---	Yes	Yes
15S/3E-17P1	300 feet west of Salinas River on River Road. 0.75 mile south of Monterey State Highway.	J. Violini	----	Irr.	52	16	503		---	Yes	Yes
16S/4E-24A1	0.1 mile southwest of Highway 101 opposite intersection with Old Stage Road.	K. R. Nutting	----	Irr.	114	12	---		---	---	Yes
16S/4E-25K1	Near Gonzales.	J. C. Twisselman	----	---	----	---	---		---	---	Yes
17S/6E-27K1	Near Soledad.			Irr.					---	---	Yes
17S/6E-35F1	2.2 miles southeast along Railroad from Highway 101 crossing at Soledad, just south of Southern Pacific Railroad.	Mart Baker	1940	Irr.	227	16	242		Yes	Yes	Yes
18S/6E-2N1	0.5 mile northeast of Highway 101; 1.75 miles southeast of intersection of Highway 101 and Arroyo Seco Road.	L. Jacks	----	Irr.	210	12	---		----	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
		CARMEL VALLEY (3-7)									
16S/1W-13L1	0.2 mile northwest of State Highway 1 on south bank of Carmel River.	B. Odello	----	Irr.		12	135		---	Yes	Yes
16S/1W-13L2	0.45 mile northwest of Highway 1 on road just south of Carmel bridge.	Carmel Sewage Plant	1939	Ind.		10	90		---	Yes	Yes
16S/1W-13Q2	Northwest side of State Highway 1 and 0.1 mile southwest of Carmel River Bridge.	B. Odello	----	Irr.		--	130		---	Yes	Yes
16S/1E-17G1	1.8 mile west of Highway 1 on Carmel Valley Road 100 yards south of Carmel Valley Road.		1958	Irr.		6	68		---	No	Yes
16S/1E-18F2	0.2 mile south of Carmel Valley Road on Val Verde Drive.		1955	Irr.		--	65		---	No	Yes
16S/1E-18M1	1 mile southeast of Carmel.	F. & W. Hatton	----	Irr.		12	135		---	Yes	Yes
16S/1E-18P1	3/4 mile southeast of State Highway 1 on south bank of the Carmel River.	B. Odello	1931	Irr.		12	100		---	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
		SANTA MARIA RIVER VALLEY (3-12)									
SBB&M											
9N/33W-9A1	0.1 mile west of Bradley Canyon Road and 0.1 mile south of Gary Road.	W. E. Houke Estate	----	Dom	550	10	220		---	Yes	Yes
9N/33W-12R1	0.1 mile west of State Highway 140 behind Blockman School in Sisquoc.	Blockman School	----	Dom	---	8	312		---	No	Yes
9N/34W-9E1	On south side of State Highway 1 and 1.0 mile west of Lower Orcutt Road.	Mattia Bognuda	----	Irr	---	14	377		---	Yes	Yes
9N/34W-10D2	1.0 mile north northwest of Orcutt Post Office, 50 feet east of Blasser.	City of Santa Maria	1946	Mun	271	16	234		Yes	Yes	Yes
10N/34W-3P2	0.25 mile north of Donovan Road and 0.25 mile east of Blasser Road at northeast corner reservoir.	C. J. Donovan	July 1957	Irr	---	16	306		Yes	---	Yes
10N/34W-16R1	On west side of Blasser Road and 0.15 mile north of Stowell Road.	K. Dart	---	Irr	205	16	268		---	Yes	Yes
10N/34W-19A1	100 feet west of Block Road and 1.2 miles south of State Highway 166.	Giacomini Estate	----	Irr	---	16	226		---	---	Yes
10N/34W-19H1	50 feet west of Block Road and 50 feet north of Santa Maria Valley railroad crossing.	Union Sugar Company	----	Irr	---	16	362		---	No	Yes
10N/34W-21R1	50 feet west of Blasser Road and 0.35 mile north of Del Porto Road.	D. Hobbs	----	Irr	---	16	197		---	---	Yes
10N/34W-26H2	50 feet west of Nance Road and 1.6 miles south of State Highway 140.	Sheekey Benny Farms	----	Irr	---	14	452		---	No	Yes
10N/34W-28A1	35 feet west of Vlosser Road and 400 feet north of Del Porto Road.	Virginia Pearl	----	Irr	---	--	235		---	Yes	Yes
10N/34W-35A1	0.45 mile southeast of junction of Lower Orcutt Road on U. S. Highway 101 and 0.8 mile east, opposite Rembusch No. 1 oil well.	----	----	Dom	---	6	248		---	No	Yes
10N/35W-4C1	.68 north of Guadalupe Post Office on Highway 1.	Union Sugar Company	----	---	88.0	--	---		---	Yes	Yes
10N/35W-5J1	0.50 mile northwest of Guadalupe Post Office, under derrick west of State Highway 1.	Union Sugar Company	February 1925	Dom Irr	---	16	291		---	---	Yes
10N/35W-7F1	2 miles west of Guadalupe and 185 feet north of Guadalupe Road.	M. J. Ellis	1928	Dom Irr	48	12	249		Yes	Yes	Yes
10N/35W-9N2	130 feet south of State Highway 166 and 35 feet west of State Highway 1.	Union Sugar Company	October 1924	Irr	87	16	464		Yes	No	Yes
10N/35W-16M1	.9 mile north of intersection of Brown Road and Highway 1, 50 feet west of Highway 1.	Agnes F. King	----	Dom Irr Stock	78	12	224		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use a	Ground surface elevation b	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
		SANTA MARIA RIVER VALLEY (3-12) (Cont.)									
SBB&M											
10N/35W-17D1	1 mile west of Highway 1, .3 mile south of Highway 166.	Union Sugar Company	April 1938	Irr	64	16	250		---	---	Yes
10N/35W-21C1	.45 mile north of intersection of Brown Road and Highway 1 and 125 feet west of Highway 166.	Agnes F. King	---	---	93	---	---		---	Yes	Yes
10N/36W-12R1	2.3 mile west of Highway 1, .2 mile south of Highway 166.	Avilina Morgante	November 1930	Irr	---	12	214		---	---	Yes
		CUYAMA VALLEY (3-13)									
SBB&M											
7N/24W-13C2	370 feet southwest of Highway 399 at Apache School windmill.	Apache School	1949	Dom	3418	8	165		---	---	Yes
9N/24W-19F1	400 feet west of U. S. Highway 399 at Cuyama Forest Range.	U.S.F.S.	----	Dom	2756.11	10	113		Yes	Yes	Yes
10N/25W-20H1	North side of State Highway 166 and 1.5 miles east of Cuyama River Bridge.	H. S. Russel	----	Irr	2335	16-10	656		Yes	No	Yes
10N/25W-21G1	50 feet north of State Highway 166 and 2.2 miles east of Cuyama River Bridge.	E. H. Mettler & Sons	----	Irr Dom	---	16-10	657		---	---	Yes
10N/25W-22E1	North side of State Highway 166 and 2.7 miles east of Cuyama River Bridge.	E. H. Mettler & Sons	----	Irr	2368	16-10	659		Yes	Yes	Yes
10N/25W-23E1	On north side of State Highway 166 and 4.0 miles east of Cuyama River Bridge.	E. H. Mettler & Sons	----	Irr	2397	16-12-10	810		Yes	No	Yes
10N/25W-30F1	0.8 mile south of State Highway 166 at Cuyama School on east side of dirt road.	Adolph Kirschenmann	----	Irr	2320	16	376		Yes	No	Yes
10N/26W-4R1	2.9 mile north of State Highway 166, 2 miles southeast of Cuyama Post Office.	H. S. Russell	----	Irr	---	--	---		---	Yes	Yes
10N/26W-4R2	2.9 miles north of State Highway 166 and 2.1 miles southeast of new Cuyama Post Office.	Cuyama Ranch	----	Irr	---	--	634		---	---	Yes
10N/26W-9R2	2.1 miles southeast of New Cuyama Post Office, 0.9 mile northeast of State Highway 166; then 0.65 mile northwest.	H. S. Russel	----	Irr	2135	14	380		Yes	Yes	Yes
10N/26W-14C4	1.8 mile east of Cuyama Ranch Headquarters, 15 miles north of Cuyama River.	H. S. Russel	1949	Irr	2175	10	110		Yes	---	Yes
10N/26W-21Q2	2.50 miles west southwest of Cuyama Post Office.	---	----	Irr	---	--	---		---	---	Yes
10N/26W-23F1	0.5 mile west of Cuyama and 0.7 mile south of State Highway 166.	Goehring Brothers	---	Irr	2280	16	371		Yes	Yes	Yes
10N/27W-11C1	0.9 mile southeast of Cuyama Highway Maintenance Station along State Highway 166 and 0.25 mile north; by reservoir.	W. Smith	----	Irr	1963	14	378		Yes	Yes	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		OXNARD PLAIN BASIN (4-4.01)									
SBB&M											
1N/21W-30A1	C.33 mile west of Highway 101 along Hueneme Road and 200 feet south of Hueneme Road.	Ed Murdhardt	April 1931	Irr	---	--	591		No	No	Yes
1N/21W-31L1	100 feet south of East-West Casper Road, 1.25 miles east of North-South Casper Road.	Naval Air Station Point Mugu	----	Dom Irr	---	10	1000		Yes	---	Yes
1N/21W-32G1	1450 feet northwest of Beach Camp Road and 1750 feet southwest of Highway 101 along Beach Camp Road.	Naval Air Station Point Mugu	----	~~Irr~~	---	12	417		---	---	Yes
1N/21W-32K1	1450 feet northwest of Beach Camp Road and 3000 feet southwest of Highway 101 along Beach Camp Road.	Naval Air Station Point Mugu	----	---	---	--	---		---	---	Yes
1N/22W-3F4	200 feet east of Saviers Road and 100 feet north of Third Street.	City of Oxnard	1912	Mun	---	--	232		Yes	Yes	Yes
1N/22W-7D1	East side of Dairy Bldg. near Wooley Road, 0.80 mile west of West Road and 100 feet south of Wooley Road.	D. McGrath Estate Co.	----	Dom Stock	---	--	---		---	---	Yes
1N/22W-9Q3	Approximately 1400 feet south of Howe Road extended east, 1350 feet east of Ventura Road.	Ignatius Friedrich	----	Dom Irr	---	--	154		---	---	Yes
1N/22W-15B3	130 feet north of Dempsey Road and 150 feet west of Ventura R. R. measured along Dempsey Road.	City of Oxnard	----	Mun	---	--	---		---	---	Yes
1N/22W-18E1	0.36 mile south of Oxnard Road and 75 feet east of Ocean Drive.	Hollywood Beach Resort	----	Dom	---	12	218		No	No	Yes
1N/22W-19B3	80 feet east of Roosevelt Blvd., 20 feet north of Lakeshore at Hollywood by the sea.	Hollywood by the Sea Mutual Water Company	2-11-54	Dom	---	10	482		Yes	---	Yes
1N/22W-20B1	0.5 mile south of Cutting Road and 500 feet east of Patterson Road.	U. S. Navy	1914	Dom	---	--	324		No	No	Yes
1N/22W-20E2	15 feet south of Highland Drive, 80 feet west of south end of Panama Drive.	Silver Strand Mutual Water Company	3-29-55	Mun	---	--	1014		Yes	---	Yes
1N/22W-20R1	0.5 mile west of Ventura Road and 0.34 mile south of Pleasant Valley Road.	U. S. Navy	---	---	---	12	---		---	---	Yes
1N/22W-23C1	0.3 mile southwest of Pleasant Valley Road from Etting Road, 100 feet southeast 18 feet Pleasant Valley Road in farm yard.	K. L. Varnau	1938	Dom. Irr poultry	---	4	230		---	---	Yes
1N/22W-26A1	20 feet south of Hueneme Road, 500 feet west of Casper Road.	S. R. Pidduck	May 1924	Dom Irr	---	12	236		Yes	Yes	Yes
1N/22W-28A2	0.32 mile west of Saviers Road and 20 feet south of Hueneme Road.	R. E. Lawn	1949	Irr Dom	---	14	---		No	No	Yes
1N/22W-28H2	50 feet east of Perkins Road, 1750 feet south of Hueneme Road	Kalof Pulp and Paper Co.	7-1-52	Dom Ind	---	10	175		Yes	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
SBB&M		OXNARD PLAIN BASIN (4-4.01) (Cont.)									
2N/22W-27M2	200 feet west of Highway 101 Alternate and 0.1 mile south of Vineyard Avenue.	Oasie Motel	8-18-47	Dom	---	12	225		---	---	Yee
2N/23W-25[illegible]1	2.9 miles west of Ventura Road and 0.15 miles north of Gonzales Road. (3.95 miles west of Highway 101).	Frank McGrath Estate	5-28-47	Dom	20	10	232		Yes	Yee	Yee
		WEST COAST BASIN, AREA OF SEA WATER INTRUSION (4-11.02)									
3S/14W-30H2	50 feet west of Aviation Boulevard and 50 feet south of 6th Avenue.	City of Manhattan Beach	----	Mun	---	16	600		Yes	Yes	Yee
3S/15W-12G1	El Segundo; 55 feet west of California Street, 60 feet south of Palm Avenue.	City of El Segundo	6-30-59	Mun	112.6	16	349		Yes	Yes	Yes
3S/15W-12H2	50 feet north of Palm Avenue and 150 feet east of Washington Street.	City of El Segundo	----	Mun	135	16	380		Yes	Yes	Yes
3S/15W-12H3	Approximately 250 feet north of Palm Avenue and 600 feet west of Sepulveda Boulevard, El Segundo.	City of El Segundo	3-21-47	Mun	---	---	---		No	No	Yee
3S/15W-13R2	176 feet west of Sepulveda Boulevard and 400 feet north of Rosecrans Avenue, El Segundo.	Standard Oil Company	August 1941	Ind	----	16	480		No	No	Yee
3S/15W-13R6	755 feet west of Sepulveda Boulevard and 80 feet north of Rosecrans Avenue.	Standard Oil Company	----	Ind	---	16	495		Yes	Yee	Yes
4S/14W-17D3	.8 mile south of Torrance Boulevard and 100 feet west of Sepulveda.	Los Angeles County Flood Control District	5-6-58	Test	105.3	2	720		Yes	---	---
4S/14W-17H2	120 feet north of Sepulveda Boulevard and 300 feet west of Valerie Street.	Del Amo Estate Company	April 1947	Mun	71	30-96' 16-456'	456		Yee	Yes	Yes
		WEST COAST BASIN, TORRANCE AREA (4-11.02)									
4S/13W-6K1	150 feet west of Main Street and 130 feet north of Francisco Street, East of Torrance.	Ray Beauley	----	Dom	---	4	82		No	No	Yes
4S/13W-6[illegible]1	115 feet west of Main Street and 120 feet north of Francisco Street, East of Torrance.	George Branning	Prior to Dec. 1934	Dom Stk	---	5	60		No	No	Yes
4S/14W-9Q1	750 feet east of Hawthorne Avenue and 950 feet south of Torrance Boulevard, Torrance.	Chansler-Western Oil & Development Company	10-31-23	Ind	---	12	557		No	No	Yes
4S/14W-16L2	100 feet east of Ocean Avenue and 725 feet south of Sepulveda Boulevard, Torrance.	City of Torrance	1936	Dom Irr	76.5	14	492		No	No	Yee

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State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		WEST COAST BASIN, TORRANCE AREA (4-11.02) (Cont.)									
SBB&M											
4S/14W-22Q1	0.4 mile west of Pennsylvania Avenue and 100 feet south of Lomita Boulevard.	Union Oil Company	11-24-59	Ind	---	14	660		Yes	Yes	Yes
4S/14W-35E1	1650 feet south of Pacific Coast Highway, 15 feet west of Pennsylvania Avenue in metal pump house-15 feet north of concrete tank.	Edw. Sidebothem & Son, Inc.	1-11-26	Ind	177.7	12	585		Yes	Yes	Yes
4S/14W-35F2	0.46 mile south of Pacific Coast Highway and 200 feet west of Narbonne Avenue.	Chandlers Palos Verde Sand and Gravel	---	Ind	---	16	695		No	No	Yes
4S/14W-36H1	200 feet north of Anaheim Street and 300 feet east of Pacific Electric Railway.	Palos Verdes Water Co.	July 1923	Mun	50	26 10	610		Yes	Yes	Yes
		WEST COAST BASIN, ATHENS AREA (4-11.02)									
3S/13W-29G3	125 feet north of 165th Street and 660 feet east of Avalon Boulevard.	Henry Isaida	1-25-28	Dom Irr	61	---	---		---	---	Yes
3S/13W-31F1	0.34 mile west of Figueroa and 150 feet north of 184th Street	Mrs. H. E. Distel	1936	Dom	---	6	---		---	---	Yes
3S/14W-24K14	50 feet south of Compton Boulevard and 30 feet west of Van Buren Avenue extended.	Southern California Water Company.	---	Mun	---	16	680		Yes	Yes	Yes
3S/14W-25K4	200 feet east of Normandie Avenue and 0.14 mile south of 168th Street.	Wilbur Hornstra	---	Dom Stk	---	7	180		Yes	---	Yes
3S/14W-27C1	220 feet south of Manhattan Beach Boulevard and 320 feet west of bridge over Nigger Slough, in corrigated pumphouse 780 feet west of center line of Cerise Avenue.	Los Angeles County Park Department	7-7-37	Irr	---	14	448		---	---	Yes
3S/14W-35M5	0.3 mile west of Arlington and 65 feet south of 182nd Street	Moneta Water Company	---	Mun	---	16 14	435		Yes	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
		CENTRAL COASTAL PLAIN PRESSURE AREA (4-11.03)									
SBB&M											
2S/13W-32C2	10 feet east of Mettler Avenue and 200 feet north of 88th place, 8814 South Mettler Avenue.	Los Angeles Department of Water & Power	5-7-38	Mun	---	14	800		No	No	Yes
3S/13W-2B1	35 feet north of Michigan Avenue and 100 feet west of Elizabeth Avenue.	City of Southgate	----	Mun	---	12	732		No	No	Yes
		LOS ANGELES FOREBAY AREA (4-11.04)									
SBB&M											
2S/13W-10P4	370 feet west of Santa Fe Avenue and 590 feet north of Vernon Avenue, Vernon.	City of Vernon	----	---	---	18	1330		No	No	Yes
2S/13W-14H1	40 feet west of Downey and 40 feet north of Fruitland Avenue, Vernon.	City of Vernon	1942	---	---	18	1300		No	No	Yes
2S/13W-15N3	200 feet east of Alameda Street and 40 feet north of 57th Street, Vernon.	Pioneer Paper Company	----	Ind Dom	---	16	531		No	No	Yes
		MAIN SAN GABRIEL BASIN (4-13.01)									
SBB&M											
1S/10W-7A1	400 feet south of Bonita Avenue and 50 feet west of North Main Avenue.	Baldwin Park County Water District	----	Dom Irr	---	16	526		No	No	Yes
1S/10W-19N1	0.25 mile southwesterly along Virginia Avenue from intersection with Garvey Avenue and 0.05 mile southeast, southeast of El Monte.	Walnut Place Mutual Water Company	10-14-50	Irr	---	12	150		No	No	Yes
1S/11W-2G1	400 feet east of Peck Road and 200 feet north of road along ranch line, 0.5 mile north of Live Oak Avenue, 75 feet north of Jefferies Avenue; south of Monrovia.	City of Monrovia	----	Mun	368	26	440		No	No	Yes
1S/11W-10F1	350 feet east of Tyler Avenue at end of Farna Street.	Southern California Water Company	4-27-51	Mun	---	18	540		Yes	No	Yes
1S/11W-14M1	0.52 mile south of Cogswell Avenue from intersection with San Bernardino Road, 0.06 mile west, north of Killion Street.	Herbert Mutual Water Company	1-9-51	Dom	---	12	199		No	No	Yes
1S/11W-26K1	Well in line with east end of Valley Boulevard Bridge over San Gabriel River, 0.1 mile north of Valley Boulevard.	San Gabriel Valley Water Company	5-25-51	Mun Ind	---	--	312		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
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State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
		MAIN SAN GABRIEL BASIN (4-13.01) (Cont.)									
SBB&M											
1S/11W-32C1	0.3 mile south and 0.03 mile west of intersection of Rush Street with Potrero Avenue.	Pedro Mireles	----	Irr	---	10	102		No	No	Yes
1S/11W-33P1	55 feet south of Durfee Road and 0.46 mile southwest of Black Avenue, south of El Monte.	A. Alluis	----	Dom	230	7	50		Yes	No	Yes
1S/11W-35L1	500 feet north of Workman Mill Road, 1.1 miles east of Durfee Junction.	Scudder Food Products	11-30-51	Dom Irr	---	12	657		Yes	—	Yes
1S/12W-10E1	130 feet west of Garfield Avenue and 53 feet south of MacLean Street.	City of Alhambra	----	Mun	534	18	561		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
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State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
		REDDING BASIN (5-6)									
29N/4W-2M1	0.4 mile west of Highway 99 on Gas Point Road.	Cottonwood Water Dept.	----	Mun.		--	---		---	--	Yes
29N/4W-6N1	4.6 miles west of Highway 99W on Gas Point Road.	Max Hurley	----	Irr.		--	370		Yes	--	Yes
30N/3W-4M1	0.65 mile east of Cow Creek on Dersch Road.	D. F. Park	----	Irr. Dom.		8	160		Yes	--	Yes
30N/3W-34D1	On west side of Balls Ferry Bridge.	Don Morton	----	Dom.		--	40		---	--	Yes
30N/4W-1E1	0.7 mile west of Stillwater Creek on Dersch Road.	Tim Loftus	----	Irr		12	256		Yes	--	Yes
30N/4W-5K1	3 miles northwest of Anderson. 200 feet east of U.S.99.	U. S. Plywood	1951	Ind.			300		Yes	--	Yes
30N/4W-16H	0.1 mile west of Highway 99W on Briggs Street in southwest corner of fair grounds.	Anderson Fairgrounds	1954	Irr.		12	285		Yes	--	Yes
30N/4W-25N1	2.6 miles southeast of Anderson.	Paul Bunyon Lumber Co.	1950	Ind.		14	355		Yes	--	Yes
30N/5W-15R1	In green stucco pump house on west side of school.	Happy Valley School	----	Dom. Irr.		--	500		Yes	--	Yes
30N/5W-17R1	2.2 miles northwest of Happy Valley School.	C. A. Young	----	Dom.		6	165		---	--	Yes
31N/3W-7K1	0.6 mile south of Palo Cedro on Anderson-Palo Cedro Road. 900 feet west of road.	R. M. Gilbert	1943	Irr.		12	223		Yes	--	Yes
31N/3W-12E1	0.7 mile northeast of Whitmore Road on Whitmore Bypass.	Gimblin	----	Irr. Dom.		12	230		Yes	--	Yes
31N/4W-5F1	2 mile east of Redding. 0.4 mile east of Highway 44 extension.	Lawn Crest Cemetery	1948	Irr.		14-8	200		Yes	--	Yes
31N/4W-7A1	0.2 mile west of Churn Creek Road on Hardwell Road.	Enterprise School Dist.	----	Dom. Irr.		12	200		Yes	--	Yes
31N/4W-15B1	1.3 mile south of Highway 44 on east side of Airport Road.	L. A. Stayer	----	Irr. Dom.		--	244		Yes	--	Yes
31N/4W-16Q1	1.0 mile west of Airport Road on Cemetery Road.	Phil S. Tempelton	1955	Irr. Dom.		12-10	276		Yes	--	Yes
31N/5W-13D1	2.0 mile south of Highway 44 on Highway 99W at Highway 99 and Oregon Gulch.	California Motel	----	Dom. Irr.		--	---		---	--	Yes
31N/5W-25K1	4.9 miles south of Highway 44 on Highway 99W.		----	Dom. Irr.		--	---		---	--	Yes
32N/3W-20F1	3.2 miles north of Palo Cedro on Palo Cedro-Bella Vista Road. 250 feet east of road.	B. E. Irvin	----	Dom. Stock		--	---		---	--	Yes
32N/3W-32E1	3.2 miles north of Palo Cedro.	B. E. Irvin	----	Dom.		--	---		---	--	Yes
32N/3W-32J2	0.6 miles southeast of North Cow Creek School.	Carral Boyle	1955	Dom.		--	68		---	--	Yes
32N/3W-35C1	3 miles north of Millville.	Coldioron	1955	Irr.		--	237		Yes	--	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
		REDDING BASIN (5-6) (Cont.)									
32N/4W-14F2	0.2 mile north of Highway 299E.	Hills & Dales Rest Home	1951	Irr.		--	197		---	--	Yes
32N/4W-16B2	1.2 miles north of Highway 299E on Oregon Trail.	Wayne Ross	----	Dom.		6	100		---	--	Yes
32N/4W-20G2	0.5 mile east of Churn Creek on south side of Highway 299E.	E. Jones	1957	Dom.		6	89		---	--	Yes
32N/4W-34F1	0.4 mile south of Loomis Corner on Oregon Trail.	Columbia School Dist.	----	Dom.			270		---	--	Yes
32N/5W-26M1	0.7 mile south of the intersection of 299 and U.S. 99.	Harrold Snow, Jr.	1952	Dom.		6	82		---	--	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

WELL DATA

1958

State well number and other number	Location	Owner	Date completed	Use a	Ground surface elevation b	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		UPPER LAKE VALLEY (5-13)									
14N/9W-6F2	0.6 miles north and 0.1 mile west of Rocky Point	Overington	----	Dom	---	----	----		---	---	Yes
14N/10W-14E2	.25 mile east of Scotts Creek at south end of Valley. North of fence line and north of Scotts Fruit Exchange.	B. W. Patten	1947	Irr	1442.6	12	104		Yes	No	Yes
15N/9W-5K1	20 feet east of dirt road, 1 mile east of Upper Lake on Pitney Lane, .15 mile north of Clover Valley Road.	R. Hutton	1950	Irr	---	12	104		Yes	No	Yes
15N/9W-31P1	0.25 mile due south of Lakeside Hospital.	C. B. Flick	1953	Dom	---	8	110		---	---	Yes
15N/9W-6F1	700 feet west from the intersection of Pitney and Middle Creek Roads north of Upper Lake.	L. Skaggs	1954	Irr	---	12	100		Yes	No	Yes
15N/9W-7B1	330 feet south from the intersection of Clover Valley Road and Clover Valley Drive in the Upper Lake Cem.	U. Lake Cem.	1953	Irr	---	12	200		Yes	No	Yes
15N/10W-24H1	.25 mile west of Highway 29 at the intersection of Highway 29 and Old Highway 20.	H. Jarvie	1952	Irr	---	12	64		Yes	No	Yes
15N/9W-17P1	200 feet north of Power Line Tower and 50 feet west of Highway 20, 2 miles south of Upper Lake.	G. Bowers	1954	Dom	---	12	100		Yes	No	Yes
15N/10W-3C1	1.75 mile northwest of Highway 20 on Foothill Road 500 feet South of Foothill Road.	E. Lewis	1955	Dom Stk	---	12	100		Yes	No	Yes
15N/10W-1CE1	.2 mile northeast of Highway 20 on Witter Spring Road.	B. Dutton	1954	Dom	----	12 to 28	112		Yes	No	Yes
15N/10W-12K2	.2 mile west of Highway 20, in back of cannery.	Lake Co. Cannery	---	Ind	---	---	---		No	No	Yes
15N/10W-13A1	.7 mile south of Upper Lake on old Highway 20.	C. Davis	1951	Dom	---	8	98		No	No	Yes
16N/9W-31L2	0.3 mile due west and 1.45 mile north of Pitney Lane North side farmhouse west side Pillsbury Lake Road.	Antore Santos	1946	Dom	---	36	18			---	Yes
		KELSEYVILLE VALLEY (5-15)									
13N/9W-2K2	East side of Soda Bay Drive (Gaddy Lane) and 0.29 mile north of Losa Drive.	Ross Field	----	Irr	1342.08	----	100		No	No	Yes
13N/9W-6C1	.32 miles west from the intersection of Highway 29 and Soda Bay Road.	E. Turner	----	Irr	1339.5	----	----		No	No	Yes
13N/9W-8C1	0.39 mile west of Thomas Drive on north side of Argonaunt Road	Davidson	----	Irr		12	110		----	No	Yes
13N/9W-8N1	1.5 mile southwest of Finley Road.	H. E. Marschall	1929	Irr	---	8	206		No	No	Yes
13N/9W-12M1	East side of private dirt road and 0.10 mile south of bend from east to north of Clarks Drive.	Lincoln Wright	1942	Irr	1357.7	----	200		----	----	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)

b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		KELSEYVILLE VALLEY (5-15) (Cont.)									
MDB&M											
13N/9W-16D1	0.15 mile south of Merritt Land on east side of Adobe Creek	Merritt Fraser	1948	Irr	1382.0	12	232		Yes	Yes	Yes
13N/9W-16D2	On south side of Merritt Land, northeast corner of farmhouse on east side of Adobe Creek.	Merritt Fraser	1920	Dom	---	8	30		No	No	Yes
13N/9W-22J1	.39 miles south from intersectionof Keleey Creek Drive and Gold Dust Drives and .02 miles west of Gold Creek Drive.	W. J. Stone	1926	Irr	1419.8	----	110		No	No	Yes
14N/9W-32J2	0.15 mile west of Stone Land on north side of Soda Bay Road	Irene D. Morrison	1950	Irr	---	12	84		---	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

WELL DATA

1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		SACRAMENTO VALLEY (5-21)									
MDB&M		TEHAMA COUNTY									
23N/2W-5A1	3 miles southeast of Corning. 0.8 miles east of intersection of Merrill Avenue and Hall Road on south side of Merrill Ave.	Kolsey	1947	Irr	---	10	368		---	---	Yes
23N/3W-22Q	2 miles southeast of Kirkwood. 0.7 miles east of Highway 99W between Moore Creek and Sour Grass Creek.	J. Sivers	1947	Irr	228	---	380		---	---	Yes
23N/3W-35B1	3 miles south of Kirkwood, 0.2 miles south of Christian Road 0.2 miles east of Southern Pacific tracks.	D. D. Smith	---	Dom	---	8	250		Yes	---	Yes
23N/5W-11L1	6 miles west of Kirkwood. South side of Burma Road.	R. Mitchell	---	Dom	---	12	30		---	---	Yes
24N/2W-30C1	2 miles east of Corning. 0.6 miles west of intersection of Hall Road and Loleta Avenue, on south side of Loleta Avenue.	J. Ayres	1937	Dom Irr	---	10	250		---	---	Yes
24N/3W-3P1	2 miles north of Corning, on east side of Toomes Avenue, north of Finnell Avenue.	J. M. Decker	1954	Dom Irr	---	10	210		---	---	Yes
24N/3W-14M1	Opposite southeast corner of school building at Corning High School in Corning, California.	Corning High School	1936	---	270	12	170		---	---	Yes
24N/3W-20N1	2 miles west of Corning, west of intersection of Chittenden Road and Chittenden Avenue, south of Chittenden Avenue.	W. E. Turner	---	Irr	310	10	230		---	---	Yes
24N/5W-21L1	0.3 miles east of Flournoy Bridge, back of northwest corner of house on north side of Flournoy Bridge.	Al Miller	---	Dom	---	---	175		Yes	---	Yes
25N/2W-4M1	1.5 miles north of Los Molinos, 50 feet, west of Highway 99 east, 200 feet north of Taft Street.	Los Molinos Cemetery	---	Dom	---	8	75		Yes	---	Yes
25N/2W-7K1	1.0 miles north of Tehama of west side of Holmes Road, well back of northwest corner of building.	F. B. Wray	---	Dom	---	8	56		---	---	Yes
25N/1W-31M1	3.0 miles northeast of Vina Street S. R. Pritchett Ranch	Pritchett	---	Irr	---	8	108		---	---	Yes
25N/3W-3N1	2 miles southwest of Gerber, west of Central Avenue near intersection of Hammon and Central Avenue.	El Camino Irr.District	---	Irr	---	---	997		---	---	Yes
25N/3W-31R1	4 miles northwest of Corning on north side of Davis Avenue.	Leo Clark	1947	Dom	318	12	210		---	---	Yes
26N/2W-4C1	East of Dairyville on Foothill Road.	Jack Munsinger	---	Irr	---	---	---		---	---	Yes
26N/2W-14F1	At Stover Cattle Guard end of Foothill Road.	Art Corda	---	Irr	---	---	---		---	---	Yes
26N/3W-10D1	3 miles southeast of Red Bluff on Highway 99 east.	Forward Bros. Lumber	1951	Ind Dom	282	12	400		---	---	Yes
26N/3W-22G1	On Highway 99 west, north of Almond Inn.	W. K. Merrithew	---	Irr	---	---	450		---	---	Yes
26N/3W-29E1	West of Rawson Road on north side of Ottman Road.	J. Burch	1929	Irr	305	12	440		---	---	Yes
26N/4W-10D1	West of Red Bank Road about 6 or 7 miles south of Red Bluff.	H. Dewitt	1935	Dom	---	8	206		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)

b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		TEHAMA COUNTY (Continued)									
27N/3W-10Q1	1.0 miles north of Highway 99 east on Saint Marys Road.	B. Kerstiens	----	----	----	----	440		----	----	Yes
27N/3W-15C1	North of Trinity Road.	Kerstiene	----	Irr.	----	----	140		----	----	Yes
27N/3W-19A1	East of Highway 99 west and west of city water works north of Red Bluff.	Red Bluff	----	Mun.	----	----	292		----	----	Yes
27N/4W-1H2	2.5 miles north of Red Bluff on Highway 99 west.	Wilcox Oaks Golf Course	----	Irr.	----	12	450		----	----	Yee

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
M.D.B. & M.		GLENN COUNTY									
18N/2W-1E1	0.5 mile south of Cordoa School then 0.4 mile west on Road No. 64.	Walter Wellin	-	Dom.	-	-	-		-	-	Yes
18N/2W-7F1	Three miles east of Highway 99 west at Norman Cafe then 1 mile north on Dirt Road. Then 0.5 mile east then 0.6 mile north on west side of road.	E. Frick	1953	Irr.	-	16	240		Yes	-	Yes
18N/3W-10K1	0.6 mile south of Logandale on Highway 99 west 0.5 mile east of Highway 99 west.	U. S. Fish and Wildlife Service	-	Dom.	-	8	940		Yes	-	Yes
18N/4W-2F1	Faucet north side pump house next to swimming pool.	Michaele Ranch	1945	Dom.	-	-	90		Yes	-	Yes
19N/2W-6G1	3.75 miles east of Highway 99 west 0.6 mile north of Willows Glenn Road.	R. T. Smith	1947	Dom.	-	6	78		Yes	-	Yes
19N/2W-23N1	5.5 miles north of Princeton on Colusa Glenn Road. 2.0 miles west of Colusa Glenn Road.	Carl Calvert	1947	Dom.	-	6	72		Yes	-	Yes
19N/3W-9J1	At intersection of 99 west and Cedar Avenue. Willows.	Alta California Dairy	-	Dom. & Irr.	-	8	213		Yes	-	Yes
19N/3W-18P1	1.6 mile south of Willows on Highway 99 west. 2.7 miles west of Highway 99 west on north side of road.	Tony Bem	1940	Dom.	-	14	100		Yes	-	Yes
20N/2W-11Q1	0.5 mile west of Baylies on Willow Baylies Road. 0.95 mile north of Bayliss Road.	Annie Quinn	1951	Dom.	-	-	65		No	-	Yes
20N/2W-13Q1	0.8 mile east of Bayliss on Bayliss to Willows Road north side of road.	Harold Perry	1957	Dom.	-	6	69		Yes	-	Yes
20N/3W-2D1	0.1 mile north of Artois on Highway 99 west then 1.2 miles east of 99 west on County Road. Well on north side of County Road.	Frank Reiman	1952	Irr.	-	-	-		Yes	-	Yes
20N/4W-2Q1	10.5 miles northwest of Willows.	L. M. Berene	1949	Dom.	-	8	110		No	-	Yes
21N/2W-2D1	2.2 miles east of Plaza School on St. Johns Road.	Joe Thomas	-	Irr.	-	-	365		Yes	-	Yes
21N/2W-15C1	10.5 southeast of Orland.	I.G.Finch	1957	Irr.	-	-	438		Yes	-	Yes
21N/3W-14F1	1.0 mile east of Greenwood Junction then 1.5 mile south of intersection on east side of road.	B. R. Porviance	1954	Irr.	-	14	780		Yes	-	Yes
22N/1W-29C1	0.6 mile east of Canal Street on 1st Street. Hamilton City.	Baker and McGowan	1954	Irr.	-	-	118		Yes	-	Yes
22N/2W-3A1	0.1 mile west of Third Avenue on Cutting Avenue.	C. A. Nickel	1956	Dom.	-	8	75		Yes	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
M.D.B. & M.											
		GLENN COUNTY (Continued)									
22N/2W-26B1	West of Hamilton City on Orland-Chico Highway 0.5 mile south of Highway.	Mills Orchard Inc.	-	Irr.	-	-	375		Yes	-	Yee
22N/3W-4G1	2.75 miles north of Orland on Highway 99 west. 0.25 mile west on County Road.	I. C. Wight	1948	Dom.	-	8	123		-	-	Yes
22N/3W-22Q1	0.5 mile east of Highway 99 west on Walker Avenue to East Avenue. South on East to Central. 400 feet east on Central (Walker Avenue is California 32).	City of Orland	1953	Mun.	-	8	180		No	-	Yes
22N/3W-25B1	2.5 miles southeast of Orland.	Joe Freitas	1957	Irr.	-	10	268		Yes	-	Yee
22N/4W-10B1	6.0 miles northwest of Orland on Newville Road.	Graves Cemetary	-	Irr.	-	-	205		Yes	-	Yee

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		BUTTE COUNTY									
17N/1E-1R1	Approximately 0.25 mile north of West Liberty Road on Pennington Road - approximately 400 feet west of Pennington Road.	D. E. Justeson	1944	Dom	-	8	126		-	-	Yes
17N/2E-2D1	1/8 mile south of Gridley - Colusa Road on Lewis - Oak Road. One mile west of Gridley. North side of house.	James C. Davis	1954	Irr	-	-	225		-	-	Yes
17N/3E-4D1	Approximately 0.9 mile east of Larkin Avenue on Oroville-Gridley Road.	Gridley Farm Labor Supply Center	1937	Mun	-	10	141		-	-	Yes
17N/3E-18Q1	0.25 mile south on Highway 99 east from intersection of Turner Avenue and Highway 99 east approximately 100 feet east of 99 east.	Earl White	1955	Dom Irr	-	6	32		-	-	Yes
17N/4E-20L1	Approximately 0.6 mile south of N section line of Section 20 approximately 0.3 mile east of W section line of Section 20.	L. D. Stresser	1946	Irr	-	14	410		-	-	Yes
18N/1E-14R1	2.0 miles west on Biggs Princton Road from intersection of Wickman Road and Biggs Princton Road.	Schohr Ranch	-	Irr	-	12	492		-	-	Yes
18N/2E-12B1	0.5 mile north of Biggs Rio Bonita Road on Smith Avenue 50 feet west of Smith Avenue.	E. Edwards	1939	Dom Stk	-	6	108		-	-	Yes
18N/4E-7A1	0.2 mile west of Occidental on Palermo Road, 100 feet north of Palermo Road.	Charles Jones	-	Dom	-	8	72		-	-	Yes
18N/4E-21F1	0.45 mile east Honcut-Palermo Highway on farm road approximately 300 feet north of farm road.	Fred Guidici	-	Irr	-	12	225		-	-	Yes
19N/2E-16R1	One block west of Highway 99 east on Richvale West Road in Richvale - at intersection of Richvale West Road and Second Street (West side).	Philip Rose	1948	Dom	-	8	160		-	-	Yes
19N/3E-36B1	Approximately 0.1 mile south of north section line of Section 36, approximately 0.2 mile west of Highway 24.	Henry J. Kaiser Co.	1928	Ind	-	20	200		-	-	Yes
19N/4E-6F1	At Butte County Hospital	Butte County Hospital	1939	Dom	-	12	315		-	-	Yes
19N/4E-18	Corner of Feather Avenue and 18th Street, Oroville.	Thermalito	-	Irr	-	-	-		-	-	Yes
20N/1E-15F2	On Goodspeed - Watt Road, 1/4 mile south of Troxel, well 700 feet west of house.	Ray Norheim	1956	Irr	-	14	290		-	-	Yes
20N/2E-29R1	Approximately 0.2 mile north of Nelson Blavo Road on Sacramento Street (north end of Sacramento Street) approximately 50 feet west of Sacramento Street.	J. Kirkpatrick	-	Dom Irr	-	8	108		Yes	-	Yes
20N/3E-15H1	100 feet east of Clark Road on Oro Fentz Road, 50 feet south of Oro Fentz Road in front yard.	Berkeley Olive Assoc..	1948	Dom	-	8	85		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		BUTTE COUNTY (cont.)									
21N/1W-26Q1	Approximately 0.7 mile north of Ord Ferry Road on River Road approximately 125 feet east of River Road.	Clyde Sprague	-	Dom	-	8	64		-	-	Yes
21N/1E-34M1	0.4 mile north of intersection of Goodspeed Watt Road and Troxel Road.	Frank Lazard	-	Irr	-	12	90		-	-	Yes
21N/2E-30C1	0.15 mile east of Highway 99 east on Durham Highway, approximately 0.25 mile north of Durham Highway on Jones Avenue, 100 feet west of Jones.	Yakich	1951	Dom Irr	-	8	151		-	-	Yes
21N/3E-10Q1	Three miles north of Fentz Road on Clark Road 75 feet west of Clark Road on drive to gate 50 feet north of Gate tap on Pressure tank.	Mrs. M. Compton	1952	Dom	-	-	108		-	-	Yes
22N/1E-9M1	Approximately 0.25 mile south of Eaton Road on Highway 99 - approximately 450 feet west of Highway 99 east.	Sid Hopkins	1955	Dom Stk	-	10	230		Yes	-	Yes
22N/2E-18J1	Approximately 4.0 mile northeast of Chico on Chico Canyon Road - sample at faucet - 75 feet east of pump.	State Department of Fish and Game	-	Dom Stk	-	5	200		-	-	Yes
23N/1E-32K1	1.25 mile north of Highway 99 east on Garner Avenue - approximately 0.25 mile east of Garner Avenue on dirt road.	Clive Callahan	-	Stk	-	8	150		-	-	Yes

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1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
M.D.B. & M.		COLUSA COUNTY									
13N/1E-22R1	2.75 miles north of Colusa-Yolo County line.	Jacob Miller	-	Dom.	-	6	180		No	-	Yes
13N/1W-6J1	0.7 mile south of Hillgate Road on Cemetery Road.	A. Phlean	-	Dom.	-	8	120		-	-	Yes
13N/1W-15N1	1.0 mile north of Johns School then 0.35 mile east on County Road.	W. West	-	Irr. & Stock	-	14	313		No	-	Yes
13N/1W-35Q1	3.0 east of Highway 99 west on Road No.1, 1,000 feet north to well.	M. K. Doherty	-	Dom.	-	8	364		Yes	-	Yes
13N/2W-10G1	2.0 mile south of Hilgate Avenue on Almond Avenue. 0.3 mile east of Almond.	Grant	-	Irr.	-	-	-		Yes	-	Yes
13N/2W-10M1	2.15 mile south of Hilgate Avenue on Almond thence 0.5 mile west of Almond.	A. Olivetti	1955	Irr.	-	12	714		Yes	-	Yes
13N/2W-22G1	0.25 mile west of Wildwood Road. On Greenbay Road thence 0.2 mile south of Greenbay Road.	Hal Charter	1956	Irr.	-	-	793		Yes	-	Yes
13N/2W-26A1	0.9 mile east of Wildwood on north side of Harrington.	W. J. Moore	1956	Irr.	-	12 & 10	462		Yes	-	Yes
13N/2W-29R1	0.1 mile south of Wisconsin Avenue on Wyer Road, thence 250 feet west of Wyer.	Charter	-	Irr.	-	-	961		Yes	-	Yes
14N/1E-18A1	500 feet southwest of Grimes across railroad tracks.	Grand Island School	-	Dom.	-	8	226		Yes	-	Yes
14N/1W-2D1	0.3 mile west of Grand Island Cemetary.	Stapp and Company	-	Dom.	-	8	330		No	-	Yes
14N/1W-12A1	1.25 mile northwest of Sacramento Warehouse (Grimes plant) on westside of Grimes - Colusa Highway.	Shelton Morse	-	Irr.	-	-	-		Yes	-	Yes
14N/2W-12H2	3.2 mile east of Highway 99 west on Hann Road 1.8 mile north on road.	Carl Hackbauth	-	Irr.	-	14	355		No	-	Yes
14N/2W-29J1	0.4 mile west of Elk Creek on Hilgate Road thence 1.3 mile north of Hilgate on section line road thence 100 feet west to well.	Harry Charter	1956	Irr. & Dom.	-	-	740		Yes	-	Yes
14N/2W-35P1	0.15 mile north of Tule Road on First Street 200 feet east of First Street.	J. Struckmyer	1957	Irr.	-	16 & 12	631		Yes	-	Yes
14N/3W-12L1	0.2 mile west of Cortina School Road and 1.3 miles south of Hahn Road.	Eugene Arambell	1955	Irr.	-	16"	425		-	-	Yes
13N/1W-7A1	2.65 mile southeast of Arbuckle on Hwy 99W	J. V. Doherty	--	Dom.	-	8	182		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
M.D.B. & M.		COLUSA COUNTY (Continued)									
15N/2W-32R1	0.65 mile east of Highway 99 west on Myers Road.	Bud Myers	-	Dom. & Stock	-	12	118		Yes	-	Yes
15N/4W-25P1	2.0 mile east of Highway 20 Lodga Road Intersection.	Pat Murphy	-	Dom.	-	8	100		No	-	Yes
16N/1W-29J1	0.6 mile east of Colusa on East Commer Avenue.	Shell Oil Co.	-	Ind.	-	-	125		Yes	-	Yes
16N/2W-4H1	5.5 miles east of Maxwell on Maxwell Road to dirt road.	Watts Brothers	-	Dom.	-	6	190		-	-	Yes
16N/2W-35B1	1.7 mile west of Colusa on 10th Street Extension .35 mile north on County Road.	J. W. Davis	1956	Dom.	-	8	155		Yes	-	Yes
16N/3W-9N1	0.7 mile west of Highway 99 west on Fairview Road.	F. J. Ortman	-	Dom.	-	-	275		Yes	-	Yes
17N/1W-20N1	0.25 mile north of Butte Creek School on Eastside Road. 0.4 mile east of Eastside Road.	Libby, Dr.	-	Irr.	-	-	-		Yes	-	Yes
17N/2W-12C1	0.8 mile south of Stegman on River Road.	Charles Tuttle	-	Dom.	-	6	100		-	-	Yes
17N/3W-3F1	0.1 mile north of Delvan on Highway 99 west 0.35 miles east of Highway 99 west.	A. R. Baker	-	-	-	10	986 [a]		-	-	Yes
17N/3W-33R1	One block west of Highway 99 west on Maxwell Road.	Maxwell P.U.D.	-	Mun.	-	12	635		Yes	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use a	Ground surface elevation b	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		SUTTER COUNTY									
12N/2E-9B2	100 feet south of Kirksville Road and 0.5 mile west of State Ranch Road.	C. A. Richter	1931	Dom.	----	8	136		No	No	Yes
12N/2E-11N1	0.3 mile south of Hiatt Road and 100 feet east of Jewett Road.	Oarner	----	Dom.	----	----	225		Yes	No	Yes
12N/2E-14B1	100 feet south of Varney Road and 0.05 mile east of Red Road.	----	----	Dom.	----	----	----		----	No	Yes
12N/2E-16R1	150 feet north of Seymour Road; 150 feet west of State Ranch Road.	L. A. Wright	1946	Dom.	----	8	128		No	No	Yes
12N/2E-23Q1	0.40 mile west of Highway #40 Alternate, 20 feet south of Del Monte Avenue.	Haun	----	Dom.	----	----	----		No	No	Yes
12N/2E-26A1	On northwest side of State Highway #24 and 0.1 mile southwest of Robbins Road.	Dorothy E. Mullen	----	Dom.	----	----	105		Yes	No	Yes
13N/3E-10M2	1.2 miles south of Tudor Road on east side of Sawtelle Avenue.	Tom Fields	----	Dom.	----	----	55		Yes	No	Yes
13N/3E-11Q3	150 feet east of Garden Highway and 0.1 mile south of Wilkie Avenue.	Edward Silva	----	Irr.	----	12	----		No	No	Yes
13N/3E-13C1	0.7 mile east of Garden Highway and 0.25 mile south of Wilkie Avenue.	Boccardo Ranch	----	Irr.	41	----	225		Yes	Yes	Yes
13N/4E-21A1	0.7 mile southwest of Swanson Road at west end of Bear River Drive.	C. M. Owen	----	Irr.	49	14	110		No	Yes	Yes
13N/4E-23Q1	0.1 mile north of Kempton Road and 0.30 mile west of Pleasant Grove Road.	J. E. Jopson	----	Irr.	63	14	----		No	Yes	Yes
13N/5E-7R3	On west side of Brewer Road 0.2 mile north of Bear River Road.	C. F. Nelson	1923	Dom. Irr.	----	12	315		No	No	Yes
13N/5E-19R2	On west side of Brewer Road and 0.15 mile north of Kempton Road.	E. J. Gallegher	----	Irr.	----	----	----		No	No	Yes
14N/3E-3C2	250 feet south of Bogue Road and 0.1 mile west of Railroad Avenue.	Basant Singh	----	Irr.	52	----	154		No	Yes	Yes
14N/3E-5A3	On west side of Grove Road and 0.15 mile south of Bogue Road.	Channah S. Srah	----	Irr.	49	12	106		No	No	Yes
14N/3E-14E2	50 feet north of Oswald Avenue and 0.1 mile west of Garden Highway.	Littlejohn	----	Irr. Dom.	47	16	90		No	Yes	Yes
14N/3E-15H1	0.5 mile west of Garden Highway and 50 feet north of Oswald Road.	James A. Blevins	1947	Dom.	----	8	120		Yes	----	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
MBD&M			SUTTER COUNTY (Continued)								
14N/3E-16B2	100 feet south of Oswald Road and 0.3 mile west of Sawtelle Avenue.	S. E. Best	1946	Dom. Irr.	----	8	99		Yes	No	Yes
14N/3E-18A2	0.15mile south of Oswald Road and 0.2 mile west of George Washington Boulevard.	Rennie Mahon	1914	Irr.	44	12	125		No	Yes	Yes
14N/3E-23M2	1.4 miles north of O'Bannion Road and 0.25 mile east of Garden Highway.	Sullivan	----	Irr.	----	14	90		No	----	Yee
14N/3E-28D1	Southwest corner of intersection of Carlson Road and Hutchinson Road.	L. Ott	----	Irr.	----	14	170		No	No	Yes
14N/3E-28R1	250 feet west of Sawtelle Road and 0.15 mile north of O'Bannon Road.	J. Serger	----	Irr.	41	14	163		No	No	Yes
14N/3E-31B1	0.1 mile south of O'Bannion Road and 0.4 mile west of George Washington Boulevard.	G. E. Cornell	1953	Irr.	38	14	230		No	Yes	Yes
15N/2E-26D2	125 feet east of Humphrey Road and 0.15 mile south of Franklin Road.	E. L. Carothere	1954	Dom.	----	8	87		Yes	No	Yes
15N/3E-4C2	0.25 mile south of Eager Road and 0.75 mile west of U. S. Highway #99E.	A. Eager	----	Irr.	62	----	147		No	Yes	Yes
15N/3E-26M1	0.31 mile north of Lincoln Road and 0.24 mile east of Garden Highway.	Robert Paillex	1948	Irr.	52	14	250		Yes	Yes	Yes
15N/3E-29G1	300 feet west of Ohleyer Road and 0.25 mile south of Franklin Road.	W. A. Glentzer	----	Irr.	----	10	90		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		YUBA COUNTY									
14N/4E-7M1	0.2 mile east of Feather River Blvd. on Murphy Road, on south side of road.	E. Anthony	1952	Dom.	----	8	83		Yes	---	Yes
14N/5E-15C1	0.7 mile east of intersection of Jasper Lane and Ostrom Road.	E. Booth	1951	Irr.	----	16	650		Yes	---	Yes
14N/5E-22D1	1.9 miles north of Wheatland-Spenceville Road on Jasper Lane, 0.5 mile east of Jasper Lane on dirt road then 0.4 mile north and 0.1 mile east.	R. W. Lorenzen	----	Dom. Irr.	----	20,16,12	610		Yes	---	Yes
14N/5E-32C1	0.3 mile southeast of the intersection of Dairy Road and U.S. 99 east, then northeast 0.1 mile.	L. Boone	1951	Irr.	----	----	320		Yes	---	Yes
15N/4E-21J	230 feet south of Sunrise Avenue, 85 feet east of Dunning Avenue, in Linda	Linda County Water Dist.	1956	Mun.	----	----	335		Yes	---	Yes
15N/5E-19N1	4.8 miles east of Hammonton Road on north Beale Road, 40 feet north of Beale Road.	U. S. Air Force	----	Mun.	----	----	296		Yes	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use a	Ground surface elevation b	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		YOLO COUNTY									
6N/3E-25A1	150 feet east and 100 feet north from the intersection of Jefferson Blvd., and Courtland Road.	Mrs. Tom Sakata	----	Dom	---	---	226		Yes	---	Yes
7N/3E-9J1	1.6 miles south on Road 106 from intersection Road 35A, 0.6 miles east of Road 106.	Glide Ranch	----	Dom Stk	---	6	267		Yes	---	Yes
8N/1E-9E1	About 5 miles northeast of Winters 0.45 miles south of Road 31. 1.0 miles west of Road 95 100 feet south of slough 30 feet east of section line fence.	Burt Nobel	----	Irr	97	16	384		Yes	---	Yes
8N/2E-13F2	0.8 miles west of intersection Road 104 and 32A, on Road 32A.	Willow Bank Corporation	----	Dom Irr	---	12	300		---	---	Yes
8N/3E-5Q1	0.1 miles north of U. S. Highway 40, 1.4 miles west of the West end of Yolo Causeway.	B. K. Howait	1937	Irr	---	14	265		---	---	Yes
8N/3E-19D1	1.7 miles south of U.S. Highway 40, on Road 104. Unpainted pumphouse 45 feet east of road.	Wm. C. Hamel	1919	Irr	---	12	308		---	---	Yes
8N/4E-3B1	0.9 miles southwest of Highway 40 and west end of Tower Bridge.	Rice Growers	----	Ind	---	----	240		---	---	Yes
9N/2E-35D1	0.3 miles east of intersection Roads 29 and 102, on Road 29.	Earl Chiles	----	Dom Irr	---	12	175		Yes	---	Yes
9N/3E-7D1	1.3 miles east of intersection Road 25 and Road 103, on Road 25, right hand side of road.	Woodland Farms	----	Dom	---	---	177		---	---	---
9N/4E-33L1	460 feet south of West Capitol Avenue, 550 feet west of Sycamore Street. "Garden Acres Trailer Park", Yolo County.	Failor	1955	Dom	15	4	216		Yes	---	Yes
9N/1W-16H1	3.9 miles south of Madison on Madison-Winters Highway.	Domars	----	Dom	----	6	300		No	---	Yes
9N/1W-30L1	2.55 miles west of Road 89 on Road 29 and 400 feet north of Road 29.	Chapman Bros.	1956	Irr	----	----	300		Yes	---	Yes
10N/1E-15G1	0.2 miles west on Road 18A from intersection Road 95B and Road 18A.	Mrs. Nora Corcoran	----	Dom	----	----	180		---	---	Yes
10N/1E-26A	2.3 miles northwest of Woodland 600 feet south and 600 feet west of the intersection of Roads 20 and 97.	Andy Summ	1956	Irr	----	16	252		Yes	---	Yes
10N/2E-1Q1	1.8 mile east of intersection Road 102 and Road 17, on Road 17.	Mr. W. K. Lowe	----	Dom	----	6	102		---	---	Yes
10N/2E-16B1	Spreckels Sugar Plant 300 feet north and 200 feet west of main office.	Spreckels Sugar	1950	Ind	----	24	516		Yes	---	Yes
10N/2E-27H1	0.55 miles north of Highway 16 on Road 102, 0.2 miles west on Road 21.	City of Woodland	1955	Dom	----	12	408		Yes	---	Yes
10N/1W-4B1	0.2 miles south of Road 16 and Road 89 on Road 89, 25 feet east of Road 89.	Clark Davis	1958	Irr	----	14	148		Yes	---	Yes

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b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

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MDB&M			YOLO COUNTY (Cont.)								
10N/1W-36K1	2.5 miles southeast of Madison on Highway 16, 1.1 miles behind ranch house.	Ferro and Canepa	----	Irr.	----	----	----		---	---	Yes
10N/2W-14A1	1 mile north of Highway 16 on Road 85; east side of road.	Jim Munroe	----	Irr.	200	----	128		---	Yes	Yes
10N/2W-16L1	100 feet north of house at end of road 82B west fork (50 feet north of large oak) Directly behind house at end of Road 82B.	John Peterson	----	Dom. Irr.	231	14	20		---	---	Yes
10N/2W-18F1	In white pumphouse (25 feet northeast of house) west fork of Road 79 (north of Highway 16)	Myrtle Bowles	----	Dom.	334	----	30		---	---	Yes
10N/2W-18F2	0.1 mile east on Road 79 from intersection of Road 79 and Highway 16, 0.1 mile north of road. Well southeast of house.	W. W. McClary	1952	Irr. Dom.	335	12,10 & 8	250		---	---	Yes
10N/2W-18L1	0.1 mile west of Highway 16 on Road 79.	V. White	----	Dom.	----	----	40		---	---	Yes
10N/2W-23A1	100 feet south of Highway 16 behind house, just east of intersection on Road 85 and Highway 16.	C. A. Kutsuris	----	Dom.	215	6	55		---	---	Yes
11N/1E-15C1	2.5 miles east of Zamora, 0.45 miles east of Road 12 and Road 95 on Road 12	Wild Bros.	1951	Irr. Dom.	----	8	191		Yes	---	Yes
11N/1E-17M1	0.3 miles west of Zamora, on dirt road 20 feet north from east west fence	J. J. Slaven	1946	Irr.	----	----	370		---	---	Yes
11N/2E-22A1	0.1 mile west on Highway 40 alt. from intersection Highway 40 alt. and Road 102.	Dutch Miller	----	Dom.	----	6	210		---	---	Yes
11N/2W-35J1	3.9 miles north of Capay on Road 85	Oscar Duret	1954	Dom.	----	8	200		---	---	Yes
11N/3W-9Q1	100 feet west of house, 1 mile west of Highway 16 on Road 59.	Richard Bloom	1943	Irr. Dom.	400	12	55		Yes	Yes	Yes
11N/3W-10E1	0.3 mile west of Highway 16 on Road 59; 0.4 mile north of Road 59 in almond orchard.	H. D. Everett	1904	----	364	---	16		---	---	Yes
12N/1W-15N2	0.1 mile east of Highway 99West, 0.1 mile south along SPRR	Southern Pacific RR	1934 & 44	Dom.	----	12	250		---	---	Yes
12N/2W-2A1	2.9 miles west of Highway 99 West on Road 1.	Marshall Dobkins	----	Dom.	----	----	140		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

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MDB&M		SACRAMENTO COUNTY									
5N/5E-3F1	West side of Bruceville Road, 0.42 mile south of Lambert Road.	H. Alberg		Irr	20	8	68		No	No	Yes
6M/6E-29J1	At the junction of Dillard Road and Stockton Boulevard.	Hart Ranch	1953	Irr	---	---	265		---	---	Yes
7N/4E-4R1	2.2 miles northwest of Highway 24 on Pocket Road; 100 feet east of Road.	M. Perry	1952	Irr	7.0	12	100		Yes	---	Yes
7N/5E-7C1	1800 feet west of Western Pacific Railroad tracks on Meadow View Road; 400 feet south of road.	State of California	1952	Dom	---	12	170		Yes	---	Yes
7N/5E-32J2	1450 feet north, 350 feet west of southeast corner section 32 at Camellia Diary.	Hans Sutter	1958	Irr	22	12	253		Yes	---	Yes
7N/6E-22R1	West side of Mecca Road north of Sheldon Road.	Hummer		Dom Irr	---	10	971		---	---	Yes
7N/7E-27P1	At Lee School; 4.0 miles east of Dillard.	School District		Dom	100	8	99		No	---	Yes
8N/4E-26D1	1.5 mile northwest of Sacramento Municipal Airport on Lot 44 South Land Park Terrace Unit 20 between Rosedale and Dorset Waye; 625 feet south of Seamas Avenue.	Land Park Water Maintenance Dist.	1954	Mun	---	12	146		Yes	---	Yes
8N/5E-15H1	775 feet west on Cucamonga Avenue from Power Inn Road; thence north 770 feet.	State of California	1952	Dom	39	12	256		Yes	---	Yes
8N/5E-15H2	75 feet west of 8N/5E-15H1.	State of California		Dom	39	---	---		---	---	Yes
8N/5E-24M1	0.1 mile east of Florin Road and 0.3 mile north of Fruitridge Road.	Haight		Irr	---	---	---		---	---	Yes
8N/5E-30N1	4300 feet south and 1300 feet east of northwest corner section 30.	Antone Amarel	1931	Irr	19	10	100		Yes	---	Yes
8N/6E-5K1	.5 mile west of Bradshaw Road and 0.5 mile north of Highway 50.	T. Saiki	1952	Irr	---	---	180		---	---	Yes
9N/5E-15N1	1665 Arcade Boulevard, Sacramento.	Citizens Utilities Co. of California		Dom	30	12	205		Yes	---	Yes
9N/4E-1R1	.2 mile north of Del Paso Rd. 20 feet west of Dirt Road.	Hoffart		Irr	---	16	185		---	---	Yes
9N/4E-8L1	N.E. side of Garden Hwy. 1.5 mile north of San Juan Road.	Kimura		Irr	---	---	105		---	---	Yes
9N/5E-21E1	300 feet north of Alamos Avenue on Branch Street.	Citizens Utilities Co. of California		Dom	30	12	440		Yes	---	Yes
9N/5E-29D1	25 feet west of Colfax Avenue on Stanford Avenue.	Citizens Utilities Co. of California		Dom	30	12	195		Yes	---	Yes
9N/6E-25H1	At Fair Oaks wye; 3.0 mile northeast of Mills on U.S. Highway 50.	J. W. Edwards	1913	Dom	---	8	260		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

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MDB&M		SACRAMENTO COUNTY(CONT.)									
9N/6E-27P1	3.0 mile N.E. of Mills Road and .8 mile north of Coloma Rd.	Rancho Cordova	1955	Ind.	—	—	124		Yes	—	Yes
9N/7E-15F1	100 feet north of old Highway 50; 0.8 mile west of Nimbus.	C.O. Kemper		Dom.	154	—	118		—	—	Yes
9N/7E-16P1	50 feet north of old Highway 50; 100 feet west of west end of Packing Plant.	Libby-McNeil and Libby	1950	Ind.	145	10	185		Yes	Yes	Yes
9N/7E-26H1	In green lath octagonal house on south side of Mills-White Rock Road.	Capitol Dredging Co.	----	Dom.	275	6	25		—	Yes	Yes
9N/7E-27Q1	On south side of Mills-White Rock Road at Ney School site.	H. Collier	----	Dom.	235	6	—		—	Yes	Yes
9N/7E-28E1	At Aerojet Corp. Nimbus.	Aarojet Corp.	1951	Ind.	180	—	325		Yes	—	Yes
9N/7E-28K1	800 feet south of 28E1, Aerojet Corp.	Aerojet Corp.	1956	Ind.	—	16&12	335		Yes	No	Yes
9N/7E-32H1	4.3 miles east of Mills on White Rock Road; 100 feet north of road.	J. A. Rogers	1956	Dom.	—	—	130		—	—	Yes
9N/7E-33E1	4.8 miles east of Mills on White Rock Road; 10.27 mile south of road.	Ben Petrucci	----	Irr. Dom.	—	—	—		—	—	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		SAN JOAQUIN VALLEY (5-22)									
MDB&M		SAN JOAQUIN COUNTY									
1N/6E-3H3	At Poplar and Monroe Streets, Stockton	California Water Service Co.	1909	Mun	----	14 & 12	250		----	----	Yes
1N/6E-4D1	Southwest corner of intersection of Marine Street and Michigan Street.	California Water Service Co.	1945	Mun	5.7	16	575		----	Yes	Yes
1N/6E-4J1	At Victory Park on Pershing between Acacia and Vernal Way.	City of Stockton	----	Mun	----	12	250		----	----	Yes
1N/6E-10E2	At intersection of Weber and Pershing Avenues, Stockton.	Union Ice Co.	1949	Ind	----		207		----	----	Yes
1N/6E-10P1	800 West Church Street, Stockton	Fibreboard Products Co.	1922	---	----	14	1130		----	----	Yes
1N/6E-10P2	800 West Church Street, Stockton	Fibreboard Products Co.	1918	---	----		970		----	----	Yes
1N/6E-14C1	At Jackson and Center Streets, Stockton	California Water Service Co.	1916	Dom	----	20	491		----	----	Yes
1N/6E-14C2	Southeast corner of intersection of West Jackson Street and South Center Street.	California Water Service Co.	----	Mun	----	16	459		Yes	----	Yes
1N/6E-14H1	At Fourth and Grant Streets, Stockton	California Water Service Co.	1949	Dom	----	16 & 12	418		----	----	Yes
1N/9E-18G1	0.75 mile east of Hewitt Road and 1.0 mile north of Farmington Road.	Slang	----	Irr	----	----	---		----	----	Yes
2N/6E-27L1	On Bianchi Road .15 miles east of Pacific Avenue	California Water Service Co.	1957	Mun	----	----	519		----	No	Yes
2N/6E-29N1	1.9 mile west of Pacific Avenue on March Lane	----	1954	Irr	----	----	175		No	No	Yes
2N/7E-14N1	1/4 mile north of Fairchild Road and 2.5 miles east of railroad.	L. Dentoni	1957	Irr	----	----	518		No	No	Yes
2N/8E-15L1	On Anderson Street .15 mile north of Rt. 8, .15 mile east of Duncan Road.	----	1955	Irr	----	----	----		Yes	No	Yes
2N/9E-7G1	.25 mile south of Bellota Bridge on Escalon Bellota Road.	F. DeBenedetti	1957	Irr Dom	----	----	700		No	No	Yes
3N/6E-27B1	0.32 mile east of Lower Sacramento Road and .03 mile south of Armstrong Road.	G. Barbero	----	Dom Irr	----	----	----		----	----	Yes
4N/7E-23B2	East side of Tretheway Road and 0.1 mile south of Peltier Road.	S. Gaberoglia	----	Dom Irr	----	---	----		----	----	Yes
5N/5E-33J1	.75 mile north of Walnut Grove on Thornton Road west of Thornton Road.	R. Nichols	----	Irr	----	----	140		No	No	Yes
5N/8E-31J1	North of Liberty Road on west side of Dry Creek Road.	A. T. Sims	----	Irr	----	----	----		No	No	Yes
1S/9E-8H1	On west side of Escalon Road .35 mile south of Skiff Road.	----	----	Irr	----	----	----		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
MDB&M		SAN JOAQUIN COUNTY (Cont.)									
2S/4E-1P1	On north side of Bethany Road and 0.7 mile west of Lammers Road	O. B. Dusina	-----	Dom	-----	8	233		-----	-----	Yee
2S/4E-36P1	0.2 mile south of Valpico Road on Lammers, 0.6 mile west of Lammers Road on dirt road.	H. C. Jepson	1951	Irr	-----	14 & 12	695		Yee		Yee
2S/5E-19D1	0.1 mile southwest of Grant Line Road; then 0.2 mile south, 1.0 mile west of Corral Hollow Road.	J. Furtado	-----	Irr	-----						Yee
2S/5E-22Q1	0.3 mile east of Tracy; turn right on first road before overpass; continue on road under overpass, 0.3 mile to well.	West Side Irrigation Diet.	1949	Irr	-----	18, 16 & 12	1136		Yee		Yes
2S/5E-23P1	0.25 mile east of Christman Road on Highway 50; on north side of Highway 50.	West Side Irrigation Diet.	-----	*	-----	-----	-----		Yes		Yee
2S/5E-28L1	In city of Tracy: Northwest corner of South Street and "C" Street	City of Tracy	1953	Mun	-----	16 & 12	930		Yes		Yes
2S/5E-29D1	.5 mile south of Highway 50 on Corral Hollow Road	Weet Side Irrigation Dist.	-----	Irr	-----	------	-----		No		Yes
2S/5E-32R1	0.9 mile south of Schulte Road on Jefferson Road.	West Side Irrigation Dist.	1949	Irr	-----	12 & 16	800		Yes		Yee
2S/6E-20J4	6.0 milee East of Tracy; Deuel Vocational School #3.	State of California		Dom	-----		500		Yes		Yes
3S/5E-8L1	0.4 mile east of Corral Hollow Road on dirt road and 0.5 mile south of Linne Road.	L. Huck	1933	Dom	-----	8	265		-----		Yee
3S/5E-14D1	1.2 mile south of Linne Road and 50' east of Chrisman Road.	Gerlach	-----	Irr	-----	-----	265		No	-----	Yes
3S/5E-35B1	.5 mile east of Chrisman Road and .45 mile north of Country Club Road.	Russell	1955	Dom	-----	14 & 12	800		Yes		Yes
3S/5E-35D1	On east side of Chrisman Road and 1.2 miles south of Delta-Mendota Canal.	W. Moler	June 1949	Irr	-----	12	832				Yes
3S/6E-7F1	On Highway 33, .2 mile south of Linne Road.	Banta Carbona	-----	Irr	-----	10	-----				
3S/6E-16L1	1630' north of Durham Fewy Road .5 mile east of Koste Road.	Boltzen & Williamson	1953	Irr	-----	10 & 12	811		Yes		Yee
3S/6E-17D1	.2 mile east of Highway 33 on Dirt Road.	W. L. Reece	1950	Irr	-----	14 & 12	787		Yes		Yee
3S/6E-22Q1	1 mile south of Durham Road on dirt road 1.5 mile east of Koste Road.	J. Hamilton	-----	Irr	-----	16 & 12	879		Yes		Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk), Drainage (*)
b U S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		STANISLAUS COUNTY									
1S/10E-33R1	On north side of irrigation canal and east of 26 mile Road	Jim Dunn	1951	Irr.	—	14	420		Yes	No	Yes
1S/11E-36E1	On south side of Orange Blossom Road; 0.4 mile east of east leg of Horseshoe Road	J. Demartini	—	—	—	—	—		—	—	Yes
2S/10E-10D1	On River Road,0.25 mile west and 200 feet south of junction River Road and Oakdale Highway.	A. Ramirez	1956	Irr.	—	10	355		Yes	No	Yes
2S/10E-36N1	200 feet north of southwest corner Section 36.	P. Giambanco	1955	Ind. Dom.	—	—	584		Yes	—	Yes
3S/7E-33C1	Maze Road at Hetch Hetchy pipeline.	J. E. Gardner	—	Dom.	—	—	67		No	—	Yes
3S/11E-9D1	1.0 mile south of Claribel Road on Ellenwood Road; 0.2 mile east of Ellenwood Road.	V. A. Rodden Ranch	1950	Irr. Dom.	—	—	802		Yes	—	Yes
3S/12E-26P1	0.2 mile south of Tuolumne River 0.25 mile north of Modesto main canal.	H. E. Ketcham	—	—	—	—	400		—	—	Yes
3S/13E-32D1	6 miles southwestof LaGrange.	R. Cres	—	Irr.	—	—	400		—	—	Yes
4S/6E-11	1/4 mile north of Gaffery Road on east side of Weltz Road.	Baranchi	—	Irr.	—	—	—		—	—	Yes
4S/6E-12N1	0.1 mile east of McCraken Road on Gaffery Road.	I. Russel	—	Irr.	—	—	—		—	—	Yes
4S/6E-15E1	400 feet south of Gaffery.	J. J. Raspo	—	Irr.	—	—	—		—	—	Yes
4S/7E-8L1	0.4 mile east of Grayson Highway.	Jones	—	Irr.	—	—	—		—	—	Yes
4S/7E-8Q1	1.6 mile N. of West Station Road on River Road.	West Stanislaus Irr.Dist.	—	Irr.	—	—	—		—	—	Yes
4S/7E-16E1	0.9 mile north of West Station Road on River Road.	West Stanislaus Irr.Dist.	—	Irr.	—	—	—		—	—	Yes
4S/7E-17E1	2.5 mile southwest of Grayson Highway.	West Stanislaus Irr.Dist.	—	Irr.	—	—	—		—	—	Yes
4S/7E-17K1	3 miles southwest of Grayson Highway.	West Stanislaus Irr.Dist.	—	Irr.	—	—	—		—	—	Yes
4S/7E-18A1	1/2 mile west of Greyson Hwy. Parallel to IRR. Return	West Stanislaus Irr.Dist.	—	Irr.	—	—	—		—	—	Yes
4S/7E-19G1	0.7 mile south of Gaffery Road on McCraken Road; 1.4 mile east of McCraken along irrigation canal.	W. W. Cox	—	Irr.	—	—	410		No	—	Yes
4S/7E-22E1	0.7 mile south east of West Station Road. 3 mile north east of River Road.	W. W. Crawford	—	Irr.	—	—	—		—	—	Yes
4S/7E-26R1	1/2 mile east of Cook Road, 0.9 mile north of Condit.	W. W. Cox	—	Irr.	—	—	—		—	—	Yes
4S/7E-27M1	1.1 miles south east of West Station Road and 0.6 mile west of River.	F. Azevedo	—	Irr.	—	—	—		—	—	Yes
4S/7E-28H1	0.7 mile south east of West Station Road, .6 mile west of river.	H. Ellery	—	Irr.	—	—	—		—	—	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

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									Log	Water levels	Analyses
MDB&M		STANISLAUS COUNTY (Cont.)									
4S/7E-30L1	1.5 miles west of Highway 33 on West Stanislaus Road.	W.S.I.D.	-	Dom	-	6	105		-	-	Yes
4S/7E-34D1	1/4 mile east of Highway 33 on Cox Road.	F. Azevedo	-	Irr	-	-	-		-	-	Yes
4S/7E-34J1	0.5 mile east of Highway 33 on Frank Cox Road.	Frank Cox	1955	Irr	-	18 & 14	386		Yes	-	Yes
4S/7E-35D1	1.3 mile east of Highway 33 on Frank Cox Road.	A. Cox	-	Irr	-	-	-		-	-	Yes
4S/8E-24A1	4 miles West of Ceres.	Turlock Irrigation Dist.	-	*	-	-	-		-	-	Yes
4S/8E-27L1	8 miles southwest of Ceres.	Turlock Irrigation Dist.	1944	*	-	18 & 16	264		Yes	-	Yes
4S/9E-20A1	2 miles west of Ceres 600'S and 600'W of NE corner of section.	Turlock Irrigation Dist.	1933	*	-	24 & 18	130		Yes	-	Yes
4S/9E-25A1	1/2 mile NW of Keyes 1300'S of NE corner Sec. 25 and on west side of Faith Home Road at end of Keyes Drive.	Turlock Irrigation Dist.	1933	*	-	18	179		Yes	-	Yes
4S/9E-30R1	4.5 miles southwest of Ceres.	Turlock Irrigation Dist.	1924	*	-	16 & 12	88		Yes	-	Yes
4S/10E-1D1		Johnson Bros.	1954	Irr	-	10 & 8	525		Yes	-	Yes
4S/11E-5M1	On left bank of Tuolumne River.	J. W. Short	-	Irr	-	14,12,10	525		Yes	-	Yes
4S/11E-21D1	4 miles N & 1-1/2 miles E. of Denair, Turlock Canal at head of upper lateral #2, southwest corner intersection Lateral 2-1/2 and main canal.	Turlock Irrigation Dist.	1948	Irr	-	16	180		Yes	-	Yes
4S/11E-31E1	1 mile northwest of Denair.	Turlock Irrigation Dist.	1938	*	-	18,16,14	267		Yes	-	Yes
5S/7E-1M1	.3 mile north of Condit Road on Vineyard Road.	H. O. Wood	-	Irr	-	-	-		-	-	Yes
5S/7E-2H1	0.7 mile north of Condit Road on Vineyard Road.	D. Cox	1955	Irr	-	18 & 12	395		Yes	-	Yes
5S/7E-3N1	0.5 mile north of Minnear Road on Raines' Road.	Alfred Gaspar	-	Irr	-	-	425				
5S/7E-9H1	0.1 mile west of Raines Road on Minnear Road.	Helena Raines	-	Irr	-	-	320		-	-	Yes
5S/7E-23B1	0.2 mile west of Baldwin Road on Zacharias Road.	C. Zacharias	1913	Irr	-	14	350		Yes	-	Yes
5S/7E-35G	0.5 mile west of Baldwin Avenue.	Bizzanelli	-	Dom	-	8	264				
5S/8E-1R1	Northwest corner intersection Carpenter Road and Monte Vista Road.	Turlock Irrigation Dist.	1949	*	-	18 & 16	266		Yes	-	Yes
5S/8E-8G1	2.25 miles east of Highway 33 on Magnolia Avenue; 0.25 mile south of Magnolia on east side of irrigation canal.	T. & T. Ranch	1954	Irr	50	16	215		Yes	-	Yes
5S/8E-27M1	On Elm Avenue 200 yards north of Almond.	Y. Puch	1954	Irr	61	6	268		Yes	-	Yes
5S/9E-9A1	4 miles SW of Keyes, 1300' W of NE Section, northeast quarter of the northeast quarter Section 9.	Turlock Irrigation Dist.	1929	*	-	18	65		Yes	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk), Drainage (*).
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

