

Water Levels and Artesian Pressures in Observation Wells in the United States in 1950

Part 6. Southwestern States and Territory of Hawaii

Prepared under the direction of C. G. PAULSEN, Chief Hydraulic Engineer

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1170

*Prepared in cooperation with the States
of Arizona, California, Nevada, and
New Mexico, the Territory of Hawaii,
and other agencies*



UNITED STATES DEPARTMENT OF THE INTERIOR

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PREFACE

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WATER LEVELS AND ARTESIAN PRESSURES
IN OBSERVATION WELLS IN THE UNITED STATES
IN 1950

Part 6. SOUTHWESTERN

Introduction

By A. N. Sayre

The publication of records of water levels and artesian pressures annually in the United States was begun by the Geological Survey in 1935. Prior to 1940 the records were published in a single volume--1935, 777; 1936, 817; 1937, 840; 1938, 845; 1939, 886. Since 1940, records have been published in six volumes, covering the northeastern, southeastern, north-central, south-central, northwestern, and southwestern sections of the country. Hawaii is included in the southwestern section. The following table gives the numbers of Water-Supply Papers from 1940 through 1950.

Year	North-eastern (1)	South-eastern (2)	North-central (3)	South-central (4)	North-western (5)	South-western (6)
1940	906	907	908	909	910	911
1941	936	937	938	939	940	941
1942	944	945	946	947	948	949
1943	986	987	988	989	990	991
1944	1016	1017	1018	1019	1020	1021
1945	1023	1024	1025	1026	1027	1028
1946	1071	1072	1073	1074	1075	1076
1947	1096	1097	1098	1099	1100	1101
1948	1126	1127	1128	1129	1130	1131
1949	1156	1157	1158	1159	1160	1161
1950	1165	1166	1167	1168	1169	1170

Ground-water investigations are concerned with the availability of usable water supplies, land drainage, flood control, construction of waterways and dams, mine drainage, and other problems to which the principles of ground-water hydrology are pertinent. Water levels in wells indicate the stages of the aquifers; they show the extent to which water supplies are depleted by drought or by heavy pumping, and the extent to which they are replenished in seasons of abundant rainfall or melting snow. The recorded changes of pressures in artesian wells also indicate depletion or replenishment of the artesian supplies.

This volume gives records of water levels and artesian pressures in observation wells in the southwestern States (Arizona, California, Nevada, and New Mexico) and Hawaii. Of the 2,638 wells listed, 48 are equipped with recording gages. Descriptive matter for some wells is given in previous reports. For wells not previously reported, complete records of water levels are given. For wells whose previous records have been published, this volume gives only the current records.

Before 1943, the water levels and artesian pressures for some wells were given in feet above or below the measuring points and for other wells in feet above or below sea level or above or below various assumed datum planes. In 1943, a precise datum plane was selected at each well which was approximately the land surface. The water levels and artesian heads for all wells listed in this volume are referred to land-surface datum or mean sea level. Water levels above this datum are preceded by a plus (+) sign, those below this datum have no sign, but are understood to be minus (-), unless otherwise indicated. In this report mean sea level has been abbreviated to msl and land-surface datum to lsd.

Measurements of water levels and artesian pressures in wells were made under the direction of the district supervisors of the Ground Water Branch in the several States. Verda M. Dougherty edited the reports; Rodney Hart edited the illustrations; and Penn Livingston had general charge of the nation-wide observation-well program. This volume was typed by Betty-Jo Ebner.

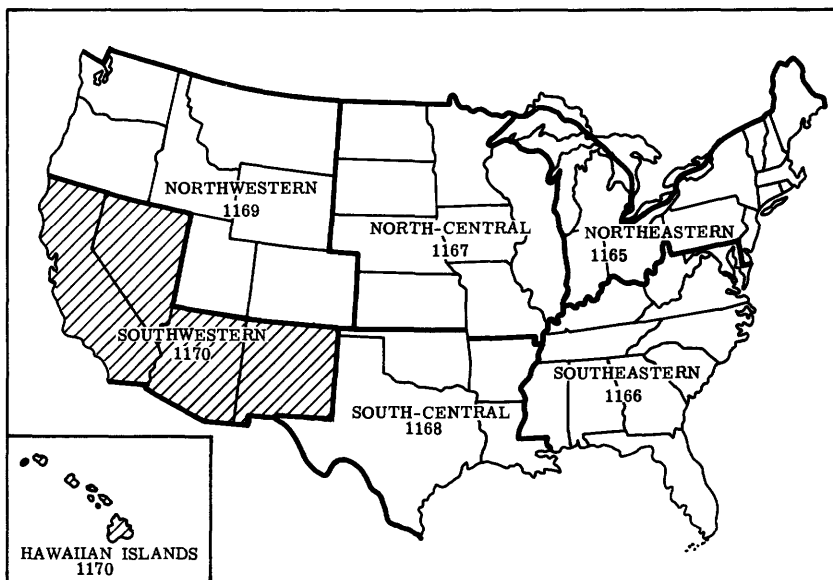


Figure 1. --Outline map of the United States showing areas included in each of the six water-supply papers on water levels and artesian pressures in observation wells in 1950. The shaded area indicates the States included in this volume.

ARIZONA

By S. F. Turner and R. L. Cushman

Scope of Water-Level Program

In 1950 the observation-well program in Arizona was continued in cooperation with the State Land Department. The program included estimating the present rate of ground-water use by making an inventory of annual pumpage, and determining the effects of pumping by making periodic water-level measurements in 420 wells. Special attention was given to an intensive study of the ground-water resources of the Queen Creek area of Maricopa and Pinal Counties, and the Florence-Casa Grande-Maricopa area of Pinal County. The data obtained in these studies were of assistance to the State Land and Water Commissioner in evaluating the need of applying ground-water control measures under the State ground-water code of 1948. A program of water sampling in Maricopa County was begun for the purpose of determining the qualitative effects of continued heavy pumping. The ground-water resources and geology of the Ranegras Plain area in Yuma County and of the Lower San Pedro area in Pima and Pinal Counties were studied. Investigations were begun on source and discharge of certain large springs in northern Arizona. A geologic reconnaissance of the spring sites was begun and periodic measurements of discharge were made. Ground-water investigations in the vicinity of Globe were continued in 1950 in cooperation with the city of Globe. Geophysical and hydrologic work was done in cooperation with the Salt River Valley Water Users' Association for the purpose of determining the depths and relative permeabilities of the alluvium in the Salt River Valley. Similar investigations were made on the Papago Indian Reservation at the request of the Bureau of Indian Affairs. The investigations were made to find favorable sites for domestic and stock wells near Sells and for irrigation wells near Chiu Chuischu. At the request of the Bureau of Indian Affairs, the Geological Survey has, since January 1948, been investigating the availability of ground water at selected sites on the Navajo and Hopi Indian Reservations of northeastern Arizona. Results of one of these investigations are given in a report issued in 1950: "Memorandum on possibility of developing ground water for irrigation along Toc Chinlin Wash near Emmanuel Mission, Navajo Indian Reservation, Apache County, Ariz.", by H. A. Whitcomb and C. A. Repenning.

Pumpage

Pumpage of ground water in the principal basins of the State for irrigation in 1950 exceeded by 200,000 acre-feet the previous record high annual pumpage of 1949. The following table contains records of pumpage during the 7-year period 1944-50.

Pumpage, in acre-feet, from wells in principal ground-water areas of Arizona

	1944	1945	1946	1947	1948	1949	1950
Cochise County:							
San Simon Basin	(a)	(a)	5,800	(a)	(a)	(a)	(a)
Willcox Basin	(a)	9,000	15,500	20,000	23,000	28,000	35,000
Douglas Basin	(a)	8,000	12,500	17,000	22,000	30,000	35,000
Graham County:							
Cactus Flat-Artesia area	(a)	(a)	5,600	(a)	(a)	(a)	(a)
Safford Valley	52,000	35,000	115,000	100,000	110,000	40,000	90,000
Greenlee County:							
Duncan-Yiriden Valley ^b	9,500	8,300	21,000	26,000	27,000	15,000	30,000
Maricopa County:							
Salt River Valley ^c	1,017,000	1,143,000	1,360,000	1,406,000	1,670,000	1,644,000	1,852,000
Gila Bend area	(a)	(a)	33,300	40,500	60,800	67,000	59,000
Dendora area	(a)	(a)	6,700	6,700	1,900	5,000	6,000
Pima County:							
Part of Santa Cruz River basin	106,000	111,000	108,000	145,000	145,000	150,000	180,000
Pinal County:							
Part of Santa Cruz and Gila River basins	530,000	610,000	660,000	700,000	950,000	1,100,000	1,000,000
Santa Cruz County:							
Part of Santa Cruz River basin	12,500	18,500	24,000	25,000	28,000	31,000	21,000
Yuma County:							
Dateland area	4,000	4,000	4,000	4,000	5,000	8,000	9,000
Wellton-Mohawk area	37,000	35,000	38,000	43,000	50,000	45,000	46,000
South Gila Valley	20,000	22,000	32,000	35,000	54,000	56,000	56,000
Total			2,441,400	2,568,200	3,146,700	3,219,000	3,419,000

a Not determined.

b Partly in Hidalgo County, N. Mex.

c Includes Queen Creek area, Maricopa and Pinal Counties.

Interpretation of Water-Level Fluctuations

Water tables in most of the principal ground-water basins of central and southern Arizona were depressed to new low levels by continued large-scale pumping of ground water. The condition was aggravated in 1950 by the drought that has continued since 1941. Little or no net change was observed in the water levels in wells tapping deep and extensive aquifers in northern Arizona. However, ground-water levels in the small basins in the lavas or in the fill of the "parks" and "prairies" of northern Arizona declined sufficiently to cause many shallow wells to go dry. Numerous springs in the State decreased in discharge or ceased to flow in 1950 as the result of 9 consecutive years of below-normal precipitation.

Apache County. --The prolonged drought and the relatively small withdrawal of ground water for irrigation have caused no significant change in the ground-water levels in the wells measured. Precipitation at Springerville amounted to 5.84 inches, or 6.81 inches below normal.

Cochise County. --The hydrographs of wells 477 and 753, given in figure 2, show water-level fluctuations typical of artesian wells in the Pomerene-Benson-St. David area. Seasonal water-level declines caused by pumping for irrigation completely recovered after pumping ceased. This recovery indicates a condition of approximate equilibrium in the artesian aquifers of this area. The hydrograph of well 305 depicts the water-level fluctuations in wells tapping the shallow nonartesian aquifers of the area. Water-level declines of 1 to 2 feet in this nonartesian aquifer in the period 1944-50 indicate a reduction in the amount of water in the aquifer. Most of this depletion is attributed to pumpage for irrigation use.

The water level in well 1074 in the Charleston-Huachuca area shows the fluctuations in the nonartesian aquifer upstream from the Pomerene-Benson-St. David area and in an area of less pumping. Well 950 is outside the river bottom and shows the stage of the ground water closer to the recharge area near the mountains. The downward trend in water level indicates that subnormal precipitation in the period 1942-50 has reduced the amount of recharge.

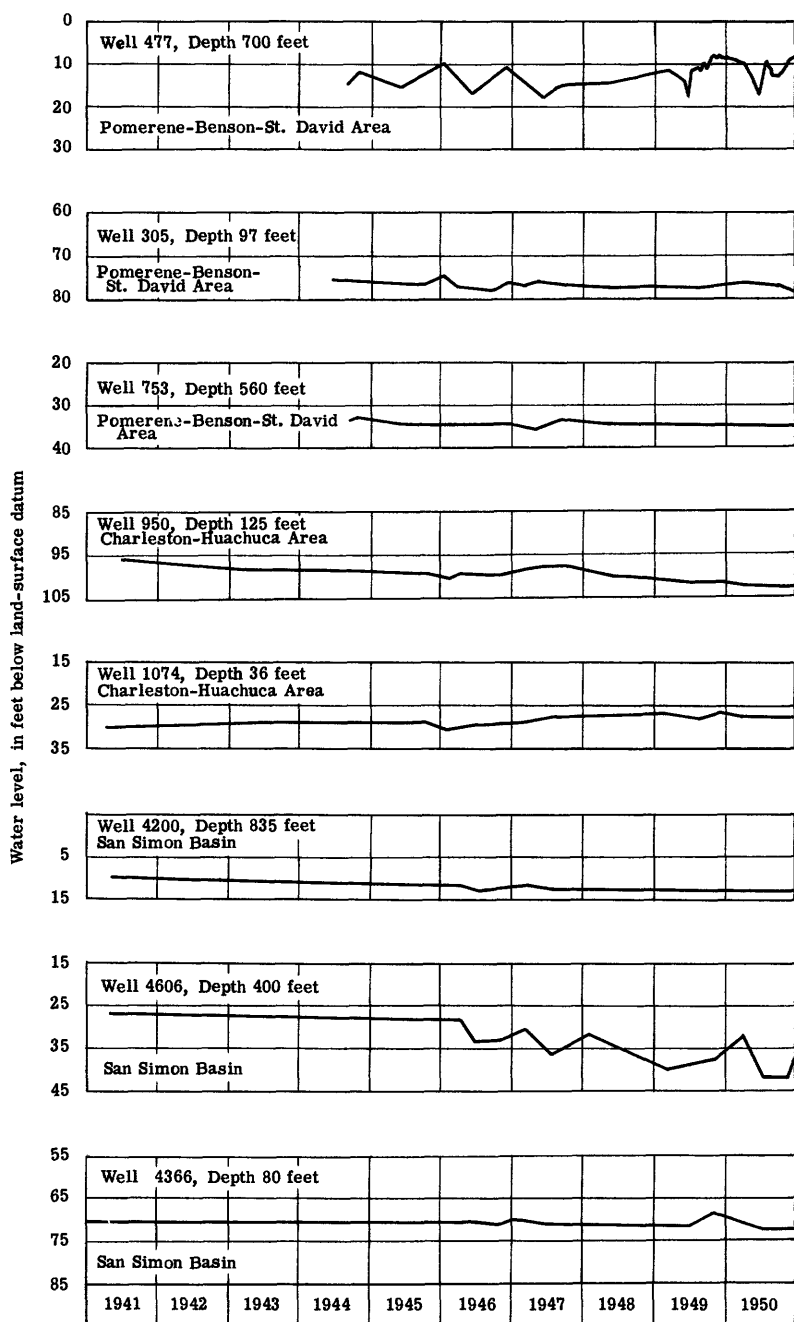


Figure 2. --Fluctuations of water levels in eight wells in San Pedro Valley and San Simon Basin, Cochise County.

Water levels lowered about 4 feet in the period of record 1941-50 in wells tapping the artesian aquifers of the San Simon Basin in the vicinity of Bowie. Approximately 0.7 foot of this decline occurred in 1950. Farther east in the vicinity of San Simon, where withdrawal of ground water is larger, the net decline in water level in wells amounted to about 7 feet in the period of record 1941-50, of which about 2 feet occurred in 1950. Graphs of water-level fluctuations in well 4200 near Bowie and in well 4606 near San Simon, see figure 2, are typical of water-level fluctuations in wells in their respective areas. The trend in water-level fluctuations in the shallow nonartesian aquifer of the San Simon Basin is illustrated by the hydrograph of well 4366 in figure 2. No inventory has been made since 1946 of the amount of ground water discharged from wells in the San Simon Basin. In that year the ground-water withdrawal amounted to about 5,600 acre-feet from artesian wells and about 200 acre-feet from nonartesian wells. It is probable that the amount of ground-water withdrawn from wells in 1950 is at least $1\frac{1}{2}$ times as large as the amount of water withdrawn in 1946.

Net declines in ground-water level of 2 to 3 feet in 1950 in the Willcox-Stewart area of the Willcox Basin added to declines in previous years make a cumulative net decline of about 15 feet in the period of record 1942-50. Pumping of ground water for irrigation is primarily responsible for this lowering of the water table. Figure 3 shows graphs of water-level fluctuations in wells 1527 and 1700 in the Willcox Basin. Water-level fluctuations in well 1527 are typical for wells in the heavily pumped area, and well 1700 is typical of fluctuations in wells outside the pumped area. The slow decline shown on the graph of well 1700 indicates movement of water toward the areas of heavy pumping. Pumpage in the Willcox Basin in 1950 reached an all-time high of 35,000 acre-feet for the period of record 1945-50. The steady rise in annual pumpage is reflected in the increased annual rate of lowering of the water table.

Ground-water levels in the heavily pumped portion of the Douglas Basin were about 12 feet lower at the end of 1950, than at the beginning of record in 1942. Near the centers of heavy pumping the net drop in water level in 1950 was as much as 3 feet, with lesser declines away from the centers of pumping. Ground-water levels not immediately affected by pumping slowly trended downward because of drainage to the unwatered portion of the aquifer in the pumped area, and because of reduced recharge resulting from the prolonged period of subnormal precipitation. Water-level fluctuations in wells 3350 and 2701 graphed in figure 3 are typical in areas of heavy pumping in the Douglas Basin.

Coconino County. --In the Flagstaff-Williams area of Coconino County, the water levels in shallow wells in the lava and in the shallow fill of the "parks" and "prairies" declined from a fraction of a foot to more than 5 feet. Water levels in deeper wells remained essentially unchanged. The Weather Bureau reported a total precipitation of 10.76 inches at Flagstaff in 1950, or 10.41 inches below normal.

Gila County. --Water-level declines in wells in the Globe-Miami area of Gila County ranged from less than 1 foot to as much as 14 feet in 1950. The declines were due primarily to the reduction in recharge which in turn was the result of below-normal precipitation. The precipitation recorded at Globe by the Weather Bureau amounted to 8.78 inches in 1950, or 7.68 inches below normal. The annual precipitation has been below normal since 1941. The principal use of water in this area is for mining and milling, municipal supply, and irrigation.

Graham County. --The stage of the Gila River and recharge from surface water diverted from the river for irrigation have a large effect on ground-water levels in the Safford Valley of Graham County. These influences added to pumpage from wells for irrigation and evapotranspiration uses of ground water caused seasonal fluctuations of at least 20 feet in ground-water levels. The water levels in wells in the irrigated areas were 3 feet lower at the end of 1950 than at the first of that year. Figure 4 shows graphs of water-level fluctuations in wells 597, 273, and 51 typical of a heavily pumped area, a moderately pumped area, and a lightly pumped area, respectively. Figure 4 also shows graphs of precipitation and pumpage in the Safford Valley in 1950. Net water-level declines in artesian wells in the Cactus Flat-Artesia area of Graham County show a slow but consistent decrease in pressure in the artesian system during the period of record. Precipitation at Safford, as reported by the Weather Bureau, amounted to 3.44 inches or 6.04 below normal.

The following table shows the quantities of water pumped from wells and surface water diverted from the Gila River for irrigation in the period 1940-50. The information on surface-water diversion was obtained from annual reports of the Gila Water Commissioner.

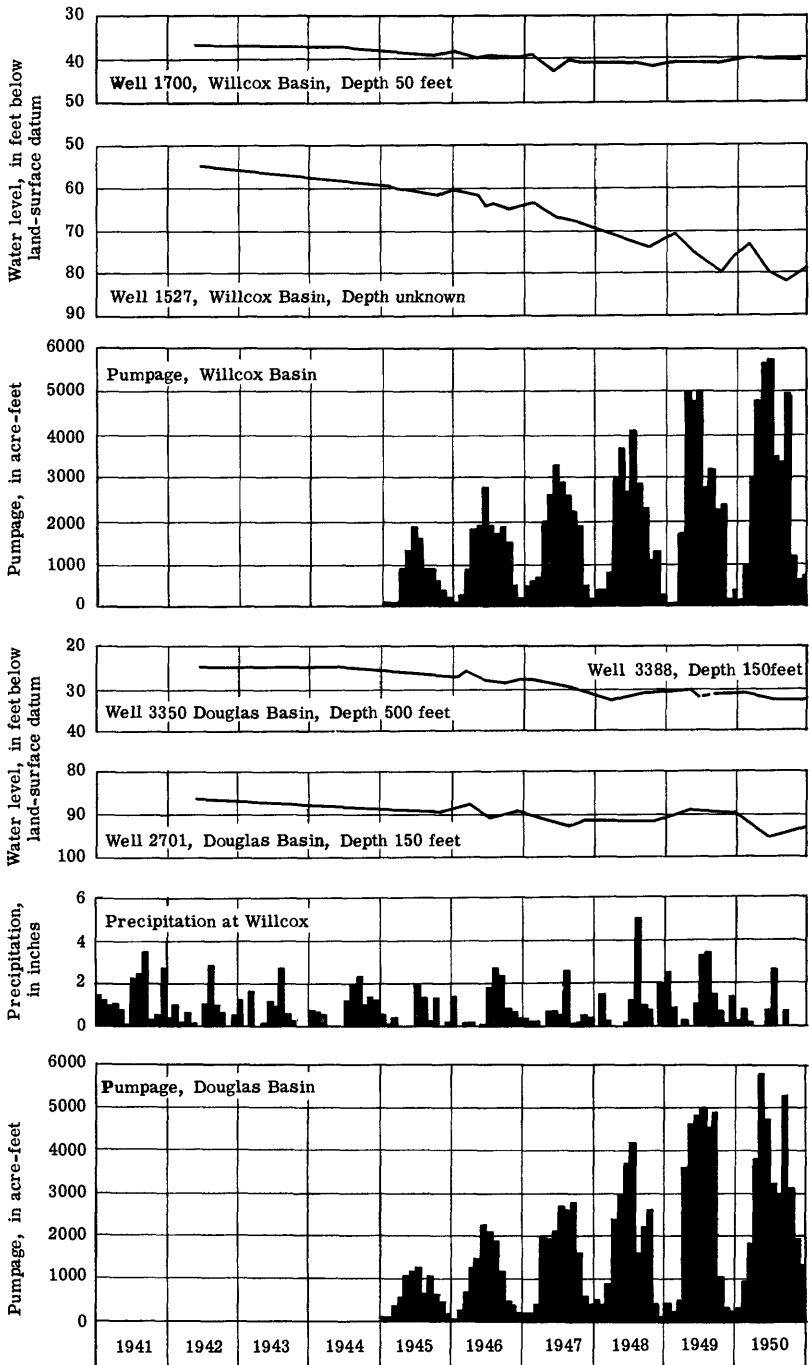


Figure 3. --Fluctuations of water levels in two wells and pumpage in Willcox Basin, two wells and pumpage in Douglas Basin, and precipitation at Willcox, Cochise County.

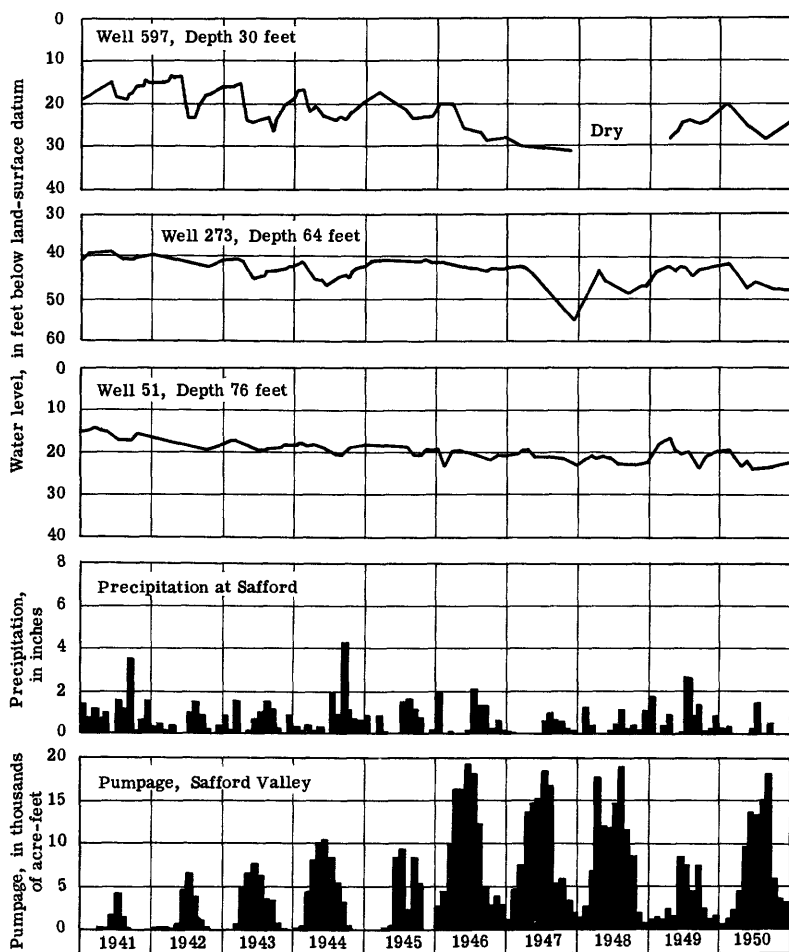


Figure 4. --Fluctuations of water levels in three wells and pumpage in Safford Valley, and precipitation at Safford, Graham County.

Year	Ground Water (acre-feet)	Surface Water (acre-feet)	Total (acre-feet)
1940	24,600	99,693	124,293
1941	8,685	151,300	159,985
1942	18,900	172,005	190,905
1943	35,000	121,569	156,569
1944	52,000	128,027	180,027
1945	35,000	148,675	183,675
1946	115,000	69,909	184,909
1947	100,000	51,978	151,978
1948	110,000	39,848	149,848
1949	40,000	167,790	207,790
1950	90,000	68,504	158,504

Greenlee County. --In the Duncan Valley of Greenlee County, as in the Safford Valley of Graham County, ground-water levels are largely affected by the stage of the Gila River, by recharge occurring as seepage losses from irrigation water applied to the land, and by pumping of wells for irrigation. The average net decline in ground-water levels in the Duncan Valley amounted to about 3 feet in 1950. In the local areas of concentrated pumping, net declines of as much as 15 feet were measured. Approximately 63 percent of the total quantity of water used for irrigation in the Duncan-Virden Valley in the period 1946-50 was supplied from wells. Weather Bureau records from Duncan show that precipitation in 1950 was 5.20 inches, or 4.66 inches below normal. Below-normal precipitation in the upstream drainage area was reflected by the small quantity of surface water available for irrigation use.

Figure 5 shows graphs of water-level fluctuations in wells 92, 63, and 5. The effects of pumping for irrigation are not transmitted immediately to the vicinity of well 92, and the water level in this well shows the regional water-level trend without the large and rapid fluctuations observed in wells within the pumped area. The water-level fluctuations in well 63 are typical of the pattern of fluctuations of water levels in wells in the pumped area. The water level in well 5 shows the stage of the underflow leaving the valley.

The 1950 pumpage in the Duncan Valley, Arizona, and Virden Valley, New Mexico, shown graphically in figure 5, was the largest on record in the period 1940-50. The following table shows the quantities of water pumped from wells and surface water diverted from the Gila River for irrigation in the period 1940-50. The information on surface-water diversion was obtained from annual reports of the Gila Water Commissioner.

Year	Ground Water (acre-feet)	Surface Water (acre-feet)	Total (acre-feet)
1940	2,436	39,935	42,371
1941	1,348	34,262	35,610
1942	1,900	36,439	38,339
1943	7,100	31,520	38,620
1944	9,500	27,225	36,725
1945	8,300	27,657	35,957
1946	21,000	14,419	35,419
1947	26,000	10,168	36,168
1948	27,000	9,080	36,080
1949	15,000	24,528	39,528
1950	30,000	12,651	42,651

Maricopa County. --Figure 6 shows the average cumulative net change in water levels in the five areas into which the Salt River Valley has been arbitrarily divided. The areas are designated from east to west as follows: Queen Creek-Higley-Gilbert area, Tempe-Mesa-Chandler area, Phoenix-Glendale-Tolleson area, Litchfield-Beardsley-Marinette area, and Liberty-Buckeye-Hassayampa area. As may be seen from the graphs, water levels during 1950 continued the downward trend of the past several years, although the rate of decline varied in different areas. The total average decline in the Queen Creek-Higley-Gilbert area has been approximately 43 feet since 1940. About 32 feet of this decline has occurred within the past 5 years. In the Tempe-Mesa-Chandler area the total average decline since 1940 has amounted to approximately 35 feet. It is of interest to note that in this area the abnormal recharge resulting from the wet winter of 1940-41 raised water levels to a peak in 1942. Since 1942 the decline has been approximately 63 feet or at the rate of about 7 feet a year. The effects of the 1940-41 wet season were not fully reflected in the Phoenix-Glendale-Tolleson area until the spring of 1943. Since that time the total water-level decline in wells in this area has been approximately 35 feet. About 25 feet of the decline has taken place within the last 4 years. The trend of water levels in the Litchfield-Beardsley-Marinette area has been constantly downward since 1940. The rate of decline during the last 3 years has amounted to about 7 feet a year. Since 1940, the total decline in wells in the area has been 48 feet. In the Liberty-Buckeye-Hassayampa area,

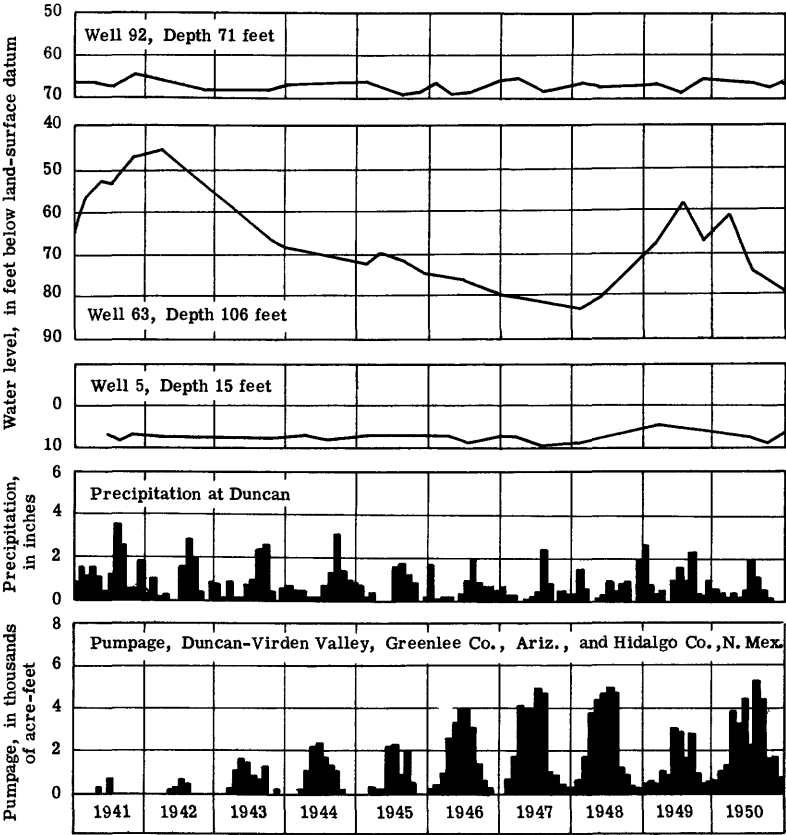


Figure 5. --Fluctuations of water levels in three wells in Duncan Valley, precipitation at Duncan, and pumpage in Duncan-Virden Valley, Arizona and New Mexico.



Figure 6. --Cumulative net change of water levels in various areas of Salt River Valley, Maricopa County.

water-level measurements show a small lowering of the water table during 1950, and the net total decline since 1940 amounted to about 8 feet. Changes in ground-water levels in this area have been small because a large part of the water used in the area is imported in canals. In figure 7, the graphs show the cumulative net changes in water levels in the entire Salt River Valley area since 1930, and the amounts of water pumped for irrigation since 1933. There was little change in the rate of decline of water levels, but the amount of water pumped for irrigation use rose to an all-time high of 1,852,000 acre-feet, an increase of 208,000 acre-feet over the previous year. This increase may be attributed to a below-normal supply of surface water and the expansion of cultivation.

Mohave County. --Water levels in wells near Wikieup have lowered about 2 feet since the start of record in 1945. In 1950 the water table lowered about 0.3 feet or at about the same rate as in preceding years. Water levels in wells near Kingman have lowered about 6.5 feet since 1944, or about 1.1 feet a year. Several springs failed because of drought conditions, and some water was hauled for stock and domestic use. Precipitation at Kingman amounted to 5.03 inches, or 5.88 inches below normal. Annual precipitation has been below normal since 1941. Several new irrigation wells were drilled between Wikieup and Hackberry. The extension of rural electrical service to this area encouraged the development.

Navajo County. --There was very little change in water levels in the wells measured in Navajo County in 1950. In the Shumway-Taylor-Snowflake area and similar areas where wells were pumped to obtain irrigation water, water levels were drawn down a few feet during the summer months but recovered after pumping stopped in the fall. Weather records show that precipitation in 1950 amounted to about 39 percent of normal. Ground water in this county is derived principally from a comparatively large storage reservoir, the Coconino sandstone, and a precipitation deficiency may not have an immediate effect on the water levels.

Pima County. --Figure 8 shows graphs of fluctuations in four wells in Pima County. Wells 1337, 4156, and 8686 are in the Santa Cruz Valley, and well 6410 is in the Avra-Altar Valley. The seasonal water-level declines of wells 1337 and 8686 are caused by the large-scale withdrawal of water for irrigation. There is no heavy pumping in the vicinity of well 4156, but the ground water in this vicinity is gradually being depleted as it drains toward the pumped areas. Ground water in the vicinity of well 6410, in Avra-Altar Valley, is not heavily pumped, but moves northward to areas of ground-water withdrawal. Annual pumpage in Pima County increased to 180,000 acre-feet in 1950, an all-time high. Of this total more than 90 percent was taken from the Santa Cruz Valley. The Weather Bureau reported that in 1950 precipitation at Tucson amounted to 7.04 inches, or 2.60 inches below normal.

Pinal County. --The Pinal County portion of the Santa Cruz Basin has been divided arbitrarily into the following three subdivisions: Casa Grande-Florence area, Maricopa-Stanfield area, and Eloy area. Figure 9 shows graphs of cumulative changes in water levels in the three subdivisions and in the divisions combined as a unit. Ground-water levels in the Pinal County portion of the Santa Cruz Basin lowered an average of $5\frac{1}{2}$ feet in 1950, making a cumulative lowering of 42 feet in the period of record 1940-50. The greatest decline was in the Eloy area. The continued decline is attributed to the large quantities of water pumped for irrigation. In 1949 the pumpage reached a record high of 1,100,000 acre-feet, with the pumpage in 1950 being only 100,000 acre-feet less. The decreased 1950 pumpage was due in part to the decreased rate of yield obtainable from the wells because of the decline in water levels. Pumping lifts in excess of 350 feet were reported in the Eloy area. The static water table in the area of high pumping lifts was at a depth of 200 to 225 feet.

Santa Cruz County. --Ground-water conditions in the Santa Cruz River Valley of Santa Cruz County, between the international boundary and Amado, showed some improvement in 1950. This was caused by a decrease in pumpage and by the large amount of recharge that resulted from flood flows in the river. Water-level fluctuations representative of this area are shown in figure 10. Between Amado and the Pima-Santa Cruz county line the effects of pumpage offset gains in recharge, and water level in some wells showed a net lowering of a fraction of a foot. The U. S. Weather Bureau reported that at Nogales precipitation amounted to 7.50 inches in 1950, or 6.41 inches below normal. The heavy rains in July, 3.06 inches at Nogales, caused the large flows in the Santa Cruz River as shown in figure 10.

Yuma County. --The small decline in water levels in wells in the relatively undeveloped ground-water basins of northern Yuma County was probably due to the prolonged drought. Comparatively little land was irrigated from wells, and the effects of such withdrawals were localized and small. In central and southern Yuma County along the Gila River, pump irrigation was more extensive, and the effects of ground-water withdrawals were greater. Figure 11 shows graphs of water-level fluctuations in well 195 near Aztec, wells 680 and 710 in the Wellton-Mohawk area, and wells 1280 and 1520 in the Yuma Valley. The water level in well 195 showed no net change and was affected only by pumping for domestic and stock use. Wells 680 and 710 are in the upstream portion of the Wellton-Mohawk area where the water table lowering has been greatest. Ground-water levels in the Wellton-Mohawk area and in the Dateland area

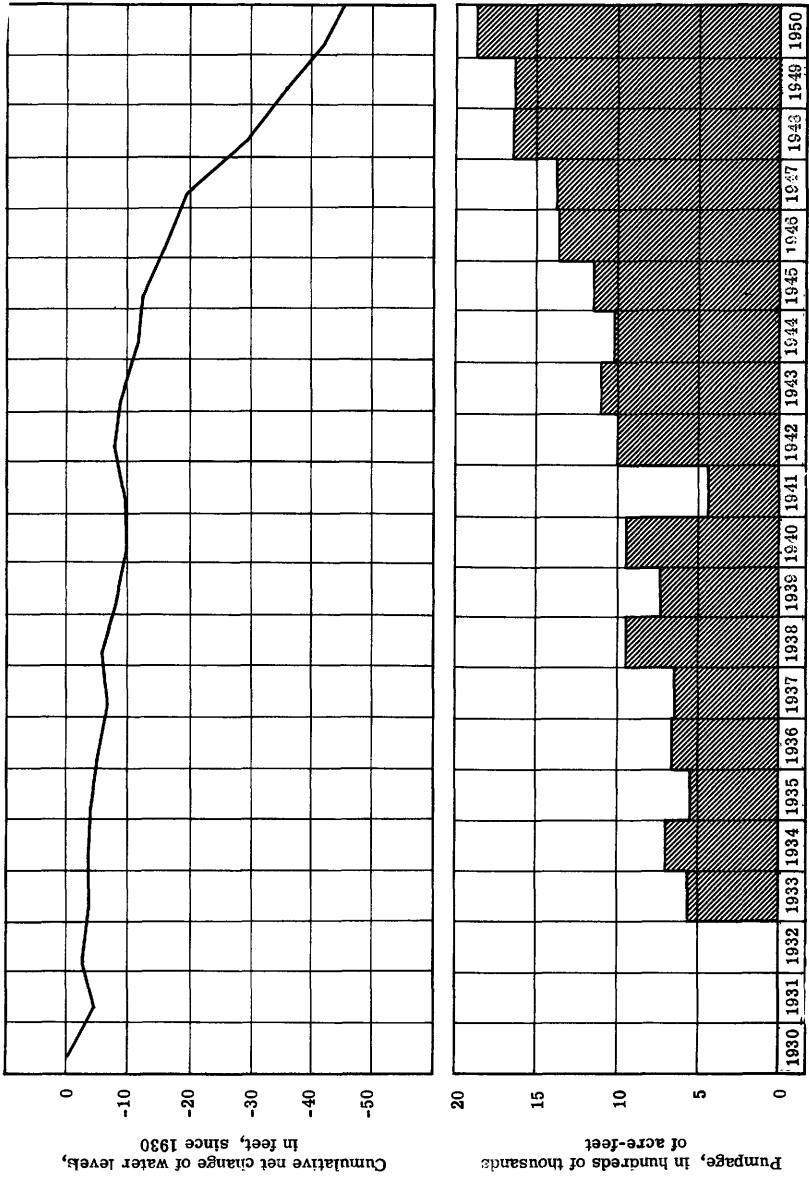


Figure 7. --Cumulative net change of water levels and pumpage for irrigation in Salt River Valley, Maricopa County.

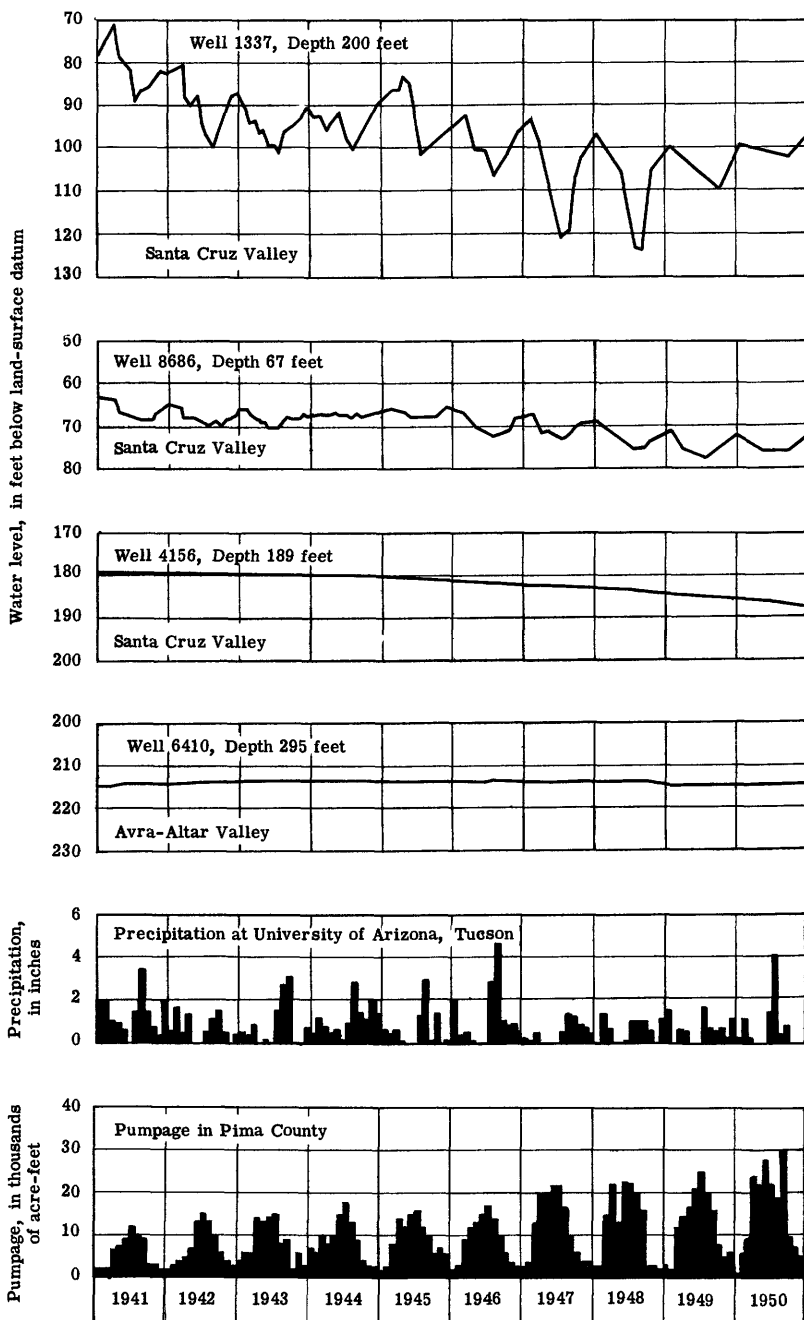


Figure 8. --Fluctuations of water levels in four wells, precipitation at Tucson, and pumpage in Pima County.

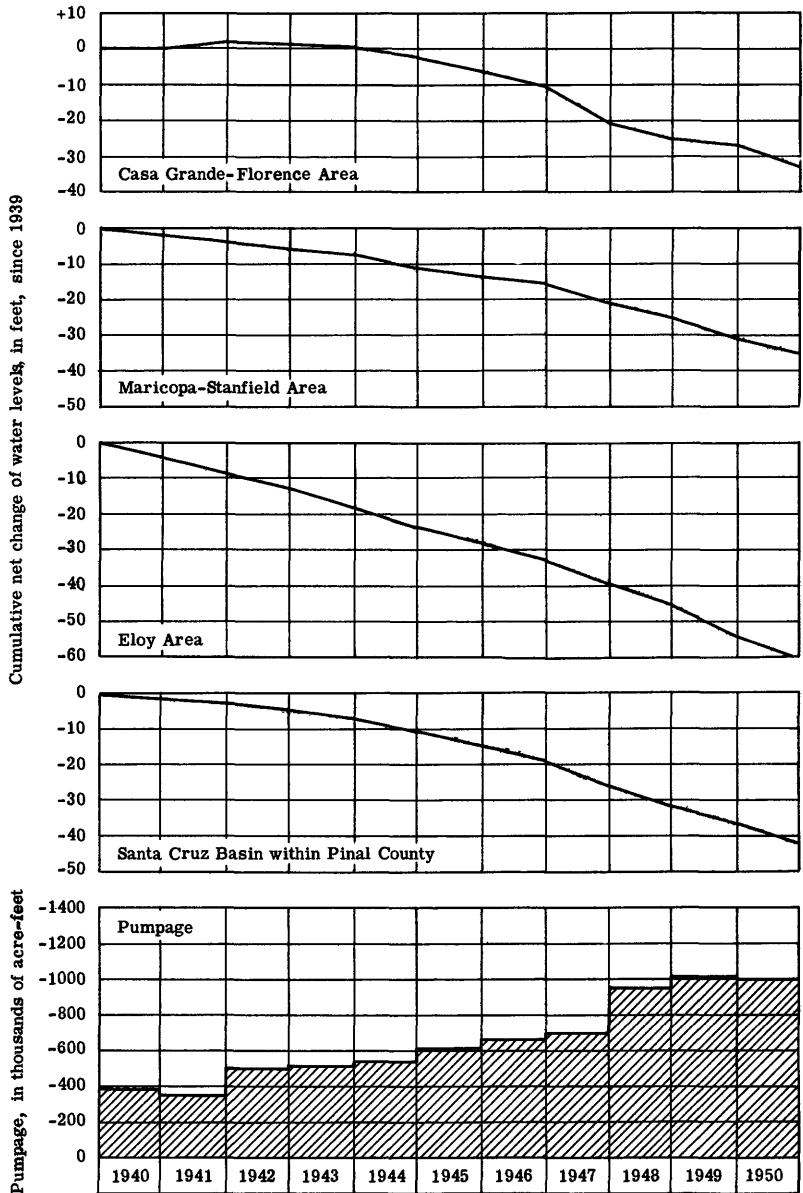


Figure 9. --Cumulative net change of water levels and pumpage in Santa Cruz Basin in Pinal County.

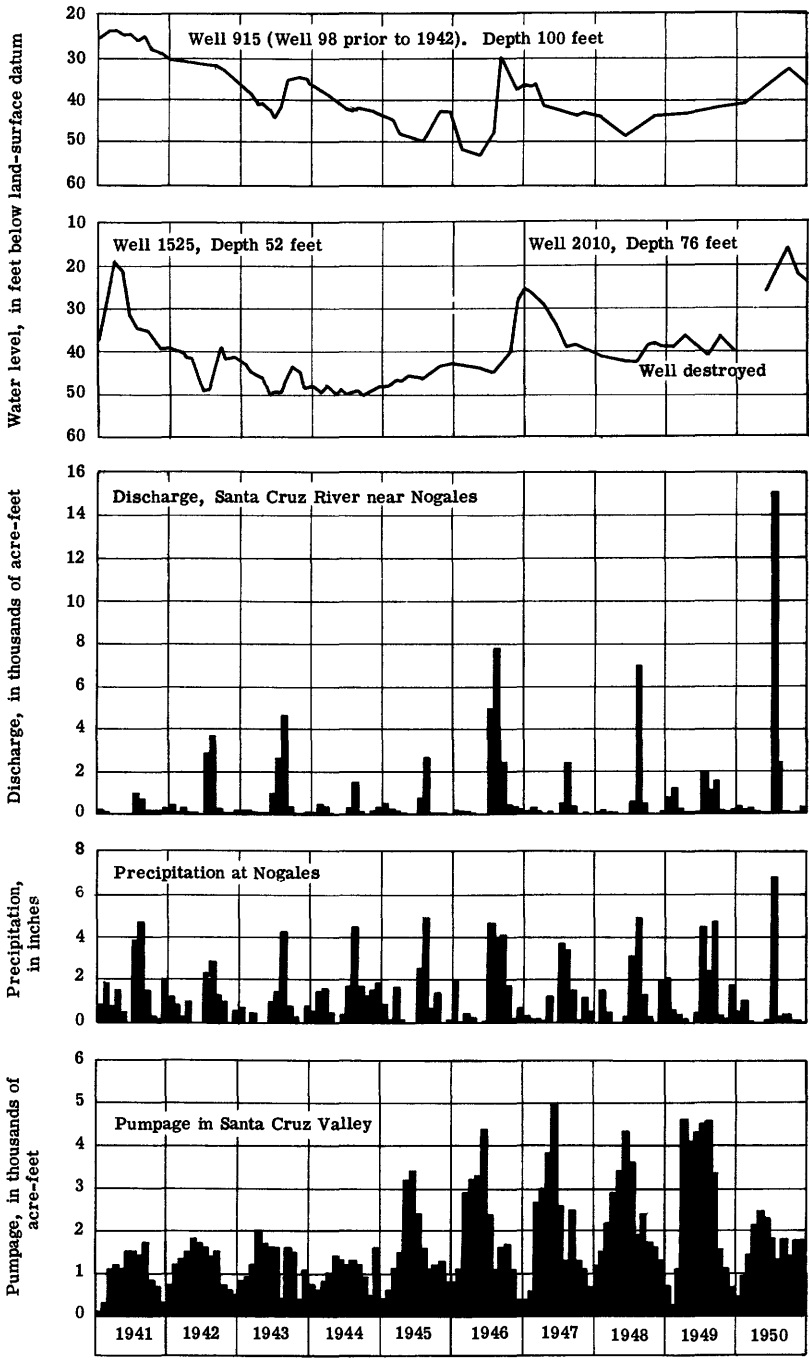


Figure 10. --Fluctuations of water levels in two wells, discharge of the Santa Cruz River, precipitation at Nogales, and pumpage in Santa Cruz Valley, Santa Cruz County.

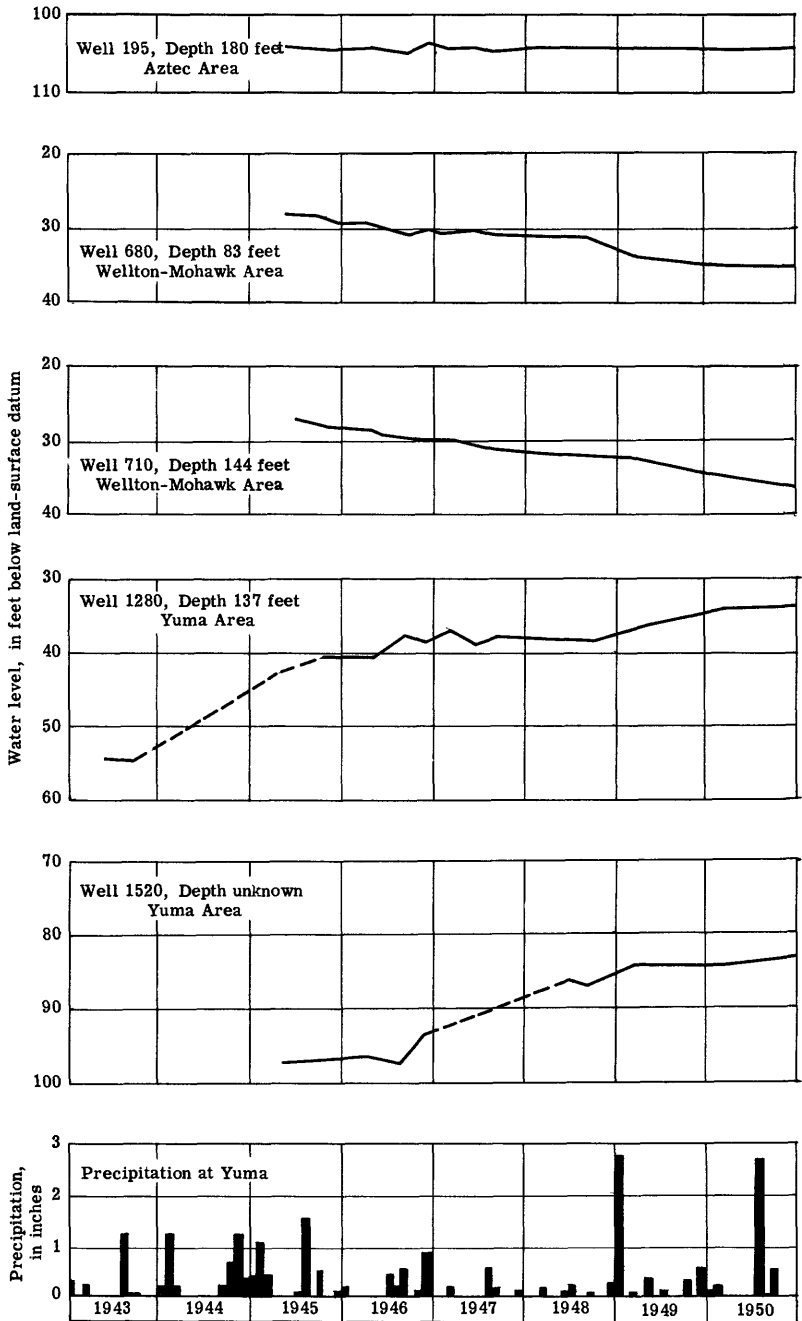


Figure 11. --Fluctuations of water levels in five wells in the lower Gila region and precipitation at Yuma, Yuma County.

immediately upstream were about 7 feet lower in 1950 than at the start of record in 1945. In the Yuma Valley the rising water level in well 1280 was due principally to recharge from canal seepage, and the rise in well 1520 was due to recharge occurring as seepage from Colorado River water applied to irrigate the Yuma mesa.

Acknowledgments

Many irrigation districts, power companies, and individuals cooperated in furnishing the information contained in this report. The following organizations were particularly helpful in furnishing data on which the figures for pumpage were based: Arizona Edison Electric Company, Citizens Utilities Company, Duncan Utilities Company, Eloy Light and Power Company, Gila Water Commissioner, Goodyear Farms, Maricopa County Municipal Water Conservation District, Mohawk Municipal Water Conservation District, Rural Electrification Administration, Roosevelt Irrigation District, Roosevelt Water Conservation District, Salt River Valley Water Users' Association, Central Arizona Light and Power Company, San Carlos Irrigation District, Tucson Gas and Electric Company, U. S. Bureau of Indian Affairs, and U. S. Bureau of Reclamation.

Well-Numbering System

Observation wells in Arizona are listed alphabetically by counties and numerically within each county.

Well Descriptions and Water-Level Measurements (Water levels are in feet below land-surface datum unless otherwise indicated.)

Apache County

3152. Petrified Forest National Monument. $SE\frac{1}{4}NW\frac{1}{4}$ sec. 5, T. 19 N., R. 24 E. Records available: 1945-48. No measurement made in 1950.

6601. L. M. Farr. $NE\frac{1}{4}NE\frac{1}{4}$ sec. 26, T. 13 N., R. 27 E. Records available: 1939-50. Aug. 7, 25.09.

6709. Jacob Barth. $SE\frac{1}{4}NW\frac{1}{4}$ sec. 27, T. 13 N., R. 28 E. Records available: 1944-50. Aug. 7, +0.95.

6716. E. L. Johns. $SW\frac{1}{4}$ sec. 30, T. 13 N., R. 28 E. Records available: 1944-50. Aug. 7, 8.43.

7414. B. Y. Peterson. $NE\frac{1}{4}NW\frac{1}{4}$ sec. 4, T. 12 N., R. 28 E. Records available: 1944, 1949-50. Aug. 7, 37.47.

7415. Max Romel. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 18, T. 12 N., R. 28 E. Records available: 1944-50. Aug. 7, 15.31.

7416. Wallace Hall. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 7, T. 12 N., R. 28 E. Records available: 1944-50. Aug. 7, 2.96.

9007. E. C. Becker. $NE\frac{1}{4}SW\frac{1}{4}$ sec. 33, T. 9 N., R. 29 E. Records available: 1944-50. Aug. 7, 12.06.

10,001. C. Traweck. $NE\frac{1}{4}$ sec. 20, T. 9 N., R. 31 E. Records available: 1944-50. Aug. 7, 31.68, pumping.

Cochise County

St. David-Benson-Pomerene area

302A. W. N. East. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 27, T. 16 S., R. 20 E. Records available: 1945, 1947-49. No measurement made in 1950.

305. L. A. Scott. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 34, T. 16 S., R. 20 E. Records available: 1941-42, 1944-50. Apr. 4, 76.14; Sept. 20, 77.54; Dec. 18, 78.82.

475. Earl M. Brown. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 12, T. 17 S., R. 20 E. Records available: 1944-50. Apr. 4, 58.07; Sept. 20, 59.08; Dec. 18, 60.95.

477. City of Benson. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 10, T. 17 S., R. 20 E. Records available: 1944-50.

477--Continued.

Daily noon water level, from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	8.26	8.80	....	....	10.71	14.71	17.89	9.66	12.66	11.33	11.79	9.45
2	8.28	8.41	....	....	10.13	13.87	16.97	9.42	12.98	11.67	11.81	9.47
3	8.12	7.95	8.85	....	10.52	14.66	17.90	10.18	12.32	13.04	11.41	9.50
4	8.47	....	8.50	9.97	10.49	15.11	18.16	9.90	13.70	12.28	11.95	9.69
5	8.10	....	9.34	9.98	10.38	14.55	17.15	....	13.23	11.98	12.31	9.75
6	8.23	....	9.28	9.68	10.22	....	15.91	....	....	12.10	11.90	9.62
7	8.15	....	9.83	9.82	10.44	....	15.41	....	....	12.80	11.67	9.38
8	7.90	....	10.08	10.41	10.82	14.83	14.58	....	12.25	12.50	11.70	9.55
9	8.10	....	10.01	9.92	10.71	15.75	13.80	....	11.95	12.15	11.23	9.52
10	8.37	....	10.07	9.74	11.72	....	12.62	....	13.50	12.16	11.00	8.95
11	8.30	8.67	10.60	9.29	10.88	....	12.31	11.36	12.20	12.40	10.76	9.35
12	8.55	8.18	10.52	9.99	11.13	....	13.59	10.89	12.12	13.50	10.66	8.80
13	8.05	8.13	10.43	9.58	11.59	17.46	12.40	10.62	....	12.81	10.73	8.68
14	8.50	8.30	10.17	9.29	11.71	18.37	12.47	10.10	....	13.37	10.40	8.58
15	8.20	8.08	10.59	9.64	11.04	17.76	12.13	11.80	....	12.25	10.19	8.47
16	8.30	8.35	9.98	9.62	11.18	17.54	12.64	10.61	11.81	12.44	10.43	8.80
17	8.40	8.56	9.70	9.93	11.09	18.73	12.39	11.82	13.76	12.74	9.88	8.61
18	....	8.95	9.85	9.81	11.89	19.75	12.75	11.37	12.52	12.49	9.78	9.24
19	....	8.75	10.18	10.42	11.43	18.44	14.55	12.55	13.61	12.21	10.32	8.59
20	7.50	8.63	10.12	11.70	11.40	19.65	14.42	11.85	13.05	11.80	10.18	8.25
21	7.72	8.49	9.80	10.38	11.80	19.18	12.68	....	12.74	12.62	10.16	8.21
22	7.69	8.34	9.57	10.41	12.23	17.32	12.30	....	12.72	12.13	10.18	8.19
23	7.55	8.45	9.21	10.01	12.42	16.38	11.71	....	13.05	11.93	9.76	8.07
24	8.17	8.64	8.96	....	....	....	11.13	....	12.46	12.14	9.66	8.50
25	8.56	....	9.64	10.74	....	15.27	11.26	12.47	12.54	12.13	9.90	8.34
26	8.48	....	9.77	10.46	....	15.04	10.81	12.29	12.17	11.83	9.10	8.06
27	8.37	....	8.98	10.30	13.33	16.25	10.50	13.38	12.05	11.35	10.14	8.14
28	8.35	....	9.04	11.29	14.18	16.87	10.67	12.45	12.80	11.82	10.00	8.34
29	8.18	....	8.99	10.37	14.09	16.91	10.75	13.48	12.65	11.81	9.83	8.24
30	8.65	....	....	10.91	14.38	17.27	9.83	12.27	12.40	11.52	9.38	8.13
31	8.55	....	9.78	....	13.85	....	9.86	....	....	11.36	....	8.50

583. Will Campbell. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 31, T. 17 S., R. 21 E. Records available: 1941-42, 1944-50. Apr. 6, 21.09; Sept. 20, dry at 26 feet.

599. Boquillas Cattle Co. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 32, T. 17 S., R. 21 E. Records available: 1944-50. Apr. 6, 21.51; Sept. 20, 19.92; Dec. 1, 19.16.

601. Mrs. Parley McRae. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 32, T. 17 S., R. 21 E. Records available: 1944-49. Measurement discontinued after Dec. 7, 1949.

701. Leo Westfield. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 1, T. 18 S., R. 20 E. Records available: 1944-50. Apr. 6, 7.00; Sept. 20, 8.08; Dec. 19, 7.36.

745. Walter Haymore. $NW\frac{1}{4}NE\frac{1}{4}$ sec. 6, T. 18 S., R. 21 E. Records available: 1944-50. Sept. 20, 32.41; Dec. 19, 32.73.

748. F. J. Miller. $NW\frac{1}{4}SE\frac{1}{4}$ sec. 6, T. 18 S., R. 21 E. Records available: 1944-47, 1950. Apr. 6, 26.42; Sept. 20, 26.95; Dec. 19, 26.

749. A. L. Owens. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 5, T. 18 S., R. 21 E. Records available: 1944-50. Apr. 6, 56.72; Sept. 21, 57.29; Dec. 19, 59.35.

753. Milton Curtis. $SE\frac{1}{4}$ sec. 34, T. 18 S., R. 21 E. Records available: 1944-50. Apr. 6, 24.59; Sept. 21, 24.96; Dec. 19, 25.06.

Charleston area

950. Lon Hunt. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 32, T. 20 S., R. 20 E. Records available: 1941-43, 1945-50. Apr. 5, 91.70; Sept. 21, 91.97; Dec. 19, 91.99.

951. Lon Hunt. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 32, T. 20 S., R. 20 E. Records available: 1941-47, 1949. Obstruction in casing at 57 feet. Measurement discontinued.

1070. Cochise County. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 31, T. 21 S., R. 21 E. Records available: 1942-43, 1945-50. Dec. 19, 288.80.

1071. E. Fry. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T. 21 S., R. 21 E. Records available: 1942-47, 1950. Apr. 5, 201.66; Sept. 21, 199.28; Dec. 19, 201.70.

1072. E. Fry. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 21 S., R. 21 E. Records available: 1941, 1944, 1946-50. Apr. 5, 60.04; Sept. 21, 60.02; Dec. 19, 59.

1074. J. L. Parker. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 21 N., R. 21 E. Records available: 1941, 1944-50. Apr. 5, 27.08; Sept. 21, 27.34; Dec. 19, 27.03.

1126. Dept. of the Army. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 22 S., R. 20 E. Records available: 1942-48, 1950. Apr. 5, 484.27; Sept. 21, 466.77.

Willcox Basin

1500. Frank R. Harris. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 12 S., R. 23 E. Records available: 1942, 1945-49. Measurement discontinued.

1527. Owner unknown. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 12 S., R. 24 E. Records available: 1942, 1944-50. Mar. 8, 72.99; June 26, 79.52; Sept. 6, 81.57; Dec. 14, 79.33.

1576. J. D. Rutledge. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 13 S., R. 24 E. Records available: 1942, 1944-50. Mar. 8, 63.25; June 26, 74.56, nearby well being pumped; Sept. 6, 74.90, nearby well being pumped; Dec. 14, 66.82.

1582. State of Arizona. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 13 S., R. 24 E. Records available: 1942, 1944-50. June 26, 43.48; Sept. 6, 44.30; Dec. 14, 44.98.

1588. P. H. Pregenzler. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T. 13 S., R. 24 E. Records available: 1942, 1944-50. Mar. 8, 26.37; June 26, 27.79; Sept. 6, 28.71; Dec. 14, 26.72.

1609A. J. J. Meyer. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T. 13 S., R. 24 E. Records available: 1949-50. Mar. 8, 44.13; June 26, 46.04; Dec. 14, 46.84.

1700. Fay Proctor. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 14 S., R. 23 E. Records available: 1942, 1944-50. Mar. 7, 39.69; June 27, 39.75; Sept. 2, 39.90; Dec. 13, 40.13.

1725. C. A. Williamson. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 14 S., R. 24 E. Records available: 1942, 1944-50. June 27, 14.51; Sept. 5, 14.90; Dec. 13, 15.23.

1726. W. L. Woodrow. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14, T. 14 S., R. 24 E. Records available: 1942, 1944-50. Mar. 7, 15.00; June 27, 15.38; Sept. 5, 15.60; Dec. 13, 15.73.

1728. Fay Proctor. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 14 S., R. 24 E. Records available: 1942, 1944-50. June 27, 23.79; Sept. 5, 24.71; Dec. 13, 25.48.

1776. Dunlap Auto Court. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 14 S., R. 25 E. Records available: 1942, 1944-50. Mar. 7, 16.34; June 27, 15.67; Sept. 5, 15.91; Dec. 13, 15.73.

1953. B. B. Gibbons. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 16 S., R. 25 E. Records available: 1942, 1944-49. June 26, dry at 50 feet.

1954. Henry Gibbons. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T. 16 S., R. 25 E. Records available: 1942, 1944-50. Mar. 8, 47.05; June 26, 47.67; Sept. 6, 48.94; Dec. 14, 48.92.

1956. State of Arizona. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 16 S., R. 25 E. Records available: 1942, 1944-50. Mar. 8, 35.87; June 26, 36.44; Sept. 6, 38.27; Dec. 14, 36.65.

Douglas Basin

2700. M. L. Vineyard. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T. 20 S., R. 26 E. Records available: 1942, 1946-50. Feb. 9, 77.95; Dec. 12, 79.46.

2701. W. H. Seaver. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T. 20 S., R. 26 E. Records available: 1942, 1945-50. Feb. 9, 91.46; June 28, 95.09; Dec. 12, 93.30.

2702. W. P. Cheek. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 20 S., R. 26 E. Records available: 1942, 1944-50. Feb. 9, 73.13; June 28, 83.87, irrigation well pumping 150 feet south; Sept. 7, 78.34; Dec. 12, 79.78.

2709. F. O. Mackey. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 20 S., R. 26 E. Records available: 1942, 1944-50. Feb. 9, 34.51; June 28, 35.79; Sept. 7, 34.53; Dec. 12, 35.00.

3001. Owner unknown. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T. 21 S., R. 26 E. Records available: 1946-50. Feb. 8, 116.65; June 29, 117.98; Sept. 6, 118.79, pumping; Dec. 12, 118.46.

3350. J. E. Brophy. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 22 S., R. 26 E. Records available: 1942, 1949. Measurement discontinued.

3388. J. E. Brophy. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 22 S., R. 26 E. About 600 feet west of private road, 0.5 mile west of country road. Drilled irrigation well, diameter 8 inches. Records available: 1946-47, 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 25, '46	26.42	June 22, '49	31.23	Dec. 19, '49	31.00	June 29, '50	32.36
Aug. 26, '47	28.92	Oct. 11	32.05	Feb. 9, '50	31.06	Dec. 12	32.62

3651. McGinty. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27, T. 23 S., R. 27 E. Records available: 1943-44, 1946-50. Jan. 7, 52.98; July 3, 53.03; Sept. 8, 53.08; Dec. 12, 52.98.

3654. R. Bunker. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 23 S., R. 27 E. Records available: 1946-50. Jan. 7, 32.60; July 3, 32.98; Sept. 8, 32.93; Dec. 10, 33.11.

3800. A. Clarkson. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 24 S., R. 26 E. Records available: 1942, 1944-49. Measurement discontinued. For further measurements in this vicinity see well 3801.

3801. A. Clarkson. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 24 S., R. 26 E., 30 feet east of County road 0.5 mile north of U. S. Highway 80. Drilled irrigation well, diameter 20 inches, depth 330 feet. Records available: 1949-50. Oct. 11, 1949, 107.73; Dec. 19, 106.35; Dec. 10, 1950, 107.06.

3803. Cochise County Hospital. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 24 S., R. 27 E. Records available: 1942, 1944-50. Feb. 7, 66.80; July 3, 72.25; Sept. 8, 71.31; Dec. 10, 71.90.

3804. L. E. Harris. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T. 24 S., R. 27 E. Records available: 1942, 1944-50. Jan. 7, 57.69; July 3, 58.70; Sept. 8, 57.99; Dec. 10, 57.88.

3810. R. M. Johnston. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 24 S., R. 27 E. Records available: 1942, 1944-50. Feb. 7, 51.26; Dec. 10, 48.77.

San Simon Valley

4200. A. R. Spikes. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 13 S., R. 29 E. Records available: 1941-42, 1944, 1946-47, 1949-50. Dec. 11, 13.38.

4201. U. S. Dept. of Interior. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 13 S., R. 29 E. Records available: 1942, 1944, 1946-50. Apr. 13, 5.97; July 10, 6.59; Nov. 2, 7.01; Dec. 11, 5.61.

4250. U. S. Dept. of Agriculture. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 13 S., R. 30 E. Records available: 1940, 1942, 1944, 1946. No measurement made in 1950.

4252. T. P. Garrett. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 13 S., R. 30 E. Records available: 1940-42, 1946-50. Apr. 13, 27.76; July 10, 28.90; Nov. 2, 30.67; Dec. 11, 31.27.

4261. Woolston. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 13 S., R. 30 E. Records available: 1940-42, 1944, 1946-50. Apr. 13, 61.75; July 10, 61.10; Nov. 2, 61.17.

4262. Carl Quinn. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 13 S., R. 31 E. Records available: 1940-42, 1946-50. Apr. 13, 62.70; July 10, 61.90; Nov. 2, 61.57; Dec. 11, 61.59.

4366. Elmer Franklin. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 13 S., R. 31 E. Records available: 1940-42, 1944, 1946-50. July 10, 62.45; Dec. 11, 61.62.

4500. U. S. Dept. of Agriculture. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 14 S., R. 30 E. Records available: 1940-42, 1944, 1946-50. Apr. 13, 71.50; July 10, 71.90; Nov. 2, 71.95; Dec. 11, 72.08.

4600. Paul Barnes. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 14 S., R. 31 E. Records available: 1941-42, 1946-50. Apr. 13, 9.65; July 10, 13.21; Nov. 2, 7.86; Dec. 11, 5.46.

4606. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T. 14 S., R. 31 E. Records available: 1941-42, 1946-50. Apr. 13, 22.30; July 10, 31.91; Nov. 2, 32.09; Dec. 11, 28.68.

4661. M. Calloway. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 14 S., R. 31 E. Records available: 1940-42, 1944, 1946-50. Apr. 13, 6.98; July 10, 10.71; Nov. 2, 8.63; Dec. 11, 6.57.

Coconino County

2001. W. G. Adams. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 15, T. 21 N., R. 9 E. Records available: 1944-50. Aug. 5, 57.76.

2201. M. F. Farrell. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 26, T. 22 N., R. 8 E. Records available: 1944-49. No measurement made in 1950.

2401. Pinewood Dairy. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 9, T. 21 N., R. 7 E. Records available: 1944-50. Aug. 5, 13.54.

2402. City of Flagstaff. $NE\frac{1}{4}NE\frac{1}{4}$ sec. 16, T. 21 N., R. 7 E. Records available: 1944-46, 1948-49. No measurement made in 1950.

2591. Lee Fair. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 3, T. 23 N., R. 6 E. Records available: 1944-49. Measurement discontinued.

2601. Mrs. Willie Harris. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 23, T. 22 N., R. 6 E. Records available: 1944-50. Aug. 5, 4.63.

2602. City of Flagstaff. $NE\frac{1}{4}NE\frac{1}{4}$ sec. 26, T. 22 N., R. 6 E. Records available: 1944-50. Aug. 5, 130.71.

2603. Mr. Roundtree. $NE\frac{1}{4}NW\frac{1}{4}$ sec. 26, T. 22 N., R. 6 E. Records available: 1944-50. Aug. 5, 5.85.

3001. Ruddle Kerby. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 10, T. 23 N., R. 4 E. Records available: 1944-50. Aug. 4, 6.18.

3201. C. G. McDowell. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 23, T. 22 N., R. 3 E. Records available: 1944-50. Aug. 3, 13.80.

3202. Kaibab National Forest. $NW\frac{1}{4}SW\frac{1}{4}$ sec. 25, T. 22 N., R. 3 E. Records available: 1944-50. Aug. 3, 2.18.

3401. F. M. Franks. $NE\frac{1}{4}SW\frac{1}{4}$ sec. 28, T. 22 N., R. 2 E. Records available: 1944-50: Aug. 3, 6.46.

Gila County

1. James C. Youngblood. T. $4\frac{1}{2}$ N., R. 18 E. Records available: 1944-50. Aug. 7, 7.99.

1C. H. B. Maurel. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 23, T. 1 N., R. 15 E. Records available: 1946-50. Jan. 11, 46.13. Measurement discontinued.

1D. Mine Rescue Station. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 23, T. 1 S., R. 15 E. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 10	38.00	May 30	41.40	Aug. 1	41.70	Nov. 9	39.05
31	38.35	June 1	42.78	Sept. 12	40.55	Dec. 4	42.10
Mar. 28	38.98	July 12	42.50	Oct. 3	42.90		

7. A. H. Bednorz. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 26, T. 1 N., R. 15 E. Records available: 1945-49. Well dry at 14.5. Measurement discontinued.

8. Mr. Bednorz. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 26, T. 1 N., R. 15 E. Records available: 1945-50.

Jan. 10	47.19	May 3	49.98	Aug. 1	43.80	Nov. 9	50.72
31	49.18	June 1	50.39	Sept. 12	48.70	Dec. 4	51.37
Mar. 28	49.41	July 12	50.64	Oct. 3	49.69		

16. Inez Castaneda. $SE\frac{1}{4}NW\frac{1}{4}$ sec. 36, T. 1 N., R. 15 E. Records available: 1945-50.

Jan. 10	50.01	May 2	51.70	Aug. 1	52.38	Nov. 9	52.84
30	51.40	June 1	51.98	Sept. 12	51.82	Dec. 4	53.04
Mar. 28	51.77	July 12	52.24	Oct. 3	52.80		

17. Ralph Sandoval. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 1 N., R. 15 E. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 10	26.54	May 2	29.04	Aug. 1	31.80	Nov. 9	30.54
30	26.45	June 1	30.90	Sept. 12	31.09	Dec. 4	30.70
Mar. 28	27.31	July 12	31.81	Oct. 3	31.06		

18. Angelo Dimario. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 11	32.06	May 3	32.19	Aug. 2	34.03	Nov. 9	34.47
31	31.52	June 1	32.42	Sept. 12	34.53	Dec. 4	34.82
Mar. 28	31.89	July 13	36.01	Oct. 4	34.39		

19. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 11	11.46	May 3	19.72	Aug. 1	20.91	Nov. 9	21.00
31	11.84	June 1	20.71	Sept. 12	20.68	Dec. 4	20.55
Mar. 28	20.98	July 13	21.64	Oct. 4	20.48		

34. Neal Lyall, Jr. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 11	(f)	May 2	23.07	Aug. 1	26.22	Nov. 9	(f)
31	22.77	June 1	23.37	Sept. 12	(f)	Dec. 4	(f)
Mar. 28	23.13	July 13	26.25	Oct. 4	(f)		

f Dry.

37. Ada Antevs. Lot 11, sec. 12, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 10, 68.08. Measurement discontinued.

42. M. J. Vanhorne. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 1 S., R. 15 E. Records available: 1945-49.

Dry at 53 feet. Measurement discontinued.

43. Grim. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 11	30.22	May 3	11.38	Aug. 1	42.11	Nov. 9	(f)
31	46.76	June 1	29.87	Sept. 12	(f)	Dec. 4	(f)
Mar. 28	11.06	July 13	35.08	Oct. 4	(f)		

f Dry.

44. John Belcher. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 10	21.42	May 2	11.47	Aug. 2	20.48	Nov. 9	24.38
31	23.02	June 1	16.65	Sept. 12	23.13	Dec. 4	25.74
Mar. 28	6.31	July 13	20.55	Oct. 4	22.55		

46. Frank Parker. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 10	26.28	May 2	10.60	Aug. 1	24.77	Nov. 9	32.42
31	6.80	June 1	13.15	Sept. 12	27.52	Dec. 4	38.02
Mar. 28	7.04	July 12	20.17	Oct. 4	30.86		

47. Frank Parker. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 10	8.31	May 2	5.70	Aug. 1	11.43	Nov. 9	(f)
31	9.77	June 1	9.28	Sept. 12	13.45	Dec. 4	(f)
Mar. 28	3.04	July 12	13.81	Oct. 4	13.85		

f Dry.

50. Mr. Waldman. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24, T. 1 S., R. 15 E. Records available: 1945-50.

Jan. 10	82.44	May 2	87.02	Aug. 2	91.83	Nov. 9	100.70
31	82.37	June 1	88.82	Sept. 12	93.93	Dec. 4	103.70
Mar. 28	92.81	July 12	93.08	Oct. 4	98.14		

51. Kenneth Hoopes. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T. 1 N., R. 15 E. Records available: 1945-50.

Jan. 10	84.92	May 3	86.67	Aug. 1	87.91	Nov. 9	88.85
31	86.14	June 1	86.88	Sept. 12	87.15	Dec. 4	86.83
Mar. 28	86.20	July 12	87.91	Oct. 3	90.40		

52. Schniffen. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 1 S., R. 15 E. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 10	17.00	May 2	18.19	Aug. 1	23.78	Nov. 9	30.56
31	18.76	June 1	19.70	Sept. 12	29.27	Dec. 4	32.92
Mar. 28	7.92	July 12	26.10	Oct. 3	29.41		

Graham County51. Bert Hinton. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 4 S., R. 22 E. Records available: 1939-50.

Jan. 30	19.48	May 29	21.65	Sept. 25	23.15	Dec. 4	22.43
Feb. 27	19.20	June 19	23.80	Oct. 30	22.72	26	22.20
Apr. 24	23.25						

55A. J. G. Willis. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 4 S., R. 23 E. Records available: 1944-50.
 Feb. 27, 32.70; Apr. 24, 37.71; May 29, 35.41; Sept. 25, 37.28; Oct. 30, 34.81; Dec. 26, 33.40.

56. Eliza Allen. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 4 S., R. 22 E. Records available: 1940-48.
 Dry. Measurement discontinued.

60. Pat Hinton. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 4 S., R. 22 E. Records available: 1939-44, 1946-50.
 July 12, 36.18; Oct. 12, 33.70; Dec. 13, 30.65.

72. Ed McEuen. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 4 S., R. 23 E. Records available: 1940-48.
 Measurement discontinued.

76. E. W. Black. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 18, T. 4 S., R. 23 E. Records available: 1940-48.
 Measurement discontinued.

77. E. M. Claridge. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 4 S., R. 23 E. Records available: 1940-50.
 July 12, 41.63; Oct. 12, 41.54; Dec. 13, 40.40.

81. Mrs. J. B. Blessing. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 4 S., R. 23 E. Records available:
 1940-50. Apr. 15, 35.20; July 12, 39.49; Oct. 12, 34.87; Dec. 13, 32.07.

82A. Fay Rabb. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T. 4 S., R. 23 E. Records available: 1944-50.
 Apr. 15, 19.77; July 11, 21.32; Oct. 11, 22.89; Dec. 13, 20.75.

91. Ben Montierth. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 4 S., R. 23 E. Records available: 1940-50.
 Apr. 15, 51.29; July 11, 60.60; Oct. 12, 62.23; Dec. 13, 56.37.

92. Wendell Montierth. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 4 S., R. 23 E. Records available:
 1940-50. Apr. 15, 60.38; Oct. 12, 67.40; Dec. 12, 65.55.

93. Graham County. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 4 S., R. 23 E. Records available: 1940-48,
 1950. Apr. 15, 12.41; July 11, 15.58; Oct. 12, 16.47; Dec. 13, 16.26.

108. W. O. Tyler. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 5 S., R. 23 E. Records available: 1940-50.
 Apr. 15, 17.20; July 11, 18.89; Oct. 11, 21.02; Dec. 13, 18.64.

122A. Elliot Montierth. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 4 S., R. 23 E. Records available:
 1944-50.

Jan. 30	33.50	Apr. 24	33.40	July 24	41.30	Oct. 30	40.07
Feb. 27	33.47	May 29	39.72	Aug. 28	41.35	Dec. 4	38.99
Mar. 27	33.78	June 19	40.92	Sept. 25	41.58	26	38.37

124A. Nash C. Willis. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27, T. 4 S., R. 23 E. Records available: 1943-50.
 Sept. 25, 39.72; Oct. 30, 39.57; Dec. 26, 39.11.

126. YL Ranch. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 5 S., R. 21 E. Records available: 1940-48, 1950.
 Apr. 15, 69.78.

143. R. S. Snedigar. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 5 S., R. 22 E. Records available: 1940-50.
 Mar. 15, 36.49; July 11, 50.82; Oct. 12, 47.49; Dec. 13, 47.25.

156. Roy Layton. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 5 S., R. 23 E. Records available: 1940-50.
 Apr. 14, 12.72; July 11, 14.59; Oct. 11, 14.07; Dec. 13, 13.99.

157. M. J. Ferguson. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 2, T. 5 S., R. 23 E. Records available: 1943-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 30	16.01	Apr. 24	16.20	July 24	17.64	Oct. 30	17.99
Feb. 27	16.24	May 29	16.90	Aug. 28	17.63	Dec. 4	17.75
Mar. 27	16.50	June 19	17.30	Sept. 25	19.02	26	17.75

158. W. C. Rhodes. $NE\frac{1}{4}SW\frac{1}{4}$ sec. 2, T. 5 S., R. 23 E. Records available: 1940-50.
Mar. 14, 50.03; Oct. 11, 52.57; Dec. 13, 51.15.

160. W. O. Tyler. $NW\frac{1}{4}NE\frac{1}{4}$ sec. 2, T. 5 S., R. 23 E. Records available: 1940-50.
Mar. 15, 31.15; July 11, 32.59; Oct. 11, 34.34; Dec. 13, 32.57.

194A. Ed and Port McEuen. $NE\frac{1}{4}SE\frac{1}{4}$ sec. 18, T. 5 S., R. 24 E. Records available: 1945-50.

Jan. 30	17.64	Apr. 24	18.35	July 24	20.14	Oct. 30	21.00
Feb. 27	17.59	May 29	19.14	Aug. 28	20.37	Dec. 4	21.00
Mar. 27	18.02	June 19	19.57	Sept. 25	20.92	26	20.93

198A. C. J. Farrington. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 19, T. 5 S., R. 24 E. Records available: 1943-50.

Jan. 30	21.65	Apr. 24	24.55	July 24	26.68	Oct. 30	27.85
Feb. 27	21.56	May 29	25.60	Aug. 28	27.60	Dec. 4	28.07
Mar. 27	22.06	June 19	25.90	Sept. 25	28.02	26	28.12

206. J. D. Colvin. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 29, T. 5 S., R. 24 E. Records available: 1940-50.

Jan. 30	23.05	Apr. 24	23.27	July 24	22.93	Oct. 30	23.60
Feb. 27	23.35	May 29	23.38	Aug. 28	23.97	Dec. 4	24.00
Mar. 27	22.70	June 19	22.78	Sept. 25	23.40	26	24.16

208. L. W. Farrington. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 30, T. 5 S., R. 24 E. Records available: 1940-50. Mar. 14, 23.44; July 11, 31.90. Measurement discontinued, dry at 33.5 feet.

214. Graham County. $NE\frac{1}{4}NE\frac{1}{4}$ sec. 31, T. 5 S., R. 24 E. Records available: 1940-50. Mar. 14, 14.10. Dry, July 11, Oct. 11, and Dec. 12.

220. Lionel Hancock. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 33, T. 5 S., R. 24 E. Records available: 1940-50.

Jan. 30	16.11	Apr. 24	13.60	July 24	13.31	Oct. 30	15.91
Feb. 27	16.40	May 29	13.81	Aug. 28	14.40	Dec. 4	15.65
Mar. 27	14.42	June 19	14.70	Sept. 25	15.70	26	15.21

223A. Ira Hancock. $NE\frac{1}{4}SW\frac{1}{4}$ sec. 33, T. 5 S., R. 24 E. Records available: 1944-50. Mar. 14, 32.42; July 11, 33.74; Oct. 11, 36.39; Dec. 12, 34.31.

259. Jess Udall. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 1, T. 6 S., R. 24 E. Records available: 1944-50.

Jan. 30	26.82	Apr. 24	33.52	Sept. 25	35.58	Dec. 4	33.34
Feb. 2	27.19	July 24	34.93	Oct. 30	33.68	26	32.38
Mar. 27	29.20						

267. Wm. Carpenter. $NE\frac{1}{4}NE\frac{1}{4}$ sec. 4, T. 6 S., R. 24 E. Records available: 1940-49. Measurement discontinued.

269A. Silas Jarvis. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 10, T. 6 S., R. 24 E. Records available: 1943-50. Measurement discontinued. Jan. 30, 26.17; Feb. 27, 26.32; Mar. 27, 25.64; Apr. 24, 26.55; May 29, 26.90; June 19, 27.60.

270A. M. J. Ferguson. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 9, T. 6 S., R. 24 E. Records available: 1943-50. Mar. 14, 51.62; July 11, 54.17; Oct. 11, 56.05; Dec. 12, 56.00.

273. Eldon Palmer. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 5, T. 6 S., R. 24 E. Records available: 1940-50.

Jan. 30	41.98	June 19	45.46	Sept. 25	47.23	Dec. 4	47.42
Feb. 27	41.77	July 24	46.10	Oct. 30	47.25	26	47.45
May 29	47.20						

275. Lamar Bellman. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 10, T. 6 S., R. 24 E. Records available: 1940-50. Oct. 11, 27.76; Dec. 12, 27.38.

276A. M. J. Ferguson. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 11, T. 6 S., R. 24 E. Records available: 1943-50. Feb. 27, 37.22; Apr. 24, 37.78; May 29, 38.89.

285. Guy Anderson. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 13, T. 6 S., R. 24 E. Records available: 1940-50. Mar. 14, 31.08; July 11, 39.21; Oct. 11, 38.64; Dec. 12, 36.78.

289. W. J. Preston. $NW\frac{1}{4}SW\frac{1}{4}$ sec. 13, T. 6 S., R. 24 E. Records available: 1939-40, 1942-50. Mar. 14, 37.60; July 11, 39.21; Oct. 11, 41.98; Dec. 12, 41.80.

298. Joe Rogers. $NE\frac{1}{4}NW\frac{1}{4}$ sec. 25, T. 6 S., R. 24 E. Records available: 1940-50. July 11, 17.40; Oct. 11, 19.02; Dec. 12, 18.45.

302A. Mattice Bros. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 23, T. 6 S., R. 24 E. Records available: 1943-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 30	46.31	Mar. 27	46.68	Sept. 25	47.80	Dec. 4	48.72
Feb. 27	46.85	Apr. 24	46.45	Oct. 30	48.22	26	48.81

318. Vance Marshall. $NE\frac{1}{4}NE\frac{1}{4}$ sec. 17, T. 6 S., R. 25 E. Records available: 1941-50. Mar. 14, 23.05; Oct. 11, 27.98; Dec. 12, 26.73.

320. Vance Marshall. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 17, T. 6 S., R. 25 E. Records available: 1939-46, 1948-50. Oct. 11, 18.27; Dec. 12, 17.74.

321. Graham County. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 7, T. 6 S., R. 25 E. Records available: 1940-48. Measurement discontinued.

324. Graham County. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 18, T. 6 S., R. 25 E. Records available: 1940-48. Measurement discontinued.

325. Graham County. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 18, T. 6 S., R. 25 E. Records available: 1940-50. Mar. 14, 4.94; July 11, 8.58; Oct. 11, 9.72; Dec. 12, 8.67.

326. Graham County. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 18, T. 6 S., R. 25 E. Records available: 1940-48. Measurement discontinued.

342. Ed Howard. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 23, T. 6 S., R. 25 E. Records available: 1940-50. Mar. 14, 27.45; July 11, 32.34; Oct. 11, 33.95; Dec. 12, 31.89.

354. Ned Daley. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 27, T. 6 S., R. 25 E. Records available: 1940-50. Jan. 30, 8.97; Feb. 27, 9.13; June 19, 17.44; Sept. 25, 20.35; Oct. 30, 17.68; Dec. 4, 16.30; Dec. 26, 15.40.

366. Charles M. Beals. $NF\frac{1}{4}SE\frac{1}{4}$ sec. 30, T. 6 S., R. 25 E. Records available: 1940-50. Mar. 14, 20.52; July 12, 20.05; Oct. 11, 20.81; Dec. 12, 18.64.

408. Roy Saline. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 30, T. 6 S., R. 25 E. Records available: 1943-50.

Jan. 30	48.76	Apr. 24	49.02	July 24	50.44	Oct. 30	51.28
Feb. 27	48.77	May 29	49.28	Aug. 28	50.98	Dec. 4	51.26
Mar. 27	48.77	June 19	49.62	Sept. 25	50.46	26	51.18

409. Joe Alder. $NE\frac{1}{4}SW\frac{1}{4}$ sec. 29, T. 6 S., R. 25 E. Records available: 1943-50.

Jan. 30	3.79	Apr. 24	3.00	July 24	4.73	Oct. 30	5.67
Feb. 27	2.84	May 29	2.61	Aug. 28	5.50	Dec. 4	5.10
Mar. 27	1.89	June 19	4.46	Sept. 25	5.38	26	4.75

434. Abel Sanchez. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 36, T. 6 S., R. 27 E. Records available: 1940-49. Measurement discontinued.

452. S. A. Clontz. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 31, T. 6 S., R. 28 E. Records available: 1940-50. Mar. 17, 25.14; July 13, 33.56; Oct. 9, 39.72; Dec. 27, 33.66.

454. Brown Canal Co. $NE\frac{1}{4}NE\frac{1}{4}$ sec. 31, T. 6 S., R. 28 E. Records available: 1940-50. Mar. 17, 23.49; July 13, 27.31; Oct. 9, 29.72; Dec. 27, 27.67.

506. Roy Layton. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 7 S., R. 25 E. Records available: 1943-50. Measurement discontinued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 30	23.82	Apr. 24	27.15	July 24	24.29	Sept. 25	a5.76
Feb. 27	27.53	May 29	27.85	Aug. 28	a2.07	Oct. 30	18.23
Mar. 27	29.20	June 19	29.37				

a Water from field running into well.

509. Ellis Welker and Eldon Palmer. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 7 S., R. 25 E. Records available: 1940-50. Mar. 14, 47.50; July 11, 51.86; Oct. 11, 57.54; Dec. 12, 52.61.

565A. Z. C. Prina. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 7 S., R. 26 E. Records available: 1941-50. Jan. 30, 12.38; Feb. 27, 12.36; Mar. 27, 12.36; Apr. 24, 12.37. Measurement discontinued.

580. City of Safford. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 7 S., R. 26 E. Records available: 1940-50. Mar. 17, 16.27; Oct. 9, 27.94; Dec. 12, 25.79.

586. Ted Tidwell. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 7 S., R. 26 E. Records available: 1940-50. Mar. 17, 19.11; July 12, 23.26; Oct. 9, 25.13; Dec. 27, 25.20.

592. E. M. Claridge. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 7 S., R. 26 E. Records available: 1940-50. Mar. 17, 23.93; July 11, 35.05; Oct. 9, 32.08; Dec. 27, 26.51.

593. E. M. Claridge. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 7 S., R. 26 E. Records available: 1940-50. Mar. 17, 23.54; Oct. 9, 30.66; Dec. 27, 26.97.

594. E. M. Claridge. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 7 S., R. 26 E. Records available: 1940-50. Oct. 9, 17.80; Dec. 27, 16.69.

597. C. M. Pursley. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 7 S., R. 26 E. Records available: 1940-50.

Jan. 30	21.04	Apr. 24	23.17	July 24	27.30	Oct. 30	27.20
Feb. 27	20.50	May 29	24.70	Aug. 28	28.10	Dec. 4	26.00
Mar. 27	21.24	June 19	25.95	Sept. 25	27.90	27	25.20

598. Union Canal Co. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 7 S., R. 26 E. Records available: 1940-50. Mar. 17, 11.86; July 12, 25.70; Oct. 9, dry at 25 feet.

603. L. A. Nelson. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 7 S., R. 26 E. Records available: 1940-50.

Jan. 30	38.95	Apr. 24	c58.85	July 24	52.25	Oct. 30	46.65
Feb. 27	53.98	May 29	48.75	Aug. 28	c60.10	Dec. 4	44.28
Mar. 27	52.40	June 19	c59.11	Sept. 25	52.18	26	42.90

c Nearby well being pumped.

616A. Kimball and Greenhalgh. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 7 S., R. 26 E. Unused irrigation well, diameter 12 inches, depth 90 feet. Records available: 1949-50.

Jan. 24, '49	53.35	July 25, '49	54.76	Jan. 30, '50	50.89	July 24, '50	49.79
Feb. 28	53.56	Aug. 29	52.70	Feb. 27	50.74	Aug. 28	49.35
Mar. 24	53.68	Sept. 26	52.03	Mar. 27	50.92	Sept. 24	49.32
Apr. 25	53.69	Oct. 31	52.46	Apr. 24	50.84	Oct. 30	49.20
May 30	53.29	Nov. 28	51.37	May 29	50.45	Dec. 4	49.31
June 27	52.98	Dec. 26	51.37	June 19	50.18	26	49.36

623. Lee Johns. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 7 S., R. 26 E. Records available: 1940-50. Mar. 17, 13.77; July 12, 48.45; Oct. 9, 44.47; Dec. 27, 36.72.

625. Willard Welker. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 7 S., R. 26 E. Records available: 1940-50.

Jan. 30	35.86	Apr. 24	37.55	July 24	42.50	Oct. 30	43.85
Feb. 27	35.72	May 29	38.82	Aug. 28	42.65	Dec. 4	40.86
Mar. 27	36.40	June 19	39.80	Sept. 25	44.05	27	39.58

630. E. L. Claridge. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 7 S., R. 26 E. Records available: 1940-50.

Jan. 30	26.45	Apr. 24	30.75	July 24	32.30	Oct. 30	30.50
Feb. 27	21.30	May 29	28.35	Aug. 28	37.01	Dec. 4	28.75
Mar. 27	28.34	June 19	30.00	Sept. 25	33.75	27	28.07

639. Amos Cook. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 7 S., R. 26 E. Records available: 1940-48. No measurement made in 1950.

662. Mrs. Jose Somora. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 7 S., R. 27 E. Records available: 1940-50. Measurement discontinued. Tape measurement made in sand point: May 1, 17.65; May 8, 17.91; May 15, 18.53; May 22, 19.37.

Daily noon water level, from recorder graph

Day	Jan.	Feb.	Mar.	Apr.
1	14.35	14.15	14.44	16.59
2	14.34	14.15	14.53	16.63
3	14.33	14.15	14.65	16.65
4	14.32	14.15	14.77	16.67
5	14.32	14.14	14.85	16.68
6	14.34	14.13	14.95	16.69
7	14.32	14.13	15.07	16.69
8	14.30	14.13	15.19	16.67
9	14.30	14.13	15.29	16.67
10	14.30	14.12	15.40	16.68
11	14.29	14.11	15.50	16.67
12	14.27	14.12	15.60	16.67
13	14.29	14.14	15.71	16.69
14	14.26	14.15	15.80	16.69
15	14.26	14.15	15.92	16.72
16	14.25	14.14	16.04	16.81
17	14.24	14.14	16.19	16.93
18	14.23	14.15	16.23	17.05
19	14.23	14.15	16.29	17.15
20	14.23	14.14	16.35	17.27
21	14.22	14.13	16.39	17.34
22	14.20	14.14	16.42	17.39
23	14.19	14.14	16.45	17.44
24	14.17	14.16	16.48	17.44
25	14.19	14.17	16.51	17.46
26	14.21	14.18	16.53	17.47
27	14.19	14.26	16.54	.....
28	14.16	14.34	16.55	.....
29	14.15		16.56	.....
30	14.15		16.56	.....
31	14.16		16.58	

664. San Jose Canal Co. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 7 S., R. 27 E. Records available: 1940-50. Apr. 18, 16.78; July 13, 22.17; Oct. 9, 25.66; Dec. 27, 23.99.

674. O. H. Clonts. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 7 S., R. 27 E. Records available: 1940-50. Apr. 17, 16.60; Oct. 9, 22.87.

675. O. H. Clonts. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 7 S., R. 27 E. Records available: 1941-50. July 13, 21.50; Oct. 9, 22.99; Dec. 27, 21.52.

676. O. H. Clonts. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 7 S., R. 27 E. Records available: 1940-50. Apr. 17, 15.87; July 13, 20.71; Oct. 9, 22.65; Dec. 27, 23.12.

708. Pete Bertaldo. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 7 S., R. 27 E. Records available: 1940-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 30	38.96	Apr. 24	40.00	July 24	39.52	Oct. 30	39.60
Feb. 27	38.90	May 29	39.40	Aug. 28	39.34	Dec. 4	39.53
Mar. 27	39.33	June 19	39.35	Sept. 25	39.46	27	39.50

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5. Warner Foote. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7, T. 6 S., R. 31 E. Records available: 1941-50. Mar. 16, 6.52; July 16, 7.50; Oct. 10, 8.23; Dec. 28, 6.85.

14. Victor Rowden. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 6 S., R. 31 E. Records available: 1940-50. Mar. 16, 32.39; July 16, 33.44; Oct. 10, 36.60; Dec. 28, 36.47.

31. J. C. Merritt. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4, T. 7 S., R. 31 E. Records available: 1940-50. Mar. 16, 28.18; July 17, 31.54; Dec. 28, 33.31.
36. M. M. Cosper. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 7 S., R. 31 E. Records available: 1940-50. Mar. 16, 16.56; July 17, 21.21; Oct. 10, 22.11.
49. W. M. Zumwalt. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T. 7 S., R. 31 E. Records available: 1940-50. Mar. 16, 47.54; Nov. 10, 56.23.
63. M. W. McKelvey. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T. 8 S., R. 31 E. Records available: 1940-50. Mar. 16, 51.03; July 13, 64.29; Oct. 10, 66.91; Dec. 28, 68.73.
72. Hugh Howell. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 8 S., R. 31 E. Records available: 1940-50. Mar. 16, 49.75; July 13, 52.34; Oct. 10, 52.59; Dec. 28, 52.26.
92. Raymond Davis. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 8 S., R. 32 E. Records available: 1940-50. Mar. 16, 66.00; July 13, 66.17; Oct. 10, 67.18; Dec. 28, 66.24.
122. O. Christensen. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 8 S., R. 32 E. Records available: 1940-50. Mar. 16, 29.90; July 13, 32.60; Oct. 10, 32.82; Dec. 28, 31.81.
133. Floyd McDaniels. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 8 S., R. 32 E. Records available: 1940-43, 1945-50. Mar. 16, 9.68; July 13, 19.50; Oct. 10, 19.84; Dec. 28, 15.08.
136. Franklin Irrigation District well 1. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T. 8 S., R. 32 E. Records available: 1940-43, 1945-50. Mar. 16, 44.95; July 13, 51.74; Oct. 10, 53.16; Dec. 28, 59.40.
160. Franklin Irrigation District well 7. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T. 9 S., R. 32 E. Records available: 1940-50. July 13, 28.7; Oct. 10, 19.74; Dec. 28, 14.08.
161. Franklin Irrigation District well 6. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T. 9 S., R. 32 E. Records available: 1940-50. July 13, 18.60; Oct. 10, 19.22; Dec. 28, 13.57.
162. Franklin Irrigation District well 5. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T. 9 S., R. 32 E. Records available: 1940-50. July 13, 22.48; Oct. 10, 32.41; Dec. 28, 26.71.

Maricopa County

19. E. D. Edwards. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 1 N., R. 6 E. Records available: 1939-50. Feb. 15, 186.74.
68. Osborn and Gass. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 1 N., R. 7 E. Records available: 1939-49. No measurement made in 1950.
84. W. A. Anderson. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 1 S., R. 7 E. Records available: 1939-50. Dec. 28, 195.49.
89. D. Cole. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 1 S., R. 7 E. Records available: 1939-50. Feb. 15, 135.84; Dec. 28, 140.73.
94. Old Clifford Place. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 1 S., R. 7 E. Records available: 1939-50. Feb. 15, 145.42; Dec. 28, 147.88.
101. Mr. Gardiner. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 1 S., R. 7 E. Records available: 1939-50. Feb. 15, 182.55; Dec. 28, 178.85.
136. Roosevelt Water Conservation District. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 1 S., R. 6 E. Records available: 1939-50. Feb. 15, 123.76; Dec. 27, 128.23.
151. Roosevelt Water Conservation District. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 2 S., R. 5 E. Records available: 1939-50. Dec. 27, 98.36.
177. J. O. Power. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T. 2 S., R. 6 E. Records available: 1940-50. Feb. 15, 187.31; Dec. 28, 168.45.
185. J. S. Gephart. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 2 S., R. 6 E. In shed, 50 feet west of house, 150 feet west from county road. Drilled domestic well, diameter 20 inches. Measurement discontinued in 1945; resumed in 1946. Records available: 1939-45, 1946-47, 1949-50. Jan. 24, 1946, 110.80; Aug. 26, 115.28; Nov. 20, 1947, 123.38; Feb. 15, 1949, 123.71; Oct. 7, 134.89; Feb. 15, 1950, 138.95; Dec. 27, 135.77.

205. Nealy. Formerly Joy Compton. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 24, T. 2 S., R. 6 E. Records available: 1940-50. Feb. 15, 165.10; Dec. 28, 170.16.

217. Chandler Heights Citrus Irrigation District. $SW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$ sec. 36, T. 2 S., R. 6 E. Records available: 1939-44, 1949-50. Feb. 15, 234.45.

218A. G. W. Leech. $SE\frac{1}{4}SE\frac{1}{4}SW\frac{1}{4}$ sec. 34, T. 2 S., R. 6 E. Records available: 1949-50. Feb. 15, 139.29; Dec. 28, 152.09.

252. Jack Barnes. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 9, T. 2 S., R. 7 E. Records available: 1939-46, 1949-50. Feb. 15, 187.85; Dec. 28, 195.07.

254A. Stan Turley. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 7, T. 2 S., R. 7 E. Records available: 1949-50. Feb. 15, 187.63; Dec. 28, 186.58.

273. Leo Ellsworth. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 28, T. 2 S., R. 7 E. Records available: 1939-47, 1950. Dec. 28, 186.40.

701. L. M. Mecham. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 12, T. 2 S., R. 7 E. Records available: 1948-50. Feb. 15, 200.74; Dec. 28, 201.04.

851. Mr. Stillwell. $NE\frac{1}{4}SE\frac{1}{4}$ sec. 23, T. 1 N., R. 6 E. Records available: 1946, 1948-50. Feb. 15, 268.26; Dec. 27, 284.75.

1061. W. L. Brooks. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 29, T. 3 N., R. 5 E. Records available: 1946-50. Mar. 28, 196.59; Dec. 22, 197.90.

1086. Salt River Valley Water Users' Association. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 8, T. 2 N., R. 5 E. Records available: 1945-50. Feb. 17, 114.48; Dec. 18, 117.87.

1087. Salt River Valley Water Users' Association. $NW\frac{1}{4}SE\frac{1}{4}$ sec. 23, T. 2 N., R. 5 E. Records available: 1945-50. Feb. 17, 129.16; Dec. 18, 137.05.

1106. Charley Weak. $NE\frac{1}{4}SE\frac{1}{4}$ sec. 25, T. 1 N., R. 5 E. Records available: 1935-50. Feb. 17, 121.90; Dec. 18, 149.05.

1107. Frank E. Shill. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 2, T. 1 N., R. 5 E. Records available: 1946-50. Feb. 17, 108.10, irrigation well 0.1 mile west pumping; Dec. 18, dry; measurement discontinued.

1108. E. C. Fulghum. $NW\frac{1}{4}SW\frac{1}{4}$ sec. 28, T. 1 N., R. 5 E. Dug domestic well, depth 125 feet. Records available: 1942-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 6, '42	40.6	May 26, '44	47.2	Mar. 27, '46	62.0	Nov. 18, '48	89.0
Jan. 16, '43	37.9	July 24	49.8	Nov. 21	67.8	Oct. 23, '49	90.82
June 25	48.5	Nov. 13	56.2	Mar. 13, '47	68.4	Feb. 24, '50	95.12
Oct. 6	51.2	Mar. 7, '45	56.7	Oct. 14	77.1	Dec. 18	106.47
Mar. 17, '44	50.8	Nov. 7	61.1	Mar. 16, '48	82.7		

1208. Salt River Valley Water Users' Association. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 1, T. 1 S., R. 5 E. Records available: 1945-50. Feb. 17, 106.50; Dec. 18, 123.73.

1210. Mrs. J. L. Cobb. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 32, T. 1 S., R. 5 E. Records available: 1946-50. Feb. 17, 87.52; Dec. 19, 95.63.

1211. K. K. Skousen. $NE\frac{1}{4}SE\frac{1}{4}$ sec. 35, T. 1 S., R. 5 E. Records available: 1947-48. Measurement discontinued.

1213. C. B. Sanborn. $NE\frac{1}{4}$ sec. 26, T. 1 S., R. 5 E. 150 feet west of road. Drilled domestic well, diameter 6 inches, depth 139 feet. Records available: 1943-50.

Dec. 21, '43	69.9	Mar. 5, '45	73.2	Mar. 20, '47	88.9	Oct. 27, '49	113.10
Apr. 17, '44	69.9	Nov. 16, '45	81.9	Oct. 16	97.1	Feb. 17, '50	114.74
July 25	73.0	Apr. 2, '46	83.7	Apr. 16, '48	103.3	Dec. 19	127.47
Dec. 13	74.1	Nov. 25	88.4	Dec. 1	111.4		

1308. R. W. Hanna. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 30, T. 2 S., R. 5 E. Records available: 1946-50. Feb. 17, 51.00; Dec. 19, 55.82.

1309. A. R. Zent. $NW\frac{1}{4}NE\frac{1}{4}$ sec. 34, T. 2 S., R. 5 E. Records available: 1946-50. Feb. 17, 59.27; Dec. 19, 58.13.

1310. L. S. Breckler. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T. 2 S., R. 5 E. 200 feet east of road. Drilled domestic well, diameter 6 inches, depth 200 feet. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 23, '45	40.2	Mar. 17, '47	48.3	Nov. 26, '48	72.8	Feb. 17, '50	78.18
28, '46	44.7	Oct. 16	51.5	Oct. 27, '49	74.92	Dec. 19	77.59
Nov. 22	47.1	Apr. 14, '48	58.5				

1311. Euell Compton. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24, T. 2 S., R. 5 E. 20 feet east of white frame house. Drilled domestic well, diameter 6 inches. Records available: 1946-50.

Apr. 12, '46	27.7	Mar. 20, '47	31.3	Nov. 26, '48	35.7	Feb. 17, '50	38.39
Nov. 25	28.7	Apr. 15, '48	35.8	Oct. 27, '49	32.69	Dec. 19	36.72

1458. C. W. Brooks. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 1 S., R. 4 E. Records available: 1946-50. Dec. 19, 43.41.

1459. F. H. Hall. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T. 1 S., R. 4 E. Records available: 1946-50. Feb. 17, 93.20; Dec. 19, 101.37, pumped recently.

1502. J. B. House. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11, T. 1 N., R. 4 E. Records available: 1946-50. Feb. 16, 54.30; Dec. 19, 68.04.

1505. Owner unknown. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 20, T. 1 N., R. 4 E. Drilled unused domestic well, diameter 6 inches. Records available: 1942-50.

Oct. 1, '42	11.8	May 18, '44	13.2	Mar. 22, '46	13.6	Mar. 8, '48	21.6
Jan. 21, '43	10.5	July 31	12.5	June 26	14.8	Nov. 16	24.7
Feb. 23	11.7	Sept. 19	15.8	Nov. 18	16.0	Oct. 28, '49	25.24
June 24	12.3	Mar. 6, '45	15.0	Mar. 12, '47	16.1	Feb. 24, '50	26.19
Sept. 25	11.8	Nov. 6	16.8	Oct. 14	21.1	Dec. 18	28.58
Mar. 27, '44	13.6						

1506. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 1 N., R. 4 E. Drilled domestic well, diameter 6 inches. Records available: 1942-50.

Aug. 24, '42	25.6	Mar. 17, '44	32.7	Nov. 13, '45	41.2	Mar. 8, '48	59.1
Oct. 2	26.7	May 25	31.9	Mar. 26, '46	42.9	Nov. 18	63.7
Jan. 18, '43	26.6	July 20	34.0	Nov. 20	45.3	Oct. 28, '49	68.88
Mar. 2	24.8	Sept. 20	35.3	Mar. 13, '47	46.9	Feb. 24, '50	73.15
June 24	32.1	Mar. 6, '45	40.0	Oct. 14	53.6	Dec. 18	75.90
Dec. 30	30.3						

1601A. Stannards. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 2 N., R. 4 E. Records available: 1935-50. Mar. 8, 13.86; Dec. 11, 7.8.

1619. Wm. Schrader. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 2 N., R. 4 E. Records available: 1946-50. Feb. 16, 77.78. Measurement discontinued, water running down well casing. See well 1619A for further measurement in this vicinity.

1619A. Wm. Schrader. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 2 N., R. 4 E., about 125 feet south of Indian School Road and 0.75 mile east of Scottsdale Road. Drilled irrigation well, diameter 20 inches, depth 192 feet. Records available: 1950. Dec. 18, 92.86.

1620. C. T. Sharp. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29, T. 2 N., R. 4 E. Records available: 1946-50. Mar. 8, 11.97; Dec. 11, 11.26.

1701. K. C. Caswell. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 3 N., R. 4 E. Records available: 1945-50. Mar. 28, 171.06; Dec. 22, 170.80.

1711. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 3 N., R. 4 E. Records available: 1946-50. Mar. 28, 169.67; Dec. 22, 166.95.

1712. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 3 N., R. 4 E. Records available: 1946-50. Mar. 28, 162.51; Dec. 22, 162.76.

1887. Owner unknown. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 4 N., R. 3 E. Records available: 1946-50. Mar. 28, 27.24; Dec. 22, 35.90.

1891. R. L. Jennings. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 4 N., R. 3 E. Records available: 1946-50. Mar. 28, 218.41; Dec. 22, 218.90.