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		STANISLAUS COUNTY (Cont.)									
MDB&M											
5S/9E-13G1	4.5 mile W. of Turlock 800' East of and 800' North of Int. Qtr. Cor. Sec. 13. SW quarter of the NE quarter Section 13.	B. Ellis	1925	Irr.	—	16 & 10	69		Yes	—	Yes
5S/10E-4F1	3 mile NW of Turlock, on Zeering Road East of Highway 99.	Turlock Irrigation Dist.	1933	*	—	18 & 14	240		Yes	—	Yes
5S/10E-28H1	2 mile SW of Turlock, on West side of Walnut Avenue between Glenwood Avenue and Simmons Avenue.	Turlock Irrigation Dist.	—	*	—	18 & 14	168		Yes	—	Yes
5S/10E-30F1	4 mile SW of Turlock, 0.5 mile north of Harding Avenue on west side of Commons Avenue.	Turlock Irrigation Dist.	1935	*	—	24 & 16	265		Yes	—	Yes
5S/11E-7P1	2 miles northeast of Turlock.	Turlock Irrigation Dist.	1936	*	—	18 & 16	288		—	—	Yes
5S/12E-6D1	One mile southeast of Montpelier.	Perkins	1951	Irr.	—	12-14-16	480		Yes	—	Yes
7S/8E-12P1	1.25 miles northwest of Newman.	C.C.I.D.	1954	Irr.	—	14 & 16	427		Yes	—	Yes
7S/8E-22K1	0.71 mile northwest of the intersection of Shells and Easton Roads.	H. T. Krogh	—	Irr.	—	—	208		—	—	Yes
7S/8E-23R1	At the northwest corner of Shells and Draper Roads.	C.C.I.D.	1954	Irr.	—	—	341		Yes	—	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk), Drainage (*).
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MDB&M		MERCED COUNTY									
5S/11E-29F1	3 miles southeast of Turlock	Turlock Irrigation District	----	*	----	14, 16 & 18	228		----	----	Yes
6S/10E-2H1	3 miles south of Turlock	Turlock Irrigation District	----	Irr.	----	16	75		----	----	Yes
6S/10E-9B1	Just south of Johnson Road, 500 feet west of intersection of Johnson Road and Walnut Road.	Turlock Irrigation District	----	Irr.	----	18 & 14	266		Yes	----	Yes
6S/10E-24L1	2 miles southeast of Hillmar.	Turlock Irrigation District	1945	*	----	18 & 16	256		----	----	Yes
6S/10E-28K1	Just south of Crane Avenue, 500 feet west of intersection of Crane Avenue and Walnut Road.	Riverside School	1927	*	----	18 & 12	166		Yes	----	Yes
6S/11E-3B1	50 miles southeast of Turlock.	Turlock Irrigation District	1931	*	----	18 & 12	249		----	----	Yes
6S/11E-9C1	Between El Capitan Road and First Avenue.	Turlock Irrigation District.	1939	*	----	14 & 12	205		Yes	----	Yes
6S/11E-10J1	Just south of First Avenue, 250 feet east of intersection of First Avenue and Canal Drive.	Turlock Irrigation District.	1927	*	----	16	100		Yes	----	Yes
6S/11E-27K1	500 feet south of Vinewood Avenue and 650 feet west of Walnut Drive	Merced Irrigation District	1956	Irr.	----	14	63		Yes	----	Yes
6S/11E-36P1	9 miles south of Livingston.	Turlock Irrigation District	1946	Irr.	----	18	60		----	----	Yes
6S/12E-6L1	4 miles east of Delhi	Turlock Irrigation District	----	Irr.	----	18, 12, & 10	284		----	----	Yes
6S/12E-21N1	At northeast intersection of Cressey Way and Walnut Avenue	Merced Irrigation District	1924	Irr.	----	20 & 14	140		Yes	----	Yes
6S/12E-23H1	At northwest intersection of Olive Avenue and Winton Way	Merced Irrigation District	1945	Irr.	----	18	76		Yes	----	Yes
6S/13E-6N1	At northeast intersection of Fisher Road and Shaffer Road	Merced Irrigation District	1941	Irr.	----	14	54		Yes	----	Yes
6S/13E-31F1	At intersection of Santa Fe Avenue and Wallace Road	Merced Irrigation District	1928	Irr.	----	18 & 16	93		Yes	----	Yes
7S/9E-32H1	One mile southwest of Bella Vista Park	Gustine Irrigation District		Irr.	----	14	147		----	----	Yes
7S/11E-4M1	0.25 miles south from the intersection of Longview Avenue and Howard Road on the east side of Howard Road.	Central California Irrigation District	1948	Irr.	----	14	87		Yes	----	Yes
7S/11E-14G1	On the northwest corner of Whitmer and Rose Avenue	Merced Irrigation District	1928	Irr.	----	18 & 16	108		Yes	----	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk), Drainage (*)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

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MDB&M			MERCED COUNTY (Continued)								
7S/12E-1Q1	700 feet west of Shaffer Road and 450 feet north of Highway #99.	Merced Irrigation District	1951	Irr.	----	14	145		Yes	----	Yes
7S/12E-3F1	1.3 miles east from the intersection of Central Highway and Longview Avenue on north side of Longview Avenue.	Merced Irrigation District.	1923	Irr.	----	20	95		Yes	----	Yes
7S/12E-8E1	1.0 mile south of the intersection of Sultana and Bell Avenue, 500 feet east of Sultana Drive.	Merced Irrigation District	1923	Irr.	----	20	76		Yes	----	Yes
7S/12E-19A1	6.5 miles southwest of Atwater	Merced Irrigation District	1927	Irr.	----	18	80		Yes	----	Yes
7S/13E-4P1	Northwest about 400 feet of intersection of Santa Fe Avenue and Fox Road.	Merced Irrigation District	1923	Irr.	----	20	70		Yes	----	Yes
7S/13E-19H1	Between Landram Avenue and Muran Avenue, on west side of Buhach Road.	Merced Irrigation District	1929	Irr.	----	18 & 16	158		Yes	----	Yes
7S/13E-22C1	1000 feet east of intersection of Highway #140 and Franklin Road, on north side of Highway #140	Merced Irrigation District	1923	Irr.	----	20	148		Yes	----	Yes
7S/14E-9R1	3 miles northwest of Merced.	Merced Irrigation District	1943	Irr.	----		148		----	----	Yes
7S/14E-28J1	0.71 mile east of intersection Highway #140 and Highway #99 on south side of Highway #170.	Merced Irrigation District	1930	Irr.	----	----	145		Yes	----	Yes
7S/14E-31M1	1.5 miles south of Merced.	Merced Irrigation District	1944	Irr.	----	18	127		----	----	Yes
7S/15E-18K1	On the north end of Grimes Road.	Merced Irrigation District	1949	Irr.	----	18	550		Yes	----	Yes
7S/15E-30E1	0.25 mile east of Tuttle and Arboleda Drive on the north side of Tuttle.	Merced Irrigation District	1938	Irr.	----	18	102		Yes	----	Yes
7S/15E-34R1	On the northwest corner of Ferndale Avenue and Ivett Road.	Merced Irrigation District	1937	Irr.	----	18	172		Yes	----	Yes
8S/9E-16E1	0.5 mile south of Gustine	Gustine Drainage District	----	Irr.	----	14	105		Yes	----	Yes
8S/14E-2D1	0.75 mile west from the intersection of Ferndale Avenue and Orchard Drive on the south side of Ferndale Avenue.	Merced Irrigation District	----	Irr.	----	18	190		Yes	----	Yes
8S/14E-24A1	0.3 mile east from the intersection of U. S. Highway #99 and Le Grand Road on the south side of Le Grand Road.	Merced Irrigation District	1949	Irr.	----	18 & 14	397		Yes	----	Yes
8S/16E-17P1	On the northwest corner of Le Grand Road and Mitchell Road.	Merced Irrigation District	1942	Irr.	----	18	260		Yes	----	Yes

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		MERCED COUNTY (Cont.)									
MDB&M											
9S/9E-5B1	2 miles northwest of Ingomar	Gustine Drainage District	-	Irr	-	-	102		Yes	-	Yes
9S/9E-21F1		Central California Irrigation District	1954	Irr	-	16	138		Yes	-	Yes
9S/10E-36R1	3.5 miles northeast of Los Banos	State Game Refuge	1952	Irr Dom	-	16	224		Yes	-	Yes
9S/12E-31D1	4.3 miles north of Santa Rita Park	Miller and Lux	1948	Irr	-	-	220		Yes	-	Yes
10S/10E-28D1	2.5 miles southwest of Los Banos	Central California Irrigation District	1954	Irr	-	18-14	250		Yes	-	Yes
10S/12E-6K1	1 mile southwest from the intersection of Turner Island Slough and West Delta Canal	Bisignani Brothers	1948	Irr	-	16	179		Yes	-	Yes
10S/12E-25L	1.5 miles southwest of Santa Rita Park.	San Luis Canal Company	1953	Irr	-	18-14	207		Yes	-	Yes
10S/12E-27K1	At head of Branch #5 at the intersection with Colony Main Canal	Central California Irrigation District	1953	Irr	-	18-14	154		Yes	-	Yes
10S/12E-35K1	3 miles southwest of Santa Rita Park	Central California Irrigation District	1954	Irr	-	18-14	185		Yes	-	Yes
11S/10E-23K1	1.5 miles southwest of Charlestone School	R. L. Lindman	-	Irr	-	-	-		-	-	Yes
12S/11E-3C1	6 miles southwest of Earle Field Airport	Sam Hamburg	-	Irr	-	-	-		-	-	Yes

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									Log	Water levels	Analyses
MDB&M		MADERA COUNTY									
9S/15E-24F1	0.7 mile west of old Highway 99 at Minturn on dirt road.	Roger Jessup	---	Irr	---	---	---		---	---	Yes
9S/16E-30C1	0.4 mile north of Robertson Blvd., on First Street.	City of Chowchilla	5-22-56	Mun	---	18	548		Yes	---	Yes
9S/16E-35N1	0.4 mile north of Avenue 24 on Road 19;0.1 mile east of Rd.19	Will Baker	---	Irr	---	---	575		No	---	Yes
10S/14E-8B1	100 feet south of Highway 152 on west side of Chowchilla Canal.	Red Top Ranch	---	Irr	---	---	150		No	---	Yes
10S/14E-24B1	0.5 mile west of Road 9 on Avenue 21 on north side of road.	Ed Hughes	---	Irr	---	14	150		Yes	---	Yes
10S/15E-31A1	0.1 mile west of Road 10 on Avenue 19.	Homer Probert	---	Irr	---	14	150		No	---	Yes
10S/17E-25N1	1.3 mile south of Avenue 20½ on Road 26.	Madera Country Club	9-1-54	Dom.Irr	---	14	276		Yes	---	Yes
11S/14E-1A1	0.7 mile south of Avenue 18½ on Road 9 extended.	Red Top Ranch	---	Irr	---	---	350		No	---	Yes
11S/14E-5B1	1.2 mile east of Road 4 on Avenue 18½	G. C. Tornbrow	1-30-58	Irr	---	---	216		Yes	---	Yes
11S/14E-16A1	1.2 mile east of Road 4 on Ave.18½ S on dirt road 2.6 mile.	Diamond T. Ranch	1-2-58	Irr	---	---	---		Yes	---	Yes
11S/15E-23L1	0.5 mile north of Avenue 14 and 0.5 mile west of Road 14.	Henry B. Shein	---	Irr	---	---	208		Yes	---	Yes
11S/15E-29H1	5.1 miles south of 11S/14E-1A1 on west side of canal heading south.	Red Top Ranch	---	Irr	---	14	350		---	---	Yes
11S/16E-22K1	0.4 mile north of Avenue 14 on road 19; 0.3 mile west of road 19 on dirt road; thence 0.1 mile south.	L. J. Peatman	4-1-57	Irr	---	16 & 10	308		Yes	---	Yes
11S/17E-25B1	0.4mile south of Highway 99 on Madera Avenue; 0.4 mile west of Madera Avenue on Maple Avenue; thence 500 feet south of Maple.	City of Madera	6-15-55	Mun	---	20,16,14	552		Yes	---	Yes
11S/18E-17H1	0.2 mile north of intersection Road 29 and Avenue 15½.	Santa Fe Railroad	---	Dom	---	---	436		No	---	Yes
11S/18E-20E1	150' east of Road 28 on the north side of Avenue 14½.	Walter Jay	5-22-55	Dom	---	---	165		Yes	---	Yes
12S/14E-17B1	At Allens River Ranch House (Abandoned).	Arvid Allen	---	Irr	---	12	240		Yes	---	Yes
12S/14E-34H1	1.0 mile south of Madera-Firebaugh road on East Side Ranch road.	East Side Ranch	3-27-56	Irr	---	12 & 10	248		Yes	---	Yes
12S/15E-4K1	2.1 mile south of 11S/15E-29H1 on Chowchilla Canal.	Red Top Ranch	---	Irr	---	14	280		No	---	Yes
12S/15E-22F1	0.2 mile north of Madera-Firebaugh Road along Chowchilla Canal.	Red Top Ranch	---	Irr	---	---	350		No	---	Yes
12S/16E-25P1	.25 mile east of Road 20 and .25 mile north of Avenue 7.	Roy Spomer	4-19-55	Irr	---	---	240		Yes	---	Yes
12S/17E-5R1	0.3 mile south of Avenue 11½ on Road 23.	Beard	---	Irr	---	---	400		No	---	Yes
12S/17E-7F1	.5 mile south of Avenue 11 on the west side of Road 21½.	Sherman Thomas	---	Irr	---	---	---		Yes	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		MADERA COUNTY (Cont.)									
MDB&M											
12S/18E-14J1	0.6 mile south of Avenue 10E on Road 32N.	Iverson and Carlton	---	Irr	—	14 & 12	253		Yes	—	Yes
13S/15E-22J1	2.5 miles southeast of Pomona Ranch on Columbia Drive; across canal, thence 0.1 mile south.	Columbia Canal Co.	4-6-56	Irr	—	16,12,10	250		Yes	—	Yes
13S/16E-2C1	0.6 mile west of Road 20 on Avenue 6.	K. Seibert	—	---	---	14	365		Yes	---	Yes
13S/17E-5P1	0.5 mile west of Road 23 on Avenue 5; 0.1 mile north of Avenue 5.	George Roberts	2-22-51	Irr	—	14	250		Yes	—	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use a	Ground surface elevation b	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		FRESNO COUNTY									
11S/12E-13J1	2 miles Southeast of Dos Palos	Dos Palos Drainage Dist.	1954	*	---	16	116		Yes	---	Yes
11S/13E-17F1	At head of east ditch. 4 miles east of Dos Palos.	Central California Irr. Dist.	---	Irr.	---	18 & 14	161		Yes	---	Yes
11S/13E-36B1	6 miles North of Firebaugh	Miller & Lux	1954	Irr.	---	18 & 14	230		Yes	---	Yes
12S/13E-9C1	6 miles Northwest of Firebaugh	Redfern Ranch	---	Irr.	---	---	151		Yes	---	Yes
12S/13E-29B1	½ mile North of Firebaugh	J. Indart	1953	Irr.	---	16	250		Yes	---	Yes
12S/20E-32J1	.025 miles north of Herndon	Pindale Water Company	1944	Mun.	---	---	200		No	---	Yes
12S/21E-31P1	3.0 miles northwest of Clovis	Bernie Barber	1951	Irr.	357	12	84		---	---	Yes
13S/14E-34M1	3.0 miles west of Mendota	---	---	Dom. Irr.	---	---	---		---	---	Yes
13S/15E-18L1	2½ miles North of Mendota	Locke Bros.	1949	Irr.	---	18 & 16	330		Yes	---	Yes
13S/20E-12L1	0.3 mile east of Cedar on Barstow.	Fresno StateCollege	1951	Dom.	---	---	155		Yes	---	Yes
13S/20E-27J1	400 feet south of Clinton Ave.and 120 ft. west of First St.	City of Fresno	1951	Mun		20	168		---	---	Yes
13S/21E-15N2	0.15 mile north of Ashland on Fowler.	Henderson Nursery	1957	Irr.		8	129		---	---	Yes
14S/13E-12N1	Northeast corner of intersection of Newcomb Avenue and California Avenue.	Pappas & Co.	---	Irr.	---	16	1450		---	Yes	Yes
14S/13E-21N1	Northeast corner of intersection of Fairfax Avenue and North Avenue.	Employees Enterprise	---	Irr.	---	---	1889		---	---	Yes
14S/13E-22N1	On North side of North Avenue and 1.0 mile east of Fairfax Avenue.	Employees Enterprises	---	Irr.	---	16	1710		---	---	Yes
14S/13E-25N1	Northeast corner of intersection of Central Avenue and Newcomb Avenue.	Piliboe Bros.	---	Irr.	---	16	1687		---	Yes	Yes
14S/14E-9M1	On east side of Washoe Avenue and 0.5 mile north of California Avenue.	Pappas & Co.	---	Irr.	---	16	1400		---	---	Yes
14S/14E-11N1	On east side of San Bernardino Avenue and 0.1 mile north of California Avenue.	Vista Del Llano	---	Irr. Dom.	---	16	696		---	---	Yes
14S/14E-12N1	On east side of Ohio Avenue and 0.1 mile north of California Avenue	Jack Scanes	---	Irr.	---	16	900		---	---	Yes
14S/14E-17Q1	300 feet north of Jensen Avenue and 0.25 mile west of Washoe Avenue	William Giacone	1956	Irr.	---	---	1216		---	---	Yes
14S/14E-28E1	On east side of Washoe Avenue and 0.4 mile south of North Avenue	Murietta Farms	---	Irr.	---	16	1195		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk), Drainage (*)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		FRESNO COUNTY (Cont.)									
14S/14E-33N1	Northeast corner of intersection of Washington Avenue and San Diego Avenue.	Murietta Farms	-	Irr	-	-	850		-	-	Yes
14S/15E-31N1	Northeast corner of intersection of State Highway 33 and Washington Avenue.	L.A. and J. W. Jones	-	Irr	-	-	1,200		-	Yes	Yes
15S/12E-1N1	Northeast corner of intersection of Lincoln Avenue and Millux Avenue.	Employees Enterprises	-	Irr	-	16	1,873		-	Yes	Yes
15S/13E-5R1	On north side of Lincoln Avenue and 0.2 mile west of Fairfax Avenue.	Employees Enterprises	-	Irr	-	16	1,528		-	Yes	Yes
15S/14E-36Q2		F. A. Yearout	-	Irr	-	16	1,734		-	-	Yes
15S/15E-20N2	Northeast corner of intersection of Manning Avenue and Monterey Avenue.	Pucheu	-	Irr	-	16	1,176		-	-	Yes
15S/15E-25N1	Northeast corner of intersection of Tuolumne Avenue and Dinuba Avenue.	Reece Bros.	-	Irr	-	12	532		-	Yes	Yes
15S/15E-27N1	Northeast corner of intersection of Dinuba Avenue and Stanislaus Avenue.	Reece Bros.	-	Irr	-	16	589		-	Yes	Yes
15S/15E-35N1	Northeast corner of Floral Avenue and San Mateo Avenue.	Reece Bros.	-	Irr	-	12	532		-	-	Yes
15S/17E-1H1	0.5 mile south of intersection of American and Madera Avenues on west side of Madera Avenue.	E. Just	-	Irr	-	-	-		-	-	Yes
15S/17E-11F1	0.24 mile north of section line; 0.5 mile east of canal and section line.	Sunset Int. Oil Co.	-	Dom	-	-	-		-	-	Yes
15S/17E-12J1	1.52 miles south of American Avenue and 30 feet west of Madera Avenue.		-	Irr	-	12	-		-	-	Yes
15S/17E-13R1	90 feet west of Madera Avenue south side of Seaboard Oil Co. yard, near offices.	Seaboard Oil Co.	-	Dom	-	-	180		-	-	Yes
15S/17E-14G1	0.10 mile north of Sumner Avenue and 1.51 mile west of Madera Avenue.	Seaboard Oil Co.	-	Dom Ind	-	-	-		-	-	Yes
15S/17E-15B1	0.15 mile south of north section line and 0.30 mile west of east section line, Section 15.	Signal Oil Co.	-	Dom	-	6 & 8	200		-	-	Yes
15S/17E-15F1	0.4 mile south of canal bridge on Lassen Avenue; 0.6 mile west of Lassen Avenue.	Nobel	-	Irr	-	-	-		-	-	Yes
15S/17E-15H1	.2 mile west of Lassen Avenue and 0.4 mile south of canal bridge.	Nobel	-	Irr	-	-	-		No	-	Yes
15S/20E-10D3	60 feet south of Lincoln Avenue, 275 feet east of Elm Avenue	G. Bixby	1951	Irr	-	6	115		-	-	Yes
16S/14E-10Q1	North side of Mountain View Avenue and 1.3 mile west of Ohio Avenue.	William Deal	-	Irr	-	16	1,685		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		FRESNO COUNTY (CONT)									
16S/15E-3N1	Northeast corner of intersection of Mountain View Avenue and Monterey Avenue.	F. A. Yearout	---	Irr.	---	16	1668		---	Yes	Yes
16S/15E-25Q1	On north side of Clark Avenue and 0.5 mile east of Tuolumne Avenue.	Vista Del Llano	---	Irr.	---	16	1694		---	Yes	Yes
16S/16E-9N1	On north side of Mountain View Road and 0.1 mile east of Sonoma Avenue.	Rabb Bros.	---	Irr.	---	14	560		---	Yes	Yes
16S/16E-20N1	Northeast corner of intersection of Conejo Avenue and Amador Avenue.	Vista Del Llano	---	Irr.	---	14	531		---	Yes	Yes
17S/16E-18E1	On east side of Calaveras Avenue and 0.4 mile south of Cerini Avenue.	Vista Del Llano	---	Irr.	---	16	1615		---	---	Yes
17S/16E-24N1	Northeast corner of intersection of Colusa Avenue and Mt. Whitney Avenue.	Harnish Bros.	---	Irr.	---	16	1518		---	---	Yes
17S/17E-23Q1	On north side of Mt. Whitney and 0.6 mile east of Lassen. Avenue in Five Points.	H. W. Deavenport	---	Irr.	224	---	589		Yes	Yes	Yes
17S/17E-27R1	Northwest corner of intersection of Lassen Avenue and Laguna Avenue.	Deavenport	---	Irr.	---	16	660		Yes	---	Yes
18S/16E-24N1	Northeast corner of intersection of Oakland and Colusa Avenue.		---	Irr.	---	---	---		---	---	Yes
18S/17E-13N1	1.0 mile east of Lassen Avenue on north side of Cadillac Avenue.	F. C. Diener	---	Irr.	---	16	1790		---	---	Yes
18S/17E-13Q1	On north side of Cadillac Avenue and 0.5 mile west of Madera Avenue.	F. C. Diener	---	Irr.	---	16	1650		---	---	Yes
18S/17E-30P1	On north side of Packard Avenue and 0.75 mile west of Butte Avenue.	Benson	---	Irr.	---	16	1995		---	Yes	Yes
18S/17E-33N1	Northeast corner of intersection of Lake Avenue and Ford Avenue.	Cal flax	---	Irr.	---	16	2204		---	Yes	Yes
19S/17E-9N1	Northeast corner of intersection of Lake Street and State Street.	O'Neil Farms	---	Irr.	---	16	1930		---	---	Yes
19S/17E-13N1	Northeast corner of intersection of Siskiyou Avenue and Cole Avenue.	Giffen Inc.	---	Irr.	---	16	2170		---	Yes	Yes
19S/18E-23D2	Southeast corner of intersection of Jameson Avenue and Idaho Avenue.	Boston Land Co.	---	Irr.	---	16	2110		---	Yes	Yes
20S/15E-25D2	2.0 miles north of Jayne Avenue and 3.0 miles east of State Highway 33.	Allen	---	Irr.	---	18	---		---	---	Yes
20S/15E-26M1	1.3 miles north of Jayne Avenue and 2.0 miles east of State Highway 33.	---	---	Irr.	---	---	---		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
MDB&M		FRESNO COUNTY (CONT)									
20S/16E-4P1	0.5 mile east of Sonoma Avenue and 0.2 mile north of Kansas Avenue.	Shell Oil Co.	---	Ind.	---	12,10,8	1152		---	---	---
20S/17E-9R1	On north side of Lansing Avenue and 0.15 mile west of Trinity Avenue.	Giffen Inc.	---	Irr.	---	16	2145		---	---	Yes
20S/17E-11N1	0.25 mile north of Lansing Avenue on Lassen Avenue, 200 feet east of Lassen Avenue.	Paul Kucher	---	Irr.	- -	---	---		---	Yes	Yes
20S/17E-36D1	1.0 mile north of Jayne Avenue and 1.0 mile east of Modoc Avenue.	S. & V. Thomas	---	Irr.	---	18	2092		---	---	Yes
20S/18E-24D1	On southeast corner of intersection of 29th Avenue and Gale Avenue.	Boston Land Co.	---	Irr.	---	16	2012		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
M.D.B. & M.		TULARE COUNTY									
17S/23E-8H1	One-eighth mile west of Road 36, 0.5 mile south of Road 376.	J. Aguiav	1957	Dom.	-	-	114		Yes	-	Yes
18S/24E-19M1	Approximately 0.25 mile south of Goshen on Old Highway 99 approximately 90 feet west of 99.	A. Castro	-	Dom.	-	6	100		-	-	Yes
19S/23E-24G1	Approximately two miles east of overflow reservoir on Tagas Boulevard approximately 200 feet north of Tagas Boulevard.	Jinett Bros.	1951	Dom.	-	6	135		-	-	Yes
19S/25E-31J1	On road 124 0.4 mile north of Avenue 240.	J. Lewie	1957	Dom.	-	-	147		-	-	Yes
19S/2E-3K1	75 west of C Street on Willow Street 25 feet north of Willow.	City of Exeter	-	Dom.	-	-	631		-	-	Yes
20S/23E-27P	0.1 mile south of railroad tracks on Road 44, 0.1 mile east on dirt road.	Harrie and Cade	1957	Irr.	-	-	496		-	-	Yes
22S/23E-6A1	4.2 miles southeast of Corcoran.	W. Murray	-	Dom.	-	-	-		-	-	Yee
22S/23E-7A2	5.2 miles southeast of Corcoran, northeast ¼ section 7, township 22 south, range 23 east.	Kaye Silvasian	-	-	-	-	-		-	-	Yee
23S/27E-21H	0.7 mile northwest of the intersection Road 64 and 64th Avenue.	R. Burke	1958	Irr.	-	-	1650		-	-	Yes
24S/23E-8D	0.9 mile weet of Road 34, 0.15 mile eouth of Avenue 42.	H. Mitchell	1957	Irr.	-	-	1218		-	-	Yes
24S/27E-32P1	On Tulare County line, 0.25 eaet of road.	M. Gutinich	-	Irr.	-	-	-		-	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		KERN COUNTY									
SBB&M											
11N/18W-14M1	10 miles east of Wheeler Ridge	Tejon Ranch	1914	Dom	-	-	500		-	-	Yes
11N/19W-25F1	5 miles east of Wheeler Ridge	Tejon Ranch	1952	Dom Irr	-	14	963		-	-	Yes
11N/20W-8R1	4 miles west of Mettler Station	W. O. Fry	1948	Irr	-	16	1001		Yes	-	Yes
11N/20W-25K1	1 mile northwest of Wheeler Ridge	Kern County Rock Co.	1955	Ind	-	14	1202		Yes	-	Yes
12N/19W-33R1	4 miles east of Mettler Station	R. A. Hildebrand	1947	Irr	-	-	1029		Yes	-	Yes
12N/21W-33N1	7 miles south of Conner	Park Brothers	1949	Irr	-	16	796		Yes	-	Yes
MDB&M											
25S/18E-2N2	2 miles northwest of Devil's Den	K K Ranch	-	Irr	450	36	-		-	-	Yes
25S/18E-3N2	3 miles northwest of Devil's Den	Gilland Oil Co.	-	Ind	585	14	-		-	-	Yes
25S/19E-6D2	2 miles north of Devil's Den	K K Ranch	-	Irr	506	-	-		-	-	Yes
25S/19E-7P1	0.6 mile southeast of Devil's Den	K K Ranch	-	Irr	490	16	-		-	-	Yes
25S/24E-27R1	2 miles west of Pond	G. Fiarini	-	Irr	262	18	155		-	-	Yes
25S/26E-1R1	7 miles east of Delano	Mid-State Hort. Co.	-	Irr	-	-	1371		-	-	Yes
25S/26E-16J1	5 miles east of Delano	M. Caratan	1941	Irr	416	12	684		Yes	-	Yes
26S/27E-9G1	9 miles east of McFarland	N. G. Nelson	-	Dom Stk	-	-	260		-	-	Yes
27S/20E-34G1	8 miles southwest of Lost Hills	Tidewater Oil Company	-	Ind	725	6	460		-	-	Yes
27S/22E-2Q2	13 miles west of Wasco	E. A. Meyer	1955	Irr	-	12	519		Yes	-	Yes
27S/23E-27J1	10 miles north of Buttonwillow	R. Neumand	1937	Irr	286	14	505		Yes	-	Yes
27S/24E-5R1	4 miles west of Wasco	Kern County Land Co.	1950	Irr	-	16	740		Yes	-	Yes
27S/26E-27R1	3 miles north of Cawelo	C. West	-	-	506	-	802		Yes	-	Yes
28S/22E-36N1	3 miles north of Lokern	Houchin Ranch	-	-	250	16	304		-	-	Yes
28S/23E-25P1	4 miles north of Buttonwillow	Crawford	1946	Irr	264	16	277		Yes	-	Yes
28S/25E-17L1	2 miles west of Shafter	B. Izzac	1946	Dom Irr	326	12	200		-	-	Yes
28S/26E-11A1	2 miles northeast of Cawelo	S. A. Camp 12	-	Irr	480	-	940		Yes	-	Yes
28S/26E-30A1	1 mile north of Una	Kern County Land Co.	1951	Irr	354	16	608		Yes	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
MDB&M		KERN COUNTY (Cont.)									
29S/23E-24H1	1 mile southeast of Buttonwillow	Houchin Ranch	1951	Dom.	270	10	672		Yes	-	Yes
29S/25E-10N1	1 mile northeast of Rio Bravo	B. Curtis	1951	Irr.	-	16	255		Yes	-	Yes
29S/26E-35K1	2 miles south of Rosedale	M. F. Grimes	1957	Irr.	-	12	174		-	-	Yes
29S/28E-12E1	4 miles northeast of Bakersfield	D. C. McCan	1942	-	-	12	405		-	-	Yes
29S/29E-34N1	1 mile northeast of Edison	Kern Oil Co.	-	Irr.	655	6	600		-	-	Yes
30S/24E-14H1	2 miles northwest of Tupman	State of California	-	Irr. & Stock	-	14	294		Yes	-	Yes
30S/28E-25A1	3 miles north of Lamont	Douglas Oil Co.	1951	Ind.	405	16	600		Yes	-	Yes
30S/29E-5D2	1.5 miles west of Edison	T. Panella	-	Dom.	499	-	300		Yes	-	Yes
30S/29E-20A1	2.5 miles south of Edison	H. Porter	-	-	478	-	600		-	-	Yes
30S/29E-27J1	5 miles southeast of Edison	F. Alexis	-	-	507	14	306		Yes	-	Yes
31S/24E-28B1	5 miles northeast of Ford City	R. Banduchi	-	Irr.	403	16	402		Yes	-	Yes
31S/28E-7R3	2 miles south of Greenfield	Palm Dairy	1957	Dom.	-	10	174		Yes	-	Yes
31S/29E-17K1	1 mile east of Weed Patch	R. Yaksitch	1946	Irr.	410	12	401		Yes	-	Yes
31S/30E-16A1	5 miles northeast of Arvin	J. Busby	1942	Dom. & Irr.	-	16	585		-	-	Yes
32S/27E-16R2	4 miles southeast of Conner	Kern County Land Co.	1948	Dom.	281	12	346		Yes	-	Yes
32S/28E-12F1	6 miles south of Weed Patch	H. M. Harford	-	Dom. & Irr.	-	14	853		-	-	Yes
32S/29E-11R1	4 miles south of Arvin	C. B. Dickey	-	Irr.	457	-	810		Yes	-	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

WELL DATA

1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
SBB&M	LOWER MOJAVE RIVER VALLEY-BARSTOW TO YERMO (6-40)										
9N/1E-1M1	0.2 mile west of railroad station and 0.1 mile south of Highway 91, Yermo.	Union Pacific Railroad	----	---	---	--	---		---	---	Yes
9N/1E-14M1	1.9 miles east of Daggett and 0.8 mile north of Santa Fe Railroad Station.	California Electric Power Company	----	Irr	---	--	---		---	---	Yes
9N/1E-15K1	0.5 mile east of Union Pacific Railroad spur and 0.85 mile north of Santa Fe Road, northeast of Daggett.	California Electric Power Company	----	Irr	---	--	---		---	---	Yes
9N/1E-15N2	1 mile northeast of Daggett, 2000 feet north of Santa Fe Railroad and 1500 feet east of Union Pacific Railroad.	Grey Phelps Cool Water Ranch	----	Dom Irr	---	--	---		---	---	Yes
9N/2E-8N2	2.3 mile north of Highway 66, 0.3 mile up dirt road from pole line road.	Stuart C. Slack	1948	Dom Irr	---	14	300		---	---	Yes
9N/1W-5J2	0.4 mile north of Highway 66 and Riverside Drive intersection, 200 feet east of Riverside Drive on river bank.	Southern California Water Company	12-30-52	Mun	---	8	208		Yes	---	Yes
9N/1W-5J3	0.4 mile north of Highway 66 and Riverside Drive intersection, 330 feet east of Riverside Drive.	Southern California Water Company	4-18-56	Mun	---	8	222		Yes	---	Yes
9N/1W-9G1	2.3 miles east of Barstow, 200 feet north of Highway 66, west side of Food Town Market, 0.75 mile east of Riverside Drive.	V. D. Price	May 1948	Dom	---	8	62		No	No	Yes
9N/1W-10D1	4 miles east of Barstow. 1.1 miles southeast from Highway 91 along Soapmine Road, 0.4 mile south of Soapmine Road on east side of road.	Bob Hetticks	September 1944	Dom Irr Stock	---	12	132		No	No	Yes
9N/1W-10G1	2 miles east of Barstow, 0.5 miles south of Soapmine Road on Marks Road; thence 0.25 miles east of Marks Road, and 150 feet south of entrance on dirt road.	Lee Tippet	1948	Dom	---	10	30		No	No	Yes
9N/1W-13H2	1.3 mile east of Nebro Supply Depot, .3 mile north of Highway 66. Well at head of Daggett Ditch.	Cool Water Ranch	----	Irr	---	--	---		---	---	Yes
9N/2W-1F1	0.8 mile west of Barstow, 0.3 mile north of Highway 66 (at gas station) north of railroad track, on north east side of road; well nearest road.	Southern California Water Company	April 1947	Mun	---	14	174		No	No	Yes
10N/2E-31R1	200 feet north of Highway 91 at inspection station, 1 mile east of Yermo.	State Department of Agriculture	1930	Dom	---	10	---		---	---	Yes
10N/1W-32J1	1.5 mile northeast of Barstow, 0.6 mile west of Soapmine Road and 0.3 mile south of Highway 91.	R. W. Dickenson	1950	Dom	---	6	57		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)

b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
		COACHELLA VALLEY (7-21)									
SBB&M											
5S/7E-16K1	2.65 miles northwest of Indio, 0.5 mile south of Highway 99, 300 feet west of irrigation canal.	Lester Roberson	10-31-51	Dom	---	6	225		Yes	No	Yes
5S/7E-22K1	1.5 miles west of Indio, 1.3 miles west of intersection Jackson Avenue and Highway 99, 240 feet south.	Z. E. Zalay	8-30-50	Dom	---	6	200		Yes	No	Yes
5S/7E-33C1	2.5 miles west of Indio, 0.27 mile south and 5.01 miles west of intersection of Madison Avenue and Avenue 48.	J. N. Rameriz	----	Dom Irr	---	10	339		Yes	No	Yes
5S/8E-31D1	0.15 mile south and 0.01 mile east of Van Buren Avenue and Highway 60.	Mitchel Land and Improvement Company	8-12-50	Dom	---	6	300		Yes	No	Yes
5S/8E-33N1	3 miles southeast of Indio, 1.1 mile east of Highway 111 and 264 feet north of Avenue 50.	E. M. Holm	3-19-51	Dom	---	6	148		Yes	No	Yes
6S/7E-25E1	0.27 mile south and 0.5 mile east of intersection of Jackson Avenue and Avenue 58.	G. Phillips	2-14-51	Dom	---	8	300		Yes	No	Yes
6S/8E-7P1	0.03 mile north and 0.4 mile east of intersection of Van Buren Avenue and Avenue 54.	M. R. Shepard	7-7-50	Dom Irr	---	6	150		Yes	No	Yes
6S/8E-10A3	2.25 miles east of Highway 111, 500 feet south of Avenue 52, 100 feet west of Fillmore Avenue.	E. H. McCain	----	Dom Irr	---	6	480		---	---	Yes
6S/8E-27H1	0.7 mile north and 0.99 mile east of intersection of Polk and Avenue 60.	J. E. Stroube	6-26-51	Dom	---	6	700		Yes	No	Yes
6S/9E-30C1	0.5 mile east and 0.01 mile south of intersection of Buchanon Street and 58th Avenue.	N. Karahadian	7-21-50	Dom Irr	---	6	527		Yes	No	Yes
7S/8E-22M1	0.27 mile north and 0.02 mile east of intersection of Polk Street and Highway 99.	Vessey Brothers	12-15-50	Dom	---	6	348		Yes	No	Yes
7S/9E-16K1	0.74 mile east and 0.01 mile south of intersection of National Avenue and Johnson Street.	C. C. Crockett	10-20-52	Dom	---	8	685		Yes	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA

WELL DATA

1958

State well number and other number	Location	Owner	Date completed	Use a	Ground surface elevation b	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		EAST COASTAL PLAIN-PRESSURE AREA (8-1.01)									
SBB&M											
5S/11W-21M3	50 feet east of Bolsa Chica Street and 0.39 mile north of Wintersburg Avenue.	J. S. Drake	1935	Dom	18	--	---		Yes	No	Yes
5S/11W-21N2	300 feet east of Bolsa Chica Street and 270 feet north of Wintersburg Avenue.	Anderson Mutual Water Company	----	Dom	---	--	---		---	---	Yes
5S/11W-25R2	150 feet west of Cannery Street and 0.29 mile north of Talbert Avenue.	Harry C. Fulton	Prior to 1914	Dom	---	7	145		No	No	Yes
5S/11W-26M2	0.17 mile south of Slater and 50 feet east of Goldenwest.	Southern California Water Company	----	Mun	---	--	201		---	---	Yes
5S/11W-27H4	500 feet north of Slater and 125 feet west of Goldenwest.	W. S. Tubach	3-10-31	Dom	6	4	91		Yes	---	Yes
5S/11W-28H2	450 feet north of Slater and 30 feet west of Springdale.	Callens Brothers	1-6-31	Irr	5	--	---		Yes	---	Yes
5S/11W-28K1	0.33 mile west of Springdale and 45 feet south of Slater.	Bolsa Land Company	11-4-30	---	8	--	---		---	---	Yes
5S/11W-29C1	50 feet north of Los Patos Avenue and 150 feet east of Algonquin Street, easterly of two wells.	Sunset Land & Water Company	----	Mun	62	6	641		Yes	No	Yes
5S/11W-33H1	4450 feet south of Slater Avenue and 2800 feet west of Edwards Street and 50 feet west of Tanksetting.	Signal Oil and Gas Company	July 1940	Ind	---	12	368		---	---	Yes
5S/11W-34F3	0.26 mile west of Edwards Street and 0.74 mile north of Garfield between Bolsa 1 and 2A oil wells.	Signal Oil and Gas Company	4-17-48	Ind	---	12	773		---	---	Yes
5S/11W-36B2	0.58 mile east of Huntington Beach Boulevard and 60 feet south of Talbert Avenue.	Joseph J. Courreges	1921	Dom	---	--	138		Yes	No	Yes
5S/11W-36P1	0.4 mile east of Huntington Beach Boulevard and 0.07 mile north of Garfield Avenue.	Ivan Harper	August 1930	Dom Irr	57	--	148		Yes	No	Yes
5S/12W-12C1	0.45 mile southwest along Westminster Avenue from Los Alamitos Boulevard and 750 feet west of Westminster Avenue.	I. W. Hellman Ranch	----	Dom Irr Stock	13	12	705		Yes	No	Yes
6S/10W-5C1	20 feet south of Garfield and 0.35 mile east of Wright.	Robert Gisler	----	Irr	---	--	210		---	---	Yes
6S/10W-5M1	1300 feet east of Wright and 1300 feet north of Adams.	Tide Water Oil Company	----	Ind	---	--	---		---	---	Yes
6S/10W-6B2	125 feet south of Garfield and 200 feet east of Bushard.	William Lamb	----	Dom	---	2	100		---	---	Yes
6S/10W-6H2	50 feet west of Wright and 0.45 mile south of Garfield Avenue.	Walter Lamb	1948	Irr	---	--	102		---	---	Yes
6S/10W-6L2	200 feet west of Bushard Street and 0.5 mile south of Garfield Avenue.	H. J. Lamb	Prior to 1919	Dom	12	7	150		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)

b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
		EAST COASTAL PLAIN-PRESSURE AREA (8-1.01) (Cont.)									
SBB&M											
6S/10W-7D3	2000 feet west of Bushard and 200 feet south of Adams.	Jim Bushard	----	Dom	---	--	---		---	---	Yes
6S/10W-7G1	250 feet east of Bushard Street and 0.21 mile north of Indianapolis, tap 50± north of well.	Alban Holtz	----	Dom	---	--	112		No	No	Yes
6S/10W-8D8	75 feet south of Adams Avenue and 200 feet east of Wright Street.	City of Newport Beach	May 1947	Mun	12	18	208		Yes	---	Yes
6S/10W-8D9	429 feet south of the center line of Adams Street and 80 feet east of center line of Wright Street.	City of Newport Beach	July 1947	Mun	11	16	130		Yes	---	Yes
6S/10W-18B4	150 feet east of Bushard and 100 feet south of Atlanta Avenue.	E. H. Gisler	----	Dom	---	12	89		---	---	Yes
6S/11W-1B1	550feet south of Garfield Avenue and .28 mile west of Cannery Avenue.	Robert Heil	----	Irr	13.3	12	200		---	---	Yes
6S/11W-1J3	0.50 mile north of Adams and 0.25 mile west of Cannery.	Urbain Plavan	----	Irr	---	--	---		---	---	Yes
6S/11W-3R2	0.30 mile due south of Mansion and 300 feet west of Golden West extension.	Huntington Beach Golf Course	1950	Irr Dom	---	8	279		---	---	Yes
6S/11W-12F3	500 feet north of Indianapolis and 0.52 mile east of Huntington Beach Blvd.	F. E. Farnsworth	1924	Stk Irr	12	10	161		Yes	---	Yes
6S/11W-13F1	500 feet west of Newland and 100 feet north of Hamilton	Wilshire Oil Company	---	Ind	---	---	---		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
SBB&M		CHINO BASIN (8-2.01)									
1S/6W-29R1	200 feet west of Etiwanda Avenue and 0.75 mile north of Marley Avenue.	S. & S. Ranch	---	Irr Dom	---	---	---		No	No	Yes
1S/7W-28R1	400 feet south of intersection Highway 60 and Corona Avenue 50 feet east of Corona (Baker) Avenue.	Peach Park Water Co.	3-27-28	Irr Dom	---	16	351		Yes	No	Yes
1S/7W-34M1	125 feet east of Vineyard Avenue and 100 feet south of Francis Avenue.	Wilder & Camel	Prior to 1929	Irr Dom	---	10	326.5		No	No	Yes
2S/7W-10M1	90 feet south of Chino Avenue and 0.12 mile east of Vineyard Avenue. East of Chino	P. J. Crerolim	---	Dom Irr	---	---	375		No	No	Yes
2S/7W-15A1	0.55 mile south of Chino Avenue and 0.2 mile west of Archibald Avenue, north well of 2 wells; east of Chino.	Pietro Enrico Domenico Enrico	Feb. 1930	Dom	---	8	436		Yes	No	Yes
2S/7W-21L1	40 feet west of Walker Avenue and 350 feet south of Merrill Avenue, 0.50 mile east of Grove Avenue.	C. T. Merrill	---	Dom Irr	657	14	207		Yes	No	Yes
2S/7W-23E1	120 east of Archibald Avenue and 1267 feet north of Merrill Avenue.	A. Omlin	---	Dom	---	7	104		No	No	Yes
2S/7 W-27A1	230 feet west of Archibald Avenue and 10 feet south of Cloverdale Road extended; westerly well of 2 wells northwest of Norco.	Luginbill and Imbach	---	Dom	642	---	310		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)

QUALITY OF GROUND WATERS IN CALIFORNIA
WELL DATA
1958

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Water levels	Analyses
SBB&M		BUNKER HILL BASIN (8-2.06)									
1N/4W-29E1	123 feet south of center-line of Darby Street and 27 feet east of center-line of California Street.	Delman Water Co.	---	Dom	---	16	429		No	No	Yes
1N/4W-29E3	0.5 mile north of Highland Avenue and 100 feet east of California Street, 100 feet south, southeast of Well No. 1N/4W-29E1	Delman Water Co.	1942	Dom	---	16	400		No	No	Yes
1N/4W-29F1	500 feet southwest of Cajon Blvd.; 2800 feet north of Highland Avenue, 2000 feet of California Street.	Delman Water Co.	3-8-56	Mun	---	16	451		Yes	---	Yes
1S/3W-7M1	Norton Air Force Base, 600 feet south of main runway, 300 feet east of section line. 300 feet south of where runway crosses the 1140 ft. contour.	Norton Air Force Base	---	Mil	---	12	150		---	---	Yes
1S/3W-9E2	400 feet east of Alabama Street and 175 feet north of road into rock company which is about 1700 feet south of Third Street.	Tri-City Rock Co.	Fall 1954	Ind Dom	---	14	400		---	---	Yes
1S/3W-16A1	Southeast of San Bernardino, 30 feet west of and 30 feet north of the north end of Texas Street at the Santa Ana River.	Cook Orchards	Deepened in 1954	Irr	---	20	200±		---	---	Yes
1S/4W-13F3	1400 feet east of Tippicanoe, 150 feet north of Central Ave.	Mesbur Realty Co.	1926	Dom	1060	12	123		---	---	Yes
1S/4W-13G1	2500 feet east of Tippicanoe, 100 feet south of Central Ave.	Gage Canal Co.	1946	Irr	1063	24	350		---	---	Yes
1S/4W-13L1	At caretaker's house, near upper end of Gage Canal, 10 feet south of canal, 1000 feet east of Tippicanoe, 1300 feet north of San Bernardino Ave.	Gage Canal Co.	1890	Dom	---	10	300		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
SBB&M	SAN LUIS REY VALLEY, MISSION BASIN (9-7.01)										
11S/4W-4N1	1.55 miles north from Mission San Luis Rey along Camp Pendleton Road and 200 feet south of Camp Pendleton Road on east side of dirt road.	George Nagata	3-19-52	Irr Dom	---	14	131		Yes	No	Yes
11S/4W-5K1	About 1 mile north of Mission San Luis Rey on north side of Pendleton Road east of 2 wells.	Mrs. K. Johnson	3-25-53	Irr	---	14	207		Yes	---	Yes
11S/4W-5R1	1 mile from Mission San Luis Rey and 600 feet south of Pendleton Road.	Stokes Bros.	5-1-52	Irr	---	---	132		Yes	---	Yes
11S/4W-8H1	1050 feet east of County road running north from San Luis Rey and 45 feet south of private road.	J. S. Alvarado	---	Irr Dom	---	12	121		---	---	Yes
11S/4W-8J1	54 feet north of Highway 76 and 51 feet east of road to Academy of the Little Flower.	Academy of the Little Flower	Aug. 1951	Dom	---	16	227		Yes	No	Yes
11S/4W-8N1	1300 feet southwest of intersection of Highway 76 with Camp Pendleton Road and 87 south of Highway 76.	Clarence Nishizu	Mar. 1950	Dom Irr	---	16	180		No	No	Yes
11S/4W-18C1	2900 feet northeast along #79 from pumping plant; 1760 feet northwest along private road, 15 feet southwest of road.	S. Davies	1937±	Irr Dom	---	14	134		---	Yes	Yes
11S/4W-18C3	150 feet west of power line and 2500 feet north of State Highway 76 along power line.	Carlsbad Mutual Water Co.	---	Mun	---	---	---		---	---	Yes
11S/4W-18L3	1000 feet northeast along State Highway 76 from Carlsbad Pumping Plant and 30 feet north of highway.	City of Oceanside	1939	Mun	---	18	171		---	---	Yes
11S/4W-18L4	50 feet south of Highway 76 and 160 feet east of Reservoir (N. Yard)	Carlsbad Mutual Water Co.	1951	Mun	---	16	204		No	No	Yes
11S/5W-13L1	400 feet south of San Luis Rey River and 2,100 feet northwest of Highway 76.	Amsler	---	Dom Irr	---	---	---		No	No	Yes
11S/5W-13Q1	1220 feet northwest along private road from Oceanside Pala Highway at City of Oceanside Booster Plant and 900 feet northeast of road (at end of Oceanside Airport runway)	City of Oceanside	1936	Mun	---	18	160		---	---	Yes
11S/5W-23E1	In San Luis Rey River channel 250 feet north of mouth of Lawrence Canyon.	Walter Johnson	1948	Ind	---	14	110		No	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available: Log	Data available: Water levels	Data available: Analyses
SBB&M		EL CAJON VALLEY (9-16)									
15S/1E-31R1	220 feet east of Highway 80 and 0.16 mile north of Fluma Drive, northeast of El Cajon.	R. G. Alexander	1948	Dom Irr	---	8	112		No	No	Yes
16S/1W-1G1	30 feet west of Bostonia Street and 0.24 mile north of Broadway.	Jack Graves	1948	Dom Irr	---	20	64		---	---	Yes
16S/1W-2K6	250 feet south of Broadway and 0.28 mile west of First Avenue, north of El Cajon.	Bob Gl1b	1920	Dom	---	72	50		No	No	Yes
16S/1W-3C2	At El Cajon sewage plant 140 east of old railroad crossing and 0.40 mile north of Broadway, El Cajon.	City of El Cajon	1952	Dom	---	8	---		---	---	Yes
16S/1W-3N1	0.81 mile north of Main Street and 300 feet east of Pierce Street, west of El Cajon.	Ed. Fletcher Co.	May 1951	Dom*	---	8	532		Yes	No	Yes
16S/1W-10D1	0.38 mile north of Main Street and 300 feet east of Pierce Street, west of El Cajon.	Ed Fletcher Co.	1946	Dom*	---	8.62	521		Yes	No	Yes
16S/1W-10E2	120 feet north of Main Street. 0.40 mile west of Johnson Avenue, west of El Cajon.	Ed Fletcher Co.	2-9-46	Dom*	---	8.62	521		Yes	No	Yes
16S/1W-11P4	50 feet north of Camden Avenue, 141 feet east of Taft Avenue; El Cajon.	J. M. Conaway	1949	Irr	---	24	50		No	No	Yes
16S/1W-12J4	120 feet north of Lexington Avenue 0.13 mile west of Third Street	Bud Robinson	---	Dom	---	42	72		No	No	Yes
16S/1W-15K2	40 feet south of Chase Avenue and 0.28 mile west of Magnolia Avenue	R. S. Embleton	---	Dom	---	60	24		---	---	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S. Geological Survey datum (Feet above mean sea level unless otherwise indicated)
* Subdivision

State well number and other number	Location	Owner	Date completed	Use [a]	Ground surface elevation [b]	Size of casing in inches	Total depth in feet	Intervals of perforated casing in feet	Data available		
									Log	Water levels	Analyses
SBB&M		TIA JUANA VALLEY BASIN (9-19)									
18S/2W-32H1	0.25 mile south of Sunset and 0.12 mile east of 15th Street extended.	California Water and Telephone Co.	---	Test	---	10	28		No	No	Yes
18S/2W-32P2	0.04 mile south of Sunset and 2.1 mile west of 19th Street.	California Dept. of Veteran Affairs	---	Test	---	12-3	37		No	No	Yes
18S/2W-32P4	0.03 mile east of west end of Sunset Ave. (Banana)	California Water and Telephone Co.	---	Test	---	8	100		No	No	Yes
18S/2W-33K4	81 feet east and 25 feet north of intersection of Sunset and 19th Street.	Jackson	---	Irr	---	12	---		No	No	Yes
18S/2W-35L1	Northeast corner intersection of Gate 2 (Dairy Mart) Road and U. S. Highway 101.	Henry Schaffner	---	Irr	---	---	---		No	No	Yes
19S/2W-1F4	0.5 mile south of San Ysidro, 0.44 mile north of International boundary and 0.84 mile east of Gate 2 (Dairy Mart) Road.	San Ysidro Irrigation District	1937	Mun	46	10	50		Yes	No	Yes
19S/2W-1F8	0.1 mile south of Bolton Hall Road on line of Cottonwood Drive produced.	San Ysidro Irrigation District	---	---	---	---	---		---	---	Yes
19S/2W-2E1	West side Gate 2 (Dairy Mart) Road and 0.35 mile south of Tia Juana River.	---	---	Irr	---	---	---		No	No	Yes
19S/2W-3A1	0.25 mile west of Gate 2 (Dairy Mart) Road and 0.25 mile south of Tia Juana River.	Aballo and Wright	---	Irr	---	12	---		No	No	Yes
19S/2W-4A5	720 feet west of National Avenue and 0.32 mile south of Sunset (Banana).	California Water and Telephone Co.	---	---	---	12	87		No	No	Yes
19S/2W-5C6	0.5 mile south of Sunset(Banana) and 1.22 mile west of 19th Street.	California Water and Telephone Co.	---	Test	---	8	100		No	No	Yes
19S/2W-5G18	0.25 mile north of Monument Road and 0.8 mile west of 19th Street.	Knox Dairy Farm	---	Irr	---	---	---		---	---	Yes
19S/2W-5L2	15 feet north of Monument Road on the eastern boundary of Border Field (extended northerly).	California Water and Telephone Co.	---	Test	6.5	10	95		Yes	No	Yes

a Domestic (Dom), Municipal (Mun), Irrigation (Irr), Industrial (Ind), and Livestock (Stk)
b U.S Geological Survey datum (Feet above mean sea level unless otherwise indicated)

APPENDIX C

WATER QUALITY

Laboratory Methods and Procedures

Analytical methods used in determination of various constituents reported in the following tables conform, in general, to those presented in "Standard Methods for the Examination of Water and Sewage," 10th Edition, 1955, a joint publication of the American Public Health Association, the American Water Works Association, and the Federation of Sewage and Industrial Wastes Associations. For certain specific analyses, the methods described in "Methods of Water Analyses," 1956, a United States Geological Survey manual now in preparation, have been used.

Laboratory analyses of the water samples are performed by the Water Quality Branch of the United States Geological Survey, and by the Department of Water Resources laboratories located in Sacramento, San Bernardino, and Riverside, or by the Terminal Testing Laboratories, Incorporated, located in Los Angeles, as indicated in the right hand column of the tables.

The following tabulation indicates the tests made and the constituents usually analyzed in the ground water quality monitoring program.

Constituent	Analysis: Standard mineral	Analysis: Partial mineral
Specific conductance	X	X
pH	X	X
Total dissolved solids	X	
Percent sodium	X	
Hardness	X	X
Temperature	X	X
Calcium	X	
Magnesium	X	
Sodium	X	X
Potassium	X	
Carbonate	X	
Bicarbonate	X	
Sulfate	X	
Chloride	X	X
Nitrate	X	
Fluoride	X	
Boron	X	X
Silica	X	

Water Quality Criteria

Presented herein are general criteria and limiting values presently used by the Department of Water Resources in evaluating and classifying water quality. These values should be considered only as guides and indicators and not as absolute limitations.

Criteria for Drinking Water

Water that is used for drinking and culinary purposes must be clear, colorless, odorless, pleasant to the taste, and must not endanger the lives or health of human beings. These general requirements pertain to the water as it is finally delivered to the consumer; prior treatment may be necessary in order to comply with these requirements.

Chapter 7 of the California Health and Safety Code contains laws and standards relating to domestic water supply. Section 4010.5 of this code refers to the drinking water standards promulgated by the United States Public Health Service for water used on interstate carriers. These criteria have been adopted by the State of California. They are set forth in detail in United States Public Health Report, Volume 61, No. 11, March 15, 1946.

According to Section 4.2 of the above-named report, chemical substances in drinking water supplies, either natural or treated, should not exceed the concentrations shown in Table C-1.

TABLE C-1

LIMITING CONCENTRATIONS OF
MINERAL CONSTITUENTS IN DRINKING WATER

United States Public Health Service
Drinking Water Standards, 1946

Constituent	ppm
Mandatory	
Fluoride (F)	1.5
Lead (Pb)	0.1
Selenium (Se)	0.05
Hexavalent chromium (Cr^6)	0.05
Arsenic (As)	0.05
Nonmandatory but Recommended Values	
Iron (Fe) and manganese (Mn) together	0.3
Magnesium (Mg)	125
Chloride (Cl)	250
Sulfate (SO_4)	250
Copper (Cu)	3.0
Zinc (Zn)	15
Phenolic compounds in terms of phenol	0.001
Dissolved solids, desirable	500
Dissolved solids, permitted	1,000

Interim standards for certain mineral constituents have recently been adopted by the California State Board of Public Health. Based on these standards, temporary permits may be issued for drinking water supplies failing to meet the United States Public Health Service Drinking Water Standards, provided the mineral constituents in the following table are not exceeded.

UPPER LIMITS OF TOTAL SOLIDS AND SELECTED MINERALS IN DRINKING WATER AS DELIVERED TO THE CONSUMER

	Permit in ppm	Temporary permit in ppm
Total solids	500 (1,000)*	1,500
Sulfates (SO_4)	250 (500)*	600
Chlorides (Cl)	250 (500)*	600
Magnesium (Mg)	125	150

* Numbers in parentheses are maximum permissible, to be used only where no other more suitable waters are available in sufficient quantity for use in the system.

The California State Board of Public Health recently has defined the following maximum safe amounts of fluoride in drinking water in relation to mean annual temperature:

Mean annual temperature in ^{o}F	Maximum mean monthly Fluoride ion concentration in ppm
50	1.5
60	1.0
70 - above	0.7

Other organic or mineral substances may be limited in concentration if their presence in water renders it hazardous as determined by state or local health authorities. The monitoring program reported herein does not include bacterial examinations.

The relationship of infant methemoglobinemia (a reduction of oxygen content in the blood, constituting a form of asphyxia) to nitrates in the water supply has led to limitation of nitrates in drinking water. The California State Department of Public Health has recommended a tentative limit of 10 ppm nitrate nitrogen (44 ppm nitrates) for domestic waters. Waters containing higher concentrations of nitrates may be considered to be of questionable quality for domestic and municipal use.

An additional factor with which users are concerned is the hardness of water. Hardness is principally due to calcium and magnesium and is generally evidenced to the consumer by inability to develop suds when using soap. In general domestic use, hardness can result in increased soap consumption and excessive repairs to plumbing. The following classification of water according to hardness has been suggested by the United States Geological Survey:

Range of hardness in ppm	Relative classification
0 - 55	Soft
56 - 100	Slightly hard
101 - 200	Moderately hard
Greater than 200	Very hard

Criteria for Irrigation Water

The following criteria for mineral quality of irrigation water have been developed at the University of California at Davis and at the United States Department of Agriculture Regional Salinity Laboratory at Riverside. Because of diverse climatological conditions and variations in crops and soils in California, only general limits of quality for irrigation waters can be suggested. The department uses the three broad classifications of irrigation waters listed in Table C-2.

TABLE C-2

QUALITATIVE CLASSIFICATION OF IRRIGATION WATERS

Chemical properties	Class 1 Excellent to good (Suitable for most plants under any conditions of soil and climate)	Class 2 Good to injurious (Possibly harmful for some crops under certain soil conditions)	Class 3 Injurious to unsatisfactory (Harmful to most crops and unsatisfactory for all but the most tolerant)
Total dissolved solids			
In ppm	Less than 700	700 - 2,000	More than 2,000
In conductance, EC x 10^6	Less than 1,000	1,000 - 3,000	More than 3,000
Chloride ion concentration			
In milliequivalents per liter	Less than 5	5 - 10	More than 10
In ppm	Less than 175	175 - 350	More than 350
Sodium in percent of base constituents	Less than 60	60 - 75	More than 75
Boron in ppm	Less than 0.5	0.5 - 2.0	More than 2.0

Criteria for Industrial Uses

Quality criteria for the diversified uses of water in industry range from exacting requirements for makeup water used in high pressure boilers to minimum requirements for water for washdown and ore quenching.

Industrial use of water includes utilization for food processing. Except for certain canning operations, water used in food processing must at least conform to quality requirements for drinking water supplies. The requirements of some food processing industries, however, are more stringent than those contained in the drinking water standards of the United States Public Health Service.

Because of the large number of industrial uses of water with widely varied quality requirements, it is difficult to establish more than broad criteria of quality. Therefore, these requirements are expressed, where possible, for groups of related industries rather than for individual manufacturing or other plants. The general quality requirements of several single industries and for representative major groups of industrial uses are listed in Table C-3.

TABLE C-3

WATER QUALITY TOLERANCE FOR INDUSTRIAL USES[a]

Allowable limits in parts per million

Use	Turbidity	Color	Hardness as $CaCO_3$	Iron[c] as Fe	Manganese as Mn	Total solids	Alkalinity as $CaCO_3$	Odor, taste	Hydrogen sulfide	Miscellaneous Requirements: Health	Miscellaneous Requirements: Other
Air conditioning				0.5	0.5			Low	1		No corrosiveness, slime formation
Baking	10	10		0.2	0.2			Low	0.2	Potable[b]	
Brewing											
Light Beer	10			0.1	0.1	500	75	Low	0.2	Potable[b]	NaCl less than 275 ppm (pH 6.5-7.0).
Dark Beer	10			0.1	0.1	1,000	150	Low	0.2	Potable[b]	NaCl less than 275 ppm (pH 7.0 or more)
Canning											
Legumes	10		25-75	0.2	0.2			Low	1	Potable[b]	
General	10			0.2	0.2			Low	1	Potable[b]	
Carbonated beverages	2	10	250	0.2	0.2	850	50-100	Low	0.2	Potable[b]	Organic color plus oxygen consumed less than 10 ppm.
Confectionery				0.2	0.2	100		Low	0.2	Potable[b]	pH above 7.0 for hard candy.
Cooling	50		50	0.5	0.5				5		No corrosiveness, slime formation.
Food: General	10			0.2	0.2			Low		Potable[b]	
Ice	5	5		0.2	0.2			Low		Potable[b]	SiO_2 less than 10 ppm.
Laundering			50	0.2	0.2						
Plastics, clear, Uncolored	2	2		0.02	0.02	200					
Paper and pulp:											
Groundwood	50	20	180	1.0	0.5						No grit, corrosiveness.
Draft pulp	25	15	100	0.2	0.1	300					
Soda and sulfide	15	10	100	0.1	0.05	200					
High-grade light papers	5	5	50	0.1	0.05	200					
Rayon (viscose):											
Pulp production	5	5	8	0.05	0.03	100	total 50; hydroxide 8				Al_2O_3 less than 8 ppm, SiO_2 less than 25 ppm, Cu less than 5 ppm.
Manufacture	0.3		55	0.0	0.0						pH 7.8 to 8.3
Tanning	20	10-100	50-135	0.2	0.2		total 135; hydroxide 8				
Textiles: General	5	20		0.25	0.25						
Dyeing	5	5-20		0.25	0.25	200					Constant composition. Residual alumina less than 0.5 ppm.
Wool scouring		70		1.0	1.0						
Cotton bandage	5	5		0.2	0.2			Low			

a-Moore, E. W., Progress Report of the Committee on Quality Tolerances of Water for Industrial Uses: Journal New England Water Works Association, Volume 54, Page 271, 1940.
b-Potable water, conforming to U. S. P.H.S. standards, is necessary.
c-Limit given applies to both iron alone and the sum of iron and manganese.