1897. Guy Stumpff. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 4 N., R. 3 E., near transformer rack, 200 feet southeast of section corner marker. Drilled unused well, diameter 18 inches, depth 701 feet. Records available: 1948-50. Nov. 5, 1948, 313.34; Feb. 10, 1949, 314.60; Feb. 21, 314.65; Oct. 27, 324.39; Mar. 8, 1950, 331.30; Dec. 12, 342.14.

1906. Maxwell. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 3 N., R. 3 E. Records available: 1946-50. Mar. 28, 185.00; Dec. 22, 185.55.

1906A. Geo. Johnson. Formerly Geo. R. Putnam. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32, T. 3 N., R. 3 E. Records available: 1943-50. Dec. 11, 112.19.

1907. H. J. Love. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 3 N., R. 3 E. Records available: 1947-50. Mar. 28, 178.06; Dec. 22, 178.54.

1920. Arizona Aeronautics Corporation. SW $\frac{1}{4}$ sec. 14, T. 3 N., R. 3 E. Records available: 1946-47, 1949-50. Mar. 28, 203.65, well 100 feet west pumping; Dec. 22, 199.38.

1924. Isabell-Hartner Ranches. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T. 3 N., R. 3 E. Records available: 1946-50. Mar. 8, 213.35; Dec. 12, 214.73.

1957. A. Fieks. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T. 2 N., R. 3 E. Records available: 1946-50. Mar. 8, 23.93; Dec. 11, 18.92.

2056. Godfrey. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 1 N., R. 3 E. Records available: 1935-50. Dec. 13, 48.88.

2058. Mr. Scott. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 1 N., R. 3 E. Records available: 1946-50. Mar. 10, 118.20; Dec. 13, 123.55.

2157. Bill Damon. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 2 S., R. 3 E. Records available: 1946-50. Feb. 17, 58.65; Dec. 19, 60.62.

2256. W. R. Collier. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 1 S., R. 3 E. Records available: 1946-50. Dec. 19, 105.4.

2301. A. Cheatum. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 1 S., R. 2 E. Records available: 1935-50. Mar. 10, 23.40; Dec. 12, 23.70, pumped recently.

2351. W. E. Sorenson. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 1 N., R. 2 E. Records available: 1935-50. Measurement discontinued. See well 2351A for further measurements in this vicinity.

2351A. Mr. Robart. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 1 N., R. 2 E., about 700 feet east of and 250 feet north of intersection of Lateral 16 and West Van Buren Street. Drilled domestic well, diameter 6 inches, depth 130 feet. Records available: 1950. Dec. 12, 96.72.

2353. C. Hobson. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 1 N., R. 2 E. Records available: 1946-50. Mar. 10, 34.83; Dec. 13, 41.50.

2451. V. E. Messinger. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 2 N., R. 2 E. Records available: 1935-50. Mar. 8, 96.20; Dec. 12, 106.30.

2452. Leonard. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 2 N., R. 2 E. Records available: 1935-50. Mar. 8, 46.80; Dec. 12, 46.61.

2453. Santa Maria Produce Co. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 2 N., R. 2 E. Records available: 1946-50. Mar. 8, 91.53; Dec. 12, dry at 101 feet.

2551. Charles Christopher. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 3 N., R. 2 E. Records available: 1940-50. Measurement discontinued.

2552. Lee Hopper. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 3 N., R. 2 E. Records available: 1946-50. Mar. 8, 152.66; Dec. 12, 158.46.

2553. American Institute for Foreign Trade. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 3 N., R. 2 E. Records available: 1946-50. Dec. 12, 236.85, pumped recently.

2555. Salt River Valley Water Users' Association. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 3 N., R. 2 E. Records available: 1944-50. Dec. 12, 125.97.

2582. John M. Jacobs. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 3 N., R. 2 E., south side of road, 0.5 mile east of Mission Road. Drilled unused well, diameter 20 inches, depth 417 feet. Records available: 1948-50. Sept. 7, 1948, 256.83; Nov. 2, 261.54; Dec. 28, 261.44; Feb. 21, 1949, 253.96; Oct. 27, 286.89; Mar. 8, 1950, 271.85; Dec. 12, 290.50.

2651. Frank Echenique. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 4 N., R. 2 E. Records available: 1946-50. Mar. 8, 267.87; Dec. 12, 280.54.

2781. C. F. Edwards. SW $\frac{1}{4}$ sec. 20, T. 5 N., R. 1 E. Records available: 1946-50. Mar. 20, 54.68, well pumping 300 feet southwest; Dec. 12, 51.60.

2801A. I. G. Decker. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30, T. 4 N., R. 1 E., 0.8 mile north and 0.25 mile west of school. Drilled irrigation, diameter 20 inches, depth 600 feet. Records available: 1949-50. Nov. 3, 1949, 174.26; Dec. 20, 1950, 182.54.

2809. R. E. Grace. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T. 4 N., R. 1 E. Records available: 1949-50. Dec. 20, 199.41.

2852. J. G. Boswell. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 3 N., R. 1 E. Records available: 1946-50. Mar. 20, 136.43; Dec. 20, 139.35.

2854. J. G. Boswell. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T. 3 N., R. 1 E. Records available: 1926-50. Mar. 20, 142.94; Dec. 20, 148.54.

2856. Otis Cook. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 3 N., R. 1 E. Records available: 1946-50. Mar. 8, 79.86; Dec. 12, 86.57.

3051. Roosevelt Irrigation District. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 1 N., R. 1 E. Records available: 1930-46, 1949-50. Mar. 9, 69.30.

3053. Isabell-Hartner Co. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 1 N., R. 1 E. Records available: 1946-50. Mar. 9, 84.13; Dec. 13, 90.90.

3054. Salt River Valley Water Users' Association. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 1 N., R. 1 E. Records available: 1935-50. Mar. 9, 79.83; Dec. 13, 86.27.

3056. Salt River Valley Water Users' Association. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 1 N., R. 1 E. Drilled unused domestic well. Records available: 1950. Dec. 13, 41.86.

3366. D. E. Accomazzo. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 1 S., R. 1 W. Records available: 1946-49. No measurement made in 1950.

3387. Roosevelt Irrigation District. NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10, T. 1 N., R. 1 W. Records available: 1929-45, 1947-50. Mar. 21, 67.71; Dec. 21, 78.02.

3388. T. C. Rhodes. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 1 N., R. 1 W. Records available: 1946-50. Dec. 21, 100.90.

3389. A. R. Petri. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 1 N., R. 1 W. Records available: 1946-50. Mar. 27, 20.33; Dec. 15, 20.92.

3486. Goodyear Farms. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 2 N., R. 1 W. Records available: 1946-50. Mar. 21, 130.49, all nearby wellspumping; Dec. 20, 143.89, wells nearby pumping.

3487. Goodyear Farms well 19D. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 2 N., R. 1 W. Records available: 1927-49. Measurement discontinued.

3489. R. E. McMurphy. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 2 N., R. 1 W. Records available: 1946-50. Dec. 21, 108.22.

3490. Goodyear Farms. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 2 N., R. 1 W. Records available: 1946-49. Measurement discontinued. See well 3491 for further measurements in this vicinity.

3491. Roosevelt Irrigation District. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 2 N., R. 1 W., enclosed by fence. Drilled irrigation well, depth 800 feet, diameter 20 inches. Records available: 1949-50. Dec. 13, 1949, 109.50; Dec. 21, 122.10.

3587A. Rancho Santa Maria. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 3 N., R. 1 W. Records available: 1948-49. No measurement made in 1950.

3686. Maricopa County Municipal Water Conservation District No. 1. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 4 N., R. 1 W. Records available: 1946-50. Mar. 21, 214.75; Dec. 20, 220.58.

3970. Maricopa County Municipal Water Conservation District. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 3 N., R. 2 W. Drilled unused well, diameter 20 inches, depth 534 feet. Records available: 1950. Mar. 21, 298.72.

3975. Wayne Thornburg. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 3 N., R. 2 W. In northwest corner of vineyard, 5.5 miles north and 3.5 miles west of Litchfield. Drilled irrigation well, diameter 20 inches, depth 588 feet. Records available: 1949-50. Dec. 13, 1949, 240.95; Mar. 21, 1950, 244.25; Dec. 21, 265.94.

4002. Maricopa County Municipal Water Conservation District No. 1. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 2 N., R. 2 W. Records available: 1940-42, 1946-50. Mar. 21, 224.47; Dec. 21, 226.60.

4004. Goodyear Farms. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 2 N., R. 2 W. Records available: 1947-50. Mar. 21, 147.93; Dec. 21, 156.88.

4051. Roosevelt Irrigation District. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 1 N., R. 2 W. Records available: 1928-50. Mar. 27, 87.24; Dec. 15, 87.94.

4053. Owner unknown. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 1 N., R. 2 W. Records available: 1947-50. Mar. 27, 180.21; Dec. 15, 176.53.

4054. Derrell Beck. Formerly H. G. Frost. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 1 N., R. 2 W. Records available: 1946-49. No measurement made in 1950.

4055. H. T. Kiefer. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 1 N., R. 2 W. Records available: 1946-50. Dec. 15, 41.94.

4100. Roosevelt Irrigation District. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 1 N., R. 2 W. Records available: 1928-31, 1934-41, 1944-45, 1947-50. Mar. 27, 73.25; Dec. 15, 68.72.

4151. Lee Hunter. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4, T. 1 S., R. 2 W. Records available: 1946-50. Mar. 27, 20.10; Dec. 14, dry; measurement discontinued.

4352. Mrs. John Hughes. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T. 1 S., R. 3 W. Records available: 1946-50. Mar. 27, 8.28; Dec. 14, 8.74.

4401. Roosevelt Irrigation District. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T. 1 N., R. 3 W. Records available: 1928-50. Mar. 27, 61.35; Dec. 15, 66.86.

4402. Roosevelt Irrigation District. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32, T. 1 N., R. 3 W. Records available: 1937-50. Mar. 27, 75.87; Dec. 15, 66.52.

4665. Lawrence Narramore. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 4 N., R. 4 W. Records available: 1946-50. Mar. 20, 315.98.

4711. Roosevelt Irrigation District. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 1 N., R. 4 W. Records available: 1937-50. Dec. 15, 74.45.

4712. Roosevelt Irrigation District. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 1 N., R. 4 W. Records available: 1928-50. Mar. 27, 53.01; Dec. 15, 55.13.

4713. D. E. Accomazzo. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 1 N., R. 4 W. At end of trail along north line of section, 0.75 mile east of north-south road along west line of section. Drilled irrigation well, diameter 20 inches, depth 330 feet. Measurement discontinued after Apr. 2, 1948; resumed in 1949. Records available: 1946-49. Feb. 23, 1949, 165.23; Oct. 6, 175.42. No measurement made in 1950.

4714A. Ben Youngker. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 1 N., R. 4 W. Records available: 1948-50. Dec. 15, 53.43.

4715. Owner unknown. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 1 N., R. 4 W. Records available: 1946-50. Mar. 27, 76.48; Dec. 15, 92.40.

4761A. Ott Dixon. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 1 S., R. 4 W. Records available: 1949-50. Mar. 27, 7.24; Dec. 14, 10.70.

4762. George G. Sevey. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 1 S., R. 4 W. Records available: 1946-50. Mar. 27, 6.95; Dec. 14, 9.90.

5350. Owner unknown. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 5 S., R. 5 W. Records available: 1945-50. Mar. 17, 34.58.

5456. H. A. Kreager. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 2 S., R. 5 W. Records available: 1946-50. Mar. 27, 18.94; Dec. 14, 21.59.

5457. Bill Jagow. NE $\frac{1}{4}$ sec. 20, T. 2 S., R. 5 W. Records available: 1946-50. Mar. 27, 28.49; Dec. 12, 29.69.

5502. Gillespie Land and Irrigation Co. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 2 S., R. 5 W. Records available: 1945-49. Dry. Measurement discontinued.

5506. Charles Yokum. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 1 S., R. 5 W. Records available: 1946-50. Mar. 27, 76.71; Dec. 15, 65.96.

5507A. Owner unknown. NE $\frac{1}{4}$ sec. 11, T. 1 S., R. 5 W. Records available: 1949-50. Mar. 27, 35.7; measurement discontinued.

5606. Wheeler. SE $\frac{1}{4}$ sec. 4, T. 1 N., R. 5 W. Records available: 1946-50. Mar. 23, 61.91; Dec. 14, 61.87.

5607. Spencer Wilson. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 1 N., R. 5 W. Records available: 1946-50. Mar. 23, 7.25; Dec. 14, 8.09.

5731. Carl Arnold. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 3 N., R. 5 W. Records available: 1946-47, 1948-50. Mar. 21, 87.24; Dec. 14, 87.28.

5921. Owner unknown. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 2 N., R. 6 W. Records available: 1946-50. Mar. 23, 123.15.

5971. Mitchell. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T. 1 N., R. 6 W. Records available: 1946-50. Mar. 21, 87.68.

6260. Gillespie Land & Irrigation Co. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 6 S., R. 6 W. Records available: 1945-50. Mar. 17, 123.23.

6564. Lee C. Underdown. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T. 1 S., R. 7 W. Records available: 1949-50. Mar. 23, 178.96.

6581. Owner unknown. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 2 N., R. 7 W. Records available: 1946-50. Mar. 23, 139.50.

6731. Leslie Ward. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 1 S., R. 8 W. Records available: 1946-50. Mar. 23, 19.77.

6732. Roy Davis. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 1 S., R. 8 W. Records available: 1946-49. No measurement made in 1950.

7241. Black & Hodgeman. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T. 8 N., R. 9 W., about 200 feet north of house. Drilled unused well, diameter 20 inches, depth 400 feet. Records available: 1946, 1950. Mar. 27, 1946, 353.70; July 31, 1950, 353.63.

Mohave County

901. U. S. Bur. of Land Management. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 16 N., R. 13 W. Records available: 1945-49. No measurement made in 1950.

902. Lloyd Latham. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10, T. 16 N., R. 13 W. Records available: 1945-50. Aug. 2, 30.77, pumped recently.

903. Carl Duncan. SW $\frac{1}{4}$ sec. 26, T. 16 N., R. 13 W. Records available: 1945-50. Aug. 2, 22.35.

904. Dr. A. E. Carter. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 16 N., R. 13 W. (previously reported as sec. 35). Records available: 1945-50. Aug. 2, 17.34.

905. Rual Nogales. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 16 N., R. 13 W. Records available: 1945-50. Aug. 2, 11.67.

906. W. P. Hubbard. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 17 N., R. 13 W. Records available: 1945-49. No measurement made in 1950.

1301. Mrs. Cary Gillespie. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24, T. 21 N., R. 17 W. Records available: 1944-50. Aug. 2, 115.32.

1302. E. A. Kier. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 24, T. 21 N., R. 17 W. Records available: 1944-50. Aug. 2, 107.64.

Navajo County

2853. Simon Ranch. $SW\frac{1}{4}$ sec. 27, T. 19 N., R. 15 E. Records available: 1944-50. Aug. 5, 163.88.

5652. Ben Hunt. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 30, T. 18 N., R. 20 E. Records available: 1944-50. Aug. 5, 39.17.

5653. Ben Hunt. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 30, T. 18 N., R. 20 E. Records available: 1944-49. Measurement discontinued after July 13, 1949.

5654. Ben Hunt. $SE\frac{1}{4}$ sec. 32, T. 18 N., R. 20 E. Records available: 1944-50. Aug. 5, 37.47.

5656. Joseph City. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 6, T. 18 N., R. 20 E. Records available: 1949. No measurement made in 1950.

7451. E. B. Neuman. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 1, T. 17 N., R. 20 E. Records available: 1944-50. Aug. 5, 2.69.

7470. R. E. Whiting. $NE\frac{1}{4}SW\frac{1}{4}$ sec. 10, T. 17 N., R. 20 E. Records available: 1944-50. Aug. 6, 29.88.

7471. R. E. Whiting. $NE\frac{1}{4}SW\frac{1}{4}$ sec. 10, T. 17 N., R. 20 E. Records available: 1944-50. Aug. 6, 16.34.

7478. George McLaws. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 10, T. 17 N., R. 20 E. Records available: 1944-49. No measurement made in 1950.

7489. R. Henderson. $NW\frac{1}{4}SW\frac{1}{4}$ sec. 11, T. 17 N., R. 20 E. Records available: 1944-50. Aug. 6, 14.20.

7493. F. J. McLaws. $SE\frac{1}{4}NW\frac{1}{4}$ sec. 12, T. 17 N., R. 20 E. Records available: 1944-50. Aug. 6, 54.70.

7651. Ambrosia Armijo. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 6, T. 17 N., R. 21 E. Records available: 1944-50. Aug. 5, 14.24.

7653. State of Arizona. $NW\frac{1}{4}NW\frac{1}{4}$ sec. 7, T. 17 N., R. 21 E. Records available: 1944-50. Aug. 5, 40.59.

7655. Noel Reynolds. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 10, T. 17 N., R. 21 E. Records available: 1944-50. Aug. 5, 52.33.

9976. McNeill. $NE\frac{1}{4}NW\frac{1}{4}$ sec. 25, T. 10 N., R. 21 E. Records available: 1949. No measurement made in 1950.

10001. Oren Whipple. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 18, T. 10 N., R. 22 E. Records available: 1949. No measurement made in 1950.

11000. U. S. Bureau of Indian Affairs. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 22, T. 9 N., R. 21 E. Records available: 1944-50. Aug. 7, 13.12.

Pima County

454. Cortaro Farms. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 11, T. 11 S., R. 10 E. Records available: 1941-50. Feb. 7, 157.58. Measurement discontinued.

457. T. J. Smith. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 22, T. 11 S., R. 10 E. Records available: 1940-42, 1945-48, 1950. Feb. 7, 154.97; Sept. 26, 163.68.

460. W. E. Anway. $NW\frac{1}{4}$ sec. 27, T. 11 S., R. 10 E. Records available: 1940-42, 1944-50. Feb. 7, 149.02; Sept. 26, 150.55.

463. Bing K. Wong. Formerly Bud Parker. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 36, T. 11 S., R. 10 E. Records available: 1940-42, 1944-50. Feb. 2, 176.74; Apr. 19, 177.45; Sept. 26, 179.38.

466. T. V. Valenzuela. $NE\frac{1}{4}SE\frac{1}{4}$ sec. 32, T. 11 S., R. 10 E. Records available: 1946-50. Feb. 7, 163.22.

535. Cortaro Farms. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30, T. 11 S., R. 11 E. Records available: 1939-50. Apr. 19, 184.82; Sept. 26, 187.83; Nov. 30, 187.82.

1337. Cortaro Farms. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 12 S., R. 12 E. Records available: 1939-50. Jan. 7, 99.20; Sept. 26, 102.05; Nov. 30, 98.81.

1367. Grady Wilson. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28, T. 12 S., R. 12 E. Records available: 1939-50. Feb. 7, 140.70; Apr. 19, 140.83; Sept. 26, 142.10; Nov. 30, 139.58.

1428. J. E. Glover. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 12 S., R. 11 E. Records available: 1940, 1942, 1944-50. Feb. 7, 195.45; Sept. 26, 195.71.

1430. J. E. Glover. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 12 S., R. 11 E. Records available: 1940-42, 1944-47, 1949-50. Feb. 7, 200.33; Apr. 19, 203.03; Sept. 26, 204.62.

1432. P. Johansen. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 12 S., R. 11 E. Records available: 1940-42, 1944-47. Measurement discontinued.

1435. Paul Becker. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 12 S., R. 11 E. Records available: 1940-42, 1944-46, 1949-50. Jan. 31, 309.87; Oct. 2, 312.60.

1503. V. Valenzuela. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 12 S., R. 10 E. Records available: 1940-42, 1944-50. Feb. 7, 166.40; measurement discontinued. Dry at 172 feet.

1505. B. Wong. Formerly King Investment Co. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 12 S., R. 10 E. Records available: 1940, 1942, 1944-50. Feb. 2, 189.89; Nov. 7, 187.31.

1506. Harry Alexander. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 12 S., R. 10 E. Records available: 1940-42, 1944, 1946-48. Measurement discontinued.

2651. Pima County. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7, T. 13 S., R. 12 E. Records available: 1940-42, 1944-50. Jan. 31, 36.68; Apr. 19, 37.84; Oct. 2, 37.43.

2738. Bruce Knapp. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 13 S., R. 13 E. Records available: 1939-50. Feb. 7, 52.28.

2808. Courtright Stables. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 13 S., R. 14 E. Records available: 1939-50. Feb. 6, 11.38; Sept. 26, 11.98.

4156. Charles Reynard. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T. 14 S., R. 15 E. Records available: 1939-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 25	185.95	Apr. 26	186.27	July 25	186.63	Oct. 25	186.91
Feb. 24	186.00	May 24	186.42	Aug. 28	186.81	Nov. 27	187.01
Mar. 28	186.13	June 26	186.52	Sept. 26	186.94	Dec. 26	187.26

4375. E. L. Rogers. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 14 S., R. 13 E. Records available: 1939-42, 1944-50. Feb. 6, 54.93; Sept. 26, 58.91; Nov. 30, 57.51.

4450. Pima County. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 14 S., R. 12 E. Records available: 1940-42, 1944-50. Oct. 2, 94.74.

4453. Pima County. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21, T. 14 S., R. 12 E. Records available: 1940-42, 1944-50. Jan. 31, 58.70; Apr. 19, 59.05; Oct. 2, 58.24.

4601. J. Burrell. Sec. 10, T. 14 S., R. 10 E. Records available: 1940-42, 1944, 1946-50. Jan. 30, 21.34; Apr. 18, 22.02; Sept. 29, 20.54.

4602. J. Burrell. Sec. 10, T. 14 S., R. 10 E. Records available: 1940-42, 1944, 1946-50. Jan. 30, 11.62; Apr. 18, 12.13; Sept. 29, 11.45.

4604. Robert Locke. SW $\frac{1}{4}$ sec. 24, T. 14 S., R. 10 E. Records available: 1940-42, 1944, 1946-50. Jan. 30, 306.28.

6404. Robert Locke. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 15 S., R. 10 E. Records available: 1940-42, 1944-50. Jan. 30, 143.72.

6405. C. W. Van Camp. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 15 S., R. 10 E. Records available: 1940-42, 1944-50. Jan. 30, 149.81; Apr. 18, 149.91; Sept. 29, 149.94.

6410. C. W. Van Camp. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 15 S., R. 10 E. Records available: 1940-42, 1944, 1946-50. Jan. 30, 214.55; Apr. 18, 214.50; Sept. 29, 214.43.

6575. H. C. Barker. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 15 S., R. 13 E. Records available: 1939-49. Dry. Measurement discontinued.

6593. U. S. Bureau of Indian Affairs. San Xavier Reservation. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 15 S., R. 13 E. Records available: 1939-50. Feb. 6, 32.90; May 25, 34.68; Sept. 26, 33.23; Nov. 29, 34.26.

6612. City of Tucson. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 15 S., R. 13 E. Records available: 1942-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 25	49.37	Apr. 26	51.24	July 25	38.08	Oct. 25	55.65
Feb. 24	49.21	May 24	52.37	Aug. 28	53.30	Nov. 27	53.92
Mar. 28	49.53	June 26	53.65	Sept. 26	55.21	Dec. 26	52.94

7166. Lane Farms. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 16 S., R. 14 E. Records available: 1944-49. Measurement discontinued.

8686. State Highway Department. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 17 S., R. 14 E. Records available: 1939-50. Jan. 12, 61.62; Feb. 9, 62.24; May 25, 65.18; July 12, 65.54; Sept. 25, 65.30; Nov. 29, 62.70.

9230. J. B. Bull. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 18 S., R. 13 E. Records available: 1939-50. Feb. 9, 58.68; July 12, 65.95; Sept. 25, 66.26; Nov. 29, 62.82.

10477. Intercontinental Ranch Co. well W1. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 19 S., R. 13 E. Records available: 1939-50. Feb. 9, 61.55; Sept. 25, 64.46; Nov. 29, 70.52.

10483. Gustavo Amado. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T. 19 S., R. 13 E. Records available: 1939-50. May 25, 36.35; July 12, 36.04; Sept. 25, 34.25; Nov. 29, 34.92.

Pinal County

23. Hart Mullins. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 1 S., R. 10 E. Records available: 1939-50. Feb. 15, 20.31; Dec. 27, 23.47.

35. E. M. Little. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 2 S., R. 10 E. Records available: 1939-50. Feb. 16, 405.86.

41A. Ellsworth Bros. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 2 S., R. 8 E. Records available: 1947, 1949-50. Feb. 16, 243.09; Dec. 29, 252.38, nearby irrigation well being pumped.

52. Leo Ellsworth. NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T. 2 S., R. 8 E. Records available: 1942, 1949-50. Feb. 15, 200.87; Dec. 29, 208.00.

69. Elmer C. Von Glahn. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 3 S., R. 9 E. Records available: 1942, 1948-50. Feb. 16, 242.08.

71. Magma Arizona Railroad. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 3 S., R. 8 E. Records available: 1940-50. Feb. 16, 171.76; Dec. 29, 176.43.

123. U. S. Bureau of Indian Affairs well 61. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 3 S., R. 4 E. Records available: 1942-50. Feb. 7, 33.33; May 2, 35.82; Aug. 28, 37.08; Dec. 6, 40.84.

174. G. W. Yancy. NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 4 S., R. 3 E. Records available: 1942-50. Feb. 7, 30.56; May 2, 30.83; Aug. 29, dry at 33.00; Dec. 6, 32.73.

258. U. S. Bureau of Indian Affairs well 42. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 4 S., R. 7 E. Drilled unused well, diameter 20 inches. Records available: 1942-45, 1950. Feb. 20, 35.71; Aug. 30, 36.71; Dec. 7, 37.63.

259. U. S. Bureau of Indian Affairs well 43. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30, T. 4 S., R. 7 E. Records available: 1942-50. Feb. 20, 38.65; May 4, 40.83; Aug. 30, dry. Measurement discontinued.

278. Arizona Ranches. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 4 S., R. 8 E. Records available: 1941-50. Dec. 29, 182.52.

341. U. S. Bureau of Indian Affairs well 7. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 4 S., R. 11 E. Records available: 1942-50. Feb. 20, 27.56; May 4, 25.20; Aug. 30, 25.91; Dec. 7, 32.01.

437. U. S. Bureau of Indian Affairs well 76. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 5 S., R. 9 E. Records available: 1942-50. Feb. 10, 147.33; May 4, 152.67; Aug. 30, 155.66.

493. H. R. Montierth. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32, T. 5 S., R. 8 E. Records available: 1942-50. Dec. 7, 91.85.

503. L. D. Ulmer. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 5 S., R. 8 E. Records available: 1942-50. Feb. 20, 57.72; May 4, 58.68; Aug. 30, 59.65; Dec. 7, 59.38.

618. Fugua. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 5 S., R. 4 E. Records available: 1942-50. May 2, 124.73; Dec. 6, 124.85.

738. A. A. Wallace. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 6 S., R. 3 E. Records available: 1942-50. Feb. 7, 156.74; May 2, 154.98; Aug. 29, 157.95; Dec. 6, 157.70.

887. Paul Knobloch. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 6 S., R. 5 E. Records available: 1940-50. Feb. 7, 48.94; May 2, 47.64; Aug. 28, 48.61; Dec. 5, 50.64.

890A. Mrs. Gus Dratzka. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 6 S., R. 5 E. Records available: 1948-50. Jan. 1, 32.25; Feb. 7, 34.44; May 2, 34.30; Aug. 28, 33.46; Dec. 5, 35.45.

893. P. H. Ethington. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 6 S., R. 5 E. Records available: 1940-50. Feb. 7, 58.11; May 2, 61.12; Aug. 28, 60.88; Dec. 5, 59.57.

906. U. S. Bureau of Indian Affairs well 100. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T. 6 S., R. 5 E. Records available: 1942-50. Feb. 7, 33.80; May 2, 34.44; Aug. 28, 33.72; Dec. 5, 36.00.

907. Burris Bros. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 6 S., R. 5 E. Records available: 1940-50. Feb. 7, 39.35; May 2, 40.31; Aug. 28, 40.04; Dec. 5, 40.37.

961. Floyd Smith. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7, T. 6 S., R. 6 E. Records available: 1940-50. Feb. 7, 42.25; May 2, 45.94; Aug. 31, 51.57; Dec. 9, 44.28.

968. C. E. Sherrill. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 6 S., R. 6 E. Records available: 1940-50. Dec. 9, 76.83.

981. Gilbert Bros. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 6 S., R. 6 E. Records available: 1941-50. Jan. 8, 54.93; Feb. 10, 54.17; May 4, 56.12; Aug. 30, 57.45; Dec. 9, 57.43.

991. Mrs. Emma Pennington. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 6 S., R. 6 E. Records available: 1940-50. Feb. 10, 66.69; May 4, 77.97; Dec. 9, 82.24.

1002. U. S. Bureau of Indian Affairs well 103. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 6 S., R. 6 E. Records available: 1942-50. Feb. 7, 51.87; May 3, 53.67; Aug. 29, 53.80; Dec. 7, 54.21.

1066. Diwan Singh. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 6 S., R. 7 E. Records available: 1939-50. Feb. 10, 98.84; May 4, 119.00; Aug. 30, 121.93; Dec. 9, 110.70.

1072. U. S. Bureau of Indian Affairs well 85. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 6 S., R. 7 E. Records available: 1942-50: Feb. 10, 112.18; May 2, 112.25; Aug. 30, 119.26; Dec. 8, 122.01.

1079. U. S. Bureau of Indian Affairs well 84. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 6 S., R. 7 E. Records available: 1942-48. Measurement discontinued.

1118. Dick Shiftlet. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 6 S., R. 8 E. Records available: 1940-50. Feb. 10, 87.23; May 4, 99.13; Dec. 8, 107.09.

1153. U. S. Bureau of Indian Affairs well 82. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 6 S., R. 8 E. Records available: 1942-48. Measurement discontinued after Oct. 26, 1948.

1157. U. S. Bureau of Indian Affairs well 78. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 6 S., R. 8 E. Records available: 1942-49. Measurement discontinued.

1162. Mr. McFarland. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27, T. 6 S., R. 8 E. Records available: 1942-48. Measurement discontinued.

1172. W. W. Ray. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 6 S., R. 8 E. Records available: 1944-50. May 4, 145.34; Aug. 30, 162.97.

1405. S. C. McFarland. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 11, T. 7 S., R. 7 E. Records available: 1942-50. Feb. 10, 139.44.

1430. Les Milligan. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 2, T. 7 S., R. 7 E. Records available: 1944-50. Feb. 10, 131.05; May 4, 153.10; Aug. 30, 159.73; Dec. 8, 143.31.

1479. Paul Brophy. $SW\frac{1}{4}SW\frac{1}{4}$ sec. 12, T. 7 S., R. 6 E. Records available: 1941-49. Measurement discontinued.

1489. Albert Steinfeld. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 30, T. 7 S., R. 6 E. Records available: 1942-50. Feb. 7, 81.18; May 3, 79.92; Aug. 30, 85.97; Dec. 12, 81.17.

1539. W. S. Stephenson Estate. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 22, T. 7 S., R. 5 E. Records available: 1942, 1944-50. Feb. 7, 118.20; May 2, 118.06; Aug. 29, 120.00; Dec. 6, 116.20.

1716. Smith-Thornburg Co. $SW\frac{1}{4}NE\frac{1}{4}$ sec. 29, T. 8 S., R. 6 E. Records available: 1941-50. Feb. 7, 84.27; May 3, 89.11; Aug. 29, 91.43; Dec. 7, 92.52.

1776. G. J. Roundtree. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 9, T. 8 S., R. 7 E. Records available: 1941-50. Aug. 21, 194.63; Dec. 8, 167.83.

1787. Sam Phillips. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 15, T. 8 S., R. 7 E. Records available: 1941-50. Dec. 8, 182.53.

1791. S. G. Wilson. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 22, T. 8 S., R. 7 E. Records available: 1940-50. Dec. 8, 187.20.

1795. Jack Pretzer, Jr. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 25, T. 8 S., R. 7 E. Records available: 1940-50. Jan. 1, 196.32; Feb. 6, 197.93; Dec. 8, 205.39.

1855. D. A. Trekell. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 7, T. 8 S., R. 8 E. Records available: 1941-50. Feb. 16, 194.99; May 1, 199.48; Aug. 31, 206.14; Dec. 9, 201.07.

1884. Arizona Farm Products Co. Known locally as Jack Pretzer well 6. $SE\frac{1}{4}SW\frac{1}{4}$ sec. 33, T. 8 S., R. 8 E. Records available: 1940-50. Feb. 16, 206.65; Dec. 8, 213.75.

2104. P. G. Wolfe. $SE\frac{1}{4}NE\frac{1}{4}$ sec. 20, T. 9 S., R. 8 E. Records available: 1942-50. Feb. 16, 217.80; May 1, 233.98; Dec. 8, 215.88.

2108. J. F. Nutt. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 26, T. 9 S., R. 8 E. Records available: 1942-45. Measurement discontinued.

2174. R. H. Washburn. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 16, T. 9 S., R. 7 E. Records available: 1944-50. Feb. 16, 161.52; Dec. 8, 177.27.

2233. J. Sevak. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 24, T. 9 S., R. 6 E. Records available: 1941-50. Feb. 16, 99.28; May 1, 102.60; Aug. 31, 106.56; Dec. 8, 95.79.

2239. B. F. Nelssen. $NW\frac{1}{4}NE\frac{1}{4}$ sec. 10, T. 9 S., R. 6 E. Records available: 1942, 1945-50. Feb. 7, 137.00; May 3, 139.58; Aug. 29, 143.65; Dec. 7, 144.54.

2311. J. C. Kinney. $NW\frac{1}{4}$ sec. 3, T. 10 S., R. 7 E. Records available: 1941-47, 1950. Feb. 16, 125.40; May 1, 123.00; Dec. 8, 128.14.

2332. J. C. Kinney. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 5, T. 10 S., R. 8 E. Records available: 1941-50. Feb. 16, 193.77; May 1, 192.50; Dec. 8, 203.00.

2354. H. H. Cake. $SW\frac{1}{4}NW\frac{1}{4}$ sec. 10, T. 10 S., R. 9 E. Records available: 1941-50. Feb. 16, 161.37; May 2, 161.84; Aug. 1, 165.34; Dec. 8, 163.84.

2363. King Investment Co. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 36, T. 10 S., R. 9 E. Records available: 1939, 1940-44, 1949-50. Feb. 7, 143.77; Sept. 26, 146.32.

2363A. King Investment Co. $SE\frac{1}{4}SE\frac{1}{4}$ sec. 36, T. 10 S., R. 9 E. Records available: 1942-43, 1945-49. No measurement made in 1950.

2383. Tom Soleng. $SW\frac{1}{4}SE\frac{1}{4}$ sec. 34, T. 10 S., R. 10 E. Records available: 1942-47, 1950. Sept. 26, 157.85.

Santa Cruz County

79. L. S. Gates. Formerly Mrs. Schenkel. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32, T. 20 S., R. 13 E. Records available: 1940-50. Feb. 9, 31.95; May 25, 33.86; Sept. 25, 33.15; Nov. 29, 32.96.

915. T. T. Pendleton. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 22 S., R. 13 E. Records available: 1940-50. Feb. 9, 41.08; Sept. 25, 32.74.

1504. J. F. Dalton. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 23 S., R. 14 E. Records available: 1940-50. Feb. 9, 12.02; May 25, 12.22; July 12, 12.35; Sept. 25, 11.71; Nov. 29, 11.07.

1513. Dines Nelson. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T. 23 S., R. 14 E. Records available: 1940-50. Feb. 9, 17.62; May 25, 17.97; July 12, 18.76; Sept. 25, 19.11; Nov. 29, 19.10.

1525. T. Griffin. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 23 S., R. 14 E. Records available: 1940-49. Measurement discontinued.

1912. Simon Mastick. SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 24 S., R. 14 E. Records available: 1940-49. Measurement discontinued. See well 1912A for further measurements in this vicinity.

1912A. Simon Mastick. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 24 S., R. 14 E. Records available: 1949-50. Drilled irrigation well, diameter 20 inches, depth 60 feet. Sept. 27, 1949, 21.98; Dec. 15, 23.41; Feb. 9, 1950, 19.05; May 25, 24.04; July 12, 24.34; Sept. 25, 22.07; Nov. 29, 20.93.

2007. Neilson Brown. Buena Vista Land Grant, approximately the SE $\frac{1}{4}$ sec. 7, T. 24 S., R. 15 E. Records available: 1947-50. Feb. 9, 10.61; May 25, 10.65; July 12, 9.25; Aug. 28, 9.42; Sept. 25, 9.61; Nov. 29, 9.40.

2010. T. Griffin. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 23 S., R. 14 E. About 50 feet north of highway bridge on Santa Cruz River. Irrigation well, diameter 16 inches, depth 76 feet. Records available: 1950. May 25, 26.11; July 12, 21.45; Sept. 25, 15.50; Nov. 29, 22.31.

Yuma County

95. John R. Wood. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T. 6 N., R. 12 W. Records available: 1945-46, 1948-49. No measurement made in 1950.

155. Western Farm Management Co. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 6 S., R. 12 W. Records available: 1945-50. Mar. 16, 44.86.

195. H. P. Johnson. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T. 7 S., R. 12 W. Records available: 1945-50. Mar. 16, 105.22.

200. Owner unknown. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 7 S., R. 12 W. Records available: 1945-50. Mar. 16, 20.47.

246. Dollie Wiley. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T. 5 N., R. 13 W. Records available: 1945-46, 1948-49. No measurement made in 1950.

248. Mr. Gray. SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22, T. 5 N., R. 13 W. Records available: 1945-46, 1947-50. Aug. 1, 112.22.

312. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 7 S., R. 13 W. Records available: 1945-49. Measurement discontinued.

501. J. S. Riley. NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 4 N., R. 15 W. Records available: 1949-50. Aug. 1, 125.55.

505. Crowder Cattle Co. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21, T. 5 N., R. 15 W. Records available: 1946, 1949-50. Aug. 1, 201.16.

575. Mohawk Municipal Water Conservation District. NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 7 S., R. 15 W. Records available: 1945-50. Mar. 16, 30.75.

625. Chester Johns. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 6 N., R. 16 W. Records available: 1948. No measurement made in 1950.

626. Chester Johns. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 6 N., R. 16 W. Records available: 1948-49. No measurement made in 1950.

628. Ray Thompson. NE $\frac{1}{4}$ sec. 12, T. 6 N., R. 16 W. Records available: 1945-46, 1948-50. Aug. 1, 64.72.

631. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 5 N., R. 16 W. Records available: 1948-50. Aug. 1, 118.95.

632. Crowder Cattle Co. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 5 N., R. 16 W. Records available: 1948-50. Aug. 1, 112.84.

680. Mohawk Municipal Water Conservation District. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 7 S., R. 16 W. Records available: 1945-50. Mar. 16, 34.34.

710. Western Farm Management Co. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11, T. 8 S., R. 16 W. Records available: 1945-50. Mar. 16, 34.88.

722. Smiley Air Field. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 8 S., R. 16 W. Records available: 1945-47, 1949-50. Mar. 16, 84.54.

758. Judge Bellows. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 7 N., R. 17 W. Records available: 1945-49. No measurement made in 1950.

760. T. G. Bolieu. Formerly V. C. Tarpley. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 7 N., R. 17 W. Records available: 1945-49. Measurement discontinued. See well 761 for further measurements in this vicinity.

761. T. G. Bolieu. NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 7 N., R. 17 W. Drilled domestic well, diameter 6 inches, depth 220 feet. Records available: 1950. Oct. 1, 43.34.

762. Owner unknown. SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T. 7 N., R. 17 W. Records available: 1945-50. Aug. 1, 57.69.

764. Zello. Formerly Julian M. Jones. NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 7 N., R. 17 W. Records available: 1945-50. Aug. 1, 34.69, pumped recently.

784. Mohawk Municipal Water Conservation District. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 8 S., R. 17 W. Records available: 1945-50. Mar. 16, 35.48.

795. Roy Killen. SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 8 S., R. 17 W. Records available: 1945-50. Mar. 16, 32.64.

817. Gust Svensen. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 8 S., R. 17 W. Records available: 1945-50. Mar. 16, 111.58.

851. U. S. Bureau of Reclamation. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 8 S., R. 18 W. Records available: 1949-50. Mar. 16, 29.52.

865. R. B. Deason. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 8 S., R. 18 W. Records available: 1946-49. No measurement made in 1950.

900. Robert Welch. NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 9 S., R. 18 W. Records available: 1945-50. Mar. 15, 58.68.

951. Fielder Slocum. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 8 S., R. 19 W. Records available: 1946-49. No measurement made in 1950.

975. Owner unknown. SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 9 S., R. 19 W. Records available: 1945-50. Mar. 15, 24.20.

1121. U. S. Bureau of Reclamation. NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18, T. 8 S., R. 20 W. Records available: 1949. No measurement made in 1950.

1280. Owner unknown. SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21, T. 8 S., R. 21 W. Records available: 1943, 1945-50. Mar. 15, 33.80.

1474. J. L. Moorish. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 8 S., R. 22 W. Records available: 1946-50. Mar. 15, 28.80.

1485. Owner unknown. NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T. 8 S., R. 22 W. Records available: 1945-50. Mar. 15, 25.7.

1520. Owner unknown. SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 9 S., R. 22 W. Records available: 1945-50. Mar. 16, 83.98.

2045. U. S. Bureau of Reclamation. SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 11 S., R. 25 W. Records available: 1916-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 16	4.90	June 15	5.97	Sept. 14	7.23	Nov. 7	7.30
Mar. 21	5.20	July 20	7.15	Oct. 17	7.80	Dec. 15	7.70
May 16	4.45	Aug. 17	7.65				

CALIFORNIA

By A. A. Garrett, Fred Kunkel, E. F. LeRoux, M. B. Scott,
and H. D. Wilson, Jr.

Scope of Water-Level Program

The observation-well program in California was continued in 1950 in cooperation or collaboration with other Federal, State, and local agencies. In the southern part of the State, the Division of Water Resources of the State Department of Public Works measured 125 wells in the Temecula Basin and about 75 wells in the Tia Juana River basin. The Ventura County Water Survey continued its program in Ventura County basins. The U. S. Soil Conservation Service, in cooperation with the city of Los Angeles and the San Fernando Valley Soil Conservation District measured 65 piezometer wells in the western part of the San Fernando Valley. Measurements were made in 60 wells in the Tehachapi and Cummings Valley by the Soil Conservation Service. The San Bernardino Valley Water Conservation District continued measurements in the San Bernardino Valley. In the Imperial Valley, measurements of ground water were made by the Division of Irrigation of the U. S. Soil Conservation Service in cooperation with the Imperial Irrigation District in 28 wells in the West Mesa area, 11 wells in the Pilot Knob area, 30 artesian wells in the valley floor area, and in the East Mesa area quarterly in 37 observation wells. In the Coachella Valley measurements were made by the Coachella Valley County Water District in cooperation with the U. S. Bureau of Plant Industry, the U. S. Bureau of Reclamation, and the University of California. The Division of Water Resources of the State Department of Public Works continued to assemble from various agencies records of water levels in wells in the South Coastal Basin and in Antelope Valley. These records for 1947 have been published as the Division's Bulletin 39-P, which continues the series begun in 1932.

The cooperative investigation with the California Division of Water Resources, which began in 1948, continued during 1950. In 1950 a report on the Sutter-Yuba area,¹ an extension of the work on the Sacramento Valley completed in 1949, was released to be published by the State. Work in the Napa, Sonoma, and Santa Rosa Valleys and adjoining areas all north of San Francisco Bay was continued. Work was begun on a report on ground-water conditions in several valleys in Lake County and in collection of basic data for a detailed report on the west side of the San Joaquin Valley. Work was concentrated in Fresno, Kings, and Tulare Counties. The investigation in Solano County is not a part of the cooperative work in the State. It is being financed wholly with Federal funds. Collection of basic data was continued during the year, with completion scheduled for the end of 1951. A progress report dated April 1950 described the progress made in 1949 and outlined the scope and objectives of the investigation which will be covered in detail in a final report. In 1950, the Geological Survey also continued its cooperative investigation with the San Bernardino County Flood Control District of the ground-water underflow across the San Jacinto fault, west of San Bernardino.

In the following table are listed water-level measurements in 507 observation wells in 8 of the 58 counties in the State. San Joaquin County is in the central part; the other 7 counties are in the southern part, south of the Tehachapi Mountains. The water-level measurements in this report include all the principal ground-water areas in San Diego and Santa Barbara Counties; for the other six counties only scattered basins or areas are included.

¹ Davis, G. H., and Olmsted, F. H., Geologic features and ground-water storage capacity of the Sutter-Yuba area, California: U. S. Geol. Survey typewritten report, 46 pp., February 1950.

Distribution of observation wells in California in 1950

(for which water-level records are given in this report)

County	Number of observation wells			Number of wells with recording gages
	Established during 1950*	Discontinued in 1950	At year end	
Kern County:				
Antelope Valley, part	0	1	3	0
Los Angeles County:				
Antelope Valley, part	4	1	145	0
San Gabriel River basin	0	0	1	1
Coastal plain	0	1	12	0
Orange County:				
Coastal plain	0	0	17	0
Riverside County:				
San Jacinto Valley	0	0	8	0
San Bernardino County:				
Mojave River basin	0	1	76	0
Santa Ana River basin	0	2	8	0
San Diego County:				
San Luis Rey River basin	0	3	14	0
San Dieguito River basin	0	0	5	0
San Diego River basin	2	6	20	0
Sweetwater River basin	0	1	1	0
Otay River basin	0	0	1	0
Tia Juana River basin	0	0	4	0
San Joaquin County:				
Mokelumne River basin	4	2	24	0
Santa Barbara County:				
Carpinteria basin	1	1	20	0
Goleta basin	0	4	21	1
Santa Ynez Valley	2	5	74	5
San Antonio Valley	0	0	4	0
Santa Maria Valley	0	0	39	0
Cuyama Valley	3	1	10	0
The State	16	29	507	7

*Includes wells established prior to 1950 but for which water-level records are renewed or are given for the first time in this report.

Number of wells measured by
local agencies in the South Coastal Basin in 1950

Area and agency	Frequency of Measurements			
	Semi-annually	Quarterly	Monthly	Frequently
Coastal plain, Los Angeles County:				
San Gabriel Valley Protective Association			76	
City of Long Beach			46	
Los Angeles County Flood Control District	a391		29	
California Division of Water Resources (West Coastal Basin)	200		b200	
Coastal plain, Orange County:				
Orange County Flood Control District		53	385	50
San Fernando Valley:				
Los Angeles Division of Water and Power	184		87	25
Los Angeles County Flood Control District	47		c60	
Soil Conservation Service (Western part of valley)			65	

Number of wells measured by
local agencies in the South Coastal Basin in 1950--Continued

Area and agency	Frequency of Measurements			
	Semi-annually	Quarterly	Monthly	Frequently
San Gabriel Valley:				
Los Angeles County Flood Control District	d155		51	
San Gabriel Valley Protective Association			92	
Upper Santa Ana Valley:				
Chino Basin	277		24	74
San Bernardino County Flood Control District				
San Bernardino Valley				
San Bernardino Valley	2	119	66	
Water Conservation District				
City of San Bernardino		153	20	
San Jacinto Valley (including Lake Elsinore Area):				
Riverside Flood Control and Conservation District	+200		50	

- a Includes 89 shallow test holes.
b Program discontinued in April.
c Includes 10 shallow test holes.
d Includes 23 shallow test holes.

Precipitation

A summary of precipitation in California for the calendar year 1950 is quoted from the annual report of climatological data issued by the U. S. Weather Bureau:

"The year 1950 began with unusually cold weather. Periods of unusually cold and hot weather occurred throughout the year with some extremes of record exceeded. Unusually strong winds occurred on a number of occasions and once assisted tidal waters to break a levee in the Delta Region, resulting in flooding of King Edwards Island with total losses estimated at \$1,000,000. Particularly notable were the severe floods which occurred in October, November, and December in northern California and San Joaquin Valley areas.

Below-freezing temperatures in January resulted in considerable orchard heating in citrus areas with some frost damage sustained. Heavy rains in the Russian River Basin in February resulted in overflows and losses estimated at \$105,000. March was characterized by a general lack of sufficient precipitation for grasses, grains, etc., with most critical conditions obtaining in the San Joaquin Valley and other southern portions. Subfreezing temperatures resulted in varying amounts of damage to apricots, almonds, citrus, truck crops, etc. Generous precipitation and higher temperatures in April were generally beneficial to crops. In May cool weather in southern California generally slowed development of most crops. Due to the below-normal precipitation, periods of above-normal temperature generally contributed to rapid drying of pastures. Cool weather during the greatest part of June slowed development and ripening of all crops. Strong winds contributed to additional damage to fruit crops, property, etc. In July, extremely hot weather resulted in considerable sun-scald to crops and losses of turkeys. In southern California citrus small fruit and some mature lemons sustained a heavy drop due to the heat. Generally cool weather during the first part of August slowed development of crops somewhat, and above-normal temperatures during the last half contributed to fire hazards and resulted in some sun-scald to crops. Hot weather in September also resulted in some sun-scald damage. Freak thunderstorm activity in the Los Angeles area resulted in two deaths and considerable losses. October was characterized by unusually hot weather in southern California and unusually wet weather and floods in northwestern portions. In November heavy rains and floods occurred in the central coastal area and the Central Valley, resulting in millions of dollars of damage. Strong winds in southern California resulted in damage to fruit crops, power lines, etc., and some hot, dry weather was detrimental to

crops, poultry, etc. Again in December, heavy rains and floods occurred in the central coastal area and Central Valley with additional damages to agricultural land, roads, communication facilities, etc. Well above normal temperatures were unfavorable for deciduous fruit trees."

Where there is a marked seasonal range in precipitation, such as prevails throughout California, ground-water storage is greatest and natural ground-water levels are highest during or somewhat after the height of the wet season, but during the following dry season the unconfined ground-water storage is depleted by natural discharge and water levels recede in wells. This depletion continues until soil-moisture deficiencies have been replenished by the first rains of the next wet season. Thus, for the climatic conditions of California, the ground water level is related less closely to precipitation within the calendar year than to precipitation within a "water year" which spans one wet season and the following dry season. The water year is taken as ending September 30, the most practicable average date for near-maximum depletion of unconfined ground-water storage and near-minimum runoff. The distribution of rainfall is shown in the following table. Of the 23.66 inches total for the 12 months, more than 80 percent falls during the 5 months, November-March, and less than 4 percent falls during the 4 summer months, June-September. Figure 12 shows precipitation at Santa Barbara, Santa Maria and Ozena.

State-wide average monthly and yearly precipitation, 1897-1950

Month	Inches	Percent of yearly total	Month	Inches	Percent of yearly total
October	1.26	5.3	April	1.69	7.1
November	2.40	10.2	May	.94	4.0
December	3.85	16.3	June	.33	1.4
January	4.51	19.1	July	.08	.3
February	4.41	18.6	August	.10	.4
March	3.68	15.6	September	.41	1.7
Total	20.11	85.1		3.55	14.9
The year				23.66	100.0

In the following table the annual precipitation and the percent of 60-year average are shown. For the State as a whole, the precipitation during the current year was below normal. The 15-station average was 78 percent of the 60-year average, and at only 2 of the 15 stations did the total for the year exceed the average. These stations are not in the large agricultural areas of the State and the slight excess indicated for them is not significant with respect to water supplies. In the agricultural areas of the State, rainfall ranged from 31 to 92 percent of normal. The records show that 1950 was the fifth consecutive year of below-average rainfall with 1945 being slightly above average and 1944 slightly below. Thus, since 1943 ground-water replenishment has been below average and ground-water storage has been depleted.

Precipitation and relative wetness for year ending Sept. 30, 1950, and percent of 60-year average at 15 representative stations

Province	Station and county	Precipitation, 1949-50	
		Inches	Percent of 60-year average
Northern Coast Ranges	Eureka, Humboldt	40.59	105
Coast Ranges of central and southern California	San Francisco, San Francisco	16.68	82
	San Luis Obispo, San Luis Obispo	19.45	92
	Santa Barbara, Santa Barbara	14.40	81
	Los Angeles, Los Angeles	10.97	76
	San Bernardino, San Bernardino	11.84	71
	San Diego, San Diego	8.63	85
	Cuyamaca, San Diego	33.01	86
Great Valley (California Trough)	Red Bluff, Tehama	14.90	64
	Stockton, San Joaquin	10.75	77
	Fresno, Fresno	8.95	95
Sierra Nevada	Nevada City, Nevada	51.35	104
	West Point, Calaveras	33.93	86
Great Basin (Southwestern Bolson province)	Indio, Riverside	1.03	31
	Needles, San Bernardino	1.78	39

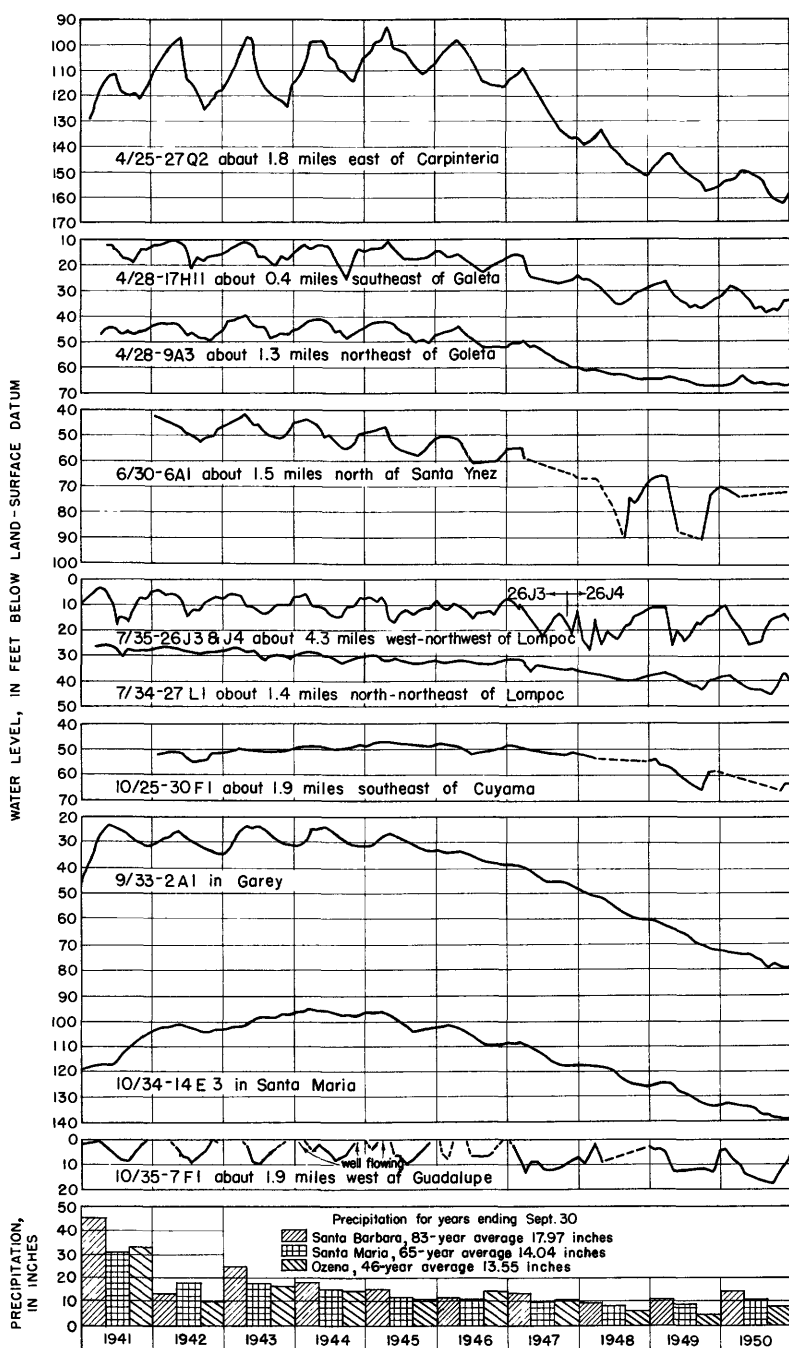


Figure 12. --Fluctuations of water levels in 10 wells in Santa Barbara County and yearly precipitation at Santa Barbara, Santa Maria, and Ozena.