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Mineral constituents in parts per million / equivalents per million

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
	HB&M					SMITH RIVER PLAIN (1-1)																	
Arlet Short Dom.	16N/1W- 2Q1	6-23-58	--	256	7.3	15 / 0.74	13 / 1.08	18 / 0.79	0.3 / 0.01	0 / 0	122 / 2.00	13 / 0.27	13 / 0.34	0 / 0	0 / 0	0.10	22	Fe= 0.47	184	30	91	--	TTL
Lawrence Cadra Dom.	16N/1W- 7F1	10-29-58	--	290	7.7	20 / 0.99	17 / 1.36	13 / 0.55	1.5 / 0.04	0 / 0	142 / 2.33	7 / 0.15	18 / 0.51	0 / 0	0 / 0	0.32	18	Fe= 0.01	214	18	117	--	TTL
L. L. Early Dom.	16N/1W-15C1	10-29-58	56	129	7.4	5 / 0.26	7 / 0.57	10 / 0.45	0 / 0	0 / 0	49 / 0.80	5 / 0.10	9 / 0.24	6 / 0.10	0.10 / 0.0	1.1	17	Fe= 0.00	90	35	41	--	TTL
Pine Grove School Dom.	16N/1W-16D1	7-6-58	--	184	7.5	8 / 0.40	12 / 1.00	12 / 0.50	0.3 / 0.01	0 / 0	73 / 1.20	0 / 0	25 / 0.70	2 / 0.03	0 / 0	0.04	8	Fe= 0.00	130	26	70	--	TTL
S. R. Mattson	16N/1W- 17K	10-29-58	--	210	7.5	5 / 0.24	11 / 0.89	22 / 0.93	0.3 / 0.01	0 / 0	57 / 0.94	6 / 0.12	25 / 0.70	21 / 0.33	0.09 / 0.04	0.62	14	Fe= 0.01	147	44	56	--	TTL
North Cal Plywood Corp.	16N/1W-18F1	9-25-58	--	313	7.3	7 / 0.36	18 / 1.52	29 / 1.24	0.3 / 0.01	0 / 0	110 / 1.80	5 / 0.10	44 / 1.23	6 / 0.09	0.28 / 0.01	0.71	21	Fe= 0.13	219	40	94	--	TTL
Albert Pullen Dom.	16N/1W-20A2	10-29-58	--	174	7.0	6 / 0.30	7 / 0.63	16 / 0.71	0.3 / 0.01	0 / 0	44 / 0.72	6 / 0.13	17 / 0.49	16 / 0.20	0 / 0	0.1	7	Fe= 0.00	116	43	46	--	TTL
Walter Storey Dom.	16N/1W-20H1	10-29-58	--	260	6.6	8 / 0.40	17 / 1.40	17 / 0.74	0.7 / 0.02	0 / 0	61 / 1.00	4 / 0.08	37 / 0.92	33 / 0.53	0 / 0	0	7	Fe= 0.00	180	28	90	--	TTL
Evo Mello Irr.	17N/1W- 2G1	9-15-58	--	109	7.5	2 / 0.12	8 / 0.68	6 / 0.26	0 / 0	0 / 0	19 / 0.71	5 / 0.10	9 / 0.24	2 / 0.04	0 / 0	0.08	10	Fe= 0.01	64	24	40	--	TTL
R. H. Emmerson Irr.	17N/1W- 9A1	7-18-58	--	256	7.6	4 / 0.20	28 / 2.29	6 / 0.24	0.3 / 0.01	0 / 0	150 / 2.46	4 / 0.09	9 / 0.24	2 / 0.04	0 / 0	0.18	27	Fe= 0.01	194	8	124	--	TTL
Fort Dick Redwood School - Dom.	17N/1W-14C1	10-29-58	--	370	8.0	18 / 0.90	11 / 0.93	47 / 2.04	2.8 / 0.07	0 / 0	186 / 3.05	13 / 0.27	27 / 0.75	0 / 0	0.40 / 0.01	1.5	16	Fe= 0.00	284	51	91	--	TTL
Paul E. Johnson Irr.	17N/1W-15E1	6-25-58	--	146	8.2	4 / 0.22	13 / 1.08	6 / 0.25	0.3 / 0.01	0 / 0	72 / 1.18	2 / 0.04	9 / 0.28	2 / 0.04	0 / 0	0	14	Fe= 0.00	104	16	65	--	TTL
Ed McLaughlin Dom. and Stock	17N/1W-32M1	10-29-58	--	170	7.9	7 / 0.35	14 / 1.15	7 / 0.30	1.9 / 0.05	0 / 0	85 / 1.40	5 / 0.10	11 / 0.31	0 / 0	0 / 0	0.18	17		124	16	75	--	TTL
R. W. Struebing Dom.	18N/1W- 5G1	8-11-58	--	155	7.5	6 / 0.31	4 / 0.33	15 / 0.64	0.3 / 0.01	0 / 0	10 / 0.16	5 / 0.11	31 / 0.87	12 / 0.19	0 / 0	0.42	6	Fe= 0.02	104	49	32	--	TTL
M. J. Sierka	18N/1W-17R2	10-27-58	--	212	7.8	11 / 0.54	13 / 1.10	12 / 0.52	0 / 0	0 / 0	104 / 1.70	0 / 0.0	17 / 0.49	0 / 0	0.18 / 0.01	0	30	Fe= 0.00	149	24	82	--	TTL
Arnold Samuelson Irr.	18N/1W-26D1	9- 4-58	--	66	7.7	1 / 0.04	3 / 0.25	7 / 0.29	0.3 / 0.01	0 / 0	17 / 0.29	1 / 0.02	7 / 0.21	7 / 0.11	0 / 0	0.10	16	Fe= 1.48	44	49	14	--	TTL
Jepson Dom. & Stock	18N/1W-34M2	8-11-58	--	348	8.3	13 / 0.65	39 / 3.15	4 / 0.18	0.7 / 0.02	0 / 0	224 / 3.66	0 / 0	9 / 0.25	6 / 0.09	0 / 0	0.34	20	Fe= 0.00	274	4	190	--	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (TTL), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per-cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					BUTTE VALLEY (1-3)																	
Wheeler Nursery (L. D. Parsons Farm) Irr	45N/1E-2L1	7-11-58	52	135	8.1	11/0.57	5/0.43	13/0.53	1.9/0.05	0/0	85/1.40	2/0.04	5/0.14	0/0	0.0/0.00	0.00	32	Fe = 0.01	114	34	50	--	TTL
Albert Peck Irr	45N/1E-9C2	7-30-58	56	163	8.1	7/0.37	8/0.66	13/0.55	2.4/0.06	0/0	95/1.55	0/0	3/0.08	0/0	0.2/0.01	0.40	29	Fe = 0.02	124	33	51	--	TTL
Delos Mills Irr	45N/2W-1F1	7-30-58	51	127	7.9	9/0.47	6/0.46	5/0.22	1.0/0.03	0/0	63/1.04	2/0.03	3/0.08	3/0.05	0.0/0.00	0.32	34	Fe = 0.01	91	18	54	--	TTL
Kenneth Holbrook Irr	46N/1E-15D1	7-30-58	67	245	8.3	9/0.45	3/0.28	30/1.32	6.9/0.18	0.9/0.03	124/2.04	0/0	7/0.19	2/0.03	0.2/0.01	0.00	37	Fe = 0.01	174	59	34	--	TTL
Bob Cheyne Irr	46N/1W-2F1	7-30-58	56	385	8.2	16/0.81	15/1.22	41/1.82	6.5/0.17	0/0	221/3.62	4/0.08	7/0.21	8/0.14	0.2/0.01	0.32	24	Fe = 0.01	294	45	101	--	TTL
W. G. Osborne & Sons Irr	46N/1W-17B1	7-30-58	54	316	8.1	19/0.95	16/1.31	23/1.02	3.5/0.09	0/0	194/3.19	2/0.03	5/0.14	0/0	0.1/0.005	0.74	35	Fe = 0.02	244	30	113	--	TTL
Butte Valley Irr. District Irr	46N/2W-25R2	7-30-58	54	306	8.0	19/0.96	18/1.53	13/0.54	4.2/0.11	0/0	152/2.50	26/0.55	3/0.08	6/0.11	0.1/0.00	0.5	40	Fe = 0.02	234	17	124	--	TTL
French E. Johnson Irr	47N 1E-29N1	7-30-58	62	277	8.2	7/0.35	5/0.35	31/1.35	5.7/0.15	0/0	123/2.02	0/0	7/0.19	1/0.01	0.3/0.01	0.54	38	Fe = 0.02	169	61	35	---	TTL
Elveno Harrison Irr	47N/1W-23H1	8-28-58	54	3579	8.2	49/2.44	134/10.99	598/26.00	70.4/1.80	0/0	865/14.18	911/18.97	277/7.80	16/0.27	0.2/0.01	1.10	26	Fe = 0.00	2744	63	549	--	TTL
Butte Valley Farms Irr	47J/1W-34Q1	8-28-58	56	468	8.3	19/0.96	22/1.76	49/2.16	10.9/0.28	0/0	279/4.58	3/0.07	13/0.34	6/0.09	0.2/0.01	0.08	27	Fe = 0.00	364	41	136	--	TTL
John Liskey Irr	48N/1W-28F1	8-6-58	80	234	7.9	4/0.20	4/0.33	41/1.78	2.4/0.06	0/0	127/2.09	0/0	7/0.21	4/0.06	0.0/0.00	0.20	17	Fe = 0.01	174	75	26	--	TTL
						SHASTA VALLEY (1-4)																	
Ernest Spada Dom	42N/5W-20J1	7-29-58	-	329	8.1	14/0.70	29/2.40	23/1.01	1.9/0.05	0/0	224/3.67	2/0.04	13/0.37	3/0.05	0.5/0.03	0.52	44	Fe = 0.50	274	24	155	--	TTL
G. G. Maxwell Dom	42N/6W-10J1	7-29-58	57	532	8.4	9/0.46	68/5.63	5/0.21	0.3/0.01	20.4/0.68	32.7/5.35	4/0.08	6/0.17	5/0.08	0.0/0.00	0.24	39	Fe = 0.01	414	3	304	--	TTL

a Determined by addition of constituents.
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory, (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M																						
						SHASTA VALLEY (1-4) (Continued)																	
Big Springs Irrigation District Irr	43N/5W-2C1	7-29-58	54	233	8.1	16/0.80	15/1.23	18/0.77	1.9/0.05	0/0	141/2.32	1/0.02	18/0.51	0/0	0.4/0.02	0.42	40	Fe = 0.00	184	27	101	--	TTL
Dougherty & Son Irr	43N/6W-21R1	7-22-58	60	394	8.1	38/1.89	23/1.90	9/0.39	0.7/0.02	0/0	231/3.78	9/0.19	4/0.11	6/0.10	0.0/0.0	0.70	27	Fe = 0.02	304	8	139	--	TTL
Jess C. Martin Irr	44N/4W-6M1	7-27-58	58	514	8.0	30/1.50	23/1.92	44/1.92	2.4/0.06	0/0	268/4.40	14/0.29	22/0.63	8/0.14	0.0/0.00	1.2	32	Fe = 0.01	384	35	171	--	TTL
S. D. Nelson Dom and Irr	44N/5W-32F1	7-14-58	60	904	8.2	38/1.90	67/5.48	70/3.06	3.1/0.08	0/0	557/9.14	24/0.49	37/1.04	0/0	0.1/0.005	1.3	41	Fe = 0.01	724	29	369	--	TTL
Henry Silva Irr	44N/5W-34H1	7-18-58	58	681	8.6	46/2.29	35/2.91	50/2.18	0.15/0.004	16.2/0.54	372/6.10	5/0.10	24/0.67	8/0.12	0.2/0.01	0.32	48	Fe = 0.01	524	28	260	--	TTL
George Weldon Dom	45N/6W-19E1	7-27-58	72	372	8.6	23/1.17	12/1.01	36/1.54	1.0/0.03	6.6/0.22	171/2.80	34/0.70	3/0.08	0/0	0.5/0.026	0.00	19	Fe = 0.01	284	41	109	--	TTL
						SCOTT RIVER VALLEY (1-5)																	
Carl W. Black Irr	42N/9W-2G1	7-31-58	58	295	8.1	25/1.27	26/2.13	6/0.26	0.7/0.02	0/0	195/3.20	6/0.12	10/0.27	6/0.09	0.6/0.03	0.00	24	Fe = 0.01	244	7	170	--	TTL
Carl R. McConnell Irr	42N/9W-10Q1	7-31-58	58	178	7.1	18/0.90	13/1.05	4/0.19	0.7/0.02	0/0	119/1.95	2/0.05	5/0.14	2/0.04	0.0/0.00	0.16	23	Fe = 0.01	144	9	97	--	TTL
L. L. Lukes Irr	43N/9W-24F1	7-31-58	--	306	8.0	33/1.66	28/2.34	4/0.18	0.3/0.01	0/0	230/3.76	2/0.04	7/0.20	10/0.17	0.0/0.00	0.40	24	Fe = 0.01	269	4	200	--	TTL
O. E. Heinke Dom and Stk	44N/9W-34R1	7-21-58	60	452	7.9	36/1.80	13/1.07	6/0.26	0.3/0.01	0/0	161/2.63	10/0.21	6/0.14	13/0.21	0.52/0.02	0.80	20	Fe = 0.00	286	8	143	--	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
									MAD RIVER VALLEY (1-8)														
	HB&M																						
F. G. Ensley Domestic	5N/1E-4H1	9-10-58	-	156	7.6	7 / 0.36	9 / 0.72	11 / 0.49	0.3 / 0.01	0 / 0	67 / 1.10	6 / 0.13	13 / 0.34	0 / 0	0.00 / 0.00	1.70	16	Fe=0.25	111	31	54	-	TTL
Lane Portland Lumber Co. Industrial	5N/1E-8J1	9-10-58	-	302	8.5	14 / 0.71	16 / 1.25	30 / 1.30	1.5 / 0.04	6 / 0.20	151 / 2.49	0 / 0	21 / 0.59	0 / 0	0.00 / 0.00	0.00	29	Fe=0.01	226	39	98	-	TTL
Frank Coleman Irrigation and Domestic	6N/1E-7M1	9-12-58	-	492	7.6	46 / 2.28	30 / 2.52	15 / 0.63	1.9 / 0.05	0 / 0	272 / 4.47	3 / 0.07	26 / 0.73	0 / 0	0.25 / 0.01	0.71	22	Fe=0.30	371	11	240	-	TTL
N. T. Peugh Irrigation	6N/1E-16N1	9-10-58	-	391	7.4	44 / 2.18	22 / 1.82	8 / 0.35	1.5 / 0.04	0 / 0	189 / 3.10	49 / 1.03	7 / 0.21	2 / 0.03	0.00 / 0.00	0.00	22	Fe=0.01	294	7.4	200	-	TTL
Mrs. Iverson Irrigation	6N/1E-17D1	8-11-58	-	455	7.8	41 / 2.05	25 / 2.00	9 / 0.38	1 / 0.03	0 / 0	218 / 3.57	17 / 0.36	22 / 0.62	0 / 0	0.50 / 0.02	1.10	27	Fe=0.01	304	8	205	-	TTL
N. Holgerson Domestic and Industrial	6N/1E-19Q1	9-10-58	-	387	8.0	50 / 2.50	15 / 1.20	10 / 0.44	1 / 0.03	0 / 0	224 / 3.66	11 / 0.22	15 / 0.42	0 / 0	0.40 / 0.02	0.14	19	Fe=0.00	304	10	185	-	TTL
Albert Simons Domestic	6N/1E-30N1	9-10-58	-	363	7.5	67 / 2.33	12 / 1.01	10 / 0.44	1 / 0.03	0 / 0	203 / 3.33	1 / 0.02	16 / 0.45	0 / 0	0.40 / 0.02	0.00	20	Fe=0.41	294	11	167	-	TTL
Arcata Plywood Corp. Industrial	6N/1E-32[illegible]1	9-10-58	-	798	7.3	9 / 0.47	13 / 1.11	143 / 6.20	8 / 0.20	0 / 0	254 / 4.16	2 / 0.04	125 / 3.52	1 / 0.02	0.70 / 0.04	0.72	21	Fe=0.55	556	77	79	-	TTL
Ace Bulb Farm Domestic and Irrigation	6N/1W-1H1	9-10-58	-	208	6.5	5 / 0.26	7 / 0.60	16 / 0.69	0 / 0	0 / 0	31 / 0.52	7 / 0.14	23 / 0.66	20 / 0.32	0.10 / 0.01	0.00	13	Fe=0.00	128	43	43	-	TTL
J. M. Vieira Domestic	6N/1W-1P1	8-11-58	-	8,58	7.3	95 / 4.74	217 / 17.76	1419 / 61.70	54 / 1.38	0 / 0	72 / 1.18	337 / 7.03	2736 / 77.14	0.0 / 0.0	0.00 / 0.00	0.10	10	Fe=0.01	5448	72	1125	-	TTL
									EUREKA PLAIN (1-9)														
Arcata Redwood Co. Industrial	5N/1E-18Q1	9-10-58	-	872	7.6	13 / 0.63	17 / 1.38	155 / 6.75	4.9 / 0.13	0 / 0	343 / 5.61	0 / 0	116 / 3.27	1 / 0.02	0.00 / 0.00	0.72	37	Fe=0.01	634	75	100	-	TTL
L. L. Spinney Domestic & Stock	5N/1E-20Q1	9-10-58	-	373	7.7	14 / 0.69	14 / 1.15	25 / 1.12	1.5 / 0.04	0 / 0	116 / 1.90	4 / 0.08	35 / 0.99	0 / 0	0.0[illegible] / 0.00	0.00	24	Fe=0.00	238	37	92		TTL

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U S Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Lab. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	HB&M					EEL RIVER VALLEY (1-10)																	
Alex Capaul Irrigation	2N/1W-4D1	9-9-58	-	492	-	65 / 3.27	18 / 1.53	10 / 0.44	1.9 / 0.05	0 / 0	261 / 4.29	32 / 0.67	12 / 0.34	8 / 0.14	0.00 / 0.00	0.18	13	Fe=0.00	384	8	240	-	TTL
Harold Wilson Irrigation	2N/1W-7A1	9-10-58	-	313	7.7	19 / 0.93	23 / 1.91	10 / 0.46	1 / 0.03	0 / 0	172 / 2.81	4 / 0.09	11 / 0.30	0 / 0	0.35 / 0.02	0.71	24	Fe=0.12	234	14	142	-	TTL
Albert Johnson Irrigation	2N/1W-12D1	7-11-58	-	206	7.5	10 / 0.50	11 / 0.89	17 / 0.74	0.7 / 0.02	0 / 0	104 / 1.70	6 / 0.12	13 / 0.34	0 / 0	0.20 / 0.01	0.00	20	Fe=0.01	154	34	69	-	TTL
Charles Anderson Irrigation	2N/1W-17G1	9-10-58	-	524	7.6	28 / 1.40	28 / 2.32	43 / 1.89	2.8 / 0.07	0 / 0	221 / 3.61	30 / 0.62	46 / 1.30	0 / 0	0.23 / 0.01	0.35	19	Fe=0.00	381	33	186	-	TTL
Chris Peterson Domestic and Irrigation	3N/1W-18D2	9-10-58	-	169	7.1	4 / 0.21	8 / 0.69	14 / 0.60	0.7 / 0.02	0 / 0	56 / 0.92	5 / 0.10	18 / 0.51	2 / 0.01	0.22 / 0.04	0.00	29	Fe=0.00	114	39	45	-	TTL
Chester Gable Irrigation	3N/1W-29C1	9-9-58	-	528	7.9	29 / 1.46	38 / 3.10	29 / 1.23	3.1 / 0.08	0 / 0	286 / 4.68	16 / 0.33	27 / 0.76	1 / 0.02	0.90 / 0.05	0.08	17	Fe=0.00	394	20	228	-	TTL
Ray Tedson Irrigation	3N/1W-30N1	9-11-58	-	542	7.8	65 / 3.23	27 / 2.19	9 / 0.40	1.5 / 0.04	0 / 0	291 / 4.76	25 / 0.53	20 / 0.55	9 / 0.15	0.26 / 0.01	0.8	16	Fe=0.00	414	7	271	-	TTL
Joe V. Tosta Irrigation	3N/2W-2A2	9-10-58	-	1868	7.1	69 / 3.47	79 / 6.51	184 / 8.00	2.8 / 0.07	0 / 0	74 / 1.22	27 / 0.56	566 / 15.95	2 / 0.04	0.26 / 0.01	0.00	16	Fe=0.00	1164	44	499	-	TTL
E. E. Tanfrani Irrigation	3N/2W-13J1	9-10-58	-	4660	7.5	263 / 13.11	270 / 22.21	313 / 13.60	6.9 / 0.18	0 / 0	200 / 3.28	115 / 2.40	1502 / 42.36	0 / 0	0.17 / 0.01	0.00	22	Fe=0.01	2904	29	1766	-	TTL
P. M. Christiansen Irrigation	3N/2W-27G1	9-10-58	-	5421	7.6	124 / 6.18	193 / 15.91	704 / 30.60	1.9 / 0.05	0 / 0	288 / 4.72	112 / 2.34	1615 / 45.56	3 / 0.05	0.00 / 0.00	0.00	18	Fe=0.01	3446	58	1104	-	TTL
Russ Connick Co. Irrigation	3N/2W-32Q1	9-9-58	-	602	7.5	11 / 0.53	22 / 1.75	78 / 3.40	2.8 / 0.07	0 / 0	138 / 2.27	27 / 0.56	106 / 2.98	0 / 0	0.90 / 0.04	0.00	15	Fe=0.01	404	59	114	-	TTL
P. C. Lorenzen Irrigation	3N/2W-35M1	9-10-58	-	1699	7.6	72 / 3.60	85 / 7.00	134 / 5.85	13.7 / 0.35	0 / 0	235 / 3.85	28 / 0.58	425 / 11.97	1 / 0.01	0.22 / 0.01	0.14	24	Fe=0.00	1084	34	530	-	TTL

a Determined by addition of constituents.
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Lab. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
										UKIAH VALLEY (1-15)													
Gilley Domestic	14N/12W-5K1	9/4/58	-	602	7.8	64 3.19	21 1.73	41 1.78	2.0 0.05	0 0	328 5.38	55 1.14	7.3 0.20	0.6 0.01	0.5 0.03	0.95	25	Fe=0.00	378	26	246	-	DWR
Louis Johnson Domestic	14N/12W-11N1	7/15/58	-	272	7.6	14 0.69	20 1.68	9 0.39	1.0 0.03	0 0	130 2.14	18 0.39	7 0.20	7 0.11	0.22 0.01	0.22	14	Fe=0.01	199	13	118	-	TTL
Marcus Mehtonen Domestic	14N/12W-26K1	9/4/58	-	353	8.0	25 1.25	20 1.63	18 0.78	0.3 0.01	0 0	183 3.00	5.6 0.12	17 0.48	0.4 0.01	0.5 0.03	3.0	30	Fe=0.01	210	21	144	-	DWR
Mayfield Domestic	15N/12W-8D1	7/15/58	-	372	7.9	34 1.68	22 1.80	29 1.25	1 0.03	0 0	260 4.26	11 0.22	10 0.27	2 0.03	0.2 0.01	0.78	20	Fe=0.01	314	26	174	-	TTL
City of Ukiah Municipal	15/12W-16E1	9/4/58	-	333	7.9	30 1.50	15 1.26	12 0.52	1.4 0.04	0 0	159 2.61	20 0.42	8.8 0.25	1.2 0.02	0.3 0.02	0.21	18	Fe=0.02	185	16	138	8	DWR
Regina Water Co. Municipal	15N/12W-21H1	9/4/58	74	274	8.0	25 1.25	12 0.99	11 0.48	0.9 0.02	0 0	152 2.49	4.4 0.09	3.7 0.10	0.2 0.00	0.3 0.02	0.59	16	Fe=0.00	149	18	112	0	DWR
D. Broggi Ranch Domestic and Irrigation	15N/12W-35D1	7/15/58	-	416	7.6	40 2.00	12 1.02	33 1.44	0.3 0.01	0 0	229 3.75	0 0	23 0.66	0 0	0.2 0.01	0.46	13	Fe=1.04	314	32	151	-	TTL
Frank Brown Domestic	16N/12W-5D1	7/15/58	-	380	7.9	22 1.09	20 1.68	24 1.04	0.7 0.02	0 0	187 3.07	1 0.03	30 0.84	0 0	0.2 0.01	0.00	17	Fe=0.01	274	27	138	—	TTL
P.G.&E Industrial and Domestic	16N/12W-9Q1	7/15/58	-	416	7.8	28 1.40	18 1.50	41 1.78	0.7 0.02	0 0	265 4.35	1 0.03	10 0.28	0 0	0.4 0.02	0.22	12	Fe=0.01	334	37	145	0	TTL
J. Nelson Domestic	17N/12W-18A1	9/4/58	-	1990	7.6	45 2.04	5.1 0.42	368 16.01	0.9 0.02	0 0	208 3.41	00 0	530 14.95	0 0	1.3 0.07	76.0	20	Fe=0.01	1140	86	123	0	DWR
Harry Mathews Domestic	17N/12W-28M1	9/4/58	-	223	6.9	15 0.75	11 0.89	11 0.48	0.2 0.00	0 0	104 1.70	6.6 0.14	5.8 0.16	7.1 0.11	0 0	0.18	31		139	23	82	0	DWR

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b. Gravimetric determination.
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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SANEL VALLEY (1-16)																	
A. de Marcantoni Dom	12N/11W-2F1	7/15/58	-	408	7.9	42 2.09	24 1.98	13 0.54	1.5 0.04	0 0	238 3.90	18 0.39	7 0.21	0 0	0.2 0.01	0.10	8	Fe = 0.02	324	11	203	-	TTL
E. F. Haun Irr	13N/11W-7D1	7/15/58	-	380	7.7	22 1.08	33 2.70	10 0.45	0.3 0.01	0 0	228 3.74	7 0.14	7 0.21	0 0	0.2 0.01	0.10	8	Fe = 0.02	284	10	139	-	TTL
A. Damiano Irr	13N/11W-18B1	7/15/58	-	387	7.6	27 1.35	29 2.35	16 0.68	0.7 0.02	0 0	233 3.82	14 0.31	9 0.24	3 0.05	0.2 0.01	1.10	11	Fe = 0.00	304	15	185	-	TTL
Hopland Public Utility District Mun	13N/11W-19N1	9/4/58	-	334	7.8	29 1.45	20 1.69	9.0 0.39	0.6 0.02	0 0	175 2.87	20 0.42	7.4 0.21	1.3 0.02	0.2 0.01	0.35	20	Fe = 0.00	194	11	156	12	DWR
Grace Ranch	13N/11W-30H1	9/4/58	-	378	7.8	33 1.65	23 1.91	11 0.48	0.9 0.02	0 0	192 3.15	30 0.62	7.9 0.22	5.9 0.10	0.1 0.00	0.38	21	Fe = 0.00	227	12	178	21	DWR
						ALEXANDER VALLEY (1-17)																	
Redwood Hereford Ranch Irr and Dom	9N/8W-7Q1	7-58	-	583	8.2	1 0.03	3 0.29	131 5.70	4.9 0.13	0 0	308 5.05	0 0	41 1.15	0 0	0.8 0.04	0.34	41	Fe = 0.02	444	92	16	0	TTL
Henry Dick Irr	9N/9W-1P1	7-58	-	356	8.1	28 1.38	24 2.01	11 0.49	0.3 0.01	0 0	191 3.13	14 0.28	11 0.31	10 0.16	0.0 0.00	0.10	24	Fe = 0.03	274	12	169	0	TTL
H. B. Remmel Irr	10N/9W-18R1	7-58	-	336	8.0	32 1.60	22 1.78	9 0.37	0.7 0.02	0 0	204 3.35	6 0.13	5 0.14	2 0.04	0.0 0.00	0.7	7	Fe = 0.00	254	10	169	0	TTL
William D. Dana Irr	10N/9W-26L1	7-58	-	502	8.4	28 1.40	45 3.72	13 0.56	0.3 0.01	10.5 0.35	281 4.60	11 0.22	14 0.39	14 0.23	0.2 0.01	0.01	35	Fe = 0.01	384	9	256	0	TTL
Springfield Mill Co. Ind	10N/9W-32R1	7-58	-	457	8.1	36 1.82	10 0.78	69 3.00	0.7 0.02	0 0	294 4.82	16 0.34	15 0.42	0 0	0.5 0.03	0.62	38	Fe = 0.01	364	53	130	0	TTL
Italian Swiss Colony Winery Irr	11N/10W-28N1	7-58	-	387	8.1	47 2.37	17 1.43	12 0.52	0.7 0.02	0 0	235 3.85	9 0.19	12 0.32	0 0	0.2 0.01	0.35	14	Fe = 0.01	304	11	189	0	TTL
Italian Swiss Colony Winery Ind and Dom	11N/10W-33A1	7-58	-	266	7.5	23 1.13	14 1.17	12 0.52	1.0 0.03	0 0	147 2.42	5 0.10	13 0.37	0 0	0.2 0.01	1.15	27	Fe = 0.03	204	18	115	0	TTL
C. Pellegrini Dom	11N/10W-33G1	7-58	-	239	7.6	13 0.63	8 0.67	18 0.81	1.0 0.03	0 0	63 1.04	7 0.14	30 0.34	11 0.18	0.0 0.00	0.80	19	Fe = 0.01	164	37	65	0	TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SANTA ROSA VALLEY (1-18)																	
Roland R. Mattri Irr	5N/9W-3F1	7-58	-	568	8.0	9 / 0.45	10 / 0.78	101 / 4.41	1.9 / 0.05	0 / 0	250 / 4.10	24 / 0.50	40 / 1.13	0 / 0	0.2 / 0.01	0.76	15	Fe = 0.02	414	77	61	-	TTL
John M. Wilson Irr	6N/7W-18R1	7-58	-	820	8.0	62 / 3.10	40 / 3.29	58 / 2.51	0.7 / 0.02	0 / 0	383 / 6.28	39 / 0.82	54 / 1.52	13 / 0.21	0.2 / 0.01	0.10	46	Fe = 0.02	614	28	319	-	TTL
Tex Carley Irr	6N/7W-30D1	7-58	-	317	7.9	28 / 1.40	18 / 1.52	17 / 0.73	1.0 / 0.03	0 / 0	180 / 2.95	6 / 0.12	15 / 0.42	4 / 0.06	0 / 0	0.10	47	Fe = 0.01	246	19	146	-	TTL
G. Mallory Dom	6N/8W-3B1	7-58	-	395	7.9	23 / 1.14	23 / 1.85	19 / 0.84	1.5 / 0.04	0 / 0	140 / 2.30	10 / 0.21	39 / 1.10	20 / 0.31	0 / 0.0	0.22	25	Fe = 0.01	276	21	149	-	TTL
J. Pedranzini Irr	6N/8W-16R1	7-58	-	310	8.2	6 / 0.31	10 / 0.77	48 / 2.12	2.4 / 0.06	0 / 0	163 / 2.67	2 / 0.05	19 / 0.52	0 / 0	0.0 / 0.00	0.00	27	Fe = 0.02	234	65	54	0	TTL
Cotati Public Utility District Mun	6N/8W-35A2	7-58	-	290	7.9	11 / 0.54	7 / 0.63	37 / 1.62	1.5 / 0.04	0 / 0	112 / 1.84	6 / 0.13	31 / 0.89	0 / 0	0.00 / 0.00	0.18	30	Fe = 1.44	204	57	58	-	TTL
City of Sebastopol Mun	6N/9W-2G1	7-58	-	323	7.8	47 / 2.35	1 / 0.08	18 / 0.77	0.7 / 0.02	0 / 0	150 / 2.47	4 / 0.09	21 / 0.61	6 / 0.09	0.1 / 0.005	0.00	28	Fe = 0.01	234	24	121	0	TTL
Kenwood Fire Department Mun	7N/6W-29P1	7-58	-	352	8.1	20 / 1.00	13 / 1.05	42 / 1.84	2.8 / 0.07	0 / 0	220 / 3.60	0 / 0	17 / 0.45	0 / 0	0.2 / 0.01	0.30	31	Fe = 0.04	284	46	102	-	TTL
Mrs. Mead Clark Irr and Dom	7N/7W-15C1	7-58	-	272	8.0	12 / 0.62	11 / 0.90	25 / 1.10	4.6 / 0.12	0 / 0	150 / 2.47	6 / 0.13	7 / 0.17	0 / 0	0.20 / 0.01	0.28	52	Fe = 0.02	104	40	76	-	TTL
Earl F. Betchards Irr and Dom	7N/7W-29D1	7-58	-	476	8.2	29 / 1.46	21 / 1.74	46 / 1.98	6.5 / 0.17	0 / 0	290 / 4.75	0 / 0	25 / 0.70	0 / 0	0.0 / 0.00	1.00	38	Fe = 0.05	374	37	160	-	TTL
W. E. Samuelson Dom	7N/8W-3L1	7-58	-	436	7.9	44 / 2.20	6 / 0.53	43 / 1.88	2.4 / 0.06	0 / 0	197 / 3.24	38 / 0.78	22 / 0.62	0 / 0	0.2 / 0.01	0.18	51	Fe = 0.05	324	40	136	0	TTL
C. Bordessa Dom	7N/8W-5G1	7-58	-	543	8.1	23 / 1.13	25 / 2.05	36 / 1.54	4.9 / 0.13	0 / 0	157 / 2.58	7 / 0.15	56 / 1.58	25 / 0.40	0.0 / 0.00	0.00	46	Fe = 0.01	364	31	159	0	TTL
Harry Rasmussen Irr	7N/8W-18Q1	7-58	-	564	8.0	21 / 1.05	15 / 1.22	113 / 4.91	1.5 / 0.04	0 / 0	370 / 6.07	4 / 0.08	37 / 1.04	0 / 0	0.00 / 0.00	0.84	46	Fe = 0.01	446	68	113	0	TTL
City of Santa Rosa City Well #4 - Mun	7N/8W-24A4	7-58	-	504	8.1	30 / 1.50	19 / 1.63	52 / 2.26	7.6 / 0.19	0 / 0	278 / 4.56	1 / 0.03	31 / 0.89	0 / 0	0.0 / 0.00	0.54	64	Fe = 0.02	394	40	156	-	TTL
A. Marks Dom and Irr	7N/8W-33M1	7-58	-	380	8.2	16 / 0.80	16 / 1.25	44 / 1.90	1.5 / 0.04	0 / 0	207 / 3.40	0 / 0.01	25 / 0.70	0 / 0	0.2 / 0.01	0.00	22	Fe = 0.01	284	47	104	-	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SANTA ROSA VALLEY (1-18) (Continued)																	
C. W. Gilbert Dom	7N/9W-9F1	7-53	-	141	7.9	10/0.50	5/0.40	16/0.68	1.5/0.04	0/0	60/0.98	6/0.13	18/0.51	0/0	0.0/0.00	0.24	52	Fe = 0.83	104	41	45	0	TTL
Al Helwig Irr and Dom	7N/9W-29R1	7-58	-	170	7.7	11/0.55	7/0.57	17/0.75	1.9/0.05	0/0	64/1.05	14/0.30	20/0.56	0/0	0.0/0.00	0.34	54	Fe = 0.02	124	40	56	0	TTL
Sebastopol Meat Co. Ind and Irr	7N/9W-36M1	7-58	-	363	7.9	28/1.39	9/0.70	37/1.60	1.0/0.03	0/0	176/2.89	0/0	30/0.85	0/0	0.2/0.01	0.00	30	Fe - 0.02	264	43	104	0	TTL
H. A. Faught Irr and Dom	8N/8W-20Q1	7-58	-	523	8.1	22/1.09	27/2.19	53/2.30	6.9/0.18	0/0	266/4.36	19/0.41	39/1.07	0/0	0.0/0.00	0.12	40	Fe = 0.02	404	39	164	0	TTL
E. B. Bussman Irr	8N/9W-36P1	7-58	-	595	8.0	14/0.71	7/0.64	109/4.74	4.9/0.13	0/0	318/5.22	3/0.07	34/0.96	0/0	0.2/0.01	0.62	40	Fe = 0.02	454	76	67	0	TTL
Frei Bros. Winery	9N/10W-1C1	7-53	-	222	7.8	12/0.62	12/0.96	19/0.86	0.7/0.02	0/0	128/2.10	3/0.06	7/0.21	0/0	0.4/0.02	0.00	17	Fe = 0.01	164	34	79	0	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25°C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
	MDB&M									CLAYTON VALLEY (2-5)													
Curletto O. Dom. & Irr.	1N/1W-4A1	8-13-58	65	752	8.0	75 3.74	38 3.13	32 1.39	0.6 .02	0 0	297 4.87	90 1.87	30 0.85	33 .53	0.2 0.01	0.37	16	Fe = 0.00	461	17	344	100	DWR
S. H. Cowell Foundation Irr. & Dom.	1N/1W-4R1	8-13-58	64	966	8.1	70 3.49	49 4.04	62 2.70	0.3 0.01	0 0	306 5.02	63 1.31	113 3.19	32 0.52	0.2 0.01	0.28	35	Fe = 0.00	575	26	377	126	DWR
Fred Baker Dom. & Irr.	2N/1W-30J1	8-12-58	70	874	8.5	80 3.99	47 3.84	46 2.00	1.0 0.02	0 0	283 5.75	99 2.06	45 1.27	15 0.24	0.3 0.02	0.28	34	Fe = 0.00	558	20	392	75	DWR
Jack Diebrow Dom.	2N/1W-30K1	8-12-58	64	1580	8.1	208 10.38	49 4.00	98 4.26	0.7 0.02	0 0	488 8.00	372 7.74	101 2.35	5.4 0.09	0.2 0.01	0.43	35	Fe = 0.00	1110	23	720	320	DWR
Frank Dorville Dom.	2N/1W-31D1	8-12-58	66	920	7.6	79 3.94	50 4.11	32 1.39	0.5 0.01	0 0	281 4.49	73 1.52	90 2.54	50 0.81	0.2 0.01	0.05	34	Fe = 0.00	544	15	403	178	DWR
C. Thogode Dom.	2N/1W-32Q1	8-13-58	68	1150	7.8	71 3.54	33 2.71	132 5.74	0.5 0.01	0 0	383 6.28	48 1.00	143 4.03	30 0.48	0.80 0.04	0.65	26	Fe = 0.00	673	48	313	-	DWR
R. B. Ogilvie Dom.	2N/2W-13P1	8-13-58	74	988	8.4	48 2.40	34 2.79	106 4.61	1.4 0.04	8.2 0.27	250 4.06	54 1.12	147 4.14	15 0.24	0.0 0.00	0.14	34	Fe = 0.00	570	47	260	44	DWR
Bertinoia Dom.	2N/2W-26B1	8-13-58	66	901	8.4	53 2.64	35 2.87	86 3.74	1.7 0.04	8 0.40	322 5.15	25 0.52	120 3.38	1.8 0.03	0.0 0.00	0.70	31	Fe = 0.00	520	40	276	0	DWR
J. D. Nailer Dom.	2N/2W-36J1	8-12-58	68	1070	7.9	66 3.29	36 2.94	100 4.35	0.8 0.02	0 0	331 5.31	84 1.75	114 3.21	31 0.50	0.8 0.02	0.14	31	Fe = 0.00	623	41	312	46	DWR
										YGNACIO VALLEY (2-6)													
A. Sebastiani Dom.	1N/1W-7K1	8-13-58	68	2150	7.9	191 9.53	23 1.86	290 12.62	1.6 0.04	0 0	453 7.42	460 9.58	233 6.57	14 0.22	0.6 0.03	0.76	25	Fe = 0.00	1460	52	570	199	DWR
J. A. Ganley Dom. & Irr.	1N/1W-19B1	8-14-58	66	956	8.2	39 1.95	60 4.98	75 3.26	1.3 0.03	0 0	373 6.11	59 1.23	87 2.45	14 0.22	0.3 0.02	0.69	29	Fe = 0.00	548	32	347	41	DWR
M. E. Davie Dom.	1N/1W-29G1	8-13-58	66	1860	7.9	105 5.24	53 4.37	230 10.00	1.1 0.03	0 0	374 6.13	258 5.37	268 7.56	43 0.69	0.9 0.05	0.96	21	Fe = 0.00	1160	51	481	174	DWR
Chester Hook Irr.	1N/2W-11N1	8-13-58	66	1310	8.3	110 5.49	26 2.18	150 6.52	3.4 0.09	6 0.23	510 8.42	35 0.73	173 4.88	2.7 0.04	0.4 0.02	1.30	36	Fe = 0.01	798	46	384	0	DWR
John Wells Dom. & Irr.	1N/2W-13P1	8-13-58	65	1610	7.7	164 8.18	43 3.57	143 6.22	0.9 0.02	0 0	588 9.64	117 2.44	177 4.99	39 0.63	0.4 0.02	1.4	28	Fe = 0.00	1000	34	588	106	DWR

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b. Gravimetric determination.
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d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					YGNACIO VALLEY (2-6) (Cont.)																	
C. R. Johnson	1N/2W-35D1	8-13-58	72	2170	7.9	294 14.67	82 6.71	109 4.74	4.8 0.12	0 0	545 8.95	546 11.37	200 5.64	35 0.56	0.4 0.02	0.16	25		1560	18	1070	622	DWR
F. H. Dunham	2N/2W-27R1	8-13-58	66	1760	8.3	52 2.59	28 2.29	296 12.88	0.8 0.02	16 0.40	498 8.16	4.3 0.09	335 9.45	0.6 0.01	0.4 0.02	6.7	38		1020	72	244	0	DWR
Irr.	2N/2W-36E1	8-12-58	70	3490	7.9	426 21.26	57 4.71	285 12.40	1.0 0.02	0 0	589 9.65	393 8.18	663 18.70	118 1.90	0.3 0.02	0.46	34	Fe = 0.00	2270	32	1300	817	DWR

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	N.C. ppm	Analyzed by c
	NDB&M					SANTA CLARA VALLEY EAST BAY AREA (2-9)																	
City of Alameda Mun.	2S/3W-19P	8-12-58	68	911	7.4	58 2.89	18 1.51	106 4.61	2.8 0.07	0 0	284 4.65	42 0.87	122 3.44	0.4 0.01	0.2 0.01	0.38	38		527	51	220	0	DWR
Ratto Bros.	2S/3W-28H	8-12-58	64	681	7.5	46 2.30	16 1.32	77 3.35	2.5 0.06	0 0.00	288 4.72	48 1.00	44 1.24	0.8 0.01	0.2 0.01	0.35	36		412	48	181	0	DWR
R. A. Zobal Dom.	2S/3W-34A2	8-12-58	69	896	7.0	79 3.94	43 3.51	49 2.13	0.5 0.01	0 0	330 5.41	83 1.73	42 1.18	70 1.13	0.3 0.02	0.18	28		557	22	373	102	DWR
John A. Jacklich	2S/3W-34D3	8-13-58	64	613	7.5	42 2.10	22 1.78	60 2.61	1.4 0.04	0 0.00	309 5.06	27 0.56	29 0.82	1.8 0.03	0.3 0.02	0.42	22		358	40	194	0	DWR
M. Bettencourt Dom. and Irr.	3S/2W-31B3	8-12-58	67	763	8.5	43 2.14	18 1.46	103 4.48	3.8 0.10	14 0.47	334 5.47	32 0.67	49 1.38	2.1 0.03	0.4 0.02	0.27	35		464	55	180	0	DWR
Cianelli Irr.	3S/3W-13B2	8-13-58	72	2030		131 6.54	82 6.71	226 9.83	1.2 0.03	0 0	574 9.41	231 4.81	240 6.77	16 0.26	0.6 0.03	0.30	28		1240	42	663	192	DWR
Greenwood Corp. Dom. and Irr.	3S/3W-24J1	8-13-58	67	732	8.0	42 2.10	18 1.52	88 3.83	2.4 0.06	0 0	282 4.62	46 0.96	61 1.72	0.6 0.01	0.3 0.02	0.21	33		430	51	181	0	DWR
J. Horat Dom. and Stock.	3S/3W-24Q2	8-13-58	60	1750	8.0	108 5.39	68 5.58	154 6.70	0.5 0.01	0 0	504 8.86	63 6.31	265 7.47	17 0.27	0.8 0.04	0.26	34		958	38	549	136	DWR
J. C. Shinn Ind.	4S/1W-21M1	1-15-58	--	683	7.1	46 2.30	38 3.14	43 1.87	1.9 0.05	0 0.00	284 4.65	66 1.37	40 1.13	2.2 0.04	0.0 0.00	0.49	19	Fe = 0.00	397	25	272	39	USGS
M. Desalles	4S/1W-21R2	6-58	--	560									36 1.02										DWR
J. & M. Braga Dom. and Irr.	4S/1W-28D4	7-25-58	--	750	--								41 1.16										DWR
Manuel Desalles Dom. & Ind.	4S/1W-28E3	5-5-58	--	---	--								157 4.43										DWR
Camper Dom. & Irr.	4S/1W-29D1	12-19-58	--	915	8.0	92 4.51	36 2.95	40 1.74	22 0.06	0 0	266 4.35	59 1.23	131 3.82	5.9 0.10	0.3 0.02	0.43	18		516	18	379	161	DWR
Rodriguez Irr.	4S/1W-29M6	12-58	--	4220	7.8	397 19.81	199 16.35	116 5.05	5.8 0.15	0 0	299 4.90	102 2.12	1200 33.84	14 0.22	0.1 0.00	0.36	17		220	12	1810	1560	DWR
Joaquin Silva	4S/1W-30C2	1-7-58	--	2360	8.0	275 13.72	91 7.46	62 270	4.5 0.12	0 0	.351 5.75	105 2.19	559 15.76	14 0.22	0.01 0.00	0.42	16		---	--	---	--	DWR
Cloverdale Creamery	4S/1W-30G1	8-1-58	--	650	--								56 1.58										DWR

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b Gravimetric determination
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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SANTA CLARA VALLEY EAST BAY AREA (2-9) (Cont.)																	
J. F. Booth Cannery	4S/1W-30K2	4-12-58	--	550	--	510 / 25.45	212 / 14.43	596 / 25.91		0 / 0	244 / 4.00	216 / 4.50	1600 / 45.12		0.1 / 0.00				--	--	1643	--	DWR
Joe Massola Irr.	4S/1W-31B3	8-6-58		1310									44 / 1.06										DWR
F. Maciel Irr. & Stock	4S/1W-32A2	6-10-58	--	1798	--								368 / 13.20						---	--	----	--	
Sodini Dom. & Irr.	4S/1W-33G3	12-22-58	54	1590	7.6	140 / 6.99	68 / 5.61	123 / 5.35	4.2 / 0.11	0 / 0	710 / 11.64	87 / 1.85	118 / 3.33	68 / 1.10	0.2 / 0.01	0.97	22		982	30	631	49	DWR
Grace Mewhinney Garden	4S/1W-34P2	6-10-58	--	919	--								64 / 1.91						--	--	----	--	DWR
ACWD Mun.	4S/1W-35P3	10-6-58	--	600	--								50 / 1.24										DWR
Andrade Dom. & Irr.	4S/2W-3R1	12-58	--	659	8.1	40 / 2.00	11 / 0.91	69 / 3.00	2.2 / 0.06	0 / 0	274 / 4.49	40 / 0.83	23 / 0.65	1.1 / 0.02	0.3 / 0.02	0.31	25		348	50	147	0	DWR

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b. Gravimetric determination.
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d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SANTA CLARA VALLEY SOUTH BAY AREA (2-9)																	
City of Palo Alto Mun.	5S/3W-35G1	10-8-58	-	1005	8.1	56 / 2.80	17 / 1.35	140 / 6.10	2.4 / 0.06	0 / 0	221 / 3.62	36 / 0.74	215 / 6.05	0 / 0	0.2 / 0.01	0.22	16	Fe = 0.00	694	59	207	-	TTL
Wrigley Irr.	6S/1E-8N1	10-3-58	-	573	8.1	20 / 1.00	2 / 0.22	108 / 4.71	1.5 / 0.04	0 / 0	262 / 4.30	33 / 0.69	30 / 0.84	0 / 0	0.2 / 0.01	0.45	19	Fe = 0.01	424	73	61	-	TTL
M. Machado Irr.	6S/1E-30M1	10-2-58	-	609	8.15	65 / 3.25	22 / 1.83	31 / 1.36	1.5 / 0.04	0 / 0	274 / 4.50	41 / 0.86	31 / 0.86	13 / 0.21	0 / 0	0.10	30	Fe = 0.03	449	20	254	-	TTL
J. W. Watsons Dom. & Irr.	6S/1W-11B1	10-2-58	-	597	8.0	92 / 4.59	1.6 / 0.13	37 / 1.61	1.6 / 0.04	0 / 0	298 / 4.88	36 / 0.75	23 / 0.65	1.0 / 0.02	0.2 / 0.01	0.20	25	Fe = 0.00	364	25	236	0	DWR
R. T. Collier Corp. Ind.	6S/1W-16A1	10-3-58	-	733	7.9	44 / 2.19	13 / 1.10	95 / 4.14	1.0 / 0.03	0 / 0	261 / 4.29	87 / 1.83	47 / 1.32	0 / 0	0.0 / 0.00	0.28	20	Fe = 0.03	541	55	164	-	TTL
City of Palo Alto Mun.	6S/2W-17D1	10-8-58	-	648	8.3	48 / 2.38	19 / 1.64	74 / 3.20	1 / 0.03	0 / 0	289 / 4.88	41 / 0.86	51 / 1.45	1 / 0.02	0.0 / 0.00	0.20	21	Fe = 0.00	484	44	201	-	TTL
M. Yano Irr.	6S/2W-24M2	11-4-58	-	571	7.85	56 / 2.81	20 / 1.67	40 / 1.75	1 / 0.03	0 / 0	268 / 4.40	42 / 0.88	30 / 0.84	0 / 0	0.2 / 0.01	0.08	28	Fe = 0.01	434	27	224	-	TTL
City of Palo Alto Mun.	6S/3W-1B1	10-8-58	-	1046	7.9	62 / 3.08	18 / 1.51	144 / 6.24	2.8 / 0.07	0 / 0	275 / 4.51	51 / 1.06	186 / 5.24	3 / 0.05	0.2 / 0.01	0.44	27	Fe = 0.02	741	57	229	-	TTL
City of Palo Alto Mun.	6S/3W-12C1	10-8-58	-	623	8.1	42 / 2.10	12 / 1.00	81 / 3.50	1.5 / 0.04	0 / 0	256 / 4.20	39 / 0.82	51 / 1.45	1 / 0.02	0.2 / 0.01	0.28	18	Fe = 0.00	454	52	155	-	TTL
City of Palo Alto Mun.	6S/3W-2D1	10-8-58	-	728	8.0	64 / 3.20	13 / 1.05	69 / 3.00	1.9 / 0.05	0 / 0	277 / 4.55	53 / 1.10	58 / 1.63	7 / 0.12	0.04 / 0.02	0.02	26	Fe = 0.01	524	41	212	-	TTL

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M										LIVERMORE VALLEY (2-10)												
Peter Dagnino Dom.	2S/2E-27C1	5-16-58	-	4080				614 / 26.71					1110 / 31.30			11.1				74	464		DWR
		10-24-58	-	4800									1370 / 38.63										DWR
Alameda County Dom.	3S/1E-3C1	5-21-58	-	1330				181 / 7.87					127 / 3.58	20 / 0.32		2.3				61	253		DWR
		10-22-58	-	1250									135 / 3.81										DWR
U. S. Navy Dom. & Irr.	3S/1E-8[illegible]2	5-21-58	-	737				45 / 1.96					58 / 1.64	12 / 0.19		0.54				26	284		DWR
		10-21-58	-	883									77 / 2.17										DWR
Melvin Nielson Dom.	3S/1E-9K1	9-9-58	70	925	8.4	84 / 4.18	48 / 3.99	39 / 1.71	2.4 / 0.06	23 / 0.77	365 / 5.98	62 / 1.28	57 / 1.62	19 / 0.30	0.0 / 0.00	0.53	23	Fe = .01	648	17	408	—	TTL
Roy Kruse Irr.	3S/1E-10E1	9-9-58	64	982	8.2	38 / 2.91	70 / 5.73	51 / 2.20	1.9 / 0.05	0 / 0	383 / 6.28	64 / 1.34	97 / 2.73	18 / 0.29	0.0 / 0.00	0.98	25	Fe = 0.01	704	20	432	—	TTL
Cecil M. Cope Irr. & Dom.	3S/1E-10Q2	6-12-58	-	665				23 / 1.00					34 / 0.96			0.12				14	294		DWR
		10-23-58	-	590									33 / 0.93										DWR
E. Hagemann Dom. & Irr.	3S/1E-11H1	5-21-58	-	613				24 / 1.04					33 / 0.93	20 / 0.32		0.20				18	290		DWR
California Rock & Gravel Co.-Dom. & Irr.	3S/1E-13P2	5-21-58	-	500				26 / 1.13					32 / 0.90			0.25				23	192		DWR
		10-21-58	-	548									32 / 0.90										DWR
H. J. Kaiser Co. Dom.	3S/1E-15L1	5-21-58	-	567				22 / 0.96					25 / 0.70			0.17				18	214		DWR
H. J. Kaiser Ind.	3S/1E-16H1	10-21-58	-	523									29 / 0.82										DWR
Pleasanton Township Water District - Irr.	3S/1E-16P1	9-9-58	62	473	8.4	19 / 1.31	0.10 / 1.03	72 / 3.13	1.5 / 0.04	13.2 / 0.44	196 / 3.21	27 / 0.57	38 / 1.08	2 / 0.04	0.1 / 0.005	0.26	19	Fe = 0.10	364	56	117	--	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							LIVERMORE VALLEY (2-10) (Continued)															
San Francisco Water Department - Irr.	3S/1E-19A5	10-21-58	-	728									37 1.04										DWR
California Water Service Co. - Dom.	3S/2E-4H2	5-21-58	-	660				33 1.44					44 1.24	33 0.53		0.32				21	276		DWR
J. Schenone Dom. & Irr.	3S/2E-4M1	9-9-58	64	2188	7.9	88 4.42	106 8.74	262 11.41	2.8 0.07	0 0	514 8.44	448 9.33	253 7.13	0 0	0.3 0.02	4.4	26	Fe = 0.14	1604	46	658	--	DWR
Gondolfo Dom.	3S/2E-6P1	9-9-58	70	684	8.4	38 1.91	50 4.11	37 1.62	1.9 0.05	19.5 0.65	252 4.13	34 0.71	51 1.45	32 0.52	0.1 0.00	0.26	21	Fe = 0.01	504	21	301	--	TTL
H. L. Hageman Irr.	3S/2E-7K1	5-21-58	-	782				28 1.22					41 1.16	38 0.61		0.20				14	370		DWR
		10-27-58	-	778									43 1.21										DWR
Calif. Water Service Co. - Dom.	3S/2E-8H1	5-21-58	-	733				25 1.09					41 1.16	32 0.52		0.33				14	332		DWR
		10-23-58	-	746									48 1.35										DWR
J. H. Barbor Dom. & Irr.	3S/2E-10E1	6-12-58	-	1310				60 2.61					161 4.54	104 1.68		0.36				19	538		DWR
		10-27-58	-	1390									166 4.68										DWR
Amling - DeVore Irr.	3S/2E-10H1	5-19-58	-	776				75 3.26					75 2.12	27 0.44		0.86				41	238		DWR
		10-24-58	-	795									74 2.09										DWR
W. G. Wagoner Irr.	3S/2E-11K1	9-8-58	70	1218	7.9	44 2.21	43 3.50	134 5.83	2.8 0.07	0 0	251 4.11	68 1.41	221 6.22	4 0.07	0.6 0.03	3.7	23	Fe = 0.00	814	50	285	--	TTL
U. S. Navy Mun.	3S/2E-12M1	9-8-58	74	1436	7.8	39 1.94	31 2.58	272 11.83	3.5 0.09	0 0	588 9.63	31 0.65	201 5.56	0 0	0.1 0.00	9.10	30	Fe = 0.04	1094	71	226	--	TTL
Sam F. Ray Dom.	3S/2E-14A1	9-8-58	63	891	8.1	52 2.62	40 3.29	84 3.63	2.8 0.07	0 0	259 4.25	75 1.56	124 3.49	8 0.13	0.3 0.02	0.62	27	Fe = 0.01	638	37	295	--	TTL
Cal. Water Service Dom.	3S/2E-15C1	9-8-58	68	758	8.2	35 1.74	44 3.58	56 2.46	1.9 0.05	0 0	256 4.20	38 0.80	84 2.34	15 0.25	0.2 0.01	0.89	27	Fe = 0.00	530	31	266	--	TTL

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b Gravimetric determination.
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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M										LIVERMORE VALLEY (2-10) (Continued)												
Wente Bros. Winery Dom. & Ind.	3S/2E-16J1	9-9-58	68	775	7.9	49/2.44	61/4.97	33/1.44	1.9/0.05	0/0	406/6.65	55/1.15	35/0.99	8/0.13	0/0	0.40	21	Fe = 0.00	594	16	371	--	DWR
W. Wagoner Irr.	3S/2E-17N1	5-21-58	-	862				146/6.35					86/2.42	1.5/0.02		2.30				78	88	--	DWR
		10-23-58	-	840									87/2.45									--	DWR
Mrs. L. Shrigley Dom.	3S/2E-19F1	9-8-58	70	375	8.4	20/0.99	12/1.01	42/1.86	1/0.03	7.2/0.24	129/2.11	12/0.24	34/0.96	19/0.30	0.4/0.02	0.00	30	Fe = 0.01	266	47	100	--	TTL
F. A. Wagoner Dom. & Irr.	3S/2E-20K1	5-21-58	-	652				87/3.78					39/1.10	0.4/0.01		0.11				53	170	--	DWR
Icing Dom.	3S/2E-26J1	9-9-58	66	1225	7.8	53/2.64	80/6.55	87/3.78	1.5/0.04	0/0	404/6.62	22/0.47	150/4.23	113/1.81	0.1/.005	0.34	22	Fe = 0.00	884	29	459	--	DWR
B. G. Wood Irr.	3S/2E-29D1	5-16-58	-	764				49/2.13					71/2.00	28/0.45		0.16				29	261	--	DWR
		10-23-58	-	699									49/1.38									--	DWR
Joe Amaral Irr.	3S/3E-19C1	6-12-58	-	1250				123/5.35					182/5.13			2.40				45	333	--	DWR
		10-27-58	-	1570									206/5.81									--	DWR
E. B.& J. Nevin Dom.	3S/1W-1G1	5-21-58	-	984				75/3.26					78/2.20			0.16				34	316	--	DWR

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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	M.D.B.&M.								PAJARO VALLEY (3-2)														
Ronald Brothers Irr.	12S/1E-10J1	8-19-58	70	2950	8.1	174 / 8.68	131 / 10.80	216 / 9.40	5.5 / 0.14	0 / 0	211 / 3.46	130 / 2.71	796 / 22.45	3.1 / 0.05	0.30 / 0.01	0.38	46	Fe = 0.00	1610	32	975	802	DWR
John Pacha, Jr. Irr.	12S/1E-14J1	8-19-58	64	466	7.5	23 / 1.15	22 / 1.85	26 / 1.13	1.4 / 0.04	0 / 0	51 / 0.84	10 / 0.21	63 / 1.78	81 / 1.31	0.1 / 0.00	0.00	40	Fe = 0.00	292	27	150	108	DWR
E. L. Padden Dom.	12S/1E-23R1	8-19-58	66	582	8.4	35 / 1.75	25 / 2.05	52 / 2.26	13 / 0.33	20 / 0.67	244 / 4.00	45 / 0.94	29 / 0.82	0.8 / 0.01	0.1 / 0.00	0.11	32		358	35	190	0	DWR
T. C. Morley Irr.	12S/1E-25B2	8-19-58	73	491	8.1	33 / 1.65	17 / 1.39	47 / 2.04	3.0 / 0.08	0 / 0	214 / 3.51	52 / 1.08	18 / 0.51	0.7 / 0.01	0.1 / 0.00	0.22	33	Fe = 0.00	309	40	152	0	DWR
Tottino Irrigation Well No. 2	12S/1E-25C1	8-19-58	72	950	8.1	33 / 1.65	30 / 2.51	102 / 4.44	14 / 0.36	0 / 0	182 / 2.98	57 / 1.19	168 / 4.74	0.5 / 0.01	0.0 / 0.00	0.15	32	Fe = 0.00	526	50	208	59	DWR
Sheehy Irrigation Well	12S/2E-12E1	8-19-58	61	1190	8.0	107 / 5.34	68 / 5.61	59 / 2.57	2.5 / 0.06	0 / 0	460 / 7.54	180 / 3.75	73 / 2.06	2.1 / 0.03	0.1 / 0.00	0.50	32	Fe = 0.00	751	19	548	171	DWR
Telles Brothers Irrigation Well	12S/2E-18A3	8-19-58	66	511	8.1	53 / 2.64	21 / 1.76	26 / 1.13	2.5 / 0.06	0 / 0	261 / 4.28	34 / 0.71	17 / 0.48	0.7 / 0.01	0.1 / 0.00	0.17	40	Fe = 0.00	322	20	220	6	DWR
Struve Irr. & Stock	12S/2E-20K1	7-25-58	70	673	7.4	27 / 1.36	45 / 3.71	46 / 2.02	2.4 / 0.06	0 / 0	343 / 5.61	41 / 0.86	27 / 0.76	1 / 0.01	0.2 / 0.01	0.36	13	Fe = 0.00	464	28	253	0	TTL
Dom. & Irr.	12S/2E-21L1	7-25-58	70	776	8.0	40 / 2.00	55 / 4.47	37 / 1.60	2.4 / 0.06	0 / 0	319 / 5.24	65 / 1.36	53 / 1.48	1 / 0.02	0 / 0	0.38	18	Fe = 0.00	554	19	323	6	TTL
L. F. Cox Irr.	12S/2E-29A1	7-25-58	68	680	7.4	56 / 2.79	33 / 2.72	46 / 2.00	3.1 / 0.08	0 / 0	359 / 5.88	44 / 0.92	24 / 0.68	2.4 / 0.04	0.3 / 0.02	0.29	33	Fe = 0.01	418	26	276	0	DWR
M. C. Miller Irr.	12S/2E-29E1	7-25-58	68	596	7.7	37 / 1.87	29 / 2.43	44 / 1.92	3.1 / 0.08	0 / 0	231 / 3.79	66 / 1.39	47 / 1.32	0 / 0	0 / 0	0.44	21	Fe = 0.00	434	30	215	25	TTL
Dom. & Stock	12S/2E-29L1	7-25-58	64.4	312	7.1	12 / 0.60	8 / 0.68	33 / 1.46	1 / 0.03	0 / 0	61 / 1.00	2 / 0.04	40 / 1.13	38 / 0.62	0.4 / 0.02	0.18	37	Fe = 0.10	204	52	64	4	TTL
M. C. Miller Irr.	12S/2E-29F1	7-25-58	68	471	7.2	29 / 1.45	21 / 1.75	31 / 1.35	2.6 / 0.07	0 / 0	181 / 2.97	30 / 0.62	28 / 0.79	8.8 / 0.14	0.2 / 0.01	0.08	37	Fe = 0.00	277	29	160	12	DWR
Gray Irr. & Dom.	12S/2E-30F3	7-25-58	64.4	496	7.82	37 / 1.84	29 / 2.41	34 / 1.48	2.4 / 0.06	0 / 0	248 / 4.07	54 / 1.13	23 / 0.65	0 / 0	0.3 / 0.02	0.18	37	Fe = 0.20	391	25	212	0	TTL
Fenaglio Irr. & Dom.	12S/2E-30N1	7-25-58	64.4	390	7.7	28 / 1.40	24 / 1.99	36 / 1.56	1.9 / 0.05	0 / 0	146 / 2.40	27 / 0.56	50 / 1.41	29 / 0.46	0.1 / 0.00	0.18	36	Fe = 0.13	314	31	169	49	TTL
R. E. Hurley Irr.	12S/2E-30F1	7-28-58	64	525	8.1	36 / 1.79	30 / 2.54	38 / 1.65	3.1 / 0.08	0 / 0	231 / 3.78	51 / 1.06	39 / 1.10	2 / 0.04	0 / 0	0.1	14	Fe = 0.01	414	27	216	27	TTL

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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					PAJARO VALLEY (3-2) (Cont.)																	
A. & E. Tottoni Irr.	12S/2E-31A1	7-25-58	68	648	7.9	43 / 2.15	39 / 3.18	38 / 1.66	2.8 / 0.07	0 / 0	236 / 3.86	84 / 1.75	43 / 1.20	2 / 0.03	0.25 / 0.01	0.08	4	Fe = 0.00	479	24	266	73	TTL
Jenson Irr.	12S/2E-31C1	7-24-58	68	424	7.35	18 / 0.90	16 / 1.30	37 / 1.60	1.9 / 0.05	0 / 0	73 / 1.20	12 / 0.25	63 / 1.77	30 / 0.48	0.2 / 0.01	0	39	Fe = 0.00	274	41	110	0	TTL
F. Tornavaca Irr.	12S/2E-31K1	7-25-58	68	907	8.2	62 / 3.12	44 / 3.57	58 / 2.52	3.5 / 0.09	0 / 0	225 / 3.69	62 / 1.30	143 / 4.03	5 / 0.08	0.23 / 0.01	1.4	39	Fe = 0.00	614	27	334	184	TTL
S. H. Cowell Irr.	12S/2E-32C1	7-25-58	68	582	7.9	39 / 1.97	30 / 2.50	38 / 1.66	2.4 / 0.06	0 / 0	218 / 3.56	53 / 1.10	53 / 1.48	3 / 0.05	0.38 / 0.02	1.4	33	Fe = 0.00	428	27	223	45	TTL
G. Hurley Irr.	12S/2E-32N1	7-28-58	—	626	8.1	30 / 1.48	39 / 3.16	44 / 1.91	2.8 / 0.07	0 / 0	267 / 4.38	42 / 0.89	46 / 1.30	2 / 0.03	0 / 0	0.2	21	Fe = 0.01	454	29	232	13	TTL
L. Banovac Irr.	12S/3E-7B1	7-18-58	64	1280	8.1	100 / 4.99	70 / 5.80	85 / 3.70	2.9 / 0.07	0 / 0	456 / 7.47	222 / 4.62	86 / 2.42	2.3 / 0.04	0.4 / 0.02	0.55	28	Fe = 0.00	821	25	540	166	DWR
Tanimura Brothers Irr.	12S/3E-9Q1	7-18-58	64	1230	8.1	43 / 2.14	69 / 5.69	113 / 4.92	3.0 / 0.08	0 / 0	292 / 4.78	177 / 3.68	149 / 4.20	8.0 / 0.13	0.3 / 0.02	2.1	30	Fe = 0.00	737	38	392	153	DWR
Hurley Irr.	13S/1E-1A1	7-28-58	68	1470	8.2	62 / 3.10	61 / 4.95	146 / 6.36	10 / 0.26	0 / 0	261 / 4.28	112 / 2.34	284 / 8.00	0 / 0	0 / 0	0	12	Fe = 0.10	949	43	402	188	TTL
Irr.	13S/2E-4K1	7-24-58	68	681	8.2	50 / 2.50	33 / 2.69	41 / 1.78	2.7 / 0.07	0 / 0	230 / 3.77	54 / 1.12	72 / 2.03	1.1 / 0.02	0.2 / 0.01	0.10	42	Fe = 0.00	409	25	260	71	DWR
Irr.	13S/2E-5M1	7-24-58	66	1160	7.9	82 / 4.09	54 / 4.42	84 / 3.65	4.5 / 0.12	0 / 0	308 / 5.05	160 / 3.33	104 / 2.93	48 / 0.77	0.2 / 0.01	0.21	42	Fe = 0.00	730	30	426	174	DWR
George Hurley Irr.	13S/2E-6E3	7-24-58	66	1480	7.8	78 / 3.89	53 / 4.34	136 / 5.92	5.0 / 0.13	0 / 0	236 / 3.87	79 / 1.64	298 / 8.40	11 / 0.18	0.2 / 0.01	0.19	45	Fe = 0.00	821	41	412	218	DWR
George H. Hurley Irr.	13S/2E-6F3	7-24-58	68	1198	7.6	66 / 3.31	44 / 3.64	108 / 4.70	4.2 / 0.11	0 / 0	186 / 3.05	118 / 2.47	208 / 5.84	12 / 0.19	0 / 0	0.26	22	Fe = 0.00	804	40	347	195	TTL
Giberson Irr.	13S/2E-6R1	7-24-58	64.4	715	8.6	45 / 2.26	38 / 3.11	52 / 2.24	4.2 / 0.11	16.5 / 0.55	217 / 3.55	55 / 1.14	83 / 2.32	1 / 0.03	0.2 / 0.01	0	46	Fe = 0.01	504	29	268	63	TTL
F. Cappuro Irr. & Dom	13S/2E-7B1	7-24-58	68	2895	7.4	180 / 9.02	138 / 11.36	199 / 8.63	5.3 / 0.14	0 / 0	159 / 2.60	137 / 3.89	740 / 20.84	42 / 0.68	0.2 / 0.01	0.35	39	Fe = 0.20	1894	30	1019	889	TTL
F. Cappuro Irr.	13S/2E-7B2	7-24-58	68	2765	7.9	129 / 6.46	129 / 10.58	215 / 9.35	4.9 / 0.13	6 / 0.20	110 / 1.76	120 / 2.50	774 / 21.82	7 / 0.12	0.2 / 0.01	0.26	46	Fe = 0.00	1748	35	852	754	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								SALINAS VALLEY (3-4)														
Monterey Bay Salt Co. Dom. and Ind.	13S/2E-7R1	6-24-58	75.2	828	8.5	11 / 0.57	7 / 0.59	162 / 7.05	3.9 / 0.10	17 / 0.56	194 / 3.18	94 / 1.95	87 / 2.46	0 / 0	0.5 / 0.03	0.18	44	Fe = 0.00	577	84	58	0	TTL
M. Minhoto Irrigation	13S/2E-16E1	6-24-58	64	876	8.2	48 / 2.39	24 / 2.03	100 / 4.35	5.7 / 0.15	23 / 0.77	234 / 3.83	23 / 0.48	155 / 4.36	4 / 0.06	0 / 0	0.08	39	Fe = 0.00	604	48	221	30	TTL
Delfino & Calcagno Irrigation	13S/2E-17H1	6-24-58	--	1264	8.3	66 / 3.31	39 / 3.23	124 / 5.40	8.4 / 0.22	12 / 0.40	190 / 3.12	30 / 0.63	279 / 7.84	5 / 0.08	0.6 / 0.03	0.08		Fe = 0.00	774	44	327	151	TTL
T. Leonardini Dom. and Irr.	13S/2E-19R1	6-18-58	66	1140	8.2	73 / 3.64	38 / 3.15	96 / 4.18	3.2 / 0.08	0 / 0	218 / 3.57	41 / 0.85	230 / 6.49	1.0 / 0.02	0.0 / 0.00	0.00	48	Fe = 0.00	637	38	340	161	DWR
J. Tate Dom. and Irr.	13S/2E-20R2	6-18-58	68	824	7.9	52 / 2.59	27 / 2.21	69 / 3.00	3.0 / 0.08	0 / 0	158 / 2.59	43 / 0.90	118 / 3.33	52 / 0.84	2.4 / 0.11	0.00	66	Fe = 0.00	510	38	240	110	DWR
Kaiser Inc. Industrial	13S/2E-29C4	6-24-58	73	724	7.6	34 / 1.70	12 / 1.04	99 / 4.29	3.5 / 0.09	0 / 0	207 / 3.40	16 / 0.35	117 / 3.31	1 / 0.02	0.1 / 0.00	0.44	30	Fe = 0.00	494	60	137	0	TTL
J. J. King Irrigation	13S/2E-30L1	6-18-58	72	1150	8.3	20 / 1.00	16 / 1.32	198 / 8.60	6.9 / 0.18	0 / 0	226 / 3.70	33 / 0.69	232 / 6.55	2 / 0.03	0.2 / 0.01	0.32	26	Fe = 0.00	764	77	116	0	TTL
J. J. King Irrigation	13S/2E-31D2	6-18-58	71.6	560	7.91	27 / 1.33	14 / 1.17	86 / 3.75	3.5 / 0.09	0 / 0	188 / 3.08	18 / 0.37	96 / 2.70	1 / 0.02	0.2 / 0.01	0.35	40	Fe = 0.10	414	59	125	0	TTL
Molera Estate Domestic	13S/2E-31K2	6-18-58	73.4	532	7.5	40 / 2.02	14 / 1.19	70 / 3.06	3.1 / 0.08	0 / 0	232 / 3.80	15 / 0.33	76 / 2.15	1 / 0.01	0.6 / 0.03	0.44	42	Fe = 0.02	418	48	160	0	TTL
E. Bellone Irrigation	13S/2E-31M2	6-18-58	65.3	803	8.05	52 / 2.58	22 / 1.79	109 / 4.76	4.6 / 0.12	0 / 0	218 / 3.56	44 / 0.93	166 / 4.69	2 / 0.04	0.7 / 0.04	0.44	40	Fe = 0.00	596	51	218	40	TTL
E. Bellone Irrigation	13S/2E-31N2	6-18-58	73	1080	7.9	77 / 3.84	28 / 2.27	93 / 4.04	3.8 / 0.10	0 / 0	205 / 3.36	54 / 1.12	200 / 5.64	1.8 / 0.03	0.2 / 0.01	0.12	49	Fe = 0.05	608	39	306	138	DWR
O. F. Overhouse Irrigation	13S/2E-32C1	6-18-58	68	552	8.2	37 / 1.87	16 / 1.32	53 / 2.30	2.8 / 0.07	0 / 0	219 / 3.58	16 / 0.34	59 / 1.66	0 / 0	0 / 0	0.3	23	Fe = 0.00	394	41	159	0	TTL
Cooper Estate Irrigation	13S/2E-32J1	6-18-58	68	2080	7.7	159 / 7.93	78 / 6.45	113 / 4.92	6.4 / 0.16	0 / 0	121 / 1.98	59 / 1.23	566 / 15.96	1.3 / 0.02	0.1 / 0.00	0.10	40	Fe = 0.00	1080	25	720	621	DWR
Molera Estate Irrigation	13S/2E-32N1	6-18-58	71.6	455	8.1	28 / 1.40	12 / 0.97	68 / 2.96	2.4 / 0.06	0 / 0	189 / 3.10	23 / 0.48	64 / 1.80	1 / 0.01	0.4 / 0.02	0.62	52	Fe = 0.00	346	54	118	0	TTL
Dorothy V. Crcutt Irrigation	13S/2E-33E1	6-24-58	66.2	847	8.4	65 / 3.25	29 / 2.35	65 / 2.83	3.5 / 0.09	15 / 0.50	163 / 2.67	35 / 0.73	164 / 4.62	5 / 0.08	0.2 / 0.01	0.08	44	Fe = 0.00	576	33	280	121	TTL
[illegible]. Rossetti Irrigation	13S/2E-33R1	6-24-58	71	620	7.3	52 / 2.60	19 / 1.55	52 / 2.23	2.8 / 0.07	0 / 0	224 / 3.66	48 / 1.00	67 / 1.89	2 / 0.03	0.2 / 0.01	0	25	Fe = 0.02	448	34	207	0	TTL

a Determined by addition of constituents.
b. Gravimetric determination
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SALINAS VALLEY (3-4) (Cont.)																	
Molera Estate Irrigation Well	14S/2E-5R2	6-18-68	68	1260	7.9	102 / 5.09	42 / 3.50	74 / 3.22	4.6 / 0.12	0 / 0	138 / 2.26	96 / 2.00	264 / 7.44	1.9 / 0.03	0.2 / 0.01	0.16	41	Fe = 0.00	694	27	430	317	DWR
Mrs. Lottie Martin Irrigation Well	14S/2E-6Q1	6-23-58	72	565	8.15	23 / 1.17	12 / 1.03	74 / 3.21	2.4 / 0.06	0 / 0	191 / 3.14	26 / 0.56	60 / 1.69	2 / 0.03	0.4 / 0.02	0.56	36	Fe = 0.01	394	58	110	0	TTL
E. Struve Irrigation Well	14S/2E-6R2	6-23-58	72	561	8.2	30 / 1.50	13 / 1.09	66 / 2.88	0.7 / 0.02	0 / 0	207 / 3.40	25 / 0.52	55 / 1.55	2 / 0.04	0 / 0	0.40	33	Fe = 0.01	394	52	129	0	TTL
Jacob Jefferson Irrigation Well	14S/2E-8M2	6-23-58	68	652	8.2	55 / 2.76	19 / 1.60	53 / 2.29	3.1 / 0.08	0 / 0	167 / 2.73	94 / 1.97	60 / 1.69	13 / 0.21	0.22 / 0.01	1.4	40	Fe = 0.00	459	34	218	81	TTL
Dorothy V. Orcutt Irrigation Well	14S/2E-9K1	6-18-59	68	674	8.2	54 / 2.69	21 / 1.75	53 / 2.30	3.4 / 0.09	0 / 0	203 / 3.33	110 / 2.29	45 / 1.27	1.4 / 0.02	0.3 / 0.02	0.18	52	Fe = 0.00	440	34	22	56	DWR
J. P. Rogers Dom. and Irr. Well	14S/2E-11D1	7-21-58	68	469	8.0	33 / 1.66	16 / 1.33	37 / 1.59	1.9 / 0.05	0 / 0	200 / 3.28	2 / 0.05	43 / 1.20	1 / 0.02	0 / 0	0	37	Fe = 0.01	331	34	149	0	TTL
E. C. Eaton Irrigation Well	14S/2E-12Q1	6-23-58	72	525	8.2	51 / 2.54	13 / 1.09	33 / 1.46	1.9 / 0.05	0 / 0	246 / 4.03	3 / 0.06	40 / 1.13	2 / 0.03	0.2 / 0.01	0.10	20	Fe = 0.01	384	28	181	0	TTL
L. A. Wilder Domestic Well	14S/2E-14N1	6-23-58	69	625	8.2	51 / 2.53	17 / 1.37	56 / 2.46	3.5 / 0.09	0 / 0	197 / 3.24	53 / 1.11	68 / 1.93	0 / 0	0.40 / 0.02	0.18	40	Fe = 0.00	441	38	185	33	TTL
Monterey Co. Bank Irrigation Well	14S/2E-15L1	6-23-58	68	693	7.9	62 / 3.09	18 / 1.49	60 / 2.62	3.5 / 0.09	0 / 0	215 / 3.52	103 / 2.14	58 / 1.63	0 / 0	0.33 / 0.02	0.18	37	Fe = 0.00	498	35	229	53	TTL
John W. Orcutt Irrigation Well	14S/2E-16A1	7-8-58	68	646	8.0	40 / 1.98	22 / 1.82	58 / 2.52	2.8 / 0.07	0 / 0	148 / 2.43	114 / 2.37	53 / 1.49	2 / 0.03	0.2 / 0.01	1.1	28	Fe = 0.01	446	39	190	68	TTL
J. G. Armstrong Co. Irrigation Well	14S/2E-18D1	6-23-58	64	1212	7.9	108 / 5.39	35 / 2.91	87 / 3.80	3.5 / 0.09	0 / 0	255 / 4.[illegible]2	161 / 3.35	160 / 4.51	6 / 0.10	0 / 0	0.5	29	Fe = 0.01	834	31	415	204	TTL
J. G. Armstrong Co. Irrigation Well	14S/2E-20M1	11-20-58	62	358	8.0	27 / 1.35	5.7 / 0.47	34 / 1.48	1.9 / 0.05	0 / 0	106 / 1.74	0.3 / 0.01	56 / 1.58	0.6 / 0.01	0.2 / 0.01	.05	29		207	44	91	4	DWR
J. G. Armstrong Co. Stock Well	14S/2E-20M2	11-19-58	60	515	7.1	21 / 1.05	13 / 1.07	50 / 2.18	14 / 0.04	0 / 0	31 / 0.51	12 / 0.25	56 / 1.58	122 / 1.97	0.2 / 0.01	0.02	35		326	50	106	81	DWR
A. H. Bordges Irrigation Well	14S/2E-23J1	6-30-58	71.6	757	8.3	51 / 2.56	27 / 2.17	66 / 2.88	3.9 / 0.10	0 / 0	154 / 2.53	130 / 2.70	88 / 2.49	4 / 0.06	0.4 / 0.02	0	40		524	37	236	110	TTL
M. T. DeSerpa Irrigation Well	14S/2E-24E1	6-23-58	72	566	8.2	41 / 2.04	16 / 1.25	52 / 2.26	2.8 / 0.07	0 / 0	203 / 3.34	29 / 0.61	59 / 1.65	1 / 0.02	0.2 / 0.01	0	21	Fe = 0.01	401	40	164	0	TTL
M. T. DeSerpa Irrigation Well	14S/2E-25B1	6-24-58	67	1140	7.7	73 / 3.64	45 / 3.67	92 / 4.00	4.5 / 0.12	0 / 0	243 / 3.98	129 / 2.68	158 / 4.46	13 / 0.21	0.3 / 0.02	0.20	44	Fe = 0.01	679	35	366	167	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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						Mineral constituents in parts per million / equivalents per million																	
						SALINAS VALLEY (3-4) (Cont.)																	
Irrigation Well	14S/2E-26A1	6-20-58	68	1031	7.8	76 / 3.80	36 / 2.96	82 / 3.54	4.2 / 0.11	0 / 0	156 / 2.57	172 / 3.59	150 / 4.22	3 / 0.05	0.2 / 0.01	0.38	20	Fe = 0.01	704	34	338	210	TTL
M. Girotti Domestic Well	14S/2E-28D1	11-20-58	--	506	7.6	20 / 1.00	11 / 0.88	54 / 2.35	1.7 / 0.04	0 / 0	49 / 0.80	18 / 0.37	56 / 1.58	98 / 1.58	0.1 / 0.00	.02	35		318	55	94	54	DWR
G. R. Detweiler Domestic Well	14S/2E-30C2	11-20-58	42	1330	7.4	66 / 3.29	41 / 3.36	115 / 5.00	4.1 / 0.10	0 / 0	87 / 1.42	22 / 0.46	207 / 5.84	251 / 4.05	0.0 / 0.00	0.03	37		786	42	333	262	DWR
H. J. Hillbrand Domestic Well	14S/2E-32D	11-20-58	60	354	7.6	16 / 0.80	6.3 / 0.52	36 / 1.57	2.0 / 0.05	0 / 0	51 / 0.84	4.0 / 0.08	69 / 1.94	3.4 / 0.05	0.0 / 0.06	.06	29		191	57	66	24	DWR
David Werrington Domestic Well	14S/2E-33H1	11-20-58	--	1050	8.1	76 / 3.79	38 / 3.10	75 / 3.26	5.0 / 0.13	0 / 0	417 / 6.83	67 / 1.39	74 / 2.09	11 / 0.18	0.2 / 0.01	0.15	43		594	32	345	3	DWR
Clarence Fungton	14S/2E-34H3	11-20-58	--	344	6.9	12 / 0.60	5.6 / 0.46	43 / 1.87	1.2 / 0.03	0 / 0	41 / 0.17	4.1 / 0.08	46 / 1.30	58 / 0.94	0.1 / 0.00	.04	39		229	63	53	19	DWR
David F. McFadden Irrigation Well	14S/2E-35Q1	7-21-58	71.6	361	7.8	40 / 1.99	13 / 1.08	26 / 1.15	2.8 / 0.07	0 / 0	117 / 1.91	86 / 1.81	21 / 0.58	1 / 0.01	0.8 / 0.04	0.44	40	Fe = 0.00	284	27	153	58	TTL
A. Lanini Irrigation Well	14S/3E-30E1	6-24-58	65	1740	7.9	68 / 3.39	72 / 5.88	182 / 7.92	6.2 / 0.16	0 / 0	198 / 3.24	226 / 4.70	325 / 9.16	9.6 / 0.15	0.2 / 0.01	0.37	56	Fe = 0.00	1040	46	464	302	DWR
Irrigation Well	14S/3E-30F1	6-24-58	65	1410	7.7	95 / 4.74	52 / 4.25	124	5.2 / 0.13	0 / 0	364 / 5.96	98 / 2.04	214 / 6.03	14 / 0.22	0.4 / 0.02	0.17	40	Fe = 0.00	822	37	450	152	DWR
P. G. & E. Municipal Well	14S/3E-33G1	7-1-58	68.9	555	8.15	48 / 2.41	22 / 1.76	52 / 2.23	2.4 / 0.07	0 / 0	173 / 2.84	44 / 0.92	96 / 2.70	1 / 0.02	0.3	0.26	46	Fe = 0.00	414	34	208	66	TTL
James F. Dolan Irrigation Well	15S/2E-1A1	6-20-58	64	1650	7.8	133 / 6.67	69 / 5.68	129 / 5.60	6.1 / 0.16	0 / 0	161 / 2.63	485 / 10.11	189 / 5.32	0 / 0	0 / 0	0.28	17	Fe = 0.01	1164	30	617	486	TTL
Lee Jacks Irrigation Well	15S/2E-2Q1	6-30-58	64.4	866	8.3	52 / 2.58	46 / 3.82	65 / 2.83	3.9 / 0.10	0 / 0	169 / 2.77	207 / 4.30	79 / 2.22	0 / 0	0.3 / 0.02	0	37	Fe = 0.01	611	30	320	181	TTL
D. F. McFadden, et.al. Irrigation Well	15S/3E-4L1	6-23-58	64	1564	7.7	102 / 5.12	62 / 5.08	145 / 6.30	4.2 / 0.11	0 / 0	316 / 5.19	294 / 6.12	181 / 5.10	13 / 0.22	0.2 / 0.01	1	25	Fe = 0.01	1104	37	510	250	TTL
Irrigation Well	15S/3E-5Q4	6-25-58	65	2060	7.9	113 / 5.64	79 / 6.51	230 / 10.00	7.6 / 0.19	0 / 0	181 / 2.97	598 / 12.45	242 / 6.82	1.4 / 0.02	0.3 / 0.02	0.61	41	Fe = 0.00	1400	45	608	460	DWR
E. Giottinini Dom. & Irr. Well	15S/3E-7D1	6-20-58	68	1134	8.1	80 / 4.01	55 / 4.45	77 / 3.36	4.2 / 0.11	0 / 0	138 / 2.27	301 / 6.26	126 / 3.54	0 / 0	0.2 / 0.01	0.08	20	Fe = 0.01	788	28	423	310	TTL
Laura [illegible]. Foster Irrigation Well	15S/3E-8N1	6-25-58	65	973	7.6	81 / 4.04	42 / 3.47	66 / 2.87	4.3 / 0.11	0 / 0	264 / 4.33	216 / 4.50	57 / 1.61	0.5 / 0.01	0.2 / 0.01	0.21	40	Fe = 0.00	637	27	376	160	DWR

a Determined by addition of constituents
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						SALINAS VALLEY (3-4) (Cont.)																	
Spreckels Sugar Co. Irrigation Well	15S/3E-16M1	6-25-58	65	937	7.5	93 / 4.64	42 / 3.37	46 / 2.00	3.4 / 0.09	0 / 0	278 / 4.56	184 / 3.83	59 / 1.66	1.0 / 0.02	0.3 / 0.02	0.12	37	Fe = 0.00	602	20	406	178	DWR
J. Violini	15S/3E-17P1	7-1-58	71.6	352	8.6	15 / 0.73	52 / 4.33	94 / 4.11	6.9 / 0.18	19.5 / 0.65	/ 4.69	36 / 0.75	106 / 3.00	3 / 0.05	0.2 / 0.01	0	40	Fe = 0.01	604	44	253	0	TTL
K. R. Nutting Irrigation Well	16S/4E-24A1	7-14-58	64	1443	8.0	100 / 5.00	63 / 5.20	116 / 5.05	3.5 / 0.09	0 / 0	218 / 3.57	382 / 7.95	122 / 3.44	41 / 0.66	0.4 / 0.02	0.6	26	Fe = 0.01	1034	32	510	331	TTL
J. C. Twisselman	16S/4E-25K1	7-12-58	64	1191	8.2	53 / 2.65	63 / 5.18	113 / 4.92	/ 0.12	0 / 0	178 / 2.92	363 / 7.57	87 / 2.44	0 / 0	0.2 / 0.01	0.32	19	Fe = 0.01	846	38	391	295	TTL
Irrigation Well	17S/6E-27K1	7-15-58	64	1331	8.0	80 / 4.00	61 / 5.04	123 / 5.36	3.9 / 0.10	0 / 0	152 / 2.50	396 / 8.25	124 / 3.49	6 / 0.10	0.2 / 0.01	0.18	24	Fe = 0.01	941	36	452	327	TTL
Mart Baker Irrigation Well	17S/6E-35F1	7-15-58	68	1305	8.3	77 / 3.83	61 / 4.96	126 / 5.47	4.2 / 0.11	0 / 0	174 / 2.85	417 / 8.69	102 / 2.87	1 / 0.02	0.6 / 0.03	0.44	34	Fe = 0.01	941	38	439	297	TTL
L. Jacks Irrigation Well	18S/6E-2N1	7-16-58	68	912	8.3	77 / 3.86	37 / 3.01	60 / 2.59	4.6 / 0.14	4 / 0.14	97 / 1.58	268 / 5.59	64 / 1.80	22 / 0.55	0 / 0.00	0	29	Fe = 0.01	634	26	346		TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories , Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M										CARMEL VALLEY (3-7)												
R. Odello Irr.	16S/1W-13L1	10-15-58	64	709	7.8	61 / 3.06	19 / 1.63	51 / 2.20	3.5 / 0.09	0 / 0	219 / 3.59	84 / 1.75	59 / 1.66	0 / 0	0.6 / 0.03	0.10	24	Fe = 0.57	496	31	234	55	TTL
Carmel Sewage Treatment Plant - Ind.	16S/1W-13L2	10-16-58	63	785	8.1	73 / 3.67	23 / 1.94	54 / 2.36	3.5 / 0.09	0 / 0	237 / 3.89	81 / 1.69	86 / 2.42	1 / 0.02	0.4 / 0.02	0.18	17	Fe = 0.20	554	29	290	86	TTL
R. Odello Irr.	16S/1W-13Q2	10-16-58	64	961	8.3	89 / 4.47	29 / 2.43	69 / 3.00	4.6 / 0.12	0 / 0	282 / 4.62	147 / 3.05	95 / 2.69	0 / 0	0.2 / 0.01	0.00	26	Fe = 2.00	694	30	345	14	TTL
Irr.	16S/1E-17G1	10-16-58	64	1160	8.1	122 / 6.11	29 / 2.42	92 / 4.02	3.9 / 0.10	0 / 0	348 / 5.70	160 / 3.34	135 / 3.80	0 / 0	0.4 / 0.02	0.18	21	Fe = 0.00	864	31	426	141	TTL
Irr.	16S/1E-18F2	10-16-58	60	840	7.85	65 / 3.27	18 / 1.49	86 / 3.74	1.5 / 0.04	0 / 0	231 / 3.78	52 / 1.09	132 / 3.69	2 / 0.04	0.4 / 0.02	0.00	34	Fe = 0.00	587	44	238	49	TTL
E. and W. Hatton Irr.	16S/1E-18M1	10-16-58	63	975	8.0	72 / 3.61	28 / 2.31	93 / 4.05	3.9 / 0.10	0 / 0	214 / 3.50	106 / 2.20	152 / 4.28	0 / 0	0.4 / 0.02	0.00	24	Fe = 0.05	674	40	296	121	TTL
B. Odello Irr.	16S/1E-18P1	10-16-58	62	629	7.0	56 / 280	18 / 1.50	37 / 1.62	3.1 / 0.08	0 / 0	182 / 2.98	95 / 1.99	46 / 1.30	0 / 0	0.2 / 0.01	0.10	23	Fe = 0.02	438	27	215	66	TTL

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
						SANTA MARIA RIVER VALLEY (3-12)																	
	SBB&M																						
W. E. Houk Estate Dom.	9N/33W-9A1	12-18-58	-	660	7.4	16 / 0.80	12 / 1.00	83 / 3.60	2.8 / 0.072	0 / 0	40 / 0.65	13 / 0.28	156 / 4.40	12 / 0.192	0.1 / 0.005	0.07	49		414	66	90	57	DWR
Blockman School School Well	9N/33W-12R1	12-18-58	68	1102	7.4	100 / 5.00	61 / 5.00	52 / 2.27	2.3 / 0.058	0 / 0	37 / 0.60	325 / 6.77	152 / 4.30	14 / 0.220	0.4 / 0.020	0.17	29		773	18	500	470	DWR
Mattia Bognuda Irr.	9N/34W-9E1	5-7-58	-	761	7.8	32 / 1.60	39 / 3.20	60 / 2.60	1.0 / 0.034	0 / 0	113 / 1.85	108 / 2.25	113 / 3.18	9.8 / 0.16	0.50 / 0.026	0.22	17		485	35	240	147	TTL
City of Santa Maria Municipal Well	9N/34W-10D2	9-23-58	-	518	7.9	21 / 1.07	17 / 1.38	46 / 2.00	1.5 / 0.040	0 / 0	74 / 1.22	64 / 1.33	57 / 1.61	12 / 0.20	0.1 / 0.005	0.1	38		326	44	122	61	TTL
C. J. Donovan Irr.	10N/34W-3P2	5-7-58	-	1527	8.0	185 / 9.23	71 / 5.84	88 / 3.83	3.8 / 0.097	0 / 0	325 / 5.32	496 / 10.33	77 / 2.17	60 / 0.97	0.5 / 0.026	0.14	30		1220	20	753	487	DWR
K. Dart Irr.	10N/34W-16R1	12-18-58	-	1975	7.9	190 / 9.50	102 / 8.35	102 / 4.45	4.3 / 0.111	0 / 0	244 / 4.00	738 / 15.36	78 / 2.20	56 / 0.910	0.5 / 0.025	0.14	22		1498	20	893	692	DWR
Giacomini Estate Irr.	10N/34W-19A1	12-18-58	67	1775	7.85	188 / 9.40	86 / 7.10	91 / 3.97	4.1 / 0.106	0 / 0	281 / 4.60	614 / 12.71	99 / 2.80	51 / 0.822	0.3 / 0.015	0.12	24		1351	19	825	595	DWR
Union Sugar Company Irr.	10N/34W-19H1	5-7-58	-	1259	8.0	120 / 6.00	61 / 5.00	83 / 3.60	3.5 / 0.090	0 / 0	238 / 3.90	417 / 8.68	70 / 1.97	11 / 0.18	0.4 / 0.021	0.56	16		854	25	550	355	TTL
		9-16-58	-	1277	7.4	134 / 6.69	63 / 5.18	79 / 3.39	3.8 / 0.097	0 / 0	254 / 4.16	423 / 8.82	80 / 2.26	12 / 0.19	0.6 / 0.032	0.14	30		1000	22	594	386	DWR
		12-18-58	65	1490	8.0	143 / 7.15	106 / 8.70	74 / 3.23	3.4 / 0.086	0 / 0	235 / 3.85	444 / 9.24	94 / 2.65	18 / 0.29	0.4 / 0.020	0.15	25		1071	20	793	600	DWR
D. Hobbs Irr.	10N/34W-21R1	12-18-58	69	1313	7.8	124 / 6.20	61 / 5.05	60 / 2.63	3.0 / 0.077	0 / 0	220 / 3.60	400 / 8.33	66 / 1.85	14 / 0.223	0.4 / 0.020	0.12	26		920	19	563	383	DWR
Sheekey Benny Farms Irr.	10N/34W-26H2	9-16-58	-	1150	7.6	112 / 5.60	57 / 4.65	56 / 2.45	2.6 / 0.066	0 / 0	220 / 3.60	246 / 7.20	66 / 1.85	16 / 0.257	0.3 / 0.015	0.23	34		857	19	513	333	DWR
Virginia Pearl Irr.	10N/34W-28A1	11-10-58	-	1046	7.9	82 / 4.08	54 / 4.42	52 / 2.24	2.4 / 0.06	0 / 0	191 / 3.13	318 / 6.62	34 / 0.96	5 / 0.08	0.2 / 0.01	0.1	28		736	21	425	268	TTL
Domestic Well	10N/34W-35A1	12-18-58	-	796	7.8	77 / 3.85	41 / 3.40	40 / 1.75	2.3 / 0.055	0 / 0	195 / 3.20	215 / 4.48	35 / 1.00	13 / 0.203	0.3 / 0.015	0.12	30		572	19	363	203	DWR
Union Sugar Company Irr.	10N/35W-4C1	5-7-58	-	1824	7.2	216 / 10.80	86 / 7.10	101 / 4.40	3.9 / 0.104	0 / 0	329 / 5.40	695 / 14.47	83 / 2.34	11 / 0.17	0.44 / 0.021	0.58	22		1167	20	895	625	TTL
		11-14-58	-	1694	7.8	206 / 10.28	91 / 7.52	96 / 4.18	5.2 / 0.13	0 / 0	310 / 5.08	709 / 14.77	68 / 1.92	12 / 0.19	0.8 / 0.042	0.16	25		1472	19	890	636	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						SANTA MARIA RIVER VALLEY (3-12) (Cont.)																	
	SBB&M																						
Union Sugar Company Dom. and Irr.	10N/35W-5J1	5-7-58	-	1381	7.8	140 6.99	68 5.59	80 3.48	2.9 0.074	0 0	242 3.96	467 9.73	71 2.00	25 0.41	0.6 0.032	0.10	25		1075	22	631	431	DWR
		9-17-58	-	1388	8.0	144 7.20	70 5.75	71 3.07	4.3 0.111	0 0	226 3.70	473 9.85	71 2.00	22 0.360	0.4 0.020	0.09	26		1048	19	648	463	DWR
M. J. Ellis Dom. and Irr.	10N/35W-7F1	9-17-58	-	1631	7.9	169 8.45	79 6.47	88 3.86	3.5 0.09	0 0	246 4.03	586 12.20	100 2.81	3 0.04	0.2 0.01	0.20	21		1194	20	746	544	TTL
Union Sugar Company Irr.	10N/35W-9N2	5-5-58	-	1155	8.0	104 5.20	57 4.65	71 3.12	3.1 0.084	0 0	201 3.30	392 8.16	60 1.69	7.1 0.11	0.38 0.021	0.29	32		872	24	490	327	TTL
		9-17-58	-	1070	8.25	88 4.40	54 4.40	60 2.63	3.0 0.076	3 0.1	116 1.90	371 7.73	46 1.30	12 0.195	0.2 0.010	0.10	38		803	23	440	340	DWR
Agnes F. King Dom.Stk. and Irr.	10N/35W-16M1	9-17-58	-	2180	7.9	244 12.20	130 10.70	181 7.88	5.3 0.135	0 0	204 3.35	1126 23.45	142 4.0	14 0.223	0.1 0.005	0.22	37		2148	25	1145	977	DWR
Union Sugar Company Irr.	10N/35W-17D1	5-7-58	-	2405	7.5	261 13.04	119 9.76	164 7.13	5.3 0.14	0 0	349 5.72	965 20.10	142 4.00	13 0.22	0.2 0.01	0.27	30		2054	24	1140	854	DWR
Agnes F. King Irr.	10N/35W-21C1	5-7-58	-	1926	7.8	180 9.00	79 6.50	175 7.60	3.9 0.102	0 0	366 6.00	524 10.91	182 5.13	50 0.81	0.2 0.010	0.74	22		1234	33	775	475	TTL
		9-17-58	-	1766	7.8	142 7.12	78 6.38	131 5.67	3.5 0.09	0 0	344 5.63	438 9.12	135 3.80	38 0.61	0.2 0.01	0.30	31		1256	29	675	393	TTL
Avilina Morgante Irr.	10N/36W-12R1	5-5-58	-	1266	7.6	133 6.65	59.2 4.87	63 2.74	2.8 0.07	0 0	254 4.16	364 7.59	80 2.26	13 0.21	0.2 0.01	0.17	30		984	19	576	368	DWR
						CUYAMA VALLEY (3-13)																	
Apache School Dom.	7N/24W-13C2	5-26-58	-	1852	7.7	226 11.28	107 8.80	86 3.74	3.7 0.10	0 0	132 2.16	1024 21.33	17 0.48	0.5 0.01	1.0 0.005	0.16	5		1635	16	1007	896	DWR
U.S.Gov't.Forest Serv. Dom.	9N/24W-19F1	5-26-58	-	1792	7.9	213 10.63	115 9.45	72 3.13	3.8 0.10	0 0	166 2.72	969 20.19	18 0.51	4.6 0.07	1.0 0.005	0.16	10		1605	13	1011	868	DWR
		9-22-58	-	1909	8.0	230 11.50	119 9.75	76 3.32	3.9 0.10	0 0	192 3.15	963 20.05	19 0.54	5 0.08	0.80 0.014	0.18	16		1504	13	1062	905	TTL
H. S. Russell Irr. and Dom.	10N/25W-20H1	12-17-58	-	1900	7.7	246 12.3	101 8.30	69 2.98	4.0 0.10	0 0	168 2.75	989 20.59	12 0.35	14 0.22	0.9 0.005	0.09	17		1632	13	1030	893	DWR

a Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
						CUYAMA VALLEY (3-13) (Cont.)																	
	SBB&M																						
E. H. Mettler and Sons Irr. and Dom.	10N/25W-21G1	12-17-58	-	2109	7.6	275 / 13.70	108 / 8.90	77 / 3.35	4.3 / 0.11	0 / 0	183 / 3.00	1100 / 22.90	11 / 0.30	22 / 0.36	0.9 / 0.05	0.14	17		1827	13	1130	980	DWR
E. H. Mettler and Sons Dom.	10N/25W-22E1	5-26-58	-	2024	7.5	275 / 13.72	113 / 9.29	90 / 3.92	4.2 / 0.11	0 / 0	190 / 3.12	1110 / 23.12	19 / 0.54	21 / 0.34	1.2 / 0.06	0.16	15		1870	14	1158	1000	DWR
E. H. Mettler and Sons Dom. and Irri.	10N/25W-23E1	12-17-58	-	2500	7.9	242 / 12.10	90 / 7.40	239 / 10.40	15 / 0.39	0 / 0	137 / 2.25	961 / 19.89	278 / 7.85	24 / 0.39	0.8 / 0.04	1.19	19		1975	34	975	863	DWR
Adolph Kirschenmann Dom. and Irr.	10N/25W-30F1	12-17-58	-	3100	7.8	404 / 20.15	159 / 13.05	94 / 4.10	4.4 / 0.11	0 / 0	143 / 2.35	1240 / 25.82	94 / 2.65	415 / 6.70	0.4 / 0.02	0.11	20		2836	11	1660	1543	DWR
Herbert Russell Dom. and Irr.	10N/26W-4R1	6-24-58	-	1918	8.1	207 / 10.37	93 / 7.66	120 / 5.20	6.9 / 0.18	0 / 0	148 / 2.43	934 / 19.45	40 / 1.13	4 / 0.06	1 / 0.05	0.80	23		1449	22	901	780	TTL
Cuyama Ranch Irr.	10N/26W-4R2	12-17-58	68	1982	7.7	233 / 11.67	93 / 7.69	105 / 4.56	4.2 / 0.11	0 / 0	164 / 2.68	978 / 20.36	28 / 0.78	3 / 0.04	0.9 / 0.05	0.40	18		1514	18	968	834	TTL
H. Russell Irr.	10N/26W-9R2	11-17-58	64	2380	7.8	347 / 17.32	142 / 11.68	97 / 4.22	7.0 / 0.18	0 / 0	151 / 2.48	1300 / 27.09	76 / 2.14	80 / 1.29	1.0 / 0.05	0.30	25		2315	13	1450	1326	DWR
H. Russell Irr.	10N/26W-14C4	11-17-58	63	1629	8.1	212 / 10.58	100 / 8.26	75 / 3.26	5.3 / 0.14	0 / 0	171 / 2.80	906 / 18.88	13 / 0.37	7.7 / 0.12	1.2 / 0.06	0.10	20		1514	15	942	802	DWR
Irrigation Well	10N/26W-21Q2	5-26-58	-	1010	7.7	67 / 3.34	13 / 1.07	144 / 6.26	3.5 / 0.09	0 / 0	181 / 2.96	344 / 7.17	18 / 0.51	1.5 / 0.02	0.4 / 0.02	0.16	30		705	58	225	73	DWR
Goehring Bros. Dom. and Irr.	10N/26W-23P1	12-17-58	-	4890	7.8	553 / 27.60	199 / 16.40	166 / 7.20	2.3 / 0.06	0 / 0	153 / 2.50	1916 / 39.65	294 / 8.30	60 / 0.97	0.3 / 0.02	0.14	23		3557	14	2200	2075	DWR
Walt Smith Dom. and Irr.	10N/27W-11C1	12-17-58	-	4107	7.7	477 / 23.79	235 / 19.33	334 / 14.50	6.9 / 0.18	0 / 0	330 / 5.41	2398 / 49.92	72 / 2.02	12 / 0.20	0.7 / 0.04	0.16	19		3424	25	2156	1886	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
								OXNARD PLAIN BASIN (4-4.01)															
	SBB&M																						
Ed Murdhardt Dom. and Irr.	1N/21W-30A1	10-17-58	-	1017	7.9					0 / 0	295 / 4.84		39 / 1.10								372	130	DWR
U.S.Navy Air Station Military Well	1N/21W-31L1	5-20-58	68	910	8.3	50 / 2.50	25 / 2.05	105 / 4.56	6.50 / 0.168	0 / 0	312 / 3.48	193 / 4.02	60 / 1.69	4.1 / 0.07	0.08 / 0.005	0.70	33		615	49	230	54	TTL
U.S.Navy - Point Mugu Military Well	1N/21W-32G1	5-20-58	-	1078	8.15	62 / 3.10	39 / 3.20	110 / 4.80	5.7 / 0.15	0 / 0	204 / 3.35	286 / 5.95	70 / 1.97	2.7 / 0.04	0.36 / 0.021	0.90	33		717	42	315	147	TTL
U.S.Navy - Point Mugu Military Well	1N/21W-32K1 11-W-36	5-20-58	75	1144	8.3	66 / 3.30	43 / 3.50	120 / 5.20	6.50 / 0.168	0 / 0	197 / 3.23	333 / 6.93	71 / 2.00	4.0 / 0.06	0.04 / 0.00	0.70	35		774	43	340	178	TTL
City of Oxnard Municipal Well	1N/22W-3F4 9-U-9	4-8-58	-	1616	7.3	176 / 8.79	54 / 4.47	110 / 4.78			313 / 5.13	530 / 11.04	57 / 1.61	18 / 0.29	0.7	0.60			1102	27	663	406	FGL
		4-22-58	65	1622	7.65	179 / 8.95	61 / 4.95	106 / 4.60	5.3 / 0.14	0 / 0	308 / 5.05	544 / 11.33	61 / 1.72	1.6 / 0.026	0.4 / 0.021	0.10	28		1092	25	695	443	TTL
		10-16-58	72	1314	8.0					0 / 0	278 / 4.56		57 / 1.61								590	362	DWR
D. McGrath Estate Dom. and Stk.	1N/22W-7D1	4-22-58	-	1253	7.50	132 / 6.60	26 / 2.10	90 / 3.90	3.9 / 0.102	0 / 0	247 / 4.05	356 / 7.41	48 / 1.35	0.29 / 0.005	0.1 / 0.005	2.30	36		851	31	435	232	TTL
		10-16-58	-	1192	8.0					0 / 0	258 / 4.24		44 / 1.24								485	273	TTL
		10-23-58	-	1208	7.5	117 / 5.87	43 / 3.51	93 / 4.04			261 / 4.27	381 / 7.95	43 / 1.21		0.8	0.60				30	469	255	FGL
Ignatius Friedrich Dom. and Irr.	1N/22W-9Q3	4-23-58	-	1282	7.6	129 / 6.45	46 / 3.75	94 / 4.12	4.2 / 0.114	0 / 0	256 / 4.20	421 / 8.77	45 / 1.27	0 / 0	0.80 / 0.042	0.22	20		873	29	515	305	TTL
		10-16-58	-	1183	8.2					24 / 0.80	207 / 3.40		45 / 1.27								510	300	DWR
City of Oxnard Municipal	1N/22W-15B3	4-8-58	-	1248	7.42	122 / 6.09	40 / 3.31	99 / 4.31			260 / 4.27	395 / 3.23	44 / 1.24	2 / 0.03	0.7	0.55			832	31	470	256	FGL
		10-16-58	-	1171	8.1	126 / 6.29	42 / 3.47	90 / 3.92	4.3 / 0.11	0 / 0	242 / 3.96	399 / 8.31	44 / 1.24	3.0 / 0.048	0.7 / 0.037	0.70	30		923	28	488	290	DWR
Hollywood Beach Resort Dom.	1N/22W-18E1	4-23-58	-	1225	7.55	130 / 6.50	39 / 3.20	89 / 3.83	3.9 / 0.104	0 / 0	250 / 4.10	396 / 8.24	48 / 1.35	6.5 / 0.11	0 / 0	2.30	30		848	28	485	280	TTL
		10-16-58	-	1157	7.9	127 / 6.34	47 / 3.86	86 / 3.74	4.6 / 0.118	0 / 0	251 / 4.12	404 / 8.41	45 / 1.27	1.0 / 0.016	0.8 / 0.042	0.66	30		905	27	510	304	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), Fruit Growers' Laboratory, Inc. (F.G.L.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	SBB&M					OXNARD PLAIN BASIN (4-4.01) (Cont.)																	
Hollywood By The Sea Mutual Water Company Municipal	1N/22W-19B3	4-23-58	-	1141	7.70	122 / 6.10	36 / 3.00	85 / 3.70	4.6 / 0.116	0 / 0	250 / 4.10	358 / 7.45	45 / 1.26	0 / 0	0.70 / 0.037	0.32	28		713	29	455	250	TTL
		10-16-58	-	1055	7.9					0 / 0	246 / 4.04		43 / 1.21								444	242	DWR
U. S. Navy Dom.	1N/22W-20B1 NCBC #4	4-16-58	69	1125	7.3	119 / 5.95	35 / 2.85	77 / 3.33	4.3 / 0.110	0 / 0	253 / 4.15	350 / 7.28	37 / 1.05	3.8 / 0.062	0.3 / 0.015	0.30	33		809	27	440	232	DWR
Silver Strand Mutual Water Company Municipal	1N/22W-20E2 8-V-27	4-23-58	-	1201	7.8	140 / 7.00	30 / 2.45	91 / 3.96	4.6 / 0.118	0 / 0	262 / 4.30	380 / 7.91	43 / 1.21	1.5 / 0.02	0.30 / 0.016	0.33	31		827	29	473	258	TTL
		10-16-58	-	1138	7.7	136 / 6.79	29 / 2.38	86 / 3.74	4.8 / 0.123	0 / 0	259 / 4.24	346 / 7.21	46 / 1.30	1.5 / 0.024	0.5 / 0.026	0.50	35		890	29	459	247	DWR
U. S. Navy Observation Well	1N/22W-20R1 NCBC #2	4-16-58	70	19520	7.0	948 / 47.30	485 / 39.90	2887 / 125.52	2.5 / 0.063	0 / 0	253 / 4.15	1155 / 24.05	6808 / 192.00	7.4 / 0.120	0.5 / 0.025	0.94	22		13966	59	4360	4152	DWR
K. L. Varnau Dom., Irr. and Poultry Well	1N/22W-23C1 10-V-13	10-17-58	-	1107	7.9	117 / 5.84	40 / 3.26	88 / 3.83	4.2 / 0.107	0 / 0	250 / 4.10	370 / 7.71	40 / 1.13	0.0 / 0.0	0.7 / 0.037	0.65	30		875	29	455	250	DWR
S. R. Pidduck Irr.	1N/22W-26A1 10-W-10	10-17-58	70	1103	7.6					0 / 0	250 / 4.24		44 / 1.24								462	250	DWR
R. B. Lawn Dom. and Irr.	1N/22W-28A2 9-V-41	4-16-58	-	1130	7.5	114 / 5.70	37 / 3.05	79 / 3.42	1.7 / 0.043	0 / 0	278 / 4.55	309 / 6.44	43 / 1.20	1.8 / 0.029	0.7 / 0.035	0.24	24		810	28	438	211	DWR
		10-17-58	-	1204	8.1	113 / 5.66	45 / 3.68	95 / 4.16	4.2 / 0.11	0 / 0	285 / 4.67	316 / 6.59	69 / 1.96	0 / 0	0.7 / 0.037	0.7	28		849	31	467	233	TTL
		10-24-58	-	1196	7.61	117 / 5.87	37 / 3.05	93 / 4.04			292 / 4.77	306 / 6.38	69 / 1.95		0.85 / 0.044	0.61				31	446	207	FGL
		12-11-58											88 / 2.48										FGL
		12-23-58		1283									97 / 2.73										FGL
Kalof Pulp and Paper Co. Ind. and Dom.	1N/22W-28H2	4-16-58		1180	7.4	124 / 6.20	38 / 3.10	83 / 3.59	3.2 / 0.082	0 / 0.0	253 / 4.15	373 / 7.77	50 / 1.40	2.3 / 0.037	0.7 / 0.035	0.29	28		855	28	465	257	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), Fruit Growers' Laboratory, Inc. (F.G.L.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						OXNARD PLAIN BASIN (4-4.01) (Cont.)																	
	SBB&M																						
Kalof Pulp and Paper Co. Ind. and Dom.	1N/22W-28H2	10-17-58	69	1134	8.2	124 6.19	39 3.23	90 3.92	3.8 0.097	0 0	249 4.08	373 7.78	53 1.49	0.3 0.004	0.7 0.037	0.68	30		887	29	471	267	DWR
		11-5-58	-	1245	7.74	129 6.45	39 3.17	97 4.22			269 4.42	372 7.75	55 1.55		0.9 0.04	0.69				31			FGL
Oasis Motel Dom.	2N/22W-27M2 9-T-27	4-23-58	-	1841	7.80	210 1052	73 6.03	120 5.20	5.3 0.136	0 0	342 5.60	644 13.41	78 2.20	33 0.525	0.62 0.032	0.0	19		1256	24	827	547	TTL
		10-16-58	-	1626	7.7	127 6.34	94 7.73	115 5.00	4.6 0.12	0 0	326 5.34	518 10.78	67 1.90	49 0.76	0.6 0.032	0.50	25		1221	26	703	436	TTL
Frank McGrath Estate Dom.	2N/23W-25Q1	4-23-58	-	1414	7.50	142 7.10	47 3.90	82 3.56	2.4 0.064	0 0	250 4.10	433 9.03	60 1.69	14 0.22	0 0	1.25	29		968	24	550	345	TTL
		10-16-58	-	1385	7.9					0 0	266 4.36		55 1.55										
						WEST COAST BASIN-AREA OF SEA-WATER INTRUSION (4-11.02)																	
City of Manhattan Beach Municipal Wall	3S/14W-30H2 721K	3-7-58	-	763	7.5	60 3.00	18 1.50	71 3.08	5.3 0.144	0 0	235 3.85	30 0.62	120 3.38	0.30 0.005	0.3 0.016	0.10	25		441	40	225	32	DWR
		10-22-58	72	618	8.3	62 3.10	16 1.35	70 3.05	5.1 0.130	3 0.10	226 3.70	30 0.63	113 3.20	1.8 0.029	0.2 0.01	0.06	29		446	40	223	38	DWR
City of El Segundo Municipal Well	3S/15W-12G1 1297E	1-6-58	69	2216	7.7	169 8.43	59 4.85	185*		0 0	324 5.31	66 1.37	520 14.66	0 0					1320		666	400	LACFCD
		3-4-58	71	1868	7.2					0 0	360 5.90		413 11.65								595	300	DWR
		5-26-58	69	5400	8.1	508 25.33	169 13.90	755*		0 0	1006 16.49	179 3.73	1840 51.88	0 0					4457		1970		LACFCD
City of El Segundo Municipal Well	3S/15W-12H2 1307E	3-20-58	71	1680	7.5	132 6.60	47 3.85	148 6.45	9.70 0.25	0 0	339 5.55	107 2.22	310 8.73	0.59 0.01	0	0.2	27		1170	38	522	245	DWR
City of El Segundo Municipal Well	3S/15W-12H3 1307D	3-4-58	71	851	7.8					0 0	424 6.95		83 2.35								250	0	DWR
Standard Oil Company Industrial Well	3S/15W-13R2	3-7-58	65	738	7.8	25 1.25	18 1.45	91 3.96	7.8 0.200	0 0	170 3.94	0 0	140 3.94	0 0	0 0	0.5	-		510	59	135	0	TTL

a Determined by addition of constituents
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), Fruit Growers' Laboratory, Inc. (F.G.L.), or State Department of Water Resources (D.W.R.), as indicated Los Angeles County Flood Control District (L.A.C.F.C.D.)
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

* Na plus K determined together.

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						Mineral constituents in parts per million / equivalents per million																	
WEST COAST BASIN-AREA OF SEA-WATER INTRUSION (4-11.02) (Cont.)																							
	SBB&M																						
Standard Oil Company Ind.	3S/15W-13R6 1309M	10-29-58	73	1006	7.7	78 / 3.89	26 / 2.15	98 / 4.26	6.8 / 0.17	0 / 0	337 / 5.52	9 / 0.19	159 / 4.48	1.3 / 0.02	0.1 / 0.005	0.12	30		584	41	302	26	DWR
Los Angeles Co.Flood Control District Observation Well	4S/14W-17D3 726G	5-13-58	-	14,100	8.1	720 / 35.92	412 / 33.88	1860*		0 / 0	224 / 4.74	453 / 9.43	4880 / 137.61	0 / 0					8550		3500		LACFCD
Del Amo Estates Co. Observation Well	4S/14W-17H2 737C	6-11-58	73	735	8.5	41 / 2.04	13 / 1.06	96 *		0 / 0	292 / 4.78	3.7 / 0.07	102 / 2.87	0 / 0					554		157		LACFCD
WEST COAST BASIN-TORRANCE AREA (4-11.02)																							
Ray Beauley Dom.	4S/13W-6K1 814	3-10-58	66	1257	7.6	124 / 6.20	27 / 2.20	119 / 5.19	5.7 / 0.15	0 / 0	264 / 4.34	289 / 6.02	110 / 3.10	2.2 / 0.035	0.94 / 0.050	0.15	16		870	38	420	203	TTL
		10-21-58	72	1033	8.1	114 / 5.70	26 / 2.15	100 / 4.35	5.0 / 0.129	0 / 0	247 / 4.05	273 / 5.68	96 / 2.70	7.4 / 0.120	0.1 / 0.005	0.06	24		797	35	393	191	DWR
George Branning Dom. and Stk.	4S/13W-6Q1 814A	3-10-58	62	1803	7.4	160 / 7.98	43 / 3.54	207 / 9.00	8.0 / 0.20	0 / 0	365 / 5.98	471 / 9.81	152 / 4.28	4.5 / 0.07	0.18 / 0.01	0.35	16		1257	44	576	273	TTL
		10-21-58	71	1627	7.7	121 / 6.05	44 / 3.60	173 / 7.52	6.4 / 0.164	0 / 0	329 / 5.40	412 / 8.57	117 / 3.30	13 / 0.204	0.1 / 0.005	0.08	25		1067	43	483	213	DWR
Chanslor Canfield Midway Oil Co. Ind.	4S/14W-9Q1 746	1-7-58	62	1046	8.0	33 / 1.65	14 / 1.15	178* / 7.75		0 / 0	184 / 3.02	221 / 4.60	104 / 2.93	0 / 0	-	-	-		734	73	141	0	LACFCD
		5-6-58	-	1077	7.2	50 / 2.50	10 / 0.75	167 / 7.25	6.1 / 0.16	0 / 0	277 / 4.55	0 / 0	220 / 6.20	0 / 0	0.20 / 0.011	0.55	26		733	68	160	0	TTL
		10-21-58	-	1013	7.7					0 / 0	262 / 4.3		229 / 6.45								163	0	DWR
City of Torrance Municipal Well	4S/14W-16L2 747D	3-7-58	72	711	7.1	32 / 1.60	13 / 1.05	100 / 4.36	4.2 / 0.11	0 / 0	317 / 5.20	6 / 0.12	73 / 2.05	2.5 / 0.04	0 / 0	0.18	30		420	61	133	0	DWR
Union Oil Company Ind.	4S/14W-22Q1 769	3-7-58	70	521	7.3	18 / 0.90	6 / 0.50	93 / 4.05	2.1 / 0.05	0 / 0	262 / 4.30	1 / 0.03	43 / 1.20	3.0 / 0.05	0 / 0	0.12	38		320	74	70	0	DWR
		10-21-58	69	566	6.8	19 / 0.95	13 / 1.05	84 / 3.66	3.3 / 0.09	0 / 0	244 / 4.00	0.5 / 0.01	53 / 1.50	1.4 / 0.02	0 / 0	0.16	41		332	64	100	0	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), Los Angeles County Flood Control District (L.A.C.F.C.D.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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						Mineral constituents in parts per million / equivalents per million																	
						WEST COAST BASIN-TORRANCE AREA (4-11.02) (Cont.)																	
	SBB&M																						
Edward Sidebotham Ind.	4S/14W-35E1 271A	3-7-58	-	1038	7.7	72 / 3.60	28 / 2.45	108 / 4.70	5.7 / 0.15	0 / 0	360 / 5.90	49 / 1.03	135 / 3.80	2.4 / 0.04	0.1 / 0.005	0.19	27		621	43	303	0	DWR
		10-16-58	73	1019	8.2					0 / 0	348 / 5.70		139 / 3.91								278		TTL
Chandlers Palos Verdes Sand and Gravel Co. Ind.	4S/14W-35F2 281C	3-7-58	-	1380	7.6	95 / 4.75	33 / 2.75	160 / 6.95	4.5 / 0.12	0 / 0	372 / 6.10	171 / 3.56	179 / 5.05	3.7 / 0.06	0.2 / 0.01	0.19	28		867	48	375	70	DWR
		10-16-58	-	1292	8.7					27 / 0.9	311 / 5.1		179 / 5.05								385		DWR
Palos Verdes Water Co. Municipal Well	4S/14W-36H1 301	3-10-58	76	730	7.6					0 / 0	339 / 5.55		78 / 2.20								85		DWR
		10-21-58	76	610	8.4	21 / 1.05	9 / 0.75	124 / 5.39	7.4 / 0.19	6 / 0.20	293 / 4.80	1.4 / 0.03	89 / 2.50	4.4 / 0.07	0.2 / 0.01	0.29	30		466	73	90	0	DWR
						WEST COAST BASIN-ATHENS AREA (4-11.02)																	
Maria N. Ishida Dom. and Irr.	3S/13W-29G3 831	3-5-58	64	893	7.2	90 / 4.50	20 / 1.65	72 / 3.12	3.1 / 0.08	0 / 0	311 / 5.10	113 / 2.36	74 / 2.10	0.5 / 0.01	0.2 / 0.01	0.05	20		567	33	308	53	DWR
		10-20-58	68	770	7.6	84 / 4.20	21 / 1.70	72 / 3.15	6.1 / 0.16	0 / 0	265 / 4.35	112 / 2.34	90 / 2.55	1.9 / 0.31	0.2 / 0.01	0.12	26		567	34	295	78	DWR
Mrs. H. E. Distel Dom.	3S/13W-31F1 813H	3-10-58	58	1894	7.4					0 / 0	325 / 5.32		344 / 9.70								691		DWR
		10-17-58	74	1788	8.1					0 / 0	314 / 5.15		330 / 9.3								698		DWR
So. Calif. Water Co. Municipal	3S/14W-24K14 800	4-9-58	-	557	7.8	56 / 2.80	14 / 1.15	46 / 1.98	3.9 / 0.10	0 / 0	229 / 3.75	75 / 1.56	28 / 0.79	0 / 0	0.16 / 0.01	0.22	29		374	33	197	10	TTL
		10-21-58	75	542	8.3					9 / 0.3	195 / 3.2		25 / 0.7								198		DWR
Wilbur Hornstra Dom. Dairy & Irr.	3S/14W-25K4 802	10-17-58	70	588	8.1	58 / 2.89	15 / 1.23	47 / 2.04	3.5 / 0.09	0 / 0	226 / 3.70	34 / 0.70	59 / 1.66	0 / 0	0.3 / 0.015	0.04	30		364	33	206	21	DWR
L.A. County Park Dept. Irr.	3S/14W-27C1 761	3-11-58	70	1260	7.5	101 / 5.05	28 / 2.30	87 / 3.80	2.2 / 0.06	0 / 0	226 / 3.70	62 / 1.29	230 / 6.50	3.0 / 0.05	0.2 / 0.01	0.07	23		752	34	368	183	DWR

a Determined by addition of constituents
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA

ANALYSES OF GROUND WATER

1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						WEST COAST BASIN-ATHENS AREA (4-11.02)																	
	SBB&M																						
L.A. County Park Dept. Irr.	3S/14W-27C1 761	10-23-58	68	955	7.8	105 / 5.25	22 / 1.80	89 / 3.85	4.7 / 0.12	0 / 0	207 / 3.40	53 / 1.11	227 / 6.40	3.7 / 0.06	0.3 / 0.02	0.05	27		703	35	353	183	DWR
Moneta Water Company Mun.	3S/14W-35M5 773K	10-20-58	74	403	8.1	33 / 1.65	13 / 1.05	40 / 1.73	4.5 / 0.114	0 / 0	2.20 / 3.60	6 / 0.12	21 / 0.60	5.6 / 0.091	0.2 / 0.01	0.11	30		279	38	135	0	DWR
						CENTRAL COASTAL PLAIN PRESSURE AREA (4-11.03)																	
Los Angeles Dept. of Water and Power Mun.	2S/13W-32C2	10-23-58	68	567	8.0					0 / 0	223 / 3.65		23 / 0.65								200		DWR
City of Southgate Mun.	3W/13W-2B1	10-23-58	66	825	8.0	94 / 4.70	24 / 2.00	45 / 1.96	3.9 / 0.10	0 / 0	247 / 4.05	141 / 2.94	62 / 1.75	2.2 / 0.04	0.3 / 0.02	0.12	26		517	22	335	83	DWR
						LOS ANGELES FOREBAY AREA (4-11.04)																	
City of Vernon Mun.	2S/13W-10P4 2769G	4-22-58	69	578	8.3					0 / 0	244 / 4.0		32 / 0.90								243	43	DWR
		12-11-58	70	644	7.9					0 / 0	246 / 4.03		33 / 0.93								243		TTL
City of Vernon Mun.	2S/13W-14H1	6-30-58	-	609	7.7					0 / 0	237 / 3.88		31 / 0.87								227	33	DWR
		12-19-58	65	640	7.6					0 / 0	232 / 3.81		31 / 0.87								223	33	TTL
Pioneer Paper Co. Ind.	2S/13W-15N3 1460D	6-30-58	-	615	7.7					0 / 0	237 / 3.88		31 / 0.87								235	41	DWR
		12-17-58	-	635	8.2					0 / 0	217 / 3.55		28 / 0.80								238		DWR
						MAIN SAN GABRIEL BASIN (4-13.01)																	
Baldwin Park County Water District Dom. and Irr.	1S/10W-7A1 4239A	5-19-58	64	588	7.7	66 / 3.30	24 / 2.00	9 / 0.380	3.3 / 0.085	0 / 0	193 / 3.17	40 / 0.84	61 / 1.72	22 / 0.350	0.2 / 0.01	0.06	19		325	7	265	106	DWR
		11-7-58	-	612	7.9					0 / 0	208 / 3.42		60 / 1.69								265	94	TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
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d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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						Mineral constituents in parts per million / equivalents per million																	
						MAIN SAN GABRIEL BASIN (4-13.01) (Cont.)																	
	SBB&M																						
Walnut Place Mutual Water Co. Irr.	1S/10W-19N1 3032	11-7-58	65	989	7.9					0 / 0	229 / 3.76		84 / 2.38								367	179	DWR
City of Monrovia Mun.	1S/11W-2G1 4198	11-7-58	-	668	7.4	86 / 4.29	29 / 2.38	21 / 0.91	2.0 / 0.051	0 / 0	310 / 5.08	30 / 0.63	28 / 0.79	73 / 1.180	0.1 / 0.005	0.04	25		430	12	332	78	DWR
Southern California Water Co. Mun.	1S/11W-10F1	5-19-58	-	416	8.0	52 / 2.60	13 / 1.10	14 / 0.60	1.5 / 0.04	0 / 0	204 / 3.35	12 / 0.25	22 / 0.62	15 / 0.24	0.50 / 0.026	0.04	27		289	14	185	17	TTL
		11-7-58	-	382	7.8					0 / 0	212 / 3.48		11 / 0.31								180	6	DWR
Herbert Mutual Water Co. Dom.	1S/11W-14M1	5-19-58	-	351	7.4	50 / 2.50	13 / 1.10	8 / 0.34	3.1 / 0.067	0 / 0	189 / 3.10	16 / 0.33	18 / 0.50	8.9 / 0.14	0.40 / 0.021	0.45	13		248	9	180	25	TTL
San Gabriel Valley Water Co. Mun. and Ind.	1S/11W-26K1	4-22-58	-	395	8.0	47 / 2.35	20 / 1.65	14 / 0.63	4.7 / 0.119	0 / 0	241 / 3.95	22 / 0.46	11 / 0.30	10 / 0.162	0.4 / 0.020	0.08	24		235	13	200	2	DWR
		5-19-58	-	382	8.0	41 / 2.05	13 / 1.05	15 / 0.66	3.3 / 0.085	0 / 0	162 / 2.65	34 / 0.71	14 / 0.40	17 / 0.270	0.1 / 0.005	0.15	20		240	17	155	23	DWR
Pedro Mireles Irr. and Dom.	1S/11W-32C1	5-19-58	-	753	8.0	110 / 5.50	25 / 2.05	18 / 0.80	2.8 / 0.07	0 / 0	332 / 5.45	71 / 1.48	38 / 1.07	33 / 0.54	0.26 / 0.016	0.22	24		497	10	375	102	TTL
		7-29-58	-	758	7.45					0 / 0	331 / 5.44		35 / 0.99								374	102	TTL
		11-7-58	-	733	7.8					0 / 0	334 / 5.48		30 / 0.84								372	98	TTL
Ed Alluis Dom. and Irr.	1S/11W-33P1 2956D	7-29-58	-	625	8.0	90 / 4.50	17 / 1.43	16 / 0.72	4.20 / 0.11	0 / 0	220 / 3.60	100 / 2.08	38 / 1.07	3.9 / 0.06	0.18 / 0.010	0.60	18		403	11	297	117	TTL
		12-10-58	-	686	7.5	101 / 5.04	21 / 1.73	19 / 0.83	5.4 / 0.138	0 / 0	232 / 3.80	121 / 2.52	43 / 1.21	7.5 / 0.121	0.2 / 0.011	0.04	20		480	11	341	151	DWR
Scudder Food Products Dom. and Irr.	1S/11W-35L1	10-15-58	-	601	8.1	37 / 1.83	15 / 1.24	72 / 3.14	1.9 / 0.05	0 / 0	217 / 3.55	66 / 1.37	40 / 1.13	12 / 0.20	0.5 / 0.026	0.16	22		434	50	153	0	TTL
City of Alhambra Mun.	1S/12W-10E1	5-19-58	-	654	8.35	56 / 2.80	18 / 1.45	40 / 1.76	2.40 / 0.064	6 / 0.20	180 / 2.95	47 / 0.98	49 / 1.38	27 / 0.43	0.10 / 0.005	0.15	23		411	29	212	54	TTL

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								REDDING BASIN (5-6)														
Cottonwood Water Department	29N/4W-2M1	8-12-58	-	182	8.0	14 / 0.70	6.6 / 0.54	14 / 0.61	0.9 / 0.02	0 / 0	104 / 1.70	1.2 / 0.02	2.6 / 0.07	2.0 / 0.03	0.3 / 0.02	0.04	53	Fe = 0.00	146	33	62	0	DWR
Max Hurley Irr.	29N/4W-6N1	10-12-58	-	164	7.9	13 / 0.65	5.7 / 0.47	12 / 0.52	0.7 / 0.02	0 / 0	93 / 1.52	2.0 / 0.04	2.0 / 0.06	1.3 / 0.02	0.2 / 0.01	0.05	62	Fe = 0.00	145	31	56	0	DWR
D. F. Parit Irr. & Dom.	30N/3W-4M1	8-12-58	-	191	7.9	15 / 0.75	10 / 0.83	7.8 / 0.34	1.8 / 0.05	0 / 0	110 / 1.80	3.0 / 0.06	2.2 / 0.06	1.1 / 0.02	0.1 / 0.01	0.00	86	Fe = 0.00	181	17	79	0	DWR
Don Morton Dom.	30N/3W-34D1	10-12-58	-	255	8.0	25 / 1.25	12 / 1.03	9.5 / 0.41	1.0 / 0.02	0 / 0	147 / 2.41	6.6 / 0.14	2.4 / 0.07	3.7 / 0.06	0.2 / 0.01	0.03	47	Fe = 0.00	179	15	114	0	DWR
T. Loftue Irr.	30N/4W-1E1	8-12-58	-	157	7.7	10 / 0.50	7.0 / 0.58	9.0 / 0.39	0.6 / 0.02	0 / 0	67 / 1.10	8.7 / 0.18	6.3 / 0.13	3.6 / 0.06	0.1 / 0.01	0.00	36	Fe = 0.00	114	26	54	0	DWR
U.S. Plywood Corp. Ind.	30N/4W-5K1	8-12-58	61	191	8.0	14 / 0.70	11 / 0.88	9.2 / 0.40	0.7 / 0.02	0 / 0	108 / 1.77	5.6 / 0.12	2.5 / 0.07	0.9 / 0.01	0.0 / 0.00	0.03	49	Fe = 0.02	146	20	79	0	DWR
27 Dist. Agr. Assn. Irr.	30N/4W-16H	10-12-58	65	237	8.0	23 / 1.15	9.1 / 0.75	12 / 0.52	1.3 / 0.03	0 / 0	123 / 2.02	10 / 0.21	5.7 / 0.16	1.7 / 0.03	0.2 / 0.01	0.03	56	Fe = 0.00	179	21	95	0	DWR
Paul Bunyan Lumber Co. Ind.	30N/4W-25N1	10-12-58	65	164	7.9	13 / 0.65	5.7 / 0.47	13 / 0.56	0.7 / 0.02	0 / 0	94 / 1.54	2.0 / 0.04	2.6 / 0.07	0.9 / 0.01	0.2 / 0.01	0.11	0.11	Fe = 0.00	132	33	56	0	DWR
Happy Valley School Dom.	30N/5W-15R1	8-12-58	80	168	7.9	9.6 / 0.50	6.1 / 0.50	17 / 0.74	0.7 / 0.02	0 / 0	100 / 1.64	1.6 / 0.03	2.2 / 0.06	0.04 / 0.01	0.02 / 0.01	0.00	40	Fe = 0.20	127	42	50	0	DWR
C. A. Young Dom.	30N/5W-17R1	8-12-58	-	150	7.7	9.6 / 0.50	3.6 / 0.30	16 / 0.70	0.5 / 0.01	0 / 0	83 / 1.36	0.5 / 0.01	4.3 / 0.12	1.1 / 0.02	02 / 0.01	0.00	55	Fe = 0.00	132	46	40	0	DWR
R. M. Gilbert Irr.	31N/3W-7K1	8-13-58	68	238	8.0	14 / 0.70	8.0 / 0.66	25 / 1.09	1.6 / 0.04	0 / 0	129 / 2.11	1.5 / 0.03	11 / 0.31	0.2 / 0.00	0.2 / 0.01	0.20	53	Fe = 0.00	178	44	68	0	DWR
Gimblin, Irr. & Dom.	31N/3W-12E1	8-13-58	63	208	7.9	22 / 1.10	7.5 / 0.62	7.6 / 0.33	2.3 / 0.06	0 / 0	106 / 1.74	64 / 0.13	4.7 / 0.03	4.3 / 0.07	0.1 / 0.01	0.00	70	Fe = 0.00	177	16	86	0	DWR
Lawn Crest Cemetery Irr.	31N/4W-5F1	8-13-58	68	158	7.9	10 / 0.50	7.0 / 0.58	12 / 0.52	0.8 / 0.02	0 / 0	93 / 1.52	1.0 / 0.02	2.0 / 0.06	0.2 / 0.00	0.4 / 0.02	0.02	46	Fe = 0.01	125	32	54	0	DWR
Enterprise School District - Irr. & Dom.	31N/4W-7A1	8-13-58	-	207	8.0	22 / 1.10	5.1 / 0.42	14 / 0.61	1.0 / 0.02	0 / 0	121 / 1.98	2.1 / 0.04	3.2 / 0.09	0.5 / 0.01	0.1 / 0.01	0.04	28	Fe = 0.01	135	28	76	0	DWR
L. A. Stayer Irr.	31N/4W-15B1	8-15-58	69	230	8.0	12 / 0.60	10 / 0.86	20 / 0.87	0.7 / 0.02	0 / 0	122 / 2.00	1.6 / 0.03	10 / 0.28	0.6 / 0.01	0.3 / 0.02	0.09	53	Fe = 0.00	168	37	73	0	DWR
Phil. S. Tempelton Irr.	31N/4W-16Q1	8-13-58	64	159	7.8	9.8 / 0.49	8.1 / 0.67	10 / 0.44	0.6 / 0.02	0 / 0	89 / 1.46	1.6 / 0.03	3.5 / 0.10	1.7 / 0.03	0.2 / 0.01	0.02	33	Fe = 0.00	112	27	58	0	DWR
California Motel Irr. & Dom.	31N/5W-13D1	8-19-58	-	384	8.3	15 / 0.75	7.7 / 0.63	53 / 2.30	1.2 / 0.03	2 / 0.07	143 / 2.34	0.0 / 0.00	46 / 1.30	1.0 / 0.02	0.4	0.30	52		249	62	69	0	DWR

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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					REDDING BASIN (5-6) (Cont.)																	
Indian Reservation Dom. & Irr.	31N/5W-25K1	8-13-58	-	220	7.8	8.1 / 0.40	2.2 / 0.18	37 / 1.61	0.8 / 0.02	0 / 0	113 / 1.85	0.0 / 0.00	13 / 0.37	0.3 / 0.00	0.1 / 0.01	0.03	37	Fe - 0.03	154	73	29	0	DWR
Irvin Dom. & Irr.	32N/3W-20P1	8-13-58	-	208	8.0	16 / 0.80	7.3 / 0.60	13 / 0.56	1.5 / 0.04	0 / 0.00	88 / 1.44	5.9 / 0.12	14 / 0.39	2.1 / 0.03	0.0 / 0.00	0.14	32		135	28	70	0	DWR
Stegger Irr.	32N/3W-32R1	8-13-58	66	186	8.0	4.4 / 0.22	1.7 / 0.14	32 / 1.39	0.9 / 0.02	0 / 0.08	85 / 1.39	1.8 / 0.04	12 / 0.34	0.6 / 0.01	0.4 / 0.02	2.23	33		129	78	18	0	DWR
Carrol Boyle Dom.	32N/3W-32J2	8-13-58	66	603	8.3	38 / 1.90	20 / 1.66	47 / 2.04	2.8 / 0.07	3 / 0.10	156 / 2.56	13 / 0.27	98 / 2.76	1.4 / 0.02	0.0 / 0.00	0.23	66		366	36	178	45	DWR
Coldiron	32N/3W-35C1	8-13-58	63	213	8.3	13 / 0.65	9.4 / 0.77	17 / 0.74	2.2 / 0.06	2 / 0.07	125 / 2.05	0.3 / 0.01	3.4 / 0.10	0.7 / 0.01	0.1 / 0.00	0.08	67		176	33	71	0	DWR
Jones Rest Home Irr.	32N/4W-14F2	8-14-58	63	167	8.0	12 / 0.60	4.4 / 0.36	15 / 0.65	0.6 / 0.02	0 / 0	86 / 1.41	1.8 / 0.04	7.2 / 0.20	1.0 / 0.02	0.0 / 0.00	0.03	31		115	40	48	0	DWR
Wayne Ross Dom.	32N/4W-16B2	8-14-58	-	135	7.3	8.0 / 0.40	6.1 / 0.50	8.0 / 0.35	0.2 / 0.00	0 / 0	42 / 0.69	0.0 / 0.00	12 / 0.34	12 / 0.19	0.0 / 0.00	0.42	23		91	28	45	11	DWR
Jones Dom.	32N/4W-20G2	8-14-58	-	212	8.0	12 / 0.60	5.6 / 0.46	24 / 1.04	1.1 / 0.03	0 / 0	100 / 1.64	1.5 / 0.03	15 / 0.42	0.6 / 0.01	0.1 / 0.00	0.05	34		143	49	53	0	DWR
Columbia School Dom.	32N/4W-34P1	8-19-58	-	252	8.2	14 / 0.70	6.6 / 0.54	29 / 1.26	1.3 / 0.03	0 / 0	123 / 2.02	0.0 / 0.00	17 / 0.48	0.7 / 0.01	0.0 / 0.00	0.22	30		159	50	62	0	DWR
Harrold Snow, Jr.	32N/5W-26M1	8-14-58	-	291	8.2	20 / 1.00	7.3 / 0.60	30 / 1.30	0.9 / 0.02	0 / 0	124 / 2.03	25 / 0.52	9.7 / 0.27	2.1 / 0.03	0.3 / 0.02	0.57	29		186	44	80	0	DWR

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						Mineral constituents in parts per million / equivalents per million																	
						UPPER LAKE VALLEY (5-13)																	
Overington Domestic Spring	14N/9W-6F2	7-17-58	—	241	7.4	12/0.60	18/1.48	7.5/0.33	0.5/0.01	0/0	128/2.10	3.1/0.06	7.8/0.22	0.4/0.01	0.4/0.02	0.15	6.6	Fe=0.10	120	14	104	C	DWR
B. W. Patten Irrigation and Industrial Well	14N/10W-14E2	7-17-58	—	229	7.6	26/1.30	9.5/0.78	29/0.13	0.9/0.02	0/0	124/2.03	1.5/0.03	4.4/0.12	2.2/0.0	0.0/0.00	0.23	14	Fe=0.02	123	6	104	2	DWR
Rena Hutton	15N/9W-5K1	9-4-58	—	219	7.7	24/1.21	12/0.95	6/0.25	0.3/0.01	0/0	127/2.09	3/0.07	9/0.25	0.0/0.00	0.2/0.01	0.00	0	Fe=0.01	174	10	108	[illegible]	TTL
C. B. Flick	15N/9W-31P1	7-18-58	—	150	6.9	8.4/0.42	8.0/0.66	8.8/0.38	0.6/0.02	0/0	80/1.31	0.5/0.01	4.9/0.14	0.7/0.01	0.1/0.00	0.08	30		101	26	54	0	DWR
L. J. Skaggs c/o R. Marschall Irrigation Well	15N/9W-6F1	7-16-58	—	183	8.0	18/0.90	9.0/0.74	2.5/0.11	0.7/0.02	0/0	97/1.59	0.3/0.01	3.7/0.10	1.9/0.03	0.0/0.00	0.11	14	Fe=0.00	98	6	82	2	DWR
Upper Lake Cemetery District Irrigation	15N/9W-7B1	7-16-58	—	295	7.3	24/1.20	17/1.38	9.1/0.40	0.8/0.02	0/0	176/2.88	0/0	25/0.7	0.5/0.01	0.2/0.01	0.40	36	Fe=0.10	176	13	129	0	DWR
N. W. Dunlop	15N/10W-24H	7-18-58	-	385	-	23/1.15	22/1.77	14/0.61	0.4/0.01	0/0	191/3.13	0.5/0.01	14/0.39	1.1/0.02	0.5/0.03	0.31	30	Fe=0.01	200	17	146	0	DWR
Guy Bowers Domestic Well	15N/9W-17P1	7-16-58	-	412	6	24/1.20	34/2.84	5.6/0.24	0.7/0.02	0/0	254/4.16	0.6/0.01	3.1/0.09	2.8/0.04	0.1/0.00	0.05	33	Fe=0.00	229	6	202	0	DWR
Erwin Lewis, Sr. Domestic and Stock	15N/10W-3C1	7-16-58	-	1690	7.9	95/4.74	80/6.61	164/7.13	2.7/0.07	0/0	546/8.95	282/5.87	127/3.58	2.8/0.04	1.1/0.06	0.02	0.15	Fe=0.01	1040	38	568	120	DWR
Bessie Dunton Domestic	15N/10W-10E1	7-16-58	-	1920	7.8	39/1.95	15/1.21	431/18.75	2.5/0.06	0/0	533/8.74	3.3/0.07	456/12.86	0.7/0.01	2.4/0.13	70.0	11	Fe=0.01	1290	85	158	0	DWR
Lake County Cannery Incorporated Industrial Well	15N/10W-12K2	7-16-58	-	193	7.9	19/0.95	9.8/0.81	2.5/0.10	0.6/0.01	0/0	106/1.74	0.8/0.02	4.5/0.13	0.5/0.01	0.1/0.01	0.12	15	Fe=0.00	89	18	68	0	DWR
Claude Davis Domestic	15N/10W-13A1	7-18-58	-	188	7.4	14/0.70	12/0.98	3.3/0.14	0.6/0.02	0/0	100/1.64	1.3/0.03	2.7/0.08	1.5/0.02	0.1/0.00	0.06	22	Fe=0.40	107	8	84	2	DWR
A. Santos Irrigation Well	16N/9W-31L2	9-4-58	-	327	7.9	30/1.48	14/1.15	13/0.54	0.7/0.02	0/0	167/2.73	14/0.30	7/0.21	1.0/0.01	0.0/0.00	0.26	0	Fe=0.01	238	16	131		TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								KELSEYVILLE VALLEY (5-15)														
Ross Fields Irrigation Well	13N/9W-2K2	7-17-58	-	525	8.0	26 1.30	52 4.27	10 0.44	1.3 0.03	0 0	322 5.28	18 0.37	11 0.31	4.1 0.07	0.2 0.01	0.08	39	Fe=0.00	320	7	279	15	DWR
E. Turner Irrigstion Well	13N/9W-6C1	9-3-58	61	865	8.5	36 1.79	90 7.39	27 1.19	1.5 0.04	22 0.72	506 8.30	2 0.04	27 0.75	14 0.24	0.4 0.02	0.6	65	Fe=0.00	669	11	459		TTL
Davidson Irrigation	13N/9W-8C1	7-18-58	–	366	7.9	24 1.20	29 2.42	10 0.44	1.0 0.02	0 0	222 3.64	11 0.23	4.9 0.14	5.8 0.09	0.2 0.01	0.18	26	Fe=0.00	221	11	181	(	DWR
Henry E. Marshall Stock Irrigation	13N/9W-8N1	7-18-58	-	292	7.6	25 1.25	17 1.37	13 0.56	0.8 0.02	0 0	180 2.95	1.8 0.04	5.8 0.16	0.7 0.01	0.2 0.01	0.19	28	Fe=0.00	180	18	131	c	DWR
Lincoln Wright Irrigation Well	13N/9W-12M1	9-4-58	61	392	8.1	18 0.90	35 2.85	18 0.80	3.5 0.09	0 0	234 3.83	0 0	27 0.01	0.0 0.00	0.2 0.01	0.71	36	Fe=0.01	314	17	187	c	TTL
Merritt Fraser Irrigation Well	13N/9W-16D1	7-18-58	-	982	7.4	34 1.70	108 8.91	25 1.09	2.4 0.06	0 0	700 11.47	0 0	12 0.34	0.02 0.00	0.4 0.02	0.66	83	Fe=0.00	610	9	531	c	DWR
Merritt Fraser Domestic Well	13N/9W-16D2	7-18-58	–	300	7.2	25 1.25	20 1.65	8.7 0.38	0.8 0.02	0 0	187 3.06	5.6 0.12	2.9 0.08	1.3 0.02	0.2 0.01	0.21	21	Fe=0.00	178	12	145	c	DWR
W. J. Stone Irrigation Well	13N/9W-22J1	9-4-58	58	567	8.35	11 0.57	66 5.40	10 0.45	1.0 0.03	12 0.39	291 4.77	16 0.33	17 0.48	16 0.27	0.3 0.01	0.00	48	Fe=0.20	414	7	298	c	TTL
Morrison Irrigation	14N/9W-32J2	7-17-58	–	541	6.8	38 1.90	45 3.73	13 0.56	1.2 0.03	0 0	347 5.69	9.7 0.20	6.4 0.18	2.0 0.03	0.3 0.02	0.15	62	Fe=0.00	349	9	282	c	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
								SACRAMENTO VALLEY (5-21)															
	MDB&M							TEHAMA COUNTY															
Kalsey Irr.	23N/2W-5A1	7/16/58	72	339	8.2	21 / 1.06	16 / 1.33	28 / 1.21	1 / 0.03	0 / 0	188 / 3.09	8 / 0.16	7 / 0.27	6 / 0.09	0.4 / 0.02	0.00	24	Fe = 0.00	264	33	119	0	TTL
J. Silvers Irr.	23N/3W-22Q	7/15/58	73	332	8.15	25 / 1.26	15 / 1.23	20 / 0.89	0.7 / 0.02	0 / 0	152 / 2.50	12 / 0.25	22 / 0.63	5 / 0.08	0.1 / 0.005	0.00	24	Fe = 0.01	244	26	124	0	TTL
D. D. Smith Dom. & Stock	23N/3W-35B1	7/15/58	--	222	8.3	15 / 0.75	10 / 0.78	15 / 0.64	0.7 / 0.02	0 / 0	87 / 1.44	8 / 0.16	19 / 0.52	8 / 0.14	0.0 / 0.00	0.0	25	Fe = 0.01	159	29	76	0	TTL
R. Mitchell Dom.	23N/5W-11L1	7/16/58	70	345	8.5	15 / 0.74	12 / 1.03	42 / 1.84	1.0 / 0.03	7.5 / 0.25	149 / 2.45	15 / 0.33	17 / 0.48	4 / 0.07	0.01 / 0.005	0.00	26	Fe = 0.01	254	50	88	0	TTL
J. Ayres Dom. & Irr.	24N/2W-30C1	7/15-58	66	465	8.55	32 / 1.62	29 / 2.38	30 / 1.31	0.7 / 0.02	18 / 0.60	217 / 3.55	15 / 0.33	20 / 0.56	12 / 0.20	0.0 / 0.00	0.18	25	Fe = 0.01	348	24	200	--	TTL
J. M. Decker Irr. & Dom.	24N/3W-3P1	7/23/58	68	320	8.1	31 / 1.55	16 / 1.32	11 / 0.48	0.7 / 0.02	0 / 0	137 / 2.25	21 / 0.44	11 / 0.30	16 / 0.27	0.5 / 0.03	0.04	28	Fe = 0.00	234	14	143	--	TTL
Corning High School Dom.	24N/3W-14M1	7/23/58	70	223	7.9	22 / 1.12	11 / 0.86	12 / 0.52	0.7 / 0.02	0 / 0	131 / 2.15	4 / 0.04	7 / 0.20	4 / 0.06	0.10 / 0.005	0.26	27	Fe = 0.12	178	20	99	--	TTL
W. E. Turner Irr.	24N/3W-20N1	7/16/58	68	169	8.5	9 / 0.46	8 / 0.65	14 / 0.58	0.3 / 0.01	0 / 0	83 / 1.37	7 / 0.14	6 / 0.16	4 / 0.07	0.0 / 0.01	0.18	34	Fe = 0.01	124	34	60	--	TTL
Al Miller Dom.	24N/5W-21L1	7/18/58	72	262	7.55	25 / 1.26	11 / 0.89	20 / 0.88	1 / 0.03	0 / 0	151 / 2.49	12 / 0.25	11 / 0.31	0 / 0	0.1 / 0.005	0.08	22	Fe = 0.02	214	28	107	--	TTL
Los Molinos Cemetery Dom.	25N/2W-4M1	7/17/58	--	236	7.97	19 / 0.93	13 / 1.07	10 / 0.45	3.1 / 0.08	0 / 0	103 / 168	13 / 0.27	17 / 0.48	1.0 / 0.01	0.1 / 0.005	0.26	55	Fe = 0.02	174	18	100	--	TTL
F. B. Wray	25N/2W-7K1	7/23/58	72	578	7.3	42 / 2.10	38 / 3.13	23 / 0.97	1 / 0.03	0 / 0	245 / 4.02	23 / 0.48	46 / 1.29	13 / 0.21	0.8 / 0.04	0.04	27	Fe = 0.00	414	15	261	--	TTL
S. R. Fritchett	25N/1W-31M1	7/17/58	71	392	7.98	31 / 1.57	24 / 2.02	14 / 0.58	3.5 / 0.09	0 / 0	231 / 3.78	3 / 0.07	12 / 0.32	3 / 0.05	0.0 / 0.00	0.00	67	Fe = 0.00	294	14	179	--	TTL
El Camino Irr. Dist. Irr.	25N/3W-3N1	7/23/58	70	349	7.7	25 / 1.26	22 / 1.84	21 / 0.92	1.5 / 0.04	0 / 0	189 / 3.10	5 / 0.11	24 / 0.68	2 / 0.03	0.4 / 0.02	0.18	34	Fe = 0.10	264	22	155	--	TTL
Leo Clark Dom.	25N/3W-31R1	7/18/58	71	516	8.23	60 / 3.01	32 / 2.64	15 / 0.66	2.4 / 0.06	0 / 0	269 / 4.41	40 / 0.85	22 / 0.63	31 / 0.49	0.2 / 0.01	0.26	18	Fe = 0.10	424	10	282	--	TTL
J. Kunsinger Irr.	26N/2W-4C1	8/22/58	--	269	8.13	18 / 0.92	15 / 1.23	13 / 0.56	2.8 / 0.07	0 / 0	136 / 2.24	6 / 0.12	12 / 0.32	2 / 0.04	0.2 / 0.01	0.08	58	Fe = 0.00	201	20	107	--	TTL
Art Corda Irr.	26N/2W-14F1	8/22/58	--	241	7.84	3 / 0.14	2 / 0.20	48 / 2.11	2.4 / 0.06	0 / 0	141 / 2.31	2 / 0.03	6 / 0.16	0 / 0	0.2 / 0.01	0.53	55	Fe = 0.00	184	84	17	--	TTL
Forward Bros. Lumber Co. - Dom. & Ind.	26N/3W-10D1	7/24/58	--	268	7.5	24 / 1.20	12 / 1.02	14 / 0.57	0.7 / 0.02	0 / 0	127 / 2.08	15 / 0.31	14 / 0.39	8 / 0.13	0.0 / 0.00	0.00	28	Fe = 0.00	204	20	111	--	TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					TEHAMA COUNTY (Continued)																	
Dr. Merrithew	26N/3W-22G1	8-7-58	70	238	7.78	19 / 0.94	10 / 0.80	20 / 0.89	1 / 0.03	0 / 0	132 / 2.17	10 / 0.21	7 / 0.19	7 / 0.12	0.20 / 0.01	0.08	36	Fe = 0.00	194	33	87	-	TTL
J. Burch Irr.	26N/3W-29E1	7-18-58	72	148	7.94	8 / 0.38	9 / 0.70	12 / 0.50	0.3 / 0.01	0 / 0	77 / 1.26	3 / 0.03	8 / 0.22	6 / 0.00	0.5 / 0.03	0.18	36	Fe = 0.06	114	31	54	-	TTL
P. DeWitt Dom.	26N/4W-10D1	7-18-58	—	366	8.55	30 / 1.49	18 / 1.49	24 / 1.04	1 / 0.03	12.6 / 0.42	197 / 3.23	0.0 / 0.00	7 / 0.21	6 / 0.09	0.2 / 0.01	0.0	25	Fe = 0.01	264	25	149	-	TTL
B. Kerstiens	27N/3W-10Q1	8-7-58	72	291	7.7	16 / 0.79	6 / 0.49	39 / 1.68	3.1 / 0.08	0 / 0	139 / 2.28	9 / C.19	17 / 0.48	0.0 / 0.00	0.0 / 0.00	0.08	52	Fe = 0.00	214	55	64	-	TTL
	27N/3W-15C1	8-7-58	70	306	7.9	29 / 1.44	16 / 1.26	12 / 0.51	1.5 / 0.04	0 / 0	152 / 2.50	8 / 0.17	15 / 0.42	10 / 0.17	0.0 / 0.00	0.0	26	Fe = 0.01	228	15	135	-	TTL
City of Red Bluff Dom.	27N/3W-19A1	7-24-58	70	249	8.1	24 / 1.18	10 / 0.76	16 / 0.70	2.4 / 0.06	0 / 0	137 / 2.25	7 / 0.14	8 / 0.22	4 / 0.06	0.0 / 0.00	0.0	43	Fe = 0.00	194	26	97	-	TTL
Wilcox Oaks Golf Course - Irr.	27N/4W-1H2	7-17-58	71	272	8.15	23 / 1.17	6 / 0.47	30 / 1.29	2.4 / 0.06	0 / 0	152 / 2.50	6 / 0.12	11 / 0.31	0.0 / 0.00	0.1 / 0.005	0.0	35	Fe = C.00	214	43	82	-	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (O.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							GLENN COUNTY															
Walter Wellin Domestic Well	18N/2W-1E1	7/29/58	65	298	7.9	18 / 0.90	15 / 1.26	23 / 1.00	1.0 / 0.02	0 / 0	182 / 2.98	2.0 / 0.04	2.9 / 0.08	1.7 / 0.03	0.1 / 0.00	0.08	30	Fe = 0.00	184	31	108	0	DWR
Ernest Frick Irrigation	18N/2W-7F1	7/29/58	65	614	7.8	33 / 1.65	32 / 2.63	54 / 2.35	0.8 / 0.02	0 / 0	295 / 4.84	71 / 1.48	7.8 / 0.22	7.6 / 0.12	0.3 / 0.02	0.12	26	Fe = 0.00	378	35	214	0	DWR
U. S. Fish and Wild-life Service Domestic	18N/3W-10K1	7/29/58	60	469	8.2	16 / 0.80	8.5 / 0.70	77 / 3.35	0.9 / 0.02	0 / 0	243 / 3.98	18 / 0.37	19 / 0.54	1.0 / 0.02	0.6 / 0.03	0.35	20	Fe = 0.00	281	69	75	0	DWR
W. Michaele Domestic Well	18N/4W-2F1	7/29/58	--	975	7.8	48 / 2.40	37 / 3.03	106 / 4.61	1.0 / 0.02	0 / 0	378 / 6.20	20 / 0.42	98 / 2.76	38 / 0.61	0.4 / 0.02	0.07	28	Fe = 0.00	469	46	272	0	DWR
R. T. Smith	19N/2W-6G1	7/30/58	64	322	8.2	32 / 1.60	17 / 1.38	13 / 0.56	0.6 / 0.02	0 / 0	186 / 3.05	8.1 / 0.17	7.1 / 0.20	4.9 / 0.08	0.2 / 0.01	0.04	29	Fe = 0.00	204	16	149	0	DWR
Carl Calvert Domestic well	19N/2W-23N1	7/29/58	--	638	8.2	51 / 2.54	38 / 3.09	43 / 1.87	0.7 / 0.02	0 / 0	413 / 6.77	20 / 0.42	8.5 / 0.24	3.0 / 0.05	0.3 / 0.02	0.16	30	Fe = 0.00	398	25	282	0	DWR
Alta California Dairies Domestic Well	19N/3W-9J1	7/29/58	66	518	8.1	29 / 1.45	25 / 2.07	52 / 2.26	0.9 / 0.02	0 / 0	291 / 4.77	32 / 0.67	8.9 / 0.25	6.3 / 0.10	0.5 / 0.03	0.14	26	Fe = 0.00	324	39	176	0	DWR
Tony Bem Domestic Well	19N/3W-18P1	7/29/58	66	580	8.3	41 / 2.04	25 / 2.04	45 / 1.96	6.6 / 0.17	6 / 0.20	282 / 4.62	42 / 0.87	20 / 0.56	1.8 / 0.03	0.5 / 0.03	0.17	21	Fe = 0.00	348	32	204	0	DWR
Annie C. Quinn Domestic Well	20N/2W-11Q1	7/30/58	64	356	8.0	34 / 1.70	17 / 1.42	17 / 0.74	0.4 / 0.01	0 / 0	200 / 3.28	10 / 0.21	10 / 0.28	7.3 / 0.12	0.2 / 0.01	0.06	26	Fe = 0.00	220	19	156	0	DWR
Harold Perry	20N/2W-13Q1	7/30/58	64	438	7.8	39 / 1.95	27 / 2.19	19 / 0.83	0.4 / 0.01	0 / 0	275 / 4.51	8.1 / 0.17	7.2 / 0.20	1.8 / 0.03	0.3 / 0.02	0.10	28	Fe = 0.00	438	17	207	0	DWR
Frank Reiman	20N/3W-2D1	7/30/58	68	441	7.6	47 / 2.34	20 / 1.62	17 / 0.74	0.9 / 0.02	0 / 0	217 / 3.56	16 / 0.33	22 / 0.62	11 / 0.18	0.1 / 0.00	0.00	26	Fe = 0.00	266	16	198	20	DWR
L. M. Berens Domestic Well	20N/4W-2Q1	7/30/58	--	368	8.0	35 / 1.75	18 / 1.45	18 / 0.78	0.4 / 0.01	0 / 0	202 / 3.31	7.7 / 0.16	7.2 / 0.20	19 / 0.31	0.3 / 0.02	0.00	27	Fe = 0.00	232	20	160	0	DWR
L. E. Dobbins Irrigation Well	21N/2W-2D1	7/31/58	63	377	7.7	31 / 1.55	15 / 1.25	26 / 1.13	1.0 / 0.02	0 / 0	185 / 3.03	15 / 0.31	19 / 0.54	2.8 / 0.04	0.1 / 0.00	0.14	25	Fe = 0.00	226	29	140	0	DWR
I. G. Finch	21N/2W-15C1	7/31/58	65	404	8.0	44 / 2.20	14 / 1.20	18 / 0.78	1.0 / 0.02	0 / 0	192 / 3.15	14 / 0.29	23 / 0.65	9.7 / 0.16	0.1 / 0.00	0.09	25	Fe = 0.00	243	18	170	13	DWR
B. R. Purviance	21N/3W-14F1	7/30/58	63	442	7.6	49 / 2.44	19 / 1.58	15 / 0.65	1.0 / 0.02	0 / 0	222 / 3.64	17 / 0.35	21 / 0.59	8.8 / 0.14	0.1 / 0.00	0.08	28	Fe = 0.00	268	14	201	19	DWR
Baker and McGowan	22N/1W-29C1	7/31/58	63	440	8.0	42 / 2.10	20 / 1.66	21 / 0.91	1.0 / 0.02	0 / 0	204 / 3.34	24 / 0.50	25 / 0.70	5.7 / 0.09	0.1 / 0.00	0.11	38	Fe = 0.00	277	19	188	21	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA

ANALYSES OF GROUND WATER

1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
	MDB&M								GLENN COUNTY (Cont.)														
C. A. Nickel Domestic Well	22N/2W-3A1	7/31/58	64	514	7.5	48 / 2.40	20 / 1.68	25 / 1.09	0.7 / 0.02	0 / 0	195 / 3.20	36 / 0.75	29 / 0.82	26 / 0.42	0.1 / 0.00	0.01	26	Fe - 0.00	307	21	204	44	DWR
Mille Orchard Inc. Irrigation Well	22N/2W-26B1	7/31/58	62	418	8.0	44 / 2.20	16 / 1.32	19 / 0.83	1.0 / 0.02	0 / 0	196 / 3.21	24 / 0.50	21 / 0.59	6.2 / 0.10	2.0 / 0.01	0.13	22	Fe - 0.00	250	19	176	15	DWR
I. C. Wight Domestic	22N/3W-4G1	7/31/58	64	490	7.4	55 / 2.74	18 / 1.48	16 / 0.70	0.8 / 0.02	0 / 0	241 / 3.95	14 / 0.29	22 / 0.62	6.3 / 0.10	0.1 / 0.00	0.16	19	Fe - 0.00	270	14	211	13	DWR
Joe Freitas Irrigation	22N/3W-25B1	7/31/58	65	490	7.4	54 / 2.69	20 / 1.61	16 / 0.70	0.8 / 0.02	0 / 0	239 / 3.92	15 / 0.31	20 / 0.56	11 / 0.18	0.1 / 0.00	0.20	19	Fe - 0.00	274	14	215	19	DWR
City of Orland Municipal Well	22N/3W-22Q1	8/1/58	79	379	8.0	34 / 1.70	16 / 1.32	21 / 0.91	0.6 / 0.02	0 / 0	193 / 3.16	9.7 / 0.20	18 / 0.51	3.2 / 0.05	0.1 / 0.00	0.12	24	Fe - 0.00	222	23	151	0	DWR
Graves Cementery Irrigation Well	22N/4W-10B1	7/31/58	63	484	7.1	44 / 2.20	26 / 2.14	16 / 0.70	0.5 / 0.01	0 / 0	248 / 4.06	15 / 0.31	20 / 0.56	6.3 / 0.10	0.1 / 0.00	0.15	27	Fe - 0.00	277	14	217	14	DWR

Mineral constituents in parts per million / equivalents per million

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M										BUTTE COUNTY												
Justeson - Dom.	17N/1E-1R1	7-23-58	--	301	8.3	15 / 0.77	19 / 1.57	19 / 0.84	2.4 / 0.06	0 / 0	178 / 2.91	1 / 0.03	11 / 0.31	0 / 0.00	0.0 / 0.00	0.00	45	Fe = 0.00	226	25	117	---	TTL
James C. Davis - Irr.	17N/2E-2D1	7-23-58	65	347	8.19	22 / 1.08	26 / 2.12	13 / 0.56	1 / 0.03	0 / 0	200 / 3.28	5 / 0.09	8 / 0.23	6 / 0.09	0.3 / 0.02	0.08	55	Fe = 0.00	264	28	160	---	TTL
U.S. Farm Labor Camp Dom.	17N/3E-4D1	10-24-58	--	250	8.0	20 / 1.00	13 / 1.06	12 / 0.52	2.9 / 0.07	0 / 0	151 / 247	0.0 / 0.00	4.3 / 0.12	0.6 / 0.01	0.20 / 0.01	0.15	49		176	20	103	0	DWR
R. Finley - Dom.	17N/3E-18Q1	9- 5-58	--	422	8.0	28 / 1.41	28 / 2.29	18 / 0.81	0.7 / 0.02	0 / 0	257 / 4.21	7 / 0.14	5 / 0.13	4 / 0.07	0.2 / 0.01	0.13	28	Fe = 0.01	324	17	185	---	TTL
L. D. Stresser - Irr.	17N/4E-20L1	9-24-58	--	362	7.9	23 / 1.15	23 / 1.86	18 / 0.81	1.0 / 0.03	0 / 0	169 / 2.77	21 / 0.44	22 / 0.62	2 / 0.03	0.0 / 0.00	0.32	29	Fe = 0.01	268	21	150	---	TTL
Schohr - Irr.	18N/1E-14R1	7-23-58	--	262	8.2	18 / 0.90	16 / 1.25	15 / 0.64	2.8 / 0.07	0 / 0	156 / 2.57	5 / 0.11	6 / 0.17	0 / 0.00	0.00 / 0.00	0.00	47	Fe = 0.00	204	22	107	---	TTL
E. Edwards - Dom. & S.	18N/2E-12B1	10-24-58	--	212	7.9	16 / 0.82	12 / 0.98	8 / 0.33	0.7 / 0.02	0 / 0	120 / 1.96	8 / 0.16	4 / 0.10	0 / 0.00	0.0 / 0.00	0.00	29	Fe = 0.00	164	15	90	---	TTL
C. R. Jones - Irr.	18N/4E- 7A1	9-24-58	--	149	7.8	10 / 0.48	6 / 0.49	10 / 0.46	0.7 / 0.02	0 / 0	67 / 1.10	4 / 0.09	4 / 0.11	6 / 0.09	0.02 / 0.01	0.32	27	Fe = 0.01	105	31	48	---	TTL
Fred Guidici - Irr.	18N/4E-21P1	9-24-58	--	204	8.1	14 / 0.70	12 / 1.00	10 / 0.44	0.3 / 0.01	0 / 0	102 / 1.67	3 / 0.06	7 / 0.21	10 / 0.16	0.0 / 0.00	0.00	19	Fe = 0.01	144	20	85	---	TTL
Philip Rose - Irr.	19N/2E-16R1	9- 9-58	--	219	7.95	16 / 0.82	11 / 0.90	10 / 0.45	1 / 0.03	0 / 0	105 / 1.71	4 / 0.08	14 / 0.41	4 / 0.07	0.0 / 0.00	0.00	38	Fe = 0.01	158	20	86	---	TTL
H. J. Kaiser Gravel Co Ind.	19N/3E-36B1	4-11-58	--	343	8.0	22 / 1.08	20 / 1.67	30 / 1.27	1.5 / 0.04	0 / 0	191 / 3.13	14 / 0.30	16 / 0.44	2 / 0.04	0.20 / 0.01	0.71	31	Fe = 0.00	268	31	137	---	TTL
Thermalito - Irr.	19N/4E-18	6-20-58	--	62	7.2	7.5 / 0.37	1.1 / 0.09	2.0 / 0.09	0.6 / 0.02	0 / 0	29 / 0.48	0 / 0	3.0 / 0.08	1.0 / 0.02	0.0 / 0.00	0.14	12		41	16	23	0	DWR
Butte County Hospital Dom.	19N/4E- 6P1	9- 9-58	--	300	8.0	21 / 1.05	16 / 1.25	18 / 0.82	0.7 / 0.02	0 / 0	157 / 2.59	7 / 0.15	13 / 0.35	10 / 0.16	0.0 / 0.00	0.00	36	Fe = 0.00	224	26	115	—	TTL
Ray Norheim - Irr.	20N/1E-15F2	5-29-58	62	263	7.9	21 / 1.07	15 / 1.23	9 / 0.39	1 / 0.03	0 / 0	133 / 2.18	5 / 0.11	16 / 0.44	4 / 0.07	0.2 / 0.01	0.00	55	Fe = 0.00	194	14	287	---	TTL
J. Kirkpatrick - Dom.	20N/2E-29R1	9-11-58	--	467	8.0	41 / 2.03	21 / 1.72	25 / 1.09	1 / 0.03	0 / 0	214 / 3.50	13 / 0.27	44 / 1.22	0 / 0.00	0.0 / 0.00	0.00	34	Fe = 0.00	341	22	187	---	TTL
Berkeley Olive Assn. Dom.	20N/3E-15H1	9- 9-58	--	137	7.7	12 / 0.60	6 / 0.53	5 / 0.22	1.9 / 0.05	0 / 0	73 / 1.20	5 / 0.10	5 / 0.12	0 / 0.00	0.0 / 0.00	0.00	27	Fe = 0.01	98	9	56	---	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Lab. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
									BUTTE COUNTY (Cont.)														
Claude Sprague Dom.	MOB&M 21N/1W-26Q1	9-15-58	--	459	8.1	39 / 1.95	27 / 2.23	18 / 0.77	1.5 / 0.04	0 / 0	285 / 4.66	5 / 0.10	14 / 0.38	0 / 0	0.0 / 0.00	0.00	35	Fe = 0.00	364	15	209	---	TTL
Frank Lazard - Irr.	21N/1E-34M1	9-10-58	--	576	8.1	50 / 2.49	41 / 3.44	17 / 0.73	0.7 / 0.02	0 / 0	360 / 5.90	6 / 0.14	9 / 0.25	11 / 0.18	0.2 / 0.01	0.08	57	Fe = 0.00	449	11	296	---	TTL
S. Yakich - Dom. & Irr.	21N/2E-30C1	9-10-58	--	565	8.02	48 / 2.42	40 / 3.25	12 / 0.52	0.7 / 0.02	0 / 0	2.18 / 3.56	51 / 1.06	12 / 0.32	65 / 1.05	0.2 / 0.01	0.26	46	Fe = 0.00	334	84	283	---	TTL
Marjorie Compton - Dom	21N/3E-10Q1	9- 9-58	--	262	7.8	23 / 1.15	14 / 1.15	9 / 0.40	1.5 / 0.04	0 / 0	153 / 2.52	5 / 0.10	5 / 0.13	3 / 0.05	0.0 / 0.00	0.00	40	Fe = 0.00	204	14	115	---	TTL
Sid Hopkins - Dom. & S	22N/1E- 9M1	9-16-58	--	857	7.9	65 / 3.23	63 / 5.17	32 / 1.38	1.9 / 0.05	0 / 0	453 / 7.44	19 / 0.41	25 / 0.70	77 / 1.25	0.0 / 0.00	0.13	30	Fe = 0.01	669	14	420	---	TTL
State Dept. Fish and Fame - Dom. & S.	22N/2E-18J1	9-10-58	--	223	7.87	17 / 0.84	10 / 0.80	13 / 0.54	1 / 0.03	0 / 0	101 / 1.65	4 / 0.08	12 / 0.32	5 / 0.08	0.0 / 0.00	0.18	34	Fe = 0.00	159	24	87	---	TTL
Clive Callahan - Stock	23N/1E-32K1	9- 9-58	--	217	7.8	5 / 0.23	16 / 1.26	10 / 0.43	1 / 0.03	0 / 0	86 / 1.42	3 / 0.06	8 / 0.22	12 / 0.19	0.2 / 0.01	0.00	50	Fe = 0.00	146	22	74	---	TTL

a Determined by addition of constituents.
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Lab. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								COLUSA COUNTY														
J. Miller Domestic Well	13N/1E-22H1	7-17-58	68	782	8.3	63 / 3.14	54 / 4.49	26 / 1.13	1.3 / 0.3	5 / 0.17	393 / 6.44	43 / 0.90	44 / 1.24	0.2 / 0.00	0.1 / 0.00	0.14	48	Fe = 0.02	478	13	380	50	DWR
Grand Island School Domestic Well	14N/1E-18A1	7-17-58	70	382	8.1	10 / 0.50	8.3 / 0.68	68 / 2.96	0.8 / 0.02	0 / 0	216 / 3.54	8.4 / 0.17	12 / 0.34	0.6 / 0.01	0.6 / 0.03	0.23	31	Fe = 0.00	246	71	59	0	DWR
M. A. Phelan Domestic Well	13N/1W-6J1	7-11-58	72	1170	8.1	106 / 5.29	33 / 2.70	64 / 2.78	0.4 / 0.01	0 / 0	206 / 3.38	6.9 / 0.14	263 / 7.42	15 / 0.24	0.2 / 0.01	0.77	24	Fe = 0.03	615	26	400	231	DWR
J. V. Doherty Domestic Well	13N/1W-7A1	7-17-58	69	1240	7.7	101 / 5.04	40 / 3.31	63 / 2.74	0.4 / 0.01	0 / 0	177 / 2.90	8.1 / 0.17	294 / 8.29	0.2 / 0.00	0.1 / 0.00	0.89	31	Fe = 0.04	626	25	418	273	DWR
W. West Irrigation Well	13N/1W-15N1	7-17-58	67	496	8.0	28 / 1.40	23 / 1.88	40 / 1.74	1.0 / 0.02	0 / 0	238 / 3.90	6.7 / 0.14	36 / 1.02	0.4 / 0.01	0.4 / 0.02	0.52	48	Fe = 0.02	301	34	164	0	DWR
M. V. Doherty Domestic Well	13N/1W-35Q1	7-17-58	70	414	7.7	23 / 1.15	16 / 1.39	38 / 1.27	2.6 / 0.05	0 / 0	203 / 3.33	7.4 / 0.15	25 / 0.70	2.7 / 0.04	0.4 / 0.02	0.28	54	Fe = 0.00	269	39	123	0	DWR
Grant, Irrigation Well	13N/2W-10G1	7-21-58	60	1110	8.4	50 / 2.50	32 / 2.61	115 / 5.00	1.6 / 0.04	7 / 0.23	194 / 3.18	21 / 0.44	222 / 6.26	11 / 0.18	0.3 / 0.02	2.1	28		585	49	256	86	DWR
A. Olivetti Irrigation Well	13N/2W-10M1	7-21-58	67	590	6.9	23 / 1.15	17 / 1.37	78 / 3.39	1.6 / 0.04	0 / 0.00	214 / 3.51	8.9 / 0.18	66 / 1.86	16 / 0.26	0.3 / 0.02	0.58	28	Fe = 0.00	354	55	136	0	DWR
Hal Charter Irrigation Well	13N/2W-22G1	7-21-58	69	765	8.4	40 / 2.00	38 / 3.13	63 / 2.74	1.2 / 0.03	5 / 0.17	281 / 4.60	12 / 0.25	100 / 2.82	8.4 / 0.14	0.2 / 0.01	0.84	29	Fe = 0.01	437	35	257	18	DWR
J. Moore Irrigation Well	13N/2W-26A1	7-21-58	68	718	7.9	44 / 2.20	40 / 3.29	40 / 1.74	1.0 / 0.02	0 / 0.00	305 / 5.00	8.2 / 0.17	74 / 2.09	4.3 / 0.07	0.3 / 0.02	0.39	29	Fe = 0.01	391	24	275	25	DWR
H. L. Charter and Son Irrigation Well	13N/2W-29R1	7-21-58	72	1010	7.9	40 / 2.00	36 / 2.98	106 / 4.61	2.1 / 0.05	0 / 0	252 / 4.13	28 / 0.58	184 / 5.19	3.4 / 0.05	0.3 / 0.02	2.2	28	Fe = 0.01	554	48	249	42	DWR
Stapp and Company Domestic and Stock Well	14N/1W-2D1	7-17-58	68	1080		97 / 4.84	28 / 2.27	82 / 3.57	1.4 / 0.04	0 / 0	273 / 4.47	88 / 1.83	155 / 4.37	2.7 / 0.04	0.2 / 0.01	0.76	45	Fe = 0.04	634	33	356	132	DWR
Sheldon Moree Irrigation Well	14N/1W-12A1	7-21-58	57	526	8.1	8.8 / 0.44	5.6 / 0.46	100 / 4.35	1.0 / 0.02	0 / 0	256 / 4.20	2.6 / 0.05	46 / 1.30	0.5 / 0.00	0.4 / 0.02	0.43	41	Fe = 0.06	332	82	45	0	DWR
Carl Hackbauth Irrigation Well	14N/2W-12H2	7-17-58	65	547	8.3	34 / 1.70	27 / 2.25	42 / 1.82	1.8 / 0.05	6 / 0.20	255 / 4.18	13 / 0.27	40 / 1.13	15 / 0.02	0.4 / 0.02	0.17	42	Fe = 0.03	336	31	198	0	DWR
Hal Charter Domestic and Irrigation	14N/2W-29J1	7-22-58	-	243	7.9	13 / 0.65	12 / 0.95	18 / 0.78	0.8 / 0.02	0 / 0.00	130 / 2.13	3.0 / 0.06	5.5 / 0.16	9.3 / 0.15	0.2 / 0.01	0.01	27		153	32	80	0	DWR
John Stockmeyer Irrigation Well	14N/2W-35P1	7-21-58	70	600	8.0	30 / 1.50	27 / 2.24	49 / 2.13	1.0 / 0.02	0 / 0.00	220 / 3.60	12 / 0.25	77 / 2.17	4.3 / 0.07	0.2 / 0.01	0.56	25	Fe = 0.02	334	36	187	7	DWR
E. Avanbell Irrigation Well	14N/3W-12L1	7-18-58	68	465	7.9	47 / 2.34	16 / 1.30	22 / 0.96	1.2 / 0.03	0 / 0.00	177 / 2.90	38 / 0.79	32 / 0.90	4.9 / 0.08	0.2 / 0.01	0.09	27	Fe = 0.03	275	21	182	37	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

ANALYSES OF GROUND WATER

1958

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						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					COLUSA COUNTY (Cont.)																	
Bud Myers Stock and Domeetic Well	15N/2W-32R1	7-18-58	75	786	8.2	65 / 3.24	28 / 2.31	62 / 2.70	0.5 / 0.01	0 / 0	335 / 5.49	53 / 1.10	40 / 1.13	42 / 0.68	0.5 / 0.03	0.12	24	Fe = 0.00	479	33	278	3	DWR
Pat Murphy Domestic Well	15N/4W-25P1	7-18-58	69	1010	7.5	44 / 2.20	28 / 2.28	133 / 5.78	1.0 / 0.02	0 / 0	343 / 562	96 / 2.00	100 / 2.82	3.4 / 0.05	0.5 / 0.03	0.52	25.	Fe = 0.00	600	56	224	0	DWR
Shell Oil Co. Industrial Well	16N/1W-29J1	7-16-58	64	441	8.2	10 / 0.50	6.3 / 0.52	87 / 3.78	1.4 / 0.04	0 / 0	271 / 4.44	0.0 / 0.00	12 / 0.34	0.5 / 0.01	0.3 / 0.02	0.34	36	Fe = 0.02	287	78	51	0	DWR
Watts Broe. Domeetio and Stock	16N/2W-4H1	7-17-58	68	464	8.0	29 / 1.45	20 / 1.69	36 / 1.57	1.5 / 0.04	0 / 0	220 / 3.60	26 / 0.54	21 / 0.59	2.3 / 0.04	0.4 / 0.02	0.12	39	Fe = 0.02	283	33	157	0	DWR
J. W. Davis Domestic Well	16N/2W-35B1	7-16-58	68	731	8.2	18 / 0.90	26 / 2.16	100 / 4.35	1.4 / 0.04	0 / 0	277 / 4.54	81 / 1.69	43 / 1.21	0.8 / 0.01	0.5 / 0.03	0.22	43	Fe = 0.04	450	58	153	0	DWR
F. J. Ortman Domestic Well	16N/3W-9N1	7-17-58	75	667	7.9	44 / 2.20	23 / 1.90	61 / 2.65	0.6 / 0.02	0 / 0	241 / 3.95	22 / 0.46	76 / 2.14	4.7 / 0.08	0.7 / 0.04	0.16	23	Fe = 0.00	373	39	205	7	DWR
(Doctor) Libby D.V.M. Irrigation Well	17N/1W-20N1	7-21-58	-	366	8.4	23 / 1.15	13 / 1.09	35 / 1.52	1.6 / 0.04	4 / 0.13	210 / 3.44	1.6 / 0.03	14 / 0.39	0.6 / 0.01	0.2 / 0.01	0.12	38	Fe = 0.01	234	40	112	0	DWR
Charles Tuttle	17N/2W-12C1	7-17-58	64	523	8.0	49 / 2.44	21 / 1.72	31 / 1.35	1.4 / 0.04	0 / 0	296 / 4.85	6.4 / 0.13	22 / 0.62	0.5 / 0.01	0.2 / 0.01	0.17	34	Fe = 0.03	312	24	208	0	DWR
A. R. Baker Domestic Well	17N/3W-3F1	7-17-58	73	656	8.0	15 / 0.75	11 / 0.89	113 / 4.92	2.6 / 0.07	0 / 0.00	246 / 4.03	51 / 1.06	50 / 1.41	0.6 / 0.01	0.4 / 0.02	0.36	22	Fe = 0.08	387	74	82	0	DWR
Maxwell Publio Utility Dietrict Well #1	17N/3W-33R1	7-17-58	70	935	8.3	44 / 220	31 / 2.58	115 / 5.00	1.5 / 0.04	8 / 0.27	316 / 5.18	100 / 2.08	78 / 2.20	2.4 / 0.04	0.5 / 0.03	0.29	46	Fe = 0.00	582	51	239	0	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								SUTTER COUNTY														
C. A. Richter Dom.	12N/2E- 9B2	6-16-58	67	724	8.0	14 / 0.70	8.0 / 0.66	119 / 5.18	1.3 / 0.03	0.0 / 0.00	266 / 4.36	18 / 0.37	63 / 1.78	0.4 / 0.01	0.3 / 0.02	0.44	44		399	79	68	0	DWR
Garner Dom.	12N/2E-11N1	6-18-58	64	1300	8.4	27 / 1.35	14 / 1.13	226 / 9.83	4.4 / 0.11	5 / 0.17	258 / 4.23	0.3 / 0.01	282 / 7.95	0.7 / 0.01	0.2 / 0.01	0.81	50		737	79	124	0	DWR
Dom.	12N/2E-14B1	6-16-58	64	4330	8.1	133 / 6.64	119 / 9.82	577 / 25.10	1.9 / 0.05	0.0 / 0.00	193 / 3.16	0.5 / 0.01	1340 / 37.79	4.5 / 0.07	0.0 / 0.00	0.63	22		2290	60	824	666	DWR
L. A. Wright Dom.	12N/2E-16R1	6-16-58	67	818	8.6	22 / 1.10	11 / 0.90	159 / 6.92	3.4 / 0.07	22 / 0.73	393 / 6.44	19 / 0.40	48 / 1.35	0.7 / 0.01	0.4 / 0.02	0.55	46		525	77	100	0	DWR
Haun Dom.	12N/2E-23Q1	6-16-58	65	944	8.3	15 / 0.75	9.1 / 0.75	179 / 7.79	2.7 / 0.07	6 / 0.20	260 / 4.26	0.6 / 0.01	171 / 4.82	1.1 / 0.02	0.4 / 0.02	0.67	50		563	83	75	0	DWR
Dorothy E. Mullen Dom.	12N/2E-26A1	6-16-58	66	1140	8.3	17 / 0.85	17 / 1.39	200 / 8.70	3.4 / 0.08	7 / 0.23	269 / 4.41	33 / 0.69	199 / 5.61	0.4 / 0.01	0.2 / 0.01	0.65	39		649	79	112	0	DWR
Tom Fields Dom.	13N/3E-10M2	6-16-58	70	692	8.1	55 / 2.74	37 / 3.03	38 / 1.65	1.3 / 0.03	0.0 / 0.0	3.28 / 5.38	21 / 0.44	59 / 1.66	0.7 / 0.01	0.1 / 0.00	.08	25		398	22	289	20	DWR
Edward Silva Irr.	13N/3E-11Q3	9-15-58	--	1406	8.3	77 / 3.87	85 / 7.02	87 / 3.82	2.4 / 0.06	0.0 / 0.00	331 / 5.44	47 / 0.99	291 / 8.20	12 / 0.19	0.0 / 0.0	0.26	24		954	26	544	0	TTL
Boccardo Ranch Irr.	13N/3E-13C1	6-18-58	60	368	8.3	18 / 0.90	8.0 / 0.66	53 / 2.30	2.3 / 0.06	4 / 0.13	190 / 3.11	1.5 / 0.03	21 / 0.59	1.1 / 0.02	0.2 / 0.01	0.32	41		243	59	78	0	DWR
C. M. Owen Irr.	13N/4E-21A1	6-18-58	62	707	8.3	56 / 2.79	43 / 3.56	34 / 1.48	2.0 / 0.05	4. / 0.13	238 / 3.90	173 / 3.60	10 / 0.28	0.7 / 0.01	0.1 / 0.00	0.06	41		481	19	318	116	DWR
J. E. Jopson Irr.	13N/4E-23Q1	6-18-58	68	226	8.0	13 / 0.65	6.7 / 0.55	23 / 1.00	1.8 / 0.05	0.0 / 0.00	104 / 1.70	3.0 / 0.06	16 / 0.45	0.9 / 0.01	0.2 / 0.01	0.08	49		165	45	60	0	DWR
Nelson, C. F. Domestic and Irr.	13N/5E- 7R3	6-18-58	66	646	7.9	57 / 2.84	24 / 2.02	39 / 1.70	1.9 / 0.05	0.0 / 0.00	203 / 3.33	88 / 1.83	40 / 1.13	18 / 0.29	0.2 / 0.01	0.06	69		437	26	243	77	DWR
E. J. Gallagher Dom.	13N/5E-19R2	6-18-58	68	242	7.9	16 / 0.80	10 / 0.84	16 / 0.70	1.2 / 0.03	0.0 / 0.00	102 / 1.67	3.4 / 0.07	20 / 0.56	1.8 / 0.03	0.3 / 0.02	0.04	76		195	30	82	0	DWR
Basant Singh Irr.	14N/3E- 3C2	6-18-58	65	966	8.2	50 / 2.50	65 / 5.33	52 / 2.26	3.3 / 0.08	0.0 / 0.00	325 / 5.33	56 / 1.16	128 / 3.61	0.4 / 0.01	0.1 / 0.00	0.18	39		554	22	392	126	DWR
Channah Srah Irr.	14N/3E- 5A3	6-17-58	63	904	8.1	56 / 2.79	58 / 4.76	59 / 2.57	1.5 / 0.04	0.0 / 0.00	438 / 7.18	67 / 1.39	51 / 1.44	6.4 / 0.10	0.2 / 0.01	0.02	30		546	25	378	19	DWR
Littlejohn Irr.	14N/3E-14E2	6-17-58	64	236	8.1	16 / 0.80	16 / 1.30	8.7 / 0.38	1.5 / 0.04	0.0 / 0.00	142 / 2.33	4.0 / 0.08	2.4 / 0.07	0.6 / 0.01	0.2 / 0.01	0.03	40		159	15	105	0	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (TTL), or State Department of Water Resources (D.W.R.), as indicated

QUALITY OF GROUND WATERS IN CALIFORNIA
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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M							SUTTER COUNTY (Continued)															
James A. Blevine Dom.	14N/3E-15H1	6-17-58	66	966	8.2	59 2.94	60 4.97	52 2.26	2.5 0.07	0 0	369 6.05	46 0.96	112 3.16	1.0 0.02	0.1 0.00	0.10	35		549	22	396	94	DWR
F. J. Beet Irrigation and Dom.	14N/3E-16B2	6-17-58	68	1500	7.7	105 5.24	87 7.15	65 2.83	2.8 0.07	0 0	357 5.85	87 1.81	268 7.56	0.8 0.01	0.1 0.00	0.08	29		821	18	620	327	DWR
Rennie Mahon Irr.	14N/3E-18A2	6-16-58	66	568	8.4	41 2.04	32 2.60	38 1.64	1.9 0.05	9 0.30	305 5.00	15 0.31	26 0.73	0.5 0.01	0.3 0.02	.06	33		347	26	232	0	DWR
Sullivan Irr.	14N/3E-23M2	9-11-58	--	414	8.2	34 1.71	24 2.02	23 0.98	1.5 0.04	0 0	231 3.78	26 0.54	13 0.37	2 0.03	0.2 0.01	0.0	27	Fe = 0.01	324	20	186	---	TTL
L. Ott Irr.	14N/3E-28D1	10-21-58	65	975	7.95	69 3.44	54 4.41	53 2.28	1.0 0.03	0 0	276 4.54	35 0.73	170 4.79	0.0 0.00	0.0 0.00	0.0	9	Fe = 0.03	674	22	392	---	TTL
J. Serger Irr.	14N/3E-28R1	7-22-58	65	1560	7.5	106 5.29	84 6.90	75 3.26	4.0 0.10	0 0	351 5.75	13 0.27	337 9.60	0.6 0.01	0.0 0.00	0.10	40	Fe = 0.04	832	21	610	322	DWR
G. E. Cornell Irr.	14N/3E-31B1	7-22-58	68	1260	7.6	62 3.09	44 3.66	112 4.87	6.2 0.16	0 0	249 4.08	5.4 0.11	281 7.92	0.6 0.01	0.0 0.00	0.24	44	Mn = 0.32	678	41	338	134	DWR
E. L. Carrothere Dom.	15N/2E-26D2	6-17-58	64	466	8.5	37 1.85	26 2.17	24 1.04	1.7 0.04	8 0.27	231 3.79	9 19.00	24 0.68	11 0.18	0.2 .01	0.04	50		305	20	201	0	DWR
A. Eager Irr.	15N/3E-4G2	9-1-58	--	899	8.2	34 1.69	85 6.99	28 1.20	1.5 0.04	0 0	361 5.92	116 2.42	31 0.87	63 1.02	0.0 0.00	0.2	42	Fe = 0.01	674	12	434	---	TTL
R. Raillex Irr.	15N/3E-26M1	6-17-58	63	368	8.4	22 1.10	17 1.42	33 1.44	2.5 0.06	5 0.17	217 3.56	5.9 0.12	7.8 0.22	0.6 0.01	0.3 0.02	0.17	35		236	36	126	0	DWR
W. A. Glentzer Irr.	15N/3E-29G1	9-24-58	--	592	7.2	35 1.74	44 3.62	30 1.32	1.0 0.03	0 0	329 5.40	14 0.31	22 0.62	21 0.33	0.1 0.01	0.0	21	Fe = 0.01	454	19	268		TTL

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (TTL), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
	MDB&M								YUBA COUNTY														
E. Anthony Irr.	14N/4E-7M1	9-15-58	-	430	8.3	26 / 1.30	23 / 1.85	26 / 1.13	0.7 / 0.02	0 / 0	188 / 3.09	24 / 0.51	28 / 0.79	0.0 / 0.00	0.2 / 0.01	0.12	28	Fe= 0.01	308	26	157	-	TTL
E. Booth Irr.	14N/5E-15C1	6-18-58	68	195	7.6	14 / 0.70	7.8 / 0.64	12 / 0.52	0.9 / 0.02	0 / 0	86 / 1.41	7.6 / 0.16	11 / 0.31	1.7 / 0.03	0.2 / 0.01	0.00	76		173	28	67	-	DWR
		9-15-58	-	227	8.2	14 / 0.69	9 / 0.71	16 / 0.70	1.0 / 0.03	0 / 0	86 / 1.42	12 / 0.25	14 / 0.38	3.0 / 0.05	0.0 / 0.00	0.26	54	Fe= 0.01	157	32	70	-	TTL
R. W. Lorenzen Irr.	14N/5E-22D1	9-15-58	-	246	8.2	17 / 0.84	6 / 0.45	18 / 0.81	0.7 / 0.02	0 / 0	78 / 1.28	7 / 0.15	24 / 0.68	4.0 / 0.07	0.2 / 0.01	0.06	48	Fe= 0.01	164	38	64	-	TTL
L. Boone Irr.	14N/5E-32C1	9-15-58	-	357	8.0	20 / 0.99	11 / 0.91	30 / 1.28	1.0 / 0.03	0 / 0	107 / 1.75	8 / 0.17	49 / 1.38	0.0 / 0.00	0.0 / 0.00	0.60	44	Fe= 0.01	241	39	95	-	TTL
L.C.W.D. Mun.	15N/4E-21J	9-15-58	-	319	8.2	20 / 1.00	22 / 1.75	14 / 0.60	1.0 / 0.03	0 / 0	156 / 2.57	26 / 0.55	7 / 0.18	0.0 / 0.00	0.0 / 0.00	0.08	33	Fe=0.01	236	17	137	-	TTL
U.S. Air Force Mun.	15N/5E-19N1	6-19-58	69	181	7.8	9.3 / 0.46	6.1 / 0.50	16 / 0.70	1.5 / 0.04	0 / 0	75 / 1.23	3.8 / 0.08	12 / 0.34	4.8 / 0.08	0.2 / 0.01	0.00	79		170	41	48	-	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Lab. (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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ANALYSES OF GROUND WATER
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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								YOLO	COUNTY													
Mrs. Tom Sakata Dom. & Ind.	6N/3E-25A1	7-24-58	--	494	8.2	8.0 / 0.40	12 / 0.96	91 / 3.96	1.7 / 0.04	0 / 0	230 / 3.77	26 / 0.54	35 / 0.99	0.5 / 0.01	0.2 / 0.01	0.92	40	Fe = 0.00	328	74	68	0	DWR
Glide Ranch Dom. & Stock	7N/3E- 9J1	7-24-58	--	1270	8.7	38 / 1.90	96 / 7.87	94 / 4.09	1.6 / 0.04	34 / 1.13	415 / 6.80	55 / 1.14	94 / 2.65	124 / 2.00	0.4 / 0.02	0.90	28	Fe = 0.00	771	29	489	91	DWR
Burt Nobel Irr.	8N/1E- 9E1	7-25-58	--	872	8.1	37 / 1.85	50 / 4.14	81 / 3.52	1.7 / 0.04	0 / C	371 / 6.08	79 / 1.64	57 / 1.61	5.5 / 0.09	0.4 / 0.02	0.49	34	Fe = 0.02	528	37	300	0	DWR
Willowbank Corporation. Dom. & Irr.	8N/2E-13F2	7-24-58	--	673	8.0	28 / 1.40	50 / 4.07	45 / 1.96	1.3 / 0.03	0 / 0	381 / 6.24	31 / 0.64	18 / 0.51	3.7 / 0.06	0.4 / 0.02	0.48	37	Fe = 0.02	402	26	274	0	DWR
B. K. Howait Irr.	8N/3E- 5Q1	7-25-58	65	742	8.2	23 / 1.15	44 / 3.65	72 / 3.13	2.3 / 0.06	0 / 0	349 / 5.72	43 / 0.90	49 / 1.38	1.7 / 0.03	0.3 / 0.02	0.99	41	Fe = 0.00	448	39	240	0	DWR
W. C. Hamel Irr.	8N/3E-19D1	7-25-58	--	875	8.2	38 / 1.90	67 / 5.53	58 / 2.52	1.5 / 0.04	0 / 0	477 / 7.82	49 / 1.02	31 / 0.87	15 / 0.24	0.3 / 0.02	0.46	37	Fe = 0.00	532	25	372	0	DWR
Rice Growers Association. Ind.	8N/4E- 3B1	7-23-58	--	304	8.0	33 / 1.65	14 / 1.15	7.8 / 0.34	2.2 / 0.06	0 / 0	183 / 3.00	0.0 / 0.00	6.0 / 0.17	1.3 / 0.02	0.1 / 0.00	0.06	28		182	11	140	0	DWR
Earl Chiles Irr.	9N/2E-35D1	7-24-58	--	1460	8.7	25 / 1.25	91 / 7.46	177 / 7.70	0.9 / 0.02	48 / 1.60	568 / 9.31	114 / 2.37	98 / 2.76	8.4 / 0.14	0.6 / 0.03	2.5	28	Fe = 0.00	872	47	436	0	DWR
Woodland Farms Dom.	9N/3E- 7D1	7-28-58	--	572	8.2	37 / 1.85	30 / 2.51	42 / 1.83	1.8 / 0.05	0 / 0	288 / 4.72	14 / 0.29	38 / 1.07	2.4 / 0.04	0.1 / 0.00	1.5	27	Fe = 0.00	336	29	218	0	DWR
Failor Dom.	9N/4E-33L1	7-23-58	--	1400	8.2	59 / 2.94	22 / 1.84	184 / 8.00	5.5 / 0.14	-0 / 0	234 / 3.84	0.2 / 0.00	326 / 9.19	0.2 / 0.00	0.1 / 0.01	1.4	43		756	62	239	47	DWR
Dumars Dom.	9N/1W-16H1	7-25-58	75	932	8.1	60 / 2.99	22 / 1.77	106 / 4.61	1.3 / 0.03	0 / 0	298 / 4.88	73 / 1.52	102 / 2.88	1.9 / 0.03	0.3 / 0.02	0.57	31	Fe = 0.00	545	49	238	0	DWR
Chapman Brothers Irr.	9N/1W-30L1	7-25-58	68	808	8.0	52 / 2.59	32 / 2.68	75 / 3.26	1.1 / 0.03	0 / 0	314 / 5.15	59 / 1.23	72 / 2.03	17 / 0.27	0.3 / 0.02	0.52	31	Fe = 0.01	494	38	264	7	DWR
Nora Corcoran Dom.	10N/1E-15G1	7-28-58	62	813	7.5	61 / 3.04	44 / 3.59	43 / 1.87	2.6 / 0.07	.0 / C	386 / 6.33	31 / 0.64	53 / 1.49	9.1 / 0.15	0.1 / 0.01	1.5	17	Fe = 0.00	452	22	332	16	DWR
Andy Summ Irr.	10N/1E-26A	9- 5-58	--	643	8.25	41 / 2.04	38 / 3.10	41 / 1.81	2.4 / 0.06	9 / 0.30	266 / 4.37	27 / 0.56	52 / 1.45	6 / 0.09	0.2 / 0.01	1.4	18	Fe = 0.10	469	26	257		TTL
W. K. Lowe Dom.	10N/2E- 1Q1	7-28-58	--	2040	7.9	251 / 12.52	48 / 3.94	138 / 6.00	4.1 / 0.10	.0 / 0	500 / 8.20	250 / 5.20	320 / 9.02	2.1 / 0.03	0.1 / 0.00	2.4	27	Fe = 0.02	1290	26	824	414	DWR
Spreckels Sugar Company Ind.	10N/2E-16B1	7-28-58	64	721	7.9	47 / 2.34	40 / 3.31	45 / 1.96	2.6 / 0.07	.0 / 0	326 / 5.34	28 / 0.58	57 / 1.61	5.1 / 0.08	0.1 / 0.00	1.6	20	Fe = 0.00	406	26	283	16	DWR

a Determined by addition of constituents
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (TTL), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M																						
								YOLO COUNTY (continued)															
City of Woodland Dom.	10N/2E-27H1	7-28-58	--	505	8.0	28 / 1.40	25 / 2.04	41 / 1.78	2.0 / 0.05	0 / 0	242 / 3.97	12 / 0.25	34 / 0.96	0.6 / 0.01	0.1 / 0.00	1.2	27	Fe = 0.07	290	34	172	0	DWR
Clark Davis Irr.	10N/1W- 4B1	7-25-58	68	538	8.0	21 / 1.05	36 / 2.95	43 / 1.87	0.9 / 0.02	0 / 0	305 / 5.00	12 / 0.25	16 / 0.45	3.6 / 0.06	0.4 / 0.02	0.25	35	Fe = 0.00	318	32	200	0	DWR
Ferro and Canepa Irr.	10N/1W-36K1	7-28-58	--	1030	7.8	68 / 3.39	43 / 3.56	86 / 3.74	2.8 / 0.07	0 / 0	392 / 6.42	82 / 1.71	92 / 2.59	3.0 / 0.05	0.1 / 0.01	2.9	20	Fe = 0.00	496	35	348	27	DWR
J. Monroe Irr.	10N/2W-14A1	7-22-58	68	527	7.7	38 / 1.90	27 / 2.22	34 / 1.48	2.0 / 0.05	0 / 0	256 / 4.20	18 / 0.37	32 / 0.90	4.9 / 0.08	0.2 / 0.01	1.5	18	Fe = 0.00	302	26	206	0	DWR
J. Peterson Dom.	10N/2W-16L1	7-22-58	62	1400	8.1	32 / 1.60	42 / 3.43	219 / 9.53	1.9 / 0.05	0 / 0	431 / 7.06	106 / 2.21	168 / 4.74	28 / 0.45	0.5 / 0.03	2.8	22	Fe = 0.00	834	65	252	0	DWR
M. Bowles Dom.	10N/2W-18F1	7-22-58	71	1930	8.5	81 / 4.04	46 / 3.79	284 / 12.35	0.5 / 0.01	20 / 0.67	493 / 8.08	81 / 1.69	350 / 9.87	6.6 / 0.11	1.2 / 0.06	0.91	42	Fe = 0.00	1160	61	392	0	DWR
W. McClary Irr. & Dom.	10N/2W-18F2	7-22-58	68	1730	7.6	145 / 7.24	50 / 4.11	159 / 6.92	1.4 / 0.04	0 / 0	404 / 6.62	230 / 4.79	248 / 6.99	7.0 / 0.11	0.4 / 0.02	0.76	34	Fe = 0.03	1170	38	568	-	DWR
V. White Dom.	10N/2W-18L1	7-22-58	69	1490	7.4	116 / 5.79	48 / 3.96	142 / 6.18	1.0 / 0.02	0 / 0	464 / 7.60	181 / 3.77	161 / 4.54	8.8 / 0.14	0.5 / 0.03	1.5	22	Fe = 0.00	910	39	488	-	DWR
C. Kutsuris Dom.	10N/2W-23A1	7-22-58	74	502	8.2	38 / 1.90	22 / 1.78	42 / 1.83	1.4 / 0.04	0 / 0	291 / 4.77	16 / 0.33	9.6 / 0.27	7.8 / 0.12	0.3 / 0.02	0.46	30	Fe = 0.00	310	33	184	0	DWR
Wild Brothers Irr. & Dom.	11N/1E-15C1	7-29-58	--	525	8.3	33 / 1.65	25 / 2.03	42 / 1.83	3.6 / 0.09	3 / 0.10	255 / 4.18	14 / 0.29	33 / 0.93	0.6 / 0.01	0.1 / 0.00	1.2	50	Fe = 0.00	332	33	184	0	DWR
J. J. Slaven Irr.	11N/1E-17M1	9- 5-58	--	450	8.65	24 / 1.20	29 / 2.42	36 / 1.55	1 / 0.03	15 / 0.50	244 / 4.00	7 / 0.14	12 / 0.32	4 / 0.06	0.3 / 0.02	0.71	30	Fe = 0.20	346	40	181	0	TTL
Dutch Miller Dom.	11N/2E-22A1	7-29-58	63	1550	8.2	50 / 2.50	76 / 6.21	178 / 7.74	2.3 / 0.06	0 / 0	499 / 8.18	120 / 2.50	203 / 5.72	6.0 / 0.10	0.1 / 0.00	4.6	34	Fe = 0.06	919	47	436	27	DWR
Oscar Durst Dom.	11N/2W-35J1	7-25-58	68	534	7.8	38 / 1.90	29 / 2.38	34 / 1.48	0.9 / 0.02	0 / 0	294 / 4.82	16 / 0.33	10 / 0.28	17 / 0.27	0.4 / 0.02	0.11	34	Fe = 0.02	323	26	214	0	DWR
R. Bloom Dom. & Irr.	11N/3W- 9Q1	7-18-58	--	655	8.2	54 / 2.69	26 / 2.11	45 / 1.96	0.4 / 0.01	0.0 / 0.0	222 / 3.64	50 / 1.04	66 / 1.86	6.4 / 0.10	0.3 / 0.02	0.49	27	Fe = 0.00	384	29	240	-	DWR
H. D. Everett Irr.	11N/3W-10E1	7-18-58	--	686	8.1	58 / 2.89	26 / 2.11	50 / 2.18	0.8 / 0.02	0.0 / 0.0	246 / 4.03	69 / 1.44	54 / 1.52	9.0 / 0.14	0.2 / 0.01	0.63	25	Fe = 0.00	414	30	250	-	DWR
Southern Pacific Railroad. Dom.	12N/1W-15N2	7-29-58	--	591	8.2	61 / 3.04	30 / 2.47	18 / 0.78	0.6 / 0.02	0 / 0	283 / 4.64	7.4 / 0.15	29 / 0.82	37 / 0.60	0.1 / 0.00	0.03	30	Fe = 0.00	352	12	276	44	DWR
Marshall Dobkins Dom.	12N/2W- 2A1	7-29-58	--	880	7.6	58 / 2.89	45 / 3.74	56 / 2.44	1.4 / 0.04	0 / 0	371 / 6.08	8.1 / 0.17	94 / 2.65	12 / 0.19	0.1 / 0.00	0.70	29	Fe = 0.00	487	27	332	28	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (TTL), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								SACRAMENTO COUNTY														
H. Alberg Irr.	5N/5E-3F1	7-29-58	--	305	7.92	19 / 0.95	13 / 1.11	24 / 1.04	1.5 / 0.04	0 / 0	164 / 2.68	4 / 0.09	12 / 0.32	0 / 0.00	0.3 / 0.02	0.08	44	Fe = 0.00	226	33	103	--	TTL
Hart Ranch Irr.	6N/6E-29J1	7-21-58	--	252	7.4	17 / 0.85	11 / 0.89	17 / 0.74	2.8 / .07	0 / 0	125 / 2.05	7.7 / 0.16	9.0 / 0.25	3.2 / 0.05	0.0 / 0.00	0.00	74		203	29	87	0	DWR
M. Perry Irr.	7N/4E-4R1	7-29-58	--	198	7.6	17 / 0.85	8.9 / 0.73	8 / 0.35	2 / 0.05	0 / 0	108 / 1.77	0.0 / 0.00	7.9 / 0.22	0.2 / 0.01	0.0 / 0.00	0.02	34		131	18	79	0	DWR
State of California Dom. & Irr.	7N/5E-7C1	6-30-58	--	219	8.0	17 / 0.85	7.7 / 0.63	17 / 0.74	2.1 / 0.05	0 / 0	116 / 1.90	1.3 / 0.03	12 / 0.34	0.5 / 0.01	0.2 / 0.01	0.01	39		154	32	74	0	DWR
H. Sutter Irr.	7N/5E-32J2	7-29-58	--	324	7.5	23 / 1.13	16 / 1.26	23 / 1.00	1.5 / 0.04	0 / 0	180 / 2.95	0 / 0.00	13 / 0.35	6 / 0.09	0 / 0	0.3	28	Fe = 0.01	244	29	119	--	TTL
E. C. Hummel Dom. & Irr.	7N/6E-22R1	7-21-58	--	217	7.3	16 / 0.80	11 / 0.88	12 / 0.52	0.6 / 0.02	0 / 0	107 / 1.75	6.9 / 0.14	7.5 / 0.21	5.3 / 0.08	0.3 / 0.02	0.01	66	Fe = 0.00	178	23	84	0	DWR
Lee School District 4 Dom.	7N/7E-27P1	7-21-58	--	254	7.3	16 / 0.80	10 / 0.86	20 / 0.87	1.2 / 0.03	0 / 0	120 / 1.97	0.2 / 0.00	16 / 0.45	6.3 / 0.10	0.1 / 0.01	0.00	62		191	34	83	0	DWR
Land Park Water Maintenance District Mun.	8N/4E-26D1	6-30-58	--	319	8.0	31 / 1.55	15 / 1.25	13 / 0.56	4.2 / 0.11	0 / 0	192 / 3.15	0.5 / 0.01	9.3 / 0.26	0.3 / 0.01	0.2 / 0.01	0.05	50		218	16	140	0	DWR
C.Y.A. Well # 2 Dom.	8N/5E-15H2	10-28-58													6.7 / .35			PO_4 = 0.80					USGS
Dept. of Public Works Dom.	8N/5E-15H1	6-25-58	71	357	7.1	40 / 2.00	10 / 0.84	13 / 0.56	4.3 / 0.11	0 / 0	167 / 2.74	1.0 / 0.02	27 / 0.76	0.2 / 0.01	0.0 / 0.00	0.01	53	PO_4 = 0.30	230	16	142	5	DWR
Haight Irr.	8N/5E-24M1	7-16-58	--	174	7.6	15 / 0.75	6.2 / 0.51	8.8 / 0.38	1.6 / 0.04	0 / 0	86 / 1.41	1.5 / 0.03	6.4 / 0.18	4.2 / 0.07	0.2 / 0.01	0.00	59		145	23	63	0	DWR
Antone Amarel Dom.	8N/5E-30N1	7-16-58	--	269	7.4	23 / 1.15	11 / 0.91	12 / 0.52	2.4 / 0.06	0 / 0	127 / 2.08	3.4 / 0.07	13 / 0.37	7.3 / 0.12	0.2 / 0.01	0.00	62		196	20	103	0	DWR
T. Saiki Irr.	8N/6E-5K1	9-19-58	--	397	8.2	34 / 1.69	19 / 1.60	16 / 0.72	1.5 / 0.04	0 / 0	182 / 2.98	24 / 0.50	10 / 0.27	20 / 0.32	0 / 0	0.04	38	Fe = 0.01	294	17	104	--	TTL
Hoffart Irr.	9N/4E-1K1	8-11-58	--	284	7.89	11 / 0.56	13 / 1.14	22 / 0.96	1.9 / 0.05	0 / 0	122 / 2.00	4 / 0.09	22 / 0.62	2 / 0.04	0.3 / 0.02	0.26	62	Fe = 0.00	198	35	85	--	TTL
K. Kimura Irr.	9N/4E-8L1	8-6-58	--	650	7.68	37 / 1.83	29 / 2.35	72 / 3.16	2.4 / 0.06	0 / 0	324 / 5.30	42 / 0.87	39 / 1.07	3 / 0.05	0.2 / 0.01	0.53	37	Fe = 0.00	494	43	209	--	TTL
Citizens Utilities Co. of California Dom.	9N/5E-15N1	7-25-58	--	372	7.3	28 / 1.40	17 / 1.40	19 / 0.83	1.6 / 0.04	0 / 0	148 / 2.42	7.9 / 0.16	31 / 0.87	10 / 0.16	0.1 / 0.01	0.00	71		259	23	140	19	DWR

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), Chromium (Cr), and Phosphate (PO_4).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SACRAMENTO COUNTY (con't.)																	
Citizens Utilities Co. of California Dom.	9N/5E-21E1	7-25-58	--	348	8.1	22 / 1.10	13 / 1.08	26 / 1.13	2.8 / 0.07	0 / 0	131 / 2.15	0.2 / 0.01	44 / 1.24	0.7 / 0.01	0.0 / 0.00	0.07	81	Fe = 0.02	254	33	109	2	DWR
Citizens Utilities Co. of California Dom.	9N/5E-29D1	7-29-58	--	230	7.8	17 / 0.85	9.4 / 0.77	15 / 0.65	1.0 / 0.02	0 / 0	106 / 1.74	10 / 0.21	6.9 / 0.19	5.2 / 0.08	0.3 / 0.02	0.00	83		200	28	81	0	DWR
Edwards Motel Dom.	9N/6E-25H1	7-14-58	67	178	7.2	15 / 0.75	7.2 / 0.59	9.6 / 0.42	0.7 / 0.02	0 / 0	93 / 1.52	4.8 / 0.10	3.5 / 0.10	1.0 / 0.02	0.1 / 0.01	0.01	45	Fe = 0.00	133	24	67	0	DWR
		10-13-58	--															CLO_4 = 0 NH_4 = 0					USGS
Rancho Cordova Ind.	9N/6E-27P1	7-14-58	66	246	7.2	24 / 1.20	7.5 / 0.62	15 / 0.65	2.2 / 0.06	0 / 0	128 / 2.10	5.8 / 0.12	7.1 / 0.20	2.2 / 0.04	0.1 / 0.01	0.1	35	Fe = 0.00	162	26	91	0	DWR
		10-13-58	70															CLO_4 = 0 NH_4 = 0					USGS
C. O. Kemper Dom.	9N/7E-15F1	7-14-58	--	472	6.9	34 / 1.70	27 / 2.26	14 / 0.61	1.2 / 0.03	0 / 0	147 / 2.41	33 / 0.69	27 / 0.76	48 / 0.77	0.2 / 0.01	0.00	46	Fe = 0.00	302	13	198	78	DWR
		10-13-58	--															CLO_4 = 0 NH_4 = 0.5					USGS
Libby-McNeil & Libby Ind.	9N/7E-16P1	7-14-58	--	404	7.2	37 / 1.85	20 / 1.65	16 / 0.70	2.2 / 0.06	0 / 0	208 / 3.41	13 / 0.27	15 / 0.42	3.2 / 0.05	0.2 / 0.01	0.01	45	Fe = 0.00	254	16	175	5	DWR
		10-13-58	65															CLO_4 = 0 NH_4 = 0					USGS
Capital Dredging Co. Dom.	9N/7E-26H1	7-14-58	66	118	6.7	9.0 / 0.45	4.2 / 0.35	6.8 / 0.30	0.7 / 0.02	0 / 0	41 / 0.67	8.6 / 0.18	6.0 / 0.17	5.0 / 0.10	0.2 / 0.01	0.00	53	Fe = 0.00	114	27	40	6	DWR
		10-13-58	68															CLO_4 = 0 NH_4 = 0					USGS
H. Collier Dom.	9N/7E-27Q1	7-14-58	66	251	6.8	16 / 0.80	12 / 0.96	16 / 0.70	0.6 / 0.02	0 / 0	100 / 1.64	22 / 0.46	11 / 0.31	5.0 / 0.08	0.1 / 0.01	0.01	52	Fe = 0.00	184	28	88	6	DWR
		10-13-58	--															CLO_4 = 0 NH_4 = 0					USGS
Aerojet Corp. Ind.	9N/7E-28B1	7-14-58	--	254	7.3	24 / 1.20	4.7 / 0.80	14 / 0.61	2.5 / 0.06	0 / 0	144 / 2.36	1.8 / 0.04	8.0 / 0.22	0.1 / 0.01	0.2 / 0.01	0.02	70	Fe = 0.00	200	23	100	0	DWR
		10-13-58	71															CLO_4 = 0 NH_4 = 0.3					USGS

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), Chromium (Cr), Perchlorate (CLO_4), and Ammonium (NH_4).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SACRAMENTO COUNTY (con't.)																	
Aerojet Corp. Ind. and Dom.	9N/7E-28K1	7-14-58	--	226	7.6	18 / 0.90	9.2 / 0.76	14 / 0.61	2.1 / 0.05	0 / 0	129 / 2.11	13 / 0.03	5.4 / 0.15	0.3 / 0.01	0.2 / 0.01	0.01	62	Fe = 0.00	176	26	83	0	DWR
		10-13-58	68															CLO_4 = 0 NH_4 = 0					USGS
J. A. Rodgers Dom.	9N/7E-32B1	7-14-58	70	133	6.8	12 / 0.60	5.4 / 0.44	5.4 / 0.23	0.6 / 0.02	0 / 0	59 / 0.97	4.3 / 0.09	3.3 / 0.09	5.7 / 0.09	0.1 / 0.01	0.00	50	Fe = 0.00	154	18	52	4	DWR
		10-13-58	--															CLO_4 = 0 NH_4 = 0					USGS
Ben Fetruci Ind. and Dom.	9N/7E-33E1	7-14-58	--	566	7.2	54 / 2.69	35 / 2.86	6.3 / 0.27	1.2 / 0.03	0 / 0	317 / 5.20	30 / 0.06	2.6 / 0.73	0.1 / 0.01	0.1 / 0.01	0.01	42	Fe = 0.00	324	5	278	18	DWR
		10-13-58	--															CLO_4 = 0 NH_4 = 0					USGS

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), Chromium (Cr), Perchlorate (CLO_4), and Ammonium (NH_4).

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Values in the mineral constituent columns are given as parts per million / equivalents per million.

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
								SAN JOAQUIN VALLEY (5-22) SAN JOAQUIN COUNTY															
	MDB&M																						
Calif. Water Service Mun.	1N/6E-3H3	8/7/58	70	730	7.3			93 / 4.04					137 / 3.86			0.63			--	--	115	--	DWR
Calif. Water Service Mun.	1N/6E-4D1	8/7/58	70	553	8.2			98 / 4.26					69 / 1.94			0.58			--	--	41	--	DWR
City of Stockton Irr.	1N/6E-4J1	8/7/58	70	698	8.2			98 / 4.26					127 / 3.58			0.37			--	--	87	--	DWR
Union Ice Company Ref.	1N/6E-10E2	6/4/58	76	957	---			122 / 5.31					191 / 5.39					Fe = 0.15	--	68	116	--	DWR
Fiberboard Products Inc. Ind.	1N/6E-10P1	8/7/58	70	2620	7.1			300 / 13.05					755 / 21.29			0.75			--	--	452	--	DWR
Fiberboard Products Inc.	1N/6E-10P2	8/7/58	70	1780	8.2			84 / 3.65					481 / 13.56			0.77			--	--	319	--	DWR
Calif. Water Service Dom.	1N/6E-14C1	8/7/58	--	745	7.1			50 / 2.18					139 / 3.92						--	--	205	--	DWR
Calif. Water Service Dom.	1N/6E-14C2	8/7/58	70	682	7.1			86 / 3.74					131 / 3.69				0.38		--	--	112	--	DWR
Calif. Water Service Dom.	1N/6E-14H1	8/7/58	70	433	8.4			73 / 3.18					46 / 1.30			0.64			--	--	34	--	DWR
Slang Irr.	1N/9E-18G1	7/16/58	68	197	7.1	13 / 0.65	8.1 / 0.67	13 / 0.56	3.0 / 0.08	0 / 0	84 / 1.38	6.2 / 0.13	9.7 / 0.27	8.3 / 0.13	0.3 / 0.02	0.00	76	Fe = 0.05	179	28	66	0	DWR
Calif. Water Service Mun.	2N/6E-27L1	7/16/58	67	366	8.0	32 / 1.60	11 / 0.92	28 / 1.22	4.5 / 0.12	0 / 0	201 / 3.29	12 / 0.25	9.6 / 0.27	0.3 / 0.00	0.2 / 0.01	0.06	50	Fe = 0.01	247	32	126	0	DWR
Irrigation	2N/6E-29N1	9/3/58	61	1375	8.1	122 / 6.10	59 / 4.80	72 / 3.14	1.5 / 0.04	0 / 0	235 / 3.85	216 / 4.50	209 / 5.87	6 / 0.09	0.0 / 0.00	0.08	45	Fe = 0.01	944	22	545	--	TTL
L. Deatoni Irr.	2N/7E-14N1	7/16/58	67	284	7.6	26 / 1.30	14 / 1.18	5.4 / 0.23	4.4 / 0.11	0 / 0	167 / 2.74	0.2 / 0.00	4.2 / 0.12	0.6 / 0.01	0.2 / 0.01	0.02	65	Fe = 0.01	202	8	124	0	DWR
Linden Water Service Irr.	2N/8E-15L1	7/16/58	65	291	7.2	29 / 1.45	12 / 0.95	4.7 / 0.20	2.9 / 0.07	0 / 0	141 / 2.31	4.1 / 0.08	7.4 / 0.21	5.4 / 0.09	0.3 / 0.02	0.00	65	Fe = 0.00	200	7	120	4	DWR
F. De Benedetti Dom. & Irr.	2N/9E-7G1	7/16/58	64	238	7.0	23 / 1.15	9.8 / 0.81	3.7 / 0.16	0.9 / 0.02	0 / 0	104 / 1.70	5.8 / 0.12	9.2 / 0.26	2.3 / 0.04	0.2 / 0.01	0.01	47	Fe = 0.02	153	7	98	13	DWR
G. Barbero Dom. & Irr.	3N/6E-27B1	7/16/58	66	449	8.1	30 / 1.50	11 / 0.90	[illegible] / 2.18	1.6 / 0.09	0 / 0	230 / 3.77	18 / 0.37	5.5 / 0.16	20 / 0.32	0.5 / 0.03	0.06	61		311	47	120	0	DWR
S. Gaberoglia Dom. & Irr.	4N/7E-23B2	7/16/58	69	672	6.9	58 / 2.89	23 / 1.87	42 / 1.83	1.5 / 0.04	0 / 0	223 / 3.65	22 / 0.46	82 / 2.31	14 / 0.22	0.2 / 0.01	0.00	74		426	28	238	55	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					SAN JOAQUIN COUNTY (Cont.)																	
Robert Nichols Irr.	5N/5E-33J1	7/16/58	64	338	7.7	12 / 0.60	3.6 / 0.30	58 / 2.52	8.8 / 0.22	0 / 0	207 / 3.39	0.2 / 0.00	8.6 / 0.24	0 / 0	0.4 / 0.02	0.56	33	Fe = 0.52	228	69	45	0	DWR
A. T. Sims Irr.	5N/8E-31J1	7/16/58	70	181	7.0	16 / 0.80	6.1 / 0.50	6.2 / 0.27	5.2 / 0.13	0 / 0	88 / 1.44	0.3 / 0.01	6.4 / 0.8	2.3 / 0.04	0.3 / 0.02	0.01	87	Fe .01	180	34	56	0	DWR
Irrigation	1S/9E-8H1	7/16/58	68	269	7.4	19 / 0.95	8.4 / 0.69	21 / 0.91	1.2 / 0.03	0 / 0	100 / 1.64	6.2 / 0.13	21 / 0.59	7.9 / 0.13	0.4 / 0.02	0.04	60	Fe = 0.01	194	35	82	0	DWR
D. B. Dueing Dom.	2S/4E-1P1	7/17/58	65	756	7.9	21 / 1.05	7.4 / 0.61	124 / 5.39	0.4 / 0.01	0 / 0	143 / 2.34	140 / 2.91	65 / 1.83	0.8 / 0.01	0.2 / 0.01	0.77	29	Fe = 0.01	458	76	83	0	DWR
H. C. Jepson Irr.	2S/4E-36P1	9/3/58	65	1244	8.1	67 / 3.35	35 / 2.85	138 / 6.00	3.9 / 0.10	0 / 0	146 / 2.40	296 / 6.16	136 / 3.83	12 / 0.19	0.2 / 0.01	1.4	22	Fe = 0.01	847	44	310	-	TTL
J. Furtado Irr.	2S/5E-19D1	7/17/58	66	960	[illegible].2	67 / 3.34	22 / 1.77	99 / 4.31	2.8 / 0.07	0 / 0	158 / 2.59	157 / 3.27	118 / 3.33	14 / 0.22	0.2 / 0.01	0.43	29	Fe = 0.02	587	45	256	126	DWR
West Side I.D. Irr.	2S/5E-22Q1	7/17/58	68	1040	7.8	73 / 3.64	26 / 2.15	102 / 4.44	3.6 / 0.09	0 / 0	198 / 3.24	189 / 3.93	104 / 2.93	12 / 0.19	0.2 / 0.01	0.59	26	Fe = 0.00	633	43	290	128	DWR
West Side I.D. Drainage	2S/5E-23P1	7/18/58	64	1920	7.7	135 / 6.74	48 / 3.91	188 / 8.18	2.4 / 0.06	0 / 0	320 / 5.24	219 / 4.56	320 / 9.02	16 / 0.26	0.2 / 0.01	1.7	42	Fe = 0.00	1130	43	533	271	DWR
City of Tracy Mun.	2S/5E-28L1	7/18/58	72	1250	7.7	84 / 4.19	32 / 2.60	123 / 5.35	3.2 / 0.08	0 / 0	224 / 3.67	143 / 2.98	190 / 5.36	13 / 0.21	0.1 / 0.00	0.59	31	Fe = 0.00	730	44	340	156	DWR
West Side Irr. Dist. Drainage	2S/5E-29[illegible]1	7/17/58	65	1850	8.0	124 / 6.19	62 / 5.06	174 / 7.57	2.2 / 0.06	0 / 0	390 / 6.39	149 / 3.10	320 / 9.02	23 / 0.37	0.2 / 0.01	1.2	44	Fe = 0.00	1090	40	563	243	DWR
West Side Irr. Dist. Irrigation	2S/5E-32R1	7/17/58	67	1010	7.9	67 / 3.34	22 / 1.85	102 / 4.44	3.8 / 0.10	0 / 0	210 / 3.44	88 / 1.83	145 / 4.09	19 / 0.31	0.2 / 0.01	0.38	31	Fe = 0.01	581	46	260	[illegible]8	DWR
State of California Dom. & Irr.	2S/6E-20J4	7/29/58	70	710	8.1	26 / 1.30	13 / 1.06	103 / 4.48	2.5 / 0.06	0 / 0	157 / 2.57	168 / 3.50	36 / 1.02	1.0 / 0.02	0.1 / 0.00	0.41	40	Fe = 0.06	467	65	118	0	DWR
L. Huck Dom.	3S/5E-8L1	7/17/58	71	860	8.1	70 / 3.49	19 / 1.56	73 / 3.18	2.9 / 0.07	0 / 0	164 / 2.69	103 / 2.14	93 / 2.62	44 / 0.71	0.2 / 0.01	0.46	55	Fe = 0.01	540	38	253	119	DWR
Gerlach Irr.	3S/5E-14D1	7/29/58	68	1210	7.7	82 / 4.09	29 / 2.38	125 / 5.44	2.6 / 0.07	0 / 0	169 / 2.77	166 / 3.46	175 / 4.94	44 / 0.71	0.2 / 0.01	0.38	30	Fe = 0.07	737	45	324	186	DWR
Russel Park Dev.Co. Irr. & Dom.	3S/5E-35B1	7/30/58	70	1090	8.0	79 / 3.94	26 / 2.17	109 / 4.74	1.4 / 0.04	0 / 0	151 / 2.47	310 / 6.45	55 / 1.55	23 / 0.37	0.2 / 0.01	0.61	32	Fe = 0.00	710	44	306	182	DWR
W. Maier Irr.	3S/5E-35D1	7/17/58	74	1270	7.6	118 / 5.89	24 / 2.02	107 / 4.65	3.0 / 0.08	0 / 0	220 / 3.60	318 / 6.62	71 / 2.00	20 / 0.32	0.3 / 0.02	0.02	26	Fe = 0.02	795	37	396	216	DWR
Banta Carbana I.D. Irr.	3S/6E-7F1	7/30/58	64	1370	8.0	79 / 3.94	28 / 2.33	167 / 7.26	2.6 / 0.07	0 / 0	306 / [illegible].02	162 / 3.37	183 / 5.16	18 / 0.29	0.1 / 0.00	1.10	36	Fe = 0.06	941	55	351	89	[illegible]

a Determined by addition of constituents
b Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							SAN JOAQUIN COUNTY (Cont.)															
Boltzent & Williamson Irr.	3S/6E-16L1	7/30/58	73	731	7.8	53 / 2.64	24 / 1.94	66 / 2.87	2.1 / 0.05	0 / 0	196 / 3.21	140 / 2.91	46 / 1.30	4.4 / 0.07	0.1 / 0.00	0.46	30	Fe = 0.01	463	38	229	68	DWR
Reece Irr.	3S/6E-17D1	7/30/58	74	800	8.0	62 / 3.09	25 / 2.04	73 / 3.18	2.5 / 0.06	0 / 0	180 / 2.95	198 / 4.12	42 / 1.18	5.7 / 0.09	0.2 / 0.01	0.45	29	Fe = 0.00	527	38	257	109	DWR
Hamilton Irr.	3S/6E-22Q1	7/30/58	71	714	7.7	54 / 2.69	18 / 1.51	70 / 3.04	1.9 / 0.05	0 / 0	198 / 3.24	112 / 2.33	49 / 1.38	20 / 0.32	0.2 / 0.01	0.43	27	Fe = 0.00	450	42	210	48	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Mineral constituents in parts per million / equivalents per million

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
								STANISLAUS COUNTY															
	MDB&M																						
Jim Dunn Irr.	1S/10E-33R1	7-58	-	47	7.4	5 / 0.26	1 / 0.13	2 / 0.11	0.7 / 0.02	0 / 0	27 / 0.45	0 / 0	3 / 0.07	0.0 / 0.00	0.01 / 0.01	0.04	11	Fe = 0.00	34	21	20	-	TTL
John Damartini Dom.	1S/11E-36E1	7-58	-	391	8.0	28 / 1.39	16 / 1.30	14 / 0.62	4.9 / 0.13	0 / 0	167 / 2.73	10 / 0.21	13 / 0.34	13 / 0.22	0 / 0	0.08	40	Fe = 0.01	271	18	134	0	TTL
Avrelio Ramirez Irr.	2S/10E-10D1	7-58	-	150	7.7	12 / 0.61	6 / 0.54	9 / 0.40	2.8 / 0.07	0 / 0	86 / 1.41	0 / 0	7 / 0.21	4 / 0.06	0.08 / 0.004	0.08	67	Fe = 0.00	114	24	57	0	TTL
F. Giambanco Ind. & Dom.	2S/10E-36N1	7-58	-	273	7.9	23 / 1.14	10 / 0.75	18 / 0.78	2.4 / 0.06	0 / 0	121 / 1.99	0 / 0	20 / 0.51	12 / 0.19	0.2 / 0.01	0.26	48	Fe = 0.00	204	28	94	-	TTL
J. E. Gardner Dom.	3S/7E-33C1	7-58	-	530	7.8	41 / 2.07	19 / 1.62	38 / 1.66	2.4 / 0.06	0 / 0	212 / 3.49	21 / 0.45	52 / 1.45	3 / 0.05	0.2 / 0.01	0.30	15	Fe = 0.12	384	30	184	0	TTL
V. [illegible]. Rodden Ranch Dom. & Irr.	3S/11E-9D1	7-58	-	306	7.9	20 / 1.02	12 / 1.03	23 / 0.98	3.5 / 0.09	0 / 0	112 / 2.00	4 / 0.09	30 / 0.84	7 / 0.12	0.2 / 0.01	0.25	75	Fe = 0.01	218	31	102	0	TTL
H. E. Ketcham Irr.	3S/12E-26P1	7-58	-	4409	7.7	333 / 16.60	43 / 3.52	419 / 18.20	30 / 0.76	0 / 0	88 / 1.45	0 / 0	1324 / 37.28	0.0 / 0.00	0.01 / 0.00	0.8	57	Fe = 0.00	2664	46	1006	-	TTL
Robert Cres Irr.	3S/13E-32D1	7-58	-	5144	7.3	327 / 16.32	36 / 3.01	630 / 27.40	18 / 0.46	0 / 0	92 / 1.50	0 / 0	1628 / 45.84	0.0 / 0.00	0.2 / 0.01	1.8	64	Fe = 0.00	3164	58	966	-	TTL
Baranchi Irr.	4S/6E-11	8-31-58	67	1040	7.7	88 / 4.39	25 / 2.08	82 / 3.57	2.4 / 0.06	0 / 0	144 / 2.36	118 / 2.46	167 / 4.71	25 / 0.40	1.0 / 0.05	0.31	25	Fe = 0.00	605	35	324	206	DWR
Irving Russell Irr.	4S/6E-12N1	7-31-58	69	1260	7.8	94 / 4.69	31 / 2.58	120 / 5.22	2.2 / 0.06	0 / 0	218 / 3.57	173 / 3.60	171 / 4.82	28 / 0.45	0.4 / 0.02	0.98	28	Fe = 0.00	755	42	364	185	DWR
J. J. Raspo Irr.	4S/6E-15E1	7-58	-	632	8.3	50 / 2.49	16 / 1.31	52 / 2.25	1.9 / 0.05	0 / 0	171 / 2.80	86 / 1.79	44 / 1.22	25 / 0.39	0.2 / 0.01	0.4	17	Fe = 0.01	444	36	190	-	TTL
Jones Irr.	4S/7E-8L1	7-31-58	67	1120	8.2	71 / 3.54	36 / 2.93	110 / 4.78	1.5 / 0.04	0 / 0	2.15 / 3.52	184 / 3.83	132 / 3.72	15 / 0.24	0.5 / 0.03	1.3	28	Fe = 0.00	685	42	324	148	DWR
West Stanislaus Irr. Dist. Drainage	4S/7E-8Q1	7-31-58	66	1040	8.1	65 / 3.24	32 / 2.63	106 / 4.61	1.4 / 0.04	0 / 0	219 / 3.59	157 / 3.27	116 / 3.27	18 / 0.29	0.5 / 0.03	1.3	28	Fe = 0.00	633	44	294	114	DWR
West Stanislaus Irr. Dist. Drainage	4S/7E-16E1	7-31-58	66	1700	8.1	100 / 4.99	59 / 4.84	172 / 7.48	1.4 / 0.04	0 / 0	240 / 3.93	272 / 5.66	253 / 7.13	20 / 0.32	0.5 / 0.03	1.7	28	Fe = 0.00	1020	43	492	295	DWR
West Stanislaus Irr. Dist.	4S/7E-17E1	7-31-58	64	1490	7.6	114 / 5.69	34 / 2.78	145 / 6.31	1.9 / 0.05	0 / 0	228 / 3.74	181 / 3.77	239 / 6.74	22 / 0.35	0.4 / 0.02	1.1	27	Fe = 0.00	877	42	424	237	DWR
West Stanislaus Irr. Dist.	4S/7E-17K1	7-31-58	64	1490	7.9	88 / 4.39	47 / 3.84	141 / 6.13	1.6 / 0.04	0 / 0	207 / 3.39	174 / 3.62	251 / 7.08	20 / 0.32	0.4 / 0.02	1.2	27		853	42	412	242	DWR
West Stanislaus Irr. Dist.	4S/7E-18A1	7-31-58	64	1460	7.9	74 / 3.69	42 / 3.50	163 / 7.09	1.6 / 0.04	0 / 0	203 / 3.33	194 / 4.04	230 / 6.49	17 / 0.27	0.3 / 0.02	1.6	28	Fe = 0.00	852	50	360	194	DWR

a Determined by addition of constituents
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							STANISLAUS COUNTY (con't)															
W. W. Cox Irr.	4S/7E-19G1	8-1-58	72	1180	7.9	64 / 3.19	41 / 3.36	110 / 4.78	2.2 / 0.06	0 / 0	183 / 3.00	154 / 3.21	177 / 4.99	14 / 0.22	0.3 / 0.02	1.3	27	Fe = 0.00	852	50	360	194	DWR
W. W. Crawford Irr.	4S/7E-22E1	8-1-58	68	1360	8.1	61 / 3.04	80 / 6.55	104 / 4.52	2.2 / 0.06	0 / 0	228 / 3.74	250 / 5.20	172 / 4.85	20 / 0.32	0.3 / 0.02	0.56	29	Fe = 0.01	831	32	480	293	DWR
W. W. Cox Irr.	4S/7E-26R1	8-1-58	68	1260	8.3	45 / 2.24	98 / 8.07	73 / 3.18	2.2 / 0.06	4 / 0.13	325 / 5.33	172 / 3.58	151 / 4.26	17 / 0.27	0.3 / 0.02	0.54	28	Fe = C.01	751	23	516	246	DWR
Filomena Azevedo Irr.	4S/7E-27M1	9-3-58	67	1204	8.4	47 / 2.35	77 / 6.30	82 / 3.55	2.4 / 0.06	4.5 / 0.15	244 / 4.00	161 / 3.37	158 / 4.44	27 / 0.43	0.2 / 0.01	0.7	23	Fe = 0.02	831	28	432	-	TTL
Henry Ellery Irr.	4S/7E-28H1	8-1-58	67	1320	8.3	60 / 2.99	79 / 6.52	96 / 4.18	2.2 / 0.06	3 / 0.10	211 / 3.46	237 / 4.93	166 / 4.68	29 / 0.47	0.30 / 0.02	0.45	28	Fe = 0.01	805	30	476	298	DWR
West Stanislaus Irr. Dist.	4S/7E-30L1	8-1-58	69	1060	8.0	58 / 2.89	27 / 2.26	115 / 5.00	2.8 / 0.07	0 / 0	222 / 3.64	206 / 4.29	51 / 1.44	48 / 0.77	0.4 / 0.02	0.93	26	Fe = 0.02	644	49	258	76	DWR
Filomena Azevedo Irr.	4S/7E-34D1	8-1-58	67	1120	8.1	41 / 2.04	77 / 6.31	79 / 3.44	2.2 / 0.06	0 / 0	281 / 4.60	165 / 3.44	129 / 3.64	23 / 0.37	0.3 / 0.02	0.46	27	Fe = 0.02	682	29	418	188	DWR
J. D. Cox Irr.	4S/7E-34J1	8-1-58	68	1280	8.3	38 / 1.90	85 / 7.01	100 / 4.35	2.5 / 0.06	8 / 0.27	262 / 4.29	115 / 2.39	215 / 6.06	16 / 0.26	0.4 / 0.02	0.46	25	Fe = 0.02	734	33	446	218	DWR
Ann S. Cox Irr.	4S/7E-35D1	3-1-58	67	1180	8.2	34 / 1.70	78 / 6.45	93 / 4.04	2.3 / 0.06	0 / 0	302 / 4.95	122 / 2.54	155 / 4.37	18 / 0.29	0.1 / 0.01	0.54	25	Fe = 0.03	677	33	408	160	DWR
Turlock I. D.	4S/8E-24A1	8-14-58	68	741	8.0	26 / 1.30	28 / 2.32	81 / 3.51	3.1 / 0.08	0 / 0	188 / 3.08	7 / 0.15	125 / 3.52	13 / 0.22	0.2 / 0.01	0.30	40	Fe = 0.01	494	48	181	-	TTL
Turlock I. D. Drainage	4S/8E-27L1	8-21-58	66	902	8.3	52 / 2.59	11 / 0.91	119 / 5.19	3.1 / 0.08	0 / 0	277 / 4.55	27 / 0.56	124 / 3.48	4 / 0.07	0.0 / 0.00	0.00	27	Fe = 0.00	624	59	175	-	TTL
Turlock I. D. Drainage	4S-9E-20A1	8-14-58	66	601	8.1	45 / 2.25	17 / 1.36	71 / 3.10	3.5 / 0.09	0 / 0	264 / 4.33	33 / 0.68	44 / 1.22	21 / 0.34	0.10 / 0.01	0.64	46	Fe = 0.00	461	45	180	-	TTL
Turlock I. D. Drainage & Irr.	4S/9E-25A1	8-15-58	68	390	7.5	30 / 1.50	13 / 1.10	33 / 1.46	1.9 / 0.05	0 / 0	151 / 2.48	14 / 0.31	27 / 0.76	27 / 0.43	0.2 / 0.01	0.20	40	Fe = 0.01	284	35	120	0	TTL
Turlock I. D. Drainage	4S/9E-30R1	7-58	66	625	7.8	47 / 2.37	12 / 1.03	68 / 2.95	3.1 / 0.08	0 / 0	275 / 4.51	12 / 0.25	44 / 1.25	23 / 0.37	0.04 / 0.00	0.35	50	Fe = 0.00	464	25	170	-	TTL
Johnson Brothers Irr.	4S/10E-1D1	58	-	356	7.8	16 / 0.80	6 / 0.52	41 / 1.80	6.9 / 0.18	0 / 0	116 / 1.90	1 / 0.02	53 / 1.48	0.0 / 0.00	0.0 / 0.00	0.5	59	Fe = 0.00	244	54	66	-	TTL
J. W. Short Irr.	4S/11E-5M1	58	-	371	7.9	4 / 0.21	2 / 0.18	67 / 2.90	5.3 / 0.14	0 / 0	98 / 1.60	0 / 0	70 / 1.97	0.00 / 0.00	0.4 / 0.02	0.62	70	Fe = 0.00	254	84	20	-	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