Runoff

The runoff in California streams during the water year ending September 30, 1950 was below normal throughout the entire State. Representative of the runoff in the northern and central parts of the State is the year's total for Trinity River at Lewiston. In the north coastal drainage, which was 89 percent of normal; for the combined flow of Sacramento and San Joaquin Rivers and tributaries, 77 percent; and for Kings River at Piedra, in the southern Sierra drainage, 85 percent. In southern California the 1949-50 runoff ranged from zero to more than 100 percent of the average annual runoff in individual drainage areas with a mean value of 22 percent. The extreme dryness of this water year is indicated by the fact that 53 percent of the drainage areas had a runoff of less than 19 percent of their mean annual runoff.

Interpretation of Water-Level Fluctuations

Coastal plain. --Programs for measurements of observation wells were carried on by several local agencies - in Orange County chiefly by the Orange County Flood Control District and in Los Angeles County by the Los Angeles County Flood Control District, the San Gabriel Valley Protective Association, the city of Long Beach, and the State Division of Water Resources. Records are included for 29 wells in the main coastal basin and in the West Basin, southwest of the Newport-Inglewood uplift in Los Angeles County. In 1950, in cooperation with the Orange County Flood Control District and the Orange County Water District, the Geological Survey issued a second annual progress report dealing with salt-water contamination along the coast in Orange County. (Garrett, A. A., Status of salt-water contamination in the coastal part of Orange County, Calif., as of 1950, U. S. Geol. Survey mimeographed report, 48 pp. June 1951.)

Records published by the Weather Bureau for three rainfall stations -- Los Angeles, Long Beach, and Santa Ana -- suggest that rainfall in the calendar year in the coastal plain was about 58 percent of normal. However, in the water year ending September 30, 1950, rainfall was about 77 percent of normal. This difference in rainfall for the two periods, amounting to 2.7 inches, was caused by a greater rainfall in December 1949 than in December 1950. The following table shows rainfall records for both the calendar year 1950 and the water year. The water year is taken as ending September 30, the most practicable average date for near-maximum depletion of unconfined ground-water storage and near-minimum runoff. Spring recovery of water levels in wells in the main coastal basin was generally below that of 1949, continuing a trend resulting in part from rainfall deficiencies and also to early pumping for crops requiring preirrigation.

Average rainfall, in inches, for three stations in the coastal plain of Los Angeles and Orange Counties

Month and year	Normal	Current	Departure	Percent
October 1949	0.64	0.03	-0.61	-95
November	.97	1.50	+ .53	+55
December	2.82	2.92	+ .10	+4
January 1950	2.52	2.58	+ .06	+2
February	3.20	2.24	- .96	-30
March	2.43	.76	-1.67	-69
April	1.00	.57	-.43	-43
May	.36	.09	-.27	-75
June	.06	0	-.06	-100
July	.01	0	-.01	-100
August	.04	0	-.04	-100
September	.21	.22	+ .01	+5
The water year 1949-50	14.26	10.91	-3.35	-23
October	.64	.10	-.54	-84
November	.97	1.62	+ .65	+67
December	2.82	.08	-2.74	-97
The calendar year 1950	14.26	8.26	-6.00	-42

In the following table, water levels at year-end are compared with the year-end levels of 1949 and with those of the historic low-water year 1936. The data are tabulated separately in three groups: namely, the main coastal basin in Orange County; the main coastal basin in Los Angeles County; and the West Basin, southwest of the Newport-Inglewood uplift. Within the main coastal basin 14 wells in Orange County show a net drop of 6.9 feet in the year 1950 and a net drop of 14.7 feet since 1936; four wells in Los Angeles County show an average net drop of 5.1 feet in 1950, a net drop of 13.9 feet since 1936. Within the West Basin of Los Angeles County, five wells show an average net drop of 3.9 feet during 1950 and a net drop of about 38 feet since 1936.

Summary of water-level fluctuations in observation wells
in the coastal plain in Los Angeles and Orange Counties

Well	Water level at end of December, in feet above or below (-) sea level ^a			Net rise or decline (-) in water level, in feet	
	1936	1949	1950	1936-50	1949-50
Wells in main coastal basin -- Orange County					
3/11-36Q2	18.2	c12.1	0.9	-17.3	-11.2
4/10-22L2	10.2	4.4	-2.9	-13.1	-7.3
4/11-19K1	10.9	c2.3	-3.4	-14.3	-5.7
5/10- 9D1	10.0	3.6	-1.7	-11.7	-5.3
5/11- 2E1	4.4	-5.2	-17.0	-21.4	-11.8
5/11-16D2	2.0	c-4.7	-11.5	-13.5	-6.8
5/11-25P1	3.5	-3.9	-8.8	-12.3	-4.9
5/11-28A1	.6	-15.3	-32.5	-33.1	-17.2
5/11-29C4 ^b	....	-8.1	-10.1	....	-2.0
5/12-12P1	.9	-5.8	-9.7	-10.6	-3.9
6/10-1E1	.2	-9.1	-16.2	-16.4	-7.1
6/10-1L2	17.1	11.9	10.6	-6.5	-1.3
6/10-5C1	3.5	-4.3	-8.1	-11.6	-3.8
6/11-13G2	.8	c-2.8	-2.7	-3.5	.1
7- 9F1	-1.8	c-11.7	-21.3	-19.5	-9.6
Averages:	5.8	-2.0	-8.9	-14.7	-6.9
Wells in main coastal basin -- Los Angeles County					
2/12-13A1	133.5	e130.6	121.5	-12.0	-9.1
3/12- 8L3	62.6	53.8	48.8	-13.8	-5.0
4/11- 5D1	14.5	6.6	e12.1	-2.4	5.5
4/12- 8P1	-14.2	-29.8	-41.6	-27.4	-11.8
Averages:	49.1	40.3	35.2	-13.9	-5.1
Wells in the west (coastal) basin, tapping deposits of Pleistocene age (the Silverado water-bearing zone or its equivalent)					
2/15-34H1	-0.8	-3.4	f-8.3	-7.5	-4.9
3/13-18G2	13.4	-60.1	g-53.1	-66.5	7.0
3/14- 3K1 ^b	....	-56	-79	....	-23
3/14-21B1	-11	-46	-47	-36	-1
3/14-36M3 ^c	-13.5	-27.7	g-27.7	-14.2	0
4/13-14L1 ^d	.3	-4.2	-6.4	-6.7	-2.2
4/13-23G2	-34.3	-66.0	-76.8	-42.5	-10.8
4/13-33D1	-30.5	-57.4	h-67.3	-36.8	-9.9
Averages:	-12.7	-46.6	-50.5	-37.8	-3.9

a Chiefly interpolated.

b Excluded from averages.

c Taps shallow deposits of Pleistocene age; excluded from averages.

d Taps deposits of Recent age (Gaspur water-bearing zone); excluded from averages.

e Measurement on Dec. 28.

f Measurement on Nov. 11.

g Measurement on Nov. 29.

h Measurement on Dec. 5.

Antelope Valley. --The greatest decline in water levels in Antelope Valley in the Mojave Desert region appears to be near the center of the valley. Water levels declined about 3.7 feet per year from 1921 to 1945 in well 7/12-34E1. Since 1945 this rate of decline has increased to about 10 feet per year. Water level in well 7/10-30G1 declined steadily since 1921 at about 4.8 feet per year. During the current dry period this rate of decline has increased to about 8.8 feet per year. In the northwestern part of Antelope Valley near Willow Springs, the water level in key well 9/13-20H1 has declined at a rate of about 1.8 feet per year since 1921. This decline, however, has been greatly accelerated during the current dry period to a rate of 4 feet per year. In the northeastern part, or lowest portion of the valley near Rosamond and Rogers Dry Lakes, the water level in well 8/10-9M1 has declined at a rate of about 0.6 foot per year since 1921. This rate of decline increased to 1.4 feet per year during the current dry period. The water level dropped below the bottom of the well in June 1950. In the extreme eastern limits of the valley in the Wilsona school area, water levels have declined about 1.4 feet per year since 1932. During the current dry period this rate of decline has increased to 2.8 feet per year. Water levels in 80 wells, for which 1949 and 1950 fall observations were obtained,

indicate an average decline of 5.1 feet. This decline was about 2 feet more than that for the preceding year. The principal recharge to the Antelope Valley is from precipitation on the valley floor and runoff from the San Gabriel Mountains. The two primary sources in the San Gabriel Mountains are Rock Creek and Little Rock Creek, which discharged about 28,700 acre-feet into the valley during the period 1931-50. During the current water year 1949-50 the total inflow from these two streams was only 5,860 acre-feet.

Mojave River Basin. --A program of water-level observations in the Mojave River basin was begun in 1930 by the Division of Water Resources, State Department of Public Works. In 1931 the program was given to the Geological Survey for continuance.

The Mojave River flows northward, discharging onto the great alluvial plain. As the river emerges from the mountains, much of the surface runoff is quickly absorbed into the alluvium, with large sections of the river channel being dry during parts of most years. About 15 miles to the north are the Granite Mountains through which the river has cut a deep narrow channel at Victorville. During the 20-year period, 1930-50, the average annual discharge of the Mojave River entering the sub-basin amounted to 67,000 acre-feet while the average annual discharge leaving the sub-basin amounted to 59,000 acre-feet. During the current 1949-50 water year the Mojave River discharged 12,000 acre-feet into the sub-basin, most of which was absorbed into the alluvial fill. Within the same year 22,000 acre-feet left the sub-basin as surface runoff at Victorville Narrows. Water levels in basins along the Mojave River reached a high in the spring of 1945. Thirteen wells in the upper basin dropped an average of 15.5 feet between the spring of 1945 and the spring of 1950, 5.8 feet of this drop occurred between the springs of 1949 and 1950. The middle sub-basin is a long irregular narrow river valley from Victorville Narrows to Daggett, which widens to about 6 miles in the vicinity of Hinkley Valley. During the 20-year period 1930-50 the average annual surface inflow to this sub-basin amounted to 59,000 acre-feet at Victorville Narrows and the outflow at Barstow near Daggett, amounted to 27,000 acre-feet. During the current 1949-50 water year 22,000 acre-feet of surface flow entered the basin while the outflow was zero. The average decline in water level in the basin amounted to 4.9 feet between the springs of 1945 and 1950, 2.5 feet occurring in the last year. These figures are based on records in twelve wells in the basin. At Daggett the river discharges onto a broad triangular flood plain extending eastward to Newberry. North across the valley from Newberry the river enters a narrow canyon. During the 20-year period 1930-50 the average annual surface inflow to this sub-basin amounted to 27,000 acre-feet, while the average annual outflow has been estimated to be about 6,000 acre-feet. During the 1949-50 water year the surface inflow to the sub-basin amounted to zero, and while outflow is no longer measured it was believed to be very small. Records in 15 wells in the basin showed an average decline of 5.4 feet between the springs of 1945 and 1950. The average drop between 1949 and 1950 was only 0.9 foot, and two wells in the vicinity of Newberry and one near Troy showed a rise in water level during the last year.

Mokelumne River Basin. The East Bay Municipal Utility District continued monthly measurements of water levels in selected observation wells in the Mokelumne area, in the central part of the Great Valley. Of the original 24 wells, 7 have been destroyed or abandoned because of lowering water table. However, 7 nearby wells have been added, so that records for 24 wells are being published.

The following table shows the average yearly water-level changes in the index wells and the fluctuations in yearly rainfall, beginning with 1946. The accumulated changes begin with 1934, as tabulated in the report for 1945 and as shown in graphic form in the report for 1949. It is noted that rainfall at the three stations in 1950 was 125 percent of the 40-year average, a considerable increase over that of 1949 which was 73 percent of average.

Average yearly rise or decline of water levels in observation wells,
and yearly rainfall in the Mokelumne area, 1946-50.

Year	Number of wells	Water level		Rainfall ¹	
		Yearly rise (+) or decline (-) (feet)	Accumulated rise (+) or decline (-) ² (feet)	Excess (+) or deficiency (-) (inches)	Accumulated excess (+) or deficiency (-) ² (inches)
1946	22	-2.24	-1.73	-8.92	+23.25
1947	21	-2.80	-4.53	-14.69	+8.56
1948	21	-.78	-5.31	-.89	+7.67
1949	20	-.85	-6.16	-10.39	-2.72
1950	24	+1.71	-4.45	+9.52	+6.80

¹ Average of rainfall at Electra, West Point, and Twin Lakes, 1906-45. Average yearly rainfall 38.74 inches.

² Accumulation dates from Jan. 1, 1934.

The following table shows the average change in water levels in 1950 during the periods of increasing and of diminishing withdrawals for irrigation. This table shows that recharge early in 1950 was insufficient to offset the withdrawals for irrigation, as indicated by the average decline of about 1 foot. During the last half of the year, however, water levels recovered nearly 3 feet so that the average net change for the year was a rise of 1.71 feet.

Seasonal changes in water level, in feet, in 24 observation wells
in the Mokelumne area, 1950

Period	Greatest rise	Greatest recession	Average change
Jan. 1 to May 31 (increasing withdrawal for irrigation)	+6.18	-8.91	-1.16
June 1 to Dec. 31 (diminishing withdrawal)	+9.08	-1.96	+2.71
The year	+6.30	-1.63	+1.71

San Gabriel River Basin. --A recording gage was in operation throughout 1950 on well 18/10-18, the index well for the upper San Gabriel Valley, at Baldwin Park. The water level in this well ranged from a high of 268.45 feet above sea level on April 24 to a low of 257.85 feet on November 14. The water level on April 24 was 60.7 feet below the previous high of 329.1 feet on May 19, 1916, and the low of November 14 was 0.7 foot above previous low of 257.1 feet on November 30, 1931. Although the water level in this well was practically the same in 1950 as in 1931, the surface outflow from the basin showed considerable decrease. This outflow as measured at the Whittier Narrows in San Gabriel River, Rio Hondo and Mission Creek channels amounted to 30,700 acre-feet for the 1931 water year and 25,200 acre-feet for the 1949-50 water year.

San Diego County. --The water levels in 39 wells in San Diego County during 1950 showed an average decline of 2.3 feet. The average annual runoff of Santa Ysabel Creek near Mesa Grande amounted to 14,900 acre-feet, for the period of record since 1912. Beginning with the dry period starting in 1945, the average runoff has amounted to 3,390 acre-feet.

The longest continuous record of water level obtained by the Geological Survey has been at well 10/3W-15 in the San Luis Rey River basin, about 2 miles northeast of Bonsall. This record shows a net rise in the water level of 2.8 feet between 1923 and 1940, a decline of 10 feet from 1940 to the early part of 1950, and dropping below the bottom of the casing by the end of the year.

The records at well 12/1W-33 in the San Pasqual Valley of the San Dieguito River basin show a net increase in water level of about 0.1 foot per year since 1926 with an average decline of 0.6 foot per year since 1945.

A continuous record since 1915 at well 15/1W-28 in the San Diego River basin shows a net rate of decline of 0.4 foot per year with an accelerated rate of decline of 1.2 feet per year since 1945.

A continuous record since 1914 at well 18/2W-33 in the Tia Juana River basin shows a net decline of 0.5 foot per year since 1927, with an accelerated rate of decline amounting to 1.8 feet since 1945.

Summary of net water-level changes, in feet, in 39 observation wells
in San Diego County, 1950

Basin	Number of wells	Number of observations at each well	Greatest net rise	Greatest net recession	Average net change
San Luis Rey River	6	4	--	2.90	-1.49
Bonsall Basin					
San Luis Rey River	6	4 & 12	--	6.25	-4.70
Mission Basin					
San Dieguito River	5	4	--	2.00	-1.22
San Pasqual Valley					
San Diego River	16	4	a16.04	6.12	-1.52
Below El Capitan Dam					
Sweetwater River basin	1	4	--	--	--
Otay River basin	1	4	--	--	--
Tia Juana River	4	4	--	5.64	-4.49
Below San Ysidro					

a Well No. 15/1E-17H6, San Diego River basin showed a recovery partly due to use of Colorado River water instead of ground water.

San Bernardino Area. --Observations of water levels in the San Bernardino area were continued in 1950 in eight wells; in six of these, levels were measured in February, May, August, and November; in one, the Williams well, at weekly intervals; and in well 1S/3W-20B1, at monthly intervals. The average water level during the year in the San Bernardino area declined 8.7 feet, based on the fall measurements of 1949 and 1950 at five wells. The water level in well 1S/3W-17C1, the Williams well near Redlands, fluctuated from a high of 42.87 feet below land-surface datum on March 26 to a low of 59.83 feet on December 23, with the net change within the calendar year being a decline of 10.5 feet. The highest observed stage for this year was 46.7 feet below the highest observed water level of record occurring in 1892-93 when the water was at top of well casing, 3.8 feet above land surface. The lowest observed water level for this year was 7.0 feet above the lowest of record in 1936. The surface flow measured in Warm Creek and Meeks and Daley Canal is an indication of the ground-water seepage from the San Bernardino area at the Bunker Hill Dyke. The average flow since 1920 is 46,300 acre-feet annually. This seepage has declined to 32,860 acre-feet during the current dry year; however, this runoff amounts to about 13,140 acre-feet more than in the water year of 1935-36, the low for the period of record.

San Jacinto Valley. --The water level in well 4/2W-7J1 in the Lakeview area of the San Jacinto Valley has declined 70 feet since 1904, 3.4 feet of this decline was between 1949 and 1950. The water level in well 5/1W-2N1, about 1 mile northeast of Hemet, has declined 49.4 feet since 1905, 13.2 feet occurring in the last year. In the Perris area, well 4/3W-32E1 and its companion well No. 72, water levels have declined 35.7 feet since 1904. The decline during the last 3 years has averaged about 1 foot per year. During the 1949 water year, the average decline in the water levels in four wells was 1.8 feet. The outflow from the basin is measured on the San Jacinto River before it enters Lake Elsinore. The record at the gaging station about 1 mile upstream from Lake Elsinore has been continuous since 1917. The average annual runoff for the period of record is 11,700 acre-feet. The total runoff for the last 5 years has only been 835 acre-feet. Lake Elsinore was nearly dry at the end of the year, this being the third time during the period of record, the previous years when the lake was nearly dry were 1810 and 1859. Regulations by two reservoirs upstream affect the flow into Lake Elsinore.

Santa Barbara County. --The investigation of the ground-water resources of Santa Barbara County was continued during 1950 in cooperation with the Santa Barbara County Water Agency, measurements were made in 168 observation wells at monthly intervals. Recording gages were operated on six wells. Earlier measurements covering the period 1941 through 1948 have been published in U. S. Geological Survey water-supply papers and through 1949 have been released locally in duplicated form. Water-Supply Paper 1068 contains tabulated descriptions for 2,246 wells in existence in 1942 in the various ground-water basins of the county. The same publication also contains many water-level measurements made prior to 1942 by the city of Santa Barbara, Santa Maria Valley Water Conservation District, San Joaquin Power Division of the Pacific Gas and Electric Co., Union Sugar Co., Union Oil Co., U. S. Geological Survey, and other organizations and individuals.

Comprehensive reports on the geology and ground-water resources of the Santa Ynez River basin, the south-coast basins, the Santa Maria Valley, and the Cuyama Valley have been released in earlier years, and have been published as water-supply papers. In 1950 water-level measurements were made by the city of Santa Maria and the Santa Maria Valley Water Conservation District, in addition to those made by the Geological Survey, and are included in this report.

The climate in Santa Barbara County is characterized by a short rainy season, which coincides with the winter months, and a dry season in the summer months, when nearly all the rivers and streams are dry. Irrigation during the summer months, therefore, is a necessity. Because dependable stream flow is lacking and surface-storage facilities are insufficient, nearly all of the water for irrigation purposes is derived from ground-water development. In most areas domestic supplies also tap the underground reservoirs, but the demands of the city of Santa Barbara and the Montecito County Water District are largely dependent on surface storage accumulated behind Gibraltar and Juncal dams in the headwaters of the Santa Ynez River. The city of Santa Barbara and Montecito supplement their surface supplies with a number of emergency wells which were drilled during periods of drought. As the population and the total agricultural acreage have increased during the past decade, more and more ground water has been used. Replenishment of the underground reservoirs is almost totally dependent upon the amount of precipitation that percolates to the ground-water table by direct penetration, by seepage through stream beds, or by underground transfer from outlying recharge areas. Each year since 1944 precipitation has been below average and replenishment of the reservoirs has been inadequate. As a result, alarming withdrawals from storage have developed in many of the ground-water basins of the county.

The average annual rainfall in Santa Barbara County ranges from about 6 inches in the Cuyama Valley to about 30 inches or more in the higher portions of the Santa Ynez and San Rafael Mountains. In the year ending September 30, 1950 precipitation was below normal for the sixth consecutive year. At Santa Barbara in the southeast corner of the county 14.40 inches

(3.57 inches below the 83-year average) were recorded, and at Santa Maria in the northwest corner of the county 10.47 inches (3.57 inches below the 65-year average) was recorded. Figure 12 shows water-level fluctuations in selected wells throughout the county and precipitation at three stations. The most significant features of the hydrographs are the high levels recorded in the period 1941-45, a wet period, and the receding levels produced each succeeding dry year thereafter. Because hydrologic conditions are different in each of the ground-water basins of the county, the fluctuations of water levels are discussed separately by individual basins.

The Carpinteria Basin is east of two south-coast basins which lie between the Santa Ynez Mountains and the ocean. There are two ground-water bodies in the basin, one deep and the other shallow, but few wells tap the shallow body. Most of the water for irrigation is withdrawn from the deep ground-water body, which is several thousand feet deep and overlain by relatively impermeable beds of silt and clay beneath most of the western part of the alluvial plain. Between the area of confined water and the consolidated rocks of the mountains is an area of unconfined water through which the deep ground-water body is replenished by rainfall and seepage from streams. Much flood runoff is lost to the sea, however, because most of the streams pass onto the confining deposits where percolation to the deep ground-water body is restricted. At the end of the 1949 irrigation season, water levels in the basin rose during the winter months, reaching their highest levels in March and April. The peak levels reached in these months, however, were generally well below those of last year. Throughout the growing season water levels declined until the lowest level was reached some time in October or November. In many cases the low for the year was the low for the period of record. Recoveries after cessation of pumping were higher than at the end of 1949. In the area of confined water, year-end levels in the deep water body west of Franklin Creek were from 0.3 foot to 7.5 feet higher than at year-end 1949, with the average rise being about 2 feet. Similar rises were observed in the area of unconfined water or recharge area north of the area of confined water. East of Franklin Creek in both the confined and unconfined areas declines of as much as 7 feet from year-end 1949 to year-end 1950 were observed with the average decline being about 3 feet. Larger declines were observed in the alluvial deposits adjacent to stream beds in the recharge area. Water levels in wells along Carpinteria Creek declined 6 to 8 feet and those in wells along Gobernador Creek dropped as much as 12 feet for the same period. The hydrograph of well 4/25-27Q2 (fig. 12) is representative of the ground-water fluctuation near the eastern terminus of the area of confined water. It shows that the trend of declining water levels begun in 1945 has extended through 1950. Increased rates of pumping and successive years of deficient precipitation have been the major contributing causes which produced the downward trend.

The Goleta Basin is hydrologically similar to the Carpinteria Basin. A deep ground-water body which lies beneath confining beds in the younger alluvium supplies most of the water withdrawn for irrigation purposes. The area of confined water covers nearly the entire basin. Between the northern fringe of this area and the mountains is a narrow recharge area through which the deep ground-water body is replenished. The water levels in the Goleta Basin during 1950 followed the usual seasonal fluctuation produced by withdrawals for irrigation and the subsequent shut-down at the end of the growing season. Water levels were highest in the spring, but generally well below the highest recorded levels of the previous year and considerably below the levels of the early forties. At the end of the growing season water levels in most wells under observation had declined to the lowest levels observed since the start of record in 1941. In the area of confined water, year-end levels of 1950 were from as little as 0.1 foot to a maximum of about 1 foot lower than year-end levels of 1949. The average decline observed in this area was about 0.6 foot. Ground-water levels in the recharge area declined by varying amounts ranging from 0.4 foot to as much as 7 feet, with the over-all average being about 4 feet. The hydrographs of wells 4/28-9A3 and 4/28-17H11 (fig. 12) are representative of water-level fluctuations in the recharge and confined areas, respectively.

The part of the Santa Ynez River basin for which water-level measurements are included in this report comprises the narrow tongue of alluvial deposits extending along the Santa Ynez River from San Lucas Bridge to Robinson Bridge, the broad alluvial Lompoc plain at the coastal end of the river below Robinson Bridge, and the Santa Ynez upland north of the river and east of Alamo Pintado Creek. This general area, except for the Santa Ynez upland, is termed the Santa Ynez River valley as distinct from the basin, which is the entire drainage basin. In the Santa Ynez upland the main water body is in the Paso Robles and Careaga formations which are separated from the river by impermeable consolidated rocks. Recharge to the ground-water body is wholly from the infiltration of rain and seepage losses from small streams crossing the area, and is entirely independent of the river. The ground-water flow beneath the Santa Ynez upland is in the direction of the river, discharging near the rock barrier into several surface streams which flow into the river. The hydrograph of well 6/30-6A1 (fig. 12), considered representative of water-level fluctuations in the upland, shows that between 1943 and 1950 the water level dropped about 30 feet. During 1950 water levels declined as much as 4.4 feet in the area east of Ballard, but the declines were not nearly so pronounced in the southern part of the area near the consolidated rock barrier. From San Lucas Bridge to Robinson Bridge the alluvial deposits adjacent to and beneath the Santa Ynez river channel provide an excellent underground storage reservoir. Ordinarily, the water removed from this reservoir is replenished during the winter months by rainfall on the area, surface and subsurface inflow from

the sides, and seepage from the river. During the past 2 years, however, there has been little or no flow in the river. Year-end water levels along the river declined 0.5 foot to 1.7 feet from year-end 1949 with an average of about 1 foot. From 1945 to the end of 1950 the ground-water decline has average about 1 foot a year. There are two ground-water bodies in the Lompoc plain, a shallow body and a deep body. The deep water body contains a main and a secondary water-bearing zone from which most irrigation supplies are withdrawn. It is replenished from the underlying Orcutt, Paso Robles, and Careaga formations by transmission underground from the margins of the plain, from the shallow water-bearing zone by downward percolation, and from the Santa Ynez River by seepage loss and by underflow through The Narrows. At the eastern end of the plain there was a general decline of water levels averaging about 1.5 to 2 feet per year for the period 1945 to 1950. The hydrograph of well 7/34-27L1 (fig. 12), about 1.25 miles down-stream from Robinson Bridge and about 1.4 miles northeast of Lompoc, shows a water-level decline of more than 8 feet since the spring of 1945 and more than 12 feet since the spring of 1941. In general, water levels throughout the plain at the end of 1950 were about 1 foot lower than at the end of 1949. For the same period, some rises amounting to as much as 2 feet in individual wells were observed on the western end of the plain near the ocean.

Ground water occurs in the San Antonio Valley in unconsolidated alluvial fill adjacent to and beneath San Antonio Creek and in partly consolidated deposits which lie beneath the unconsolidated fill. Most wells tap the lower deposits because they contain some thin lenses of gravel that are more permeable than the shallow deposits. Recharge to the unconsolidated alluvial fill is by seepage from San Antonio Creek and its tributaries and by transmission from the underlying partly consolidated deposits. The latter deposits receive water chiefly by infiltration of precipitation on extensive outlying recharge areas. Ground-water use in the San Antonio Valley has not reached so high a stage of development as in the other basins of the county and as a result water levels have declined only slightly during the present drought. Water levels declined less than 1 foot from December 1949 to December 1950.

The Santa Maria Valley area comprises broad terraced uplands and alluvial plains adjacent to the Santa Maria and Sisquoc Rivers. Ground water occurs in several unconsolidated formations beneath the plain, but most of the well casings are perforated in the alluvium. The older formations are in general less permeable and less productive. Near the coast the main water body is confined beneath the fine-grained upper member of the alluvium, but elsewhere a free water table occurs. Recharge to the ground-water body is by seepage from the Santa Maria River, infiltration of rain, and lateral percolation from the surrounding uplands. Water levels throughout the valley area have been declining since 1944 indicating a steady depletion of ground-water storage. Each year recharge has been exceeded by withdrawals and the outlook is that this unbalance will continue. From year-end 1949 to year-end 1950 water levels declined as much as 9 feet in the Sisquoc area and as much as 7 feet in the eastern part of the Santa Maria plain. For this free water-table area the average drop was about 5 feet. In the confined area to the west (where the permeable sand and gravel deposits are overlain by relatively impermeable silt and clay) year-end levels of 1950 were 0.5 foot to 5.5 feet lower than at year-end 1949. During the early forties some wells in this area, such as well 10/35-7F1 (fig. 12) flowed seasonally, but there has been no flow during recent years. North of the Santa Maria River in the Nipomo upland, water levels declined 0.6 foot to 5.5 feet from year-end 1949 to year-end 1950.

The Cuyama Valley is a semiarid valley between the Caliente Range and the Sierra Madre. Ground water occurs in alluvial, terrace, and some older continental deposits, but most withdrawals are through wells that tap the alluvium. Replenishment of the ground-water body is chiefly by infiltration from the Cuyama River and the smaller streams that enter the valley from the south. During the early forties there was a balance between recharge and withdrawals and consequently little change in water levels was observed. Between 1946 and 1950, however, the total irrigated acreage increased rapidly, as indicated by a threefold increase in withdrawals for irrigation. During this period water levels dropped more than 10 feet. Water levels in the upper end of the valley near Ventucopa, at the end of 1950, were 8 to 12 feet lower than at the end of 1949. For the same period the average decline farther down the valley near Cuyama was less than 3 feet.

Well-Numbering System

The well-numbering system shows the locations of wells according to the rectangular system of public-land surveys. Water-Supply Paper 991 contains a cross-reference table of previous numbers and location symbols. The system is illustrated by the following example. For well 9/12-21D1, in Antelope Valley in Kern County, the segment of the number preceding the hyphen indicates the township and range (T. 9 N., R. 12 W.). Letters indicating cardinal directions appear in this part of the symbol only in the event a basin or area spans two or more quadrants of a particular base and meridian. The digits between the hyphen and the letter indicate the section (sec. 21), and the letter indicates the 40-acre block within the section as shown by the accompanying diagram. Within the 40-acre tract, the wells are numbered serially as indicated by the final digit of the symbol. Thus, well 9/12-21D1 was the first well

listed by the Geological Survey in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21, township 9 north, range 12 west.

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

For a well whose location is known only approximately, the symbol is shortened to the designation of township, range, and section only. Two or more such wells in a single section would be differentiated by the use of a lower-case letter following the section number -- for example, wells 10/3W-1 and 10/3W-1a in the San Luis Rey River basin in San Diego County. For areas which have never been subdivided by public-land surveys, the rectangular system has been projected, commonly after private surveys or after projections made by local officials for purposes of land assessment. The description and records are given by counties in alphabetical sequence, and for each county by valleys or ground-water basins. Thus, each group of data pertains to a distinct ground-water area as indicated by sub-headings in the report. Under each sub-head, the records are presented in numerical order of the location symbols.

Well Descriptions and Water-Level Measurements
(Water levels are in feet below land-surface datum unless otherwise indicated.)

Kern County

Antelope Valley

*9/13-20H1. Harry White. Records available: 1921-50. Jan. 25, 91.2; Apr. 18, 89.85; July 25, 91.4; Oct. 24, 93.34, nearby well being pumped.

*9/14-29M1. Owner unknown. Records available: 1941-47, 1949-50. Apr. 19, 179.35.

*9/15-25D1. H. W. Hunter. Records available: 1948-50. Jan. 25, 228.55; Apr. 18, 230.1. Measurement discontinued.

Los Angeles County

Antelope Valley

4/10-11B1. Owner unknown. Pallett Creek, 1.7 miles above Big Rock Creek. 50 feet south of south bank of Pallett Creek. Diameter 12 and 22 inches, gravel packed, depth 175 feet. Records available: 1950. July 12, 42.23.

5/9-6B1. Owner unknown. Records available: 1940-50. Nov. 15, 48.15.

5/9-28A1. R. C. Weiss. Records available: 1947-50. Nov. 13, dry.

*5/10-6N1. Little Rock Irrigation District. Recording gage installed Apr. 10, 1947. Records available: 1938, 1940-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 25	105.6	June 14	106.6	Sept. 13	120.5	Nov. 15	111.55
Feb. 15	105.1	July 25	c116.55	Oct. 25	116.0	Dec. 20	109.5
Apr. 20	105.55	Aug. 23	118.6				

c Nearby well being pumped.

*5/10-7E1. Calavalley. Records available: 1938, 1940-50. Feb. 15, 140.7; Apr. 20 138.6; June 14, 142.7.

5/10-12B1. Ed Sanner. Records available: 1940-41, 1943-50. Jan. 23, 56.04; Feb. 21, 56.27; Mar. 22, 58.28; Apr. 24, 61.20. Dry from May to December.

5/10-21J1. Owner unknown. Records available: 1945-50. Nov. 13, 22.70.

* Measurement by Los Angeles County Flood Control District.

5/10-26B1. R. J. Darling. Records available: 1940-42, 1945-50. Nov. 13, 51.66.

*5/11-4E1. Sam Yellen. Records available: 1948-50. Dec. 13, 167.2.

*5/11-9Q1. Owner unknown. Records available: 1940-46, 1948-50. Nov. 30, 51.55.

*5/11-10R1. Owner unknown. Records available: 1927-28, 1930, 1932, 1937-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 25	99.02	May 3	99.2	Aug. 23	100.9	Nov. 15	101.5
Feb. 15	98.5	June 14	100.4	Sept. 13	101.15	Dec. 20	101.9
Apr. 20	99.8	July 26	100.55	Oct. 25	101.4		

*5/11-12Q1. Wheelock. Records available: 1940-50. Nov. 30, 151.6.

*5/11-13J1. Little Rock Irrigation District. Records available: 1944-50. Nov. 30, 237.3.

6/8-10N2. W. G. Baguet. Records available: 1947-48, 1950. Nov. 16, 28.48.

6/8-18D1. Huff. Records available: 1939-41, 1944-50. Nov. 16, 160.50.

6/8-32P1. M. B. Scofield. Records available: 1940-45, 1948, 1950. Nov. 16, 188.45.

6/9-4H2. Wilsona School. Records available: 1949-50. Nov. 16, 124.27.

6/9-31R1. Barlow. Records available: 1940-50. Nov. 15, 40.05.

6/10-9E1. Owner unknown. Records available: 1940-43, 1945-46, 1948-50. Nov. 15, 193.74.

6/10-9Q1. N. C. and O. C. Riley. Records available: 1940-48, 1950. Nov. 15, 150.79.

6/10-10Q1. Owner unknown. Records available: 1943-50. Nov. 15, 75.33.

6/10-20P1. Mrs. Johnson. Records available: 1940-50. Jan. 23, 192.17; Feb. 21, 192.26; Sept. 26, 212.70; Oct. 25, 209.47; Nov. 29, 205.06; Dec. 27, 202.56.

6/10-27B1. Owner unknown. Records available: 1940-41, 1943-50. Nov. 15, 153.06.

6/11-8E1. Palmdale Irrigation District. Records available: 1942-44, 1946-50. Nov. 15, 208.67.

6/11-9F1. Elmer Benson. Records available: 1940-43, 1945-47, 1949-50. Nov. 13, 210.43.

6/11-12M1. E. J. Ball. Records available: 1941-43, 1945-50. Nov. 15, 213.90.

6/11-12Q1. E. J. Ball. Records available: 1941-50. Nov. 15, 209.69.

6/11-18P1. Elmer Richardson. Records available: 1940-41, 1947-50. Nov. 15, 244.57.

6/11-19E1. Palmdale Irrigation District. Records available: 1930, 1937-50. Nov. 15, 265.19.

6/11-20R2. Owner unknown. About 3 miles northeast of Palmdale. Records available: 1946-50. Nov. 15, 250.16.

6/11-26J1. L. A. Hudson. Records available: 1947, 1949-50. Nov. 15, 149.40.

*6/11-28N1. Records available: 1941-50. Dec. 13, 96.4.

*6/12-25N1. Records available: 1927-30, 1937-50. Feb. 15, 297.0; Apr. 19, dry.

* Measurement by Los Angeles County Flood Control District.

6/12-24C1. Palmdale Irrigation District. Drilled in 1935. Records available: 1950.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24	260.3	May 31	265.76	Aug. 23	269.2	Nov. 15	267.75
Feb. 15	258.8	June 14	266.2	Sept. 13	270.75	Dec. 20	267.5
Apr. 19	263.4	July 26	267.5	Oct. 25	269.10		

*6/13-12J1. Glick. Records available: 1940-50. Nov. 29, 251.3.

7/9-28M1. Owner unknown. Records available: 1948-50. Nov. 16, 147.67.

7/9-17N1. Ernest Koch. Records available: 1945-48, 1950. Nov. 16, 153.93.

7/10-5N3. Ella E. Cunningham. Records available: 1945-47, 1949-50. Nov. 14, 138.02.

7/10-6R1. Mrs. Jessie Hollingsworth. Records available: 1945-50. Nov. 14, 139.50.

7/10-7B1. Boege. Records available: 1932-50. Nov. 14, dry.

7/10-12H1. Owner unknown. Records available: 1944-50.

Feb. 21	135.73	July 24	138.40	Sept. 26	139.56	Nov. 29	140.05
Apr. 24	132.00	Aug. 25	136.57	Oct. 25	140.35	Dec. 27	141.62
June 26	137.89						

7/10-21A1. Records available: 1943-50. Nov. 15, 172.66.

7/10-30G1. E. J. Ball. Records available: 1940-43, 1946-47, 1949-50. Nov. 15, 206.44.

7/10-31N1. H. O. Bakken. Records available: 1940-41, 1943, 1945-48, 1950. Nov. 15, 214.80.

7/11-1Q1. H. L. Gordon. Records available: 1943-46, 1948-50. Nov. 14, 134.71.

7/11-8P1. Mae Avery. Records available: 1933-50. Nov. 14, 76.75.

7/11-16B1. Records available: 1943-50. Nov. 14, 111.00.

7/11-19N1. Records available: 1943, 1945-50. Nov. 13, 162.07.

7/11-23L1. Barnes. Records available: 1940-43, 1945-50. Nov. 15, 153.85.

7/11-24C1. Stevenson. Records available: 1944-50.

Jan. 23	151.03	Apr. 24	154.0	July 24	159.71	Oct. 25	162.83
Feb. 21	150.14	May 23	155.79	Aug. 25	161.08	Nov. 29	161.84
Mar. 22	151.88	June 26	158.45	Sept. 26	162.29	Dec. 27	160.98

7/11-27F1. James N. Provonyance. Records available: 1940-41, 1943, 1947-48, 1950. Nov. 13, 180.80.

7/11-28E1. Leshin. Records available: 1943, 1945-50. Nov. 13, 180.50.

7/11-28L1. Owner unknown. Records available: 1937-50. Nov. 13, 161.92.

7/12-4P2. Records available: 1940-50. Jan. 25, 14.4; Apr. 18, 15.6; July 26, 19.8; Oct. 25, 16.4; Nov. 27, 17.95.

*7/12-15F1. A. H. Powell. Records available: 1942-50. Jan. 24, 54.40; Apr. 18, 62.9; July 26, 78.0; Oct. 25, 72.6; Nov. 15, 70.7.

*7/12-15F2. Los Angeles County Water District 4. Records available: 1943-45, 1947-50. Dec. 15, 73.1.

* Measurement by Los Angeles County Flood Control District.

7/12-22J1. F. La Horgue. Records available: 1942-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 24	118.90	May 31	122.65	Aug. 23	126.50	Nov. 15	125.8
Feb. 15	115.3	June 14	123.85	Sept. 13	127.2	Dec. 20	124.2
Apr. 18	120.25	July 25	124.45	Oct. 25	126.4		

*7/12-29P1. Owner unknown. Records available: 1939-43, 1945-47, 1949-50.
Nov. 29, 161.0.

*7/12-34E1. G. Lane. Records available: 1941, 1944, 1947-50. Dec. 15, 223.4.

*7/13-3D1. F. Gorrindo. Records available: 1945-50. Nov. 28, 93.4; Dec. 2, 86.75.

*7/13-3D2. F. Gorrindo. Records available: 1946-50. Nov. 28, 60.0.

*7/13-9N1. Edward Dunham. 100 feet east of 80th St. West 1,310 feet North of Ave. I.
Records available: 1950. Nov. 28, 113.3.

*7/13-11D1. Records available: 1942-50. Nov. 28, 6.4.

*7/13-17D1. G. Zaro. Records available: 1937, 1939-45, 1947-48, 1950. Jan. 4, 135.6; Nov. 28, 138.66.

*7/13-21J1. L. H. Benson. Records available: 1946-48, 1950. Nov. 29, 113.0.

*7/13-21J2. L. H. Benson. Records available: 1942-45, 1947-50. Nov. 29, 107.35.

*7/13-27N1. A. F. Godde. Records available: 1941-43, 1945-50. Dec. 9, 163.4.

*7/13-28P1. Crenmer. Records available: 1941, 1944-47, 1949-50. Nov. 29, dry at 206 feet.

*7/13-35E1. George Lane. Records available: 1937-50. Jan. 4, 200.5; Nov. 29, 211.8.

*7/14-10F1. F. A. Ullman. Records available: 1942-43, 1945-50. Apr. 19, 197.65; Oct. 25, 198.25.

8/9-4N2. U. S. Army Reservation. Records available: 1941-50. Nov. 14, 16.06.

8/9-4P1. U. S. Army Reservation. Records available: 1941-43, 1945-50.
Nov. 14, 25.83.

8/9-6N1. U. S. Army Reservation. Records available: 1941-50. Nov. 14, 13.99.

8/10-2P1. U. S. Army Reservation. Records available: 1941-50. Nov. 14, 23.58.

8/10-8R3. J. G. Walsh. Records available: 1947-50. Jan. 23, 32.44; Feb. 21, 33.68; Nov. 14, 37.03; Nov. 29, 35.85; Dec. 27, 35.40.

8/10-9M1. J. M. Hamilton. Records available: 1921-50. Jan. 23, 27.10; Feb. 21, 27.11; Mar. 22, 27.38; Apr. 24, 27.80; May 23, 27.95; June 26, 27.93; July 24, 29.70. Dry from July 24 to December.

8/10-19Q1. Union Trust and Savings Bank. Records available: 1939-48, 1950.
Nov. 14, 106.83.

8/10-32N1. John Demuth. Records available: 1948-50.

Jan. 23	75.29	Apr. 24	80.33	July 24	84.97	Oct. 25	83.58
Feb. 21	75.95	May 23	81.87	Aug. 25	84.37	Nov. 29	81.32
Mar. 22	78.40	June 26	84.18	Sept. 26	84.50	Dec. 27	80.18

8/11-8P1. Records available: 1945-50. Nov. 14, 23.97.

8/11-10N1. E. R. Siple. Records available: 1945-50. Nov. 14, 34.52.

8/11-20L1. Records available: 1943-47, 1949-50. Nov. 14, dry.

* Measurement by Los Angeles County Flood Control District.

8/11-22N3. Lewis Prothro. Records available: 1937, 1939-50. Nov. 14, 83.73.

*8/12-4K1. Records available: 1943-47, 1949-50. Nov. 27, 19.68.

*8/12-20B1. Records available: 1941-50. Nov. 20, 29.9.

*8/12-22D1. Records available: 1940-50. July 26, 17.05; Oct. 24, 28.3; Nov. 20, 19.85; Dec. 7, 28.4.

*8/12-22M1. Records available: 1943-50. Nov. 20, 14.3.

*8/12-22M2. Records available: 1943-50. Nov. 20, 15.4.

*8/12-22R1. I. B. Wibigier. Records available: 1941-50. Nov. 27, 34.3, pumping.

8/12-24R1. Records available: 1941-50. Nov. 14, 18.92.

*8/12-30Q1. Records available: 1943-50. Nov. 27, 25.3.

*8/13-7H1. Lone Butte Ranch. About 10.5 miles northwest of Lancaster. Records available: 1940-44, 1946-50. Dec. 13, 139.5.

*8/13-20M1. O. T. Kelly & Son. Records available: 1945-50. Nov. 28, 143.1.

*8/13-22K1. A. G. Andrews. Records available: 1942-43, 1945-50. Dec. 15, 92.3.

*8/13-23M1. A. G. Andrews. Records available: 1942-43, 1945-48, 1950. Dec. 15, 89.0.

*8/13-32N1. Pedro Lizarraga. Records available: 1945-50. Nov. 28, 137.6.

*8/13-33Q2. Owner unknown. Records available: 1946-50. Nov. 28, 70.9.

*8/14-2R1. Owner unknown. Records available: 1942-43, 1945-50. Dec. 13, 173.2.

*8/14-12A1. H. G. Ranch No. 1. Records available: 1940-50. Dec. 13, 156.4.

*8/14-12D1. H. G. Ranch No. 1. Records available: 1939-40, 1942-50. Dec. 13, 161.9.

*8/14-14R1. Owner unknown. Records available: 1943-50. Dec. 12, 169.3.

*8/14-17Q1. Marl Craven-Tibola. Records available: 1946-50. Dec. 24, 161.9.

*8/14-25C2. Owner unknown. Records available: 1945, 1947-50. Dec. 13, 155.8.

*8/14-25D1. Owner unknown. Records available: 1946, 1948-50. Dec. 13, 163.5.

*8/15-10P1. Scott. Records available: 1945-48, 1950. Apr. 19, 139.15.

*8/15-17R1. Canfield. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 18	110.85	Mar. 15	110.8	June 28	111.18	Oct. 24	111.83
24	110.73	Apr. 19	110.88	July 16	111.15	Dec. 12	112.25
Feb. 24	110.87	May 10	111.0	25	111.2		

*8/15-22N1. Barnes. Records available: 1946-50. Jan. 24, 169.47; Apr. 19, 169.9; June 30, 171.2; July 25, 201.95, pumping; Oct. 24, 192.75, pumping.

*8/15-24B2. Charles L. Schneider. Records available: 1946-50. Apr. 18, 146.15; July 24, 147.4; Oct. 24, 148.2.

*8/15-27R1. I. T. Brandt. Records available: 1945-50. Apr. 19, 140.0; July 25, 142.4; Oct. 24, 143.45.

*8/15-29M1. Soil Conservation Service. Records available: 1945-50. Apr. 19, dry; Oct. 24, dry.

*8/15-33G1. Correll. Records available: 1946-50. Apr. 19, 206.75; July 25, 210.35; Oct. 24, 208.7.

* Measurement by Los Angeles County Flood Control District.

*8/15-36M1. Fairmont School. Records available: 1943-45, 1947, 1949-50. Dec. 24, 87.05.

*8/16-5N1. Carpy (International Harvester Co.). Records available: 1942-50. Apr. 19, 196.35; July 25, 196.5; Oct. 24, 196.65.

*8/16-14L1. Snyder Records available: 1945-47, 1949-50. Apr. 19, 13.12.

*8/16-18H1. Neenach School. Records available: 1942-50. Dec. 24, 101.1.

8/17-14E2. P. M. Barnes. 2.9 miles west of Neenach School. Records available: 1948, 1950. Jan. 4, 34.15.

9/12-16N1. Chevron Gas Station. 200 feet east of U. S. Highway 6. 175 feet north of Rosamond-Willow Springs Rd. Drilled well, diameter 8 inches, depth 150 feet. Records available: 1950. Apr. 18, 66.5; July 25, 69.7; Oct. 25, 68.4; Dec. 13, 64.6.

San Gabriel River Basin

1S/10-18. At Baldwin Park. Records available: 1903-50.

Daily mean water level, from recorder graph

Day	January		February		March		April	
	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level
1	119.95	267.05	119.43	267.57	118.99	268.01	118.75	268.25
2	119.93	267.07	119.42	267.58	118.97	268.03	118.73	268.27
3	119.91	267.09	119.41	267.59	118.96	268.04	118.72	268.28
4	119.89	267.11	119.40	267.60	118.95	268.05	118.73	268.27
5	119.89	267.11	119.38	267.62	118.95	268.05	118.71	268.29
6	119.87	267.13	119.36	267.64	118.93	268.07	118.70	268.30
7	119.86	267.14	119.34	267.66	118.93	268.07	118.69	268.31
8	119.84	267.16	119.31	267.69	118.93	268.07	118.68	268.32
9	119.83	267.17	119.27	267.73	118.92	268.08	118.67	268.33
10	119.80	267.20	119.25	267.75	118.93	268.07	118.63	268.37
11	119.78	267.22	119.23	267.77	118.93	268.07	118.60	268.40
12	119.77	267.23	119.22	267.78	118.94	268.06	118.57	268.43
13	119.75	267.25	119.19	267.81	118.94	268.06	118.56	268.44
14	119.73	267.27	119.16	267.84	118.93	268.07	118.54	268.46
15	119.71	267.29	119.14	267.86	118.94	268.06	118.53	268.47
16	119.69	267.31	119.12	267.88	118.94	268.06	118.53	268.47
17	119.67	267.33	119.12	267.88	118.92	268.08	118.53	268.47
18	119.64	267.36	119.11	267.89	118.91	268.09	118.55	268.45
19	119.62	267.38	119.10	267.90	118.92	268.08	118.59	268.41
20	119.62	267.38	119.09	267.91	118.93	268.07	118.60	268.40
21	119.60	267.40	119.07	267.93	118.92	268.08	118.60	268.40
22	119.58	267.42	119.05	267.95	118.93	268.07	118.59	268.41
23	119.56	267.44	119.04	267.96	118.94	268.06	118.56	268.44
24	119.54	267.46	119.04	267.96	118.93	268.07	118.55	268.45
25	119.54	267.46	119.03	267.97	118.92	268.08	118.55	268.45
26	119.53	267.47	119.03	267.97	118.90	268.10	118.58	268.42
27	119.50	267.50	119.01	267.99	118.87	268.13	118.61	268.39
28	119.49	267.51	119.00	268.00	118.83	268.17	118.64	268.36
29	119.47	267.53			118.80	268.20	118.68	268.32
30	119.46	267.54			118.79	268.21	118.72	268.28
31	119.45	267.55			118.78	268.22		

* Measurement by Los Angeles County Flood Control District.

1S/10-18--Continued.

Daily mean water level, from recorder graph

Day	May		June		July		August	
	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level
1	118.75	268.25	120.47	266.53	122.40	264.60	124.65	262.35
2	118.77	268.23	120.55	266.45	122.48	264.52	124.67	262.33
3	118.80	268.20	120.62	266.38	122.56	264.44	124.73	262.27
4	118.86	268.14	120.68	266.32	122.65	264.35	124.80	262.20
5	118.90	268.10	120.74	266.26	122.73	264.27	124.87	262.13
6	118.96	268.04	120.79	266.21	122.80	264.20	124.93	262.07
7	119.03	267.97	120.84	266.16	122.88	264.12	125.01	261.99
8	119.08	267.92	120.89	266.11	122.98	264.02	125.07	261.93
9	119.15	267.85	120.95	266.05	123.05	263.95	125.14	261.86
10	119.22	268.78	121.03	265.97	123.13	263.87	125.22	261.78
11	119.29	267.71	121.10	265.90	123.20	263.80	125.31	261.69
12	119.38	267.62	121.16	265.84	123.27	263.73	125.39	261.61
13	119.45	267.55	121.24	265.76	123.34	263.66	125.47	261.53
14	119.53	267.47	121.30	265.70	123.43	263.57	125.55	261.45
15	119.59	267.41	121.36	265.64	123.51	263.49	125.61	261.39
16	119.65	267.35	121.44	265.56	123.57	263.43	125.68	261.32
17	119.70	267.30	121.50	265.50	123.62	263.38	125.75	261.25
18	119.72	267.28	121.55	265.45	123.69	263.31	125.84	261.16
19	119.77	267.23	121.62	265.38	123.76	263.24	125.91	261.09
20	119.82	267.18	121.68	265.32	123.83	263.17	125.97	261.03
21	119.88	267.12	121.76	265.24	123.91	263.09	126.00	261.00
22	119.95	267.05	121.82	265.18	123.98	263.02	126.04	260.96
23	119.99	267.01	121.89	265.11	124.04	262.96	126.09	260.91
24	120.04	266.96	121.95	265.05	124.11	262.89	126.15	260.85
25	120.09	266.91	122.01	264.99	124.18	262.82	126.21	260.79
26	120.16	266.84	122.03	264.97	124.25	262.75	126.27	260.73
27	120.22	266.78	122.09	264.91	124.32	262.68	126.32	260.68
28	120.27	266.73	122.16	264.84	124.39	262.61	126.36	260.64
29	120.33	266.67	122.23	264.77	124.46	262.54	126.41	260.59
30	120.38	266.62	122.31	264.69	124.54	262.46	126.47	260.53
31	120.42	266.58			124.62	262.38	126.53	260.47

Daily mean water level, from recorder graph

Day	September		October		November		December	
	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level
1	126.58	260.42	127.79	259.21	128.84	258.16	128.64	258.36
2	126.62	260.38	127.82	259.18	128.86	258.14	128.63	258.37
3	126.67	260.33	127.87	259.13	128.90	258.10	128.61	258.39
4	126.74	260.26	127.91	259.09	128.94	258.06	128.57	258.43
5	126.80	260.20	127.96	259.04	128.98	258.02	128.54	258.46
6	126.86	260.14	128.03	258.97	129.01	257.99	128.51	258.49
7	126.90	260.10	128.08	258.92	129.03	257.97	128.50	258.50
8	126.94	260.06	128.13	258.87	129.04	257.96	128.49	258.51
9	126.98	260.02	128.17	258.83	129.06	257.94	128.46	258.54
10	127.02	259.98	128.21	258.79	129.09	257.91	128.45	258.55
11	127.06	259.94	128.25	258.75	129.11	257.89	128.44	258.56
12	127.10	259.90	128.29	258.71	129.13	257.87	128.42	258.58
13	127.14	259.86	128.35	258.65	129.14	257.86	128.41	258.59
14	127.18	259.82	128.41	258.59	129.15	257.85	128.40	258.60
15	127.21	259.79	128.47	258.53	129.13	257.87	128.39	258.61
16	127.26	259.74	128.52	258.48	129.10	257.90	128.37	258.63
17	127.30	259.70	128.55	258.45	129.05	257.95	128.36	258.64
18	127.32	259.68	128.58	258.42	129.02	257.98	128.36	258.64
19	127.35	259.65	128.61	258.39	128.99	258.01	128.36	258.64
20	127.37	259.63	128.64	258.36	128.94	258.06	128.35	258.65

1S/10-18--Continued.

Daily mean water level, from recorder graph

Day	September		October		November		December	
	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level	Below land-surface datum	Above sea level
21	127.40	259.60	128.67	258.33	128.89	258.11	128.34	258.66
22	127.44	259.56	128.70	258.30	128.87	258.13	128.33	258.67
23	127.49	259.51	128.73	258.27	128.86	258.14	128.33	258.67
24	127.54	259.46	128.75	258.25	128.86	258.14	128.33	258.67
25	127.58	259.42	128.76	258.24	128.82	258.18	128.33	258.67
26	127.61	259.39	128.79	258.21	128.78	258.22	128.32	258.68
27	127.65	259.35	128.81	258.19	128.76	258.24	128.30	258.70
28	127.68	259.32	128.81	258.19	128.74	258.26	128.28	258.72
29	127.71	259.29	128.82	258.18	128.71	258.29	128.30	258.70
30	127.74	259.26	128.83	258.17	128.68	258.32	128.33	258.67
31			128.84	258.16			128.34	258.66

Coastal plain

2S/12-13A1. Lycan Bros. Records furnished by San Gabriel Valley Protective Association. Records available: 1928-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	50.00	Apr. 5	46.64	July 5	51.98	Oct. 4	57.57
11	49.70	12	46.74	12	52.42	11	57.95
18	49.19	19	46.88	19	52.88	18	58.38
25	48.52	26	47.19	26	53.33	25	58.87
Feb. 1	48.24	May 3	47.57	Aug. 2	53.86	Nov. 1	59.20
8	47.92	10	48.06	9	54.33	8	59.55
15	47.39	17	48.66	16	54.76	15	59.88
22	46.87	24	49.15	23	55.22	22	59.89
Mar. 1	46.60	31	49.60	30	55.62	29	59.66
8	46.44	June 7	50.05	Sept. 6	56.04	Dec. 6	59.50
15	46.47	14	50.52	13	56.46	13	59.51
22	46.18	21	51.00	20	56.87	20	59.52
29	46.54	28	51.45	27	57.23	27	59.58

2S/15-34H1. Don Benshoof. Water levels are lower than sea level. Records furnished by California Division of Water Resources. Records available: 1929-50. Jan. 3, 133.2; Nov. 11, 138.2. Measurement discontinued.

3S/12-8L3. Los Angeles County Farm. Records furnished by San Gabriel Valley Protective Association. Records available: 1930-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	38.05	Apr. 3	40.40	July 3	48.58	Oct. 2	47.54
9	38.05	10	40.01	10	49.30	9	47.64
16	37.69	17	42.37	17	48.04	16	48.66
23	37.49	24	42.35	24	49.91	23	47.11
30	37.39	May 1	42.74	31	49.87	30	45.67
Feb. 6	36.96	8	34.09	Aug. 7	50.15	Nov. 6	48.16
13	36.93	15	44.70	14	50.28	13	46.87
20	36.87	22	44.67	21	50.40	20	44.10
27	37.13	29	45.11	28	48.86	27	43.46
Mar. 6	37.16	June 5	45.03	Sept. 4	49.08	Dec. 4	43.30
13	39.19	12	47.27	11	48.10	11	43.57
20	40.84	19	46.76	18	46.59	18	44.06
27	39.64	26	47.17	25	47.37	26	43.28

*3S/13-8L2. H. N. Edison. Water levels are lower than sea level. Records furnished by California Division of Water Resources. Records available: 1930-50. Jan. 6, 133.7; Apr. 10, 131.8; Apr. 24, 129.2. Measurement discontinued.

* Measurement by Los Angeles County Flood Control District.

3S/13-18G2. Union Oil Co. All water levels are lower than sea level. Records furnished by Los Angeles County Flood Control District. Records available: 1930-33, 1935-41, 1944-50. Jan. 24, 191.4; Apr. 10, 182.7; Apr. 25, 184.5; Nov. 29, 184.6. Measurement discontinued.

3S/14-3K1. Southern California Water Co. Yukon plant well 1. All water levels are lower than sea level. Records furnished by Southern California Water Co. Records available: 1941-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	130	Apr. 7	135	July 7	152	Oct. 7	159
7	133	14	132	14	153	14	158
14	133	21	136	21	154	21	163
21	131	28	138	28	154	28	157
28	130	May 7	143	Aug. 7	158	Nov. 7	164
Feb. 7	132	14	143	14	159	14	162
14	130	21	144	21	157	21	159
21	128	28	144	28	158	28	155
Mar. 7	128	June 7	143	Sept. 7	164	Dec. 7	150
14	132	14	145	14	168	14	149
21	135	21	148	21	160	21	150
28	132	28	151	28	160	28	153

3S/14-21B1. Southern California Water Co. Rosecrans plant well 1. All water levels are lower than sea level. Records furnished by Southern California Water Co. Records available: 1931-37, 1939-50.

Jan. 1	108.5	Apr. 7	108	July 7	118	Oct. 7	117
7	108	14	108	14	118	14	118
14	107	21	113	21	118	21	117
21	107	28	113	28	119	28	115
28	107	May 7	114	Aug. 7	118	Nov. 7	116
Feb. 7	107	14	114	14	118	14	113
14	107	21	113	21	119	21	111
21	107	28	115	28	118	28	111
28	107	June 7	116	Sept. 7	116	Dec. 7	110
Mar. 7	109	14	117	14	116	14	110
14	109	21	117	21	117	21	110
21	110	28	117	28	117	28	110
28	110						

3S/14-36M3. H. T. Potomkin. All water levels are lower than sea level. Records furnished by California Division of Water Resources. Records available: 1910, 1928-50. Jan. 5, 77.9; Apr. 13, 78.4; Nov. 29, 78.3. Measurement discontinued.

4S/11-5D1. V. Capovilla. Records furnished by Orange County Flood Control District. Records available: 1930-50. Measurements after Mar. 28 lower than sea level except Dec. 28.

Jan. 31	32.83	Apr. 25	53.79	July 21	73.42	Nov. 24	55.41
Feb. 28	34.17	May 23	58.23	Sept. 22	73.48	Dec. 28	32.61
Mar. 28	47.53	June 23	74.02	Oct. 25	68.50		

4S/12-8P1. Montana Land Co. All water levels are lower than sea level. Records furnished by city of Long Beach. Records available: 1903, 1914-19, 1923-50.

Jan. 9	96.10	Apr. 10	97.95	July 10	115.98	Oct. 9	118.51
16	94.90	17	98.01	17	116.47	16	118.54
23	94.52	24	99.40	24	117.54	23	117.00
30	94.34	May 1	100.22	31	118.75	30	116.21
Feb. 6	93.98	8	102.68	Aug. 7	119.80	Nov. 6	118.34
13	92.63	15	105.47	14	120.99	13	118.67
20	92.08	22	106.08	21	121.28	20	115.55
27	91.58	29	107.20	28	120.87	27	113.78
Mar. 6	91.88	June 5	108.30	Sept. 4	119.60	Dec. 4	111.28
13	91.78	12	109.91	11	117.70	11	110.81
20	92.29	19	110.93	18	117.56	18	110.13
27	93.83	26	112.29	25	118.29	26	109.95
Apr. 3	97.08	July 3	114.10	Oct. 2	117.96		

4S/13-14L1. Southern California Edison Co., Ltd. All water levels are lower than sea level. Records furnished by city of Long Beach. Records available: 1930-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 23	31.29	Apr. 24	31.61	July 17	33.31	Oct. 9	33.55
30	31.29	May 1	31.83	24	33.33	16	33.58
Feb. 6	31.21	8	31.91	31	33.26	23	33.59
13	31.18	15	32.54	Aug. 7	33.23	30	33.57
20	31.16	22	32.42	14	33.18	Nov. 6	33.65
27	31.30	29	32.42	21	33.39	13	33.60
Mar. 6	31.49	June 5	32.29	28	33.47	20	33.56
13	31.72	12	32.49	Sept. 4	33.42	27	33.49
20	31.48	19	32.66	11	33.35	Dec. 4	33.54
27	31.46	26	32.71	18	33.32	11	33.48
Apr. 3	31.88	July 3	33.29	25	33.50	18	33.55
10	31.85	10	33.24	Oct. 2	33.57	26	33.55
17	31.69						

4S/13-23G2. City of Long Beach. All water levels are lower than sea level. Records furnished by city of Long Beach. Records available: 1932-50.

Jan. 3	90.2	May 5	96.0	July 24	103.2	Oct. 10	105.95
9	90.0	8	96.1	28	g107.98	17	108.32
16	90.8	15	95.8	Aug. 1	104.3	24	106.99
Feb. 2	91.9	22	96.3	7	106.1	31	105.95
20	89.2	29	g96.95	14	107.9	Nov. 2	g106.53
28	g88.11	June 1	101.5	21	106.9	7	100.33
Mar. 1	88.4	12	98.9	29	104.60	14	105.95
13	92.3	19	99.3	Sept. 1	105.1	21	101.25
20	90.2	26	100.8	11	103.4	28	99.90
Apr. 3	92.9	30	g104.02	18	g105.73	Dec. 1	g99.72
10	92.3	July 3	101.8	18	98.7	5	100.72
17	95.0	3	g103.43	25	g106.57	12	101.97
24	94.2	10	105.8	25	106.4	19	102.7
May 1	g95.94	17	102.6	Oct. 3	106.4	27	g101.41

g By Geological Survey.

4S/13-33D1. City of Los Angeles. Wilmington plant well 14. All water levels are lower than sea level. Records furnished by California Division of Water Resources except as indicated. Records available: 1931-50. Jan. 3, 89.4; Apr. 10, 90.8; Dec. 5, 99.77, by Los Angeles County Flood Control District. Measurement discontinued.

Orange County

Coastal plain

(Except as otherwise indicated the following records were furnished by the Orange County Flood Control District.)

3S/11-36Q2. M. Del Giorgio. Records available: 1930-50.

Jan. 4	79.33	Mar. 15	79.75	June 7	j93.96	Oct. 16	j104.75
11	78.71	22	81.48	14	j96.92	23	j101.70
18	77.70	29	81.72	21	j96.95	30	j99.00
25	77.37	Apr. 5	82.63	28	j98.92	Nov. 6	j101.12
Feb. 1	77.73	12	81.30	July 12	j103.23	13	j100.75
8	77.57	19	82.44	19	j102.69	20	j92.00
15	77.34	26	86.00	Aug. 7	j113.76	27	89.80
22	77.55	May 3	86.54	Sept. 5	j114.72	Dec. 4	88.12
Mar. 1	77.75	10	89.68	11	j108.18	11	87.90
8	78.39	31	j93.67	25	j101.60		

j Lower than sea level.

4S/10-22L2. Halderman & Callens. Records available: 1928-50. Measurements on May 1 and after June 13 are lower than sea level.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	g131.38	May 1	gj138.57	Aug. 4	j138.99	Oct. 17	j141.57
13	131.81	29	134.57	31	gj139.45	Nov. 16	j141.66
Feb. 10	131.68	June 13	j136.21	Sept. 18	gj140.03	Dec. 1	gj137.65
Mar. 10	131.76	July 28	gj142.94	25	gj143.70	14	j136.86

g By Geological Survey.

j Lower than sea level.

4S/11-19K1. Los Alamitos Sugar Co. Except as noted, all water levels are lower than sea level. Records furnished by city of Long Beach, except as indicated. Records available: 1901, 1903, 1929-50.

Jan. 2	j25.65	Apr. 10	31.85	July 10	50.48	Oct. 2	45.80
9	j26.81	17	30.06	17	51.55	9	43.91
16	29.00	24	32.61	24	53.25	16	42.82
23	30.43	May 1	35.71	28	g56.35	23	42.14
30	g33.50	1	g37.21	31	54.22	30	40.54
30	32.92	8	37.85	Aug. 7	51.26	Nov. 2	g43.52
Feb. 6	36.08	15	38.62	14	51.82	6	43.57
13	37.92	22	38.00	21	52.31	13	40.39
20	36.18	29	g39.13	28	51.25	20	36.48
27	38.82	29	38.90	31	g51.10	27	33.86
28	g39.13	June 5	42.53	Sept. 4	50.36	Dec. 1	g32.51
Mar. 6	36.32	18	41.98	11	46.15	4	31.90
13	31.97	19	44.04	18	46.28	11	31.12
20	33.18	26	45.10	18	g46.28	18	31.31
27	33.32	July 3	45.72	25	45.27	26	31.51
Apr. 3	31.98	3	g45.85	25	g45.48		

j Above sea level.

g By Geological Survey.

5S/10-9D1. Julio Martinez. Records available: 1922, 1924-25, 1927-28, 1930-50. Measurements on March 10 and May 11 and following are lower than sea level.

Jan. 13	70.44	Apr. 13	74.48	Aug. 4	83.16	Nov. 16	79.75
Feb. 10	71.72	May 11	76.99	Sept. 12	81.78	Dec. 14	76.58
Mar. 10	75.81	June 13	79.24	Oct. 17	80.95		

5S/10-28B1. John Sturtevant. Records available: 1935-50. All measurements except for Jan. 17 are lower than sea level.

Jan. 17	42.33	Apr. 14	53.75	Sept. 14	62.73	Nov. 17	50.52
Feb. 14	48.71	May 12	60.34	Oct. 19	54.45	Dec. 15	47.32
Mar. 14	64.62	July 14	67.20				

5S/11-2E1. Western Trust & Savings Bank. All water levels are lower than sea level. Records available: 1929-50.

Jan. 12	53.62	Apr. 11	58.66	Aug. 2	84.38	Nov. 10	65.28
Feb. 9	58.50	May 9	63.57	Oct. 10	67.47	Dec. 12	56.30
Mar. 9	63.14						

5S/11-16D2. Anaheim Sugar Co. All water levels are lower than sea level. Records available: 1929-50.

5S/11-16D2--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	20.53	Apr. 5	31.08	July 5	33.83	Oct. 4	33.91
11	24.08	12	27.85	12	36.30	11	33.50
18	25.54	19	27.09	19	37.41	18	34.10
25	29.16	26	26.66	26	38.19	25	32.66
Feb. 1	31.04	May 3	26.31	Aug. 2	38.52	Nov. 1	30.82
8	33.13	10	26.95	9	37.68	8	30.86
15	35.13	17	29.47	16	36.82	15	29.04
22	36.01	24	29.86	23	36.10	22	27.07
Mar. 1	36.23	31	30.18	30	35.22	29	25.96
8	36.12	June 7	30.11	Sept. 6	34.35	Dec. 6	26.64
15	36.34	14	31.26	13	33.66	13	26.15
22	33.60	21	32.78	20	34.53	20	25.56
29	31.64	28	33.61	27	34.30	27	27.01

5S/11-25P1. E. J. Lecrivain. All water levels are lower than sea level. Records available: 1930-50.

Jan. 17	50.37	Apr. 14	57.18	July 14	61.47	Oct. 19	59.35
Feb. 14	60.97	May 12	57.27	Aug. 8	62.38	Nov. 17	57.60
Mar. 14	65.67	June 15	58.79	Sept. 14	60.57	Dec. 15	55.31

5S/11-28A1. A. Ruoff. All water levels are lower than sea level. Records available: 1930-50.

Jan. 17	23.03	May 12	26.82	Aug. 8	34.26	Nov. 17	31.60
Feb. 14	28.19	June 15	28.85	Sept. 14	32.84	Dec. 15	29.29
Apr. 14	29.27	July 14	31.48	Oct. 19	36.50		

5S/11-29C4. Sunset Land & Water Co. All water levels are lower than sea level. Records available: 1941-50.

Jan. 17	15.61	Apr. 14	18.04	July 14	22.52	Nov. 17	20.11
Feb. 14	21.07	May 12	17.58	Aug. 8	26.85	Dec. 15	18.22
Mar. 14	25.79	June 15	19.65	Sept. 14	23.28		

5S/12-12P1. U. S. Naval Depot. All water levels are lower than sea level. Records furnished by city of Long Beach. Records available: 1930-50.

Jan. 13	22.05	Apr. 28	23.88	July 21	29.58	Oct. 12	28.74
Feb. 3	24.23	May 19	25.01	Aug. 16	29.97	Nov. 3	27.74
24	27.16	June 9	25.56	Sept. 1	30.06	24	25.70
Mar. 17	28.09	29	27.26	22	29.20	Dec. 15	25.42
Apr. 7	26.22						

6S/10-1E1. Frank Ey. All water levels are lower than sea level. Records available: 1930-50.

Jan. 3	42.92	Apr. 17	56.72	July 17	64.91	Oct. 9	56.49
9	42.09	24	54.33	24	62.92	16	56.13
16	41.48	May 1	51.96	31	66.48	23	56.75
23	40.94	8	51.71	Aug. 7	63.83	30	57.83
30	45.58	15	52.03	14	61.18	Nov. 6	56.60
Feb. 14	44.73	22	51.83	21	60.13	13	56.83
27	62.31	29	52.19	28	59.77	20	54.88
Mar. 6	64.44	June 5	51.52	Sept. 5	58.34	27	52.33
13	66.83	12	51.53	11	57.25	Dec. 4	50.83
20	68.93	19	53.28	18	57.23	11	50.28
27	69.83	26	56.23	25	57.05	18	50.43
Apr. 3	64.65	July 3	60.54	Oct. 2	57.48	26	49.69
10	60.89	10	62.53				

6S/10-1L2. I. A. W. Henry. Records available: 1904, 1921-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 19	26.51	July 17	34.69	Sept. 15	30.46	Nov. 21	30.39
Feb. 16	27.79	Aug. 10	30.23	Oct. 20	30.49	Dec. 19	29.43
June 16	28.42						

6S/10-5C1. Robert Gisler. All water levels are lower than sea level. Records available: 1931-50.

Jan. 3	23.34	Apr. 10	32.20	July 3	32.51	Oct. 30	29.87
9	23.05	17	29.70	Aug. 7	34.54	Nov. 6	30.54
16	23.26	24	28.65	28	34.22	13	30.12
23	24.22	May 1	28.50	Sept. 5	34.40	20	28.40
30	26.60	8	28.30	18	32.86	27	27.40
Mar. 6	45.67	15	28.88	25	32.00	Dec. 4	26.60
13	42.50	22	29.90	Oct. 2	31.85	11	26.32
20	40.23	29	29.60	9	31.86	18	26.77
27	38.18	June 5	28.74	16	31.12	26	26.14
Apr. 3	35.37	12	30.02	23	30.60		

6S/11-13G2. Surf Land and Water Co. All water levels are lower than sea level. Records available: 1930-50.

Jan. 4	5.37	Apr. 5	11.22	July 5	8.18	Oct. 4	8.17
11	5.27	12	9.99	12	8.39	11	7.96
18	5.54	19	8.44	19	9.02	18	7.61
25	5.81	26	8.39	26	9.41	25	7.60
Feb. 1	7.43	May 3	7.91	Aug. 2	8.79	Nov. 1	7.47
8	9.06	10	8.04	9	8.98	8	7.32
15	11.82	17	8.86	16	9.30	15	7.03
22	13.81	24	9.44	23	8.94	22	6.64
Mar. 1	14.09	31	8.62	30	8.89	29	6.30
8	15.65	June 7	7.83	Sept. 6	8.82	Dec. 6	6.15
15	15.63	14	7.68	13	8.35	13	5.86
22	14.48	21	7.63	20	8.46	20	6.18
29	12.81	28	8.22	27	8.08	27	5.99

I-9F1. The Irvine Co. All water levels are lower than sea level. Records available: 1932-50.

Jan. 4	61.04	May 17	77.41	Aug. 30	85.15	Oct. 25	82.04
Feb. 15	60.94	31	73.03	Sept. 6	80.74	Nov. 1	82.39
22	61.93	June 14	76.43	20	82.10	8	81.40
Mar. 1	66.11	21	79.73	27	81.45	15	78.47
8	70.83	July 5	82.83	Oct. 4	80.31	29	74.88
May 3	74.29	Aug. 16	87.65	11	79.86	Dec. 6	74.64
10	76.57	23	85.19	18	81.17	13	74.43

Riverside County

Santa Ana River Basin, San Jacinto Valley

3/2W-35Q1. I. E. Facemire. Records available: 1921-50. Nov. 3, 33.99.

4/2W-7J1. Albert McDonald. Records available: 1904-44, 1946-50.

Jan. 9	91.69	Mar. 30	91.35	June 30	97.34	Oct. 24	99.65
25	90.43	Apr. 27	93.55	July 27	97.91	Nov. 27	97.94
Feb. 23	89.21	May 19	94.81	Aug. 25	98.48	Dec. 29	97.04

4/3W-32E1. James Malcom. Records available: 1929-50. Feb. 23, 63.82; May 13, 64.24; Aug. 25, 64.66; Nov. 3, 64.93.

4/4W-1L1. B. H. LeCont. Records available: 1914-50. May 19, 43.09; Aug. 25, 43.62; Nov. 3, 43.84.

5/1W-2N1. J. A. Barger. Records available: 1905-50. Feb. 23, 96.10; May 19, 101.45; Aug. 25, 107.88; Nov. 3, 105.84.

5/2W-24A1. L. Wilhelm. Records available: 1914-50. May 19, 46.94; Nov. 3, 46.24.

5/2W-27E2. Fred Harvey. Records available: 1930-50. Feb. 23, 37.39; May 13, 38.28; Aug. 25, 39.36; Nov. 3, 39.86.

6/3W-4A2. Menifee School. Records available: 1925-34, 1936, 1938-50. May 19, 68.09; Aug. 25, 64.89; Nov. 3, 65.57.

San Bernardino County

Mojave River Basin

3/3W-6E1. Mike Spranger. Records available: 1929-32, 1935-50. May 5, 21.14.

3/3W-6E2. Owner unknown. Records available: 1948-50. May 5, 20.89; Nov. 3, 41.8.

3/4W-12J1. Olive. Records available: 1929-50. May 5, 5.45.

3/4W-13B1. Olive. Records available: 1922-23, 1929-33, 1935-50. May 5, 73.64; Nov. 6, 86.60.

4/3W-1M1. E. D. S. Pope. Records available: 1930-33, 1935-43, 1945-50. May 4, 205.73; Nov. 8, 207.1.

4/3W-6B1. A. J. Lintner. Records available: 1931-32, 1934-50. May 5, 58.33; Nov. 7, 60.73.

4/3W-6D1. A. W. Phillips. Records available: 1917, 1930-50. May 5, 58.67; Nov. 8, 60.9.

4/3W-17M1. Arrowhead Reservoir & Power Co. Records available: 1905, 1916, 1922-23, 1930-49. No measurement made in 1950.

4/3W-18E1. C. O. Evans. Records available: 1930-32, 1935, 1938-50. May 5, 33.24; Nov. 3, dry at 35.6.

4/3W-19G1. G. W. McLister. Records available: 1917, 1931-32, 1935-37, 1939-50. May 5, 40.55; Nov. 6, 43.64.

4/3W-19R1. Arrowhead Reservoir & Power Co. Records available: 1905, 1907, 1930-50. May 5, 41.52; Nov. 3, 43.6.

4/3W-20L1. J. M. Allison. Records available: 1923, 1930-50. May 5, 41.55; Nov. 6, dry at 40.5.

4/3W-21A1. W. O. Wade. Records available: 1917, 1923, 1930-42, 1944-50. May 5, 259.82.

4/3W-30E1. A. W. Cole. Records available: 1917, 1930-33, 1935-50. May 5, 48.67; Nov. 6, 51.54.

5/3W-13D1. Eva V. Case. Records available: 1948-50. May 4, 89.57; Nov. 7, 89.65.

5/3W-18F1. J. D. Humiston. Records available: 1917, 1923, 1930-32, 1935, 1937-50. May 4, 114.20; Nov. 14, 114.2.

5/3W-22A1. Jack Rothwell. Records available: 1948-50. May 4, 90.18; Nov. 7, 90.55.

5/3W-24N1. Douglas. Records available: 1948-50. Nov. 7, 90.52.

5/4W-10M1. Owner unknown. In Victorville. Records available: 1930-32, 1935, 1937-50. Nov. 7, 45.27.

5/4W-11P1. Lee Saul. Records available: 1931-32, 1935, 1937-50. May 4, 55.82; Nov. 7, 55.80.

5/4W-11P2. Lee Saul. Records available: 1931-32, 1935-45, 1947-50. May 4, 49.94; Nov. 7, 49.25.

5/4W-35A1. A. Sorenson. On Verde Ranch. Records available: 1917, 1930-31, 1945, 1948-50. May 5, 2.89.

5/4W-36N1. Verde Ranch. Records available: 1917, 1930-45, 1947-50. Nov. 7, 13.66.

6/3W-28R1. Owner unknown. Records available: 1948-50. May 5, 126.80; Nov. 7, 127.25.

7/4W-30C1. Owner unknown. Records available: 1930-32, 1935-50. May 4, 57.75; Nov. 2, 58.40.

8/3E-3E1. C. W. Beaverstock. Records available: 1930-32, 1935-50. May 2, 5.67; Nov. 10, 7.60.

8/3E-3F1. Owner unknown. Records available: 1930-32, 1935-50. May 2, 21.72; Nov. 10, 22.15.

8/3E-4B1. Lyle Graham. Records available: 1930-32, 1935-50. May 2, 3.15; Nov. 10, 4.64.

8/3W-4M1. Everett Swing. Records available: 1930-33, 1939-50. May 4, 13.92; Nov. 2, 15.52.

8/4E-7E1. Owner unknown. Records available: 1919, 1922, 1930-32, 1938-48, 1950. Nov. 9, 25.34.

8/4E-9C1. Owner unknown. Records available: 1947-50. May 2, dry; Nov. 10, dry.

8/4E-12L1. Mojave Camp service station. Records available: 1930, 1932, 1935-45, 1947-50. May 2, 30.58; Nov. 7, 30.7.

8/4W-2Q1. Owner unknown. Records available: 1930-32, 1934-50. May 4, 24.32; Nov. 7, dry.

8/4W-12Q1. Holcomb Bros. Records available: 1931-32, 1935-37, 1939-41, 1943-50. Nov. 6, 12.3.

8/4W-31D1. F. H. Merrill. Records available: 1930-32, 1939-50. Nov. 7, 48.6.

8/4W-31R1. Owner unknown. Records available: 1930-32, 1934-48, 1950. May 4, 16.07; Nov. 7, 17.95.

9/1E-12D1. Owner unknown. Records available: 1930, 1932, 1934-35, 1937-45, 1947-50. May 3, 47.52; Nov. 9, 48.23.

9/1E-13E1. Owner unknown. Records available: 1925-28, 1930-50. May 3, 68.42; Nov. 6, 69.5.

9/1E-13E2. Owner unknown. Records available: 1925-27, 1930-33, 1935-50. May 3, 69.33; Nov. 6, 71.0.

9/1E-18E1. B. A. Funk. Records available: 1925-28, 1930-32, 1934-50. May 2, 43.51.

9/1E-24D1. Owner unknown. Records available: 1930, 1932-50. Nov. 9, 74.17.

9/1W-10D2. R. E. Hettick. Records available: 1945-50. May 2, 13.23; Nov. 8, 14.78.

9/1W-10M1. Greystone Auto Camp. Records available: 1930, 1932, 1935, 1938-47, 1949-50. Nov. 8, 58.70.

9/1W-13B1. F. Ryerse. Records available: 1925-28, 1930-32, 1935, 1938-50. May 2, 35.71; Nov. 8, 43.05.

9/2E-3A1. Bruce McCormick. Records available: 1919, 1922, 1930-35, 1937-50. May 3, 17.05; Nov. 9, 21.02.

- 9/2E-4D1. Owner unknown. Records available: 1930-32, 1934-35, 1937-50.
May 3, 21.88; Nov. 9, 22.88.
- 9/2E-8J1. Annie Escholtz. Records available: 1919, 1925, 1928, 1930-33, 1935-45,
1947-50. Nov. 6, 43.1.
- 9/2E-12N1. Hunter. Records available: 1919, 1924-27, 1930-35, 1937-50.
May 3, 6.57; Nov. 9, 7.78.
- 9/2E-14N2. Scobel & Haimut. Records available: 1925, 1927-28, 1930-35, 1937-50.
May 3, 19.79; Nov. 9, 20.86.
- 9/2E-14N3. Scobel & Haimut. Records available: 1924-28, 1930-33, 1935, 1937-50.
May 3, 19.00; Nov. 9, 19.89.
- 9/2E-18F1. Records available: 1924-28, 1930-40, 1942-43, 1945-50. May 3, 57.37;
Nov. 9, 58.69.
- 9/2W-19B1. Records available: 1930-32, 1935, 1937-50. May 4, 66.58; Nov. 2, 67.6.
- 9/3E-3D1. Owner unknown. Records available: 1919, 1926, 1930-35, 1937-50.
Nov. 6, 40.85.
- 9/3E-12E1. B. Nicholas. Records available: 1922, 1930-33, 1935, 1937-44, 1946-50.
May 3, 26.85; Nov. 6, 30.7.
- 9/3E-19E1. Owner unknown. Records available: 1919, 1922, 1930-32, 1935, 1938-48,
1950. May 2, 1.33; Nov. 9, 2.75.
- 9/3E-34D1. Clinkenbeard. Records available: 1919, 1922, 1930-32, 1934-43, 1947-50.
Nov. 10, 30.96.
- 9/3W-10P1. Owner unknown. Records available: 1930-32, 1934-50. May 1, 90.25;
Nov. 2, 90.5.
- 9/3W-14D1. Bullock. Records available: 1930-32, 1934-50. Nov. 7, 27.48.
- 9/3W-28A1. J. Slagill. Records available: 1930-36, 1938-50. May 1, 19.82;
Nov. 7, 24.04.
- 9/3W-34R1. Nellie Storey. Records available: 1930-33, 1935-36, 1938-42, 1944-45,
1947-50. May 1, 127.15; Nov. 2, 127.9.
- 9/4E-31K1. A. M. Monroe. Records available: 1930-32, 1935-50. May 2, 13.31;
Nov. 7, 13.6.
- 10/1W-31C1. Nelson. Records available: 1930-32, 1935, 1938-50. May 2, 50.32;
Nov. 8, 50.20.
- 10/2E-32P1. Yermo Mutual Water Co. Records available: 1919-20, 1922, 1924, 1929-50.
May 3, 30.42; Nov. 9, 30.97.
- 10/2E-34L1. Owner unknown. Records available: 1919, 1922, 1930-32, 1934-35,
1937-50. May 3, 59.87.
- 10/2W-19P1. Loftus. Records available: 1930-33, 1935, 1937-45, 1947-50.
May 1, 68.79; Nov. 8, 69.25.
- 10/2W-30N1. J. D. Rich. Records available: 1930-46, 1948-50. Nov. 8, 29.67.
- 10/3E-34E2. G. M. Bond. Records available: 1947-50. May 3, 8.38; Nov. 10, 10.15.
- 10/3W-32C1. Records available: 1931-32, 1934, 1936-50. May 1, 58.60; Nov. 8, 58.50.
- 11/3W-28R1. S. F. Edwards. Records available: 1930-32, 1935-40, 1944-50.
May 1, 27.14; Nov. 8, 27.31.
- 11/3W-34F1. Records available: 1930-32, 1934-50. May 1, 34.48; Nov. 8, 34.74.

Santa Ana River Basin, San Bernardino Area

1N/4W-36F1. G. M. Cooley. Records available: 1900, 1904, 1906, 1914-50. Feb. 20, 60.95; May 24, 60.12; Aug. 28, 68.33; Nov. 2, 69.08.

1S/3W-3N1. R. C. Gerber. Records available: 1920-50. Feb. 17, 124.60; May 24, 125.89; Aug. 28, 134.54; Nov. 2, 139.44.

1S/3W-16L1. S. Ronzone. Records available: 1900, 1904, 1906-7, 1909, 1912, 1914-33, 1940-50. Feb. 20, 88.54. Dry May 24, Aug. 28, and Nov. 2.

1S/3W-17C1. Williams well. Records furnished by Gage Canal Co. Records available: 1892-94, 1896, 1898-1950.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	49.16	Apr. 8	43.08	July 8	49.92	Oct. 7	57.00
14	48.33	15	43.16	15	50.50	14	57.58
21	48.00	22	43.33	22	51.16	21	58.08
28	47.50	29	43.58	29	51.83	28	58.42
Feb. 4	47.08	May 6	43.58	Aug. 5	52.42	Nov. 4	58.92
11	46.50	12	43.66	12	53.00	11	59.25
18	46.33	20	45.33	19	53.50	18	59.50
25	45.00	27	46.00	26	54.16	25	59.66
Mar. 4	44.08	June 3	46.50	Sept. 2	54.66	Dec. 2	59.75
11	43.50	10	47.58	9	55.25	9	59.75
18	43.16	17	47.92	16	55.75	16	59.75
25	42.87	24	48.50	23	56.25	23	59.83
Apr. 1	43.08	July 1	49.16	30	56.75	30	59.66

1S/3W-20B1. Emmet Martin. Key well, U. S. 101. Records available: 1900, 1904, 1906-7, 1909, 1912, 1914-50.

Jan. 30	56.56	Apr. 28	58.32	July 26	61.70	Oct. 30	64.40
Feb. 28	56.69	May 31	59.53	Aug. 28	62.75	Nov. 29	64.89
Mar. 31	57.43	June 28	60.63	Sept. 29	63.65		

1S/3W-28E1. George Hincley. Records available: 1900, 1904, 1906, 1909, 1912, 1914-50. Aug. 28, 68.57; Nov. 2, 69.53.

1S/3W-32C1. W. H. Martin. Records available: 1900, 1906, 1909, 1912, 1914-50. Feb. 20, 74.69; May 24, 72.06; Aug. 28, 74.35; Nov. 2, 75.69.

1S/4W-4K1. W. J. Walsh. Records available: 1915-50. Feb. 20, 21.45; May 24, 27.17; Aug. 28, 32.20; Nov. 2, 32.22.

San Diego County

San Luis Rey River Basin

10/3W-1. San Luis Rey Ranch. Records available: 1923-34, 1937-50. Jan. 3, 11.64; Apr. 3, 8.03; July 10, 14.48; Oct. 9, dry.

10/3W-1a. San Luis Rey Ranch. Records available: 1937-50. Jan. 3, 8.56; Apr. 3, 8.44; July 10, 8.90; Oct. 9, 12.34.

10/3W-1b. San Luis Rey Ranch. Records available: 1937-50. Jan. 3, 6.93; Apr. 3, 6.85; July 10, 7.25; Oct. 9, 10.66.

10/3W-1c. Fallbrook Public Utility District observation well. On San Luis Rey Ranch. Records available: 1939-50. Jan. 3, 12.11; Apr. 3, 8.75; July 10, 9.34; Oct. 9, 10.74.

10/3W-15. Gird Ranch. Records available: 1923-34, 1937-50. Jan. 3, 13.37; Apr. 3, 13.69; July 10, 13.91; Oct. 9, dry.

10/3W-20P3. Bonsall School. Records available: 1920-24, 1937-50. Jan. 3, 11.71; July 10, 11.90; Oct. 9, 13.36.

10/3W-29C2. F. M. Sickler. Records available: 1948-50. Apr. 3, 10.41; July 10, 10.71; Oct. 9, 11.84.

10/3W-30. Fallbrook Public Utility District observation well. On property of San Diego County Water Co. Records available: 1939-50. Jan. 3, 14.54; Apr. 3, 13.90; July 10, 14.59; Oct. 9, 16.05.

11/4W-9F1. City of Oceanside observation well. On Williams Ranch. Measurements by city of Oceanside. Records available: 1940-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	34.18	Apr. 8	33.93	July 10	37.52	Oct. 12	39.68
Feb. 13	33.60	May 8	39.27	Aug. 14	39.35	Nov. 11	40.43
Mar. 11	33.93	June 10	36.10	Sept. 7	39.68	Dec. 11	40.43

11/4W-18. Carlsbad Mutual Water Co. observation well. Near San Luis Rey. Measurements by Carlsbad Mutual Water Co. Records available: 1939-50. Jan. 2, 34.03; Apr. 17, 48.00; July 17, 40.96; Oct. 2, 35.59.

11/5W-13a. City of Oceanside. On city property, about 2 miles northeast of Oceanside. Measurements by city of Oceanside. Records available: 1937-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	28.58	Apr. 8	26.00	July 10	31.17	Oct. 12	31.04
Feb. 13	21.83	May 8	30.12	Aug. 14	29.17	Nov. 11	32.00
Mar. 11	26.42	June 10	32.00	Sept. 7	27.50	Dec. 11	32.42

11/5W-13b. City of Oceanside. On city property, about 2 miles northeast of Oceanside. Measurements by city of Oceanside. Records available: 1937-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	25.75	Apr. 8	26.08	July 10	28.33	Oct. 12	30.25
Feb. 13	24.00	May 8	26.83	Aug. 14	30.58	Nov. 11	30.00
Mar. 11	24.50	June 10	27.33	Sept. 7	31.25	Dec. 11	28.24

11/5W-13c. City of Oceanside. On city property, about 2 miles north of Oceanside. Measurements by city of Oceanside. Records available: 1937-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	23.08	Apr. 8	22.50	July 10	25.33	Oct. 12	25.58
Feb. 13	20.33	May 8	24.50	Aug. 14	24.75	Nov. 11	25.25
Mar. 11	23.17	June 10	25.08	Sept. 7	24.92	Dec. 11	25.08

11/5W-15. City of Oceanside. On city property, north of Oceanside. Measurements by city of Oceanside. Records available: 1939-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	16.75	Apr. 8	16.46	July 10	18.67	Oct. 12	19.00
Feb. 13	14.92	May 8	17.83	Aug. 14	18.58	Nov. 11	18.92
Mar. 11	19.92	June 10	18.42	Sept. 7	17.62	Dec. 11	18.96

San Dieguito River Basin

12/1W-31H2. City of San Diego. Records available: 1929-50. Mar. 24, 9.92; July 6, 10.95; Sept. 22, 12.13; Dec. 29, 11.83.

12/1W-33. H. G. Fenton. Records available: 1926-50. Mar. 24, 18.26; July 6, 18.43; Sept. 22, 18.43; Dec. 29, 17.91.

12/1W-33a. F. B. Gierman. Records available: 1943-50. Mar. 24, 2.84; July 6, 3.62; Sept. 22, 4.18; Dec. 29, 3.70.

12/1W-35K1. June Chase. Records available: 1945-50. Mar. 24, 10.69; July 6, 14.25; Sept. 22, 18.50; Dec. 29, 17.49.

12/1W-36D1. Jorgensen. Records available: 1945-50. Mar. 24, 9.55; July 6, 14.45; Sept. 22, 20.24; Dec. 29, 24.23.

San Diego River Basin

14/1W-36R1. City of San Diego. Records available: 1948-50. Mar. 28, 36.64; June 26, 37.19; Oct. 6, 38.05; Dec. 27, 38.78.

15/1E-2R2. San Diego County. Records available: 1949-50. Mar. 28, 56.48; Oct. 6, 62.00; Dec. 27, 62.58.

15/1E-7. San Diego Products Co. Records available: 1932-50. Dry Mar. 28; June 26, 20.17; dry Oct. 6 and Dec. 27.

15/1E-10. Foster Dairy. Records available: 1948-50. Mar. 28, 33.68; Dec. 27, 36.12.

15/1E-17B1. Truttman Ranch. Records available: 1937-50. Mar. 28, 33.86; June 26, 44.25; Oct. 6, 43.73; Dec. 27, 41.81.

15/1E-17H6. Irrigation District Well. Records available: 1929-32, 1934-50. Mar. 28, 44.25; June 26, 44.49; Oct. 6, 44.03; Dec. 27, 42.03.

15/1E-19D1. Davidson & Brown. Records available: 1937-50. Mar. 28, 25.25; June 26, 27.20; Oct. 6, dry; Dec. 27, dry.

15/1E-20B1. De Matteo. Records available: 1948-50. Mar. 28, 44.01; June 26, 37.84; Oct. 6, 41.82; Dec. 27, 39.51.

15/1W-13N2. Riverview well 3. At Riverview. Records available: 1930, 1934-50. Mar. 28, 19.31; June 26, dry; Oct. 6, dry; Dec. 27, dry.

15/1W-23H3. City of San Diego. At Riverview. Records available: 1946-50. Mar. 28, 16.78; June 26, 18.32; Oct. 6, dry; Dec. 27, dry.

15/1W-24a. E. G. Squires. Records available: 1945-50. Mar. 28, 22.68; June 26, dry; Oct. 6, dry; Dec. 27, dry.

15/1W-24b. E. G. Squires. Lakeside. Depth 46 feet. Records available: 1950. Dec. 27, 30.53.

15/1W-24D7. Riverview well 2. Records available: 1937-50. Mar. 28, 19.86; June 26, 24.86; Oct. 6, 28.95; Dec. 27, 26.71.

15/1W-27. County Farm. Records available: 1927-50. Mar. 28, 16.68; June 26, 18.23; Oct. 6, 20.20; Dec. 27, 19.83.

15/1W-28. Dr. Good. Records available: 1915, 1919-50. Mar. 28, 16.54; June 26, 17.12; Oct. 6, 18.52; Dec. 27, 20.04.

16/2W-16. Jaussaud. Records available: 1921-50. Mar. 28, 17.34; June 26, 18.56; Oct. 6, 20.23; Dec. 27, 20.46.

16/2W-16a. Jaussaud. Records available: 1937-50. Mar. 28, 18.16; June 26, 18.99; Oct. 6, 21.05; Dec. 27, 21.31.

16/3W-22. H. Tatreau. Records available: 1922-50. Mar. 28, 14.82; June 26, 17.0; Oct. 6, dry; Dec. 27, dry.

16/3W-23. S. H. McIntosh. In Mission Valley, near Murray Canyon Road. Records available: 1927-50. Mar. 28, 11.00; June 26, 11.19; Oct. 6, 12.67; Dec. 27, 12.90.

16/3W-24. R. I. Officer. About 1,600 feet west of city of San Diego pumping plant. Records available: 1925-33, 1937-50. Mar. 28, 11.18; June 26, 12.64; Oct. 6, 13.95; Dec. 27, 14.40.

Sweetwater River Basin

17/1W-19a. California Water & Telephone Co. Records available: 1943-50. Mar. 23, 37.80; July 12, 36.88; Oct. 5, 34.09; Dec. 26, 32.23.

Otay River Basin

18/2W-22. G. W. St. Clair. Records available: 1916-50. Mar. 23, 27.98; July 12, 31.61; Oct. 5, 35.09; Dec. 26, 31.34.

Tia Juana River Basin

18/2W-33. On Hewitt Bros. hog ranch. Records available: 1927-50. Mar. 23, 18.38; July 12, 20.99; Oct. 5; 20.71; Dec. 26, 19.72.

18/2W-34. P. Vanderpool. Records available: 1927-50. Mar. 23, 16.86; July 12, 19.52; Oct. 5, 21.07; Dec. 26, 20.44.

18/2W-34a. C. Iguchi. Records available: 1927-50. Mar. 23, 13.64; July 12, 17.29; Oct. 5, 18.66; Dec. 26, 17.16.

19/2W-4. At Nestor Bridge. Records available: 1933-50. Mar. 23, 13.51; July 12, 17.07; Oct. 5, 17.56; Dec. 26, 17.12.

San Joaquin County

Mokelumne River Basin

3N/6-3K11. F. B. Mills Estate. 330 feet south of well 3N/6-3K3 which it replaces. Irrigation well, diameter 12 inches, depth 120 feet. (Altitudes by East Bay Municipal Utility District.) Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 1, 1947	17.28	July 1, 1948	17.09	Apr. 1, 1949	18.14	Feb. 1, 1950	17.37
Nov. 3	17.13	Aug. 2	18.93	May 2	18.26	Mar. 1	17.98
Dec. 1	17.72	Sept. 1	17.99	June 1	19.21	Apr. 3	18.27
Jan. 2, 1948	18.33	Oct. 1	16.79	July 5	18.47	May 1	18.29
Feb. 2	19.36	Nov. 1	16.59	Sept. 6	16.13	Aug. 1	18.25
Mar. 1	20.50	Dec. 1	16.82	Oct. 3	15.68	Sept. 1	17.10
Apr. 1	21.55	Jan. 3, 1949	17.11	Nov. 1	16.20	Oct. 3	16.42
May 3	18.28	Feb. 1	17.90	Dec. 1	16.12	Nov. 1	16.69
June 1	16.41	Mar. 7	18.36	Jan. 3, 1950	16.89	Dec. 1	11.73

3N/6-17D11. A. Delu. Records available: 1949-50.

Jan. 3	15.44	Apr. 3	13.42	Aug. 1	21.60	Nov. 1	18.27
Feb. 1	14.90	May 1	14.95	Sept. 1	21.79	Dec. 1	16.79
Mar. 1	13.99	June 1	15.59	Oct. 2	19.59		

3N/6-25R11. E. E. Morse Estate. About 2,500 feet south of well 3N/7-30E2 which it replaces. Domestic well, diameter 10 inches, depth 93 feet. (Altitudes by East Bay Municipal Utility District.) Records available: 1948-50.

Jan. 20, 1948	c38.23	June 1, 1948	30.27	Oct. 6, 1948	b37.12	Feb. 1, 1949	a40.89
Feb. 2	c33.82	July 1	33.80	Nov. 1	32.96	Oct. 5	34.59
Mar. 1	c38.60	Aug. 2	c44.22	Dec. 1	31.87	Jan. 4, 1950	31.75
Apr. 1	c40.92	Sept. 1	36.08	Jan. 4, 1949	31.17	Oct. 4	36.14
May 3	29.72						

a Pumping.

b Pumped recently.

c Nearby well being pumped.

3N/6-36R2. Leland W. Bunch. Records available: 1926-29, 1935-50.

Jan. 4	30.08	Apr. 3	a28.48	July 3	29.88	Oct. 4	31.71
Feb. 1	29.74	May 1	b29.83	Aug. 1	31.78	Nov. 1	30.44
Mar. 1	28.50	June 1	28.78				

a Pumping.

b Pumped recently.

3N/7-3C1. Jacob Knoll. Records available: 1935-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	39.73	Apr. 3	39.03	July 3	34.67	Oct. 5	38.81
Feb. 1	39.80	May 1	36.65	Aug. 1	36.46	Nov. 1	39.27
Mar. 1	39.74	June 1	34.18	Sept. 1	37.91	Dec. 1	37.90

3N/7-6M8. R. E. and Ruth F. Coker. Records available: 1935-50.

Jan. 4	27.21	Apr. 3	27.85	July 3	27.23	Oct. 4	(f)
Feb. 1	26.89	May 1	(f)	Aug. 1	(f)	Nov. 1	(f)
Mar. 1	26.75	June 1	26.56	Sept. 1	(f)	Dec. 1	27.65

f Dry.

3N/7-7M1. J. and Rachel Goetken. Records available: 1935-50.

Jan. 4	34.98	Apr. 3	40.56	July 3	41.00	Oct. 4	39.17
Feb. 1	34.53	May 1	42.52	Aug. 1	40.89	Nov. 1	38.24
Mar. 1	34.84	June 1	40.23	Sept. 1	40.47	Dec. 1	37.31

3N/7-10L3. Edward Preszler. Records available: 1935-50.

Jan. 5	(f)	Apr. 3	c49.45	July 3	44.33	Oct. 6	49.40
Feb. 1	49.23	May 1	50.20	Aug. 1	45.05	Nov. 1	48.14
Mar. 1	49.19	June 1	51.10	Sept. 1	45.67	Dec. 1	48.38

c Nearby well being pumped.

f Dry.

3N/7-10L4. Edward Preszler. Records available: 1935-50.

Jan. 5	48.47	Apr. 3	c68.43	July 3	57.73	Oct. 6	53.65
Feb. 1	48.03	May 1	60.49	Aug. 1	59.63	Nov. 1	b52.01
Mar. 1	50.40	June 1	57.38	Sept. 1	58.39	Dec. 1	50.04

b Pumped recently.

c Nearby well being pumped.

3N/7-15P11. Raymond Mettler. 30 feet south of well 3N/7-15P2 which it replaces. Domestic well, diameter 6 inches, depth 60 feet. (Altitudes by East Bay Municipal Utility District.) Records available: 1948-50.

Jan. 13, 1948	47.46	Feb. 1, 1949	49.28	Nov. 1, 1949	55.04	June 1, 1950	c72.40
21	47.51	Mar. 9	48.73	Dec. 1	53.86	July 3	59.50
Aug. 2	c64.38	Apr. 1	b50.38	Jan. 5, 1950	52.80	Aug. 1	64.19
Sept. 1	56.38	May 2	54.59	Feb. 1	51.51	Sept. 1	61.10
Oct. 7	53.98	June 2	56.11	Mar. 1	50.78	Oct. 6	57.86
Nov. 1	52.89	Aug. 1	59.20	Apr. 3	52.54	Nov. 1	56.75
Dec. 1	51.42	Sept. 6	58.23	May 1	c69.58	Dec. 1	55.26
Jan. 5, 1949	49.95	Oct. 6	56.26				

b Pumped recently.

c Nearby well being pumped.

3N/7-18N12. Joe Garner. Records available: 1946-50.

Jan. 4	34.52	Apr. 3	37.30	July 3	43.03	Oct. 4	38.59
Feb. 1	34.13	May 1	c39.85	Aug. 1	44.40	Nov. 1	37.42
Mar. 1	34.51	June 1	43.29	Sept. 1	40.90	Dec. 1	36.23

c Nearby well being pumped.

3N/7-27F3. John F. Heitzmann. Records available: 1935-50.

Jan. 5	51.96	Apr. 3	49.14	July 3	c54.02	Oct. 5	54.88
Feb. 1	50.97	May 1	49.52	Aug. 1	53.95	Nov. 1	54.40
Mar. 1	50.00	June 1	51.12	Sept. 1	55.24	Dec. 1	53.40

c Nearby well being pumped.

4N/6-12R11. A. T. Carlson. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	42.14	Apr. 3	b40.60	July 3	b49.84	Oct. 4	47.60
Feb. 1	41.42	May 1	41.59	Aug. 1	52.50	Nov. 1	46.44
Mar. 1	40.81	June 1	b46.16	Sept. 1	52.37	Dec. 1	45.09

b Pumped recently.

4N/6-13J11. Dorothy Woodworth. About 4 miles north of Lodi, about 1,540 feet north and 180 feet west of southeast corner of section 13, about 1,500 feet north of well 4N/7-18N3 which it replaces. Domestic well, diameter 6 inches, depth 73.5 feet. (Altitudes by East Bay Municipal Utility District.) Records available: 1948-50.

July 6, 1948	48.62	Mar. 7, 1949	40.77	Oct. 5, 1949	46.16	May 1, 1950	43.20
Aug. 2	49.54	Apr. 1	40.18	Nov. 1	45.06	June 1	45.71
Sept. 1	51.87	May 2	40.58	Dec. 1	43.89	Aug. 1	b54.72
Oct. 6	47.02	June 1	45.55	Jan. 4, 1950	42.62	Sept. 1	52.83
Nov. 1	45.28	July 5	52.55	Feb. 1	41.87	Oct. 4	48.38
Dec. 1	43.96	Aug. 1	49.28	Mar. 1	40.94	Nov. 1	47.12
Jan. 3, 1949	43.25	Sept. 6	48.01	Apr. 3	40.92	Dec. 1	45.62
Feb. 1	41.73						

b Pumped recently.

4N/6-34R1. E. M. Smith. Records available: 1926-29, 1935-50.

Jan. 3	16.14	Apr. 3	(f)	July 3	16.08	Oct. 2	13.28
Feb. 1	16.85	May 1	14.83	Aug. 1	15.59	Nov. 1	13.20
Mar. 1	16.88	June 1	14.98	Sept. 1	14.21	Dec. 1	7.39

f Dry.

4N/6-36D1. D. D. Smith and S. H. and I. Zimmerman. Records available: 1926-29, 1935-50.

Jan. 4	24.27	Apr. 3	25.96	July 3	27.14	Oct. 3	24.79
Feb. 1	24.50	May 1	c29.51	Aug. 1	26.95	Nov. 1	24.22
Mar. 1	24.46	June 1	26.50	Sept. 1	25.92	Dec. 1	21.85

c Nearby well being pumped.

4N/7-15B3. Robert L. Carter. Records available: 1935-50.

Jan. 6	61.00	Apr. 3	58.54	July 3	63.06	Oct. 9	66.10
Feb. 1	60.17	May 1	59.14	Aug. 1	64.80	Nov. 1	65.41
Mar. 1	59.26	June 1	60.67	Sept. 1	66.96	Dec. 1	64.10

4N/7-22Q4. Adolphus Eddlemon. Records available: 1935-50. Jan. 6, 48.07; Feb. 1, 47.49; Mar. 1, 47.00; Apr. 3, 47.10; May 1, 48.26. Dry after June 1.

4N/7-22Q5. Adolphus Eddlemon. Records available: 1935-50.

Jan. 6	48.29	Apr. 3	48.60	July 3	60.06	Oct. 9	53.12
Feb. 1	47.74	May 1	53.32	Aug. 1	60.02	Nov. 1	51.76
Mar. 1	47.34	June 1	57.11	Sept. 1	c59.59	Dec. 1	49.72

c Nearby well being pumped.

4N/7-27P1. Frank H. and Leonard W. Buck. Records available: 1935-50.

Jan. 6	36.17	Apr. 3	35.44	July 3	31.50	Oct. 9	36.58
Feb. 1	36.44	May 1	33.57	Aug. 1	35.04	Nov. 1	36.52
Mar. 1	35.44	June 1	30.86	Sept. 1	36.31	Dec. 1	32.32

4N/7-30E4. Charles Weber. Records available: 1941-50.

Jan. 4	35.46	Apr. 3	36.57	July 3	42.95	Oct. 4	41.08
Feb. 1	34.93	May 1	39.52	Aug. 1	c43.80	Nov. 1	39.06
Mar. 1	34.83	June 1	41.17	Sept. 1	43.95	Dec. 1	37.74

c Nearby well being pumped.

4N/7-31M3. Charles H. Woest. Records available: 1935-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	26.97	Apr. 3	c30.05	July 3	26.36	Oct. 4	26.88
Feb. 1	27.18	May 1	29.09	Aug. 1	27.10	Nov. 1	26.96
Mar. 1	27.14	June 1	b25.95	Sept. 1	b28.23	Dec. 1	b23.73

b Pumped recently.

c Nearby well being pumped.

4N/7-31N5. Jacob Goehring. Records available: 1935-50.

Jan. 4	9.33	Apr. 3	11.19	July 3	7.50	Oct. 4	10.29
Feb. 1	12.87	May 1	8.08	Aug. 1	8.94	Nov. 1	10.70
Mar. 1	12.01	June 1	6.02	Sept. 1	10.04	Dec. 1	j 7.89

j Adjacent land flooded.

4N/7-34G1. John J. Schmiedt. Records available: 1935-50.