ANALYSES OF GROUND WATER

1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							STANISLAUS COUNTY (con't)															
Turlock I. D. Dom. & Irr.	4S/11E-21D1	8-16-58	66	137	8.1	8 / 0.42	6 / 0.46	13 / 0.55	1.5 / 0.04	0 / 0	75 / 1.24	2 / 0.05	4 / 0.11	3 / 0.05	0.2 / 0.01	0.18	36	Fe = 0.00	104	37	44	-	TTL
Turlock I. D.	4S/11E-31E1	8-16-58	69	302	8.0	23 / 1.14	9 / 0.72	26 / 1.15	2.4 / 0.06	0 / 0	128 / 2.10	19 / 0.40	10 / 0.28	19 / 0.30	0.0 / 0.00	0.00	41	Fe = 0.01	224	37	93	-	TTL
H. O. Wood Irr.	5S/7E-1M1	8-1-58	64	1190	8.4	42 / 2.10	96 / 7.93	69 / 3.00	2.1 / 0.05	13 / 0.43	333 / 5.46	142 / 2.96	140 / 3.95	13 / 0.21	0.4 / 0.02	0.55	26	Fe = 0.02	708	23	502	206	DWR
Mrs. J. D. Cox Irr.	5S/7E-2H1	8-21-58	66	1280	8.2	53 / 2.64	96 / 7.91	73 / 3.18	2.3 / .06	0 / 0	321 / 5.26	115 / 2.39	205 / 5.78	14 / .22	0.2 / .01	0.51	24		741	23	528	265	DWR
Alfred Gaspar Irr.	5S/7E-3N1	8-1-58	68	1320	7.8	48 / 2.40	84 / 6.87	86 / 3.74	2.4 / 0.06	0 / 0	199 / 3.26	106 / 2.21	252 / 7.11	13 / 0.21	0.2 / 0.01	0.45	25	Fe = 0.02	715	29	464	301	DWR
Helena Raines Irr.	5S/7E-9H1	8-1-58	71	1620	8.1	48 / 2.40	73 / 5.99	171 / 7.44	2.7 / 0.07	0 / 0	158 / 2.59	220 / 4.58	305 / 8.60	4.6 / 0.07	0.2 / 0.01	0.40	20	Fe = 0.02	923	47	420	290	DWR
Chas. Zacharias Irr.	5S/7E-23B1	8-1-58	72	1340	8.0	58 / 2.89	68 / 5.62	118 / 5.13	3.1 / 0.08	0 / 0	198 / 3.24	233 / 4.85	194 / 5.47	14 / 0.22	0.02 / 0.01	0.25	29	Fe = 0.02	714	37	426	264	DWR
Bizzanelli	5S/7E-35G	8-1-58	72	906	8.1	62 / 3.09	36 / 2.98	69 / 3.00	1.9 / 0.05	0 / 0	214 / 3.51	69 / 1.44	120 / 3.38	43 / 0.69	0.3 / 0.02	0.10	35	Fe = 0.01	541	33	304	129	DWR
Turlock I. D. Drainage	5S/8E-1R1	8-18-58	67	910	8.4	42 / 2.10	13 / 1.10	134 / 5.85	3.9 / 0.10	0 / 0	232 / 3.80	27 / 0.57	167 / 4.70	6 / 0.09	0.2 / 0.01	0.00	46	Fe = 0.01	634	63	160	-	TTL
T & T Ranch Irr.	5S/8E-8G1	58	-	1850	8.3	82 / 4.08	116 / 9.50	159 / 6.90	1.9 / 0.05	0 / 0	384 / 6.30	426 / 8.87	186 / 5.24	32 / 0.52	0.2 / 0.01	0.98	22	Fe = 0.01	1344	34	679	-	TTL
Ysidro Luch Irr. & Dom.	5S/8E-27M1	58	-	1343	8.0	88 / 4.40	62 / 5.05	141 / 6.15	2.8 / 0.07	0 / 0	197 / 3.23	514 / 10.70	43 / 1.34	13 / 0.21	0.7 / 0.04	0.70	26	Fe = 0.01	1004	40	454	-	TTL
Turlock I. D. Drainage	5S/9E-9A1	8-18-58	66	555	7.7	48 / 2.42	15 / 1.23	58 / 2.50	1.9 / 0.05	0 / 0	295 / 4.83	10 / 0.21	31 / 0.89	0.03 / 0.17	10 / 0.00	0.00	57	Fe = 0.00	414	40	182	-	TTL
Turlock I. D. Drainage & Irr.	5S/9E-13G	9-8-58	66	591	8.0	54 / 2.69	17 / 1.38	53 / 2.29	3.1 / 0.08	0 / 0	310 / 5.08	8 / 0.17	30 / 0.84	13 / 0.21	0.0 / 0.00	0.30	45	Fe = 0.01	449	35	203	-	TTL
Turlock I. D. Drainage	5S/10E-4F1	9-18-58	68	407	8.1	34 / 1.70	11 / 0.94	37 / 1.60	2.4 / 0.06	0 / 0	183 / 3.00	10 / 0.20	20 / 0.56	24 / 0.38	0.3 / 0.02	0.44	51	Fe = 0.00	304	37	132	-	TTL
Turlock I. D. Drainage	5S/10E-23H1	8-18-58	67	460	8.0	36 / 1.78	11 / 0.92	48 / 2.12	1.9 / 0.05	0 / 0	233 / 3.81	11 / 0.23	24 / 0.69	20 / 0.31	0.40 / 0.02	0.00	52	Fe = 0.00	348	44	135	-	TTL
Turlock I. D. Drainage	5S/10E-30F1	9-18-58	66	721	8.1	42 / 2.10	16 / 1.27	108 / 4.70	2.8 / 0.07	0 / 0	294 / 4.81	40 / 0.85	63 / 1.77	24 / 0.38	0.08 / 0.00	0.00	50	Fe = 0.00	544	57	168	-	TTL

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							STANISLAUS COUNTY (con't.)															
Turlock I. D. Drainage & Irr.	5S/11E-7P1	8-26-58	66	515	8.3	49 / 2.45	16 / 1.33	32 / 1.40	1.5 / 0.04	0 / 0	233 / 3.81	20 / 0.42	16 / 0.46	35 / 0.57	0.0 / 0.00	0.12	49	Fe = 0.00	388	28	189	--	TTL
Ralph Perkins Irr.	5S/12E-6D1	58	--	220	7.7	14 / 0.70	5 / 0.43	17 / 0.73	2.8 / 0.07	0 / 0	81 / 1.34	1 / 0.03	13 / 0.35	10 / 0.17	0.4 / 0.02	0.08	67	Fe = 0.00	148	38	56	0	TTL
Central Calif. Irr. Dist.	7S/8E-12F1	8-4-58	--	773	7.72	65 / 3.25	40 / 3.25	62 / 2.70	3.1 / 0.08	0 / 0	295 / 4.84	97 / 2.02	70 / 1.97	8.0 / 0.14	0.4 / 0.02	0.44	19	Fe = 0.00	594	29	325	--	TTL
H. I. Krogh Irr.	7S/8E-22K1	58	--	930	7.7	66 / 3.32	35 / 2.93	74 / 3.20	2.8 / 0.07	0 / 0	317 / 5.20	76 / 1.59	77 / 2.18	28 / 0.45	0.4 / 0.02	0.6	32	Fe = 0.00	664	34	312	-	TTL
Central Calif. Irr. Dist.	7S/8E-23R1	8-4-58	--	1479	7.61	96 / 4.78	57 / 4.68	156 / 6.78	4.2 / 0.11	0 / 0	269 / 4.42	115 / 2.40	373 / 9.53	4 / 0.07	0.7 / 0.04	0.53	27	Fe = 0.01	1037	41	473	-	TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Lab. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn) and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								MERCED COUNTY														
Turlock Irrigation District Irr.	5S/11E-29F1	8-26-58	66	269	8.0	22 / 1.08	7 / 0.63	21 / 0.91	1 / 0.03	0 / 0	109 / 1.79	7 / 0.15	12 / 0.34	21 / 0.34	0.0 / 0.00	0.00	49	Fe = 0.00	194	34	85	-	TTL
Turlock I. D. Irr.	6S/10E-2H1	8-28-58	68	471	7.9	39 / 1.95	17 / 1.39	37 / 1.57	2.4 / 0.06	0 / 0	219 / 3.59	14 / 0.30	25 / 0.70	20 / 0.32	0.2 / 0.01	0.00	54	Fe = 0.01	354	31	167	-	TTL
Turlock I. D. Irr. & Drainage	6S/10E-9B1	8-28-58	63	681	8.2	47 / 2.35	13 / 1.10	86 / 3.75	2.4 / 0.06	0 / 0	281 / 4.60	21 / 0.44	63 / 1.77	19 / 0.30	0.40 / 0.02	1.40	62	Fe = 0.00	514	51	172	-	TTL
Turlock I. D. Drainage & Irr.	6S/10E-24L1	8-28-58	--	842	7.7	33 / 1.66	10 / 0.83	125 / 5.45	3.5 / 0.09	0 / 0	152 / 2.50	7 / 0.15	189 / 5.32	0.0 / 0.00	0.0 / 0.00	0.90	27	Fe = 0.00	548	68	124	-	TTL
Riverside School Irr. & Drainage	6S/10E-28K1	8-28-58	65	866	8.1	38 / 1.91	10 / 0.83	138 / 6.00	2.8 / 0.07	0 / 0	329 / 5.40	26 / 0.55	91 / 2.55	10 / 0.17	0.4 / 0.02	0.16	34	Fe = 0.02	624	68	137	-	TTL
Turlock I. D. Irr.	6S/11E-3B1	9-23-58	65	555	8.4	43 / 2.15	13 / 1.07	58 / 2.52	1.9 / 0.05	11 / 0.37	191 / 3.13	37 / 0.77	31 / 0.87	32 / 0.48	0.3 / 0.02	0.08	57	Fe = 0.00	404	43	164	-	TTL
Turlock I. D. Irr. & Drainage	6S/11E-9C1	8-19-58	66	413	8.35	31 / 1.55	13 / 1.14	32 / 1.38	2.4 / 0.06	14 / 0.47	133 / 2.19	22 / 0.46	21 / 0.61	23 / 0.37	0.2 / 0.01	0.00	52	Fe = 0.04	290	33	134	-	TTL
Turlock I. D. Irr.	6S/11E-10J1	9-23-58	68	294	8.05	24 / 1.20	10 / 0.77	22 / 0.94	1.1 / 0.03	0 / 0	96 / 1.56	22 / 0.46	13 / 0.34	28 / 0.45	0.1 / 0.005	0.00	48	Fe = 0.00	214	32	98	-	TTL
Merced Irr. District Irr.	6S/11E-27K1	7-28-58	66	220	7.5	16 / 0.78	7 / 0.61	20 / 0.89	2.4 / 0.06	0 / 0	101 / 1.65	9 / 0.18	11 / 0.31	10 / 0.17	0.3 / 0.01	0.00	34	Fe = 0.02	164	38	71	-	TTL
Merced Irr. District Irr.	6S/11E-36P1	7-22-58	66	333	7.3	23 / 1.15	7 / 0.63	30 / 1.29	2.8 / 0.07	0 / 0	124 / 2.04	15 / 0.33	13 / 0.35	28 / 0.45	0.0 / 0.00	0.00	38	Fe = 0.00	238	41	89	-	TTL
Turlock I. D. Irr.	6S/12E-6L1	9-23-58	67	481	7.75	33 / 1.65	11 / 0.90	39 / 1.70	1.9 / 0.05	0 / 0	136 / 2.23	26 / 0.55	26 / 0.73	42 / .68	0.1 / 0.01	0.00	57	Fe = 0.00	324	38	130	-	TTL
Merced Irr. District Irr.	6S/12E-21N1	7-24-58	67	238	7.5	14 / 0.70	6 / 0.52	21 / 0.90	3.5 / 0.09	0 / 0	93 / 1.52	18 / 0.37	7 / 0.20	10 / 0.17	0.2 / 0.01	0.18	44	Fe = 0.01	174	40	61	-	TTL
Merced Irr. District Irr.	6S/12E-23H1	7-23-58	66	201	7.2	16 / 0.82	7 / 0.57	14 / 0.58	1 / 0.03	0 / 0	61 / 1.0	19 / 0.41	9 / 0.25	26 / 0.42	0.0 / 0.00	0.19	38	Fe = 0.00	149	29	69	-	TTL
Merced Irr. District Irr.	6S/13E-6N1	9-11-58	69	128	6.7	9 / 0.44	3 / 0.27	10 / 0.43	1.5 / 0.04	0 / 0	60 / 0.98	1 / 0.02	4 / 0.11	5 / 0.08	0.3 / 0.016	0.7[illegible]	32	Fe = 2.60	91	36	35	-	TTL
Merced Irr. District Irr.	6S/13E-31F1	9-12-58	66	245	7.9	16 / 0.82	7 / 0.55	19 / 0.86	1.5 / 0.04	0 / 0	95 / 1.55	11 / 0.24	5 / 0.14	20 / 0.31	0.2 / 0.01	0.00	46	Fe = 0.01	174	38	68	-	TTL
Guetine Drainage Dist. Irr.	7S/9E-32H1	8-4-58	--	877	8.1	67 / 3.35	29 / 2.40	76 / 3.30	1.5 / 0.04	0 / 0	259 / 4.25	155 / 3.22	51 / 1.44	14 / 0.24	0.2 / 0.01	0.60	12	Fe = 0.00	641	36	287	-	TTL

a Determined by addition of constituents.
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							MERCED COUNTY (con't)															
Merced Irr. District Irr.	7S/11E-4M1	7-31-58	66	456	7.9	21 1.03	9 0.73	63 2.76	5.3 0.14	0 0	207 3.40	25 0.52	24 0.65	11 0.17	0.2 0.01	0.80	37	Fe = 0.02	344	59	88	-	TTL
Merced Irr. District Irr.	7S/11E-14G1	7-24-58	66	493	7.8	36 1.79	12 0.98	55 2.37	2.4 0.06	0 0	258 4.24	13 0.27	14 0.39	22 0.35	0.5 0.026	0.60	46	Fe = 0.02	384	45	138	-	TTL
Merced Irr. District Irr.	7S/12E-1Q1	9-15-58	66	350	7.9	29 1.45	10 0.75	25 1.12	1.5 0.04	0 0	126 2.06	24 0.51	16 0.45	20 0.32	0.1 0.005	0.50	51	Fe = 0.01	248	33	110	-	TTL
Merced Irr. District Irr.	7S/12E-3F1	7-15-58	67	248	7.4	22 1.08	6 0.50	18 0.78	1.5 0.04	0 0	77 1.26	18 0.39	14 0.39	28 0.45	0.0 0.00	0.25	35	Fe = 0.00	176	29	79	-	TTL
Merced Irr. District Irr.	7S/12E-8E1	7-23-58	66	438	7.3	42 2.09	11 0.87	32 1.40	2.8 0.07	0 0	189 3.10	9 0.18	22 0.62	32 0.51	0.0 0.00	0.35	47	Fe = 0.00	324	31	148	-	TTL
Merced Irr. District Irr.	7S/12E-19A1	7-24-58	66	314	7.8	27 1.37	9 0.73	23 1.00	3.5 0.09	0 0	162 2.65	8 0.17	8 0.23	10 0.16	0.2 0.01	0.40	42	Fe = 0.01	244	31	105	-	TTL
Merced Irr. District Irr.	7S/13E-4P1	7-23-58	66	313	7.6	26 1.32	10 0.76	23 0.98	2.8 0.07	0 0	132 2.16	10 0.21	15 0.50	21 0.34	0.0 0.00	0.00	38	Fe = 0.00	234	31	104	-	TTL
Merced Irr. District Irr.	7S/13E-19H1	7-15-58	68	293	8.1	28 1.38	10 0.82	17 0.74	1.9 0.05	0 0	135 2.21	11 0.23	10 0.28	18 0.29	0.2 0.01	0.30	50	Fe = 0.01	218	24	110	-	TTL
Merced Irr. District Irr.	7S/13E-22C1	7-15-58	66	383	8.1	36 1.81	15 1.21	22 0.94	2.8 0.07	0 0	193 3.17	9 0.19	17 0.49	13 0.22	0.0 0.00	0.15	38	Fe = 0.00	284	23	151	-	TTL
Merced Irr. District Irr.	7S/14E-9R1	9-12-58	66	253	7.9	16 0.82	10 0.76	20 0.88	1.9 0.05	0 0	114 1.86	9 0.19	13 0.35	10 0.17	0.2 0.01	0.28	44	Fe = 0.01	184	35	79	-	TTL
Merced Irr. District Irr.	7S/14E-28J1	9-12-58	-	484	8.2	32 1.59	18 1.50	37 1.62	3.1 0.08	0 0	270 4.11	15 0.33	11 0.31	6 0.10	0.0 0.00	0.10	49	Fe = 0.01	364	34	154	-	TTL
Merced Irr. District Irr.	9S/14E-31M1	9-8-58	64	663	7.8	64 3.22	24 2.00	20 1.88	2.8 0.78	0 0	352 5.76	26 0.55	22 0.62	11 0.18	0.0 0.00	0.24	45	Fe = 0.01	494	26	261	-	TTL
Merced Irr. District Irr.	7S/15E-18K	9-12-58	68	327	7.6	21 1.06	15 1.24	22 0.94	4.2 0.11	0 0	162 2.65	15 0.33	11 0.32	8 0.14	0.2 0.01	0.20	49	Fe = 0.01	244	28	115	-	TTL
Merced Irr. District Irr.	7S/15E-30E1	9-11-58	66	703	7.9	50 2.52	33 2.70	53 2.28	2.8 0.07	0 0	282 4.62	90 1.87	16 0.45	40 0.64	0.1 0.005	0.70	34	Fe = 0.02	541	30	261	0	TTL
Merced Irr. District Irr.	7S/15E-34R1	9-11-58	66	315	8.0	23 1.13	12 0.96	22 0.96	3.5 0.09	0 0	150 2.46	4 0.08	12 0.34	9 0.14	0.2 0.01	0.76	36	Fe = 0.02	224	30	104	-	TTL
Gustine Drainage Dist. Irr.	8S/9E-16E1	8-4-58	-	903	7.7	65 3.23	30 2.47	83 3.60	0.7 0.02	0 0	343 5.61	111 2.33	53 1.51	13 0.21	0.4 0.02	0.76	11	Fe = 0.00	667	38	285		TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								MERCED COUNTY (con't)														
Merced Irr. District Irr.	8S/14E-2D1	9-9-58	68	307	8.2	17 0.85	13 1.05	28 1.20	2.4 0.06	0 0	160 2.62	4 0.09	11 0.30	5 0.08	0.1 0.005	0.66	30	Fe = 0.03	231	38	100	-	TTL
Merced Irr. District Irr.	8S/14E-24A1	9-12-58	--	384	7.9	32 1.61	13 1.09	24 1.03	5.7 0.15	0 0	215 3.51	11 0.22	7 0.21	5 0.08	0.0 0.00	0.18	49	Fe = 0.01	294	26	135	-	TTL
Merced Irr. District Irr.	8S/16E-17P1	9-16-58	66	440	8.3	39 1.93	23 1.90	20 0.88	3.9 0.10	8.4 0.28	238 3.90	13 0.27	10 0.28	3 0.04	0.1 0.005	0.68	40	Fe = 0.02	324	18	191	-	TTL
Gustine Drainage Dist. Irr.	9S/9E-5B1	8-4-58	--	976	7.8	50 2.49	31 2.56	114 4.96	1 0.03	0 0	396 6.50	86 1.80	60 1.69	13 0.22	0.4 0.02	0.8	17	Fe = 0.00	714	49	252	0	TTL
Central Cal. Irr. Dist. Irr.	9S/9E-21F1	7-31-58	--	778	7.8	42 2.13	27 2.23	94 4.10	1.5 .04	0 0	271 4.45	54 1.12	92 2.58	13 0.22	0.22 0.01	0.89	25	Fe = 0.00	564	48	218	-	TTL
State Game Refuge Irr. & Domestic	9S/10E-36H1	8-4-58	--	630	7.9	39 1.94	24 1.97	53 2.29	1 0.03	0 0	194 3.18	76 1.59	54 1.51	0.0 0.00	0.0 0.00	0.82	14	Fe = 0.02	441	36	195	-	TTL
Miller & Lux Irr.	9S/13E-31D1	8-1-58	--	1225	8.0	56 2.78	22 1.81	161 7.00	3.1 0.08	0 0	168 2.75	77 1.61	251 7.07	0.0 0.00	0.2 0.01	0.44	16	Fe = 0.01	804	60	229	-	TTL
Central Cal. Irr. Dist. Irr.	10S/10E-28D1	8-4-58	--	499	7.15	45 2.26	25 1.93	36 1.53	2.4 0.06	0 0	212 3.49	39 0.82	42 1.17	18 0.29	0.6 0.03	0.53	34	Fe = 0.00	391	26	209	-	TTL
Bisignani Bros. Irr.	10S/12E-6K1	8-18-58	--	672	7.6	31 1.57	18 1.53	62 2.70	1.5 0.04	0 0	146 2.40	48 1.01	83 2.32	0.0 0.00	0.17 0.01	0.00	29	Fe = 0.00	434	46	155	-	TTL
San Luis Canal Co. Irr.	10S/12E-25L	7-30-58	--	642	7.54	33 1.66	12 1.01	99 4.28	2.0 0.08	0 0	149 2.45	48 1.00	132 3.73	0.0 0.00	0.5 0.03	0.26	29	Fe = 1.00	469	60	133	-	TTL
Central Cal. Irr. Dist. Irr.	10S/12E-27K1	8-16-58	--	1701	8.1	84 4.20	36 3.00	229 9.95	3.9 0.10	14 0.45	156 2.57	106 2.21	422 11.91	0.0 0.00	0.10 0.01	0.35	31	Fe = 0.00	1141	57	360	-	TTL
Central Cal. Irr. Dist. Irr.	10S/12E-35K1	8-16-58	--	2100	2.6	86 4.32	41 3.42	316 13.75	4.6 0.12	0 0	183 3.00	132 2.75	534 15.04	8 0.13	0.0 0.00	0.89	30	Fe = 0.01	1414	64	387	-	TTL
R. Lindemann Irr.	11S/10E-23K1	8-4-58	--	3772	7.1	244 12.20	185 15.22	517 22.48	4.9 0.12	0 0	170 2.78	1043 21.73	860 24.24	73 1.18	0.8 0.04	1.6	22	Fe = 0.00	2946	44	1371	-	TTL
Sam Hamburg Irr.	12S/11E-3C1	8-4-58	--	1413	7.75	61 3.04	35 2.92	258 11.20	3.1 0.08	0 0	187 3.07	528 10.99	122 3.42	0.0 0.00	0.7 0.04	3.0	33	Fe = 0.00	1114	64	298	-	TTL

a Determined by addition of constituents.
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								MADERA COUNTY														
Roger Jessup Irr. Well	9S/15E-24F1	8-7-58	72	232	8.0	20 / 1.00	5.4 / 0.44	16 / 0.70	2.4 / 0.06	0 / 0	92 / 1.51	2.1 / 0.04	19 / 0.54	5.6 / 0.09	0.1 / 0.01	0.00	71	Fe = 0.00	187	32	72	0	DWR
Chowchilla Water Dept. Mun. Well	9S/16E-30C1	8-7-58	72	204	8.0	18 / 0.90	3.6 / 0.30	15 / 0.65	2.9 / 0.07	0 / 0	84 / 1.38	1.8 / 0.04	18 / 0.51	2.8 / 0.04	0.0 / 0.00	0.03	70	Fe = 0.00	174	34	60	0	DWR
Will Baker Irr. Well	9S/16E-35N1	8-7-58	67	344	8.2	33 / 1.65	7.9 / 0.65	24 / 1.04	1.8 / 0.05	0 / 0	156 / 2.56	3.3 / 0.07	21 / 0.59	10 / 0.16	0.1 / 0.01	0.00	46	Fe = 0.00	223	31	115	0	DWR
Red Top Ranch Irr. Well	10S/14E-8B1	8-7-58	67	491	7.8	46 / 2.30	11 / 0.94	37 / 1.61	4.0 / 0.10	0 / 0	224 / 3.67	5.9 / 0.12	30 / 0.85	15 / 0.24	0.1 / 0.01	0.00	68	Fe = 0.00	327	32	162	0	DWR
Ed Hughes Irr. Well	10S/14E-24B1	8-7-58	68	707	7.7	71 / 3.59	13 / 1.06	40 / 1.74	4.6 / 0.12	0 / 0	165 / 2.70	6.1 / 0.13	120 / 3.38	10 / 0.16	0.1 / 0.01	0.00	68	Fe = 0.00	414	27	230	95	DWR
Homer Probert Irr. Well	10S/15E-31A1	8-7-58	70	429	7.7	38 / 1.90	9.0 / 0.74	28 / 1.22	3.6 / 0.09	0 / 0	139 / 2.28	4.3 / 0.09	54 / 1.52	5.0 / 0.08	0.2 / 0.01	0.03	73	Fe = 0.00	283	31	132	18	DWR
Madera Country Club Irr. & Dom. Well	10S/17E-25N1	8-7-58	73	241	7.5	19 / 0.95	5.7 / 0.47	17 / 0.74	2.8 / 0.07	0 / 0	90 / 1.48	4.3 / 0.09	16 / 0.45	15 / 0.2	0.1 / 0.01	0.00	80	Fe = 0.01	204	33	71	0	DWR
Red Top Ranch Irr. Well	11S/14E-1A1	8-7-58	68	770	7.5	69 / 3.44	15 / 1.22	54 / 2.35	4.4 / 0.11	0 / 0	216 / 3.54	16 / 0.33	116 / 3.27	4.6 / 0.07	0.1 / 0.01	0.02	67	Fe = 0.00	452	33	233	56	DWR
G. O. Turnbrow Irr. Well	11S/14E-5B1	8-7-58	69	267	7.9	21 / 1.05	4.7 / 0.39	22 / 0.96	2.8 / 0.07	0 / 0	91 / 1.49	2.1 / 0.04	27 / 0.76	7.4 / 0.12	0.1 / 0.01	0.00	74	Fe = 0.00	206	39	72	0	DWR
G. O. Turnbrow Ent. Diamond T Ranch Irr. Well	11S/14E-16A1	8-7-58	70	340	7.7	28 / 1.40	6.1 / 0.50	27 / 1.17	3.0 / 0.08	0 / 0	119 / 1.95	4.8 / 0.10	32 / 0.90	11 / 0.18	0.1 / 0.01	0.00	76	Fe = 0.00	246	37	95	0	DWR
Henry B. Shein Irr. Well	11S/15E-23L1	8-7-58	69	368	7.8	31 / 1.55	10 / 0.83	28 / 1.22	3.0 / 0.08	0 / 0	180 / 2.95	4.3 / 0.09	18 / 0.51	7.3 / 0.12	0.2 / 0.01	0.00	70	Fe = 0.00	260	33	119	0	DWR
Red Top Ranch Irr. Well	11S/15E-29H1	8-7-58	69	432	8.3	37 / 1.85	11 / 0.91	35 / 1.52	3.0 / 0.08	4 / 0.13	184 / 3.02	6.9 / 0.14	33 / 0.93	4.2 / 0.07	0.2 / 0.01	0.00	74	Fe = 0.00	299	35	138	0	DWR
L. J. Peatman Irr. Well	11S/16E-22K1	8-7-58	70	294	8.1	24 / 1.20	8.0 / 0.66	22 / 0.96	3.2 / 0.08	0 / 0	129 / 2.11	3.8 / 0.08	20 / 0.56	5.4 / 0.09	0.3 / 0.02	0.00	74	Fe = 0.00	224	33	93	0	DWR
City of Madera Mun. Well	11S/17E-25B1	8-8-58	70	204	7.6	15 / 0.75	3.5 / 0.29	19 / 0.83	3.3 / 0.08	0 / 0	84 / 1.38	2.3 / 0.05	18 / 0.51	1.2 / 0.02	0.2 / 0.01	0.04	65	Fe = 0.00	169	42	52	0	DWR
Santa Fe Railroad Dom. Well	11S/18E-17H1	8-7-58	73	243	8.0	20 / 1.00	3.9 / 0.32	22 / 0.96	2.0 / 0.05	0 / 0	96 / 1.57	6.2 / 0.13	23 / 0.65	0.6 / 0.01	0.2 / 0.01	0.05	46	Fe = 0.00	171	41	66	0	DWR
Walter Jay Dom.	11S/18E-20E1	8-8-58	74	192	7.5	13 / 0.65	3.0 / 0.25	18 / 0.78	4.5 / 0.12	0 / 0	76 / 1.24	2.3 / 0.05	16 / 0.45	3.0 / 0.05	0.3 / 0.02	0.08	70	Fe = 0.00	168	43	45	0	DWR

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M									MADERA COUNTY (con't)													
Arvid Allon Irr.	12S/14E-17E1	8-6-58	66	321	7.3	8.8 / 0.44	0.5 / 0.04	58 / 2.52	0.5 / 0.01	0 / 0	118 / 1.93	9.2 / 0.19	34 / 0.96	0.0 / 0.00	0.2 / 0.01	0.08	30	Fe = 0.38	200	83	24	0	DWR
East Side Ranch Irr.	12S/14E-34H1	8-6-58	68	283	8.0	2.0 / 0.10	0.2 / 0.02	61 / 2.65	0.2 / 0.01	0 / 0	113 / 1.85	9.0 / 0.19	25 / 0.70	0.0 / 0.00	0.8 / 0.04	0.19	64	Fe = 0.02	218	96	6	0	DWR
Red Top Ranch Irr.	12S/15E-4K1	8-7-58	67	462	7.7	42 / 2.10	10 / 0.86	31 / 1.35	3.6 / 0.09	0 / 0	151 / 2.47	7.4 / 0.15	60 / 1.69	2.2 / 0.04	0.2 / 0.01	0.05	71	Fe = 0.00	301	31	148	24	DWR
Red Top Ranch Irr.	12S/15E-22F1	8-6-58	69	340	7.9	29 / 1.45	5.0 / 0.41	33 / 1.44	2.2 / 0.06	0 / 0	152 / 2.49	6.1 / 0.13	25 / 0.70	1.7 / 0.03	0.2 / 0.01	0.06	63	Fe = 0.00	239	43	93	0	DWR
Roy Sponer Irr.	12S/16E-25P1	8-6-58	70	237	7.3	17 / 0.85	5.7 / 0.47	23 / 1.00	2.0 / 0.05	0 / 0	114 / 1.87	10 / 0.21	8.9 / 0.25	0.5 / 0.01	0.2 / 0.01	0.00	81	Fe = 0.00	204	42	66	0	DWR
Beard Irr.	12S/17E-5R1	8-6-58	72	194	7.8	14 / 0.70	4.1 / 0.34	16 / 0.70	3.2 / 0.08	0 / 0	78 / 1.28	0.2 / 0.01	18 / 0.51	0.6 / 0.01	0.3 / 0.02	0.00	70	Fe = 0.02	164	38	52	0	DWR
Sheeman Thomas Irr.	12S/17E-7F1	9-15-58	--	512	8.1	47 / 2.37	13 / 1.05	40 / 1.76	5.3 / 0.14	0 / 0	179 / 2.93	58 / 1.20	35 / 0.47	3 / 0.05	0.3 / 0.02	0.00	58	Fe = 0.00	374	33	171	--	TTL
Iverson & Carlton Irr.	12S/18E-14J1	8-5-58	72	286	7.3	19 / 0.95	7.7 / 0.63	20 / 0.87	3.7 / 0.09	0 / 0	79 / 1.29	11 / 0.23	27 / 0.76	15 / 0.24	0.3 / 0.02	0.00	81	Fe = 0.00	224	34	79	14	DWR
Columbia Canal Co. Irr.	13S/15E-22J1	8-8-58	--	156	8.14	0.2 / 0.01	0.0 / 0.00	39 / 1.70	0.7 / 0.02	0 / 0	93 / 1.51	1 / 0.03	9 / 0.25	0 / 0.00	0.6 / 0.03	0.26	30	Fe = 0.10	124	98	1	--	TTL
Kenneth Seibert Irr.	13S/16E-2C1	8-6-58	70	282	8.1	20 / 1.00	4.4 / 0.36	29 / 1.26	1.6 / 0.04	0 / 0	129 / 2.11	3.3 / 0.07	16 / 0.45	1.0 / 0.02	0.2 / 0.01	0.12	83	Fe = 0.00	222	47	68	0	DWR
George Roborte Irr.	13S/17E-5P1	8-6-58	80	265	7.9	20 / 1.00	6.3 / 0.52	26 / 1.13	2.4 / 0.06	0 / 0	113 / 1.85	8.2 / 0.17	24 / 0.68	2.8 / 0.04	0.2 / 0.01	0.00	80	Fe = 0.00	226	42	76	0	DWR

a Determined by addition of constituents.
b Gravimetric determination.
c Analysis by U.S Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								FRESNO COUNTY														
Dos Palos Drainage District Drain	11S/12E-13J1	8-16-58	-	1570	8.1	83 / 4.15	38 / 3.12	168 / 7.30	6.9 / 0.18	0 / 0	131 / 2.15	87 / 1.81	381 / 10.77	3 / 0.05	0 / 0	0.3	21	Fe=0.70	1004	49	363	-	TTL
Central California Irrigation District Irr.	11S/13E-17F1	8-16-58	-	1084	7.9	30 / 1.52	24 / 1.99	180 / 7.83	3.1 / 0.08	0 / 0	164 / 2.69	76 / 1.59	249 / 7.03	0 / 0	0.2 / 0.01	0.53	26	Fe=0.10	744	68	175	-	TTL
Miller and Lux Inc. Irr.	11S/13E-36B1	8-12-58	-	1082	7.98	8 / 0.38	21 / 1.70	189 / 8.22	1.9 / 0.05	0 / 0	139 / 2.28	95 / 1.99	202 / 5.70	0 / 0	0.2 / 0.01	0.35	44		714	79	104	0	TTL
Floyd Redern Red Fern Ranch Irr.	12S/13E-9C1	8-22-58	-	3725	7.9	140 / 6.99	99 / 8.19	589 / 25.60	4.6 / 0.12	0 / 0	194 / 3.18	1170 / 22.43	535 / 15.07	0 / 0	.04 / 0.02	3.8	24	Fe=0.01	2614	62	759	-	TTL
J. Indart Irr.	12S/14E-29B1	8-12-58	-	1191	7.97	40 / 2.01	33 / 2.71	147 / 6.39	3.5 / 0.09	0 / 0	110 / 1.80	163 / 3.40	218 / 6.15	0 / 0	0.3 / 0.02	0.44	36	Fe=0.1	781	57	236	-	TTL
Pinedale Water Co. Irr.	12S/20E-32J1	7-28-58	-	240	7.8	19 / 0.95	7.9 / 0.65	15 / 0.65	3.6 / 0.09	0 / 0	111 / 1.82	1.8 / 0.04	7.7 / 0.22	14 / 0.22	0.2 / 0.01	0.00	58	Fe=0.00	181	28	80	0	DWR
B. Barber Irr.	12S/21E-31P1	7-31-58	66	310	8.0	27 / 1.35	15 / 1.25	12 / 0.52	2.2 / 0.06	0 / 0	161 / 2.64	9.7 / 0.20	5.3 / 0.15	8.5 / 0.14	0.0 / 0.00	0.05	47	Fe=0.04	206	16	130	0	DWR
Irrigation	13S/14E-34M1	6-25-58	71	4760	7.5	125 / 6.24	223 / 18.36	656 / 28.54	11 / 0.28	0 / 0	222 / 3.64	1420 / 29.56	740 / 20.87	8.9 / 0.14	0.6 / 0.03	2.8	48	Fe=0.00	3340	53	1230	1048	USGS
Locke Bros. Irr.	13S/15E-18L1	8-12-58	-	528	7.7	2 / 0.10	1 / 0.05	115 / 5.00	1.5 / .04	0 / 0	128 / 2.10	56 / 1.16	61 / 1.73	0 / 0	0.8 / 0.04	0.26	52	Fe=0.02	367	96	7	-	TTL
Fresno State College Dom.	13S/20E-12L1	7-29-58	70	214	7.5	16 / 0.08	9.5 / 0.78	11 / 0.48	2.1 / 0.05	0 / 0	110 / 1.80	1.6 / 0.03	4.4 / 0.12	6.8 / 0.11	0.2 / 0.01	0.00	54	Fe=0.00	160	23	79	0	DWR
City of Fresno Mun.	13S/20E-27J1	7-29-58	70	213	7.9	14 / 0.70	8.3 / 0.68	14 / 0.61	3.8 / 0.10	0 / 0	104 / 1.70	4.6 / 0.10	4.2 / 0.12	9.9 / 0.16	0.2 / 0.01	0.00	65	Fe=0.00	175	29	69	0	DWR
Handereon Nursery Irr.	13S/21E-15N2	7-29-58	70	163	7.8	9.3 / 0.46	6.1 / 0.50	13 / 0.56	1.6 / 0.04	0 / 0	81 / 1.33	3.1 / 0.06	2.8 / 0.08	5.5 / 0.09	0.3 / 0.02	0.00	44	Fe=0.09	126	36	48	0	DWR
Pappas and Company Irr.	14S/13E-12N1	6-24-58	83	1150	7.7	19 / 0.95	4.0 / 0.33	237 / 10.31	4.0 / 0.10	0 / 0	262 / 4.29	261 / 5.43	70 / 1.97	0.4 / 0.01	0.5 / 0.03	1.1	64	Fe=0.00	790	88	64	0	USGS
Employees Enterprises Irr.	14S/13E-21N1	6-25-58	88	2300	7.6	78 / 3.89	84 / 6.91	322 / 14.01	5.6 / 0.14	0 / 0	210 / 3.44	874 / 18.20	140 / 3.95	1.7 / 0.03	0.6 / 0.03	3.5	46	Fe=0.00	1660	56	540	368	USGS
Employees Enterprisee Irr.	14S/13E-22N1	6-25-58	88	1920	7.8	46 / 2.30	40 / 3.30	311 / 13.53	4.4 / 0.11	0 / 0	218 / 3.57	607 / 12.64	115 / 3.24	1.1 / 0.02	0.5 / 0.03	2.5	46	Fe=0.00	1280	70	280	101	USGS
Pilibos Bros. Irr.	14S/13E-25N1	6-25-58	88	2120	7.8	53 / 2.64	34 / 2.76	362 / 15.75	4.4 / 0.11	0 / 0	198 / 3.25	614 / 12.78	175 / 4.94	4.3 / 0.07	0.6 / 0.03	2.1	46	Fe=0.00	1390	74	270	108	USGS

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					FRESNO COUNTY (Cont.)																	
Pappas and Co.	14S/14E-9M1	6-24-58	82	1860	7.7	58 / 2.89	18 / 1.51	337 / 14.66	3.6 / 0.09	0 / 0	204 / 3.34	561 / 11.68	155 / 4.37	3.5 / 0.06	0.6 / 0.03	1.50	41		1280	77	220	53	USGS
Vista Del Llano	14S/14E-11N1	6-24-58	-	4040	7.4	188 / 9.38	153 / 12.62	569 / 24.75	11 / 0.28	0 / 0	216 / 3.54	1360 / 28.32	525 / 14.80	1.8 / 0.03	0.4 / 0.02	2.10	42	Fe=0.00	2960	53	1100	923	USGS
Jack Scanee	14S/14E-12N1	6-24-58	80	2320	7.6	52 / 2.59	6.7 / 0.55	445 / 19.36	8.0 / 0.20	0 / 0	178 / 2.92	576 / 11.99	280 / 7.90	4.5 / 0.07	0.5 / 0.03	1.50	68	Fe=0.00	1530	85	157	11	USGS
William Giacone	14S/14E-17Q1	6-24-58	83	2300	7.4	131 / 6.54	76 / 6.26	289 / 12.51	12 / 0.31	0 / 0	230 / 3.77	778 / 16.20	225 / 6.35	4.6 / 0.07	0.5 / 0.03	1.90	72	Fe=0.01	1700	49	640	451	USGS
Murietta Farms	14S/14E-28E1	6-25-58	77	2080	7.6	99 / 4.94	105 / 8.66	225 / 9.79	7.2 / 0.18	0 / 0	214 / 3.51	806 / 16.78	130 / 3.67	2.6 / 0.04	0.5 / 0.03	2.20	50		1530	42	680	505	USGS
Murietta Farms	14S/14E-33N1	6-25-58	78	1640	7.6	88 / 4.39	80 / 6.61	190 / 8.27	6.0 / 0.15	0 / 0	222 / 3.64	676 / 14.07	80 / 2.26	0.4 / 0.01	0.5 / 0.03	3.00	45	Fe=0.00	1280	43	550	368	USGS
L.A. and J.W. Jones Irr.	14S/15E-31N1	6-25-58	74	7410	7.3	388 / 19.36	227 / 18.64	1200 / 52.20	18 / 0.46	0 / 0	266 / 4.36	2690 / 56.01	1040 / 29.33	1.5 / 0.02	0.6 / 0.03	3.40	40	Fe=0.01	5740	58	1900	1680	USGS
Employees Enterprises Irr.	15S/12E-1N1	6-23-58	82	3560	7.2	101 / 5.04	58 / 4.76	648 / 28.19	10 / 0.26	0 / 0	202 / 3.31	1310 / 27.27	242 / 6.82	8.4 / 0.14	0.6 / 0.03	3.60	44	Fe=0.01	2530	74	490	324	USGS
Employees Enterprises Irr.	15S/13E-5R1	6-25-58	91	1340	7.5	45 / 2.25	31 / 2.55	225 / 9.79	4.8 / 0.12	0 / 0	186 / 3.05	438 / 9.12	70 / 1.97	1.3 / 0.07	0.5 / 0.03	2.30	42		952	67	240	87	USGS
F.A. Yearout	15S/14E-36Q2	6-25-58	89	1580	7.5	35 / 1.75	5.0 / 0.41	289 / 12.57	2.0 / 0.05	0 / 0	114 / 1.87	518 / 10.78	85 / 2.40	2.6 / 0.04	0.8 / 0.04	1.60	28	Fe=0.01	1020	85	103	15	USGS
Pucheu	15S/15E-20N2	7-16-58	-	1392	8.05	45 / 2.24	10 / 0.84	256 / 11.13	4.2 / 0.11	0 / 0	220 / 3.60	423 / 8.80	59 / 1.66	4 / 0.06	0.4 / 0.02	1.40	35	Fe=0.02	999	77	154	-	USGS
Reece Bros.	15S/15E-25N1	9-16-58	-	2465	8.0	169 / 8.44	127 / 10.48	249 / 10.86	4.9 / 0.13	0 / 0	159 / 2.60	1107 / 23.04	135 / 3.80	0 / 0	0.4 / 0.02	1.40	26	Fe=0.01	1846	36	946	-	USGS
Reece Bros.	15S/15E-27N1	6-26-58	74	1690	7.6	119 / 5.94	105 / 8.66	123 / 5.35	4.6 / 0.12	0 / 0	174 / 2.85	710 / 14.78	70 / 1.97	1.3 / 0.02	0.4 / 0.02	0.80	39	Fe=0.01	1260	27	730	587	USGS
Reece Bros.	15S/15E-35N1	6-26-58	75	1770	7.4	123 / 6.14	110 / 2.06	131 / 5.70	4.2 / 0.11	0 / 0	150 / 2.46	768 / 15.99	62 / 1.75	1.1 / 0.02	0.3 / 0.02	0.90	40	Fe=0.01	1310	27	760	637	USGS
Edmund Joste	15S/17E-1H1	7-30-58	72	631	8.1	58 / 2.89	18 / 1.51	32 / 1.39	9.9 / 0.25	0 / 0	175 / 2.87	27 / 0.56	81 / 2.28	14 / 0.22	0.2 / 0.01	0.05	83	Fe=0.01	409	23	220	76	DWR
Sunset International Dom.	15S/17E-11P1	7-30-58	102	571	8.1	52 / 2.59	13 / 1.05	42 / 1.83	4.1 / 0.10	0 / 0	170 / 2.79	21 / 0.44	80 / 2.26	4.0 / 0.06	0 / 0	0.07	60	Fe=0.01	360	33	182	43	DWR

a. Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Lab. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M							FRESNO COUNTY (Cont.)															
	15S/17E-12J1	7-31-58	72	592	8.1	46 / 2.30	19 / 1.56	37 / 1.61	8.6 / 0.22	0 / 0	167 / 2.74	26 / 0.54	76 / 2.14	11 / 0.18	0.1 / 0.01	0.07	77	Fe=0.01	383	28	193	56	DWR
Seaboard Oil Co. Dom.	15S/17E-13R1	7-30-58	78	360	7.7	15 / 0.75	3.0 / 0.25	53 / 2.30	6.3 / 0.16	0 / 0	133 / 2.18	4.8 / 0.10	39 / 1.10	3.6 / 0.06	0.2 / 0.01	0.06	73	Fe=0.10	263	66	50	0	DWR
Seaboard Oil Co. and Ind.	15S/17E-14G1	7-30-58	89	456	8.5	6.6 / 0.33	0.1 / 0.01	90 / 3.92	3.6 / 0.09	8 / 0.27	138 / 2.26	2.3 / 0.05	64 / 1.80	1.0 / 0.02	0.3 / 0.02	0.16	66	Fe=0.01	302	90	17	0	DWR
Signal Oil Co. Dom.	15S/17E-15B1	7-30-58	74	656	7.9	42 / 2.10	8.8 / 0.72	71 / 3.09	7.0 / 0.18	0 / 0	148 / 2.42	26 / 0.54	105 / 2.96	2.6 / 0.04	0.2 / 0.01	0.08	67	Fe=0.01	403	51	141	20	DWR
Nobel Irr.	15S/17E-15F1	7-30-58	72	745	8.1	15 / 0.75	2.3 / 0.19	135 / 5.87	5.0 / 0.13	0 / 0	172 / 2.82	26 / 0.54	127 / 3.58	2.9 / 0.05	0.3 / 0.02	0.52	69	Fe=0.02	468	84	47	0	DWR
Nobel Irr.	15S/17E-15H1	7-31-58	74	1080	8.0	12 / 0.60	1.4 / 0.12	214 / 0.31	5.3 / 0.14	0 / 0	252 / 4.13	24 / 0.50	202 / 5.70	0.1 / 0.01	0.4 / 0.02	1.80	67	Fe=0.00	652	92	36	0	DWR
Guy Bixby Irr.	15S/20E-10D3	7-30-58	72	619	8.1	41 / 2.04	26 / 2.14	54 / 2.35	3.3 / 0.08	0 / 0	324 / 5.31	9.0 / 0.19	35 / 0.99	3.5 / 0.06	0.1 / 0.01	0.12	55	Fe=0.00	390	37	0	209	DWR
William Deal Irr.	16S/14E-10Q1	6-26-58	90	1570	7.6	90 / 4.49	25 / 2.06	237 / 10.30	4.0 / 0.10	0 / 0	110 / 1.80	634 / 13.20	50 / 1.41	0.9 / 0.01	0.4 / 0.02	1.80	26		1120	61	330	240	USGS
F.A. Yearout Irr.	16S/15E-8N1	6-26-58	79	1450	7.5	83 / 4.14	62 / 5.06	146 / 6.35	3.8 / 0.10	0 / 0	194 / 3.18	499 / 10.39	62 / 1.75	1.8 / 0.03	0.2 / 0.01	1.20	36	Fe=0.01	991	41	460	301	USGS
Vista Del Llana Irr.	16S/15E-25Q1	6-26-58	80	1800	7.7	108 / 5.39	90 / 7.41	173 / 7.53	4.8 / 0.12	0 / 0	166 / 2.72	749 / 15.59	85 / 2.40	5.8 / 0.09	0.2 / 0.01	1.20	39	Fe=0.01	1340	37	640	504	USGS
Rabb Bros. Irr.	16S/16E-9N1	6-26-58	75	1540	7.4	95 / 4.74	30 / 2.46	186 / 8.09	4.6 / 0.12	0 / 0	148 / 2.43	538 / 11.20	75 / 2.12	0.4 / 0.01	0.5 / 0.03	1.50	42	Fe=0.01	1050	52	360	239	USGS
Vista Del Llano Irr.	16S/16E-20N1	6-26-58	75	1900	7.4	130 / 6.49	130 / 10.71	134 / 5.83	3.7 / 0.09	0 / 0	176 / 2.88	864 / 17.99	60 / 1.69	32 / 0.52	0.5 / 0.03	0.90	44	Fe=0.01	1490	25	860	716	USGS
Vista Del Llano Irr.	17S/16E-18E1	6-26-58	89	1380	8.0	32 / 1.60	7.3 / 0.60	246 / 10.70	2.0 / 0.05	0 / 0	84 / 1.38	422 / 8.79	95 / 2.68	2.6 / 0.04	0.6 / 0.03	2.20	21	Fe=0.01	872	83	110	41	USGS
Harnish Bros. Irr.	17S/16E-24N1	6-26-58	79	1540	8.1	111 / 5.54	32 / 2.66	188 / 8.18	3.4 / 0.09	0	122 / 2.00	614 / 12.78	60 / 1.69	0.4 / 0.01	0.3 / 0.02	1.00	27		1100	50	410	310	USGS
H.W. Deavenport Irr.	17S/17E-23Q1	6-26-58	76	1250	8.0	66 / 3.29	21 / 1.71	186 / 8.09	2.4 / 0.06	0 / 0	121 / 1.98	470 / 9.79	46 / 1.30	0.0 / 0.00	0.2 / 0.01	0.90	26		878	62	250	151	USGS
H.W. Deavenport Irr.	17S/17E-27R1	6-26-58	76	1350	7.9	86 / 4.29	25 / 2.06	177 / 7.69	2.4 / 0.06	0 / 0	105 / 1.72	518 / 10.76	51 / 1.44	0 / 0	0.2 / 0.01	0.80	24	Fe=0.00	936	55	316	230	USGS

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					FRESNO COUNTY (Cont.)																	
Harris Farms Irr.	18S/16E-24N1	6-28-58	95	2770	7.9	106 5.29	2.8 0.23	470 20.44	4.5 0.11	0 0	64 1.15	254 5.29	695 19.60	0.3 0.01	0.5 0.03	1.5	25	Fe=0.00	1590	78	276	224	USGS
F.C. Diener Irr.	18S/17E-13N1	6-26-58	86	1100	8.1	24 1.20	1.9 0.16	200 8.70	1.2 0.03	0 0	102 1.67	240 5.00	119 3.36	0.00 0	0.2 0.01	1.4	24	Fe=0.00	662	86	68	0	USGS
F.C. Diener Irr.	18S/17E-13Q1	9-16-58	-	1114	7.8	24 1.20	1 0.10	213 9.24	1 0.03	0 0	105 1.72	253 5.27	122 3.44	0 0	0.5 0.03	1.3	16	Fe=0.0	748	87	65	-	USGS
Benson Irr.	18S/17E-30P1	6-27-58	91	2530	7.6	58 2.89	3.8 .31	608 26.45	3.2 0.08	0 0	107 1.75	480 9.99	616 17.37	0.5 0.01	0.3 0.02	1.9	32	Fe=0.00	1860	89	160	72	USGS
Calfax Irr.	18S/17E-33N1	6-7-28	84	2810	7.6	89 4.44	54 4.40	466 20.27	4.8 0.12	0 0	162 2.66	509 10.60	564 15.90	0.5 0.01	0.4 0.02	1.4	31	Fe=0.00	1800	69	442	309	USGS
O'Neil Farms Irr.	19S/17E-9N1	6-27-58	80	1780	8.1	107 5.34	89 7.30	177 7.70	4.4 0.11	0 0	149 2.44	725 15.09	86 2.43	1.6 0.03	0.2 0.01	0.9	28		1290	38	632	510	USGS
Giffen Inc. Irr.	19S/17E-13N1	6-27-58	81	1370	8.1	67 3.34	53 4.38	145 6.31	3.6 0.9	0 0	158 2.59	461 9.60	58 1.64	0.5 0.01	0.3 0.02	0.8	30	Fe=0.00	897	45	386	256	USGS
Boston Land Co. Irr.	19S/18E-23D2	6-27-58	88	1570	7.9	34 1.70	7.5 0.62	289 12.57	2.0 0.05	0 0	203 3.33	206 4.29	254 7.16	1.1 0.02	0.4 0.02	1.8	25	Fe=0.00	921	84	116	0	USGS
Allen Irr.	20S/15E-25D2	6-27-58	73	2230	8.0	101 5.04	119 9.76	243 10.57	5.2 0.13	0 0	201 329	835 17.38	158 4.46	10 0.16	0.4 0.02	2.1	33	Fe=0.00	1610	41	740	575	USGS
	20S/15E-26M1	6-27-58	70	2160	7.8	94 4.69	114 9.39	243 10.57	5.6 0.14	0 0	240 3.93	797 16.59	111 3.13	65 1.05	0.3 0.02	1.3	25	Fe=0.00	1570	43	704	507	USGS
Shell Oil Co. Irr.	20S/16E-4P1	6-27-58	82	1830	7.9	60 2.99	32 2.65	300 13.05	3.2 0.08	0 0	83 1.36	677 14.10	113 3.19	0.0 0.0	0.2 0.01	1.5	14	Fe=0.00	1240	70	282	214	USGS
Giffen Inc. Irr.	20S/17E-9R1	6-27-58	78	2700	8.0	176 8.78	157 12.92	259 11.27	6.6 0.17	0 0	150 2.46	1230 25.61	136 3.84	53 0.85	0.4 0.02	0.9	29	Fe=0.00	2120	34	1080	957	USGS
Paul Kucher Irr.	20S/17E-11N1	6-27-58	78	1470	8.3	74 3.69	67 5.51	165 7.18	4.4 0.11	2 0.07	172 2.82	562 11.70	54 1.52	2.2 0.09	0.3 0.02	0.9	30	Fe=0.00	1050	44	460	316	USGS
S. and V. Thomas Irr.	20S/17E-36D1	6-27-58	-	1320	8.0	74 3.69	49 4.01	145 6.31	3.0 0.08	0 0	128 2.10	506 10.53	40 1.13	18 0.29	0.2 0.01	0.6	30	Fe=0.00	929	45	385	280	USGS
Boston Land Co. Irr.	20S/18E-24D1	9-16-58	-	2002	8.2	18 0.90	7 0.60	407 17.70	2.4 0.06	0 0	309 5.06	62 1.30	447 12.59	0 0	0.4 0.02	1.6	21	Fe=0.01	1344	91	75	-	USGS

a Determined by addition of constituents
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Mineral constituents in parts per million / equivalents per million (each cell: ppm / epm)

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
								TULARE COUNTY															
	MDB&M																						
A. Castiko Dom.	18S/24E-19M1	8-6-58	74	222	8.1	18 / 0.90	0.5 / 0.04	31 / 1.35	0.6 / 0.02	0 / 0.00	126 / 2.06	4.6 / 0.10	5.1 / 0.14	1.7 / 0.03	0.2 / 0.01	0.06	24	Fe = 0.00	148	58	47	0	DWR
Jinette Bros. Dom.	19S/23E-24G1	8-6-58	70	241	8.1	36 / 1.80	1.0 / 0.08	13 / 0.56	0.4 / 0.01	0 / 0	131 / 2.15	9.8 / 0.08	6.1 / 0.17	5.3 / 0.08	0.2 / 0.01	0.02	20	Fe = 0.00	150	23	94	0	DWR
J. Lewis	19S/25E-31J1	8-7-58	74	191	8.1	25 / 1.25	3.0 / 0.25	10 / 0.44	1.5 / 0.04	0 / 0	112 / 1.84	3.0 / 0.06	2.1 / 0.06	1.6 / 0.02	0.1 / 0.01	0.00	16	Fe = 0.00	117	22	75	0	DWR
City of Exeter Dom.	19S/26E-3K1	9-17-58	—	471	8.3	38 / 1.91	13 / 1.10	41 / 1.79	2.8 / 0.07	0 / 0	194 / 3.18	18 / 0.38	43 / 1.21	10 / 0.17	0.2 / 0.01	0.00	32	Fe = 0.00	344	36	150	0	TTL
Harris & Cade Irr.	20S/23E-27P	8-6-58	70	246	8.1	24 / 1.20	0.5 / 0.04	30 / 1.30	0.6 / 0.02	0 / 0	123 / 2.02	13 / 0.27	6.1 / 0.17	4.2 / 0.07	0.1 / 0.01	0.00	20	Fe = 0.01	158	51	62	0	DWR
Wayne Murray	22S/23E-6A1	8-11-58	75	2850	7.7	301 / 15.02	3.9 / 0.32	308 / 13.40	1.5 / 0.04	0 / 0	300 / 4.92	264 / 5.50	657 / 18.53	1.0 / 0.02	0.4 / 0.02	0.10	34		1720	46	768	522	DWR
Kaye Silvaeian	22S/23E-7A2	9-6-58	—	2563	7.2	147 / 7.36	32 / 2.62	373 / 16.20	2.8 / 0.07	0 / 0	795 / 13.04	266 / 5.54	278 / 7.83	4 / 0.06	0 / 0	0.60	32	Fe = 0.04	1844	61	499		TTL
Ralph Burke Dom.	23S/27E-21H	8-6-58	75	682	8.2	50 / 2.50	13 / 1.10	67 / 2.91	2.6 / 0.07	0 / 0.00	183 / 3.00	54 / 1.12	48 / 1.35	59 / 0.95	0.4 / 0.02	0.0	23		408	44	180	30	DWR
H. Mitchell Irr.	24S/23E-8D	8-5-58	77	578	7.7	18 / 0.90	4.1 / 0.34	86 / 3.74	3.8 / 0.10	0 / 0.00	210 / 3.44	1.6 / 0.03	73 / 2.06	0.7 / 0.01	0.7 / 0.04	0.20	35		326	68	62	0	DWR
M. Gutinich Irr.	24S/27E-32F1	8-5-58	84	468	8.4	3.2 / 0.16	0.2 / 0.02	96 / 4.18	1.8 / 0.05	5 / 0.17	152 / 2.49	26 / 0.54	40 / 1.13	2.0 / 0.03	0.6	0.93	59		310	95	9	0	DWR
J. Aquiav Dom.	17S/23E-8H1	8-6-58	69	1930	8.1	72 / 3.59	62 / 5.12	209 / 0.09	4.2 / 0.11	0 / 0	276 / 4.52	118 / 2.46	332 / 9.36	77 / 1.24	0.1 / 0.01	0.00	55	Fe = 0.00	1060	51	436	210	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
						Mineral constituents in parts per million / equivalents per million																	
	SBB&M								KERN COUNTY														
Tejon Ranch Dom.	11N/18W-14H1	8-22-58	72	545	7.9	59 2.95	17 1.41	22 0.95	3.1 0.08	0 0	224 3.66	55 1.15	14 0.39	10 0.16	0.5 0.03	0.53	26	Fe = 0.00	394	17	218	35	TTL
Tejon Ranch Dom. & Irr.	11N/19W-25F1	8-22-58	68	545	8.1	55 2.37	18 1.46	34 1.48	2.8 0.07	0 0	249 4.09	46 0.96	23 0.64	6 0.10	0.6 0.03	0.74	19	Fe = 0.02	409	25	209	5	TTL
Walter D. Fry Irr.	11N/20W- 8R1	8-22-58	78	1537	8.0	148 7.39	42 3.45	154 6.70	8.8 0.23	0 0	140 2.30	646 13.44	52 1.46	11 0.17	0.8 0.04	0.88	23	Fe = 0.02	1144	37	542	427	TTL
Kern County Rock Co. Ind.	11N/20W-25K1	7-30-58	--	1930	7.6	187 9.33	60 4.93	176 7.66	11 0.28	0 0	126 2.06	867 18.05	49 1.38	44 0.71	0.1 0.00	0.40	23		1480	34	714	611	DWR
		8-22-58	80	1979	8.2	196 9.79	46 3.75	192 8.35	12.4 0.32	0 0	134 2.20	896 17.54	52 1.46	54 0.87	0.7 0.03	1.08	18	Fe = 0.08	1484	37	667	567	TTL
R. Hildebrand Irr.	12N/19W-33R1	8-22-58	72	403	8.0	26 1.29	10 0.80	39 1.68	3.1 0.08	0 0	171 2.80	30 0.62	12 0.32	5 0.08	0.2 0.01	0.26	14	Fe = 0.00	291	43	104	0	TTL
Standard Oil Co. Irr.	12N/21W-33N1	8-22-58	78	1595	8.1	177 8.84	33 2.71	127 5.50	8 0.20	0 0	104 1.70	693 14.42	33 0.92	12 0.20	1 0.05	0.44	22	Fe = 0.00	1164	31	577	492	TTL
	MDB&M																						
K. K. Ranch Irr.	25S/18E- 2N2	8-13-58	69	4610	7.9	180 8.98	260 21.39	633 27.54	5.0 0.13	0 0	397 6.51	2090 43.51	270 7.61	21 0.34	0.9 0.05	5.6	36	Fe = 0.00	3700	47	1520	1190	DWR
A. M. Baker Ind.	25S/18E- 3N2	8-13-58	70	3230	7.9	195 9.73	180 14.85	294 12.79	7.4 0.19	0 0	221 3.62	1020 21.24	438 12.35	16 0.26	0.6 0.03	2.0	37	Fe = 0.00	2300	34	1230	1050	DWR
K. K. Ranch Irr.	25S/19E- 6D2	8-12-58	79	3880	8.1	143 7.14	173 14.24	521 22.66	22 0.56	0 0	231 3.79	1390 28.94	424 11.96	5.5 0.09	0.6 0.03	2.6	71	Fe = 0.00	2870	51	1070	881	DWR
K. K. Ranch Irr.	25S/19E- 7P1	8-12-58	77	5150	7.8	156 7.78	258 21.19	780 33.93	16 0.41	0 0	400 6.56	2230 46.43	401 11.31	7.9 0.13	0.7 0.04	7.3	70	Fe = 0.00	4120	54	1450	1120	DWR
C. Fiarini Irr.	25S/24E-27R1	8-20-58	72	521	7.8	43 2.13	6 0.46	51 2.20	0.7 0.02	0 0	66 1.08	123 2.57	36 1.00	14 0.23	0.2 0.01	0.26	46	Fe = 0.00	358	46	129	75	TTL
Mid-State Hort. Co. Irr.	25S/26E- 1R1	8-20-58	78	334	8.0	16 0.78	1 0.11	56 2.45	3.1 0.08	0 0	96 1.56	24 0.50	25 0.70	16 0.27	0.5 0.03	0	24	Fe = 0.00	236	81	44	0	TTL
M. Caratan Irr.	25S/26E-16J1	8-20-58	78	369	8.2	21 1.05	3 0.27	53 2.23	2.8 0.07	0 0	113 1.85	37 0.77	23 0.66	23 0.36	0.2 0.01	0.08	32	Fe = 0.00	264	62	66	0	TTL
Nelson G. Smith Dom. & Stock	26S/27E- 9G1	8-20-58	80	1804	8.2	150 7.52	64 5.26	108 4.68	12.8 0.33	0 0	151 2.48	484 10.09	202 5.67	1.0 0.01	0 0	0.26	50	Fe = 0.00	1232	26	639	515	TTL
Tidewater Oil Co. Ind.	27S/20E-34G1	8-13-58	—	4870	8.0	18 0.90	23 1.86	1060 46.11	32 0.82	0 0	900 14.75	468 9.74	924 26.06	3.4 0.05	0.4 0.02	7.7	62	Fe = 0.60	3040	93	138	0	DWR
E. A. Meyer Irr.	27S/22E- 2Q2	8-13-58	78	2560	7.4	76 3.79	1.6 0.13	438 19.05	1.4 0.04	0 0	64 1.05	6.2 0.13	766 21.60	1.0 0.02	1.1 0.06	0.97	22	Fe = 0.03	1350	83	196	144	DWR

a Determined by addition of constituents
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M								KERN COUNTY (Cont.)														
Robert Leurand Irr.	27S/23E-27J1	8-13-58	74	214	9.1	2.7 / 0.13	0 / 0	41 / 1.78	0.3 / 0.01	17 / 0.57	33 / 0.54	16 / 0.33	17 / 0.48	1.0 / 0.02	0.3 / 0.02	0.07	25	Fe = 0.05	136	93	6	0	DWR
Kern County Land Co. Irr.	27S/24E- 5H1	8-21-58	76	170	8.2	5 / 0.23	0 / 0	28 / 1.20	0.3 / 0.01	0 / 0	58 / 0.95	10 / 0.20	10 / 0.28	2 / 0.04	0.2 / 0.01	0.18	14	Fe = 0.00	116	83	11	0	TTL
Charles West Irr.	27S/26E-27H1	8-20-58	70	524	8.2	46 / 2.30	9 / 0.72	33 / 1.45	2.8 / 0.07	0 / 0	122 / 2.00	21 / 0.45	62 / 1.75	13 / 0.21	0 / 0	0.35	24	Fe = 0.00	334	31	151	51	TTL
Houchin Irr. & Dom.	28S/22E-36N1	8-12-58	72	705	8.1	42 / 2.10	0.7 / 0.06	106 / 4.61	0.8 / 0.02	0 / 0	218 / 3.57	99 / 2.06	40 / 1.13	1.4 / 0.02	0.2 / 0.01	0.35	19	Fe = 0.01	416	68	108	0	DWR
Crawford Irr.	28S/23E-25P1	8-13-58	72	337	7.6	11 / 0.55	0.4 / 0.03	53 / 2.30	0.2 / 0.00	0 / 0	51 / 0.84	48 / 1.00	34 / 0.96	5.4 / 0.09	0.2 / 0.01	0.06	19	Fe = 0.00	196	80	29	0	DWR
Bill Issac Irr.	28S/25E-17L1	8-21-58	74	194	8.1	8 / 0.42	1 / 0.08	33 / 1.43	0.7 / 0.02	0 / 0	86 / 1.42	6 / 0.13	12 / 0.32	2 / 0.03	0.2 / 0.01	0.1	12	Fe = 0.00	141	73	25	0	TTL
S. A. Camp #12 Irr.	28S/26E-11A1	8-20-58	--	422	7.9	17 / 0.87	1 / 0.07	61 / 2.66	0.7 / 0.02	0 / 0	60 / 0.98	39 / 0.82	66 / 1.85	3 / 0.04	0.2 / 0.01	0.26	13	Fe = 0.01	274	73	47	0	TTL
Kern County Land Co. Irr.	28S/26E-30A1	8-21-58	74	827	8.1	110 / 5.49	3 / 0.29	58 / 2.52	2.4 / 0.06	0 / 0	73 / 1.20	231 / 4.80	77 / 2.16	13 / 0.20	0.2 / 0.01	0.56	14	Fe = 0.01	574	30	289	229	TTL
Houchin Ranch Dom.	29S/23E-24H1	8-12-58	72	230	8.4	6.2 / 0.31	0 / 0	42 / 1.83	0.4 / 0.01	2 / 0.07	68 / 1.11	28 / 0.58	14 / 0.39	1.6 / 0.02	0.2 / 0.01	0.12	16	Fe = 0.00	144	85	14	0	DWR
Bob Curtis Irr.	29S/25E-10N1	8-13-58	72	341	7.9	36 / 1.80	0.7 / 0.06	29 / 1.26	1.2 / 0.03	0 / 0	82 / 1.34	32 / 0.67	37 / 1.04	3.2 / 0.05	0.1 / 0.00	0.11	21	Fe = 0.00	200	40	93	26	DWR
M. F. Grimes Irr.	29S/26E-35K1	8-12-58	72	1970	7.4	168 / 8.38	23 / 1.93	178 / 7.74	3.4 / 0.09	0 / 0	162 / 2.66	39 / 0.81	524 / 14.78	14 / 0.22	0.1 / 0.00	3.2	27	Fe = 0.00	1060	43	516	383	DWR
D. C. McCann	29S/28E-12E1	8-22-58	78	425	8.1	22 / 1.08	1 / 0.05	70 / 3.05	3.1 / 0.08	0 / 0	160 / 2.62	49 / 1.02	17 / 0.48	5 / 0.08	0.4 / 0.02	0.30	20	Fe = 0.01	314	71	56	0	TTL
Kern Oil Co. Irr.	29S/29E-34N1	8-22-58	78	638	7.9	28 / 1.40	3 / 0.28	114 / 4.95	3.1 / 0.08	0 / 0	340 / 5.56	1 / 0.02	46 / 1.30	0 / 0	0 / 0	0.50	21	Fe = 0.01	484	74	84	0	TTL
State of California Irr.	30S/24E-14H1	8-12-58	72	770	7.9	87 / 4.34	1.0 / 0.08	75 / 3.26	1.2 / 0.03	0 / 0	117 / 1.92	233 / 4.85	35 / 0.99	0.6 / 0.01	0.2 / 0.01	0.22	20	Fe = 0.01	511	42	221	125	DWR
Douglas Oil Co. Dom. & Irr.	30S/28E-25A1	8-22-58	76	533	8.3	58 / 2.90	5 / 0.35	48 / 2.12	49 / 0.13	6.6 / 0.22	248 / 4.07	30 / 0.62	23 / 0.64	1 / 0.01	0.3 / 0.01	0.58	17	Fe = 0.02	404	38	162	0	TTL
Tony Panella Dom.	30S/29E- 5D2	8-22-58	84	2377	7.6	212 / 10.61	41 / 3.43	147 / 6.40	8.2 / 0.21	0 / 0	145 / 2.39	149 / 3.11	507 / 14.28	52 / 0.84	0 / 0	0.32	21	Fe = 0.01	1464	30	702	583	TTL
Howard Porter Irr.	30S/29E-20A1	8-22-58	--	713	8.0	70 / 3.48	14 / 1.16	49 / 2.16	4.9 / 0.13	0 / 0	235 / 3.85	75 / 1.56	49 / 1.38	31 / 0.49	0.2 / 0.01	0.56	20	Fe = 0.01	514	31	232	39	TTL

a Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
	MDB&M					KERN COUNTY (CONT.)																	
Frank Alexis Dom. & Irr.	30S/29E-27J1	8-22-58	66	877	8.1	72 / 3.60	29 / 2.40	55 / 2.40	6.1 / 0.16	0 / 0	232 / 3.80	82 / 1.70	56 / 1.57	84 / 1.35	0.4 / 0.02	0.74	20	Fe = 0.01	615	28	300	110	TTL
Ricominit Banduchi Irr.	31S/24E-28B1	8-12-58	78	5870	7.8	545 / 27.20	116 / 9.56	769 / 33.45	12 / 0.31	0 / 0	101 / 1.66	2190 / 45.60	850 / 23.97	15 / 0.24	0.6 / 0.03	4.4	55	Fe = 0.00	4610	47	1840	1760	DWR
Palm Dairy Dom.	31S/28E- 7R3	8-21-58	72	537	7.8	40 / 1.99	5 / 0.42	54 / 2.35	1.9 / 0.05	0 / 0	172 / 2.81	61 / 1.27	28 / 0.79	0 / 0	0.3 / 0.01	0	24	Fe = 0.01	374	48	120	0	TTL
E. Yakeitch Irr.	31S/29E-17E1	8-21-58	72	580	6.9	60 / 3.00	9 / 0.74	52 / 2.24	3.5 / 0.09	0 / 0	194 / 3.19	71 / 1.49	42 / 1.18	15 / 0.25	0.3 / 0.02	0.53	14	Fe = 0.03	434	36	187	28	TTL
Jack Busby Dom. & Irr.	31S/30E-16A1	8-21-58	82	532	7.3	38 / 1.90	12 / 1.01	50 / 2.18	3.9 / 0.10	0 / 0	141 / 2.31	23 / 0.48	56 / 1.58	48 / 0.78	0.8 / 0.04	3.2	26	Fe = 0.01	372	42	145	3	TTL
Kern County Land Co. Irr. & Dom.	32S/27E-16R2	8-22-58	68	1088	8.2	121 / 6.03	12 / 0.97	100 / 4.32	3.9 / 0.10	0 / 0	238 / 3.90	329 / 6.85	32 / 0.90	1 / 0.01	0.4 / 0.02	0.8	39	Fe = 0.00	791	40	350	155	TTL
H. M. Harford Irr. & Dom.	32S/28E-12F1	8-21-58	72	401	8.2	28 / 1.40	6 / 0.50	49 / 2.16	2.4 / 0.06	0 / 0	164 / 2.68	38 / 0.79	21 / 0.59	0 / 0	0.4 / 0.02	0.1	14	Fe = 0.00	294	52	95	0	TTL
C. B. Dickey Irr.	32S/29E-11R1	8-21-58	72	2080	7.8	140 / 6.98	13 / 1.12	258 / 11.20	6.1 / 0.16	0 / 0	127 / 2.09	128 / 2.67	449 / 14.08	1 / 0.01	0.2 / 0.01	1.1	19	Fe = 0.00	1340	57	405	310	TTL