Jan. 5	10.72	Apr. 3	10.03	July 3	6.88	Oct. 6	10.11
Feb. 1	10.89	May 1	6.64	Aug. 1	9.14	Nov. 1	10.34
Mar. 1	9.70	June 1	4.54	Sept. 1	9.88		

Santa Barbara CountyCarpinteria Basin

4/25-19F4. M. F. Lewis. Records available: 1942-50.

Feb. 8	112.28	July 7	109.37	Sept. 28	115.00	Nov. 22	114.68
Mar. 22	123.40	31	111.50	Oct. 27	115.65	Dec. 27	112.49
June 6	107.38						

4/25-19J5. Lyman & Young. Records available: 1942-50.

Feb. 8	79.21	Apr. 25	77.30	Aug. 30	86.30	Nov. 22	84.25
Mar. 3	76.58	July 7	82.15	Sept. 28	88.28	Dec. 27	79.08
23	74.71	31	84.23	Oct. 27	90.19		

4/25-20L4. Carpinteria County Water District. Records available: 1949-50.

June 6	131.83	July 31	138.83	Sept. 28	139.31	Nov. 22	138.46
July 7	135.10	Aug. 30	145.58	Oct. 27	140.52	Dec. 27	134.57

4/25-20Q2. J. B. Romero. Records available: 1941-50.

Feb. 8	63.20	Apr. 25	58.56	July 31	82.50	Oct. 27	71.94
Mar. 3	61.15	June 6	65.82	Aug. 30	71.96	Nov. 22	67.88
23	60.19	July 7	67.68	Sept. 28	76.03	Dec. 27	64.77

4/25-21R1. Ben Moore. Records available: 1941-50.

Feb. 8	116.64	Apr. 25	115.17	July 31	117.60	Oct. 27	118.15
Mar. 3	116.12	June 6	116.67	Aug. 30	118.11	Nov. 22	118.86
23	115.57	July 7	117.10	Sept. 28	118.38	Dec. 27	118.68

4/25-26A1. Moses Mesa Associates Co. Records available: 1946-50.

Feb. 8	314.13	Apr. 25	303.28	July 31	332.33	Oct. 27	340.46
Mar. 3	309.84	June 6	315.27	Aug. 30	333.65	Nov. 27	339.26
22	307.98	July 7	328.43	Sept. 28	342.37	Dec. 27	331.37

4/25-26C2. Shepard Mesa Mutual Water Co. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 8	318.98	Apr. 25	312.12	Aug. 30	340.93	Nov. 27	340.86
Mar. 3	314.33	June 6	320.44	Sept. 28	342.94	Dec. 27	336.82
22	315.73	July 7	c334.64	Oct. 28	343.62		

c Nearby well being pumped.

4/25-27G3. H. S. Russell. Records available: 1938, 1941, 1947, 1949. Measurement discontinued.

4/25-27Q2. A. F. Heimlich. Records available: 1941-50.

Feb. 8	153.67	Apr. 25	149.60	July 31	152.44	Oct. 27	161.21
Mar. 3	152.92	June 6	149.77	Aug. 30	156.15	Nov. 24	162.35
23	151.88	July 7	151.15	Sept. 28	159.99	Dec. 27	158.41

4/25-27R2. W. H. Yule. Records available: 1941-50.

Feb. 8	156.26	Apr. 25	150.82	Aug. 30	175.21	Nov. 24	171.63
Mar. 3	154.24	July 7	165.56	Sept. 28	171.02	Dec. 27	163.88
23	152.91	31	165.16				

4/25-28J1. W. C. and C. A. Catlin. Records available: 1919, 1930, 1937-38, 1940-50. Feb. 8, 110.39; Mar. 3, 107.85; Mar. 23, 106.27; Apr. 25, 103.31; Oct. 27, 115.27.

4/25-28M1. Mrs. A. Baylor. Records available: 1941-50.

Feb. 8	71.87	Apr. 25	65.73	July 31	90.42	Oct. 27	82.91
Mar. 3	69.75	June 8	86.69	Aug. 30	91.63	Nov. 27	81.21
23	68.33	July 7	84.88	Sept. 28	85.37	Dec. 27	79.20

4/25-29D1. H. Sturmer. Records available: 1928-29, 1938, 1941-50.

Feb. 8	40.50	Apr. 25	34.37	July 31	49.42	Oct. 27	49.12
Mar. 3	37.27	June 6	40.79	Aug. 30	48.76	Dec. 4	42.78
23	36.76	July 7	45.59	Sept. 28	48.81	27	39.69

4/25-29L1. A. P. Salzgeber. In Carpinteria 50 feet west of Holly Ave., 100 feet north of Third St. Drilled unused water-table well, diameter 2 inches, depth 110 feet. Records available: 1950. July 7, 37.10; July 31, 40.53; Aug. 30, 38.87; Sept. 28, 38.34; Oct. 27, 39.66; Nov. 24, 31.86; Dec. 27, 26.47.

4/25-29R1. Carpinteria Union High School. Records available: 1941-50.

Feb. 8	39.04	Apr. 25	38.12	July 31	57.92	Oct. 27	55.84
Mar. 3	38.70	June 6	55.65	Aug. 30	61.30	Nov. 24	46.22
23	39.80	July 7	49.67	Sept. 28	54.22	Dec. 27	44.64

4/25-30D1. Sandyland Beach Club. Records available: 1947-50.

Feb. 8	41.95	July 7	37.46	Aug. 30	43.84	Dec. 4	35.00
Mar. 23	23.23	31	47.12	Sept. 28	34.91	27	28.63

4/25-30D2. California State Highway Department. Records available: 1949-50.

Feb. 8	33.24	Apr. 25	27.06	July 31	36.03	Oct. 27	41.12
Mar. 3	32.29	June 6	32.29	Aug. 30	37.14	Dec. 4	39.94
22	30.03	July 7	32.70	Sept. 28	40.37	27	31.63

4/25-34F2. T. H. Canfield. Records available: 1949-50.

Feb. 8	128.78	Apr. 25	129.27	July 31	130.08	Oct. 27	130.23
Mar. 3	128.76	June 6	129.60	Aug. 30	130.27	Nov. 24	131.00
23	128.92	July 7	129.82	Sept. 28	130.60	Dec. 27	131.46

4/25-35B1. R. Nichols. Records available: 1941-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 8	95.92	Apr. 25	94.49	July 31	106.63	Oct. 27	116.53
Mar. 3	92.24	June 6	101.14	Aug. 30	118.20	Nov. 27	107.61
21	90.36	July 7	102.23	Sept. 28	115.28	Dec. 27	104.28

4/26-23A2. Frank Wymond. Records available: 1947-50.

Feb. 8	47.28	Apr. 25	45.44	Oct. 27	55.82	Dec. 4	53.74
Mar. 3	46.56	July 7	60.47	Nov. 24	53.92	27	53.49
21	45.58	Aug. 30	72.82				

4/26-24F2. A. F. Thurmond. Records available: 1938, 1941-50.

Feb. 8	16.38	Apr. 25	15.74	July 31	25.30	Oct. 27	19.95
Mar. 3	15.69	June 6	23.87	Aug. 30	20.59	Dec. 4	17.16
21	15.97	July 7	24.22	Sept. 28	24.49	27	16.20

Goleta Basin

4/27-6N1. John McCaughy. Records available: 1941-49. Measurement discontinued.

4/27-21B1. City of Santa Barbara. Records available: 1948-50.

Jan. 2	84.76	Apr. 3	82.16	July 3	86.05	Oct. 2	90.15
9	84.33	10	82.84	10	87.22	9	90.49
16	84.04	17	82.98	17	87.32	16	90.83
23	81.07	24	83.30	24	87.41	23	91.15
30	80.95	May 1	83.52	31	87.95	30	90.67
Feb. 6	81.25	8	83.81	Aug. 7	88.59	Nov. 6	90.40
13	81.30	15	84.18	14	89.11	13	90.72
20	80.57	22	84.38	21	89.57	20	90.53
27	79.78	29	84.55	28	89.90	Dec. 4	89.12
Mar. 6	78.97	June 5	84.69	Sept. 4	90.30	11	89.04
13	79.15	12	84.90	11	90.56	18	89.15
20	80.47	19	85.07	18	90.38	25	88.97
27	81.57	26	85.70	25	90.03		

4/28-2N2. County of Santa Barbara, Tuckers Grove. Records available: 1943-50.

Feb. 1	48.56	May 7	47.80	July 31	49.61	Oct. 30	51.18
Mar. 6	46.97	June 6	48.67	Aug. 30	50.20	Dec. 4	51.82
Apr. 10	47.17	July 6	49.26	Sept. 28	50.75	27	52.07

4/28-3E2. Peter Cavalletto. Records available: 1941-50.

Feb. 1	17.28	May 7	14.00	July 31	c34.65	Oct. 30	29.00
Mar. 6	14.12	June 6	c29.65	Aug. 30	c37.78	Dec. 4	18.60
Apr. 10	13.51	July 6	c28.93	Sept. 28	35.10	27	15.19

c Nearby well being pumped.

4/28-3M3. L. W. Fowler. Records available: 1947-50.

Feb. 1	119.02	May 7	133.24	July 31	142.26	Oct. 30	c143.31
Mar. 6	120.09	June 6	130.99	Aug. 31	c144.10	Dec. 4	133.63
Apr. 10	119.82	July 6	127.96	Sept. 28	c114.01	27	131.21

c Nearby well being pumped.

4/28-3Q2. A. J. Haverland. Records available: 1943-50.

Feb. 1	129.96	May 7	134.73	July 31	c141.91	Oct. 30	141.78
Mar. 6	129.02	June 6	c138.48	Aug. 30	c146.79	Dec. 4	139.47
Apr. 10	128.50	July 6	141.08	Sept. 28	c140.33	27	138.74

c Nearby well being pumped.

4/28-4Q2. R. S. Rowe. Records available: 1941-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 1	97.68	May 7	112.72	July 31	102.23	Oct. 30	107.64
Mar. 6	95.90	June 6	117.92	Aug. 30	113.77	Dec. 4	108.80
Apr. 10	94.60	July 6	102.85	Sept. 28	106.89	27	106.84

4/28-5R4. E. J. Ewing. Records available: 1937-38, 1941, 1943-50.

Feb. 1	64.44	July 6	65.64	Sept. 28	68.09	Dec. 4	67.89
Mar. 6	64.11	31	67.08	Oct. 30	68.17	27	67.67
May 7	63.76	Aug. 30	67.72				

4/28-8C2. G. B. Cavalletto. Records available: 1941, 1945-50. Feb. 1, 80.11; Mar. 6, 79.22; Apr. 10, 79.49, nearby well being pumped; May 7, 78.57; June 6, 80.01. Measurement discontinued.

4/28-9A3. L. M. Cavalletto. Records available: 1941-50. From float gage. Undated entries are highest and lowest levels between dates of observation.

Jan.	66.42	Apr. 10	63.91	July 6	66.11	Sept. 28	67.21
	67.12		64.61		66.43		67.95
Feb. 1	66.81	May 7	63.92	31	66.11	Oct. 30	67.06
	56.08		56.05		66.11		67.02
	66.90		65.72		67.21		67.24
Mar. 6	65.86	June 6	65.61	Aug. 31	67.23	Dec. 4	67.25
	56.05		65.61		67.22		67.24
	65.86		66.44		67.26		67.27
Apr. 10	64.61	July 6	66.43	Sept. 28	67.22	Dec. 27	67.24

4/28-9E1. A. T. Spaulding. Records available: 1941, 1943-50.

Feb. 1	63.76	May 7	64.49	Aug. 30	69.34	Dec. 4	68.40
Mar. 6	67.26	July 6	68.85	Sept. 28	69.46	27	67.89
Apr. 10	63.38	31	70.02	Oct. 30	69.21		

c Nearby well being pumped.

4/28-10A1. John S. Greene. Formerly C. C. Lee. Records available: 1941-50. July 31, 133.06, nearby well being pumped; Aug. 30, 137.58; Sept. 28, 135.28; Oct. 30, 135.03; Dec. 4, 134.54; Dec. 27, 134.24.

4/28-10F1. J. S. Edwards. Records available: 1932-33, 1937-38, 1941-50.

Jan. 27	88.30	July 6	95.05	Sept. 28	94.04	Dec. 4	93.80
Mar. 6	87.66	31	92.35	Oct. 30	96.02	27	93.37
May 7	95.03	Aug. 30	96.62				

4/28-10K2. W. G. Troup. Records available: 1941-50.

Jan. 27	117.14	Apr. 10	115.88	Aug. 30	124.79	Dec. 4	121.49
Mar. 6	115.35	June 6	126.13	Oct. 30	123.78	27	120.71

b Pumped recently.

4/28-11K4. Giovanni Cavalli. Records available: 1947-50.

Jan. 27	92.76	July 31	89.21	Sept. 28	98.80	Dec. 4	99.19
Mar. 6	92.37	Aug. 30	99.45	Oct. 30	99.71	27	99.13
July 6	97.32						

4/28-12L4. Frank Bottine. Records available: 1941-50. Jan. 27, 67.64; Mar. 6, 63.61; Apr. 10, 58.81; May 7, 70.26. Measurement discontinued.

4/28-16F2. John Begg. Records available: 1941, 1943-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 27	53.06	May 7	61.62	July 31	80.05	Oct. 30	65.55
Mar. 6	52.96	June 6	88.57	Aug. 30	71.92	Dec. 4	59.78
Apr. 10	55.79	July 6	74.85	Sept. 28	67.24	27	58.73

4/28-16F3. John Begg. Records available: 1941, 1943-50.

Jan. 27	17.37	May 7	16.76	July 31	17.37	Oct. 30	17.99
Mar. 6	16.70	June 6	17.35	Aug. 30	17.60	Dec. 4	18.21
Apr. 10	16.56	July 6	17.35	Sept. 28	17.65	27	18.30

4/28-16R1. Pacific Lighting Corp. Records available: 1941, 1945-50.

Jan. 27	35.28	May 7	28.72	Aug. 30	36.97	Dec. 4	37.98
Mar. 6	30.05	July 6	36.07	Sept. 28	36.60	27	36.45
Apr. 10	27.68	31	35.68	Oct. 30	37.89		

4/28-17H3. Elmo Little. Records available: 1941-50.

Jan. 27	8.99	May 7	8.44	July 31	9.27	Oct. 30	9.89
Mar. 6	8.10	June 6	8.68	Aug. 30	9.55	Dec. 4	9.92
Apr. 10	8.12	July 6	9.00	Sept. 28	9.64	27	9.94

4/28-17H11. Mrs. L. Oakley and Mrs. M. Bonetti. Records available: 1941-50.

Jan. 27	30.50	May 7	30.08	Aug. 30	38.91	Dec. 4	34.40
Mar. 6	28.53	July 6	37.34	Sept. 28	37.43	27	33.91
Apr. 10	30.43	31	36.35	Oct. 30	37.31		

4/28-18G2. T. B. Bishop Co. Records available: 1942-50.

Apr. 10	32.70	July 6	45.44	Sept. 28	35.83	Dec. 4	33.66
May 7	33.49	31	36.10	Oct. 30	35.09	27	33.64
June 6	32.48	Aug. 30	36.00				

4/28-18N3. T. M. Storke. Records available: 1942-50. Jan. 27, 21.40; Mar. 6, 20.15; Apr. 10, 20.77; May 7, 23.24; June 7, 21.64; July 6, 23.89; July 31, 22.65. Measurement discontinued.

4/29-13K2. T. B. Bishop Co. Records available: 1942-50.

Jan. 27	52.57	May 7	53.81	July 31	55.57	Oct. 30	55.44
Mar. 6	52.94	June 6	54.35	Aug. 30	55.52	Dec. 4	54.05
Apr. 10	53.29	July 6	55.37	Sept. 28	55.59	27	53.72

4/29-14A3. Frank Baker. Records available: 1942-50. Jan. 27, 81.39; Apr. 10, 81.21; May 7, 82.27; July 31, 83.11, nearby well being pumped; Dec. 4, 83.57; Dec. 27, 84.00.

Santa Ynez River Valley

6/30-6A1. Sam Torrence. Records available: 1942-50. Jan. 26, 70.32; Apr. 10, 74.49; Dec. 1, 72.51.

6/30-7K1. Mrs. W. Anderson. Records available: 1941-50. Nearby well being pumped except on Apr. 10. Jan. 26, 46.65; Mar. 6, 48.60; Apr. 10, 45.00; May 9, 46.55; Dec. 29, 49.35.

6/30-9N1. San Lucas Ranch. Records available: 1941-50. Jan. 26, 34.55; Feb. 13, 34.30; Mar. 6, 34.31; May 4, 34.67; Oct. 27, 35.00; Dec. 29, 35.04.

6/30-21B1. Rancho Juan y Lolita. Records available: 1933, 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 26	20.63	Apr. 10	13.41	May 9	14.39	Dec. 1	19.17
Mar. 6	14.31	May 4	14.24	Oct. 27	20.82	29	20.25

6/30-29E1. Rancho Juan y Lolita. Records available: 1933-50.

Daily highest water level, from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	23.16	22.74	19.05	.....	.....	18.46	19.52	20.91	21.47	22.02	.....
2	.....	23.18	22.60	19.05	.....	.....	18.54	19.57	20.95	21.49	22.03	22.57
3	.....	.....	22.45	19.08	.....	16.34	18.60	19.63	20.99	21.50	22.05	22.58
4	.....	.....	22.28	19.09	.....	16.36	18.66	19.68	21.02	21.52	22.06	22.60
5	.....	.....	22.04	19.11	15.70	16.45	18.71	19.59	21.07	21.53	22.08	22.62
6	22.88	.....	21.82	19.12	15.72	16.52	18.76	19.55	21.09	21.53	22.10	22.63
7	.....	.....	21.58	19.15	15.70	16.60	18.80	19.55	21.11	21.55	22.13	22.64
8	.....	.....	21.36	19.16	15.69	16.66	18.86	19.55	21.13	21.56	22.14	22.66
9	.....	.....	21.14	19.19	15.69	16.71	18.95	19.60	21.14	21.58	22.15	22.68
10	.....	.....	20.88	19.21	15.68	16.77	19.06	19.68	21.15	21.60	22.18	22.70
11	.....	.....	20.55	19.20	15.70	16.82	19.14	19.74	21.17	21.62	22.19	22.71
12	.....	.....	19.69	19.11	15.72	16.88	19.20	19.84	21.19	21.64	22.21	22.73
13	.....	23.26	19.55	18.96	15.75	16.94	19.27	19.90	21.21	21.65	22.22	22.75
14	.....	23.26	19.40	18.76	15.78	17.00	19.33	19.96	21.23	21.67	22.24	22.76
15	.....	23.27	19.22	18.51	15.80	17.11	19.42	20.03	21.24	21.68	22.27	22.78
16	23.01	23.27	19.20	18.21	15.84	17.25	19.45	20.08	21.26	21.70	22.29	22.79
17	23.03	23.27	19.20	17.88	.....	17.40	19.43	20.14	21.27	21.73	22.31	22.79
18	23.03	23.28	19.07	17.61	.....	17.52	19.42	20.18	21.29	21.74	22.31	22.80
19	23.04	23.28	18.95	17.32	15.94	17.61	19.32	20.24	21.32	21.75	22.32	22.82
20	23.05	23.26	18.96	17.03	15.97	17.68	19.27	20.28	21.32	21.79	22.34	22.83
21	23.06	.....	18.96	16.80	16.01	17.76	19.19	20.34	21.33	21.80	22.36	22.84
22	23.07	.....	.....	16.63	16.05	17.81	19.15	20.40	21.37	21.82	22.37	22.85
23	23.08	.....	.....	16.43	16.10	17.88	19.14	20.45	21.37	21.83	22.38	22.86
24	.....	.....	.....	16.26	16.18	17.96	19.14	20.50	21.38	21.87	22.40	22.88
25	.....	.....	.....	16.13	16.27	18.02	19.18	20.55	21.39	21.89	.....	22.88
26	23.13	.....	.....	.....	.....	18.10	19.22	20.61	21.40	21.90	.....	22.89
27	23.14	22.93	18.98	.....	.....	18.20	19.27	20.66	21.42	21.91	.....	22.91
28	23.14	22.84	18.98	.....	.....	18.22	19.31	20.70	21.43	21.94	.....	22.91
29	23.14	.....	18.99	.....	.....	18.26	19.37	20.75	21.44	21.95	.....	22.92
30	23.15	.....	19.00	.....	.....	18.35	19.40	20.80	21.45	21.96	.....	22.93
31	23.16	.....	19.04	.....	.....	.....	19.45	20.85	.....	21.99	.....	22.95

6/31-21K1. Sam de la Cuesta. Records available: 1947-50. Jan. 26, 35.83; Mar. 6, 35.09; Apr. 10, 35.03; Oct. 27, 44.55; Dec. 1, 41.47; Dec. 29, 40.49.

6/31-13D1. Mrs. W. E. Parker. Records available: 1941-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 26	110.85	May 4	110.95	July 28	111.47	Oct. 27	111.97
Mar. 6	110.70	June 30	b118.21	Sept. 26	115.34	Dec. 29	112.09
Apr. 10	110.75						

b Pumped recently.

6/31-17F1. J. R. Orton. Records available: 1931-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 26	20.74	Apr. 10	19.93	June 30	c23.63	Dec. 1	24.28
Mar. 6	23.41	May 4	a19.97	July 28	b24.08	29	23.11
15	19.93	June 5	b23.29	Oct. 27	b24.61		

a Pumping.

b Pumped recently.

c Nearby well being pumped.

6/31-21H2. Petan Dairy Ranch. Records available: 1931-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 26	11.38	Apr. 10	11.39	June 30	11.78	Sept. 26	11.76
Mar. 6	11.27	May 4	11.58	July 28	11.86	Dec. 29	11.74
15	11.29	June 5	11.71	Aug. 29	11.92		

6/31-24F2. William Vett. Records available: 1949-50. Mar. 6, 10.66;
Mar. 16, 10.62; Apr. 10, 10.50. Measurement discontinued.

6/32-6K1. Mrs. M. Barker. Records available: 1932-34, 1942-50.

Jan. 31	18.17	June 5	18.20	Aug. 28	18.58	Dec. 1	18.78
Mar. 2	18.18	30	18.41	Oct. 2	18.72	28	18.81
May 4	18.45	July 27	18.52				

a Pumping.

6/32-9A1. Owen Hollister. Records available: 1932-50.

Jan. 31	31.11	May 4	32.85	Aug. 28	34.30	Dec. 1	32.49
Mar. 2	30.91	June 30	34.79	Oct. 2	33.92	27	31.97
17	30.89	July 27	35.84	30	33.51		

6/32-11A1. William Hunt. Drilled unused domestic well, diameter 8 inches, depth 125 feet. Records available: 1950. Jan. 18, 43.12; Nov. 1, 47.02; Nov. 2, 47.00.

Daily highest water level, from recorder graph

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1	.....	43.61	44.01	.....	44.57	45.33	46.31	47.05	47.08
2	.....	.....	43.98	.....	44.60	45.34	46.34	47.04	47.07
3	.....	43.61	43.96	.....	44.64	45.35	46.36	47.05	47.08
4	.....	43.61	43.97	.....	44.67	45.42	46.39	47.07	47.07
5	.....	43.63	43.98	.....	44.69	45.44	46.44	47.09	47.07
6	.....	43.64	44.00	.....	44.71	45.46	46.47	47.11	47.08
7	.....	43.64	44.01	.....	44.75	45.48	46.52	47.12	47.10
8	43.88	43.68	44.03	.....	44.78	45.47	46.55	47.14	47.15
9	.....	43.72	44.05	.....	44.81	45.48	46.59	47.17	47.19
10	.....	43.76	44.04	44.36	44.84	45.59	46.63	47.22	47.22
11	.....	.....	44.05	44.38	44.93	45.56	46.69	47.24	47.25
12	.....	.....	44.02	44.40	44.94	45.60	46.69	47.26	47.30
13	.....	.....	43.99	44.41	44.97	45.65	46.72	47.27	47.33
14	.....	.....	43.98	44.43	44.98	45.73	46.74	47.28	47.35
15	.....	.....	43.97	44.43	45.01	45.76	46.79	47.27	47.37
16	43.67	43.88	43.97	44.44	45.05	45.85	46.77	47.22	47.38
17	.....	43.89	43.96	.....	45.08	45.85	46.77	47.17	47.40
18	.....	43.90	43.96	.....	45.09	45.86	46.80	.....	47.41
19	.....	43.93	44.00	44.34	45.11	45.90	46.80	.....	47.43
20	.....	43.96	44.04	44.36	45.11	45.92	46.84	.....	47.42
21	.....	43.99	44.08	44.38	45.17	45.96	46.90	.....	47.37
22	.....	44.04	44.12	44.39	45.17	46.00	46.90	.....	47.33
23	43.61	44.07	44.14	44.42	45.19	46.02	46.90	47.08	47.30
24	43.62	.....	44.12	44.43	46.21	46.03	46.91	47.07	47.28
25	43.61	.....	44.08	44.45	45.23	46.04	46.94	47.05	47.24
26	43.61	.....	.....	.....	45.25	46.06	46.91	47.06	47.20
27	43.61	.....	.....	44.47	45.27	46.10	47.00	47.05	47.17
28	43.60	44.05	.....	44.47	45.28	46.14	47.01	47.05	.....
29	.....	44.03	.....	44.48	45.28	46.15	47.02	47.07	.....
30	.....	44.03	.....	44.53	45.30	46.18	47.03	47.08	47.07
31	.....	44.03	.....	44.54	.....	46.17	47.04	.....	47.05

6/32-12J2. A. Bodine. Records available: 1941-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	33.47	May 4	33.63	July 27	33.91	Oct. 27	34.22
Mar. 2	32.89	June 5	34.34	Aug. 28	34.06	Dec. 1	32.55
15	31.99	30	37.45	Sept. 26	32.37	28	34.50

6/32-16P3. Channing Peake. Records available: 1941-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 3	46.51	May 4	46.28	Sept. 27	49.49	Nov. 30	48.69
16	45.70	June 5	46.28	Oct. 31	49.17	Dec. 28	48.54
27	45.56	July 27	48.65				

6/33-9P1. Hollister Estate. Records available: 1931-50.

Jan. 10	44.45	May 4	47.17	July 27	c56.93	Oct. 31	47.04
Mar. 3	42.58	June 5	c56.79	Aug. 28	c56.66	Nov. 30	54.61
22	45.66	30	c55.55	Sept. 27	c56.52	Dec. 28	54.00

c Nearby well being pumped.

6/34-2A6. Hattie Madsen. Records available: 1948-50.

Jan. 31	40.10	Mar. 17	39.89	Aug. 28	42.07	Oct. 31	42.22
Mar. 2	39.80	May 4	40.22	Oct. 2	42.15	Dec. 28	42.06
9	39.73						

6/34-4F3. City of Lompoc. Northwest corner of West Olive and O Sts., Lompoc. Drilled unused well in gravel, diameter 16 inches, depth 81 feet, perforations 60-77 feet. Records available: 1950. July 27, 52.67; Aug. 28, 52.57; Sept. 27, 51.68; Oct. 31, 50.40; Nov. 30, 49.56; Dec. 28, 52.54.

6/34-6C2. Bank of America. Records available: 1930-39, 1943-50.

Feb. 7	57.85	June 2	69.81	Sept. 27	65.94	Nov. 30	58.14
Mar. 2	57.59	29	72.03	Oct. 31	63.87	Dec. 28	64.55
May 3	68.38	Aug. 28	69.79				

7/31-23P1. F. L. Mattei. Records available: 1942-50.

Jan. 26	52.37	May 4	49.23	Sept. 26	59.05	Dec. 1	58.03
Mar. 6	50.47	July 28	56.23	Oct. 27	58.64	28	55.77

7/31-25L1. Dr. Ina M. Richter and Mrs. Virginia Lee. Records available: 1942-50. Jan. 26, 78.19; Mar. 6, 83.99, pumping; Apr. 10, 82.13, pumping; Dec. 29, 84.19.

7/31-36G2. Laura Grossi. Records available: 1947-50.

Jan. 26	43.70	May 4	46.74	Aug. 29	48.22	Dec. 1	47.78
Mar. 6	43.34	June 30	48.11	Sept. 26	49.31	29	47.37
Apr. 10	44.68	July 28	47.86	Oct. 27	49.30		

7/31-36L2. D. B. Kilbourne. Records available: 1942-50.

Jan. 26	36.00	May 4	42.82	Sept. 26	46.52	Dec. 1	40.94
Mar. 6	35.63	June 30	45.82	Oct. 27	44.38	29	40.02
Apr. 10	37.99	Aug. 29	43.56				

7/33-30C1. John Valla. Records available: 1941-50.

Jan. 31	153.59	June 5	153.77	Aug. 28	c154.08	Dec. 1	154.35
Mar. 2	153.66	30	153.82	Oct. 2	154.23	28	154.40
May 4	c153.79	July 27	c153.96	30	c154.24		

c Nearby well being pumped.

7/34-9H3. U. S. Geol. Survey. Union Oil Co. Purisima Lease. Records available: 1948-50.

7/34-9H3--Continued.

Daily highest water level, from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	9.83	.....	.....	10.14	.....	.....	10.50	10.56	10.20	10.16	10.25	.....
2	9.82	.....	.....	10.16	.....	.....	10.48	10.58	10.19	10.16	10.27	10.16
3	9.81	.....	9.99	10.15	.....	10.32	10.47	10.60	10.18	10.18	10.29	10.16
4	9.81	.....	9.99	10.11	10.18	10.33	10.46	10.61	10.17	10.21	10.27	10.17
5	9.81	.....	10.00	10.11	10.21	10.36	10.47	10.61	10.17	10.21	10.24	10.19
6	9.83	.....	10.05	10.12	10.24	10.37	10.49	10.60	10.19	10.19	10.23	10.19
7	9.86	.....	10.08	10.14	10.25	10.39	10.52	10.60	10.21	10.19	10.23	10.17
8	9.78	9.93	10.08	10.13	10.25	10.42	10.55	10.60	10.24	10.19	10.22	10.17
9	9.76	9.91	10.08	10.12	10.27	10.46	10.55	10.60	10.26	10.18	10.20	10.17
10	9.76	9.84	10.08	10.14	10.25	10.46	10.56	10.60	10.27	10.18	10.20	10.19
11	9.78	9.81	.....	.....	.....	10.45	10.59	10.58	10.27	10.18	10.20	10.21
12	.....	9.81	.....	10.23	.....	10.46	10.62	10.58	10.26	10.18	10.22	10.20
13	.....	9.82	.....	10.23	.....	10.46	10.62	10.58	10.26	10.19	10.20	10.16
14	.....	9.85	.....	10.23	.....	10.46	10.59	10.57	10.26	10.18	10.18	10.15
15	.....	9.87	.....	10.25	.....	10.45	10.57	10.56	10.26	10.18	10.17	10.15
16	.....	9.89	.....	10.23	10.20	10.45	10.56	10.56	10.23	10.18	10.21	10.16
17	.....	9.87	.....	10.19	10.19	10.45	10.55	10.56	10.21	10.17	10.26	10.17
18	.....	9.85	.....	10.15	10.19	10.45	10.56	10.54	10.21	10.19	10.23	10.18
19	.....	9.85	.....	10.13	10.20	10.43	10.56	10.46	10.22	10.21	10.20	10.18
20	.....	9.84	.....	10.13	10.19	10.42	10.59	10.37	10.25	10.23	10.20	10.19
21	.....	9.84	.....	10.13	10.18	10.42	10.61	10.32	10.26	10.23	10.22	10.19
22	.....	.....	.....	10.12	10.18	10.42	10.61	10.29	10.26	10.23	10.21	10.19
23	.....	.....	10.17	10.13	.....	10.43	10.61	10.27	10.26	10.23	10.18	10.20
24	.....	.....	10.13	10.13	.....	10.44	10.61	10.25	10.24	10.23	10.17	10.19
25	.....	.....	10.07	10.13	.....	10.47	10.61	10.24	10.23	10.23	10.17	10.17
26	.....	.....	10.06	.....	.....	10.49	10.62	10.23	10.22	10.23	10.17	10.17
27	.....	.....	10.07	.....	.....	10.53	10.61	10.23	10.21	10.23	10.19	10.16
28	.....	.....	10.09	.....	.....	10.54	10.61	10.22	10.19	10.24	.....	10.17
29	.....	.....	10.10	.....	.....	10.54	10.60	10.21	10.18	10.25	.....	10.17
30	.....	.....	10.10	.....	.....	10.51	10.57	10.20	10.17	10.24	.....	10.15
31	.....	.....	10.10	.....	.....	.....	10.55	10.20	.....	10.24	.....	10.14

7/34-9H4. U. S. Geol. Survey. Union Oil Co. Purisima Lease. Records available: 1948-50. Feb. 8, 1.59. Measurement discontinued.

7/34-12E1. U. S. Geol. Survey. Union Oil Co. Purisima Lease. Records available: 1949-50. Jan. 5, 302.10, tape measurement; Jan. 10, 302.02, tape measurement; Feb. 8, 302.10, tape measurement; July 28, 302.39, tape measurement.

Daily highest water level, from recorder graph

Day	Mar.	Apr.	May	Sept.	Oct.	Nov.	Dec.
1	.....	.....	.....	.....	302.35	302.65	.....
2	.....	.....	h302.10	.....	302.45	302.57	302.55
3	h302.10	h301.90	.....	.....	302.50	302.54	302.62
4	302.05	.....	302.13	.....	302.45	302.48	302.64
5	302.05	.....	302.33	.....	302.38	302.47	302.67
6	301.98	.....	302.29	.....	302.36	302.50	302.53
7	301.97	.....	302.28	.....	302.39	302.51	302.52
8	301.97	.....	302.28	.....	302.41	302.40	302.54
9	302.00	.....	302.20	.....	302.40	302.40	302.67
10	302.03	.....	302.16	.....	302.40	302.52	302.68
11	.....	h302.25	.....	.....	302.43	302.54	302.63
12	.....	302.16	.....	.....	302.45	302.45	302.52
13	.....	h302.18	.....	302.53	302.38	302.37	302.48
14	.....	.....	.....	302.53	302.40	302.40	302.49
15	.....	.....	.....	302.46	302.44	302.70	302.64
16	.....	.....	302.12	302.40	302.47	302.74	302.69
17	.....	.....	302.14	302.40	302.54	302.53	302.61
18	.....	h301.97	302.18	302.49	302.52	302.42	302.58
19	.....	302.02	302.18	302.60	302.52	302.44	302.64
20	.....	302.06	302.15	302.49	302.52	302.64	302.70

7/34-12E1--Continued.

Daily highest water level, from recorder graph

Day	Mar.	Apr.	May	Sept.	Oct.	Nov.	Dec.
21	h302.24	302.05	302.15	302.49	302.52	302.48	302.63
22	302.07	302.15	.....	302.51	302.42	302.61
23	302.11	.....	.....	302.52	302.42	302.61
24	302.52	302.49	302.55
25	302.53	302.54	302.50
26	302.52	302.54	302.55
27	h302.24	.....	.....	.....	302.60	302.49	302.63
28	302.58	.....	302.57
29	302.52	.....	302.58
30	302.35	302.54	.....	.....
31	302.57	.....	.....

h Tape measurement.

7/34-14F1. Walter F. Ziesche. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 8	196.89	June 30	197.37	Sept. 29	197.76	Nov. 30	197.89
Mar. 3	197.89	July 28	197.52	Oct. 27	197.87	Dec. 28	197.89
June 2	197.21	Aug. 28	197.63				

7/34-21E1. U. S. Geol. Survey. Camp Cooke Military Reservation. Records available: 1948-50.

Daily highest water level, from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	.....	18.94	20.00	.....	.....	21.97	22.29	22.19	22.35	.....	.....
2	.....	.....	19.00	19.96	.....	.....	21.94	22.30	22.15	22.45	.....	21.63
3	.....	.....	18.97	19.96	20.93	21.48	21.94	22.30	22.13	22.52	.....	21.67
4	.....	.....	18.96	20.02	20.97	21.45	22.02	22.33	22.13	22.50	22.30	21.69
5	.....	.....	18.95	20.13	21.01	21.45	22.04	22.41	22.18	22.52	22.33	21.70
6	.....	.....	18.92	20.17	21.01	21.49	22.07	22.43	22.18	22.54	22.36	21.64
7	.....	.....	18.94	20.18	21.01	21.54	22.13	22.45	22.21	.....	22.33	21.64
8	.....	h19.13	18.99	20.16	21.03	21.57	22.18	22.47	22.31	.....	22.31	21.68
9	.....	.....	19.05	20.19	21.04	21.59	22.23	22.46	22.34	.....	22.31	21.67
10	.....	.....	19.10	20.16	21.08	21.60	22.26	22.44	22.37	.....	22.35	21.68
11	.....	.....	.....	.....	.....	21.61	22.27	22.44	22.38	.....	22.32	21.66
12	.....	.....	.....	20.17	.....	21.61	22.20	22.43	22.35	.....	22.32	21.63
13	.....	19.02	.....	20.26	.....	21.62	22.16	22.39	22.35	.....	22.30	21.64
14	.....	19.02	.....	20.37	.....	21.68	22.14	22.36	22.42	.....	22.35	21.69
15	.....	19.01	.....	20.43	.....	21.70	22.12	22.36	.....	.....	22.41	21.76
16	.....	19.01	.....	20.43	21.24	21.77	22.09	22.37	.....	.....	22.41	21.76
17	h19.43	19.00	.....	20.44	21.28	21.80	22.08	22.37	.....	.....	22.22	21.72
18	19.41	18.97	.....	20.53	21.34	21.80	22.08	22.37	.....	.....	22.08	21.70
19	19.42	18.94	.....	20.63	21.35	21.81	22.14	22.38	.....	.....	22.07	21.71
20	19.45	18.92	.....	20.72	23.36	21.81	22.16	22.36	.....	.....	22.00	21.74
21	19.41	.....	.....	20.77	23.34	21.83	22.22	22.34	.....	.....	21.89	21.75
22	19.35	.....	h19.72	20.81	23.34	21.87	22.21	22.31	.....	.....	21.83	21.75
23	19.31	.....	.....	20.79	.....	21.88	22.18	22.31	.....	.....	21.82	21.80
24	19.31	.....	.....	20.79	.....	21.88	22.18	22.31	.....	.....	21.79	21.82
25	.....	h18.94	.....	20.81	.....	21.91	22.18	22.30	.....	.....	.....	21.80
26	.....	18.92	.....	.....	.....	21.93	22.21	22.30	.....	.....	.....	21.82
27	.....	18.92	h19.80	.....	.....	21.94	22.20	22.28	.....	.....	.....	21.81
28	.....	18.92	19.77	.....	.....	21.94	22.23	22.27	.....	.....	.....	21.80
29	.....	.....	19.81	.....	.....	21.93	22.24	22.23	.....	.....	.....	21.79
30	.....	.....	19.87	.....	.....	21.97	22.21	22.23	22.24	.....	.....	21.79
31	.....	.....	19.96	.....	.....	.....	22.21	22.22	.....	.....	.....	21.75

h Tape measurement.

7/34-22H1. H. E. Harris. Records available: 1941-42, 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 8	a26.21	June 5	28.37	Aug. 28	28.14	Nov. 30	27.65
Mar. 3	26.96	30	28.63	Sept. 29	28.03	Dec. 28	27.55
8	26.56	July 27	27.88	Oct. 31	28.02		

a Pumping.

7/34-22Q4. U. S. Geol. Survey. A. Scolari. Records available: 1947-50.

Feb. 8, 20.01; Mar. 3, 18.89; Mar. 9, 19.11; May 4, 20.06; June 5, 21.36; June 30, 20.79; July 27, 21.21.

7/34-26A2. K. McConnell. Records available: 1941-50. Measurement discontinued.

Jan. 31	42.12	May 4	43.00	July 27	43.37	Oct. 30	43.15
Mar. 2	41.96	June 2	43.20	Aug. 28	43.50	Dec. 1	42.93
9	41.95	30	43.46	Oct. 2	43.41	28	42.77

7/34-27A4. U. S. Geol. Survey. L. H. Schuyler. Records available: 1947-50.

Feb. 8, 14.87; Mar. 3, 13.80; Mar. 9, 13.79; May 4, 14.40; June 5, 14.86; June 30, 15.19; July 27, 15.42.

7/34-27J3. U. S. Geol. Survey. L. H. Schuyler. Records available: 1943-45, 1947-50. Feb. 8, 24.22; Mar. 3, 23.72; Mar. 9, 23.57; May 4, 23.36.

7/34-27L1. Mrs. Susan Van Clief. Records available: 1941-50.

Feb. 8	38.32	May 4	42.45	Aug. 28	45.01	Nov. 30	38.02
Mar. 3	38.66	June 30	44.07	Sept. 29	45.50	Dec. 28	40.75
9	40.23	July 27	43.90	Oct. 31	41.52		

7/34-28A2. U. S. Geol. Survey. S. B. Westrope. Records available: 1947-50.

Feb. 8, 30.44. Measurement discontinued.

7/34-28H2. T. M. Parks. Records available: 1930-39, 1942-50.

Feb. 8	31.46	May 4	36.43	July 27	38.81	Oct. 31	35.17
Mar. 3	32.71	June 5	37.06	Aug. 28	36.86	Nov. 30	34.62
9	32.33	29	39.68	Sept. 29	39.13	Dec. 28	34.56

7/34-28R1. A. C. Zvolanek. Records available: 1930-50.

Feb. 8	15.24	July 27	23.18	Sept. 29	19.10	Nov. 30	16.08
Mar. 9	15.11	Aug. 28	19.14	Oct. 31	16.83	Dec. 28	17.22
June 29	21.32						

7/34-28R2. U. S. Geol. Survey. A. C. Zvolanek. Records available: 1943-50.

Feb. 8	13.38	July 27	16.49	Sept. 29	16.70	Nov. 30	15.95
Mar. 9	13.16	Aug. 28	17.00	Oct. 31	16.36	Dec. 28	15.63
June 29	16.91						

7/34-29E4. W. H. Sanor. Records available: 1945-50.

Feb. 7	21.99	June 5	36.18	Aug. 29	29.40	Nov. 30	28.29
Mar. 3	24.87	29	34.22	Sept. 29	29.51	Dec. 28	29.96
May 4	35.15	July 27	37.26	Oct. 31	28.38		

7/34-29E5. U. S. Geol. Survey. W. H. Sanor. Records available: 1945-50.

Feb. 7	23.05	June 5	24.37	Aug. 29	24.84	Nov. 30	24.88
Mar. 3	22.87	29	24.81	Sept. 29	24.82	Dec. 28	25.13
May 4	23.01	July 27	24.58	Oct. 31	24.89		

7/34-30L2. Union Sugar Co. Records available: 1930-35, 1941-42, 1945-50.

Feb. 7, 19.51; Mar. 2, 21.83; Aug. 29, 28.08; Sept. 27, 29.05; Nov. 30, 25.02; Dec. 28, 27.26.

7/34-30L3. U. S. Geol. Survey. Union Sugar Co. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	19.21	June 5	24.93	Aug. 29	25.44	Nov. 30	23.09
Mar. 2	19.10	29	c25.41	Sept. 27	24.05	Dec. 28	23.41
May 4	c23.30	July 27	c25.80	Oct. 31	23.82		

c Nearby well being pumped.

7/34-30R1. Mrs. E. Manfrina. Records available: 1930-50.

Feb. 7	21.89	June 5	23.27	Aug. 29	23.13	Nov. 30	23.87
Mar. 3	21.81	29	23.57	Sept. 29	23.30	Dec. 28	23.43
May 4	22.83	July 27	23.74	Oct. 31	23.62		

7/34-31C2. Union Sugar Co. Records available: 1947-50.

Feb. 7	21.54	June 29	36.01	Sept. 27	28.90	Nov. 30	27.25
June 2	39.38	Aug. 28	30.05	Oct. 31	27.96	Dec. 28	33.04

7/34-31C3. U. S. Geol. Survey. Union Sugar Co. Records available: 1947-50.

Feb. 7	18.89	June 28	18.74	Sept. 27	19.54	Nov. 30	18.49
Mar. 2	19.18	July 27	18.31	Oct. 31	19.92	Dec. 28	20.91
June 2	17.95	Aug. 28	19.03				

7/34-32A1. Mrs. May Clemmens. Formerly O. F. Benn. Records available: 1947-50.

Feb. 8	29.98	June 5	43.26	Aug. 28	39.68	Nov. 30	38.67
Mar. 3	34.60	29	40.62	Sept. 29	40.12	Dec. 28	36.15
May 4	40.87	July 27	43.04	Oct. 31	34.44		

7/34-32A4. U. S. Geol. Survey. O. F. Benn. Records available: 1947-50.

Feb. 8, 29.78; Mar. 3, 28.80; May 4, 29.18; June 5, 30.11; June 29, 30.52.

7/34-32P5. U. S. Geol. Survey. J. Bodger & Sons. Records available: 1947-50.

Feb. 7	30.40	June 2	31.97	Aug. 28	33.37	Nov. 30	32.30
Mar. 2	30.60	29	32.64	Sept. 27	32.86	Dec. 28	32.42
May 3	31.89	July 27	33.44	Oct. 31	32.34		

7/34-34H1. Mrs. M. Balaam. Records available: 1941-50.

Feb. 8	47.15	June 30	52.63	Sept. 29	52.04	Nov. 30	50.45
Mar. 3	47.75	Aug. 28	41.97	Oct. 31	53.32	Dec. 28	49.94

7/34-34H2. U. S. Geol. Survey. Mary Skaarup. Records available: 1943-50.

Feb. 8, 47.50; June 30, 48.36.

7/34-35F2. Valla Bros. Records available: 1930-50.

Jan. 10	26.65	Feb. 25	22.78	Mar. 9	22.14	Dec. 1	30.98
31	26.02	Mar. 2	22.28	Oct. 31	31.81	28	30.67
Feb. 13	24.33						

7/34-35F6. U. S. Geol. Survey. M. Schuyler. Records available: 1943-50.

Feb. 8, 47.76; Mar. 3, 44.81; May 4, 51.34.

7/34-35F16. M. Schuyler. Records available: 1947-50.

Feb. 8	47.83	May 4	52.59	Sept. 29	54.65	Nov. 30	53.21
Mar. 3	45.48	June 5	52.73	Oct. 31	54.15	Dec. 28	52.77
9	46.50	Aug. 28	55.80				

7/34-35K2. Mrs. M. McDonald. Records available: 1930-50.

Jan. 31	14.28	May 4	19.98	July 27	18.51	Oct. 31	15.84
Mar. 2	13.75	June 2	18.45	Aug. 28	16.73	Dec. 1	15.45
9	13.66	30	18.67	Oct. 2	15.56	28	15.35

7/34-35P1. W. P. and N. L. Robinson. Records available: 1930-50. Mar. 2, 41.21; Mar. 9, 42.19; May 4, 48.11. Measurement discontinued.

7/35-20J1. Dept. of the Army. Camp Cooke Military Reservation. Records available: 1930-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	9.58	June 2	11.51	Aug. 28	10.99	Nov. 30	10.78
Mar. 2	9.82	29	10.92	Sept. 27	11.08	Dec. 28	10.60
May 3	9.99	July 27	11.05	Oct. 31	10.97		

7/35-22F2. U. S. Geol. Survey. Camp Cooke Military Reservation. Records available: 1947-50.

Feb. 7	4.03	June 2	4.85	Aug. 29	5.67	Nov. 30	6.09
Mar. 2	4.84	29	5.03	Sept. 27	6.14	Dec. 28	5.84
May 3	4.87	July 27	5.17	Oct. 31	6.22		

7/35-22J1. Union Sugar Co. Records available: 1930-35, 1941-42, 1945-50. Feb. 7, 12.96; Mar. 2, 14.86; July 27, 20.11; Sept. 27, 17.67; Oct. 31, 15.80; Nov. 30, 15.09; Dec. 28, 14.75.

7/35-22M1. Dept. of the Army. Camp Cooke Military Reservation. Records available: 1947-50.

Feb. 7	9.49	May 3	11.87	Aug. 28	12.75	Nov. 30	10.61
Mar. 2	10.50	July 27	18.51	Oct. 31	11.43	Dec. 28	10.46

7/35-22M2. U. S. Geol. Survey. Camp Cooke Military Reservation. Records available: 1947-50.

Feb. 7	13.86	June 2	14.23	Aug. 28	9.03	Nov. 30	10.92
Mar. 2	13.54	29	11.33	Sept. 27	c9.05	Dec. 28	11.79
May 3	13.58	July 27	9.99	Oct. 31	10.42		

c Nearby well being pumped.

7/35-23E2. Union Sugar Co. Records available: 1930-35, 1941-43, 1945-50. Feb. 7, 17.73; Mar. 2, 17.99; Aug. 29, 23.36; Oct. 31, 20.25; Nov. 30, 19.53; Dec. 28, 19.03.

7/35-23E4. U. S. Geol. Survey. Union Sugar Co. Records available: 1947-50.

Feb. 7	13.69	June 2	c22.20	Aug. 29	21.37	Nov. 30	20.15
Mar. 2	18.08	29	c23.50	Sept. 27	c20.65	Dec. 28	19.79
May 3	20.97	July 27	c22.65	Oct. 31	20.39		

c Nearby well being pumped.

7/35-23J2. Union Sugar Co. Records available: 1947-50.

Feb. 7	15.70	June 2	26.80	Sept. 27	20.69	Nov. 30	18.72
Mar. 2	18.14	July 27	31.11	Oct. 31	19.02	Dec. 28	18.84
May 3	25.34	Aug. 29	22.48				

7/35-23J3. U. S. Geol. Survey. Union Sugar Co. Records available: 1947-50.

Feb. 7	18.73	June 2	23.26	Aug. 29	22.86	Nov. 30	21.11
Mar. 2	18.67	29	c23.26	Sept. 27	22.07	Dec. 28	20.35
May 3	22.83	July 27	22.80	Oct. 31	21.49		

c Nearby well being pumped.

7/35-23N2. U. S. Geol. Survey. Union Sugar Co. Records available: 1945-50.

Feb. 7	13.26	June 2	c14.36	Aug. 29	14.60	Nov. 30	14.30
Mar. 2	13.02	29	c14.32	Sept. 27	14.10	Dec. 28	14.14
May 3	13.17	July 27	11.29	Oct. 31	14.70		

c Nearby well being pumped.

7/35-24J1. T. M. Parks. Records available: 1941-43, 1947-50. Feb. 7, 28.92; Mar. 2, 28.25; May 4, 26.78; June 5, 21.88, nearby well being pumped; June 29, 21.61. Measurement discontinued.

7/35-24J2. U. S. Geol. Survey. T. M. Parks. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	28.93	June 5	25.04	Aug. 29	26.98	Nov. 30	28.15
Mar. 2	28.57	29	24.38	Sept. 27	27.62	Dec. 28	28.44
May 4	28.91	July 27	25.52	Oct. 31	27.67		

7/35-25F6. U. S. Geol. Survey. Union Sugar Co. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	13.30	June 5	11.23	Aug. 29	c12.67	Nov. 30	13.70
Mar. 2	c13.29	29	c11.65	Sept. 27	12.65	Dec. 28	12.56
May 4	11.02	July 27	11.75	Oct. 31	13.60		

c Nearby well being pumped.

7/35-26F1. Union Sugar Co. Records available: 1947-50. Feb. 7, 8.68; July 27, 19.82; Aug. 29, 16.54; Sept. 27, 14.34; Oct. 31, 12.50; Nov. 30, 11.99; Dec. 28, 12.94.

7/35-26F3. U. S. Geol. Survey. Union Sugar Co. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	9.58	June 2	c 9.98	Aug. 29	9.88	Nov. 30	11.08
Mar. 2	10.00	29	c10.32	Sept. 27	10.49	Dec. 28	11.07
May 3	9.85	July 27	10.39	Oct. 31	11.07		

c Nearby well being pumped.

7/35-26J4. County of Santa Barbara, Artesia School District. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	10.37	May 3	21.47	July 27	25.71	Oct. 27	15.39
Mar. 2	15.16	June 2	25.88	Aug. 29	19.40	Nov. 30	14.07
Apr. 3	29.03	29	25.73	Sept. 28	16.74	Dec. 28	16.58

7/35-27C2. Southern Pacific Railroad. Records available: 1930-32, 1941-49. No measurement made in 1950.

7/35-35A3. Gus Aquistapace. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	10.80	June 2	20.07	Aug. 28	20.71	Nov. 30	14.36
Mar. 2	10.51	29	25.26	Sept. 27	20.53	Dec. 28	13.97
May 3	24.55	July 27	25.81	Oct. 31	17.90		

7/35-35A4. U. S. Geol. Survey. Gus Aquistapace. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 2	10.26	June 29	14.06	Sept. 27	14.44	Nov. 30	13.43
Mar. 3	13.47	July 27	14.40	Oct. 31	14.94	Dec. 28	13.66
June 2	12.41	Aug. 28	13.96				

7/35-35C2. Dept. of the Army. Camp Cooke Military Reservation. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	1.05	June 2	6.32	Aug. 28	7.05	Nov. 30	3.81
Mar. 2	.80	29	8.52	Sept. 27	7.15	Dec. 28	3.42
May 3	7.47	July 27	8.63	Oct. 31	5.77		

7/35-35C4. U. S. Geol. Survey. Camp Cooke Military Reservation. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	2.68	June 2	3.72	Aug. 28	3.83	Nov. 30	4.34
Mar. 2	3.39	29	3.03	Sept. 27	3.15	Dec. 28	4.71
May 3	3.14	July 27	3.13	Oct. 31	3.22		

7/35-36J6. Denholm Seed Co. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 7	21.54	June 2	34.71	Aug. 28	31.08	Nov. 30	25.24
Mar. 2	22.19	29	34.48	Sept. 27	28.94	Dec. 28	29.27
May 3	32.04	July 27	38.15				

7/35-36J7. U. S. Geol. Survey. Denholm Seed Co. Records available: 1947-50.

Feb. 7	22.81	June 1	29.13	Aug. 28	30.10	Nov. 30	25.64
Mar. 2	22.39	29	30.33	Sept. 27	28.18	Dec. 28	26.52
May 3	27.68	July 27	31.32	Oct. 31	26.83		

San Antonio Valley

8/32-30K2. John Parma. Records available: 1943-50.

Jan. 31	2.27	June 2	4.07	Aug. 28	5.83	Nov. 29	4.79
Mar. 3	1.95	28	5.72	Sept. 27	5.41	Dec. 27	4.43
May 2	3.12	July 26	5.43	Oct. 26	5.51		

8/33-20K1. Virginia Barca Estate. Records available: 1943-50.

Jan. 31	23.90	June 2	c35.54	July 28	25.25	Nov. 30	25.66
Mar. 2	23.92	28	27.72	Oct. 26	c35.96	Dec. 27	25.22
May 2	23.72						

c Nearby well being pumped.

8/33-20R1. Virginia Barca Estate. Records available: 1943-50.

Jan. 31	22.60	June 2	31.05	Aug. 28	35.80	Nov. 29	24.08
Mar. 2	22.73	28	b31.86	Sept. 27	36.32	Dec. 27	a29.29
May 2	23.07	July 26	29.50	Oct. 26	31.88		

a Pumping.

b Pumped recently.

8/34-23B1. Josephine Harris Estate. Records available: 1943-50.

Jan. 31	16.02	June 2	16.94	Aug. 28	17.69	Nov. 29	16.50
Mar. 2	c15.75	28	c17.81	Sept. 27	17.01	Dec. 27	16.34
May 2	c15.80	July 26	c17.79	Oct. 26	16.74		

c Nearby well being pumped.

Santa Maria Valley

9/32-7N1. Valerio Tognazzini. Records available: 1924, 1930, 1932-33, 1938-50.

Jan. 1	96.75	Mar. 29	99.72	Sept. 27	112.15	Nov. 29	105.75
30	97.12	Apr. 1	99.50	Oct. 1	107.80	Dec. 27	105.76
Mar. 1	97.58	July 1	b99.70	26	106.31		

b Pumped recently.

9/32-17G1. Caldron Estate. Records available: 1941-50.

Jan. 30	63.84	May 2	65.11	July 26	63.56	Oct. 26	62.37
Mar. 1	63.71	June 1	66.33	Aug. 28	63.07	Nov. 29	61.58
29	63.56	28	63.23	Sept. 27	62.29	Dec. 27	60.90

9/33-2A1. Santa Maria Realty Co. Records available: 1930-33, 1936, 1938-50.

Jan. 1	72.65	Apr. 1	73.85	Aug. 28	79.71	Oct. 26	78.65
30	73.40	June 1	74.58	Sept. 27	78.24	Nov. 29	78.86
Mar. 1	73.42	July 1	75.56	Oct. 1	78.25	Dec. 27	79.12
30	73.91	26	76.65				

9/33-15D1. South Basin Oil Co. Records available: 1947-50. Mar. 1, 343.53; Nov. 29, 352.04.

9/34-3N3. City of Santa Maria well 3. Air line measurements by city of Santa Maria. Records available: 1933-50. Apr., 175.3; May, 174.9; June, 174.5; July, 174.5; Aug., 174.5; Sept., 174.9; Oct., 175.4.

9/34-8K1. C. Muscio. Records available: 1947-50. Jan. 31, 155.69; Mar. 1, 156.00; Apr. 13, 156.23; Dec. 27, 159.65.

10/33-7R2. Mrs. Lucy Howard. Formerly P. T. Bonetti. Records available: 1944-50. Jan. 30, 122.97; Mar. 1, 124.90. Measurement discontinued.

10/33-18G1. La Brea Securities Co. well 8. Measurements by Santa Maria Valley Water Conservation District. Records available: 1939-50. Jan. 1, 125.70; Apr. 1, 125.70; Apr. 4, 126.69; July 1, 114.83; Oct. 1, 131.40.

10/33-19B1. Owen T. Rice. Records available: 1927, 1929-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	121.54	Mar. 28	121.69	July 1	b145.50	Oct. 26	149.96
30	120.84	Apr. 1	123.93	Sept. 27	146.88	Nov. 29	137.50
Mar. 1	121.01	May 2	122.30	Oct. 1	148.17	Dec. 26	139.57

b Pumped recently.

10/33-21N2. Frank Costa, Jr. Records available: 1944-50. Jan. 30, 122.20; Mar. 28, 124.97; Oct. 26, 132.94; Nov. 29, 130.24; Dec. 26, 129.12.

10/33-27G1. W. C. Adam. Measurements by Santa Maria Valley Water Conservation District. Records available: 1929-33, 1936, 1938-50. Jan. 1, 101.28; Apr. 1, 100.80; July 1, 115.95; Oct. 1, 116.53.

10/33-27K1. L. H. Adam. Records available: 1941-50.

Jan. 30	90.39	May 2	c89.06	July 26	c97.59	Oct. 26	98.96
Mar. 1	87.24	June 1	c92.30	Aug. 28	100.19	Nov. 29	96.45
27	87.55	28	c94.79	Sept. 27	109.56	Dec. 26	94.90

c Nearby well being pumped.

10/33-28A1. Joe Soares. Records available: 1929-50.

Jan. 1	101.30	Apr. 1	101.73	Aug. 28	107.11	Nov. 29	104.30
30	100.52	June 28	104.76	Oct. 1	107.25	Dec. 26	102.96
Mar. 27	102.13	July 1	b105.98	26	105.91		

b Pumped recently.

10/33-33H1. E. L. Sargent. Records available: 1947-50. Mar. 1, 201.72; May 2, 203.45, pumping; June 1, 203.90; July 26, 205.33; Aug. 28, 206.19; Nov. 29, 208.59; Dec. 27, 209.10.

10/34-2R1. Gracio Apalatequi. Records available: 1929-30, 1933, 1938-50.

Jan. 1	118.30	June 28	125.27	Oct. 1	125.50	Nov. 29	121.88
30	117.65	July 1	125.27	26	124.67	Dec. 26	121.58
Apr. 1	b147.90	Aug. 28	129.93				

b Pumped recently.

10/34-4R1. Gerald Donovan. Records available: 1945-50. Jan. 30, 107.44; Mar. 1, 107.22; Apr. 11, 108.26; Oct. 26, 116.08; Nov. 29, 114.87; Dec. 27, 114.10.

10/34-6N1. Grisingher & Signorelli. Records available: 1930, 1934, 1936-50.

Jan. 1	76.05	Apr. 13	77.02	Aug. 28	88.39	Oct. 26	85.09
30	74.76	June 28	82.51	Sept. 27	85.78	Nov. 29	82.35
Mar. 1	b75.72	July 1	b83.00	Oct. 1	b85.30	Dec. 27	81.14
Apr. 1	76.80						

b Pumped recently.

10/34-9F1. Mrs. A. E. Preisker. Measurements by Santa Maria Valley Water Conservation District. Records available: 1942-50. Jan. 1, 104.80; Apr. 1, 105.52; Apr. 11, 105.29; July 1, 111.20, pumped recently; Oct. 1, 114.57.

10/34-14E3. City of Santa Maria. Records available: 1917-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	133.38	Apr. 3	132.77	June 28	g135.67	Oct. 1	139.31
8	133.31	9	132.91	July 2	135.96	8	139.48
15	133.00	16	132.17	9	136.33	15	139.60
22	132.83	23	133.25	16	136.58	22	139.77
30	g132.59	30	133.50	23	136.83	26	g139.74
Feb. 5	132.60	May 2	g133.40	26	g136.85	29	139.73
12	132.50	5	132.27	Aug. 6	137.40	Nov. 5	139.77
19	132.33	12	132.31	13	137.65	12	139.81
27	132.25	19	132.46	20	138.13	19	139.54
Mar. 1	g132.10	26	132.71	27	138.29	26	139.56
5	132.25	June 1	g134.49	29	g137.25	29	g139.45
12	132.33	4	134.79	Sept. 10	138.67	Dec. 3	139.38
19	132.50	11	135.04	17	138.94	10	139.25
26	132.67	18	135.33	24	139.04	17	139.17
Apr. 2	132.75	25	135.75	27	g139.09	24	139.00
						27	g138.99

g By Geological Survey.

10/34-20H1. Ulisse Tognazzini. Records available: 1944-50.

Jan. 30	93.28	Apr. 6	93.64	Sept. 27	99.62	Nov. 29	98.65
Mar. 1	92.08	Aug. 28	100.08	Oct. 26	100.02	Dec. 27	98.08

10/34-22R1. George J. Wheat. Records available: 1931, 1934, 1938-50.

Jan. 1	g124.67	Apr. 4	123.39	Sept. 27	129.40	Nov. 29	128.44
30	122.24	June 1	125.69	Oct. 1	g129.50	Dec. 27	128.04
Apr. 1	g123.00	July 1	g127.00				

g By Santa Maria Valley Water Conservation District.

10/34-23H1. Marion B. Rice. Records available: 1929-30, 1933, 1938-50.

Jan. 1	g140.20	Apr. 4	142.83	July 1	g146.50	Oct. 1	g148.33
Apr. 1	g141.30	June 1	144.46	Sept. 27	147.91	26	147.17

g By Santa Maria Valley Water Conservation District.

10/34-31F1. Union Sugar Co. Records available: 1944-50. Jan. 31, 94.70; Mar. 1, 94.53; Apr. 13, 95.28; May 2, 95.72; June 1, 97.04; June 28, 97.83; July 26, 98.05.

10/35-7F1. M. J. Ellis. Records available: 1929-36, 1938-50.

Jan. 1	5.20	Apr. 1	8.95	July 1	b23.70	Oct. 1	b21.37
30	3.86	May 2	13.91	Sept. 27	17.99	Dec. 27	6.54
Mar. 1	7.40						

b Pumped recently.

10/35-7G3. John Jenkins. Records available: 1942-50.

Jan. 30	12.91	May 2	24.49	July 26	26.69	Oct. 26	23.66
Mar. 1	16.91	June 1	25.57	Aug. 28	25.02	Nov. 29	17.59
Apr. 13	18.83	28	25.76	Sept. 27	26.53	Dec. 27	16.08

10/35-9F1. Waller-Franklin Seed Co. Records available: 1930, 1933, 1935-36, 1938-50.

Jan. 1	g28.10	July 1	g45.50	Sept. 27	44.34	Oct. 26	41.48
Apr. 1	g38.75	Aug. 28	43.18	Oct. 1	g41.25	Dec. 27	31.04
13	35.16						

g By Santa Maria Valley Water Conservation District.

10/35-9N1. Agnes King. Measurements by Santa Maria Valley Water Conservation District. Records available: 1930, 1938-50. Jan. 1, 25.80; Apr. 1, 32.30; July 1, 37.63, pumped recently; Oct. 1, 42.55.

10/35-12M1. E. and G. LeRoy. Records available: 1924, 1927, 1930-32, 1938-50. Jan. 1, 61.85; Apr. 1, 64.40; July 1, 73.85, pumped recently; Aug. 28, 74.66; Oct. 1, 72.35, pumped recently; Nov. 29, 68.25.

10/35-21B1. Mathison & Shaw. Records available: 1938-50. Jan. 1, 21.23; Jan. 31, 20.29; Apr. 1, 27.30; Apr. 12, 25.99; July 1, 40.80, pumped recently; Oct. 1, 40.28, pumped recently; Oct. 26, 33.67.

10/35-24B1. Union Sugar Co. Records available: 1934, 1938-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	g65.05	Apr. 10	66.97	July 26	76.21	Oct. 26	80.23
31	63.88	May 2	71.25	Aug. 28	78.91	Nov. 29	73.34
Mar. 1	65.70	June 28	78.50	Sept. 27	81.06	Dec. 27	70.49
Apr. 1	g66.43	July 1	g75.00	Oct. 1	g75.35		

g By Santa Maria Valley Water Conservation District.

11/34-19Q1. Frank Silva. Records available: 1947-50.

Mar. 1	234.97	June 1	245.20	Aug. 28	247.12	Nov. 29	240.70
May 2	241.92	July 26	b246.77	Sept. 27	246.46	Dec. 27	239.53

b Pumped recently.

11/34-30Q1. Mary Bolton. Records available: 1930, 1933, 1936, 1938-50.

Jan. 1	g73.25	Apr. 14	73.37	July 1	b71.33	Nov. 29	78.56
30	72.54	May 2	74.45	Oct. 1	g78.67	Dec. 27	78.07
Apr. 1	g72.67						

g By Santa Maria Valley Water Conservation District.

b Pumped recently.

11/34-34J1. L. O. Fox. Records available: 1947-50.

May 2	95.65	July 26	96.46	Sept. 27	102.45	Nov. 29	96.96
June 1	96.78	Aug. 28	97.70	Oct. 26	104.45	Dec. 26	101.84

11/35-20E1. Union Sugar Co. Records available: 1938-50.

Jan. 1	g7.58	Apr. 1	g10.50	Sept. 27	15.81	Nov. 29	9.51
30	6.29	May 2	12.89	Oct. 1	g13.83	Dec. 27	9.08
Mar. 1	7.93	July 1	b50.00	26	13.27		

b Pumped recently.

g By Santa Maria Valley Water Conservation District.

11/35-25H1. M. J. Mendoza. Records available: 1944-50.

Jan. 30	54.86	May 2	54.86	July 26	56.07	Oct. 26	57.58
Mar. 1	54.69	June 1	54.99	Aug. 28	56.70	Nov. 29	57.92
Apr. 14	54.90	28	55.67	Sept. 27	57.07	Dec. 27	58.09

11/35-26M2. Sam Tognazzini. Records available: 1944-50.

Jan. 30	43.30	May 2	59.24	July 26	65.99	Oct. 26	54.22
Mar. 1	45.17	June 1	62.85	Aug. 28	65.59	Nov. 29	51.15
Apr. 20	c60.25	28	63.03	Sept. 27	64.59	Dec. 27	47.90

c Nearby well being pumped.

11/35-28M1. Union Sugar Co. Measurements by Santa Maria Valley Water Conservation District. Records available: 1934, 1938-50. Jan. 1, 26.75; Apr. 1, 31.00, pumped recently; July 1, 32.00, pumped recently; Oct. 1, 36.25.

11/35-33G1. H. E. Pezzoni. Records available: 1930, 1933-34, 1938-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	g35.20	Apr. 25	42.86	Aug. 28	46.74	Oct. 26	41.80
30	32.13	June 1	44.91	Sept. 27	45.84	Nov. 29	37.11
Mar. 1	36.12	July 1	b48.20	Oct. 1	g43.87	Dec. 27	35.97
Apr. 1	g37.35						

b Pumped recently.

g By Santa Maria Valley Water Conservation District.

11/35-35A1. Elmer A. Runels. Measurements by Santa Maria Valley Water Conservation District. Records available: 1925, 1930, 1938-50. Jan. 1, 55.20; Apr. 1, 55.50; July 1, 63.05, pumped recently; Oct. 1, 63.75.

Cuyama Valley

7/24-13C1. Records available: 1941-49. Measurement discontinued. Replaced by 7/24-13C2.

7/24-13C2. Ventura County, Apache School District. About 3 miles northwest of Camp Ozena at Apache School, 370 feet southwest of U. S. Highway 399, 245 feet northwest of well 7/24-13C1. Drilled domestic water-table well, diameter 8 inches, depth 165 feet. Records available: 1950.

Jan. 26	36.95	June 27	37.64	Sept. 26	44.93	Nov. 28	39.66
May 1	37.88	July 25	38.06	Oct. 25	b46.67	Dec. 26	39.68
31	44.71	Aug. 28	38.59				

b Pumped recently.

8/24-81L1. Hickey Bros. Land Co. About 0.6 mile northwest of Santa Barbara County line. Drilled unused water-table well, diameter 12 inches, depth 290 feet. Records available: 1950.

Jan. 26	127.96	June 27	c135.33	Sept. 26	137.54	Nov. 28	140.40
May 1	c132.67	July 25	c136.73	Oct. 25	138.65	Dec. 26	141.30
31	c133.62	Aug. 28	137.68				

c Nearby well being pumped.

9/24-19Q1. Sam Knittle. Formerly W. C. Ramelli. Records available: 1941-50.

Jan. 26	59.66	May 1	61.75	July 25	64.14	Oct. 25	66.60
Feb. 28	60.35	31	62.60	Aug. 28	65.25	Nov. 28	68.21
Apr. 3	61.16	June 27	63.31	Sept. 26	66.00	Dec. 26	71.30

9/24-33M1. Walter C. Barnes. About 0.5 mile east of U. S. Highway 399, 125 feet north of Quatal Canyon Road. Drilled unused water-table well, diameter 12 inches, depth 233 feet. Records available: 1950.

May 1	170.81	July 25	173.43	Sept. 26	175.37	Nov. 28	176.87
31	171.67	Aug. 28	174.49	Oct. 25	176.07	Dec. 26	177.70
June 27	172.53						

10/25-21G1. E. H. Mettler. Records available: 1947-50. Jan. 27, 91.87; Feb. 28, 92.68; Apr. 3, 94.74; Nov. 28, 106.80; Dec. 26, 104.70.

10/25-30F1. Adolph Kirschenmann. Records available: 1942-50. Oct. 25, 66.90; Nov. 28, 64.48; Dec. 26, 63.92.

10/26-9R2. H. S. Russell. Records available: 1947-50. Jan. 27, 25.92; Feb. 28, 31.14; Apr. 3, 40.41; May 1, 39.48; May 31, 44.84; Nov. 28, 34.77; Dec. 26, 30.77.

10/26-22A1. W. C. Ramelli. Records available: 1941-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 27	8.38	May 1	16.24	July 25	32.60	Oct. 25	8.58
Feb. 28	6.55	31	25.17	Aug. 28	31.15	Nov. 28	5.75
Apr. 3	15.23	June 27	30.81	Sept. 26	12.64	Dec. 26	5.05

10/27-11C1. A. P. Anderson. Records available: 1947-50. Jan. 27, 24.90;
 Apr. 3, 30.61; June 27, 31.78; Aug. 28, 33.69; Oct. 25, 26.88; Nov. 28, 26.06;
 Dec. 26, 25.75.

10/27-12R1. William Kirschenmann Estate. Records available: 1941-50.

Jan. 27	46.65	Apr. 3	47.05	Sept. 26	47.71	Nov. 28	46.74
Feb. 28	46.50	July 25	49.33	Oct. 25	47.55	Dec. 26	45.59

HAWAII

By Dan A. Davis and Kiyoshi J. Takasaki

Scope of Water-Level Program

Investigations of ground-water resources of Hawaii were continued in 1950 in cooperation with the Hawaii Division of Hydrography. Water levels were measured in observation wells throughout the islands and salinity determinations were made on water from typical wells in various ground-water areas. Studies of the geology and ground-water resources of the island of Kauai were continued. Compilation of data in the study of fresh water-salt water relationships in the Ghyben-Herzberg lens continued. In this report tables show data on ground water in Hawaii in 1950, including artesian head, water levels, and the chloride content of water. At the end of the report ground-water draft from all principal sources is shown tabulated by islands. Measurements of artesian head or water levels are given in feet with reference to both mean sea level and land-surface datum. The data are shown in two columns designated A and B. Under column A, the figures indicate feet above mean sea level; under B, the figures are in feet above or below land-surface datum. The plus symbol in column B indicates that the artesian head or water level is above land-surface datum; no symbol indicates the level is below land-surface datum. For some of the wells, the figure given is the water level in the well measured directly; for others, it is the height to which the water would rise in a casing as indicated by the shut-in pressure. Under column C, the figures indicate the chloride content in parts per million.

Well-Numbering System

The well-numbering system in Hawaii may be described as follows:

Drilled wells. --Beginning with "1" at some point on each island drilled wells are numbered consecutively as they occur in geographic sequence around the island. Single wells separated from others and pumped separately are numbered individually. A group of closely spaced wells used to supply a central pumping plant is included under a single number with each individual well of the group distinguished by a letter. For example, the nine wells at the Beretania pumping station in Honolulu bear the number 88 A-1. In some areas certain numbers are left unassigned for the purpose of designating new drilled wells. If no unassigned number is available, a new well is designated by the number of the nearest well followed by a "1". For example, the first new well near well 405 is numbered 405-1 and the second and third new wells are called 405-2 and 405-3.

Test borings. --Holes drilled especially for test or observation purposes are called test borings. Test borings are numbered beginning with "1" and are distinguished by a "T" before each number. Test borings on an island existing before numbering was begun were numbered in a geographic sequence, but new borings are numbered consecutively as they are drilled, irrespective of location.

Shafts. --Shaft-type wells are high-capacity installations designed especially for the development of basal ground water. This type of well consists of a vertical or inclined shaft at the bottom of which drilled holes, tunnels, or a sump supply water to the pumps. Shafts are numbered beginning with "1", with each number preceded by the word "Shaft". The shafts constructed before the use of numbers are numbered in a rough geographic sequence; later shafts are numbered consecutively as they are constructed.

Dug wells. --Common dug wells are numbered beginning with "1", but only those dug wells that are important sources of water are assigned numbers. Numbering usually follows a geographic sequence.

Island of Oahu

During 1950 the Geological Survey made 375 water-level measurements and 444 chloride determinations in 136 wells on the island of Oahu. The Board of Water Supply, City and County of Honolulu made 183 measurements in 92 wells, 91 of which were measured more than once. Recording gages were maintained on 16 wells by the Board of Water Supply. In all representative wells in the artesian areas of the Honolulu district water levels made a net rise during the year, ranging from 0.04 foot in the Wilhelmina Rise area (5) to a maximum of 0.63 foot in the St. Louis

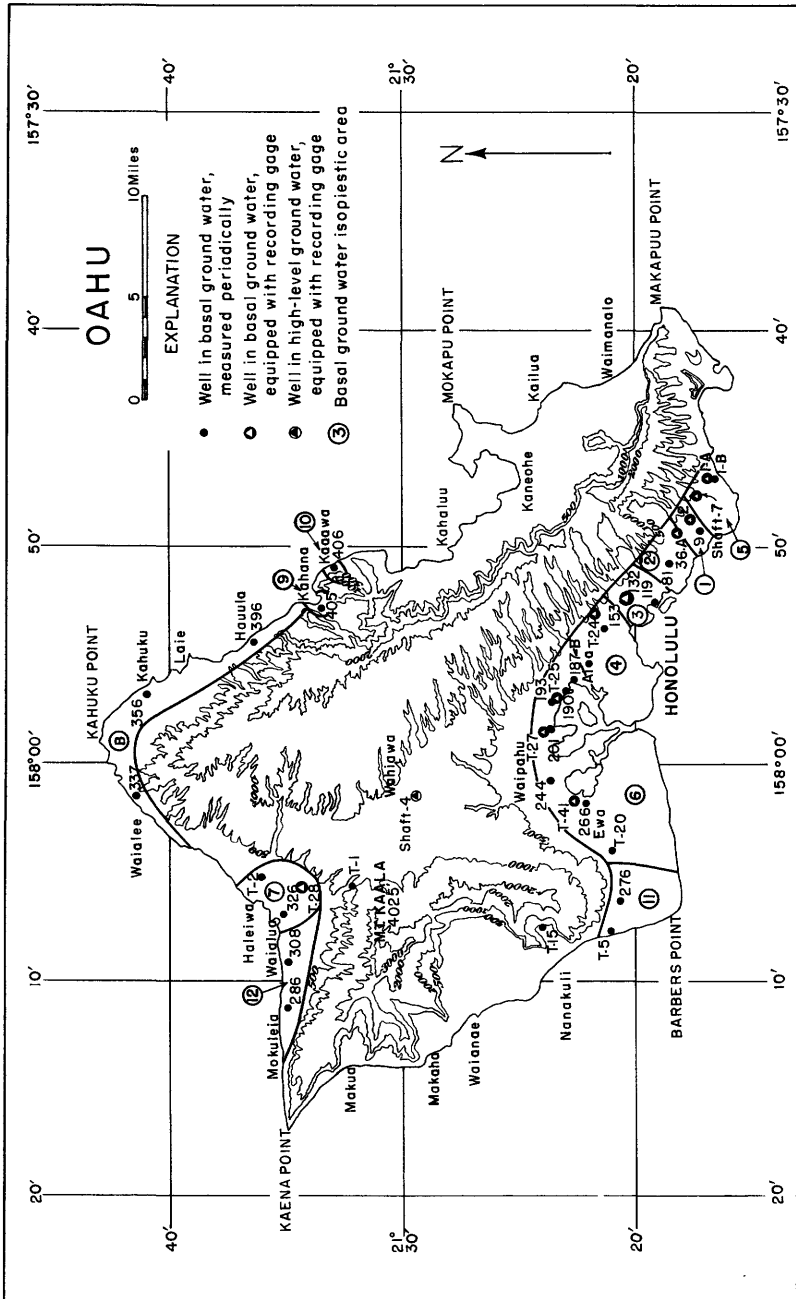


Figure 13. --Location of observation wells in Oahu, 1950.

Heights area. In the Pearl Harbor area (6) six wells showed a net rise during the year, two showed a net drop and one, no change. In all other areas there was a small net rise in water levels except in Gilbert (11) and Mokuleia (12) areas. The location of each well is shown on figure 13.

The first table gives the monthly rainfall index based on the records of selected stations for the Honolulu watershed area. The index for the year is not far above normal, but it is considerably greater than the index of 77 for 1949. The second table gives the daily mean measurements from recorder graph for selected wells in the Honolulu, Pearl Harbor, and Waialua areas.

Rainfall in Honolulu area in percentage of normal, 1950

Month	Rainfall	Month	Rainfall	Month	Rainfall
January	207	May	129	September	65
February	74	June	44	October	63
March	73	July	70	November	119
April	212	August	95	December	150
Percentage of normal					108

Month of high and low heads in artesian areas and net gain or loss in static head, in feet, as shown by typical wells on the island of Oahu, 1950

Area	Name	Well	High	Low	Net gain or loss
1	St. Louis Heights	2	February	October	+0.63
2	Makiki-Pacific Heights	36A	March	October	+ .56
3	Kapalama	132	February	October	+ .28
4	Moanalua	T-24	February	October	+ .06
5	Wilhelmina Rise	a Shaft 7	January	October	+ .04
6	Pearl Harbor	201	January	October	.00
		244	January	October	- .11
		266	January	September	- .98
7	Waialua	326	December	July	+ .52
8	Kahuku	356	January	June	+ .38
		396	December	September	+1.20
9	Kahana	405	June	March	+1.10
10	Kaaawa	406	July	January	+ .91
11	Gilbert	T-5	January	June	- .27
12	Mokuleia	286	January	July	+ .10
		308	February	July	- .18

a Nonartesian but indicative of artesian conditions.

Water levels in feet above mean sea level (A), and below land-surface datum (B), in the Honolulu, Pearl Harbor, and Waialua areas, 1950

(Daily mean measurements furnished by Board of Water Supply, City and County of Honolulu, from recorder graph)

Area Well No. Altitude 1	1		2		3		4		5		6		7								
	2		36A		132		T-24		I-A		Shaft 7		T-27								
	A	B	A	B	A	B	A	B	A	B	A	B	A	B							
	37.00		43.00		43.00		58.40		18.00		160.00		84.00		47.00		35.00				
Jan. 4	26.13	10.87	28.03	14.97	26.87	16.13	23.86	34.54	...	...	9.17	150.83	18.50	6.90	20.85	63.15	19.35	27.65	11.33	23.67
11	26.47	10.53	28.25	14.75	27.13	15.87	24.20	34.20	8.10	9.90	9.38	150.87	19.05	6.35	22.13	61.87	19.77	27.23	11.43	23.57	
18	26.54	10.46	28.40	14.60	27.20	15.80	24.28	34.12	...	...	9.23	150.72	18.99	6.41	22.52	61.48	20.02	26.98	11.50	23.50
25	26.82	10.18	28.58	14.42	27.38	15.62	24.45	33.95	8.16	9.84	9.35	150.65	19.43	5.97	22.95	61.05	...	...	...	...
Feb. 1	26.94	10.06	28.76	14.24	27.58	15.42	24.64	33.76	8.08	9.92	9.30	150.70	19.40	6.00	23.33	60.87	...	...	...	...
8	27.05	9.95	28.86	14.04	27.77	15.23	24.71	33.69	8.11	9.89	9.30	150.70	19.45	5.95	23.45	60.55	20.72	26.28	11.38	23.62	
15	27.18	9.82	29.07	13.93	27.86	15.14	24.76	33.64	8.05	9.95	9.27	150.73	19.45	5.95	23.38	60.52	20.77	26.23	11.34	23.66	
22	27.20	9.80	.....	.....	28.02	14.98	24.81	33.59	8.07	9.93	9.30	150.70	19.37	6.03	22.15	61.85	...	...	11.36	23.64
Mar. 1	26.93	10.07	29.18	13.82	27.95	15.05	24.67	33.73	8.04	9.96	9.26	150.74	19.25	6.15	21.40	62.60	...	...	11.41	23.59
8	26.64	10.36	29.11	13.89	27.87	15.13	24.58	33.82	8.05	9.95	9.30	150.70	19.00	6.40	21.30	62.70	...	...	11.34	23.66
15	26.40	10.60	29.08	13.92	27.77	15.23	24.43	33.97	7.98	10.02	9.22	150.78	18.80	6.60	20.60	63.40	19.85	27.15	11.12	23.88	
22	26.37	10.63	29.00	14.00	27.66	15.34	24.20	34.20	7.96	10.04	9.20	150.80	18.65	6.75	20.10	63.90	19.57	27.43	10.74	24.26	
29	26.57	10.43	28.94	14.06	27.61	15.39	24.11	34.29	7.90	10.10	9.19	150.81	18.71	6.69	20.00	64.00	19.55	27.45	10.82	24.18	
Apr. 5	26.32	10.68	28.82	14.18	27.45	15.55	24.05	34.23	7.92	10.08	9.19	150.81	18.65	6.75	19.70	64.30	19.45	27.55	...	...
12	26.25	10.75	28.70	14.30	27.36	15.64	23.92	34.48	7.88	10.12	9.16	150.84	18.40	7.00	19.40	64.60	19.30	27.70	11.17	23.83	
19	26.39	10.61	28.67	14.33	27.38	15.62	23.93	34.47	7.93	10.07	9.18	150.82	18.47	6.93	21.35	62.65	19.55	27.45	11.45	23.55	
26	26.57	10.43	28.61	14.39	27.33	15.67	24.22	34.18	7.92	10.08	9.18	150.82	19.05	6.35	21.97	62.03	19.96	27.04	...	...
May 3	26.70	10.30	28.77	14.23	27.57	15.43	24.47	33.33	7.97	10.03	9.18	150.82	19.06	6.34	22.05	61.95	20.20	26.80	11.48	23.52	
10	26.69	10.31	28.88	14.12	27.60	15.40	24.42	33.98	7.94	10.06	9.15	150.85	18.92	6.48	20.40	63.60	19.33	27.07	11.39	23.61	
17	26.58	10.42	28.98	14.02	27.66	15.34	24.36	34.04	7.93	10.07	9.15	150.85	18.80	6.60	20.65	63.35	19.77	27.23	11.42	23.58	
24	26.60	10.40	28.94	14.06	27.66	15.34	24.24	34.16	7.94	10.06	9.16	150.84	18.55	6.85	20.50	63.50	19.72	27.28	11.42	23.58	
31	26.52	10.48	28.91	14.09	27.56	15.44	24.22	34.18	7.95	10.05	18.65	6.75	21.05	62.95	19.75	27.25	11.39	23.61
June 7	26.22	10.78	28.78	14.22	27.33	15.67	24.03	34.37	7.94	10.06	9.12	150.88	18.37	7.03	19.60	64.40	19.30	27.70	10.98	24.02	
14	26.14	10.86	28.60	14.40	27.26	15.74	23.85	34.55	7.92	10.08	9.09	150.91	18.15	7.25	18.80	65.20	19.02	27.98	10.72	24.28	
21	25.86	11.14	28.38	14.62	26.98	16.02	23.74	34.66	7.87	10.13	9.06	150.94	18.15	7.25	18.50	65.50	18.85	28.15	10.62	24.38	
28	.....	.....	28.32	14.68	26.91	16.09	23.67	34.73	7.86	10.14	9.08	150.94	18.05	7.35	18.65	65.35	18.77	28.23	10.57	24.43
July 5	.....	.....	.....	.....	26.86	16.14	23.74	34.66	7.89	10.11	9.08	150.92	18.20	7.20	20.10	63.90	19.15	27.85	10.85	24.15
12	.....	.....	27.98	15.02	26.51	16.46	23.46	34.94	7.85	10.15	9.08	150.92	17.75	7.65	18.52	65.48	18.60	28.40	10.46	24.54
19	25.52	11.48	27.84	15.16	26.42	16.58	23.30	35.10	.....	.....	9.10	150.90	17.67	7.73	18.10	65.90	18.45	28.55	10.45	24.55
26	25.37	11.63	27.71	15.29	26.24	16.76	23.21	35.19	.....	.....	9.06	150.94	17.70	7.70	18.09	65.91	18.40	28.60	10.48	24.52
Aug. 2	.....	.....	27.53	15.47	26.14	16.86	.....	.....	7.85	10.15	9.06	150.94	17.60	7.80	17.95	66.05	18.40	28.60	10.47	24.53
9	.....	.....	27.36	15.64	26.00	17.00	22.99	35.41	7.84	10.16	9.04	150.96	17.70	7.70	18.05	65.95	18.35	28.65	10.98	24.02
16	25.50	11.50	27.42	15.58	26.11	16.89	23.06	35.34	7.94	10.06	9.10	150.90	18.02	7.38	18.35	65.65	18.55	28.45	.....	.....
23	25.29	11.71	27.35	15.65	26.04	16.96	23.08	35.32	7.94	10.06	9.12	150.88	17.65	7.75	18.17	65.83	18.45	28.55	11.24	23.76	

Water levels in feet above mean sea level (A), and below land-surface datum (B), in the Honolulu, Pearl Harbor, and Waialua areas, 1950--Continued

(Daily mean measurements furnished by Board of Water Supply, City and County of Honolulu, from recorder graph)

Area	1		2		3		4		5		6		7							
	A	B	A	B	A	B	A	B	A	B	A	B	A	B						
Well No. Altitude 1	37.00		36A		132		T-24		1-A		Shaft 7		T-25		T-27		T-28			
			43.00		43.00		58.40		18.00		160.00		24.40		47.00		35.00			
Aug. 30	25.25	11.75	27.30	15.70	25.93	17.07	23.04	35.36	7.98	10.02	9.14	150.86	17.65	7.75	18.19	65.81	18.45	28.55	10.92	24.08
Sept. 6	25.27	11.73	27.27	15.73	26.00	17.00	23.11	35.29	7.96	10.04	9.16	150.84	17.80	7.60	18.55	65.45	18.62	28.38	11.01	23.99
	25.35	11.65	27.23	15.77	25.95	17.05	23.09	35.31	.....	.....	9.14	150.86	17.80	7.60	17.99	66.01	18.45	28.55	11.14	23.86
	25.10	11.90	27.16	15.84	25.79	17.21	23.02	35.38	.....	.....	9.12	150.88	17.60	7.80	17.83	66.17	18.33	28.67	11.14	23.86
20	24.85	12.15	27.09	15.91	25.71	17.29	22.94	35.46	7.89	10.11	9.10	150.90	17.62	7.78	17.95	66.05	18.33	28.67	11.25	23.75
Oct. 4	24.60	12.40	26.93	16.07	25.53	17.47	22.82	35.58	.....	.....	9.06	150.94	17.44	7.98	17.75	66.25	18.16	28.84	11.17	23.83
	24.82	12.18	26.94	16.06	25.59	17.41	22.85	35.55	7.90	10.10	.....	.....	17.55	7.85	18.14	65.86	18.31	28.69	11.17	23.83
	24.83	12.17	26.88	16.12	25.52	17.48	22.85	35.55	7.88	10.12	9.07	150.93	17.55	7.85	17.95	66.05	18.29	28.71	11.00	24.00
25	24.80	12.20	26.85	16.15	25.56	17.44	22.94	35.46	7.81	10.19	9.03	150.97	17.52	7.88	18.20	65.80	18.27	28.73	10.68	24.32
Nov. 1	24.75	12.25	26.88	16.12	25.62	17.38	22.97	35.43	7.85	10.15	9.06	150.94	17.60	7.80	18.40	65.60	18.35	28.65	10.66	24.34
	24.92	12.08	26.92	16.08	25.66	17.34	23.01	35.39	.....	.....	9.05	150.95	17.80	7.60	19.75	64.25	18.67	28.33	10.97	24.03
	15	25.16	11.84	25.81	17.19	23.01	35.39	7.87	10.13	9.08	150.92	17.68	7.72	18.95	65.05	18.52	28.48
22	25.45	11.55	27.26	15.74	26.02	16.98	23.14	35.26	7.90	10.10	9.09	150.91	17.85	7.55	19.35	64.65	18.70	28.30	.....	.....
29	25.81	11.19	27.44	15.56	26.27	16.73	23.31	35.09	7.97	10.03	9.13	150.87	18.10	7.30	19.50	64.50	18.95	28.05	.....	.....
Dec. 5	26.05	10.95	27.69	15.31	26.48	16.52	23.58	34.32	8.04	9.96	9.24	150.76	18.66	6.74	21.67	62.33	19.58	27.42	11.85	23.15
	26.35	10.65	28.01	14.99	26.76	16.24	23.89	34.51	8.06	9.94	9.24	150.76	18.70	6.70	22.37	61.63	19.94	27.06	11.79	23.21
	20	26.50	10.50	28.20	14.80	26.85	16.15	23.93	8.05	9.95	9.22	150.78	18.48	6.92	21.00	63.00	19.57	27.43	11.76	23.24
27	26.66	10.34	28.41	14.59	27.07	15.93	.....	.....	8.06	9.94	9.24	150.76	18.45	6.95	20.50	63.50	19.43	27.57	11.72	23.28
31	26.80	10.20	28.52	14.48	27.09	15.91	23.86	34.54	8.08	9.92	.....	.....	.....	6.85	21.00	63.00	19.40	27.60	11.79	23.21

1 Altitude of land-surface datum in feet.

Lowest head in 1926, 1949, and 1950 and net change in head, 1926-50,
in feet above sea level, in observation wells in Oahu

Area	Name	Well	1926	1949	1950	Net change 1926-50
1	St. Louis Heights	2	20.88	25.50	24.60	+3.72
2	Makiki-Pacific Heights	36A	a23.52	27.60	26.85	+3.33
3	Kapalama	132	24.84	26.30	25.52	+0.68
4	Moanalua	T24	b24.00	23.03	22.82	-1.18
6	Pearl Harbor	201	17.09	16.95	17.09	.00
		244	17.27	18.77	19.27	+2.00
		266	15.75	16.63	17.14	+1.39
7	Waiialua	326	10.34	10.34	10.42	+0.08
8	Kahuku	356	13.05	10.35	9.77	-3.28
		396	18.78	17.39	17.42	-1.36
12	Mokuleia	308	17.55	17.94	18.12	+0.57

a Estimated from well 83.

b Estimated from well 144.

Schofield Barracks shaft 4. Records available: 1936-50. Static level determined when pumps were shut down.

Date	Water level		Date	Water level	
	A	B		A	B
Jan. 1	279.23	570.77	Sept. 19	280.56	569.44
Feb. 1	278.83	571.17	26	280.61	569.39
Mar. 1	278.55	571.45	Oct. 3	280.53	569.47
Apr. 1	278.50	571.50	10	280.59	569.41
May 1	278.72	571.28	17	280.53	569.47
June 1	279.26	570.74	24	280.45	569.55
14	279.51	570.49	31	280.45	569.55
July 2	279.75	570.25	Nov. 7	280.40	569.60
Aug. 1	280.17	569.83	14	280.52	569.48
8	280.16	569.84	21	280.41	569.59
15	280.52	569.48	28	280.45	569.55
22	280.39	569.61	Dec. 5	280.29	569.71
29	280.42	569.58	12	280.25	569.75
Sept. 5	280.50	569.50	19	280.15	569.85
12	280.58	569.42	26	280.05	569.95

Artesian head, in feet above msl (A) and above or below lsd (B), and chloride,
in parts per million (C)

1B. Area 5. Bishop Estate. North side of Waiialae Golf Links, Kaimuki. Records
available: 1935-50.

Date	Water level		Chloride	Date	Water level		Chloride
	A	B	C		A	B	C
Jan. 31	8.10	10.12	192	July 27	7.73	10.49	272
Feb. 27	8.14	10.08	185	Aug. 29	7.93	10.29	250
Mar. 29	7.90	10.32	219	Sept. 28	7.90	10.32	270
Apr. 26	7.92	10.30	204	Oct. 26	7.83	10.39	247
May 24	7.94	10.28	221	Nov. 29	7.92	10.30	192
June 27	7.75	10.47	249	Dec. 28	8.01	10.21	187

9. Area 1. J. J. Gouveia. Kapahulu Road, Honolulu. Records available: 1935-50.

Jan. 31	27.07	+10.99	60	July 25	25.37	+9.29	61
Feb. 27	26.87	+10.79	59	Aug. 28	25.37	+9.29	61
Mar. 28	26.57	+10.49	61	Sept. 29	25.77	+9.69	60
Apr. 26	26.47	+10.39	59	Oct. 26	24.57	+8.49	58
May 24	26.62	+10.54	60	Nov. 28	25.77	+9.69	60
June 26	26.07	+9.99	60	Dec. 29	26.67	+10.59	58

81. Area 2. A. Young. Young St., Honolulu. Records available: 1935-50.

Jan. 31	28.83	+10.79	88	July 25	27.63	+9.59	93
Feb. 27	29.23	+11.19	88	Aug. 28	27.13	+9.09	93
Mar. 28	28.73	+10.69	91	Sept. 29	26.83	+8.79	93
Apr. 26	28.38	+10.34	88	Oct. 26	26.48	+8.44	93
May 24	28.83	+10.79	93	Nov. 28	27.13	+9.09	93
June 26	28.23	+10.19	93	Dec. 28	28.13	+10.09	90

Artesian head, in feet above msl (A) and above or below lsd (B), and chloride,
in parts per million (C)--Continued

119. Area 3. Honolulu Gas Co. Honolulu. Records available: 1935-50.

Date	Water level		Chloride	Date	Water level		Chloride
	A	B	C		A	B	C
Jan. 30	25.04	+20.82	430	July 25	25.64	+21.42	419
Feb. 28	26.94	+22.72	419	Aug. 28	25.19	+20.97	411
Mar. 28	26.44	+22.22	425	Sept. 28	24.86	+20.64	417
Apr. 26	26.59	+22.37	430	Oct. 27	24.24	+20.02	395
May 24	26.84	+22.62	413	Nov. 28	25.04	+20.82	408
June 26	25.64	+21.42	413	Dec. 29	25.64	+21.42	408

153. Area 4. S. Damon Estate. Moanalua Gardens, Honolulu. Records available: 1935-50.

Jan. 30	24.60	+4.22	57	July 26	23.42	+3.04	59
Feb. 27	24.77	+4.39	54	Aug. 28	23.13	+2.75	59
Mar. 30	24.18	+3.80	56	Sept. 29	22.86	+2.48	56
Apr. 26	24.39	+4.01	58	Oct. 24	23.11	+2.73	57
May 24	24.44	+4.06	57	Nov. 28	23.29	+2.91	58
June 26	23.90	+3.52	58	Dec. 28	24.00	+3.62	57

187B. Area 6. U. S. Navy. Near Aiea railroad station. Records available: 1936-50.

Jan. 30	21.80	+11.87	128	July 25	19.74	+9.81	158
Feb. 27	21.93	+12.00	134	Aug. 28	19.74	+9.81	119
Mar. 28	21.10	+11.17	145	Sept. 29	19.50	+9.57	133
Apr. 26	21.35	+11.42	145	Oct. 24	19.62	+9.69	130
May 24	20.69	+10.76	153	Nov. 28	20.25	+10.32	117
June 26	20.21	+10.28	153	Dec. 27	20.86	+10.93	126

190. Area 6. C. B. Cooper. 0.5 mile west of Aiea. Records available: 1935-50.

Jan. 30	22.01	0.72	215	July 25	19.98	2.75	228
Feb. 27	21.94	.79	217	Aug. 28	19.78	2.95	230
Mar. 28	21.06	1.67	221	Sept. 29	19.48	3.25	230
May 2	21.46	1.27	223	Oct. 24	19.65	3.08	252
24	20.78	1.95	221	Nov. 28	20.30	2.43	236
June 26	20.26	2.47	226	Dec. 27	21.04	1.69	230

193. Area 6. L. L. McCandless Estate, Waimalu Valley, 1 mile northwest of Aiea. Records available: 1935-50.

Jan. 30	22.16	+9.11	247	July 25	18.66	+5.61	260
Feb. 27	20.96	+7.91	249	Aug. 28	18.80	+5.75	250
Mar. 28	20.12	+7.07	254	Sept. 29	18.69	+5.64	278
Apr. 26	20.47	+7.42	251	Oct. 24	18.64	+5.59	231
May 24	19.84	+6.79	249	Nov. 28	19.55	+6.50	266
June 26	19.24	+6.19	253	Dec. 27	19.96	+6.91	272

201. Area 6. Bishop Estate, Pearl City. Records available: 1935-50.

Jan. 30	19.42	+10.25	1120	July 25	17.14	+7.97	925
Feb. 27	19.27	+10.10	1180	Aug. 28	17.21	+8.04	1020
Mar. 28	18.38	+9.21	1100	Sept. 29	17.12	+7.95	908
Apr. 26	18.69	+9.52	1150	Oct. 24	17.09	+7.92	788
May 24	18.45	+9.28	1120	Nov. 28	17.83	+8.66	1020
June 26	17.66	+8.49	1090	Dec. 27	18.18	+9.01	1080

244. Area 6. Bishop Estate, Waipahu. Records available: 1935-50.

Jan. 30	22.67	+12.20	106	July 25	20.27	+9.80	111
Mar. 13	21.57	+11.10	109	Aug. 28	19.87	+9.40	112
28	20.87	+10.40	109	Sept. 29	19.32	+8.85	116
Apr. 26	21.87	+11.40	112	Oct. 24	19.27	+8.80	109
May 24	21.27	+10.80	113	Nov. 28	20.17	+9.70	109
June 26	20.07	+9.60	114	Dec. 27	20.77	+10.30	113

Artesian head, in feet above msl (A) and above or below lsd (B), and chloride, in parts per million (C)--Continued

266. Area 6. Honouliuli Ranch, 1.75 miles northeast of Ewa. Records available: 1935-50.

Date	Water level		Chloride	Date	Water level		Chloride
	A	B	C		A	B	C
Jan. 30	21.85	+9.19	184	July 25	17.30	+4.64	215
Feb. 27	21.06	+8.40	178	Aug. 28	17.46	+4.80	225
Mar. 28	19.42	+6.76	187	Sept. 29	17.14	+4.48	233
Apr. 26	21.57	+8.91	170	Oct. 24	17.56	+4.90	217
May 24	19.98	+7.32	192	Nov. 28	18.77	+6.11	198
June 26	18.24	+5.58	204	Dec. 27	19.54	+6.88	195

276. Area 11. Ewa Plantation Co., 4.5 miles west of Ewa. Records available: 1936-50. Figures are monthly averages furnished by owner.

Jan.	13.53	27.05	538	July	12.25	28.33	571
Feb.	13.64	26.94	552	Aug.	12.16	28.42	571
Mar.	12.82	27.76	571	Sept.	12.26	28.32	572
Apr.	12.92	27.66	563	Oct.	11.91	28.67	570
May	12.82	27.76	562	Nov.	12.04	28.54	560
June	12.33	28.25	559	Dec.	12.59	27.99	509

286. Area 12. Waialua Agricultural Co., Mokuleia. Records available: 1935-50.

Jan. 27	17.64	+6.10	166	July 26	16.66	+5.12	151
Feb. 24	17.57	+6.03	162	Aug. 29	16.96	+5.42	145
Mar. 29	17.02	+5.48	164	Sept. 28	17.01	+5.47	152
Apr. 27	17.42	+5.88	168	Oct. 25	16.69	+5.15	145
May 25	17.05	+5.51	161	Nov. 24	17.39	+5.85	155
June 27	16.79	+5.25	151	Dec. 21	17.52	+5.98	164

308. Area 12. J. F. Mendonca, 1.5 miles west of Waialua Mill. Records available: 1935-50.

Jan. 27	19.04	+10.58	113	July 26	18.12	+9.66	109
Feb. 24	19.17	+10.71	113	Aug. 29	18.52	+10.06	108
Mar. 29	18.54	+10.08	115	Sept. 28	18.63	+10.17	104
Apr. 27	18.94	+10.48	119	Oct. 25	18.22	+9.76	104
May 25	18.74	+10.28	100	Nov. 24	18.81	+10.35	105
June 27	18.31	+9.85	104	Dec. 21	19.06	+10.60	104

326. Area 7. Waialua Agricultural Co., about 0.5 mile south of Waialua. Records available: 1935-50.

Jan. 27	11.48	+5.29	109	July 26	10.42	+4.23	108
Feb. 24	11.47	+5.28	102	Aug. 29	10.85	+4.66	105
Mar. 29	11.21	+5.02	104	Sept. 28	11.25	+5.06	105
Apr. 27	11.54	+5.35	109	Oct. 25	10.69	+4.50	102
May 25	11.36	+5.17	109	Nov. 24	11.57	+5.38	103
June 27	10.55	+4.36	109	Dec. 21	11.79	+5.60	104

337. Area 8. Waialeale Training School for Boys. Records available: 1935-50.

Jan. 27	13.15	8.30	23	July 26	12.85	8.60	111
Feb. 24	13.19	8.26	23	Aug. 29	12.72	8.73	120
Mar. 29	12.89	8.56	38	Sept. 28	12.85	8.60	74
Apr. 27	13.04	8.41	96	Oct. 25	12.58	8.87	120
May 25	12.79	8.66	78	Nov. 24	13.03	8.42	122
June 27	12.72	8.73	113	Dec. 21	13.07	8.38	38

356. Area 8. Kahuku Plantation Co., at sugar mill in Kahuku. Records available: 1935-50.

Jan. 27	13.21	+4.38	283	July 26	10.28	+1.45	385
Feb. 24	12.63	+3.80	351	Aug. 29	9.93	+1.10	478
Mar. 29	10.59	+1.76	374	Sept. 28	10.19	+1.36	473
Apr. 27	11.82	+2.99	402	Oct. 25	10.43	+1.60	367
May 25	11.48	+2.65	442	Nov. 24	12.15	+3.32	272
June 27	9.77	+0.94	527	Dec. 21	12.81	+3.98	175

Artesian head, in feet above msl (A) and above or below lsd (B), and chloride, in parts per million (C)--Continued

396. Area 8. Kahuku Plantation Co., Hauula. Records available: 1935-50.

Date	Water level		Chloride	Date	Water level		Chloride
	A	B	C		A	B	C
Jan. 27	19.16	+8.80	74	July 26	17.45	+7.09	72
Feb. 24	19.22	+8.86	72	Aug. 29	17.87	+7.51	73
Mar. 29	18.42	+8.06	74	Sept. 28	17.42	+7.06	72
Apr. 27	19.16	+8.80	74	Oct. 25	18.04	+7.68	76
May 25	19.08	+8.72	73	Nov. 24	18.22	+7.86	77
June 27	17.99	+7.63	75	Dec. 21	19.51	+9.15	75

405. Area 9. M. E. Foster Estate, Kahana. Records available: 1936-50.

Jan. 27	16.26	+10.50	39	July 26	16.96	+11.20	42
Feb. 24	16.26	+10.50	40	Aug. 29	16.26	+10.50	40
Mar. 29	16.16	+10.40	41	Sept. 28	16.31	+10.55	42
Apr. 27	16.71	+10.95	40	Oct. 25	16.26	+10.50	40
May 25	16.96	+11.20	41	Nov. 24	16.46	+10.70	40
June 27	17.11	+11.35	41	Dec. 21	16.76	+11.00	41

406. Area 10. F. M. Swanzy, Kaaawa Valley. Records available: 1935-50.

Jan. 27	13.74	+3.47	255	July 26	14.42	+4.15	249
Feb. 24	13.86	+3.59	260	Aug. 29	14.27	+4.00	242
Mar. 29	13.78	+3.51	249	Sept. 28	14.09	+3.82	242
Apr. 27	14.05	+3.78	252	Oct. 25	14.09	+3.82	239
May 25	14.36	+4.09	249	Nov. 24	14.07	+3.80	243
June 27	14.38	+4.11	249	Dec. 21	14.39	+4.12	249

Water levels, in feet, above mean sea level (A) and below land-surface datum (B), and chloride, in parts per million (C), in test borings, 1950

T1 (tributary to area 12). Waialua Agricultural Co., in Kaukonahua Gulch, 4 miles south of Waialua. Records available: 1938-50.

Jan. 5	15.88	257.73	21	July 1	16.28	257.33	21
Feb. 1	16.28	257.33	21	31	16.13	257.48	21
Mar. 31	16.03	257.58	10	Sept. 2	16.61	257.00	21
May 2	16.08	257.53	10	Nov. 1	14.88	258.73	21
June 1	16.53	257.08	31				

T2 (tributary to area 7). Waialua Agricultural Co., near Anahulu Canyon 3.5 miles east of Haleiwa. Records available: 1938-50.

Jan. 5	4.91	336.97	135	July 1	4.91	336.97	125
Feb. 1	4.96	336.92	42	31	5.01	336.87	135
Mar. 1	4.91	336.97	52	Sept. 2	5.26	336.62	104
31	4.81	337.07	73	Nov. 1	5.01	336.87	125
May 2	4.36	337.52	62	Dec. 4	5.61	336.27	73
June 1	5.11	336.77	94				

T5 (tributary to area 11). Suburban Water Works, Honolulu, 5 miles west of Ewa on main highway. Records available: 1939-50.

Jan. 31	4.96	74.17	294	July 31	4.23	74.90	362
Feb. 28	4.66	74.47	288	Aug. 30	4.30	74.83	389
Mar. 30	4.45	74.68	283	Sept. 27	4.34	74.79	378
Apr. 28	4.67	74.46	339	Oct. 24	4.23	74.90	389
May 26	4.40	74.73	280	Nov. 29	4.46	74.67	408
June 28	4.16	74.97	340	Dec. 26	4.53	74.60	419

T15. Suburban Water Works, Honolulu, 1.8 miles above mouth of Nanakuli Gulch. Records available: 1940-50.

Jan. 31	2.13	476.51	93	July 31	2.08	476.56	94
Feb. 28	2.47	476.17	92	Aug. 30	2.22	476.42	97
Mar. 30	2.72	475.92	95	Sept. 27	2.20	476.44	96
Apr. 28	2.35	476.29	98	Oct. 24	1.98	476.66	93
May 26	2.18	476.46	97	Nov. 29	2.06	476.58	95
June 28	2.19	476.45	94	Dec. 26	1.98	476.66	97

Water levels, in feet, above mean sea level (A) and below land-surface datum (B), and chloride, in parts per million (C), in test borings, 1950--Continued

T20 (tributary to area 6). U. S. Navy, 2 miles northwest of Ewa on main highway to Waianae. Records available: 1942-50.

Date	Water level		Chloride	Date	Water level		Chloride
	A	B	C		A	B	C
Jan. 31	18.17	121.33	212	July 31	16.72	122.78	218
Feb. 28	18.20	121.30	215	Aug. 30	16.56	122.94	206
Mar. 30	17.66	121.84	215	Sept. 27	16.46	123.04	211
Apr. 28	17.90	121.60	209	Oct. 24	16.31	123.19	195
May 26	17.65	121.85	212	Nov. 29	16.48	123.02	204
June 28	17.06	122.44	215	Dec. 26	17.00	122.50	218

Island of Maui

Throughout Maui there appeared to be a general rise in the level of the basal water. On West Maui there was a small drop in the chloride content of water from wells, but on the east side of the Maui Isthmus there was no consistent change in chloride content. Rainfall on the island was above normal. Pumpage for the year was 50,500 million gallons as compared with 60,700 million gallons for 1949. During the year, 80,300 million gallons were delivered to the Maui Isthmus in East Maui Irrigation Company ditches. Data in the following table were furnished by the Hawaiian Commercial and Sugar Company and the Pioneer Mill Company. Data for test borings were furnished by Wailuku Sugar Company.