a Determined by addition of constituents.
b Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.), as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						LOWER MOJAVE RIVER VALLEY, BARSTOW TO YERMO (6-40)																	
	SBB&M																						
Union Pacific Railroad Mun. and Ind.	9N/1E-1M1	10-15-58	77	452	8.45	42/2.10	4/0.35	46/2.00	2.2/0.095	5/0.15	165/2.70	39/0.82	21/0.60	4.2/0.067	0.3/0.015	0.28	22		270	44	123	0	DWR
Calif. Electric Power Co. Irr.	9N/1E-14M1	4-15-58	68	835	7.3	72/3.60	15/1.20	84/3.65	2.7/0.068	0/0	247/4.05	117/2.44	67/1.90	0.6/0.305	0.6/0.030	0.66	24		419	43	240	37	DWR
Calif. Electric Power Co. Irr.	9N/1E-15K1	4-15-58	68	737	7.2	61/3.05	13/1.10	82/3.55	2.7/0.070	0/0	235/3.85	97/2.01	59/1.65	19/0.30	0.7/0.035	0.75	25		456	46	208	15	DWR
Grey Phelps Dom. and Irr.	9N/1E-15N2	3-28-58	-	935	8.0					0/0	281/4.60		88/2.48								264	34	SBCFCD
		4-15-58	-	904	7.2	77/3.85	15/1.25	103/4.47	2.4/0.062	0/0	284/4.65	124/2.58	80/2.25	10/0.161	0.6/0.030	0.50	27		581	46	255	22	DWR
		10-1-58	-	897	7.7					0/0	278/4.56		75/2.12								264	36	SBCFCD
		10-15-58	-	850	8.7	75/3.75	13/1.05	85/3.71	2.4/0.061	15/0.50	229/3.75	118/2.45	71/2.0	7.3/0.118	0.2/0.010	0.22	22		534	63	240	28	DWR
Stuart C. Slack Dom. and Irr.	9N/2E-8N2	3-26-58	-	359	8.2					7/0.24	142/2.32		19/0.54								95	0	SBCFCD
		10-15-58	-	356	8.6	32/1.60	5/0.40	38/1.67	5.8/0.149	6/0.20	134/2.20	31/0.64	14/0.40	3.8/0.062	0.4/0.020	0.22	25		228	45	100	0	DWR
So. Calif. Water Co. Mun.	9N/1W-5J2	3-28-58	-	1790	7.8					0/0	227/3.72		208/5.87								224	38	SBCFCD
So. Calif. Water Co. Mun.	9N/1W-5J3	3-28-58	-	1880	7.9					0/0	190/3.12		235/6.63								221	65	SBCFCD
		6-9-58	-	1870	7.9	64/3.18	13/1.04	330/14.40	4.8/0.123	0/0	306/5.02	394/8.21	206/5.81	0.5/0.008	2.4/0.126	4.0			1201	77	211	0	SBCFCD
		7-29-58	72	2016	7.75	101/5.04	14/1.16	310/13.48	7.60/0.19	0/0	276/4.52	423/8.81	235/6.62	6.9/0.11	1.50/0.079	1.80	32		1371	68	310	84	TTL
		10-14-58	73	1875	8.1	96/4.80	12/1.00	321/13.94	35/0.888	0/0	220/3.60	480/10.00	243/6.85	12/0.20	1.7/0.09	2.26	45		1357	68	290	110	DWR
J. B. Price Dom.	9N/1W-9G1	7-29-58	71	1185	7.6	104/5.21	27/2.24	124/5.40	2.80/0.07	0/0	473/7.75	118/2.46	83/2.34	0/0	0.44/0.021	0.72	19		763	42	373	0	TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), San Bernardino County Flood Control District (S.B.C.F.C.D.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						LOWER MOJAVE RIVER VALLEY, BARSTOW TO YERMO (6-40) (Cont.)																	
	SBB&M																						
J. B. Price Dom.	9N/1W-9G1	10-14-58	-	888	8.2	35 / 1.75	19 / 1.55	130 / 5.66	4.1 / 0.106	0 / 0	253 / 4.15	118 / 2.45	89 / 2.5	1.9 / 0.031	0.5 / 0.025	1.75	33		572	62	165	0	DWR
		12-4-58	-	109	7.5					0 / 0	476 / 7.80		86 / 2.43								352	0	SBCFCD
Robert Hettick Dom., Irr. and Stk.	9N/1W-10D1	3-27-58	-	43.8	7.9					0 / 0	188 / 3.08		26 / 0.73								127	0	SBCFCD
Lee Tippet Dom.	9N/1W-10G1	3-27-58	-	1430	7.8					0 / 0	415 / 6.80		88 / 2.48								393	53	SBCFCD
		10-15-58	-	1500	8.5	117 / 5.85	24 / 2.00	204 / 8.85	5.8 / 0.148	9 / 0.3	384 / 6.3	335 / 6.97	89 / 2.5	12 / 0.200	0.7 / 0.035	0.24	16		1027	53	393		DWR
Cool Water Ranch Irr.	9N/1W-13H2	4-15-58	-	742	7.2	66 / 3.30	13 / 1.05	75 / 3.28	1.9 / 0.048	0 / 0	226 / 3.70	102 / 2.13	64 / 1.80	6.2 / 0.100	0.7 / 0.035	0.23	26		462	43	218	33	DWR
		5-1-58	66	586	7.6	50 / 2.49	7.4 / 0.61	68 / 2.93	2.80 / 0.07	0 / 0	183 / 3.00	82 / 1.71	51 / 1.44	1.5 / 0.03	0.50 / 0.026	0.10	23		379	48	155	5	TTL
Southern Calif. Water Co. Mun.	9N/2W-1F1	3-28-58	-	530	8.4					5 / 0.16	139 / 2.28		41 / 1.16								116	0	SBCFCD
		7-29-58	69	575	8.0	47 / 2.33	6.6 / 0.54	65 / 2.84	2.7 / 0.07	0 / 0	185 / 3.04	73 / 1.52	42 / 1.18	1.3 / 0.02	0.48 / 0.026	0.10	27		345	49	144	0	TTL
State Dept. of Agriculture Dom.	10N/2E-31R1	3-27-58	-	495	8.0					0 / 0	185 / 3.04		31 / 0.87								112	0	SBCFCD
		10-15-58	-	470	8.45					6 / 0.20	149 / 2.45		32 / 0.90								110	0	DWR
R. W. Dickerson Dom. and Irr.	10N/1W-32J1	3-27-58	-	684	8.2					5 / 0.16	176 / 2.88		53 / 1.49								170	18	SBCFCD
		10-15-58	-	652	8.4	54 / 2.70	14 / 1.15	66 / 2.87	3.0 / 0.078	6 / 0.20	201 / 3.30	87 / 1.81	46 / 1.30	1.4 / 0.022	0.2 / 0.010	0.10	18		407	42	193	18	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), San Bernardino County Flood Control District (S.B.C.F.C.D.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
									COACHELLA VALLEY (7-21)														
	SBB&M																						
Lester Roberson Dom.	5S/7E-16K1	5-1-58	-	367	7.7						165 / 2.70		20 / 0.56								140	5	TTL
		10-27-58	-	356	7.6					0 / 0	155 / 2.55		14 / 0.40								121	0	TTL
Z. E. Zalay Dom.	5S/7E-22K1	5-1-58	-	835	7.3	126 / 6.30	7 / 0.60	38 / 1.64	6.1 / 0.164	0 / 0	177 / 2.90	176 / 3.66	80 / 2.25	3.7 / 0.06	0.3 / 0.016	0.1	19		515	19	345	200	TTL
		10-27-58	-	761	7.8					0 / 0	172 / 2.81		69 / 1.94								322	181	TTL
Joe N. Ramirez & Sons Dom. and Irr.	5S/7E-33C1	5-1-58	-	1040	8.0	129 / 6.45	15 / 1.20	63 / 2.76	6.9 / 0.176	0 / 0	165 / 2.70	215 / 4.48	82 / 2.31	70 / 1.13	0.38 / 0.02	0	24		714	26	383	248	TTL
		10-27-58	75	1236	7.4	170 / 8.52	23 / 1.93	71 / 3.12	6.9 / 0.18	0 / 0	195 / 3.20	265 / 5.52	98 / 2.75	144 / 2.31	0.2 / 0.01	0	20		919	23	552	202	TTL
Mitchell Land and Improvement Co. Dom.	5S/8E-31D1	4-30-58	-	596	7.6	76 / 3.80	7 / 0.60	38 / 1.66	5.3 / 0.14	0 / 0	152 / 2.50	104 / 2.16	55 / 1.55	4.3 / 0.07	0.30 / 0.016	0	19		402	27	220	95	TTL
		10-28-58	-	464	7.9	52 / 2.60	6 / 0.50	31 / 1.36	4.6 / 0.12	0 / 0	163 / 2.67	59 / 1.22	31 / 0.87	5 / 0.08	0.4 / 0.021	0	18		339	30	150	16	TTL
E. M. Holm Dom.	5S/8E-33N1	5-1-58	-	1125	7.0	42 / 2.10	0 / 0	207 / 9.00	6.5 / 0.168	0 / 0	140 / 2.30	327 / 6.81	75 / 2.11	0 / 0	4.5 / 0.24	0.4	15		714	80	105	0	TTL
		10-28-58	-	651	7.9	30 / 1.48	3 / 0.27	94 / 4.10	4.2 / 0.11	0 / 0	152 / 2.50	116 / 2.43	29 / 0.80	0 / 0	3.5 / 0.184	0.26	20		444	70	87	0	TTL
Gifford Phillips Dom.	6S/7E-25E1	4-30-58	-	638	7.8	55 / 2.75	6 / 0.45	63 / 2.76	4.2 / 0.11	0 / 0	116 / 1.90	101 / 2.10	75 / 2.11	0.09 / 0.001	0.2 / 0.010	0.1	17		411	45	160	65	TTL
		10-28-58	-	620	7.9	44 / 2.20	5 / 0.35	63 / 2.75	3.1 / 0.08	0 / 0	110 / 1.80	90 / 1.87	60 / 1.69	3 / 0.05	0.6 / 0.032	0	18		411	51	127	37	TTL
M. R. Shepard Dom.	6S/8E-7P1	4-30-58	-	490	7.7	58 / 2.90	4 / 0.30	33 / 1.46	3.5 / 0.09	0 / 0	140 / 2.30	61 / 1.27	43 / 1.21	1.3 / 0.021	0.01 / 0	0	13		331	31	160	45	TTL
		10-28-58	-	481	7.8					0 / 0	140 / 2.30		44 / 1.24								156	41	TTL
E. H. McCain Dom. and Irr.	6S/8E-10A3	5-1-58	-	502	7.6						103 / 1.75		58 / 1.64						337		75	0	TTL
		10-28-58	-	491	8.0					0 / 0	109 / 1.78		43 / 1.21		5.5 / 0.29						69	0	TTL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						COACHELLA VALLEY (7-21) (Cont.)																	
	SBB&M																						
W. C. and Joe E. Stroube Dom.	6S/8E-27H1	5-1-58	-	240	8.2	12 / 0.60	3 / 0.25	34 / 1.48	2.4 / 0.06	0 / 0	92 / 1.50	26 / 0.53	15 / 0.42	0 / 0	0.4 / 0.021	0.08	15		149	62	40	0	TTL
		10-28-58	-	233	8.2					0 / 0	94 / 1.53		13 / 0.36								40	0	TTL
Mazenig Karahadian Ranch Dom. and Irr.	6S/9E-30C1	5-1-58	-	266	7.3	8 / 0.40	1 / 0.10	51 / 2.20	1.0 / 0.03	0 / 0	92 / 1.50	38 / 0.79	10 / 0.28	0 / 0	2.2 / 0.116	0.23	14		171	81	25	0	TTL
		10-28-58	-	260	8.2					0 / 0	96 / 1.57		13 / 0.37		2.7 / 0.142						20	0	TTL
Vessey Brothers Dom.	7S/8E-22M1	4-30-58	-	1378	8.3	88 / 4.40	1 / 0.10	184 / 7.98	4.6 / 0.12	0 / 0	46 / 0.75	149 / 3.10	320 / 9.01	5.2 / 0.08	0.4 / 0.021	0.5	11		881	63	225	187	TTL
		10-28-58	-	1576	8.0					0 / 0	38 / 0.62		350 / 9.86								290	259	TTL
C. Charles Crocket Dom. and Irr.	7S/9E-16K1	4-30-58	-	1004	8.4	14 / 0.70	9 / 0.70	189 / 8.20	3.1 / 0.08	0 / 0	220 / 3.60	193 / 4.02	65 / 1.83	0.09 / 0.001	1.95 / 0.105	0.10	16		652	85	70	0	TTL
		10-28-58	78	717	8.0	5 / 0.26	2 / 0.16	160 / 6.95	1.0 / 0.03	0 / 0	260 / 4.27	62 / 1.28	57 / 1.62	0 / 0	5.9 / 0.31	0.36	15		524	94	21	0	TTL

a Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per-cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						EAST COASTAL PLAIN PRESSURE AREA (8-1.01)																	
	SBB&M																						
J. S. Drake Dom. and Irr.	5S/11W-21M3 577F	4-25-58	-	363	7.9					0 / 0	155 / 2.54	28 / 0.58	12 / 0.34										OCDA
		9-2-58	-	363	7.8					0 / 0	155 / 2.54	33 / 0.69	11 / 0.31										OCDA
Anderson Mutual Water Co. Dom.	5S/11W-21N2	5-7-58	-	479	8.0					0 / 0	172 / 2.82	65 / 1.35	14 / 0.39										OCDA
		9-2-58	-	513	8.0	53 / 2.65	11 / 0.83	34 / 1.48	5.4 / 0.14	0 / 0	173 / 2.84	81 / 1.69	17 / 0.48	0 / 0	0.3 / 0.016	0.05	-		320	29	178	32	OCDA
Harry C. Fulton Dom.	5S/11W-25K2	5-14-58	-	616	7.6	71 / 3.55	14 / 1.72	40 / 1.12	40 / 1.01	0 / 0	239 / 3.92	70 / 1.46	33 / 0.93	1.4 / 0.02	0.5 / 0.026	0	-		406	23	263	67	OCDA
		9-17-58	-	696	7.9	56 / 2.80	17 / 1.42	66 / 2.87	10.4 / 0.27	0 / 0	304 / 4.98	56 / 1.17	35 / 0.99	0 / 0	0.3 / 0.016	0.1	-		366	39	211	0	OCDA
Southern Calif. Water Co. Mun.	5S/11W-26M2	5-17-58	-	2535	7.6	176 / 8.80	29 / 2.41	320 / 13.94	12 / 0.30	0 / 0	282 / 4.62	172 / 3.58	580 / 16.40	13 / 0.21	0.5 / 0.026	0.9	-		1607	54	560	329	OCDA
W. S. Tubach Dom.	5S/11W-27H4	4-9-58	-	2163	7.6					0 / 0	259 / 4.25	202 / 4.21	463 / 13.06										
		9-10-58	-	2205	7.5					0 / 0	282 / 4.62	211 / 4.40	426 / 12.01										
Callens Brothers Irr.	5S/11W-28H2	5-20-58	-	423	7.6					0 / 0	188 / 3.08	28 / 0.58	20 / 0.56										OCDA
		9-18-58	-	440	8.0	31 / 1.55	6 / 0.50	62 / 2.70	8 / 0.21	0 / 0	192 / 3.15	64 / 1.33	17 / 0.48	0 / 0	0.4 / 0.021	0.05	-		204	54	102	0	OCDA
Bolsa Land Co. Duck Pond Well	5S/11W-28K1	9-19-58	-	521	8.5					16 / 0.53	264 / 4.33	0.5 / 0.01	16 / 0.45	0 / 0					345				OCDA
Sunset Land and Water Co. Mun.	5S/11W-29C1	4-10-58	-	320	8.5					4 / 0.13	146 / 2.39	9 / 0.19	12 / 0.34										OCDA
		10-1-58	-	323	8.6					7 / 0.23	127 / 2.25	6 / 0.13	11 / 0.31										OCDA

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Orange County Department of Agriculture (O.C.D.A.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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						Mineral constituents in parts per million / equivalents per million																	
						EAST COASTAL PLAIN PRESSURE AREA (8-1.01) (Cont.)																	
	SBB&M																						
Signal Oil and Gas Co. Ind.	5S/11W-33H1	4-11-58	-	351	8.3					0/0	179/2.93	3/0.06	13/0.37										OCDA
		9-11-58	-	350	8.3					7/0.23	178/2.92	0.5/0.01	12/0.34										OCDA
Signal Oil and Gas Co. Ind.	5S/11W-34F3	4-11-58	-	664	8.4					0/0	370/6.07	1/0.02	18/0.51										OCDA
		9-11-58	-	655	8.4					11/0.37	371/6.08	7/0.14	16/0.45										OCDA
Joseph J. Courregee Dom.	5S/11W-36B2	5-7-58	-	496	8.0					0/0	196/3.21	45/0.94	19/0.54										OCDA
		9-8-58	-	446	8.1					0/0	215/3.52	45/0.94	15/0.42										OCDA
Ivan Harper Irr. and Dom.	5S/11W-36P1	5-2-58	-	1253	7.9	140/7.00	14/1.15	60/2.61	30/0.77	0/0	183/3.00	42/0.88	274/7.73	1.8/0.05	0.4/0.021	0	-		1024	23	407	257	OCDA
		9-3-58	-	1271	8.2	118/5.90	27/2.25	86/3.74	11/0.28	0/0	209/3.43	56/1.17	274/7.73	5/0.08	0.2/0.010	0.1	-		748	31	402	231	OCDA
I. W. Hellman Ranch Dom., Stk. and Irr.	5S/12W-12C1	4-29-58	-	316	8.5					18/0.60	104/1.70	15/0.31	12/0.34										OCDA
		9-12-58	-	318	8.4					7/0.23	132/2.16	12/0.25	11/0.31										OCDA
Robert Gieler Irr.	6S/10W-5C1	5-28-58	-	651	8.1	79/3.95	17/1.42	32/1.39	2/0.05	0/0	218/3.57	94/1.96	35/0.99	1.2/0.02	0.2/0.010	0	-		499	19	268	90	OCDA
		9-30-58	-	706	8.0	78/3.90	17/1.42	46/2.00	7/0.18	0/0	287/4.70	77/1.60	35/0.99	0.4/0.01	0.8/0.042	0.4	7.5		462	27	266	31	OCDA
Tidewater Oil Company Ind.	6S/10W-5M1	4-23-58	-	706	7.8	77/3.85	15/1.25	50/2.17	10/0.26	0/0	243/3.98	119/2.48	35/0.99	4.9/0.08	0.3/0.016	0.1	-		575	29	255	56	OCDA
		9-17-58	-	664	7.8	61/3.05	17/1.42	69/3.00	6/0.15	0/0	260/4.26	123/2.56	33/0.92	1/0.02	2.4/0.13	0.1	-		377	39	223	10	OCDA
William Lamb Dom.	6S/10W-6B2	4-16-58	-	496	7.9					0/0	203/3.33	44/0.92	17/0.48										OCDA

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Orange County Department of Agriculture (O.C.D.A.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						EAST COASTAL PLAIN PRESSURE AREA (8-1.01) (Cont.)																	
	SBB&M																						
William Lamb Dom.	6S/10W-6B2	9-25-58	-	598	8.0	53 / 2.65	10 / 0.83	32 / 1.39	6.2 / 0.16	0 / 0	217 / 3.56	47 / 0.98	11 / 0.31	1 / 0.02	0.3 / 0.016	0	-		214	28	174	0	OCDA
Walter Lamb Irr.	6S/10W-6H2	5-15-58	-	521	7.8	58 / 2.90	11 / 0.92	33 / 1.43	2 / 0.08	0 / 0	234 / 3.84	45 / 0.94	20 / 0.56	0.5 / 0.01	0.3 / 0.016	0	-		300	27	192	0	OCDA
		9-26-58	-	508	8.0					0 / 0	232 / 3.80	43 / 0.90	18 / 0.50										OCDA
H. J. Lamb Dom.	6S/10W-6L2	4-16-58	-	7158	7.3	687 / 34.35	159 / 13.25	633 / 23.17	2 / 0.05	0 / 0	270 / 4.43	3 / 0.05	2362 / 66.61	0 / 0	0.2 / 0.010	0.1	-		5144	33	2380	2159	OCDA
		9-26-58	-	8198	7.3	732 / 36.60	168 / 14.00	700 / 30.43	30.2 / 0.77	0 / 0	305 / 5.00	2 / 0.01	2638 / 74.39	0 / 0	0.1 / 0.005	0.3	-		6364	37	2530	2280	OCDA
Jim Bushard Dom.	6S/10W-7D3	4-16-58	-	6560	7.5					0 / 0	306 / 5.02	4 / 0.08	2173 / 61.28										OCDA
		9-10-58	-	6863	7.3					0 / 0	325 / 5.33	1 / 0.02	2253 / 63.54										OCDA
Albam Holtz Dom.	6S/10W-7G1	3-11-58	-	6353	7.4					0 / 0	88 / 1.44	1 / 0.02	2351 / 66.30										OCDA
		9-17-58	-	7208	7.6	803 / 40.15	145 / 12.08	450 / 14.52	30.4 / 0.78	0 / 0	1149 / 2.44	0.2 / 0.001	2479 / 69.91	0.6 / 0.01	0.2 / 0.010	0.1	-		4649	27	2611	2489	OCDA
City of Newport Beach Mun.	6S/10W-8D8 Owner #13	1-3-58	66	795	7.6	76 / 3.80	19 / 1.60	53 / 2.32	3.1 / 0.08	0 / 0	247 / 4.05	42 / 0.87	106 / 2.99	0 / 0	0.1 / 0.005	0	34		546	30	270	68	DWR
		5-13-58	-	967	7.5	97 / 4.85	20 / 1.67	66 / 2.86	13 / 0.33	0 / 0	207 / 3.39	27 / 0.56	178 / 5.05	0.6 / 0.01	0.2 / 0.010	0	-		616	29	326	157	OCDA
		10-1-58	-	1432	7.7	149 / 7.45	31 / 2.58	80 / 3.04	8 / 0.21	0 / 0	190 / 3.11	10 / 0.21	360 / 10.15	0.2 / 0.003	0.2 / 0.010	0.4	-		898	23	501	346	OCDA
City of Newport Beach Mun.	6S/10W-8D9 Owner #15	5-13-58	-	1664	7.5	184 / 9.20	34 / 2.83	98 / 4.26	3 / 0.08	0 / 0	163 / 2.67	28 / 0.58	447 / 12.61	0.1 / 0.002	0.5 / 0.026	-	-		1179	26	601	468	OCDA
		10-1-58	-	1848	7.7	198 / 9.90	38 / 3.17	100 / 4.35	11 / 0.28	0 / 0	161 / 2.64	2 / 0.04	511 / 14.41	0.2	0.5 / 0.026	0.5	6.4		-	25	653	521	OCDA
E. H. Geisler Dom.	6S/10W-18B4	4-23-58	-	5571	7.6					0 / 0	334 / 5.48	64 / 1.33	1652 / 46.59										OCDA
		9-8-58	-	5213	7.9	312 / 15.60	74 / 6.17	590 / 25.65	19 / 0.49	0 / 0	283 / 4.64	4 / 0.08	1558 / 43.94	0.5 / 0.01	-	0.4	-		3144	54	1088	856	OCDA

a Determined by addition of constituents.
b Gravimetric determination.
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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

ANALYSES OF GROUND WATER

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						Mineral constituents in parts per million / equivalents per million																	
						EAST COASTAL PLAIN PRESSURE AREA (8-1.01) (Cont.)																	
	SBB&M																						
Robert Heil	6S/11W-1B1	2-25-58	-	853	7.6	118/5.90	22/1.83	14/0.61	2/0.10	0/0	233/3.87	88/1.83	99/2.79	0.10/0.01	0.03/0.001	0.2	18		512	8	386	193	OCDA
		10-6-58	-	764	7.9	86/4.30	16/1.33	35/1.52	11/0.28	0/0	220/3.61	64/1.33	84/2.37	-	0.3/0.015	Tr.	-		627	20	281	101	OCDA
Urbain Plavan Irr.	6S/11W-1J3	5-2-58	-	1450	7.8	174/8.70	13/1.08	85/3.72	40/1.01	0/0	181/2.97	53/1.10	339/9.59	2/0.05	0.2/0.010	0	-		1185	26	489	341	OCDA
		9-25-58	-	2163	7.9	234/11.70	52/4.33	104/4.52	18.2/0.47	0/0	1.88/3.08	69/1.44	572/16.13	0	0.1/0.005	0	-		1653	22	801	647	OCDA
Huntington Beach Golf Course Irr.	6S/11W-3R2	5-7-58	-	1015	8.1					0/0	315/5.16	3/0.06	160/4.51										OCDA
		9-3-58	-	1059	8.2					0/0	337/5.52	1/0.02	165/4.65										OCDA
F. E. Farnsworth Irr.	6S/11W-12F3	6-12-58	-	8131	5.9	956/47.86	160/13.33	500/21.74	10.5/0.27	0/0	6/0.10	261/5.44	2782/78.45	0.4/0.01	0.2/0.010	Tr.	-		6183	26	3059	3054	OCDA
		9-24-58	-	10372	7.1	1212/60.60	208/17.33	740/32.17	32/0.82	0/0	67/1.10	384/8.00	3558/100.34	0	0.1/0.005	0	-		8010	29	3896	3841	OCDA
Wilshire Oil Company Ind.	6S/11W-13F1	4-21-58	-	7586	7.7	311/15.55	170/14.17	1050/45.65	25/0.64	0/0	161/2.64	240/5.0	2506/70.67	Tr.	0.6/0.032	0.1	-		5155	60	1486	1354	OCDA
		9-4-58	-	6777	7.7	294/14.70	140/11.67	910/39.57	78/2.00	0/0	201/3.30	175/3.65	2173/61.28	0/0	0.2/0.010	0.4	-		4533	58	1318	1153	OCDA

a Determined by addition of constituents
b Gravimetric determination
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Orange County Department of Agriculture, (O.C.D.A.), or State Department of Water Resources (O.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA

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1958

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						Mineral constituents in parts per million / equivalents per million																	
						CHINO BASIN (8-2.01)																	
	SBB&M																						
S & S Ranch Dom. and Irr.	1S/6W-29R1 D1029b	7-18-58	-	407	7.9					0 / 0	190 / 3.12		27 / 0.76								159	3	SBCFCD
Peach Park Water Co. Irr. and Dom.	1S/7W-28R1	7-18-58	-	365	7.6					0 / 0	173 / 2.84		14 / 0.39								157	15	SBCFCD
Wilder and Camel Irr. and Dom.	1S/7W-34M1	7-18-58	-	421	7.9					0 / 0	198 / 3.24		18 / 0.51								181	19	SBCFCD
		9-25-58	-	383	8.3	45 / 2.25	14.5 / 1.19	18 / 0.78	1.4 / 0.036	0 / 0	198 / 3.24	15 / 0.31	15 / 0.42	14 / 0.23	0.3 / 0.015	0.0	30		269		172	10	SBCFCD
P. J. Crerolim Irr. and Dom.	2S/7W-10M1	8-14-58	-	535	7.8					0 / 0	210 / 3.44		31 / 0.87								232	60	SBCFCD
Pietro and Domenico Enrico Dom.	2S/7W-15A1 17709a D910c	4-22-58	-	310	8.0	41 / 2.05	1.0 / 0.85	24 / 1.06	0.5 / 0.013	0 / 0	198 / 3.25	15 / 0.32	7 / 0.20	6.9 / 0.111	0.2 / 0.010	0.05	34		217	27	145	0	DWR
		12-30-58	-	382	7.8	40 / 2.00	10 / 0.80	19 / 0.84	1.5 / 0.04	0 / 0	189 / 3.10	6 / 0.14	7 / 0.21	4 / 0.06	0.2 / 0.01	0.16	28		274	22	140	0	TTL
C. T. Merrill Dom. and Irr.	2S/7W-21L1	7-18-58	-	757	7.8					0 / 0	320 / 5.24		29 / 0.82								353	71	SBCFCD
A. Omlin Dom.	2S/7W-23E1 D916 16801	7-18-58	-	824	7.6					0 / 0	356 / 5.84		38 / 1.07								374	82	SBCFCD
Luginbill and Imbach Dom.	2S/7W-27A1 D909d	7-18-58	-	1060	7.5					0 / 0	505 / 8.28		47 / 1.33								507	93	SBCFCD
		8-12-58	71	913	7.7					0 / 0	439 / 7.20		50 / 1.41								449	89	DWR
		12-10-58	-	816	7.4	83 / 4.14	37 / 3.04	35 / 1.52	2.6 / 0.067	0 / 0	337 / 5.52	53 / 1.10	47 / 1.33	46 / 0.74	0 / 0.00	0.0	25		500	17	359	82	DWR

a. Determined by addition of constituents

b. Gravimetric determination.

c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), San Bernardino County Flood Control District (SBCFCD), or State Department of Water Resources (D.W.R.), as indicated.

d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA
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						Mineral constituents in parts per million / equivalents per million																	
						BUNKER HILL BASIN (8-2.06)																	
	SBB&M																						
Delmann Water Company Dom.	1N/4W-29E1	11-25-58	66	755	7.6	107/5.36	22/1.84	17/0.74	3.5/0.09	0/0	254/4.17	150/3.13	14/0.41	22/0.36	0.5/0.026	0	16		544	9	360	151	TTL
Delmann Water Company Dom.	1N/4W-29E3	3-13-58	-	757	7.2	113/5.64	24/1.97	15/0.65	4.0/0.10	0/0	242/3.96	158/3.29	18/0.51	26/0.42	0.5/0.026	0.07	20		541	8	378	180	DWR
		5-15-58	-	761	7.3	112/5.60	29/2.40	14/0.60	3.2/0.083	0/0	247/4.05	174/3.62	16/0.45	24/0.389	0.9/0.045	0.11	22		514	7	400	197	DWR
		9-23-58	-	713	7.8	108/5.39	22/1.81	15/0.65	4.2/0.108	0/0	249/4.08	146/3.05	15/0.42	22/0.355	0.6/0.032	0.16	20		480	8	363	159	DWR
Delmann Water Company Mun.	1N/4W-29F1	3-13-58	-	751	7.5	115/5.74	21/1.73	14/0.61	4.0/0.10	0/0	239/3.92	155/3.22	16/0.45	25/0.40	0.5/0.026	0.07	20		544	7	376	180	DWR
		5-15-58	-	682	7.3	101/5.05	12/0.95	19/0.83	2.9/0.074	0/0	241/3.95	116/2.42	7/0.20	24/0.389	0.9/0.045	0.10	22		547	12	300	102	DWR
		9-23-58	-	668	7.9	101/5.04	20/1.64	15/0.65	4.0/0.102	0/0	244/4.00	126/2.62	15/0.42	20/0.315	0.6/0.032	0.12	20		455	9	337	137	DWR
Norton Air Force Base Military Well	1S/3W-8M1 NAFB#7	5-7-58	-	593	7.9	80/4.0	13/1.1	21/0.92	3.2/0.081	0/0	268/4.40	33/0.69	30/0.85	23/0.377	0/0	0.79	20		350	15	225	35	DWR
		9-23-58	-	265	7.9	34/1.70	5/0.41	12/0.52	2.6/0.067	0/0	120/1.96	16/0.34	8/0.23	12/0.194	0.6/0.032	0.16	20		165	19	106	8	DWR
Tri-City Rock Co. Ind.	1S/3W-9E2	1-9-58	-	251	7.3	30/1.50	5/0.40	12/0.53	2.7/0.069	0/0	122/2.00	14/0.30	11/0.30	4.5/0.072	0/0	0.05	26		170	21	95	0	DWR
		3-13-58	-	333	7.0	35/1.75	6.8/0.56	23/1.00	3.0/0.077	0/0	151/2.47	17/0.35	17/0.48	3.9/0.063	0.4/0.021	0.31	20		208	29	116	0	DWR
		7-18-58	66	427	7.85	52/2.60	11/0.86	22/0.95	3.5/0.09	0/0	194/3.19	17/0.35	29/0.82	3/0.05	0.1/0.005	0.22	25		289	21	173	13	TTL
		9-24-58	-	363	7.5	46/2.30	8/0.66	17/0.74	3.4/0.07	0/0	176/2.88	16/0.34	20/0.56	2.0/0.032	0.2/0.011	0.48	20		230	20	149	5	DWR
Cock Orchards Irr.	1S/3W-16A1	3-13-58	-	326	7.5	39/1.95	7.9/0.65	17/0.74	2.3/0.059	0/0	148/2.43	27/0.56	9/0.25	10/0.16	0.4/0.021	0.0	20		225	22	129	7	DWR
		7-18-58	63	324	7.5					0/0	141/2.31		11/0.30								121	5	TTL
		9-24-58	-	283	7.5	34/1.70	6/0.49	17/0.74	1.8/0.046	0/0	137/2.24	21/0.43	8/0.23	3.0/0.048	0.3/0.016	0.00	20		190	25	110	0	DWR

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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
BUNKER HILL BASIN (8.2.06) (Cont.)																							
	SBB&M																						
Mesbur Reality Co. Dom.	1S/4W-13F3	9-24-58	-	322	8.2	44 / 2.20	7 / 0.58	13 / 0.57	2.8 / 0.072	10 / 0.32	144 / 2.36	13 / 0.27	10 / 0.28	4.0 / 0.065	0.4 / 0.021	0.20	15		205	17	140	6	DWR
Gage Canal Co. Irr.	1S/4W-13G1	3-13-58	-	240	7.5	27 / 1.35	7 / 0.58	13 / 0.57	1.6 / 0.041	0 / 0	124 / 2.04	13 / 0.27	4 / 0.11	2.0 / 0.032	0.40 / 0.021	0.0	20		155	22	93	0	DWR
		12-4-58	-	343	7.5	43 / 2.16	9 / 0.72	15 / 0.65	2.4 / 0.061	0 / 0	166 / 2.72	21 / 0.44	13 / 0.37	6.0 / 0.097	0.4 / 0.021	0.28			225	18	145	9	SBCFCD
		6-12-58	-	352	7.8	45 / 2.23	10 / 0.86	13 / 0.57	2.3 / 0.059	0 / 0	172 / 2.82	19 / 0.39	15 / 0.42	7.0 / 0.113	0.6 / 0.032	0.30			219	15	155	14	SBCFCD
		9-23-58	-	353	7.6	47 / 2.35	8 / 0.66	15 / 0.65	2.0 / 0.051	0 / 0	176 / 2.88	21 / 0.43	12 / 0.34	6.5 / 0.105	0.5 / 0.026	0.36	15		230	18	149	5	DWR
Gage Canal Co. Irr.	1S/4W-13L1	3-13-58	-	290	7.7	35 / 1.75	9 / 0.74	9 / 0.39	2.0 / 0.051	0 / 0	140 / 2.30	19 / 0.39	5 / 0.14	7.0 / 0.113	0.5 / 0.026	0.0	15		175	13	123	8	DWR
		6-12-58	-	306	7.8	39 / 1.93	9 / 0.78	11 / 0.48	2.3 / 0.059	0 / 0	143 / 2.35	22 / 0.46	9 / 0.25	10.5 / 0.169	0.6 / 0.032	0.0			200	15	135	17	SBCFCD
		9-23-58	-	357	7.8	47 / 2.35	9 / 0.74	14 / 0.61	2.0 / 0.051	0 / 0	161 / 2.64	29 / 0.58	8 / 0.23	21.0 / 0.339	0.5 / 0.026	0	20		245	16	151	19	SBCFCD

a. Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), San Bernardino County Flood Control District (S.B.C.F.C.D.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per-cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						SAN LUIS REY VALLEY, MISSION BASIN (9-7.01)																	
	SBB&M																						
George Nagata Dom. and Irr.	11S/4W-4N1	3-18-58	-	1175	7.3						0/0	314/5.15	158/4.46								400	142	DWR
		10-28-58	-	1246	7.8						0/0	328/5.37	216/6.08								393	124	TTL
K. Johnson Irr. and Dom.	11S/4W-5K1	3-18-58	-	816	7.6	63/3.14	23/1.89	74/3.22	4.9/0.125	0/0	259/4.24	61/1.27	99/2.79	0/0.0	0.5/0.026	0.02	25		460	38	255	43	DWR
Stokes Bros. Irr.	11S/4W-5R1	10-28-58	-	1125	7.4	76/3.81	35/2.89	110/4.80	5.7/0.15	0/0	288/4.71	100/2.08	150/4.22	33/0.53	0.5/0.026	0	16		794	41	335	99	TTL
J. S. Alvarado Irr. and Dom.	11S/4W-8H1	7-19-58	-	2903	7.6	171/8.55	81/6.75	300/13.04		0/0	320/5.25	325/6.77	600/16.90	0/0						46	765	502	EB&S
		10-28-58	-	2535	7.3	166/8.28	83/6.82	267/11.60	8.4/0.21	0/0	353/5.78	313/6.52	534/15.04	0/0	0.4/0.021	0.24	18		1752	43	755	466	TTL
Academy of the Little Flower Irr. and Dom.	11S/4W-8J1	10-28-58	-	2299	7.35					0/0	331/5.43		500/14.08								612	340	DWR
Clarence Nishizu Irr. and Dom.	11S/4W-8N1	3-18-58	-	2725	7.4					0/0	314/8.14		636/17.94								752	345	DWR
		10-28-58	-	2942	7.4	186/9.28	79/6.47	299/13.00	3.1/0.08	0/0	309/5.06	215/4.48	677/19.07	0/0	0.5/0.026	0	24		1918	45	787	534	TTL
S. Davies Irr. and Dom.	11S/4W-18C1	3-19-58	-	1493	7.6					0/0	292/4.78		260/7.33								445	206	DWR
		10-28-58	-	1338	8.0	84/4.20	39/3.21	131/5.70	4.6/0.12	0/0	269/4.42	135/2.81	215/6.06	0/0	0.5/0.026	0	21		910	43	370	149	TTL
Carlsbad Mutual Water Co. Mun.	11S/4W-18C3	10-28-58	-	1805	7.8	154/7.70	62/5.13	145/6.30	7.6/0.19	0/0	313/5.13	379/7.90	230/6.48	0/0	0.50/0.026	0	23		1278	33	641	384	TTL
City of Oceanside Mun.	11S/4W-18L3	6-20-58	-	2360	7.3	152/7.58	120/9.87	215/9.35			305/5.00	430/8.95	310/3.74	0.42/0.68	0.2/0.01	1.85	39		1650	25	680	-	CJL
Carlsbad Mutual Water Co. Mun.	11S/4W-18L4	7-19-58	-	1370	7.8	83/4.15	40/3.33	110/4.78		9/0.30	186/3.05	200/4.17	170/4.80	0/0						39	374	206	EB&S

a Determined by addition of constituents
b Gravimetric determination
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), Edward S. Babcock and Sons (E.B.&S.), or State Department of Water Resources (DWR), Carl James Laboratory (C.J.L.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						SAN LUIS REY VALLEY, MISSION BASIN (9-7.01) (Cont.)																	
	SBB&M																						
Earl D. Amsler Irr. and Dom.	11S/5W-13L1	3-18-58	-	1660	7.4	120 / 6.00	49 / 4.05	159 / 6.90	7.80 / 0.21	0 / 0	324 / 5.30	199 / 4.15	270 / 7.6	0.59 / 0.95	0.2 / 0.01	0.1	24		1160				TTL
		5-27-58	70	1635	7.5					0 / 0	311 / 5.10		252 / 7.1								510	255	DWR
		10-23-58	-	1873	7.8	136 / 6.82	63 / 5.18	170 / 7.40	6.9 / 0.18	0 / 0	324 / 5.30	284 / 5.91	290 / 8.17	0 / 0	0.4 / 0.021	0.20	28		1294	37	600	335	TTL
City of Oceanside Mun.	11S/5W-13Q1	6-12-58	-	2290	7.3	186 / 9.28	142 / 11.68	150 / 6.52			256 / 4.20	212 / 4.41	500 / 14.10	0.12 / 0.19	0.2 / 0.01	1.63	37		1600	15	820	-	CJL
Walter Johnson Ind.	11S/5W-23E1	3-27-58	-	27200	7.1	441 / 22.00	630 / 52.20	4554 / 198	10.1 / 0.26	0 / 0	324 / 5.30	1142 / 23.80	8550 / 240.5	0 / 0	0.1 / 0.005	1.6	26		18680		3710	3445	TTL
		6-12-58	-	28600	7.4	560 / 27.94	880 / 72.37	4900 / 213.05			318 / 5.21	980 / 20.40	7300 / 205.86			2.5	31		20000	75	3600	-	CJL
		7-19-58	-	15343	7.6	520 / 26.00	413 / 34.42	2320 / 100.87		0 / 0	397 / 6.50	575 / 11.98	4935 / 139.00	0 / 0						62	3021	2696	EB&S
		10-28-58	68	23666	6.9					0 / 0	338 / 5.54		8540 / 240.5								3810	3533	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), Edward S. Babcock and Sons (E.B.&S.), or State Department of Water Resources (D.W.R.), Carl James Laboratory (C.J.L.), as indicated.
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

QUALITY OF GROUND WATERS IN CALIFORNIA
ANALYSES OF GROUND WATER
1958

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						Mineral constituents in parts per million / equivalents per million																	
						EL CAJON VALLEY (9-16)																	
	SBB&M																						
R. G. Alexander Dom. and Irr.	15S/1E-31R1	6-24-58	-	1337	7.4					0 0	205 3.36		197 5.55								365	197	TTL
		11-16-58	-	1285	7.2					0 0	212 3.48		205 5.78								334	160	DWR
Jack Graves Dom. and Irr.	16S/1W-1G1	6-24-58	-	2030	7.1	152 7.60	87 7.16	139 6.06	3.10 0.077	0 0	286 4.68	305 6.35	264 7.44	138 2.22	0.20 0.010	0.10	28		1378	29	738	504	TTL
Bob Gilb Dom. and Irr.	16S/1W-2K6	6-24-58	-	1868	7.3					0 0	269 4.42		340 9.58								475	254	TTL
		11-16-58	-	1869	7.4					0 0	285 4.68		398 11.22								550	316	DWR
City of El Cajon Dom.	16S/1W-3C2	5-28-58	-	1670	7.9	78 3.90	36 2.95	190 8.25	2.1 0.054	0 0	162 2.65	65 1.36	410 11.55	6.8 0.110	0.5 0.025	0.12	28		1062	54	343	210	DWR
		11-16-58	-	1690	8.1	80 4.00	38 3.15	192 8.36	2.9 0.073	0 0	153 2.50	72 1.49	413 11.65	4.9 0.079	0.3 0.015	0.13	26		1021	54	358	233	DWR
Ed Fletcher Co. Mun.	16S/1W-3N1	6-24-58	76	1450	7.0					0 0	189 3.10		326 9.18								367	212	TTL
		11-16-58	78	1072	8.1	78 3.90	44 3.60	126 5.48	6.1 0.156	0 0	174 2.85	56 1.16	323 9.10	22 0.360	0.2 0.10	0.11	35		861	42	195	52	DWR
Ed Fletcher Co. Mun.	16S/1W-10D1	6-24-58	-	1411	7.7					0 0	166 2.72		310 8.73								215	79	TTL
		11-16-58	-	1335	7.9	60 3.00	28 2.30	150 6.52	5.3 C.135	0 0	162 2.65	53 1.09	298 8.40	9.7 0.16	0.3 0.015	0.15	27		189	55	265	132	DWR
Ed Fletcher Co. Mun.	16S/1W-10E2	6-24-58	78	1494	7.8	89 2.44	11 0.90	221 9.60	3.90 0.104	0 0	129 2.12	60 1.25	345 9.72	0 0	0.44 0.021	0.80	35		996	74	167	61	TTL
		11-16-58	78	1377	7.8					0 0	132 2.16		345 9.73								167	59	TTL
J. K. Conaway Irr.	16S/1W-11P4	6-24-58	-	3503	7.25	178 8.92	102 8.44	358 15.55	19.40 0.50	0 0	330 5.36	169 3.52	782 22.21	98 1.58	0.30 0.016	0.50	41		2289	47	868	600	TTL
		11-16-58	-	3107	7.5	175 8.73	91 7.45	376 16.36	2.9 0.074	0 0	337 5.52	153 3.18	750 21.15	160 2.58	0.6 0.032	0.20	50		2232	50	809	533	DWR
Bud Robinson Dom.	16S/1W-12J4	6-24-58	-	1864	7.1	108 5.40	77 6.30	128 5.45	5.30 0.144	0 0	189 3.10	78 1.62	399 11.24	61 0.99	0.11 0.005	0.70	35		1287	32	585	430	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Terminal Testing Laboratories, Inc. (T.T.L.), or State Department of Water Resources (D.W.R.), as indicated
d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

QUALITY OF GROUND WATERS IN CALIFORNIA
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1958

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
						EL CAJON VALLEY (9-16) (Cont.)																	
	SBB&M																						
Bud Robinson Dom.	16S/1W-12J4	11-16-58	-	1305	7.5	115 / 5.74	84 / 6.88	129 / 5.61	4.6 / 0.12	0 / 0	185 / 3.04	75 / 1.57	426 / 12.01	88 / 1.4	0.3 / 0.016	0.0	50		1464	31	631	479	DWR
R. S. Embleton Dom.	16S 1W-15K2	6-24-58	-	3098	7.45	88 / 4.40	75 / 6.16	455 / 19.80	9.20 / 0.24	0 / 0	525 / 8.60	219 / 4.56	575 / 16.20	34 / 0.55	0.22 / 0.010	0.20	32		2004	65	528	98	TTL
		11-16-58	-	2681	7.3					0 / 0	510 / 8.36		535 / 15.09								497	79	DWR

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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Per cent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
								TIA JUANA VALLEY BASIN (9-19)															
	SBB&M																						
Calif. Water and Telephone Co. Test	18S/2W-32H1	6-26-58	69	3968	7.7	157 7.83	85 6.99	600 26.10	4.5 0.12	0 0	684 11.21	276 5.76	875 24.68	0 0	0.8 0.04	0.59	10		2384	63	740	18C	DWR
Calif. Dept. of Veterans Affairs	18S/2W-32P2	3-4-58	-	4680	-								1208 34.07										
		11-4-58	-	6000	-								1647 46.45										
Calif. Telephone Water Co.	18S/2W-32P4	6-26-58	71	13175	7.4	228 11.38	353 29.01	2240 97.44	71 1.82	0 0	42 0.69	342 7.13	4600 129.70	0 0	0.5 0.026	0.45	5		8780	70	2019	1984	
		11-13-58	68	14829	7.9					0 0	32 0.53		5090 143.4								2224	2197	TTL
James Jackson Irr.	18S/2W-33K4	11-18-58	67	3927	7.7					0 0	447 7.33		670 18.87								958	591	TTL
Henry Schaffner Irr.	18S/2W-35L1	6-25-58	69	5005	7.4	245 12.23	141 11.59	672 29.23	4.6 0.12	0 0	562 9.21	357 7.44	1275 35.96	15 0.24	0.9 0.05	0.64	20		3225	55	1190	730	DWR
		11-18-58	-	5392	7.3					0 0	574 9.42		1338 37.69								1243	772	TTL
San Ysidro Irrigation District Mun.	19S/2W-1E4	6-25-58	68	3133	7.5	175 8.78	80 6.57	360 15.67	4.8 0.12	0 0	378 6.19	228 4.76	730 20.59	0 0	0.7 0.04	0.47	20		1971	50	765	456	DWR
		11-18-58	68	3820	7.7	224 11.22	91 7.51	460 20.00	6.1 0.16	0 0	421 6.90	284 5.93	950 26.75	0 0	0.7 0.04	0.72	21		2544	51	936	591	TTL
San Ysidro Irrigation District Irr.	19S/2W-1E8	11-18-58	68	5663	7.5	295 14.70	121 9.96	741 32.20	9.2 0.24	0 0	518 8.50	446 9.28	1414 39.82	0 0	0.6 0.03	0.64	22		3744	56	1233	808	TTL
San Ysidro Irrigation District Irr.	19S/2W-2E1	6-25-58	67	3882	7.6	213 10.63	84 6.90	494 21.49	5.5 0.14	0 0	426 6.98	398 8.29	870 24.53	23 0.36	0.9 0.05	0.49	15		2503	55	875	526	DWR
		7-1-58	-	3920									871 24.56										
Aballo and Wright Irr.	19S/2W-3A1	6-25-58	68	4073	7.4	225 11.23	89 7.32	575 25.01	5.2 0.14	0 0	416 6.82	467 9.73	920 25.94	16 0.25	0.9 0.05	0.47	20		2662	57	927	586	DWR
		11-18-58	68	4472	7.5					0 0	439 7.20		996 28.06								1022	662	TTL

a Determined by addition of constituents.
b. Gravimetric determination.
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d Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr).

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Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
						Mineral constituents in parts per million / equivalents per million																	
						TIA JUANA VALLEY BASIN (9-19) (Cont.)																	
	SBB&M																						
Calif. Water and Telephone Co. Dom.	19S/2W-4A5	1-7-58	-	2330									416 / 11.73										
		5-29-58	67	2380	7.7	122 / 6.10	74 / 6.05	272 / 11.81	7.6 / 0.95	0 / 0	317 / 5.20	270 / 5.62	464 / 13.10	5.1 / 0.08	0.6 / 0.03	0.15	23		1457	49	608	348	DWR
		11-18-58	66	2280	8.0	146 / 7.30	62 / 5.10	264 / 11.50	4.2 / 0.107	0 / 0	333 / 5.45	300 / 6.20	454 / 12.80	3.7 / 0.060	0.6 / 0.03	0.13	20		1513	48	365	348	DWR
Calif. Water and Telephone Co. Test	19S/2W-5C6	6-26-58	71	14700	6.9	593 / 29.59	386 / 31.73	2130 / 92.66	24 / 0.61	0 / 0	20 / 0.33	406 / 8.46	5150 / 145.2	2.2 / 0.03	0.5 / 0.03	0.31	2		10640	60	3069	3053	DWR
Knox Dairy Irr.	19S/2W-5G18	6-25-58	70	6574	7.5	331 / 16.51	166 / 13.65	935 / 40.67	5.0 / 0.13	0 / 0	445 / 7.29	500 / 10.42	1915 / 54.00	1.8 / 0.03	0.8 / 0.04	0.54	30		4416	57	1508	1143	DWR
Calif. Water and Telephone Co. Test	19S/2W-5L2	6-26-58	69	2470	7.5	46 / 2.30	36 / 2.96	396 / 17.23	6.7 / 0.17	0 / 0	86 / 1.41	30 / 0.63	715 / 20.16	0 / 0	0.7 / 0.04	0.27	5		1450	76	263	193	DWR
		11-18-58	68	2520	7.5	29 / 1.45	31 / 2.55	458 / 19.91	1.1 / 0.028	0 / 0	52 / 0.85	56 / 1.15	794 / 22.70	2.2 / 0.035	0.2 / 0.010	0.14	2		1504	83	73		DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), or State Department of Water Resources (D.W.R.), as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), and Chromium (Cr)

APPENDIX D

RADIOASSAY OF GROUND WATER

Radiological Criteria

According to the International Commission on Radiological Protection[1], and tentatively concurred with by the National Committee on Radiation Protection[2], if the Radium-226 and Radium-228 activity in water is substantially less than 10 $\mu\mu c/l$, the maximum permissible concentration of otherwise unidentified radionuclides in water for individuals in the population at large may be considered to be 100 $\mu\mu c/l$.

For the purposes of the environmental survey of ground water made for this report, it has been assumed that the total alpha activity is derived from Ra^{226} and Ra^{228}.

During the 1958 reporting year, the highest alpha activity observed was 6.33 $\mu\mu c/l$. It is believed that the maximum permissible concentration of 100 $\mu\mu c/l$, as recommended by the I.C.R.P., is applicable to all wells sampled in the ground water monitoring program during 1958.

Procedure and Interpretation of Results For Water Pollution Radioassay

I. Analytical Procedures, Ground Water

1. Sample Preparation

   a. Samples are collected in one-half gallon jugs by the Department of Water Resources and delivered to the Radiological Laboratory of the California Disaster Office for radioassay.

1 "Report on Decisions of the 1959 Meeting of the International Commission on Radiological Protection (ICRP)". Radiology, Vol. 74, No. 1, January 1960, pp. 116-119.

2 Somatic Radiation Dose for the General Population, Ad Hoc Committee of the National Committee on Radiation Protection and Measurements. Science, Vol. 131, No. 3399, February 19, 1960, pp. 482-486.

b. Each sample is mixed by agitating the jug, and one 250 ml aliquot is removed.

c. The aliquot is placed in a 250 ml volumetric flask and one drop of aerosol solution added. The flask is inverted with the mouth placed in a 2" x 1/4" aluminum culture dish that has been treated with Desicote. The flask is supported by a ring stand and the water level adjusted to the lip of the dish in a "chicken-feeder-type" arrangement. The dish rests on a hotplate regulated so that the specimen is taken to dryness at a temperature well below the boiling point to prevent spattering.

d. The specimen is now ready to be measured for radioactivity.

2. Counting Techniques

a. A gross beta-gamma determination is made for each specimen.

b. Beta-gamma activity is determined with an internal gas flow counter operating in the proportional region, using argon-methane mixture as a flow gas. Background determinations are made before the first specimen count each day, and subsequently after each four specimen counts throughout the day. Determinations of counter efficiency are made with a reference standard (Thallium 204). Each determination of specimen and background count rate is made for a total of 1,024 counts. Average time required for each specimen count is from 30 to 40 minutes.

II. Limitations of Methods Employed

1. Sample Preparation

A perfect sample for determination of radioactive content would be infinitely thin, and would contain all of the constituents of the original material except the water.

In practice, those criteria are virtually impossible to attain. Essentially, infinitely thin samples can be prepared only from water with low solid and dissolved salts contents. Some solid and dissolved materials may be absorbed on the walls of vessels used in sample collection and preparation. Volitilization and losses from spattering during volume reduction cannot be completely avoided.

Thus, obviously, radioassay results are dependent upon sample preparation techniques.

2. Nature of the Radioactive Disintegration Process and the Measurement Thereof

At least three factors make the exact determinations of low levels of radioactivity extremely difficult. These are:

a. The random nature of the radioactive disintegration process limiting the accuracy of any determination because of statistical fluctuations inherent in the counting data.

b. The low ratio of sample count to background count. Any detector of radioactivity always measures (in the absence of an active sample) at a certain --and not always constant--level, which is termed the background radiation level. This is caused by cosmic radiation, traces of naturally occurring radioactive materials, and sometimes by "noise" characteristic of the electronic equipment used. In making determinations on samples in which the counting rate is only slightly higher than the background counting rate, inherent errors are relatively large.

c. Self-absorption. Unless samples are essentially infinitely thin, alpha and low-energy beta radiation arising from the lower layers of the samples may not penetrate the upper layers, and therefore remain undetected.

Corrections can be made for self-absorption when dealing with known radioisotopes. In cases where the contaminant is not identifiable, these corrections cannot, as a rule, be made.

3. Calculations

There are three values which can lead to errors in the reported results. These are:

a. Geometric efficiency. This factor is determined using artificial standards. These are not prepared in the same manner as samples. Also, it is possible that the energy of radiations emanating from the two standards may be significantly different from the unknown. Both of these considerations make the factors used rather artificial, and somewhat in error. It is not possible to determine the magnitude of this error, although it is probably not large in most cases.

b. Errors in sample count. Reasons for this were discussed in sections 1 and 2 above.

c. Errors in confidence limits. Statistical computations made are based on the Gaussian approximation of the Poisson distribution law. At low count rates, this approximation is subject to error. The calculated confidence limits are based solely on statistical fluctuations caused by the random nature of the radioactive disintegration process. It is assumed that counts produced by background radiation and by electronic noise are also random. By taking every possible measure to reduce sources of error, it is possible to obtain a relatively accurate measure of these low levels. As activity levels increase from near background, the precision of measurement increases correspondingly.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			NORTH COASTAL REGION (NO. 1)			
			SMITH RIVER PLAIN (1-1)			
16N/1W-2Q1	6-23-58	0.86 ± 0.51	4-7-59	3.26 ± 3.3	5-8-59	4.12
16N/1W-7F1	10-29-58	0.0 ± 0.24	4-7-59	0.47 ± 3.4	5-8-59	0.47
16N/1W-9D1	7-6-58	0.16 ± 0.15	4-7-59	4.35 ± 3.3	5-8-59	4.51
16N/1W-18F1	9-25-58	0.16 ± 0.40	4-8-59	2.79 ± 3.4	5-9-59	2.95
16N/1W-20N1	10-29-58	0.69 ± 0.54	4-7-59	0.52 ± 3.3	5-8-59	1.21
17N/1W-2G1	9-15-58	0.17 ± 0.30	4-7-59	3.38 ± 3.4	5-8-59	3.55
17N/1W-9A1	7-18-58	0.86 ± 0.56	4-7-59	0.0 ± 3.3	5-8-59	0.86
17N/1W-14C1	10-29-58	0.16 ± 0.27	4-7-59	1.85 ± 3.2	5-8-59	2.01
17N/1W-15E1	6-25-58	0.51 ± 0.51	4-7-59	0.97 ± 3.4	5-8-59	1.48
18N/1W-5G1	8-11-58	0.15 ± 0.14	4-7-59	3.15 ± 3.4	5-8-59	3.30
18N/1W-26D1	9-4-58	0.69 ± 0.54	4-7-59	2.93 ± 3.4	5-8-59	3.62
18N/1W-34M2	8-11-58	0.17 ± 0.30	4-7-59	0.0 ± 3.4	5-8-59	0.17
			BUTTE VALLEY (1-3)			
45N/1E-2L1	7-11-58	0.32 ± 0.34	4-8-59	3.32 ± 3.3	5-11-59	3.64
45N/1E-9C2	7-30-58	0.36 ± 0.41	4-8-59	7.06 ± 3.3	5-11-59	7.42
45N/2W-1P1	7-30-58	1.17 ± 0.51	4-8-59	0.19 ± 3.2	5-11-59	1.36
46N/1W-2F1	7-30-58	0.15 ± 0.26	4-9-59	3.13 ± 3.3	5-11-59	3.28

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		BUTTE VALLEY (Continued)				
46N/1W-17B1	7-30-58	1.00 ± 0.52	4-8-59	6.09 ± 3.3	5-11-59	7.09
46N/2W-25R2	7-30-58	0.0 ± 0.17	4-8-59	2.71 ± 3.3	5-11-59	2.71
47N/1E-29N1	7-30-58	0.18 ± 0.17	4-8-59	7.42 ± 3.3	5-11-59	7.60
47N/1W-23H1	8-28-58	0.15 ± 0.26	4-9-59	34.24 ± 3.3	5-11-59	34.39
47N/1W-34Q1	3-28-58	0.45 ± 0.39	4-9-59	7.42 ± 3.3	5-11-59	7.87
48N/1W-28F1	8-6-58	0.18 ± 0.38	4-8-59	2.52 ± 3.3	5-11-59	2.70
		SHASTA VALLEY (1-4)				
42N/5W-20J1	7-29-58	0.0 ± 0.24	4-8-59	2.71 ± 3.3	5-11-59	2.71
42N/6W-10J1	7-29-58	0.32 ± 0.41	4-8-59	3.74 ± 3.3	5-11-59	4.06
43N/5W-2C1	7-29-58	0.16 ± 0.30	4-8-59	9.06 ± 3.3	5-11-59	9.22
43N/6W-21R1	7-22-58	0.49 ± 0.54	4-8-59	6.51 ± 3.5	5-9-59	7.00
44N/4W-6M1	7-27-58	0.36 ± 0.48	4-8-59	7.28 ± 3.3	5-11-59	7.64
44N/5W-32F1	7-14-58	1.00 ± 0.59	4-8-59	2.93 ± 3.3	5-11-59	3.93
44N/5W-34H1	7-18-58	0.32 ± 0.34	4-8-59	6.31 ± 3.3	5-11-59	6.63
45N/6W-19E1	7-27-58	0.91 ± 0.56	4-8-59	0.0 ± 3.2	5-11-59	0.91
		SCOTT RIVER VALLEY (1-5)				
42N/9W-2G1	7-31-58	0.32 ± 0.24	4-8-59	0.58 ± 3.2	5-11-59	0.90

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		SCOTT RIVER VALLEY (Continued)				
42N/9W-10Q1	7-31-58	0.16 ± 0.17	4-8-59	3.13 ± 3.3	5-11-59	3.29
43N/9W-24F1	7-31-58	0.0 ± 0.24	4-8-59	3.54 ± 3.3	5-11-59	3.54
44N/9W-34R1	7-21-58	0.66 ± 0.52	4-8-59	0.0 ± 3.3	5-9-59	0.66
		MAD RIVER VALLEY (1-8)				
5N/1E-4H1	9-10-58	0.15 ± 0.17	4-8-59	0.22 ± 3.2	5-9-59	0.37
5N/1E-8J1	9-10-58	0.0 ± 0.22	4-8-59	0.0 ± 3.2	5-9-59	0.0
6N/1E-7M1	9-12-58	0.15 ± 0.17	4-8-59	6.51 ± 3.5	5-9-59	6.66
6N/1E-16N1	9-10-58	0.53 ± 0.40	4-7-59	1.05 ± 3.2	5-9-59	1.58
6N/1E-17D1	11-11-58	0.33 ± 0.25	4-8-59	2.57 ± 3.4	5-9-59	2.90
6N/1E-19Q1	9-10-58	0.17 ± 0.31	4-7-59	5.90 ± 3.3	5-9-59	6.07
6N/1E-30N1	9-10-58	0.35 ± 0.43	4-7-59	3.29 ± 3.2	5-9-59	3.64
6N/1E-32F1	9-10-58	0.35 ± 0.35	4-7-59	7.75 ± 3.4	5-9-59	8.10
6N/1W-1H1	9-10-58	0.17 ± 0.17	4-7-59	3.49 ± 3.2	5-9-59	3.66
6N/1W-1P1	9-11-58	0.15 ± 0.26	4-8-59	9.44 ± 3.5	5-9-59	9.59
		EURFKA PLAIN (1-9)				
5N/1E-18Q1	9-10-58	0.15 ± 0.26	4-8-59	7.75 ± 3.4	5-9-59	7.90
5N/1W-20Q1	9-10-58	0.17 ± 0.31	4-7-59	3.15 ± 3.3	5-9-59	3.32

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			EEL RIVER VALLEY (1-10)			
2N/1W-4D1	9-9-58	0.35 ± 0.43	4-7-59	2.66 ± 3.2	5-9-59	3.01
2N/1W-7A1	9-10-58	0.16 ± 0.15	4-7-59	0.0 ± 3.2	5-8-59	0.16
2N/1W-17G1	9-10-58	0.0 ± 0.22	4-7-59	0.24 ± 3.2	5-8-59	0.24
3N/1W-18D2	9-10-58	0.16 ± 0.34	4-7-59	0.05 ± 3.2	5-9-59	0.21
3N/1W-29C1	9-9-58	0.15 ± 0.26	4-8-59	2.46 ± 3.2	5-9-59	2.61
3N/1W-30N1	9-11-58	0.31 ± 0.39	4-7-59	6.81 ± 3.4	5-9-59	7.12
3N/2W-2A2	9-10-58	0.0 ± 0.27	4-7-59	3.40 ± 3.2	5-9-59	3.49
3N/2W-13J1	9-10-58	0.16 ± 0.34	4-7-59	0.05 ± 3.2	5-9-59	0.21
3N/2W-27G1	9-10-58	0.15 ± 0.17	4-8-59	7.75 ± 3.5	5-9-59	7.90
3N/2W-32Q1	9-9-58	0.0 ± 0.22	4-8-59	8.95 ± 3.4	5-9-59	8.95
3N/2W-35M1	9-10-58	0.16 ± 0.15	4-7-59	11.44 ± 3.5	5-8-59	11.60
			UKIAH VALLEY (1-15)			
14N/12W-5K1	9-4-58	0.60 ± 0.34	5-7-59	3.30 ± 3.8	5-16-59	3.90
14N/12W-11N1	7-15-58	0.0 ± 0.21	4-10-59	3.54 ± 3.0	5-12-59	3.54
14N/12W-26K1	9-4-58	0.15 ± 0.17	5-7-59	10.84 ± 4.0	5-16-59	10.99
15N/12W-8D1	7-15-58	0.15 ± 0.15	4-10-59	2.13 ± 2.8	5-12-59	2.28
15N/12W-16E1	9-4-58	0.30 ± 0.22	5-7-59	5.89 ± 3.9	5-16-59	6.19

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
UKIAH VALLEY (Continued)						
15N/12W-21H1	9-4-58	0.15 ± 0.15	5-7-59	2.75 ± 3.8	5-16-59	2.90
15N/12W-35D1	7-15-58	0.0 ± 0.24	4-10-59	0.0 ± 3.1	5-12-59	0.0
16N/12W-5D1	7-15-58	0.0 ± 0.21	4-10-59	5.18 ± 3.1	5-12-59	5.18
16N/12W-9Q1	7-15-58	0.30 ± 0.30	4-10-59	3.18 ± 2.8	5-12-59	3.48
17N/12W-28M1	7-15-58	0.0 ± 0.21	4-10-59	0.30 ± 2.7	5-12-59	0.30
17N/12W-28M1	9-4-58	0.30 ± 0.24	5-7-59	4.70 ± 3.9	5-16-59	5.00
SANEL VALLEY (1-16)						
12N/11W-2F1	7-15-58	0.18 ± 0.38	4-10-59	0.49 ± 3.1	5-12-59	0.67
13N/11W-7D1	7-15-58	0.15 ± 0.15	4-10-59	4.98 ± 3.1	5-12-59	5.13
13N/11W-18B1	7-15-58	0.15 ± 0.21	4-10-59	0.0 ± 2.7	5-12-59	0.15
13N/11W-19N1	9-4-58	0.15 ± 0.28	5-7-59	6.46 ± 3.9	5-16-59	6.61
13N/11W-30H1	9-4-58	0.0 ± 0.34	5-7-59	2.47 ± 3.8	5-16-59	2.47
ALEXANDER VALLEY (1-17)						
9N/8W-7Q1	7-58	0.36 ± 0.50	4-10-59	0.0 ± 3.1	5-13-59	0.36
9N/9W-1P1	7-58	0.54 ± 0.54	4-10-59	1.63 ± 3.2	5-13-59	2.17
10N/9W-18R1	7-58	0.54 ± 0.40	4-10-59	4.21 ± 3.3	5-13-59	4.75
10N/9E-26L1	7-58	0.28 ± 0.20	4-13-59	3.57 ± 3.0	5-13-59	3.85

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		ALEXANDER VALLEY (Continued)				
10N/9W-32R1	7-58	0.36 ± 0.34	4-10-59	0.0 ± 3.1	5-12-59	0.36
11N/10W-28N1	7-58	0.14 ± 0.14	4-13-59	2.27 ± 3.0	5-13-59	2.41
11N/10W-33A1	7-58	0.42 ± 0.31	4-13-59	1.63 ± 3.2	5-13-59	2.05
11N/10W-33G1	7-58	0.54 ± 0.40	4-10-59	0.0 ± 3.1	5-13-59	0.54
		SANTA ROSA VALLEY (1-18)				
5N/9W-3F1	7-58	0.36 ± 0.57	4-10-59	0.0 ± 3.1	5-13-59	0.36
6N/8W-3B1	7-58	0.0 ± 0.22	4-10-59	3.60 ± 3.3	5-13-59	3.60
6N/8W-16R1	7-58	0.54 ± 0.59	4-10-59	0.0 ± 3.1	5-13-59	0.54
6N/8W-35A2	7-58	0.16 ± 0.28	4-10-59	0.0 ± 3.1	5-12-59	0.16
6N/9W-2G1	7-58	0.57 ± 0.28	4-13-59	0.88 ± 3.0	5-13-59	1.45
7N/6W-29P1	7-58	0.18 ± 0.31	4-10-59	1.82 ± 3.2	5-13-59	2.00
7N/7W-15C1	7-58	0.65 ± 0.39	4-10-59	4.84 ± 3.3	5-12-59	5.49
7N/7W-29D1	7-58	0.16 ± 0.32	4-10-59	5.04 ± 3.3	5-12-59	5.20
7N/8W-3L1	7-58	0.54 ± 0.34	4-10-59	0.0 ± 3.1	5-12-59	0.54
7N/8W-5G1	7-58	0.16 ± 0.42	4-10-59	6.67 ± 3.3	5-13-59	6.92
7N/8W-18Q1	7-58	0.18 ± 0.38	4-10-59	4.84 ± 3.3	5-12-59	5.02
7N/8W-24A4	7-58	0.0 ± 0.34	4-10-59	6.53 ± 3.3	5-12-59	6.53

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		SANTA ROSA VALLEY (Continued)				
7N/8W-33M1	7-58	0.16 ± 0.36	4-10-59	7.42 ± 3.3	5-12-59	7.58
7N/9W-9F1	7-58	0.16 ± 0.28	4-10-59	3.60 ± 3.3	5-12-59	3.76
7N/9W-29R1	7-58	0.32 ± 0.32	4-10-59	0.0 ± 3.1	5-12-59	0.32
7N/9W-36M1	7-58	0.0 ± 0.20	4-13-59	0.0 ± 3.1	5-13-59	0.0
8N/8W-20Q1	7-58	0.18 ± 0.43	4-10-59	10.91 ± 3.3	5-13-59	11.09
8N/9W-36P1	7-58	0.14 ± 0.24	4-13-59	2.60 ± 3.2	5-13-59	2.74

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		SAN FRANCISCO BAY REGION (NO. 2)				
		CLAYTON VALLEY (2-5)				
1N/1W-4A1	8-13-58	0.0 ± 0.24	2-24-59	3.75 ± 3.5	4-20-59	3.75
1N/1W-4R1	8-13-58	0.17 ± 0.17	2-24-59	4.96 ± 3.6	4-20-59	5.13
2N/1W-30J1	8-12-58	0.0 ± 0.30	2-20-59	1.04 ± 3.6	4-18-59	1.04
2N/1W-30K1	8-12-58	0.0 ± 0.34	2-20-59	2.31 ± 3.6	4-18-59	2.31
2N/1W-31D1	8-12-58	0.17 ± 0.17	2-20-59	0.55 ± 3.6	4-18-59	0.72
2N/1W-32Q1	8-13-58	0.17 ± 0.30	2-24-59	0.0 ± 3.3	4-20-59	0.17
2N/2W-13P1	8-13-58	0.68 ± 0.54	2-20-59	1.79 ± 3.5	4-20-59	2.47
2N/2W-26B1	8-13-58	0.17 ± 0.17	2-20-59	0.0 ± 3.4	4-20-59	0.17
2N/2W-36J1	8-12-58	0.0 ± 0.34	2-20-59	1.82 ± 3.6	4-18-59	1.82
		YGNACIO VALLEY (2-6)				
1N/1W-7K1	8-13-58	0.0 ± 0.34	2-24-59	5.57 ± 3.6	4-20-59	5.57
1N/1W-19B1	8-14-58	0.17 ± 0.17	2-24-59	0.0 ± 3.4	4-20-59	0.17
1N/1W-29G1	8-13-58	0.0 ± 0.34	2-24-59	0.0 ± 3.5	4-20-59	0.0
1N/2W-11N1	8-13-58	0.17 ± 0.17	2-24-59	0.13 ± 3.5	4-20-59	0.30
1N/2W-13P1	8-13-58	0.33 ± 0.24	2-24-59	1.54 ± 3.5	4-20-59	1.87

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		YGNACIO VALLEY (continued)				
1N/2W-35D1	8-13-58	0.17 ± 0.17	2-20-59	2.26 ± 3.5	4-20-59	2.43
2N/2W-27R1	8-13-58	0.33 ± 0.24	2-20-59	0.38 ± 3.5	4-20-59	0.71
2N/2W-36E1	8-12-58	0.17 ± 0.17	2-20-59	0.0 ± 3.6	4-18-59	0.17
		SOUTH BAY AREA OF SANTA CLARA VALLEY (2-9)				
5S/3W-35G1	10-8-58	0.91 ± 0.51	4-9-59	4.82 ± 3.1	5-12-59	5.73
6S/1E-8N1	10-3-58	0.0 ± 0.25	4-9-59	0.0 ± 3.3	5-12-59	0.0
6S/1E-30M1	10-2-58	0.54 ± 0.47	4-9-59	2.93 ± 3.3	5-12-59	3.47
6S/1W-11B1	10-2-58	0.18 ± 0.40	4-9-59	4.07 ± 3.0	5-12-59	4.25
6S/1W-16A1	10-3-58	0.0 ± 0.43	4-9-59	2.60 ± 3.0	5-12-59	2.60
6S/2W-17D1	10-8-58	0.15 ± 0.33	4-10-59	2.02 ± 3.0	5-12-59	2.17
6S/2W-24M2	11-4-58	0.0 ± 0.34	4-9-59	0.60 ± 3.0	5-12-59	0.60
6S/3W-1B1	10-8-58	0.0 ± 0.50	5-9-59	0.0 ± 3.3	5-12-59	0.0
6S/3W-2D1	10-8-58	0.0 ± 0.25	4-9-59	3.13 ± 3.3	5-12-59	3.13
6S/3W-12C1	10-8-58	0.36 ± 0.35	4-9-59	2.13 ± 3.0	5-12-59	2.49
		LIVERMORE VALLEY (2-10)				
3S/1E-9K1	9-9-58	0.28 ± 0.28	3-16-59	3.04 ± 3.4	5-1-59	3.32

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			LIVERMORE VALLEY (continued)			
3S/1E-10E1	9-9-58	0.42 ± 0.31	3-16-59	5.34 ± 3.5	5-1-59	5.76
3S/1E-11H1	9-9-58	0.0 ± 0.37	3-16-59	2.77 ± 3.5	5-1-59	2.77
3S/1E-13P2	9-9-58	0.42 ± 0.46	3-16-59	0.24 ± 3.4	5-1-59	0.66
3S/1E-16P1	9-9-58	0.70 ± 0.37	3-16-59	0.69 ± 3.4	5-1-59	1.39
3S/2E-4M1	9-9-58	0.49 ± 0.43	3-16-59	3.82 ± 3.4	5-1-59	4.31
3S/2E-6P1	9-9-58	0.0 ± 0.28	3-16-59	2.8 ± 3.4	5-1-59	2.8
3S/2E-7K1	9-9-58	0.42 ± 0.42	3-16-59	15.48 ± 3.8	5-1-59	15.90
3S/2E-10E1	9-8-58	0.30 ± 0.21	3-12-59	10.05 ± 3.5	4-30-59	10.35
3S/2E-10H1	9-8-58	0.0 ± 0.32	3-12-59	0.19 ± 3.3	4-30-59	0.19
3S/2E-11K1	9-8-58	0.32 ± 0.45	3-12-59	3.02 ± 3.3	4-30-59	3.34
3S/2E-12M1	9-8-58	0.0 ± 0.39	3-12-59	8.59 ± 3.5	4-30-59	8.59
3S/2E-14A1	9-8-58	0.16 ± 0.42	3-12-59	0.91 ± 3.3	4-30-59	1.07
3S/2E-15C1	9-8-58	0.0 ± 0.30	3-12-59	4.07 ± 3.3	4-30-59	4.07
3S/2E-16J1	9-9-58	0.32 ± 0.40	3-16-59	9.14 ± 3.6	5-1-59	9.46
3S/2E-17N1	9-8-58	0.97 ± 0.50	3-12-59	1.77 ± 3.2	4-30-59	2.74
3S/2E-19F1	9-8-58	0.32 ± 0.22	3-12-59	1.38 ± 3.2	4-30-59	1.70

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
LIVERMORE VALLEY (continued)						
3S/2E-20K1	9-8-58	0.16 ± 0.16	3-12-59	5.01 ± 3.2	4-30-59	5.17
3S/2E-26J1	9-9-58	0.32 ± 0.40	3-16-59	2.60 ± 3.4	5-1-59	2.92

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		CENTRAL COASTAL REGION (NO. 3)				
		PAJARO VALLEY (3-2)				
12S/1E-10J1	8-19-58	0.17 ± 0.17	2-24-59	0.0 ± 3.5	4-20-59	0.17
12S/1E-14J1	8-19-58	0.17 ± 0.24	2-24-59	0.0 ± 3.4	4-20-59	0.17
12S/1E-23R1	8-19-58	0.17 ± 0.30	2-24-59	5.57 ± 3.6	4-20-59	5.74
12S/1E-25B2	8-19-58	0.17 ± 0.30	2-24-59	5.57 ± 3.6	4-20-59	5.74
12S/1E-25C1	8-19-58	0.0 ± 0.24	2-24-59	7.17 ± 3.7	4-20-59	7.17
12S/2E-12E1	8-19-58	0.17 ± 0.30	2-24-59	0.0 ± 3.5	4-20-59	0.17
12S/2E-18A3	8-19-58	0.0 ± 0.24	2-24-59	4.77 ± 3.6	4-20-59	4.77
12S/2E-20K1	7-25-58	0.82 ± 0.39	3-4-59	0.0 ± 3.8	4-22-59	0.82
12S/2E-21L1	7-25-58	0.27± 0.33	3-4-59	4.63 ± 3.3	4-22-59	4.90
12S/2E-29A1	7-25-58	0.68 ± 0.34	2-25-59	1.21 ± 3.4	4-21-59	1.89
12S/2E-29E1	7-25-58	0.00 ± 0.27	3-4-59	3.75 ± 3.3	4-22-59	3.75
12S/2E-29L1	7-25-58	0.50 ± 0.38	2-25-59	0.0 ± 3.3	4-21-59	0.50
12S/2E-29P1	7-25-58	0.17 ± 0.30	2-25-59	0.0 ± 3.3	4-21-59	0.17
12S/2E-30F3	7-25-58	0.0 ± 0.19	3-4-59	1.43 ± 3.2	4-22-59	1.43
12S/2E-30N1	7-25-58	0.17 ± 0.30	2-25-59	0.35 ± 3.4	4-21-59	0.52
12S/2E-30P1	7-28-58	0.17 ± 0.30	3-4-59	7.14 ± 3.4	4-22-59	7.31
12S/2E-31A1	7-25-58	0.17 ± 0.30	2-25-59	5.57 ± 3.5	4-21-59	5.74
12S/2E-31C1	7-24-58	0.17 ± 0.17	2-25-59	0.0 ± 3.3	4-21-59	0.17

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			PAJARO VALLEY (CONTINUED)			
12S/2E-31K1	7-25-58	0.0 ± 0.24	2-25-59	6.31 ± 3.5	4-21-59	6.31
12S/2E-32C1	7-25-58	0.0 ± 0.24	2-25-59	2.75 ± 3.4	4-21-59	2.75
12S/2E-32N1	7-28-58	0.33 ± 0.34	3-4-59	7.14 ± 3.5	4-22-59	7.47
12S/3E-7B1	7-18-58	0.0 ± 0.17	2-24-59	2.26 ± 3.6	4-20-59	2.26
12N/3E-9Q1	7-18-58	0.17 ± 0.17	2-24-59	0.85 ± 3.6	4-20-59	1.02
13S/1E-1A1	7-28-58	0.33 ± 0.41	3-4-59	8.33 ± 3.5	4-22-59	8.66
13S/2E-4K1	7-24-58	0.0 ± 0.24	2-25-59	3.91 ± 3.5	4-21-59	3.91
13S/2E-5M1	7-24-58	0.17 ± 0.30	2-25-59	4.16 ± 3.5	4-21-59	4.33
13S/2E-6E3	7-24-58	0.50 ± 0.38	2-25-59	0.0 ± 3.2	4-21-59	0.50
13S/2E-6F3	7-24-58	0.0 ± 0.19	3-4-59	0.0 ± 3.1	4-22-59	0.0
13S/2E-6R1	7-24-58	0.50 ± 0.38	2-25-59	8.08 ± 3.5	4-21-59	8.58
13S/2E-7B1	7-24-58	0.85 ± 0.38	2-25-59	0.0 ± 3.3	4-21-59	0.85
13S/2E-7B2	7-24-58	1.02 ± 0.41	2-25-59	0.0 ± 3.1	4-21-59	1.02
			SALINAS VALLEY (3-4)			
13S/2E-7R1	6-24-58	0.17 ± 0.17	2-25-59	5.10 ± 3.5	4-21-59	5.27
13S/2E-16E1	6-24-58	0.17 ± 0.17	2-25-59	5.35 ± 3.4	4-21-59	5.52

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			SALINAS VALLEY (CONTINUED)			
13S/2E-17H1	6-24-58	0.50 ± 0.30	2-25-59	12.13 ± 3.6	4-21-59	12.63
13S/2E-19R1	6-18-58	0.0 ± 0.41	3-4-59	2.48 ± 3.3	4-22-59	2.48
13S/2E-20R2	6-18-58	0.33 ± 0.54	3-4-59	5.51 ± 3.4	4-22-59	5.84
13S/2E-29C4	6-24-58	0.33 ± 0.24	2-25-59	0.0 ± 3.3	4-21-59	0.33
13S/2E-30L1	6-18-58	0.68 ± 0.41	3-4-59	0.0 ± 3.1	4-22-59	0.68
13S/2E-31D1	6-18-58	0.33 ± 0.34	3-4-59	1.65 ± 3.2	4-22-59	1.98
13S/2E-31K2	6-18-58	0.17 ± 0.38	3-4-59	5.98 ± 3.4	4-22-59	6.15
13S/2E-31M2	6-18-58	0.17 ± 0.38	3-4-59	0.0 ± 3.2	4-22-59	0.17
13S/2E-31N2	6-18-58	1.20 ± 6.2	3-4-59	3.11 ± 3.3	4-22-59	4.21
13S/2E-32C1	6-18-58	0.33 ± 0.41	3-4-59	12.40 ± 3.5	4-22-59	12.73
13S/2E-32J1	6-18-58	0.0 ± 0.24	3-4-59	3.97 ± 3.3	4-22-59	3.97
13S/2E-32N1	6-18-58	0.33 ± 0.41	3-4-59	0.0 ± 3.1	4-22-59	0.33
13S/2E-33E1	6-24-58	0.17 ± 0.17	2-25-59	6.06 ± 3.5	4-21-59	6.23
13S/2E-33R1	6-24-58	0.17 ± 0.17	2-25-59	0.0 ± 3.3	4-21-59	0.17
14S/2E-5R2	6-18-58	0.17 ± 0.30	3-4-59	2.07 ± 3.3	4-22-59	2.24
14S/2E-6Q1	6-23-58	0.17 ± 0.17	3-4-59	7.86 ± 3.5	4-22-59	8.03
14S/2E-6R2	6-23-58	0.17 ± 0.30	3-4-59	5.98 ± 3.4	4-22-59	6.15

a – Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			SALINAS VALLEY (CONTINUED)			
14S/2E-8M2	6-23-58	0.33 ± 0.34	2-25-59	7.58 ± 8.5	4-21-59	7.91
14S/2E-9K1	6-18-58	0.0 ± 0.24	3-4-59	6.45 ± 3.4	4-22-59	6.45
14S/2E-11D1	7-21-58	0.17 ± 0.30	3-4-59	3.97 ± 3.3	4-22-59	4.14
14S/2E-12Q1	6-23-58	1.02 ± 0.54	3-4-59	10.09 ± 3.5	4-22-59	11.11
14S/2E-14N1	6-23-58	0.33 ± 0.24	2-25-59	7.83 ± 3.4	4-21-59	8.16
14S/2E-15L1	6-23-58	0.85 ± 0.45	2-25-59	7.58 ± 3.5	4-21-59	8.43
14S/2E-16A1	7-8-58	0.33 ± 0.34	3-4-59	7.39 ± 3.5	4-22-59	7.72
14S/2E-18D1	6-23-58	0.0 ± 0.24	3-4-59	5.76 ± 3.4	4-22-59	5.76
14S/2E-23J1	6-3-58	0.17 ± 0.45	3-4-59	4.63 ± 3.5	4-21-59	4.80
14S/2E-24E1	6-23-58	0.33 ± 0.48	3-4-59	4.19 ± 3.3	4-22-59	4.52
14S/2E-25B1	6-24-58	0.17 ± 0.17	2-24-59	1.54 ± 3.6	4-20-59	1.71
14S/2E-26A1	6-20-58	0.0 ± 0.24	2-25-59	0.0 ± 3.3	4-21-59	0.0
14S/2E-35Q1	7-21-58	0.0 ± 0.34	3-4-59	1.43 ± 3.1	4-22-59	1.43
14S/3E-30E1	6-24-58	0.17 ± 0.24	2-24-59	6.89 ± 3.6	4-20-59	7.06
14S/3E-30F1	6-24-58	0.33 ± 0.34	2-25-59	7.17 ± 3.6	4-20-59	7.50
14S/3E-33G1	7-1-58	0.33 ± 0.34	3-4-59	3.11 ± 3.3	4-22-59	3.44

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			SALINAS VALLEY (CONTINUED)			
15S/2E-1A1	6-20-58	0.17 ± 0.30	2-25-59	6.56 ± 3.5	4-21-59	6.73
15S/2E-2Q1	6-30-58	1.02 ± 0.56	2-25-59	9.92 ± 3.6	4-21-59	10.94
15S/3E-4L1	6-23-58	0.50 ± 0.51	3-4-59	11.36 ± 3.5	4-22-59	11.86
15S/3E-5Q4	6-25-58	0.0 ± 0.24	2-25-59	10.6 ± 3.7	4-20-59	10.6
15S/3E-7D1	6-20-58	0.33 ± 0.24	2-25-59	6.31 ± 3.5	4-21-59	6.64
15S/3E-8N1	6-25-58	0.0 ± 0.24	2-25-59	7.17 ± 3.6	4-20-59	7.17
15S/3E-16M1	6-25-58	0.17 ± 0.30	2-25-59	3.50 ± 3.6	4-20-59	3.67
15S/3E-17P1	7-1-58	0.0 ± 0.34	2-25-59	9.65 ± 3.5	4-21-59	9.65
16S/4E-24A1	7-14-58	0.68 ± 0.34	3-4-59	7.86 ± 3.5	4-22-59	8.54
16S/4E-25K1	7-14-58	0.17 ± 0.17	2-25-59	6.81 ± 3.5	4-21-59	6.98
17S/6E-27K1	7-15-58	0.33 ± 0.24	2-25-59	7.33 ± 3.5	4-21-59	7.66
17S/6E-35F1	7-15-58	0.17 ± 0.38	3-4-59	4.19 ± 3.3	4-22-59	4.36
18S/6E-2N1	7-16-58	0.17 ± 0.30	3-4-59	9.57 ± 3.5	4-22-59	9.74
			CARMEL VALLEY (3-7)			
16S/1W-13L1	10-15-58	0.50 ± 0.51	4-6-59	2.63 ± 3.2	5-8-59	3.13
16S/1E-13L2	10-16-58	0.17 ± 0.45	4-6-59	0.30 ± 3.2	5-8-59	0.47

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		CARMEL VALLEY (CONTINUED)				
16S/1W-13Q2	10-15-58	0.68 ± 0.48	4-6-59	7.98 ± 3.4	5-8-59	8.66
16S/1E-17G1	10-16-58	0.15 ± 0.26	4-7-59	4.68 ± 3.2	5-8-59	4.83
16S/1E-18F2	10-16-58	0.15 ± 0.14	4-7-59	2.82 ± 3.2	5-8-59	2.97
16S/1E-18M1	10-16-58	0.34 ± 0.34	4-6-59	6.76 ± 3.3	5-8-59	7.10
16S/1E-18P1	10-15-58	0.34 ± 0.41	4-6-59	10.72 ± 3.4	5-8-59	11.06
		SANTA MARIA RIVER VALLEY (3-12)				
9N/33W-9A1	12-18-58					2.2
9N/33W-12R1	12-18-58					1.2
10N/34W-16R1	12-18-58					1.3
10N/34W-19H1	12-18-58					0.3
10N/34W-21R1	12-18-58					1.0
10N/34W-35A1	12-18-58					1.4
10N/35W-4C1	11-19-58					0.8
10N/35W-5J1	11-19-58					2.3
10N/35W-7F1	11-19-58					2.2

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
			CUYAMA VALLEY (3-13)			
10N/25W-20H1	12-17-58					3.2
10N/25W-21G1	12-17-58					2.6
10N/25W-22E1	12-17-58					2.1
10N/25W-23E1	12-17-58					1.8
10N/25W-30F1	12-17-58					0.5
10N/26W-4R2	12-17-58					1.4
10N/26W-9R2	11-17-58					2.6
10N/26W-14C4	11-17-58					2.6
10N/26W-23P1	12-17-58					0.9
10N/27W-11C1	12-17-58					1.2

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter: Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
			LOS ANGELES REGION (NO. 4)			
			OXNARD PLAIN BASIN (4-4.01)			
1N/21W-30A1	10-17-58					3.2
1N/22W-3E4	4-22-58			4.3		
1N/22W-3F4	10-16-58					2.7
1N/22W-7D1	10-16-58					10.5
1N/22W-9Q3	10-16-58					3.6
1N/22W-18E1	10-16-58					5.4
1N/22W-19B3	10-16-58					19.0
1N/22W-20E2	10-16-58					3.8
1N/22W-23C1	10-17-58					5.0
1N/22W-26A1	10-17-58					4.2
1N/22W-28A2	10-17-58					6.5
1N/22W-28H2	10-17-58					2.8
2N/22W-27M2	10-16-58					2.0
2N/23W-25Q1	10-16-58					4.2

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
		WEST COAST BASIN (4-11.02)				
		AREA OF SEA WATER INTRUSION				
3S/14W-30H2	10-28-58					4.7
		TORRANCE AREA				
4S-13W-6K1	10-21-58					2.3
4S/13W-6Q1	10-21-58					2.5
4S/14W-9Q1	10-21-58					4.7
4S/14W-35E1	10-16-58					3.8
		CENTRAL COASTAL PLAIN PRESSURE AREA (4-11.03)				
3S/13W-2B1	12-11-58					3.9
		LOS ANGELES FOREBAY AREA (4-11.04)				
2S/13W-10P4	4-22-58			3.8		
2S/13W-10P4	12-11-58					2.4
2S/13W-14H1	12-19-58					4.9
2S/13W-15N3	12-17-58					3.7

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
		MAIN SAN GABRIEL BASIN (4-13.01)				
1S/10W-7A1	11-7-58					3.0
1S/10W-19N1	11-7-58					2.0
1S/11W-2G1	11-7-58					2.3
1S/11W-10F1	11-7-58					0.5
1S/11W-26K1	4-23-58			1.8		
1S/11W-26K1	5-19-58			0.9		
1S/11W-32C1	11-7-58					3.3
1S/11W-33P1	12-10-58					2.1

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		CENTRAL VALLEY REGION (NO. 5) REDDING BASIN (5-6)				
29N/4W-2M1	8/12/58	0.0 ± 0.24	2/19/59	2.31 ± 3.9	4/17/59	2.31
29N/4W-6M1	10/12/58	0.17 ± 0.17	2/19/59	3.08 ± 3.9	4/17/59	3.25
30N/3W-4M1	8/12/58	0.0 ± 0.30	2/19/59	3.08 ± 3.9	4/17/59	3.08
30N/3W-34D1	10/12/58	0.17 ± 0.51	2/19/59	0.0 ± 3.8	4/17/59	0.17
30N/4W-1E1	8/12/58	1.02 ± 0.54	2/19/59	0.0 ± 3.7	4/17/59	1.02
30N/4W-5K1	8/12/58	0.0 ± 0.38	2/19/59	0.0 ± 3.8	4/17/59	0.0
30N/4W-16H	8/12/58	0.0 ± 0.45	2/19/59	2.84 ± 3.9	4/17/59	2.84
30N/4W-25N1	8/12/58	0.33 ± 0.34	2/19/59	4.41 ± 3.9	4/17/59	4.74
30N/5W-15R1	8/12/58	0.00 ± 0.24	2/19/59	3.36 ± 3.9	4/17/59	3.36
30N/5W-17R1	8/12/58	0.17 ± 0.30	2/19/59	3.61 ± 3.9	4/17/59	3.78
31N/3W-7K1	8/13/58	0.17 ± 0.17	2/19/59	8.27 ± 3.9	4/17/59	8.44
31N/3W-12E1	8/13/58	0.33 ± 0.24	2/19/59	8.13 ± 3.9	4/18/59	8.46
31N/4W-5F1	8/13/58	0.17 ± 0.30	2/19/59	0.00 ± 3.6	4/17/59	0.17
31N/4W-7A1	8/13/58	0.0 ± 0.24	2/19/59	1.98 ± 3.9	4/17/59	1.98
31N/4W-15B1	8/13/58	0.0 ± 0.24	2/19/59	0.0 ± 3.8	4/17/59	0.0
31N/4W-16Q1	8/13/58	0.0 ± 0.24	2/19/59	2.59 ± 3.8	4/17/59	2.59
31N/5W-13D1	8/14/58	0.17 ± 0.17	2/19/59	1.02 ± 3.7	4/18/59	1.19

a – Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		REDDING BASIN (Cont'd)				
31N/5W-25K1	8/13/58	0.17 ± 0.17	2/19/59	0.88 ± 3.8	4/17/59	1.05
32N/3W-20P1	8/13/58	0.00 ± 0.24	2/19/59	6.37 ± 3.8	4/17/59	6.37
32N/3W-32E1	8/13/58	0.00 ± 0.24	2/19/59	0.77 ± 3.8	4/18/59	0.77
32N/3W-32J2	8/13/58	0.00 ± 0.30	2/19/59	5.87 ± 3.8	4/18/59	5.87
32N/3W-35C1	8/13/58	0.33 ± 0.24	2/19/59	10.50 ± 3.8	4/18/59	10.83
32N/4W-14F2	8/14/58	0.17 ± 0.17	2/19/59	0.00 ± 3.7	4/18/59	0.17
32N/4W-16B1	8/14/58	0.17 ± 0.17	2/19/59	0.00 ± 3.7	4/18/59	0.17
32N/4W-20G1	8/14/58	0.17 ± 0.17	2/19/59	10.30 ± 3.8	4/18/59	10.47
32N/4W-34P1	8/14/58	0.17 ± 0.17	2/20/59	2.48 ± 3.8	4/18/59	2.65
32N/5W-26M1	8/14/58	0.17 ± 0.17	2/20/59	0.60 ± 3.8	4/18/59	0.77
		UPPER LAKE VALLEY (5-13)				
14N/9W-6F2	7/17/58	0.33 ± 0.24	1/7/59	3.00 ± 3.1	4/3/59	3.33
14N/10W-14E2	7/17/58	0.0 ± 0.24	1/8/59	1.9 ± 3.3	4/3/59	1.9
15N/9W-5K1	9/4/58	0.15 ± 0.15	3/11/59	5.09 ± 3.4	4/29/59	5.24
15N/9W-31P1	7/18/58	0.17 ± 0.17	1/7/59	1.00 ± 3.3	4/3/59	1.17
16N/9E-31L2	9/4/58	0.00 ± 0.21	3/11/59	5.59 ± 3.4	4/29/59	5.59

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			KELSEYVILLE VALLEY (5-15)			
13N/9E-2K2	7/17/58	0.17 ± 0.17	1/8/59	4.60 ± 3.4	4/3/59	6.77
13N/9W-6C1	9/4/58	0.15 ± 0.15	3/11/59	2.71 ± 3.4	4/29/59	2.86
13N/9W-8C1	7/18/58	0.33 ± 0.24	1/8/59	0.00 ± 3.2	4/3/59	0.33
13N/9W-12M1	9/4/58	0.45 ± 0.26	3/11/59	1.73 ± 3.4	4/29/59	2.18
13N/9W-16D1	7/18/58	0.17 ± 0.17	1/8/59	0.00 ± 3.2	4/3/59	0.17
13N/9W-16D2	7/18/58	0.17 ± 0.17	1/8/59	1.90 ± 3.3	4/3/59	2.07
13N/9W-22J1	9/4/58	0.32 ± 0.22	3/11/59	0.00 ± 3.4	4/29/59	0.32
14N/9W-32J2	7/17/58	0.0 ± 0.24	1/8/59	5.0 ± 3.4	4/3/59	5.0
			SACRAMENTO VALLEY (5-21)			
			TEHAMA COUNTY			
23N/2W-5A1	7/16/58	0.16 ± 0.43	3/17/59	2.41 ± 3.5	5/4/59	2.57
23N/3W-22Q	7/15/58	0.00 ± 0.23	3/17/59	2.93 ± 3.5	5/4/59	2.93
23N/3W-35B1	7/15/58	0.50 ± 0.29	3/17/59	2.93 ± 3.5	5/4/59	3.43
23N/5W-11L1	7/16/58	1.00 ± 0.40	3/17/59	1.38 ± 3.5	5/4/59	2.38
24N/2W-30C1	7/15/58	0.00 ± 0.23	3/17/59	4.73 ± 3.7	5/4/59	4.73
24N/3W-3P1	7/23/58	0.00 ± 0.28	3/17/59	6.70 ± 3.8	5/4/59	6.70
24N/3W-14M1	7/23/58	0.18 ± 0.47	3/17/59	3.63 ± 3.5	5/4/59	3.81

a = Calculated as the sum of Alpha and Beta activities. Statistical

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			TEHAMA COUNTY (Cont'd)			
24N/3W-20N1	7/16/58	0.16 ± 0.16	3/17/59	3.43 ± 3.6	5/4/59	3.59
24N/5W-21L1	7/18/58	0.18 ± 0.31	3/17/59	1.05 ± 3.5	5/4/59	1.23
25N/2W-4M1	7/17/58	1.08 ± 0.56	3/17/59	9.28 ± 3.8	5/4/59	10.36
25N/2W-7K1	7/23/58	0.00 ± 0.34	3/17/59	6.09 ± 3.8	5/4/59	6.09
25N/2W-31M1	7/17/58	0.18 ± 0.39	3/17/59	2.21 ± 3.5	5/4/59	2.39
25N/3W-3N1	7/23/58	0.72 ± 0.51	3/17/59	4.43 ± 3.5	5/4/59	5.15
25N/3W-31R1	7/18/58	0.0 ± 0.25	3/17/59	0.0 ± 3.4	5/4/59	0.0
26N/2W-4C1	8/22/58	0.00 ± 0.43	3/17/59	4.21 ± 3.7	5/4/59	4.21
26N/2W-14F1	8/22/58	0.60 ± 0.50	3/17/59	3.18 ± 3.5	5/4/59	3.78
26N/3W-10D1	7/24/58	0.90 ± 0.47	3/17/59	0.00 ± 3.5	5/4/59	0.90
26N/3W-22G1	8/7/58	0.36 ± 0.43	3/17/59	2.66 ± 3.5	5/4/59	3.02
26N/3W-29E1	7/18/58	0.33 ± 0.37	3/17/59	0.00 ± 3.5	5/4/59	0.33
26N/4W-10D1	7/18/58	0.33 ± 0.23	3/17/59	9.81 ± 3.7	5/4/59	10.14
27N/3W-10Q1	8/7/58	0.00 ± 0.47	3/17/59	4.73 ± 3.7	5/4/59	4.73
27N/3W-15C1	8/7/58	0.18 ± 0.31	3/17/59	3.68 ± 3.5	5/4/59	3.86
27N/3W-19A1	7/24/58	0.18 ± 0.47	3/17/59	7.23 ± 3.8	5/4/59	7.41
27N/4W-1H2	7/17/58	0.54 ± 0.40	3/17/59	0.55 ± 3.5	5/4/59	1.09

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
GLENN COUNTY						
18N/2W-1E1	7/29/58	0.00 ± 0.24	1/9/59	0.00 ± 3.3	4/6/59	0.00
18N/3W-10K1	7/29/58	0.00 ± 0.24	1/9/59	0.00 ± 3.3	4/6/59	0.00
18N/4W-2F1	7/29/58	0.17 ± 0.17	1/9/59	0.00 ± 3.3	4/6/59	0.17
19N/2W-6G1	7/30/58	0.17 ± 0.17	1/9/59	0.60 ± 3.4	4/6/59	0.77
19N/3W-9J1	7/29/58	0.50 ± 0.30	1/9/59	1.40 ± 3.4	4/6/59	1.90
19N/3W-18P1	7/29/58	0.50 ± 0.30	1/9/59	2.10 ± 3.4	4/6/59	2.60
20N/2W-11Q1	7/30/58	0.17 ± 0.17	1/9/59	1.20 ± 3.4	4/6/59	1.37
20N/4W-2Q1	7/30/58	0.00 ± 0.30	1/9/59	5.70 ± 3.3	4/6/59	5.70
21N/2W-2D1	7/31/58	0.00 ± 0.34	1/9/59	0.00 ± 3.4	4/6/59	0.00
22N/2W-3A1	7/31/58	0.17 ± 0.30	1/12/59	0.00 ± 3.0	4/8/59	0.17
22N/2W-26B1	7/31/58	0.17 ± 0.17	1/9/59	3.20 ± 3.2	4/6/59	3.37
22N/3W-4G1	7/31/58	0.00 ± 0.24	1/12/59	0.30 ± 3.1	4/8/59	0.30
22N/3W-22Q1	8/1/58	0.00 ± 0.24	1/12/59	3.10 ± 3.2	4/8/59	3.10
22N/4W-10B1	7/31/58	0.00 ± 0.24	1/12/59	0.00 ± 3.1	4/8/59	0.00
BUTTE COUNTY						
17N/1E-1R1	7/23/58	0.35 ± 0.42	3/18/59	0.61 ± 3.5	5/5/59	0.96
17N/3E-4D1	10/24/58	0.31 ± 0.23	5/7/59	7.68 ± 3.9	5/16/59	7.99

RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		BUTTE COUNTY (Cont'd)				
17N/3E-18Q1	9/5/58	0.34 ± 0.41	4/13/59	4.70 ± 3.9	5/14/59	5.04
17N/4E-20L1	9/24/58	0.50 ± 0.38	4/13/59	0.00 ± 3.8	5/14/59	0.50
18N/1E-14R1	7/23/58	0.0 ± 0.46	3/18/59	7.86 ± 3.6	5/5/59	7.86
18N/2E-12B1	10/24/58	0.0 ± 0.34	4/13/59	5.5 ± 3.9	5/14/59	5.5
18N/4E-7A1	9/24/58	1.18 ± 0.51	4/13/59	1.0 ± 3.8	5/14/59	2.18
18N/4E-21P1	9/24/58	0.14 ± 0.14	4/13/59	5.26 ± 3.1	5/13/59	5.40
19N/2E-16R1	9/24/58	0.16 ± 0.16	3/18/59	0.0 ± 3.5	5/5/59	0.16
19N/3E-36B1	9/11/58	0.0 ± 0.16	3/18/59	0.88 ± 3.5	5/5/59	0.88
19N/4E-6P1	9/9/58	0.35 ± 0.49	3/18/59	0.0 ± 3.5	5/5/59	0.35
20N/2E-29R1	9/11/58	0.16 ± 0.16	3/18/59	0.47 ± 3.5	5/5/59	0.63
20N/3E-15H1	9/9/58	0.32 ± 0.32	3/18/59	1.08 ± 3.5	5/5/59	1.40
21N/1W-26Q1	9/15/58	0.98 ± 0.51	3/18/59	3.57 ± 3.5	5/5/59	4.55
21N/1E-34M1	9/10/58	0.52 ± 0.30	3/19/59	4.21 ± 3.5	5/5/59	4.73
21N/2E-30C1	9/10/58	0.00 ± 0.23	3/19/59	1.10 ± 3.5	5/5/59	1.10
21N/3E-10Q1	9/9/58	0.52 ± 0.46	3/18/59	4.07 ± 3.5	5/5/59	4.59
22N/1E-9M1	9/16/58	0.01 ± 0.24	4/13/59	5.5 ± 3.9	5/14/59	5.5
22N/2E-18J1	9/10/58	0.17 ± 0.30	3/19/59	1.00 ± 3.4	5/5/59	1.17

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			BUTTE COUNTY (Cont'd)			
23N/1E-32K1	9/9/58	0.16 ± 0.36	3/18/59	1.80 ± 3.5	5/5/59	1.96
			COLUSA COUNTY			
13N/1E-22H1	7/17/58	0.0 ± 0.24	1/8/59	0.0 ± 3.2	4/3/59	0.0
14N/1E-18A1	7/17/58	0.33 ± 0.24	1/8/59	1.40 ± 3.4	4/6/59	1.73
13N/1W-6J1	7/17/58	0.68 ± 0.41	1/8/59	3.60 ± 3.3	4/3/59	4.28
13N/1W-7A1	7/17/58	0.17 ± 0.30	1/8/59	1.80 ± 3.4	4/3/59	1.97
13N/1W-15N1	7/17/58	0.5 ± 0.38	1/8/59	1.0 ± 3.3	4/3/59	1.5
13N/1W-35Q1	7/17/58	0.17 ± 0.17	4/8/59	3.30 ± 3.3	4/3/59	3.20
14N/1W-2D1	7/17/58	0.50 ± 0.38	1/8/59	2.30 ± 3.3	4/3/59	2.80
14N/1W-12A1	7/21/58	0.33 ± 0.34	1/8/59	0.00 ± 3.1	4/3/59	0.33
14N/2W-12H2	7/17/58	0.0 ± 0.30	1/8/59	4.6 ± 3.4	4/3/59	4.6
14N/3W-12L1	7/18/58	0.17 ± 0.28	1/8/59	2.30 ± 3.3	4/3/59	2.47
15N/2W-32R1	7/18/58	0.0 ± 0.24	1/8/59	9.3 ± 3.4	4/3/59	9.3
15N/4W-25P1	7/18/58	0.17 ± 0.30	1/8/59	6.30 ± 3.4	4/3/59	6.47
16N/1W-29J1	7/16/58	0.0 ± 0.24	1/8/59	0.00 ± 3.3	4/3/59	0.0
16N/2W-4H1	7/17/58	0.50 ± 0.30	1/8/59	1.70 ± 3.3	4/3/59	2.20
16N/2W-35B1	7/16/58	0.33 ± 0.24	1/8/59	1.20 ± 3.4	4/6/59	1.53

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		COLUSA COUNTY (Cont'd)				
16N/3W-9N1	7/17/58	0.17 ± 0.17	1/8/59	0.60 ± 3.4	4/6/59	0.77
17N/2W-12C1	7/17/58	0.33 ± 0.24	1/8/59	4.60 ± 3.9	4/3/59	4.93
17N/3W-3F1	7/17/58	0.68 ± 0.41	1/8/59	0.20 ± 3.4	4/6/59	0.88
17N/3W-33R1	7/17/58	0.0 ± 0.24	1/8/59	0.00 ± 3.4	4/6/59	0.0
		SUTTER COUNTY				
12N/2E-9B2	6/16/58	0.00 ± 0.34	1/5/59	0.27 ± 2.9	3/27/59	0.27
12N/2E-11N1	6/16/58	0.33 ± 0.41	1/5/59	3.58 ± 2.7	3/27/59	3.91
12N/2E-14B1	6/16/58	0.00 ± 0.24	1/5/59	0.82 ± 2.6	3/27/59	0.82
12N/2E-16R1	6/16/58	0.0 ± 0.30	1/5/59	0.0 ± 2.9	3/27/59	0.0
12N/2E-23Q1	6/16/58	0.17 ± 0.30	1/5/59	2.20 ± 2.6	3/27/59	2.37
12N/2E-26A1	6/16/58	0.17 ± 0.17	1/5/59	0.00 ± 2.6	3/27/59	0.17
13N/3E-10M2	6/16/58	0.00 ± 0.30	1/5/59	0.33 ± 2.9	3/27/59	0.33
13N/3E-11Q3	9/15/58	0.15 ± 0.14	4/7/59	3.63 ± 3.4	5/9/59	3.78
13N/3E-13C1	6/19/58	0.33 ± 0.29	1/5/59	5.51 ± 2.7	3/27/59	5.84
13N/4E-21A1	6/18/58	0.00 ± 0.24	1/5/59	2.75 ± 2.9	3/27/59	2.75
13N/4E-23Q1	6/18/58	0.33 ± 0.34	1/5/59	7.17 ± 2.9	3/27/59	7.50
13N/5E-7R3	6/18/58	0.17 ± 0.17	1/5/59	3.58 ± 2.7	3/27/59	3.75

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			SUTTER COUNTY (Cont'd)			
13N/5E-19R2	6/18/58	0.17 ± 0.17	1/5/59	4.13 ± 2.9	3/27/59	4.30
14N/3E-3C2	6/18/58	0.17 ± 0.29	1/5/59	1.93 ± 2.7	3/27/59	2.10
14N/3E-5A3	6/17/58	0.33 ± 0.41	1/5/59	1.37 ± 2.8	3/27/59	1.70
14N/3E-14E2	6/17/58	0.00 ± 0.24	1/5/59	1.37 ± 2.8	3/27/59	1.37
14N/3E-15H1	6/17/58	0.17 ± 0.29	1/5/59	1.93 ± 2.8	3/27/59	2.10
14N/3E-16B2	6/17/58	0.17 ± 0.38	1/5/59	4.68 ± 2.8	3/27/59	4.85
14N/3E-18A2	6/16/58	0.50 ± 0.45	1/5/59	1.37 ± 2.9	3/27/59	1.87
14N/3E-23M2	9/11/58	0.15 ± 0.26	4/7/59	5.01 ± 3.4	5/9/59	5.16
14N/3E-28D1	10/21/58	0.15 ± 0.26	4/7/59	3.43 ± 3.2	5/8/59	3.58
14N/3E-28R1	7/22/58	0.33 ± 0.34	1/8/59	26.30 ± 3.8	4/3/59	26.63
14N/3E-31B1	7/22/58	0.00 ± 0.24	1/8/59	17.7 ± 3.7	4/3/59	17.7
15N/2E-26D2	6/17/58	0.33 ± 0.34	1/5/59	0.82 ± 2.9	3/27/59	1.15
15N/3W-4C2	9/1/58	0.00 ± 0.21	4/7/59	9.53 ± 3.5	5/8/59	9.53
15N/3E-26M1	6/17/58	0.33 ± 0.41	1/5/59	0.27 ± 2.9	3/27/59	0.60
15N/3E-29G1	9/24/58	0.15 ± 0.14	4/7/59	3.15 ± 3.4	5/9/59	3.30
			YUBA COUNTY			
14N/5E-15C1	6/19/58	0.17 ± 0.30	1/5/59	1.93 ± 2.6	3/27/59	2.10

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			YOLO COUNTY			
7N/3E-9J1	7/24/58	0.17 ± 0.17	1/9/59	6.00 ± 3.5	4/6/59	6.17
8N/2E-13F2	7/24/58	0.0 ± 0.24	1/9/59	0.8 ± 3.4	4/6/59	0.8
8N/4W-3B1	7/23/58	0.33 ± 0.24	1/9/59	0.00 ± 3.3	4/6/59	0.33
9N/2E-35D1	7/24/58	0.0 ± 0.24	1/9/59	0.0 ± 3.4	4/6/59	0.0
9N/3E-7D1	7/28/58	0.17 ± 0.30	1/9/59	0.60 ± 3.4	4/6/59	0.77
9N/4E-33L1	7/23/58	0.0 ± 0.24	1/9/59	0.00 ± 3.4	4/6/59	0.0
9N/1W-16H1	7/2/58	0.17 ± 0.30	1/9/59	2.20 ± 3.4	4/6/59	2.37
9N/1W-30L1	7/25/58	0.0 ± 0.24	1/9/59	2.8 ± 3.4	4/6/59	2.8
10N/1E-15G1	7/28/58	0.0 ± 0.30	1/9/59	0.0 ± 3.4	4/6/59	0.0
10N/1E-26A	9/5/58	0.16 ± 0.28	3/11/59	0.00 ± 3.4	4/29/59	0.16
10N/2E-1Q1	7/28/58	0.0 ± 0.24	1/9/59	1.0 ± 3.4	4/6/59	1.0
10N/2E-27H1	7/28/58	0.10 ± 0.20	1/9/59	12.50 ± 3.7	4/6/59	12.60
10N/1W-36K1	7/28/58	0.0 ± 0.30	1/9/59	3.4 ± 3.4	4/6/59	3.4
10N/2W-14A1	7/22/58	0.17 ± 0.17	1/9/59	2.30 ± 3.4	4/6/59	2.47
10N/2W-16L1	7/22/58	0.17 ± 0.17	1/9/59	3.0 ± 3.4	4/6/59	3.17
10N/2W-18F1	7/22/58	0.0 ± 0.17	1/8/59	4.3 ± 3.4	4/6/59	4.3
10N/2W-18F2	7/22/58	0.17 ± 0.17	1/9/59	3.90 ± 3.4	4/6/59	4.07
10N/2W-18L1	7/22/58	0.17 ± 0.17	1/9/59	0.00 ± 3.4	4/6/59	0.17

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			YOLO COUNTY (Cont'd)			
10N/2W-23A1	7/22/58	0.33 ± 0.24	1/9/59	3.90 ± 3.4	4/6/59	4.23
11N/1E-17M1	9/5/58	0.0 ± 0.22	3/11/59	0.0 ± 3.3	4/29/59	0.0
11N/2E-22A1	7/29/58	0.50 ± 0.30	1/9/59	4.30 ± 3.3	4/6/59	4.80
11N/2W-35J1	7/25/58	0.0 ± 0.17	1/9/59	1.0 ± 3.4	4/6/59	1.0
11N/3W-9Q1	7/18/58	0.17 ± 0.30	1/8/59	8.60 ± 3.4	4/3/59	8.77
11N/3W-10E1	7/10/58	0.33 ± 0.34	1/8/59	0.00 ± 3.1	4/3/59	0.33
12N/1W-15N2	7/29/58	0.17 ± 0.17	1/9/59	0.00 ± 3.4	4/6/59	0.17
12N/2W-2A1	7/29/58	0.0 ± 0.24	1/9/59	2.1 ± 3.4	4/6/59	2.1
			SACRAMENTO COUNTY			
5N/5E-3F1	7/29/58	0.15 ± 0.39	3/12/59	1.46 ± 3.6	4/30/59	1.61
6N/6E-29J1	7/21/58	0.17 ± 0.30	2/18/59	5.84 ± 3.6	4/15/59	6.01
7N/4E-4R1	7/29/58	0.50 ± 0.30	2/18/59	2.34 ± 3.6	4/15/59	2.84
7N/5E-7C1	6/30/58	0.17 ± 0.17	1/7/59	0.00 ± 2.7	3/29/59	0.17
7N/5E-32J2	7/29/58	0.30 ± 0.42	3/12/59	0.00 ± 3.4	4/30/59	0.30
7N/6E-22R1	7/21/58	0.00 ± 0.30	2/18/59	6.89 ± 3.6	4/15/59	6.89
7N/7E-27P1	7/21/58	0.00 ± 0.24	2/18/59	10.53 ± 3.7	4/15/59	10.53
8N/4E-26D1	6/30/58	0.33 ± 0.24	1/7/59	0.00 ± 2.7	3/27/59	0.33

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
SACRAMENTO COUNTY (Cont'd)						
8N/5E-15H1	6/25/58	0.00 ± 0.24	1/5/59	3.31 ± 2.7	3/27/59	3.31
8N/5E-24M1	7/16/58	0.0 ± 0.24	2/18/59	8.0 ± 3.7	4/15/59	8.0
8N/5E-30N1	7/16/58	0.17 ± 0.30	2/18/59	9.37 ± 3.6	4/15/59	9.54
8N/6E-5K1	9/18/58	0.30 ± 0.36	4/6/59	2.93 ± 3.7	5/7/59	3.23
9N/4E-1R1	8/11/58	0.60 ± 0.47	3/12/59	0.97 ± 3.5	4/30/59	1.57
9N/4E-8L1	8/6/58	0.45 ± 0.44	3/12/59	3.96 ± 3.6	4/30/59	4.41
9N/5E-15N1	7/25/58	0.0 ± 0.34	2/18/59	8.27 ± 3.7	4/15/59	8.27
9N/5E-21E1	7/25/58	0.85 ± 0.51	2/18/59	9.37 ± 3.8	4/15/59	10.22
9N/6E-25H1	7/14/58	0.17 ± 0.17	1/7/59	0.00 ± 2.7	3/29/59	0.17
9N/7E-15F1	7/13/58	0.00 ± 0.30	1/7/59	1.00 ± 2.8	3/29/59	1.00
9N/7E-16P1	7/13/58	0.0 ± 0.24	1/7/59	0.8 ± 2.8	3/29/59	0.8
9N/7E-26H1	7/14/58	0.17 ± 0.38	1/7/59	1.60 ± 2.8	3/29/59	1.77
9N/7E-27Q1	7/14/58	0.00 ± 0.24	1/7/59	0.00 ± 2.6	3/29/59	0.00
9N/7E-28B1	7/13/58	0.33 ± 0.41	1/7/59	3.70 ± 2.8	3/29/59	4.03
9N/7E-28K1	7/14/58	0.17 ± 0.38	1/7/59	0.10 ± 2.7	3/29/59	0.27
9N/7E-32B1	7/14/58	0.68 ± 0.34	1/7/59	0.00 ± 2.7	3/29/59	0.68
9N/7E-33E1	7/14/58	0.00 ± 0.24	1/7/59	0.00 ± 2.6	3/29/59	0.00

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
SAN JOAQUIN VALLEY (5-22)						
SAN JOAQUIN COUNTY						
1N/9E-18G1	7/16/58	0.50 ± 0.38	1/7/59	1.00 ± 2.8	3/29/59	1.50
2N/6E-29N1	9/ 3/58	0.42 ± 0.31	3/17/59	0.00 ± 3.5	5/1/59	0.42
3N/6E-27B1	7/16/58	0.17 ± 0.17	1/7/59	3.10 ± 2.8	3/29/59	3.27
4N/7E-23B2	7/16/58	0.33 ± 0.24	1/7/59	5.20 ± 3.4	4/3/59	5.53
5N/5E-33J1	7/16/58	0.00 ± 0.24	1/7/59	0.00 ± 3.2	4/3/59	0.00
5N/8E-31J1	7/16/58	0.00 ± 0.24	1/7/59	0.00 ± 3.2	4/3/59	0.00
1S/9E-8H1	7/17/58	0.17 ± 0.17	1/7/59	4.20 ± 3.1	9/3/59	4.37
2S/4E-1P1	7/17/58	0.17 ± 0.17	1/7/59	1.30 ± 3.2	4/3/59	1.47
2S/4E-36P1	9/3/58	0.42 ± 0.32	3/17/59	24.32 ± 4.2	5/4/59	24.74
2S/5E-19D1	7/17/58	0.17 ± 0.30	1/7/59	3.60 ± 3.3	4/3/59	3.77
2S/5E-22Q1	7/17/58	0.00 ± 0.30	1/7/59	4.6 ± 3.4	4/3/59	4.6
2S/5E-23P1	7/18/58	0.33 ± 0.24	1/7/59	8.60 ± 3.4	4/3/59	8.93
2S/5E-28L1	7/18/58	0.17 ± 0.17	1/7/59	3.30 ± 3.3	4/3/59	3.47
2S/5E-29D1	7/17/58	0.00 ± 0.30	4/7/59	2.7 ± 3.3	4/3/59	2.7
2S/5E-32R1	7/17/58	0.00 ± 0.24	1/7/59	3.7 ± 3.1	4/3/59	3.7
3S/5E-8L1	7/17/58	0.17 ± 0.30	1/7/59	2.70 ± 3.1	4/3/59	2.87
3S/5E-35D1	7/17/58	0.33 ± 0.34	1/7/59	1.00 ± 3.3	4/3/59	1.33

a Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			STANISLAUS COUNTY			
1S/10E-33R1	7/ /58	0.59 ± 0.36	3/23/59	6.90 ± 3.7	5/7/59	7.49
1S/11E-36E1	7/ /58	0.75 ± 0.39	4/6/59	6.65 ± 3.7	5/7/59	7.40
2S/10E-10D1	7/ /58	0.15 ± 0.25	3/23/59	6.09 ± 3.7	5/7/59	6.24
2S/10E-36N1	7/ /58	0.17 ± 0.31	3/23/59	7.48 ± 3.7	5/7/59	7.65
3S/7E-33C1	7/ /58	0.0 ± 0.21	4/6/59	3.96 ± 3.6	5/7/59	3.96
3S/11E-9D1	7/ /58	0.0 ± 0.25	3/23/59	0.0 ± 3.5	5/7/59	0.0
3S/12E-26P1	7/ /58	0.34 ± 0.42	3/23/59	9.42 ± 3.7	5/7/59	9.76
3S/13E-32D1	7/ /58	0.0 ± 0.35	3/23/59	2.93 ± 3.6	5/7/59	2.93
4S/6E-11	7/31/58	0.17 ± 0.30	1/12/59	7.70 ± 3.3	4/8/59	7.87
4S/6E-12N1	7/31/58	0.0 ± 0.17	1/12/59	6.1 ± 3.3	4/8/59	6.1
4S/6E-15E1	7/ /58	0.15 ± 0.26	4/6/59	0.96 ± 3.6	5/7/59	1.11
4S/7E-8L1	7/31/58	0.17 ± 0.17	1/12/59	4.70 ± 3.2	4/8/59	4.87
4S/7E-8Q1	7/31/58	0.00 ± 0.00	1/12/59	4.50 ± 3.2	4/8/59	4.50
4S/7E-16E1	7/31/58	0.00 ± 0.24	1/12/59	1.20 ± 3.2	4/8/59	1.20
4S/7E-17E	7/31/58	0.17 ± 0.30	1/12/59	2.90 ± 3.2	4/8/59	3.07
4S/7E-17K1	7/31/58	0.17 ± 0.30	1/12/59	0.90 ± 3.1	4/8/59	1.07
4S/7E-18A1	7/31/58	0.17 ± 0.30	1/12/59	0.00 ± 3.1	4/3/59	0.17

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		STANISLAUS COUNTY (continued)				
4S/7E-19G1	8/1/58	0.17± 0.30	1/12/59	1.40± 2.1	4/8/59	1.57
4S/7E-22E1	8/1/58	0.00± 0.17	1/12/59	16.10± 3.4	4/8/59	16.10
4S/7E-26R1	8/1/58	0.17± 0.17	1/16/59	0.00± 3.1	4/8/59	0.17
4S/7E-27M1	9/3/58	0.42± 0.37	3/17/59	13.57± 3.8	5/4/59	13.99
4S/7E-28H1	8/1/58	0.17± 0.17	1/12/59	3.30± 3.2	4/8/59	3.47
4S/7E-30L1	8/1/58	0.17± 0.17	1/16/59	7.60± 2.9	4/8/59	7.77
4S/7E-34D1	8/1/58	0.17± 0.17	1/16/59	6.80± 3.0	4/8/59	6.97
4S/7E-34J1	8/1/58	0.17± 0.17	1/16/59	6.20± 3.0	4/8/59	6.37
4S/7E-35D1	8/1/58	0.17± 0.17	1/16/59	7.50± 2.9	4/8/59	7.67
4S/8E-24A1	9/14/58	0.34± 0.42	4/16/59	12.19± 3.8	5/7/59	12.53
4S/8E-27L1	8/21/58	0.77± 0.50	4/6/59	31.67± 3.9	5/8/59	32.44
4S/9E-20A1	9/14/58	0.34± 0.48	4/6/59	7.31± 4.2	5/7/59	7.65
4S/9E-25A1	9/15/58	0.30± 0.42	4/6/59	0.21± 3.7	5/7/59	0.51
4S/9E-30R1	9/ / 58	0.15± 0.32	3/23/59	45.47± 4.7	5/7/59	45.62
4S/10E-1D1	9/ /58	0.0-±0.29	3/23/59	6.65± 3.7	5/7/59	6.65
4S/11E-5M1	9/ /58	0.68± 0.41	3/23/59	5.81± 3.7	5/7/59	6.49
4S/11E-21D1	8/16/58	0.15± 0.26	4/6/59	0.00± 3.3	5/8/59	0.15

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		STANISLAUS COUNTY (continued)				
4S/11E-31E1	8/16/58	0.15± 0.26	4/6/59	5.95± 3.3	5/8/59	6.10
5S/7E-1M1	8/1/58	0.00± 0.24	1/16/59	4.40± 3.0	4/8/59	4.40
5S/7E-2H1	8/21/58	0.0 ± 0.24	2/24/59	0.0 ± 3.4	4/20/59	0.0
5S/7E-3N1	8/1/58	0.00± 0.24	1/16/59	5.60± 3.0	4/8/59	5.60
5S/7E-9H1	8/1/58	0.17± 0.17	1/16/59	7.50± 2.9	4/8/59	7.67
5S/7E-23B1	8/1/58	0.17± 0.17	1/16/59	10.30± 4.1	4/14/59	10.47
5S/8E-1R1	8/18/58	0.15± 0.26	4/6/59	15.76± 3.4	5/8/59	15.91
5S/8E-8G1	9/ /58	0.17± 0.17	3/23/59	5.01± 3.6	5/7/59	5.18
5S/8E-27M1	9/ /58	0.00± 0.42	3/23/59	9.78± 3.7	5/7/59	9.78
5S/9E-9A1	9/18/58	0.68± 0.54	4/6/59	5.01± 3.7	5/7/59	5.69
5S/9E-13G1	9/8/58	0.30± 0.36	4/6/59	18.62± 3.9	5/7/59	18.92
5S/10E-4F1	9/18/58	0.17± 0.45	4/6/59	0.00± 3.7	5/7/59	0.17
5S/10E-28H1	9/18/58	0.17± 0.38	4/6/59	15.73± 3.8	5/7/59	15.90
5S/10E-30F1	9/18/58	0.17± 0.30	4/6/59	9.10± 4.7	5/7/59	9.27
5S/11E-7P1	8/26/58	0.30± 0.30	4/6/59	10.55± 3.4	5/8/59	10.85
5S/12E-6D1	9/ /58	0.68± 0.60	3/23/59	0.96± 3.6	5/7/59	1.64
7S/8E-12P1	8/4/58	0.32± 0.22	3/4/59	51.96± 4.5	4/23/59	52.28

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		STANISLAUS COUNTY (continued)				
7S/8E-22K	9/ /58	0.29± 0.36	3/23/59	6.37± 3.7	5/7/59	6.66
7S/8E-23R1	8/4/58	0.16± 0.16	3/4/59	0.00± 3.1	4/23/59	0.16
		MERCED COUNTY				
5S/11E-29F1	8/26/58	0.15± 0.26	4/6/59	3.24± 3.2	5/8/59	3.49
6S/10E-2H1	9/28/58	0.75± 0.49	4/6/59	15.10± 3.8	5/7/59	15.85
6S/10E-9B1	9/28/58	0.51± 0.51	4/6/59	6.89± 4.2	5/7/59	7.40
6S/10E-24L1	8/28/58	0.45± 0.45	4/6/59	3.24± 3.2	5/8/59	3.68
6S/10E-28K1	9/28/58	0.34± 0.42	4/6/59	33.03± 4.5	5/7/59	33.37
6S/11E-3B1	9/23/58	0.17± 0.51	4/6/59	27.62± 3.9	5/8/59	27.79
6S/11E-9C1	8/19/58	0.30± 0.30	4/6/59	18.01± 3.5	5/8/59	18.31
6S/11E-10J1	9/23/58	0.17± 0.17	4/6/59	7.73± 3.3	5/8/59	7.90
6S/11E-27K1	7/28/58	0.17± 0.45	4/13/59	7.90± 4.0	5/14/59	8.07
6S/11E-36P1	7/22/58	0.50± 0.51	4/13/59	7.90± 4.0	5/14/59	8.40
6S/12E-6L1	9/23/58	0.68± 0.59	4/6/59	7.06± 3.3	5/8/59	7.74
6S/12E-21N1	7/24/58	0.18± 0.14	5/5/59	10.80± 4.0	5/14/59	10.98
6S/12E-23H1	7/23/58	0.16± 0.27	5/5/59	6.70± 4.0	5/14/59	6.86
6S/13E-6N1	9/11/58	0.47± 0.29	5/5/59	0.00± 3.8	5/14/59	0.47

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		MERCED COUNTY (continued)				
6S/13E-31F1	9/12/58	0.18± 0.31	5/5/59	4.60± 3.9	5/14/59	4.78
7S/9E-32H1	8/4/58	0.32± 0.22	3/4/59	6.78± 3.4	4/23/59	7.10
7S/11E-4M1	7/31/58	0.31± 0.31	5/5/59	79.0 ± 5.6	5/14/59	79.31
7S/11E-14G1	7/24/58	0.54± 0.31	5/5/59	26.00± 4.3	5/14/59	26.54
7S/12E-1Q1	9/15/58	0.18± 0.31	5/5/59	9.50± 4.0	5/14/59	9.68
7S/12E-3F1	7/15/58	0.0 ± 0.31	5/5/59	2.5 ± 3.7	5/14/59	2.5
7S/12E-8E1	7/23/58	0.78± 0.41	5/5/59	12.80± 4.1	5/14/59	13.58
7S/12E-19A1	7/24/58	0.54± 0.40	5/5/59	8.80± 4.0	5/14/59	9.34
7S/13E-4P1	7/23/58	0.47± 0.41	5/5/59	7.90± 4.0	5/14/59	8.37
7S/13E-19H1	7/15/58	0.31± 0.38	5/5/59	6.7 ± 4.0	5/14/59	7.01
7S/13E-22Q1	7/15/58	0.17± 0.38	4/13/59	8.80± 4.0	5/14/59	8.97
7S/14E-9R1	9/12/58	0.54± 0.40	5/5/59	4.40± 3.9	5/14/59	4.94
7S/14E-28J1	9/12/58	1.46± 0.51	5/5/59	8.20± 4.0	5/14/59	9.66
7S/14E-31M1	9/8/58	0.36± 0.44	5/5/59	5.80± 3.9	5/14/59	6.16
7S/15E-18K	9/12/58	0.16± 0.15	5/5/59	6.10± 3.9	5/14/59	6.26
7S/15E-30E1	9/11/58	0.63± 0.31	5/5/59	4.10± 3.9	5/14/59	4.73
7S/15E-34R1	9/11/58	0.0 ± 0.22	5/5/59	5.5 ± 3.9	5/14/59	5.5

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		MERCED COUNTY (continued)				
8S/9E-16E1	8/4/58	0.16± 0.16	3/4/59	7.28± 3.5	4/23/59	7.44
8S/14E-2D1	9/9/58	0.16± 0.15	5/5/59	1.60± 3.8	5/14/59	1.76
8S/14E-24A1	9/12/58	0.0 ± 0.31	5/5/59	4.6 ± 3.9	5/14/59	4.6
8S/16E-17P1	9/15/58	0.31± 0.31	5/5/59	7.60± 4.0	5/14/59	7.91
9S/9E-5B1	8/4/58	0.16± 0.16	3/4/59	8.99± 3.5	4/23/59	9.15
9S/9E-21F1	7/31/58	0.58± 0.29	3/5/59	3.26± 3.3	4/24/59	3.84
9S/10E-36R1	8/4/58	0.15± 0.25	3/5/59	5.79± 3.4	4/24/59	5.94
9S/13E-31D1	8/1/58	0.16± 0.28	3/4/59	6.09± 3.4	4/23/59	6.25
10S/10E-28D1	8/4/58	0.36± 0.45	3/5/59	7.98± 3.5	4/24/59	8.34
10S/12E-6K1	8/18/58	0.15± 0.25	3/5/59	3.04± 3.3	4/24/59	3.19
10S/12E-25L	7/30/58	0.00± 0.22	3/4/59	2.06± 3.3	4/23/59	2.06
10S/12E-27K1	8/16/58	0.00± 0.20	3/5/59	3.04± 3.3	4/24/59	3.04
10S/12E-35K1	8/16/58	0.15± 0.25	3/5/59	2.38± 3.3	4/24/59	2.53
11S/10E-23K1	8/4/58	1.10± 0.51	3/5/59	0.00± 3.3	4/24/59	1.10
12S/11E-3C1	8/4/58	0.00± 0.20	3/5/59	0.69± 3.3	4/24/59	0.69

a – Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			MADERA COUNTY			
9S/15E-24F1	8/7/58	0.0 ± 0.30	2/18/59	0.0 ± 3.8	4/17/59	0.0
9S/16E-30C1	8/7/58	1.70± 5.4	2/18/59	0.20± 3.8	4/17/59	1.90
9S/16E-35N1	8/7/58	0.33± 0.24	2/18/59	4.70± 3.9	4/17/59	5.03
10S/14E-8B1	8/7/58	0.17± 0.30	2/18/59	5.87± 4.0	4/17/59	6.04
10S/14E-24B1	8/7/58	0.85± 0.38	2/18/59	0.00± 3.8	4/17/59	0.85
10S/15E-31A1	8/7/58	0.85± 0.38	2/18/59	8.43± 4.0	4/17/59	9.28
10S/17E-25N1	8/7/58	0.17± 0.34	2/18/59	2.80± 3.9	4/17/59	2.97
11S/14E-1A1	8/7/58	0.00± 0.34	2/18/59	15.94± 4.2	4/17/59	15.94
11S/15E-23L1	8/7/58	0.33± 0.24	2/18/59	8.43± 4.1	4/17/59	8.76
11S/15E-29H1	8/7/58	0.33± 0.41	2/18/59	0.82± 3.9	4/17/59	1.15
11S/16E-22K1	8/7/58	0.00± 0.34	2/18/59	3.40± 3.9	4/17/59	3.40
11S/17E-25B1	8/8/58	0.0 ± 0.24	2/18/59	3.1 ± 3.9	4/17/59	3.1
11S/18E-17H1	8/7/58	0.17± 0.38	2/18/59	5.80± 4.0	4/17/59	5.97
12S/14E-17B1	8/6/58	0.0 ± 0.34	2/18/59	14.06± 4.2	4/17/59	14.06
12S/14E-34H1	8/6/58	0.68± 0.41	2/18/59	8.72± 3.9	4/17/59	9.40
12S/15E-4K1	8/7/58	0.0 ± 0.30	2/18/59	0.0 ± 3.8	4/17/59	0.0
12S/15E-22F1	8/6/58	0.33± 0.38	2/18/59	8.10± 4.0	4/17/59	8.43

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		MADERA COUNTY (continued)				
12S/17E-5R1	8/6/58	0.17± 0.38	2/18/59	9.32± 4.3	4/17/59	9.49
12S/17E-7F1	9/15/58	0.52± 0.30	3/19/59	14.29± 3.7	5/5/59	14.81
12S/18E-14J1	8/5/58	0.17± 0.38	2/18/59	10.23± 3.7	4/15/59	10.40
13S/15E-22J1	8/8/58	0.85± 0.41	3/4/59	4.24± 3.3	4/23/59	5.09
13S/16E-2C1	8/6/58	0.0 ± 0.48	2/18/59	8.43± 4.0	4/17/59	8.43
13S/17E-5P1	8/6/58	1.02± 0.64	2/18/59	5.87± 3.9	4/17/59	5.89
		FRESNO COUNTY				
11S/12E-13J1	8/16/58	0.43± 0.32	3/5/59	6.51± 3.4	4/24/59	6.94
11S/13E-17F1	8/16/58	0.97± 0.50	5/6/59	4.01± 3.9	5/15/59	4.98
11S/13E-36B1	8/12/58	0.16± 0.15	5/6/59	4.92± 3.9	5/15/59	5.08
12S/13E-9C1	8/22/58	0.0 ± 0.30	4/6/59	0.0 ± 3.6	5/7/59	0.0
12S/14E-29B1	8/12/58	0.16± 0.35	5/6/59	0.00± 3.8	5/15/59	0.16
12S/20E-32J1	7/28/58	0.00± 0.24	1/12/59	6.10± 3.3	4/8/59	6.10
12S/21E-31P1	7/31/58	0.17± 0.30	1/12/59	6.00± 3.3	4/8/59	6.17
13S/14E-34M1	6/25/58	1.02± 0.41	1/5/59	3.58± 2.7	3/27/59	3.60
13S/15E-18L1	8/12/58	1.16± 0.41	3/5/59	6.98± 3.4	4/24/59	8.14
13S/20E-12L1	7/29/58	0.17± 0.30	1/12/59	4.70± 3.2	4/8/59	4.87

a – Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		FRESNO COUNTY (continued)				
13S/20E-27J1	7/29/58	0.00± 0.24	1/12/59	1.20± 3.2	4/8/59	1.20
13S/21E-15N2	7/29/58	0.00± 0.17	1/12/59	0.00± 3.2	4/8/59	0.00
14S/13E-12N1	6/24/58	0.17± 0.45	1/5/59	4.96± 2.7	3/27/59	5.13
14S/13E-21N1	6/25/58	0.33± 0.34	1/6/59	6.61± 2.7	3/27/59	6.94
14S/13E-22N1	6/25/58	0.17± 0.30	1/6/59	0.00± 2.6	3/27/59	0.17
14S/13E-25N1	6/25/58	0.00± 0.17	1/6/59	2.48± 2.7	3/27/59	2.48
14S/14E-9M1	6/24/58	0.00± 0.30	1/5/59	2.75± 2.7	3/27/59	2.75
14S/14E-11N1	6/24/58	0.0 ± 0.34	1/5/59	0.0 ± 2.6	3/27/59	0.0
14S/14E-12N1	6/24/58	0.00± 0.24	1/5/59	1.93± 2.7	3/27/59	1.93
14S/14E-17Q1	6/24/58	0.0 ± 0.38	1/5/59	7.17± 2.7	3/27/59	7.17
14S/14E-28E1	6/25/58	0.0 ± 0.24	1/6/59	1.65± 2.7	3/27/59	1.65
14S/14E-33N1	6/25/58	0.17± 0.30	1/6/59	3.31± 2.7	3/27/59	3.48
14S/15E-31N1	6/25/58	0.17± 0.17	1/6/59	8.00± 3.0	3/29/59	8.17
15S/12E-1N1	6/25/58	0.17± 0.17	1/6/59	3.70± 2.8	3/29/59	7.87
15S/13E-5R1	6/25/58	0.0 ± 0.24	1/6/59	5.24± 2.7	3/27/59	5.24
15S/14E-36Q2	6/25/58	0.33± 0.24	1/6/59	2.60± 2.8	3/29/59	2.93
15S/15E-20N2	9/16/58	0.35± 0.61	3/19/59	0.88± 3.4	5/5/59	1.23

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QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		FRESNO COUNTY (continued)				
15S/15E-25N1	9/16/58	0.0 ± 0.55	3/19/59	3.93± 3.5	5/5/59	3.93
15S/15E-27N1	6/26/58	0.50± 0.30	1/6/59	4.80± 2.9	3/29/59	5.30
15S/15E-35N1	6/26/58	0.68± 0.34	1/6/59	1.90± 2.8	3/29/59	2.58
15S/17E-1H1	7/30/58	0.17± 0.17	1/12/59	20.80± 3.6	4/8/59	20.97
15S/17E-12J1	7/31/58	1.02± 0.59	1/12/59	28.10± 3.8	4/8/59	29.12
15S/17E-13R1	7/30/58	0.17± 0.17	1/12/59	13.0 ± 3.4	4/8/59	13.17
15S/17E-14G1	7/30/58	0.00± 0.24	1/12/59	8.80± 3.3	4/8/59	8.80
15S/17E-15B1	7/30/58	0.17± 0.17	1/12/59	15.60± 3.4	4/8/59	15.77
15S/17E-15P1	7/30/58	0.68± 0.54	1/12/59	7.50± 3.3	4/8/59	8.18
15S/17E-15H1	7/31/58	0.17± 0.30	1/12/59	8.8 ± 3.3	4/8/59	8.97
15S/20E-10D3	7/30/58	0.17± 0.17	1/12/59	18.30± 3.5	4/8/59	18.47
16S/14E-10Q1	6/26/58	0.68± 0.34	1/6/59	3.20± 2.8	3/29/59	3.88
16S/15E-8N1	6/26/58	0.17± 0.17	1/6/59	1.90± 2.8	3/29/59	2.07
16S/15E-25Q1	6/26/58	0.0 ± 0.24	1/6/59	4.0 ± 2.8	3/29/59	4.0
16S/16E-9N1	6/26/58	0.33± 0.34	1/6/59	2.80± 2.8	3/29/59	3.13
16S/16E-20N1	6/26/58	0.0 ± 0.24	1/6/59	5.0 ± 2.9	3/29/59	5.0
17S/16E-18E1	6/26/58	0.0 ± .24	1/6/59	3.1 ± 2.8	3/29/59	3.1

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		FRESNO COUNTY (continued)				
17S/16E-24N1	6/26/58	0.17± 3.0	1/6/59	2.30± 2.8	3/29/59	2.47
17S/17E-23Q1	6/26/58	0.17± 2.4	1/26/59	3.20± 2.8	3/29/59	3.47
17S/17E-27R1	6/26/58	0.50± 0.30	1/6/59	8.20± 3.0	3/29/59	8.70
18S/16E-24N1	6/26/58	0.17± 0.17	1/6/59	6.6 ± 2.9	3/29/59	6.77
18S/17E-13N1	6/26/58	0.33± 0.24	1/6/59	1.30± 2.8	3/29/59	1.63
18S/17E-13Q1	9/16/58	0.17± 0.46	3/19/59	0.0 ± 3.4	5/5/59	0.17
18S/17E-30P1	6/27/58	0.0 ± 0.30	1/6/59	1.0 ± 2.8	3/29/59	1.0
18S/17E-33N1	6/27/58	0.0 ± .24	1/6/59	5.8 ± 2.9	3/29/59	5.8
19S/17E-9N1	6/27/58	0.0 ± .24	1/6/59	0.6 ± 2.8	3/29/59	0.6
19S/17E-13N1	6/27/58	0.0 ± 0.34	1/6/59	1.6 ± 2.8	3/29/59	1.6
19S/18E-23D2	6/27/58	0.0 ± .24	1/6/59	3.5 ± 2.8	3/29/59	3.5
20S/15E/25D2	6/27/58	0.0 ± 0.24	1/6/59	2.9 ± 2.8	3/29/59	2.9
20S/15E-26M1	6/27/58	0.17± 0.17	1/6/59	2.2 ± 2.8	3/25/59	2.37
20S/16E-4P1	6/27/58	0.17± 0.30	1/6/59	2.8 ± 2.8	3/29/59	2.97
20S/17E-9R1	6/27/58	0.0 ± 0.30	1/7/59	0.0 ± 2.7	3/29/59	0.0
20S/17E-11N1	6/27/58	0.0 ± 0.24	1/7/59	7.0 ± 2.9	3/29/59	7.0
20S/17E-36D1	6/27/58	0.0 ± 0.30	1/7/59	0.6 ± 2.8	3/29/59	0.6
20S/18E-24D1	9/16/58	0.0 ± 0.43	3/19/59	0.0 ± 3.4	5/5/59	0.0

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		TULARE COUNTY				
18S/24E-19M1	8/6/58	0.5 ± 0.3	2/19/59	21.5 ± 4.3	4/17/59	22.0
19S/23E-24G1	8/6/58	0.85± 0.38	2/18/59	4.40± 3.9	4/17/59	5.25
19S/26E-3K1	9/17/58	0.28± 0.28	3/19/59	0.88± 3.4	5/5/59	1.16
22S/23E-7A2	9/4/58	0.48± 0.38	4/9/59	0.08± 3.0	5/12/59	0.56
24S/27E-32P1	8/5/58	0.17± 0.17	2/19/59	7.20± 4.0	4/17/59	7.37
		KERN COUNTY				
11N/18W-14M1	8/22/58	0.00± 0.21	5/6/59	1.95± 3.8	5/15/59	1.95
11N/19W-25F1	8/22/58	0.00± 0.21	5/6/59	10.10± 4.1	5/15/59	10.10
11N/20W-8R1	8/22/58	0.61± 0.30	5/6/59	9.44± 4.1	5/15/59	10.05
11N/20W-25K1	8/22/58	0.15± 0.15	5/6/59	7.79± 4.0	5/15/59	7.94
12N/19W-33R1	8/22/58	0.60± 0.30	5/6/59	5.56± 4.0	5/15/59	6.16
12N/21W-33N1	8/22/58	0.16± 0.35	5/6/59	9.11± 4.1	5/15/59	9.27
25S/18E-2N2	8/13/58	0.00± 0.24	2/20/59	0.00± 3.7	4/18/59	0.00
25S/18E-3N2	8/13/58	0.00± 0.30	2/20/59	1.93± 3.8	4/18/59	1.93
25S/19E-6D2	8/12/58	0.00± 0.34	2/20/59	9.57± 4.0	4/18/59	9.57
25S/19E-7P1	8/12/58	0.33± 0.24	2/20/59	7.69± 3.9	4/18/59	8.02

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
			KERN COUNTY (continued)			
25S/24E-27R1	8/20/58	0.50 ± 0.37	3/16/59	0.00 ± 3.3	5/1/59	0.50
25S/26E-1R1	8/20/58	0.0 ± 0.42	3/16/59	0.0 ± 3.4	5/1/59	0.0
25S/26E-16J1	8/20/58	0.17 ± 0.33	3/16/59	0.00 ± 3.4	5/1/59	0.17
26N/27E-9G1	8/20/58	0.17 ± 0.38	3/16/59	0.94 ± 3.4	5/1/59	1.11
27S/20E-34G1	8/13/58	0.0 ± 0.45	2/24/59	11.2 ± 3.8	4/20/59	11.2
27S/22E-2Q2	8/13/58	0.0 ± 0.0	2/24/59	0.0 ± 3.5	4/20/59	0.0
27S/23E-27J1	8/13/58	0.0 ± 0.45	2/24/59	3.25 ± 3.6	4/20/59	3.25
27S/24E-5R1	8/21/58	0.15 ± 0.29	5/5/59	0.00 ± 4.2	5/15/59	0.15
27S/26E-27R1	8/20/58	0.17 ± 0.38	3/16/59	8.86 ± 3.6	5/1/59	9.03
28S/22E-36N1	8/12/58	0.17 ± 0.51	2/24/59	3.25 ± 3.6	4/20/59	3.42
28S/23E-25P1	8/13/58	0.17 ± 0.17	2/24/59	5.57 ± 3.6	4/20/59	5.74
28S/25E-17L1	8/21/58	0.15 ± 0.29	5/5/59	2.39 ± 4.3	5/15/59	2.54
28S/26E-11A1	8/20/58	0.30 ± 0.30	5/6/59	2.53 ± 3.8	5/15/59	2.83
28S/26E-30A1	8/21/58	0.45 ± 0.33	5/6/59	11.50 ± 4.1	5/15/59	11.95
29S/23E-24H1	8/12/58	6.33 ± 0.24	2/24/59	4.52 ± 3.6	4/20/59	10.85
29S/25E-10N1	8/13/58	0.17 ± 0.38	2/24/59	7.17 ± 3.7	4/20/59	7.34
29S/26E-35K1	8/12/58	0.0 ± 0.34	2/24/59	2.04 ± 3.6	4/20/59	2.04

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity (a)
		KERN COUNTY (continued)				
29S/28E-12E1	8/22/58	0.16± 0.28	5/6/59	7.79± 4.0	5/15/59	7.95
29S/29E-34N1	8/22/58	0.16± 0.15	5/6/59	0.00± 3.8	5/15/59	0.16
30S/24E-14H1	8/12/58	1.53 ± 0.56	2/24/59	37.80± 4.4	4/20/59	39.33
30S/28E-25A1	8/22/58	0.61± 0.30	5/6/59	1.44± 4.8	5/15/59	2.05
30S/29E-5D2	8/22/58	0.30± 0.30	5/6/59	6.24± 4.0	5/15/59	6.54
30S/29E-20A1	8/22/58	0.16± 0.28	5/6/59	10.46± 4.1	5/15/59	10.62
30S/29E-27J1	8/22/58	0.30± 0.31	5/5/59	0.60± 4.2	5/15/59	0.90
31S/24E-28B1	8/12/58	0.00± 0.24	2/24/59	5.29± 3.6	4/20/59	5.29
31S/28E-7R3	8/21/58	0.30± 0.30	5/6/59	5.86± 4.0	5/15/59	6.16
31S/29E-17E1	8/21/58	0.15± 0.33	5/6/59	3.71± 3.9	5/15/59	3.86
31S/30E-16A1	8/21/58	0.15± 0.33	5/6/59	0.00± 3.8	5/15/59	0.15
32S/27E-16R2	8/22/58	0.45± 0.33	5/6/59	2.25± 3.8	5/15/59	2.70
32S/28E-12F1	8/21/58	0.30± 0.31	5/5/59	4.89± 4.3	5/15/59	5.19
32S/29E-11R1	8/21/58	0.15± 0.26	5/6/59	1.37± 3.8	5/15/59	1.52

a - Calculated as the sum of Alpha and Beta activities. Statistical deviation not reported.

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
		LAHONTAN REGION (NO. 6)				
		LOWER MOJAVE RIVER VALLEY, BARSTOW TO YERMO (6-40)				
9N/1E-1M1	10-15-58					5.8
9N/1E-15N2	10-15-58					4.1
9N/2E-8N2	10-15-58					2.2
9N/1W-5J3	10-14-58					4.4
9N/1W-9G1	10-14-58					5.4
9N/1W-10G1	10-15-58					31.9
10N/1W-32J1	10-15-58					6.5

QUALITY OF GROUND WATERS IN CALIFORNIA

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
		COLORADO RIVER BASIN REGION (NO. 7)				
		COACHELLA VALLEY (7-21)				
5S/7E-16K1	10-27-58					6.8
5S/7E-22K1	10-27-58					6.0
5S/7E-33C1	10-27-58					6.3
5S/8E-31D1	10-27-58					6.0
5S/8E-33N1	10-28-58					7.6
6S/7E-25E1	10-28-58					3.3
6S/8E-7P1	10-28-58					1.8
6S/8E-10A3	10-28-58					1.8
6S/8E-27H1	5-1-58			4.7		
6S/8E-27H1	10-28-58					5.8
6S/9E-30C1	10-28-58					2.6
7S/8E-22M1	10-28-58					3.0
7S/9E-16K1	10-28-58					0.2

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
		SANTA ANA REGION (NO. 8)				
		EAST COASTAL PLAIN PRESSURE AREA (8-1.01)				
5S/11W-21M3	11-13-58					1.6
5S/11W-21N2	11-13-58					3.2
5S/11W-25R2	11-19-58					2.7
5S/11W-29C1	11-19-58					1.8
5S/11W-34F3	11-19-58					3.3
5S/11W-36B2	11-19-58					5.0
5S/11W-36P1	11-13-58					4.5
5S/12W-12C1	11-14-58					0.6
6S/10W-6L2	11-13-58					2.3
6S/10W-7G1	11-19-58					4.0
6S/10W-8D9	11-19-58					2.2
6S/11W-3R2	11-18-58					4.6
6S/11W-12F3	11-18-58					2.1

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
			CHINO BASIN (8-2.01)			
1S/6W-29R1	10-30-58					2.2
1S/7W-28R1	10-30-58					1.9
1S/7W-34M1	10-30-58					0.5
2S/7W-10M1	10-30-58					3.3
2S/7W-15A1	4-22-58			1.6		
2S/7W-15A1	10-30-58					2.0
2S/7W-21L1	10-30-58					2.9
2S/7W-23E1	10-30-58					3.3
2S/7W-27A1	10-30-58					5.2
			BUNKER HILL BASIN (8-2.06)			
1N/4W-29E3	10-29-58					3.0
1N/4W-29F1	10-29-58					1.7
1S/3W-9E2	10-29-58					6.6
1S/3W-16A1	10-29-58					5.7
1S/4W-13F3	10-29-58					14.9
1S/4W-13G1	10-29-58					14.7
1S/4W-13L1	10-29-58					9.0

RADIOASSAY OF GROUND WATER

1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
		SAN DIEGO REGION (NO. 9)				
		SAN LUIS REY VALLEY, MISSION BASIN (9-7.01)				
11S/4W-4N1	10-28-58					8.6
11S/4W-8H1	10-28-58					4.1
11S/4W-8J1	10-28-58					3.1
11S/4W-8N1	10-28-58					3.9
11S/4W-18C1	10-28-58					5.1
11S/4W-18C3	10-28-58					3.4
11S/5W-13L1	5-27-58			4.9		
11S/5W-13L1	10-28-58					4.2
11S/5W-23E1	10-28-58					4.8
		EL CAJON VALLEY (9-16)				
15S/1E-31R1	11-17-58					4.7
16S/1W-2K6	11-18-58					2.2
16S/1W-3C2	5-28-58			2.9		
16S/1W-3C2	11-16-58					3.2
16S/1W-3N1	11-17-58					3.0
16S/1W-10D1	11-17-58					5.9

QUALITY OF GROUND WATERS IN CALIFORNIA
RADIOASSAY OF GROUND WATER
1958

Well Number	Date Sampled	Micromicrocuries Per Liter				
		Total Alpha	Date Analyzed	Total Beta	Date Analyzed	Gross Activity
			EL CAJON VALLEY (9-16) (Continued)			
16S/1W-10E2	11-17-58					1.5
16S/1W-11P4	11-16-58					0.8
16S/1W-12J4	11-17-58					2.7
16S/1W-15K2	11-17-58					1.1
			TIA JUANA VALLEY BASIN (9-19)			
18S/2W-32P2	12-2-58					3.5
18S/2W-32P4	11-18-58					11.2
18S/2W-33K4	11-18-58					1.4
18S/2W-35L1	11-18-58					3.0
19S/2W-1E4	11-18-58					3.4
19S/2W-1E8	11-18-58					3.0
19S/2W-3A1	11-18-58					8.6
19S/2W-4A5	5-29-58			4.4		
19S/2W-4A5	11-18-58					3.3
19S/2W-5L2	11-18-58					5.0