Chloride, in parts per million, and water levels in feet above sea level and net gain in static level in wells on Maui, Dec. 31, 1950

Well number or name			Chloride	Water level	
New No.	Old No.	Geol. Survey		Height	Gain
Hawaiian Commercial and Sugar Co.					
1	1 (Kihei)	14	539	3.4	....
2	2	25	436	4.2	....
3A-C	3 (Kihei)	15	491	3.3	....
4	4	24	598	4.0	....
5	5	19	532	4.4	....
6	6	18	446	5.1	....
7	7	16	369	4.1	....
8	8 (Mill, HC&S)	17	503	...	....
9	3	22	405	4.0	....
11A-B	10 & 11 (Maliko)	32	332	4.0	....
12	12 (Kauai)	31	276	4.9	....
13A-B	8 & 13 (Mill, MA)	29	428	4.1	....
16 A, B, D	1, 5, & 6				
	(Lower Paia)	30	543	4.1	....
17	7 (Paia School)	28	307	4.1	....
18A-B	3 & 4 (Kaheka)	27	292	4.6	....
Pioneer Mill Co.					
Kaanapali		3	682	2.3	+0.9
Kahoma		5	151	2.8	+0.4
Lahaina		9	552	2.4	+0.3
Mill		7	750	3.4	+0.3
Olowalu		10	86	4.3	+0.9
Ukumehame		12	35	6.7	+1.3

Water levels, in feet, above mean sea level (A) and below land-surface datum (B) and chloride, in parts per million (C), in test borings on Maui

T102 (Iao Valley). U. S. Geol. Survey. Iao Valley, 1 mile west of Wailuku. Records available: 1940-50.

Date	Water level		Chloride	Date	Water level		Chloride
	A	B	C		A	B	C
Jan. 20	25.5	428.4	25	July 14	24.6	429.3	27
Feb. 17	25.7	428.2	25	Aug. 18	26.1	427.8	25
Mar. 16	25.2	428.7	26	Sept. 15	25.2	428.7	17
Apr. 14	25.7	428.2	25	Oct. 18	....	....	18
May 16	26.4	427.5	24	Nov. 1	22.0	431.9	..
June 14	26.1	427.8	25	21	26.7	427.2	16
				Dec. 15	27.8	426.1	17

Water levels, in feet, above mean sea level (A) and below land-surface datum (B) and chloride, in parts per million (C), in test borings on Maui--Continued

T110 (Puu Hele). Wailuku Sugar Co. 2 miles north of Maalaea. Records available: 1940-50.

Date	Water level		Chloride		Water level		Chloride
	A	B			A	B	
Jan. 20	8.2	304.5	237	July 14	8.4	304.3	237
Feb. 17	8.3	304.4	249	Aug. 18	8.3	304.4	229
Mar. 16	8.3	304.4	237	Sept. 15	8.9	303.8	144
Apr. 14	8.6	304.1	245	Oct. 18	...	.....	145
May 16	8.8	303.9	228	Nov. 1	6.2	306.5	...
June 14	8.7	304.0	232	21	6.2	306.5	154
				Dec. 15	6.4	306.3	145

T112. Wailuku Sugar Co. 0.5 mile southwest of Wailuku. Records available: 1946-50.

Jan. 15	23.7	433.4	...	July 12	23.2	433.9	...
Feb. 14	24.5	432.6	...	Aug. 14	23.5	433.6	...
Mar. 13	23.9	433.2	...	Sept. 14	23.7	433.4	...
Apr. 17	24.3	432.8	...	Oct. 15	21.5	435.6	...
May 15	24.7	432.4	...	Nov. 15	22.3	434.8	...
June 12	24.0	433.1	...	Dec. 15	23.8	433.3	...

T113. Wailuku Sugar Co. Wailuku Mill. Records available: 1946-50.

Jan. 20	18.0	163.1	115	July 14	17.9	163.2	117
Feb. 17	18.1	163.0	114	Aug. 18	18.4	162.7	114
Mar. 16	17.9	163.2	115	Sept. 15	18.3	162.8	70
Apr. 14	18.1	163.0	116	Oct. 18	....	.....	70
May 16	18.4	162.7	115	Nov. 1	17.4	163.7	...
June 14	18.0	163.1	118	21	17.9	163.2	70
				Dec. 15	18.1	163.0	69

Island of Molokai

Total ground water pumped during 1950 on Molokai was 68 million gallons as compared with 77 million gallons in 1949. Above-normal rainfall on the island during the year reduced the need for ground water. Water levels in wells fluctuated during the year without any significant trend.

Water levels, in feet, above mean sea level (A) and below land-surface datum (B), in observation wells on Molokai

Kamalo. 0.5 mile northeast of Kamalo wharf. Records available: 1938-50.

Date	Water level		Date	Water level	
	A	B		A	B
Jan. 19	4.75	38.48	May 7	a3.78	39.45
19	a3.47	39.76	June 24	4.29	38.94
26	a3.58	39.65	Aug. 10	a3.97	39.26
28	4.74	38.49	Oct. 5	4.35	38.88
Mar. 13	4.50	38.73	Dec. 5	5.40	37.83

a Pumping.

Ualapue. 2.75 miles east of Kamalo well. Records available: 1938-50.

Jan. 19	6.05	37.66	May 7	5.26	38.45
19	a4.99	38.72	June 24	4.83	38.88
26	a4.99	38.72	Aug. 10	4.96	38.75
28	5.05	38.66	Oct. 5	4.87	38.84
Mar. 13	4.96	38.75	Dec. 5	5.66	38.05

a Pumping.

Water levels, in feet, above mean sea level (A) and below land-surface datum (B),
in observation wells on Molokai--Continued

Conant-Kawela. Molokai Ranch Co., 5 miles east of Kaunakakai. Records available:
1947-50.

Date	Water level		Date	Water level	
	A	B		A	B
Jan. 16	a3.41	34.23	May 7	1.86	35.78
19	3.43	34.21	June 24	1.55	36.09
19	a3.39	34.25	Oct. 5	a1.46	36.18
26	a3.39	34.25	Dec. 1	2.03	35.61
28	a3.43	34.21	5	2.27	35.37
Mar. 13	a3.54	34.10			

a Pumping.

T4. County of Maui, in Kaunakakai. Records available: 1947-50.

Jan. 16	2.44	12.94	May 7	2.40	12.98
19	2.44	12.94	June 24	2.22	13.16
19	2.41	12.97	Aug. 10	2.35	13.03
26	2.39	12.99	Oct. 5	2.32	13.06
28	2.43	12.95	Dec. 1	3.27	12.11
Mar. 13	2.35	13.03	5	2.86	12.52

Island of Lanai

Water levels in Maunalei shaft 1 did not change appreciably during the year. Three additional drilled wells tapping high-level water were completed by the Hawaiian Pineapple Company and placed in service during the year. Pumpage on the island during the year was 368 million gallons as compared with 409 million gallons for 1949.

Water levels, in feet, above mean sea level (A) and below land-surface datum (B)

Maunalei shaft 1. 4 miles north-northeast of Lanai City. Records available: 1936-50.

Feb. 1	2.45	291.55	June 1	2.41	291.59
Mar. 1	2.42	291.58	Oct. 1	2.39	291.61
Apr. 1	2.39	291.61	Nov. 1	2.41	291.59
May 1	2.46	291.54			

Island of Hawaii

The water level in Olaa shaft varied between a high level of 19.07 feet above sea level in late April and early May and a low of 14.13 feet in November. There was a net fall of 0.98 foot in the water level during the year. Pumpage during the year was 6,990 million gallons, about 620 million gallons more than in 1949. Records were furnished by the Olaa Sugar Co., Ltd.

Water levels, in feet, above mean sea level (A) and below land-surface datum (B),
in observation wells in Hawaii

Olaa shaft. Records available: 1936-50.

Jan. 8	15.77	204.23	May 13	18.38	201.62
15	16.31	203.69	20	18.36	201.64
22	16.05	203.95	27	18.94	201.06
29	16.11	203.89	June 3	18.75	201.25
Feb. 5	16.11	203.89	10	18.36	201.64
12	15.69	204.31	17	18.15	201.85
19	15.70	204.30	24	17.76	202.24
26	15.65	204.35	July 1	17.27	202.73
Mar. 5	15.87	204.13	8	16.79	203.21
12	15.94	204.06	15	16.40	203.60
19	15.42	204.58	22	15.81	204.19
26	15.27	204.73	29	15.84	204.16
Apr. 1	15.16	204.84	Aug. 5	15.44	204.56
8	15.21	204.79	12	15.42	204.58
15	15.17	204.83	19	15.25	204.75
22	15.21	204.79	26	14.77	205.23
29	19.07	200.93	Sept. 2	15.14	204.86
May 6	19.07	200.93	9	15.11	204.89

Water levels, in feet, above mean sea level (A) and below land-surface datum (B),
in observation wells in Hawaii--Continued

Olaa shaft--Continued.

Date	Water level		Date	Water level	
	A	B		A	B
Sept. 16	15.02	204.98	Nov. 11	14.13	205.87
23	14.90	205.10	18	14.27	205.73
30	14.66	205.34	25	14.21	205.79
Oct. 7	14.44	205.56	Dec. 2	13.94	206.06
14	14.44	205.56	9	13.50	206.50
21	14.23	205.77	16	14.92	205.08
28	14.27	205.73	23	14.52	205.48
Nov. 4	14.13	205.87	30	14.23	205.77

Ookala shaft. Records available: 1937-49. No measurement made in 1950.

Island of Kauai

In the Kekaha area, water levels were generally higher and chloride content of water from wells was lower than in 1949. Rainfall in the southwest section of the island was above normal, but over the remainder of the island rainfall was in general below normal. Ground-water draft on Kauai during the year was 4,810 million gallons, 900 million gallons less than in 1949.

Artesian head, in feet above mean sea level (A) and above or below land-surface datum (B), and chloride, in parts per million (C)

2F. Kealia. Records furnished by East Kauai Water Co. Records available: 1937-50.

Date	Water level		Chloride	Date	Water level		Chloride
	A	B			A	B	
Apr. 14	46	Oct. 30	....	....	43
June 21	43	Dec. 12	....	....	43
Aug. 15	41				

7. Waialua. Records available: 1937-50.

Feb. 6	....	....	164	Aug. 15	....	....	161
Apr. 14	....	....	158	Oct. 30	....	....	156
June 21	....	....	157	Dec. 12	....	....	155

8. Waialua. Records available: 1937-50.

Feb. 6	10.23	1.72	117	Oct. 31	9.06	2.89	119
Apr. 14	10.04	1.91	108	Dec. 12	8.91	3.04	125
Aug. 15	10.27	1.68	109				

14N. Koloa. Records furnished by Koloa Sugar Co. Records available: 1937-50.

July 13	31.02	55.00	39				
29	30.92	55.10	37				

35. Near Kekaha. Leak which may have caused lower water-level readings in previous years was plugged. Records furnished by Kekaha Sugar Co. Records available: 1937-50.

Mar. 22	10.72	+2.90	140	Aug. 19	10.79	+2.97	134
Apr. 17	10.39	+2.57	334	Sept. 8	10.73	+2.91	...
May 15	10.54	+2.72	316	Oct. 9	....	....	297
June 12	10.39	+2.57	334	Nov. 4	10.33	+2.51	...
July 31	10.41	+2.59	334	Dec. 11	10.35	+2.53	307

37. 4 miles northwest of Kekaha. Records furnished by Kekaha Sugar Co. Records available: 1937-50.

July 31	....	....	261	Oct. 2	9.75	0.23	134
Aug. 14	....	....	291	Nov. 4	9.71	.27	...
Sept. 8	10.20	+0.22	...	Dec. 11	9.72	.26	299

PUMPAGE

The following table gives the draft during 1950 from all major ground-water installations in Hawaii for irrigation, domestic, and industrial supplies. The numbers in parentheses in the records for Oahu and Maui are Geological Survey well numbers. During 1950 the total draft from all ground-water sources was 169,600 million gallons as compared with 191,100 million gallons during 1949. Over most of the islands above-normal rainfall reduced the need for ground water for irrigation purposes. Pumpage during 1950 from wells entering the main basalt aquifer of Oahu, which is not included in the tables, is estimated to be about 25 million gallons per day.

Pumpage, in millions of gallons, from wells and tunnels in the Territory of Hawaii, 1950

Island of Hawaii		Island of Lanai	
Hamakua Mill Co. Paauiilo well ¹	788	Hawaiian Pineapple Co. Tunnel 1	79
		Shaft 2	58
Hawaiian Agricultural Co. Pahala shaft	589	Well 1	35
		2	114
Hutchinson Sugar Plantation Co. Honuapo well ¹	857	3 (Kapano) ⁵	19
		4 (Soules Bench) ⁵	9
		5 (Waiakeakua) ⁵	54
		Total	368
Kaiwika Sugar Co. Domestic tunnel	384	Island of Maui	
Cane-cleaning plant tunnel ¹	66	Hawaiian Commercial and Sugar Co.	
	450	Pump 1 (14)	1,071
Kohala Sugar Co. Hoea pump	819	2 (25)	2,849
Kohala pump	1,578	3A-C (15)	4,320
Waikane pump	292	4 (24)	2,036
Honokane tunnel	556	5 (19)	1,743
Halaula domestic well	74	6 (18)	3,868
	3,319	7 (16)	4,413
Olaa Sugar Co. Olaa shaft	888	8 (17)	3,810
		9 (22)	2,624
Pepeekeo Sugar Co. ¹	102	Central power plant (20)	236
Total	6,993	Pump 11A-B (32)	104
		12 (31)	918
		13A-B (29)	3,899
		16 A, B, D (30)	1,885
		17 (28)	1,907
		18A-B (27)	2,532
			38,215
Island of Kauai ²		Pioneer Mill Co.	
County of Kauai		Pump A (9) Lahaina	1,585
Hanapepe Water Works	100	B (8) Lahaina	2,150
Waimea Water Works	182	C (7) Mill	2,646
	282	D (3) Kaanapali	1,537
Kekaha Sugar Co. Well 9	524	F (2) Honokowai	474
Wells K-1 to K-5	235	G (4) Hahakea	361
Wells M-1 to M-12	1,268	H (3) Kaanapali	1,600
Kekaha pump	730	L (6) Waihuku	77
Mana pump	183	M (5) Kahomā	967
Waiawa pump	315	N (10) Olowalu	83
Well 16	0	O (11) Olowalu	9
	3,255	P (12) Ukumehame	15
Lihue Plantation ¹ Domestic shaft	550		11,504
Kealia wells	200	Maui Pineapple Co. Kahului Cannery (11) ¹	120
Hanamaulu shaft	10		
	760	Wailuku Sugar Co. Wailuku shaft	645
Olokele Sugar Co. Domestic shaft	511		
Total	4,808	Total	50,484

Pumpage, in millions of gallons, from wells and tunnels in the Territory
of Hawaii, 1950--Continued

Island of Molokai			Island of Oahu--Continued		
County of Maui			Waialeale Training School		
Conant-Kawela and Kamiloloa	10		Sunset Beach (337-1&2)		
Kalae tunnel	3		and School Pump		
Kamalo well	4		(337-1&2)	27	
Ualapue well	16	33	Waianae tunnels	195	2, 043
California Packing Corp.			Kahuku Plantation Co.		
Kualapuu well		35	Pump 1 (353)	898	
Libby, McNeill and Libby			2 (341)	1, 995	
West Molokai well	0		3 (362)	1, 601	
Total	68		5 (352)	1, 510	
Island of Oahu			6 (362-1)	397	
Ewa Plantation Co.			7 (363)	263	
Pump 1 (268)	3		8 (357)	181	
2 (257)	892		12 (361)	135	
3 (264)	3, 156		14 (338)	486	
4 (264)	2, 961		15 (348)	103	
5 (259)	1, 907		17 (362)	144	
6 (259)	2, 472		20 (377)	742	
7 (263)	2, 507		23 (387)	143	
8 (270)	546		25 (373)	100	
10 (276)	2, 475		26 (392)	117	
11 (276)	1, 596		27 (396)	234	
12 (276)	1, 176		Mill pump (355)	732	9, 781
13 (276)	26		Oahu Sugar Co.		
15 (Shaft 3)	2, 677		Waipahu Section		
16 (Shaft 3)	4, 033		Pump 1 (247)	1, 037	
20 (dug well 20)	375		2 (249)	1, 298	
21 (dug well 21)	253		3 (249)	415	
22 (dug well 22)	219		4 (248)	1, 022	
23 (dug well 23)	1, 421		5 (274)	3, 388	
24 (dug well 24)	443		6 & 6B (239)	2, 660	
25 (254)	388	29, 526	7 (246)	3, 481	
California Packing Corp.			8 (Waialeale Spring)	2, 291	
Kunia well (330-5)		3	9 (Waiawa Spring)	83	
Hawaiian Electric Co.			Aiea Section		
Tunnel (shaft 8)	2, 562		Pump 2 (196)	817	
Well (199-1)	2, 125		3 (186)	796	
Kaluaopu spring	4, 356	9, 043	4 (197)	1, 535	
Honolulu Board of Water Supply			5 & 5B (189)	1, 397	
Kalihi (shaft 6)	3, 313		6 (Kalawao Spring)	642	
Waialeale (shaft 7)	161		16 (199-1) ³		
Halawa (shaft 12)	3, 367		21 & 21B (shaft 13)	918	21, 780
Kaimuki (7)	1, 216		Private wells in Honolulu ⁴		
Beretania (88)	2, 283				3, 850
Kalihi (128)	1, 449	11, 789	Territory Hospital wells (Kaneohe) ^{1, 5}		
Honolulu Suburban Water System					101
Aiea (190-1-B)	30		U. S. Army		
Pearl City (shaft 9)	112		Schofield (shaft 4)		
Waipahu (241)	148				1, 027
Nanakuli (dug well 16)	2		U. S. Navy		
Luahalei (shaft 2)	41		Aiea (shaft 5)		
Waialua (well 333)	110		Red Hill (shaft 11)		
Hauula (394)	24		Barbers Point (shaft 14)		
Kaaawa (shaft 10)	26		Aiea wells (187)		
Haiku tunnel	611		Wahiawa Radio Station		
Kahaluu tunnel	620		(330-2)		
Waimanalo			Moanalua (156)		
City and County tunnel	67		Pearl City wells		
Plantation tunnel	30		Luahalei tunnel		
			Waiawa shaft		
			Wahiawa Water Co.		
			deep wells (330-3, & 330-6)		

Pumpage, in millions of gallons, from wells and tunnels in the Territory of Hawaii, 1950--Continued

Island of Oahu--Continued		
Waialua Agricultural Co.		
Pump 1 (321)	385	
2 (322)	1,520	
3 (331)	1,827	
4 (334)	1,279	
5 (285)	851	
6 (298, 299 & 301)	195	
7 (324)	648	
8 (329)	148	
9 (327)	95	
10 (323)	1,149	
11 (296)	72	
12 (332)	89	
13 (328)	85	
15 (317)	22	
16 (316)	56	
Mill (319)	883	
Pump 2A	1,143	10,447
Waimano Home		
(196-1)	66	
(196-1B)	3	69
Total		106,867
Grand Total		169,588

1 Estimated.

2 McBryde Sugar Co. not included. Three pumps in Hanapepe and one pump in Lawai Valley pump both surface water and ground water. It is not possible to separate the ground-water draft from the surface water.

3 Pumpage from Pump 16 (199-1) included with that of Hawaiian Electric Co.

4 Reported by Honolulu Board of Water Supply. Includes pumpage from wells belonging to military establishments in Honolulu.

5 Reported for the first time in ground-water draft.

NEVADA

By O. J. Loeltz and J. L. Poole

Scope of Water-Level Program

In 1945 the Geological Survey and the Office of the State Engineer entered a cooperative agreement to investigate the ground-water resources of Nevada. Detailed studies of ground-water resources of several developed valleys and reconnaissance studies of about a dozen undeveloped valleys have been made. In addition, much hydrologic data covering nearly every part of the State has been accumulated. A representative portion of these data consisting of measurements of selected observation wells for the 5-year period, 1946-50, is included in this report. Measurements of water levels prior to 1946 are contained in State of Nevada Water Resources Bulletin No. 3.

The following table gives the distribution by counties of observation wells:

County	Number of wells	Number of tape and pressure-gage measurements	Number of recording gages
Clark	53	280	7
Douglas	5	26	0
Elko	36	196	0
Esmeralda	19	33	0
Eureka	15	37	0
Humboldt	30	265	1
Lander	18	72	0
Lincoln	26	55	0
Lyon	23	105	0
Mineral	5	8	0
Nye	13	57	0
Ormsby	6	18	0
Pershing	10	17	0
Washoe	24	156	0
White Pine	22	106	0
Total	305	1,431	8

A list of the various reports prepared as a result of ground-water investigations follows:

State of Nevada Water Resources Bulletins

- Ground water in Lovelock Valley, by T. W. Robinson and J. C. Fredericks (out of print)
- Water levels and artesian pressure in wells in Las Vegas Valley and in other valleys, (1913-45), by T. W. Robinson, G. B. Maxey, J. C. Fredericks, and C. H. Jameson
- (Included in No. 5) Well data in Las Vegas and Indian Spring Valleys, by G. B. Maxey and C. H. Jameson
- Geology and water resources of Las Vegas, Pahrump, and Indian Spring Valleys, Clark and Nye Counties, by G. B. Maxey and C. H. Jameson
- Ground water in Las Vegas, Pahrump, and Indian Spring Valley, by G. B. Maxey and T. W. Robinson
- Geology and ground water in the Meadow Valley Wash drainage area, above the vicinity of Caliente, by D. A. Phoenix
- Ground water in White River Valley, White Pine, Nye, and Lincoln Counties, by G. B. Maxey and T. E. Eakin
- Ground water in Paradise Valley, Humboldt County, by O. J. Loeltz, D. A. Phoenix, and T. W. Robinson
- Preliminary report on ground water in Fish Lake Valley, Nevada and California, by T. E. Eakin

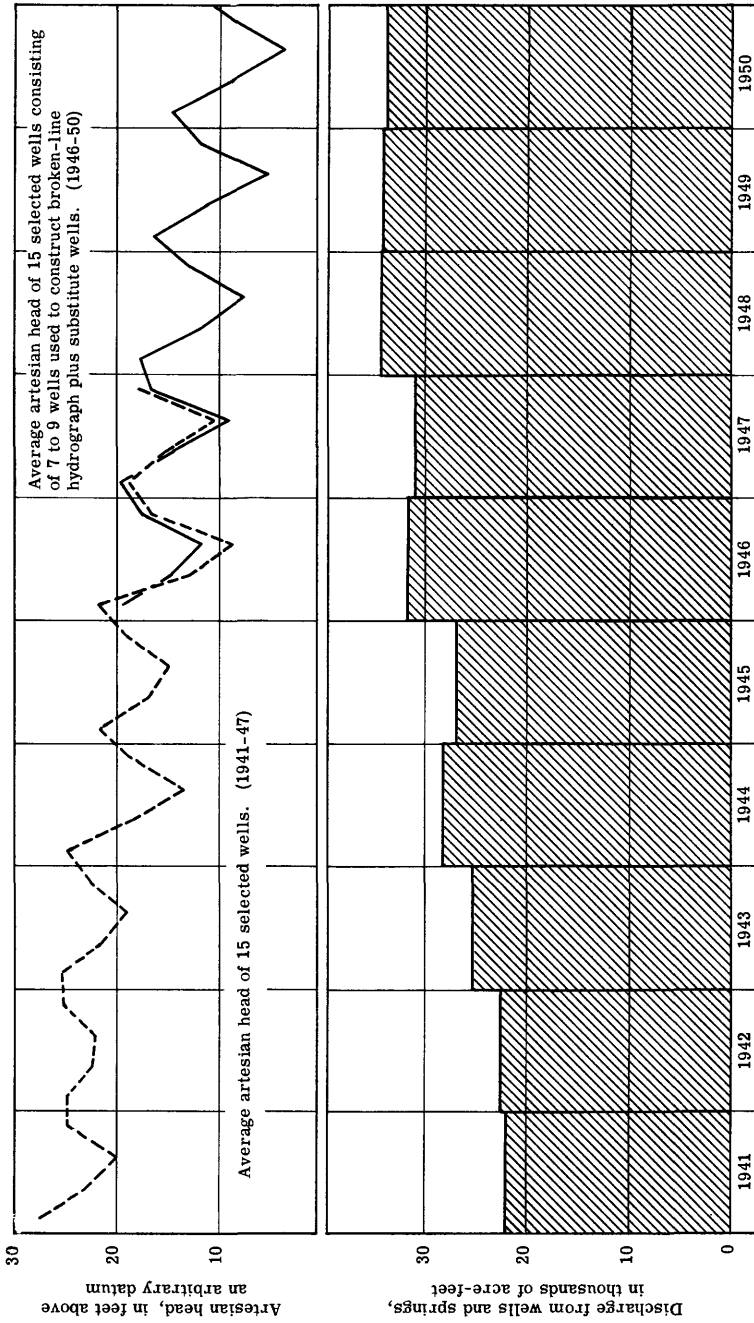


Figure 14. ---Average artesian head of 15 selected wells and estimated discharge from wells and springs in Las Vegas Valley, Nevada.

Mimeographed Reports

- Ground water in the vicinity of Elko, by J. C. Fredericks and O. J. Loeltz (out of print--to be published as a part of State of Nevada Water Resources Bulletin No. 12.)
- Ground water in Spanish Spring and Sun Valleys, Washoe County, by T. W. Robinson and D. A. Phoenix
- Ground water in Goshute-Antelope Valley, Elko County, by T. E. Eakin, G. B. Maxey, and T. W. Robinson (out of print--to be published as a part of Nevada Water Resources Bulletin No. 12.)
- Ground-water conditions in Whisky Flat, Mineral County, by T. E. Eakin and T. W. Robinson
- Ground water for Indian Service Hospital at Schurz, by T. W. Robinson

Printed Reports

- Progress report on the ground-water resources of Las Vegas Artesian Basin, by G. B. Maxey and C. H. Jameson
- Ground Water in Nevada by T. W. Robinson (published in the Proceedings of the Fourth Nevada Water Conference)

Typewritten reports available for inspection at Carson City office

- Ground-water conditions in the vicinity of Tonopah, Nye County, by D. A. Phoenix
- Geology of Clear Creek dam site, Ormsby and Douglas Counties, by D. A. Phoenix
- Results of ground-water appraisal for stock water on the west slope of Black Mountain, Mineral County, by D. A. Phoenix
- Results and description of test drilling in Argenta Swamp near Battle Mountain, by D. A. Phoenix
- Ground water in the Austin area, Lander County, by D. A. Phoenix
- Ground water in Clover and Independence Valleys, Elko County, by T. E. Eakin and G. B. Maxey (to be published as part of State of Nevada Water Resources Bulletin No. 12.)
- Ground water in Railroad, Hot Creek, Reveille, Kawich, and Penoyer Valleys, Nye, Lincoln, and White Pine Counties, by T. E. Eakin and G. B. Maxey (to be published as part of State of Nevada Water Resources Bulletin No. 12.)

Precipitation

A summary of precipitation for each year, based on U. S. Weather Bureau records is, as follows: In 1946 average annual precipitation was 9.73 inches or 108 percent of the 58-year average. In the southern part of the State the precipitation in October and November was the heaviest of record. In 1947 the average precipitation of 5.77 inches, or 64 percent of normal was the least for the previous 20 years. The northeast corner of the State received near-normal precipitation. December storms in the Colorado Basin brought the precipitation to well below average. Only the northern part of the State received near-normal precipitation. East-central and northeastern Nevada received the greatest December snowfall of record. In 1949 precipitation averaged 7.72 inches or 87 percent of normal. Mount Charleston Lodge station in the Spring Mountains in southern Nevada, with 186.3 inches of snow, registered the highest snowfall in the State. In 1950 precipitation averaged 8.23 inches or about 95 percent of normal. There was a general tendency for the precipitation in relation to normal to be greater over the northern half of the State. Clark and the southern portions of Lincoln and Nye Counties in the southern part of the State were virtually without precipitation in every month except July and September, and were suffering one of the worst droughts in history. Unusually heavy rains combined with high temperatures in mid-November over the west-central portion of the State produced record-breaking floods in the Walker, Carson, and Truckee Basins.

Pumpage

Withdrawals of 1,000 acre-feet or more of ground water from wells, are summarized in the following table for the year 1949. The actual withdrawals in any valley are somewhat larger than indicated as only wells discharging significant quantities of ground water were included in the inventory. Stock and domestic wells were generally excluded. It will be noted that the largest withdrawals are from Las Vegas Valley in Clark County and from Pahrump Valley in Clark and Nye Counties. The 1950 estimates for these valleys are 33,800 and 14,500 acre-feet, respectively. A break-down of the withdrawals from Las Vegas Valley indicates that the greater withdrawals from pumped wells in 1950 as compared with 1949 was more than offset by the decrease in natural flow of several hundred wells as the result of declining water levels.

Withdrawals from Wells, 1949

County	Acre-feet
Clark	
Las Vegas Valley	a34,200
Muddy River Valley	1,600
Douglas	
Carson Valley	5,000
Elko	
City of Elko	1,500
Esmeralda	
Fish Lake Valley	3,100
Lincoln	
Meadow Valley Wash	2,600
Lyon	
Carson River Valley	1,100
Nye	
Pahrump Valley	b21,400
Big Smoky Valley	1,200
Washoe	
Truckee Meadows	1,300

a Includes 1,000 to 1,500 acre-feet discharged by two springs owned by the Las Vegas Land and Water Co.

b Includes 5,000 to 6,000 acre-feet discharged by springs.

Interpretation of Water-Level Fluctuations

On figure 14 are graphs showing the average artesian head of 15 selected wells in and near Las Vegas and estimated discharge from wells and springs in Las Vegas Valley for the years 1941-50, inclusive. The following table lists the wells and the period during which each well was used to construct the hydrographs. In 1948 it was necessary to substitute wells for five or more of the original wells and a second hydrograph was constructed. Both hydrographs are shown for 1946 and 1947 to indicate the correlation between them.

Wells and Years of Record

Well Number	Years					
	1941 through 1947	1946	1947	1948	1949	1950
S20/61-3acc1		*	*	*	*	*
S20/61-16bdb1		*	*	*	*	*
S20/61-19abd1	*	*	*	*	*	*
S20/61-19bcc1	*					
S20/61-22cbc1					*	*
S20/61-23ddb1				*		
S20/61-28dac1	*	*	*	*	*	*
S20/61-28dac4	*	*	*	*	*	*
S20/61-29dbb1		*	*	*	*	*
S20/61-29dca1	*	*	*			
S20/61-33cca1	*	*	*	*	*	*
S20/61-33cca4	*	*	*	*	*	
S20/61-33ccd1						*
S20/61-34adc1	*	*	*	*	*	*
S20/61-36bbb1		*	*	*	*	*
S21/61-4aad1						*
S21/61-4baa1	*					
S21/61-7acc1	*					
S21/61-7acc2	*	*	*	*	*	*
S21/61-21bbb1	*	*	*	*	*	*
S21/61-22bca1	*					
S21/61-22ccc1	*	*	*	*	*	*
S21/61-33bac1	*					
S21/62-7bac2		*	*	*	*	*

It will be noted from figure 14 that the February measurements have declined about 13 feet from 1941 to 1950. Further, the rate of decline has increased from about 1 foot per year during the initial 4-year period (1941-45) to about 1.8 feet per year during the latter 5-year period (1945-50). Part of the increase in rate of decline probably is due to below average precipitation in the Spring Mountains in 1946 and each succeeding year, with the exception of

1949, and in part from increased ground-water withdrawals during the same period. Unless withdrawals are reduced considerably it appears that water levels and artesian pressure will continue to decline.

Recharge to Pahrump Valley follows much the same pattern as recharge to Las Vegas Valley inasmuch as both valleys receive most of their recharge from the Spring Mountains. Water levels have been declining at the rate of about 1 foot a year in the developed parts of the valley for the past several years. Water levels in many wells in 1950 were comparable with or slightly better than corresponding levels in 1949 as the result of about one-third reduction of pumpage in 1950. Water levels in other parts of Nevada generally reflect the changes that occur under natural conditions of varying rates of recharge and discharge. Rates of discharge generally do not vary widely from year to year. However, rates of recharge do vary widely as they are dependent to a large extent on precipitation.

Most of the ground water developed has been from alluvium. Many of the intermontane valleys contain several hundred feet of alluvium of Quaternary age sufficiently permeable to furnish satisfactory supplies for irrigation. Ground water has been developed also from alluvial deposits of late Tertiary age. Volcanics of late Tertiary and Quaternary age locally are good aquifers. Little water has been developed from limestone although many of the large springs in the eastern part of the State appear to be supplied by water moving through openings or solution channels in limestone that is generally of Carboniferous age.

Well - Numbering System

The number assigned to a well in this report is both an identification and location number. It is based on the Mount Diablo base and meridian network of surveys established by the General Land Office (now Bureau of Land Management). The first numeral of a well number indicates the township. If the township is south of Mount Diablo base the letter "S" appears before the township number. The second numeral, separated from the township number by a slant, is the range number east of Mount Diablo meridian. The third numeral, separated from the range number by a dash, is the section number. One of the first four letters of the alphabet following the section number denotes the quarter section, a second letter the quarter-quarter section, and a third letter the quarter-quarter-quarter section, or 10-acre tract if known. The letters are assigned in a counterclockwise order, "a" designating the northeast quadrant. Where more than one well is in the same subdivision consecutive numbers beginning with 1 are assigned in the order in which the well data was first recorded. Thus, well number S19/60-4dab1 is used to designate the first well selected in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 19 S., R. 60 E. Similarly, well number 12/23-22ac3 is used to designate the third well recorded in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 12 N., R. 23 E.

Well Descriptions and Water - Level Measurements

(Water levels are in feet below land-surface datum unless otherwise indicated.)

Clark County

Indian Spring Valley

S16/56-9bc2. Tim Harnedy. Drilled domestic and irrigation well, diameter 8 inches, depth 582 feet. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 18, '46	3.87	Feb. 28, '48	3.57	Feb. 15, '49	2.95	Feb. 15, '50	2.75
Feb. 28, '47	2.87	May 19	3.30	May 24	4.40	May 23	3.54
June 4	5.24	Aug. 26	5.28	Aug. 5	6.70	Aug. 15	5.94
Aug. 5	6.50	Nov. 18	4.30	Nov. 10	4.41	Nov. 21	5.02
Nov. 20	5.54						

Las Vegas Valley

S16/57-24c1. U. S. Bureau of Land Management. Drilled unused well, diameter 4 inches, depth 151 feet. Records available: 1946-50.

Mar. 18, '46	124.09	Dec. 23, '47	123.70	Feb. 15, '49	123.34	Feb. 15, '50	123.18
Aug. 9	123.84	Mar. 2, '48	123.41	May 24	123.26	May 23	123.03
Feb. 28, '47	123.76	Aug. 26	123.37	Aug. 5	123.12	Aug. 15	123.07
May 2	123.75	Nov. 18	123.46	Nov. 10	123.09	Nov. 21	123.01
Aug. 5	123.69						

S17/59-20bc1. U. S. Bureau of Land Management. Drilled stock well, diameter 6 inches, depth 300+ feet. Records available: 1944-50.

S17/59-20bc1--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 20, '46	29.22	Aug. 22, '47	28.35	Feb. 28, '50	27.48	Aug. 11, '50	26.93
Feb. 28, '47	28.26	Nov. 30	28.28	May 29	27.40	Nov. 24	27.81
May 28	28.12						

S17/59-34a1. Desert Game Refuge. Drilled unused well, diameter 12 inches, depth 150 feet. Records available: 1945-50.

Aug. 20, '46	24.06	Feb. 27, '48	23.38	Feb. 24, '49	23.27	Feb. 28, '50	23.27
Feb. 28, '47	22.87	May 28	23.67	May 19	23.37	May 29	23.92
May 28	23.78	Aug. 19	23.60	Aug. 5	24.30	Aug. 11	23.55
Aug. 22	23.93	Nov. 29	23.72	Nov. 8	22.91	Nov. 28	23.78
Nov. 30	23.84						

S19/60-4dab1. P. J. Goumond. (State Engineer No. 450). Drilled irrigation artesian well, diameter 16 inches, depth 780 feet. Records available: 1946, 1948-50.

Water level above land-surface datum

Apr. 5, '46	30.40	Feb. 27, '49	21.50	Nov. 21, '49	16.60	Aug. 18, '50	8.00
Apr. 17, '48	19.70	May 16	14.70	Feb. 9, '50	17.90	Nov. 20	11.50
Nov. 23	19.40	Aug. 25	12.70	May 29	11.00		

S19/60-9bcc1. P. J. Goumond. (State Engineer No. 427). Drilled unused artesian well, equipped with recording gage, diameter 10 inches, depth 830 feet, cased to 140. Records available: 1944-50.

Jan. 15, '46	48.08	July 15, '47	55.50	Sept. 15, '48	61.99	Nov. 15, '49	63.92
Feb. 15	48.30	Aug. 15	54.60	Oct. 15	62.40	Dec. 15	63.10
Mar. 15	48.57	Sept. 15	56.80	Nov. 15	62.84	Jan. 15, '50	63.22
Apr. 15	48.62	Oct. 15	54.50	Dec. 15	60.54	Feb. 15	62.85
May 15	48.84	Nov. 15	57.40	Jan. 15, '49	59.92	Mar. 15	66.58
June 15	48.90	Dec. 15	55.20	Feb. 15	59.75	Apr. 15	67.38
July 15	49.04	Jan. 15, '48	55.85	Mar. 15	59.55	May 15	69.14
Aug. 15	49.10	Feb. 15	56.33	Apr. 15	62.36	June 15	69.75
Sept. 15	49.53	Mar. 15	58.57	May 15	64.24	July 15	70.98
Oct. 15	49.90	Apr. 15	57.40	June 15	64.18	Aug. 15	71.68
Nov. 15	49.92	May 15	60.16	July 15	63.69	Sept. 15	72.52
Dec. 15	50.24	June 15	60.34	Aug. 15	66.32	Oct. 15	72.77
Jan. 15, '47	50.80	July 15	60.76	Sept. 15	66.95	Nov. 15	70.44
Feb. 15	51.70	Aug. 15	61.86	Oct. 15	67.02	Dec. 15	67.48

S19/60-27bdc1. U. S. Geol. Survey. (State Engineer No. 554). Drilled observation artesian well, equipped with recording gage June 10, 1947, diameter 5 inches, depth 905 feet, cased to 83.5. Records available: 1946-50.

Water level above land-surface datum

June 3, '46	46.90	May 19, '47	32.90	June 15, '48	28.10	Aug. 15, '49	23.10
Aug. 2	37.90	23	32.30	July 15	28.20	Oct. 15	24.70
Sept. 13	35.90	June 15	31.50	Aug. 15	29.80	Mar. 15, '50	23.80
24	35.80	July 15	32.30	Sept. 15	27.50	Apr. 15	23.20
Oct. 17	35.90	Aug. 15	32.50	Oct. 15	26.50	May 15	22.60
30	37.20	Oct. 15	31.30	Nov. 15	26.10	June 15	22.10
Nov. 18	37.40	Nov. 15	30.10	Dec. 15	27.20	July 15	21.20
Dec. 11	37.70	Dec. 15	30.90	Mar. 15, '49	27.90	Aug. 15	20.90
18	36.60	Jan. 15, '48	30.80	Apr. 15	27.50	Sept. 15	20.20
Jan. 24, '47	36.00	Feb. 15	29.40	May 15	26.30	Oct. 15	20.20
Feb. 25	35.40	Mar. 15	29.20	June 15	25.50	Nov. 15	20.70
Mar. 24	33.80	Apr. 15	29.10	July 15	24.90	Dec. 15	22.00
Apr. 21	33.80	May 15	28.40				

S19/60-33baal. U. S. Geol. Survey. (State Engineer No. 555). Drilled observation artesian well, diameter 8 inches, depth 1,008 feet, cased to 92.5. Records available: 1946-50.

S19/60-33baa1--Continued.

Water level above land-surface datum

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 17, '46	28.80	Sept. 15, '48	7.00	June 15, '49	4.10	May 15, '50	1.00
Mar. 15, '48	10.20	Oct. 15	6.80	July 15	3.50	July 15	2.66
Apr. 15	10.40	Nov. 15	6.30	Aug. 15	1.20	Aug. 15	3.11
May 15	8.80	Dec. 15	7.20	Sept. 15	2.70	Sept. 15	3.73
June 15	8.60	Mar. 15, '49	7.60	Oct. 15	2.60	Oct. 15	4.03
July 15	8.00	Apr. 15	6.60	Mar. 15, '50	2.10	Nov. 15	4.11
Aug. 15	7.50	May 15	5.00	Apr. 15	2.00	Dec. 15	.83

S20/60-2ddd1. Arthur E. Gray. (State Engineer No. 553). Drilled unused artesian well, diameter 12 inches, depth 707 feet, cased to 700. Records available: 1947-50.

Apr. 21, '47	59.58	Feb. 12, '48	61.15	Feb. 8, '49	63.86	Feb. 9, '50	66.96
May 19	60.06	May 28	62.55	May 16	65.69	May 10	67.87
Aug. 19	61.95	Aug. 17	64.51	Aug. 8	66.76	Aug. 10	69.58
Nov. 26	61.95	Nov. 16	64.88	Nov. 5	67.71	Nov. 20	70.30

S20/60-36dbb1. M. D. Kidder. (State Engineer No. 18). Drilled unused artesian well, diameter 8 to 6 to 4 inches, depth 385 feet, cased to 381. Land-surface datum is 2,228.2 feet above msl. Records available: 1925, 1927, 1931-32, 1935-36, 1938-41, 1945-50.

Jan. 15, '46	37.20	July 15, '47	48.30	Oct. 15, '48	49.48	Nov. 15, '49	49.56
Feb. 15	36.49	Aug. 15	49.10	Nov. 15	46.88	Dec. 15	48.24
Mar. 15	37.94	Sept. 15	48.70	Dec. 15	45.42	Feb. 15, '50	47.47
Apr. 15	39.89	Oct. 15	46.50	Jan. 15, '49	44.47	Mar. 15	48.88
May 15	41.84	Nov. 15	44.80	Feb. 15	43.61	Apr. 15	50.40
June 15	43.46	Dec. 15	42.80	Mar. 15	44.76	May 15	52.66
July 15	44.90	Feb. 15, '48	41.75	Apr. 15	46.08	June 15	54.36
Aug. 15	45.14	Apr. 15	43.00	May 15	48.32	July 15	55.51
Sept. 15	45.32	May 15	46.29	June 15	50.60	Aug. 15	56.03
Oct. 15	44.61	June 15	48.49	July 15	52.23	Sept. 15	55.63
Nov. 15	41.73	July 15	48.86	Aug. 15	52.85	Oct. 15	54.99
Dec. 15	41.18	Aug. 15	48.99	Sept. 15	50.65	Nov. 15	53.76
Jan. 15, '47	40.95	Sept. 15	50.97	Oct. 15	51.14	Dec. 15	52.33
Feb. 15	41.40						

S20/61-3acc1. Frank Allen. (State Engineer No. 316). Drilled unused artesian well, diameter 8 inches, depth 300 feet. Records available: 1944-50.

Jan. 29, '46	15.37	Dec. 30, '46	15.88	Jan. 29, '48	18.80	Nov. 15, '48	24.80
Feb. 27	15.57	Jan. 30, '47	15.60	Feb. 26	18.15	Dec. 16	24.05
Mar. 30	14.29	Feb. 20	15.81	Mar. 26	18.90	Feb. 23, '49	21.50
Apr. 25	15.30	Mar. 26	17.35	Apr. 22	19.20	May 19	23.32
May 29	15.47	Apr. 23	18.21	May 26	21.04	Aug. 17	26.30
June 27	16.26	May 27	18.18	June 25	22.50	Nov. 28	24.92
July 19	17.00	June 24	20.30	July 25	23.58	Feb. 27, '50	23.85
Aug. 30	17.52	Oct. 30	22.93	Aug. 25	24.10	May 22	c30.91
Sept. 27	18.35	Nov. 28	21.35	Sept. 25	25.23	Aug. 17	c34.63
Oct. 24	16.79	Dec. 19	20.70	Oct. 25	25.37	Nov. 17	c34.41
Nov. 30	14.96						

c Nearby well being pumped.

S20/61-5b1. M. Armstrong. Drilled domestic and irrigation well, diameter 10 inches, depth 267 feet. Records available: 1944-50.

Jan. 23, '46	39.80	Sept. 24, '46	40.70	May 26, '47	40.75	May 19, '49	41.98
Feb. 27	39.77	Oct. 30	40.72	Aug. 19	41.20	Aug. 17	42.55
Mar. 30	39.79	Nov. 29	40.59	Dec. 1	41.30	Nov. 26	42.67
May 1	39.82	Dec. 30	40.51	Feb. 2, '48	41.27	Feb. 17, '50	42.54
31	39.89	Jan. 31, '47	40.43	Aug. 11	41.57	May 26	42.76
June 27	30.24	Feb. 25	40.43	Nov. 19	41.98	Aug. 16	43.19
July 30	40.44	Mar. 26	40.46	Feb. 24, '49	41.98	Nov. 28	43.38
Aug. 29	40.58	Apr. 21	40.49				

S20/61-16bdb1. J. R. Atwater. (State Engineer No. 208). Drilled domestic and irrigation well, diameter 8 inches, depth 386 feet. Records available: 1944-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 23, '46	0.46	Sept. 26, '46	2.34	May 26, '47	2.43	May 19, '49	8.25
Feb. 27	.00	Oct. 25	2.52	Aug. 19	4.51	Aug. 17	10.35
Mar. 20	+ .26	Nov. 20	2.23	Dec. 1	5.22	Nov. 26	10.52
May 1	.02	Dec. 30	2.15	Feb. 12, '48	4.59	Feb. 17, '50	9.76
27	.08	Jan. 21, '47	1.87	May 24	5.95	May 26	10.72
June 27	.67	Feb. 20	1.82	Aug. 12	8.31	Aug. 16	12.56
July 19	5.35	Mar. 26	1.70	Nov. 19	9.89	Nov. 28	13.26
Aug. 29	3.89	Apr. 21	1.95	Feb. 24, '49	6.99		

S20/61-18bcc1. Sky Haven Airport. (State Engineer No. 505). At southeast corner of hangar. Drilled domestic and irrigation artesian well, diameter 6 inches, depth 412 feet. Records available: 1944-50.

Jan. 23, '46	3.38	Sept. 24, '46	9.23	May 19, '47	9.48	May 7, '49	13.29
Feb. 26	4.95	Oct. 22	9.14	Aug. 19	12.92	Aug. 17	17.90
Mar. 23	4.30	Nov. 18	8.70	Nov. 12	10.39	Nov. 21	15.66
Apr. 19	6.25	Dec. 24	6.62	Feb. 16, '48	8.38	Feb. 7, '50	13.82
May 16	6.26	Jan. 22, '47	7.15	May 24	12.48	May 10	17.02
June 20	7.86	Feb. 18	6.77	Aug. 12	15.65	Aug. 10	19.57
July 17	8.62	Mar. 24	8.08	Nov. 16	13.07	Nov. 10	18.52
Aug. 29	9.70	Apr. 18	8.93	Feb. 21, '49	10.72		

S20/61-19abd1. Splane Estate. (State Engineer No. 5). Drilled domestic and irrigation well, diameter 10 inches, depth 260 feet. Land-surface datum is 2,175.5 feet above msl. Records available: 1939-50.

Jan. 23, '46	+16.1	Nov. 20, '46	+12.1	Sept. 8, '47	+3.9	Nov. 19, '48	+6.4
Feb. 23	+14.2	Dec. 16	+12.3	Oct. 2	+6.6	Feb. 21, '49	+8.9
Mar. 23	+14.5	Jan. 22, '47	+12.9	Nov. 28	+9.9	May 12	+4.5
Apr. 24	+11.5	Feb. 25	+12.2	Dec. 16	+10.6	June 24	+ .3
May 16	+11.3	Mar. 27	+11.2	Jan. 29, '48	+11.6	Aug. 8	1.3
June 20	+9.3	Apr. 18	+10.0	Feb. 16	+11.8	Nov. 28	+3.0
July 17	+9.1	May 19	+9.0	Mar. 22	+9.7	Feb. 7, '50	+6.2
Aug. 30	+7.7	June 20	+6.7	Apr. 20	+8.6	May 10	+1.3
Sept. 26	+8.4	July 18	+5.4	May 24	+5.1	Aug. 10	2.4
Oct. 22	+8.9	Aug. 13	+4.7	Aug. 11	+1.3	Nov. 10	+ .6

S20/61-19bcc1. R. S. Hicks. (State Engineer No. 4). Drilled unused artesian well, diameter 12 inches, depth 244 feet. Land-surface datum is 2,199.9 feet above msl. Records available: 1944-47. Measurement discontinued after Dec. 16, 1947.

Jan. 15, '46	3.90	July 15, '46	10.33	Jan. 15, '47	7.31	July 18, '47	14.23
Feb. 15	3.87	Aug. 15	10.64	Feb. 15	7.86	Aug. 14	14.82
Mar. 15	4.57	Sept. 15	10.49	Mar. 15	8.75	Sept. 19	14.43
Apr. 15	6.35	Oct. 15	10.34	Apr. 17	10.25	Oct. 21	13.09
May 16	7.98	Nov. 15	8.46	May 21	11.16	Nov. 28	10.84
June 15	9.19	Dec. 15	7.63	June 20	13.07	Dec. 16	10.07

S20/61-22cbc1. Jack Moore and C. E. Bell. (State Engineer No. 461). Drilled unused artesian well, diameter 8 inches, depth 385 feet, cased to 75. Records available: 1944-50.

Jan. 23, '46	5.90	Sept. 26, '46	13.21	Aug. 19, '47	a16.35	May 12, '49	11.50
Feb. 27	5.61	Oct. 25	10.84	Nov. 24	10.24	Aug. 17	17.00
Mar. 29	6.67	Nov. 21	8.55	Feb. 26, '48	6.50	Nov. 25	10.31
May 1	7.64	Dec. 30	7.00	May 24	11.02	Feb. 7, '50	8.59
27	9.35	Jan. 21, '47	6.73	Aug. 3	17.10	May 26	12.96
June 27	12.12	Feb. 21	8.10	Nov. 19	11.60	Aug. 16	16.44
July 19	13.51	Mar. 26	8.14	Feb. 24, '49	6.75	Nov. 17	12.27
Aug. 17	14.12	Apr. 23	8.32				

a Pumping.

S20/61-23ddb1. Mary Gaddis. (State Engineer No. 391). Drilled irrigation and domestic artesian well, diameter 8 inches, depth 420 feet, cased to 84. Records available: 1944-48. Measurement discontinued after Nov. 28, 1948.

S20/61-23ddb1--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 29, '46	22.9	July 29, '46	14.3	Jan. 24, '47	25.8	Nov. 10, '47	15.7
Feb. 28	25.7	Aug. 30	14.9	Feb. 26	19.8	Feb. 25, '48	20.8
Mar. 29	25.3	Sept. 27	14.2	Mar. 26	20.7	May 24	15.8
Apr. 25	23.8	Oct. 25	21.4	Apr. 23	16.4	Aug. 16	13.4
May 28	22.8	Nov. 20	23.6	May 27	14.8	Nov. 28	16.2
June 28	17.6	Dec. 28	24.4	Aug. 19	11.6		

S20/61-27cbc1. Clyde Caskey. (State Engineer No. 336). Drilled unused well, diameter 6 inches. Records available: 1944-50.

Jan. 23, '46	5.73	Sept. 26, '46	13.92	May 23, '47	8.22	Feb. 10, '49	6.75
Feb. 26	5.60	Oct. 23	11.26	June 20	11.84	May 12	11.52
Mar. 23	6.29	Nov. 18	8.32	Aug. 14	16.53	Aug. 17	18.79
Apr. 19	7.28	Dec. 16	7.04	Nov. 24	10.41	Nov. 30	9.92
May 28	10.45	Jan. 21, '47	6.10	Feb. 13, '48	5.90	Feb. 7, '50	6.18
June 22	12.64	Feb. 19	6.99	May 17	10.84	May 8	11.93
July 17	14.81	Mar. 26	7.60	Aug. 11	17.18	Aug. 14	17.65
Aug. 17	13.65	Apr. 18	8.15	Nov. 19	11.21	Nov. 10	12.50

S20/61-28aba1. A. Zaugg. Dug stock water-table well, diameter 60 inches, depth 10 feet. Records available: 1945-50.

Jan. 23, '46	8.70	May 26, '47	8.22	Aug. 11, '48	8.89	Oct. 24, '49	9.10
Feb. 27	8.46	June 19	8.45	Sept. 21	9.02	Nov. 25	8.83
Mar. 29	8.25	July 18	8.66	Oct. 21	9.39	Dec. 29	8.41
May 1	8.15	Aug. 14	8.88	Nov. 19	9.18	Jan. 23, '50	8.24
28	8.33	Sept. 8	9.12	Dec. 30	8.62	Feb. 17	8.03
June 27	8.56	Oct. 21	9.22	Jan. 29, '49	8.34	Mar. 27	7.75
July 19	8.71	Nov. 24	8.93	Feb. 28	8.00	Apr. 27	7.52
Aug. 17	9.01	Dec. 16	8.65	Mar. 21	7.82	May 26	7.58
Sept. 26	9.40	Jan. 29, '48	8.22	Apr. 22	7.60	June 26	7.45
Oct. 25	9.43	Feb. 26	7.95	May 12	7.63	July 31	8.21
Nov. 18	9.27	Mar. 26	7.77	June 24	8.20	Aug. 14	8.22
Dec. 30	8.84	Apr. 21	7.65	July 22	8.59	Sept. 28	8.75
Jan. 21, '47	8.62	May 17	7.81	Aug. 17	8.88	Oct. 30	8.61
Feb. 21	8.12	June 23	8.19	Sept. 23	8.98	Nov. 17	8.52
Apr. 18	8.11	July 22	8.64				

S20/61-28dac1. Formerly S20/61-28dac1 (deep). J. A. Haggard. (State Engineer No. 199). Drilled domestic and irrigation artesian well, diameter 6 inches, depth 805 feet. Land-surface datum is 2,044 feet above msl. Records available: 1940-50

Water level above land-surface datum

Jan. 28, '46	39.7	Nov. 21, '46	32.5	Sept. 8, '47	16.1	Nov. 19, '48	23.3
Feb. 26	36.5	Dec. 16	33.6	Oct. 21	21.5	Feb. 26, '49	32.2
Mar. 23	34.0	Jan. 22, '47	33.2	Nov. 24	27.3	May 12	21.3
Apr. 22	27.6	Feb. 21	30.2	Dec. 16	28.7	Aug. 17	11.5
May 29	25.8	Mar. 27	25.3	Jan. 29, '48	33.5	Nov. 30	24.6
June 20	18.9	Apr. 17	24.2	Feb. 26	32.9	Feb. 29, '50	20.5
July 24	17.9	May 23	30.6	Mar. 18	32.0	May 29	18.2
Aug. 26	19.6	June 20	16.2	Apr. 21	29.3	Aug. 23	12.9
Sept. 26	20.2	July 18	14.8	May 24	24.3	Nov. 28	22.9
Oct. 23	25.5	Aug. 14	14.6	Aug. 12	15.5		

S20/61-28dac4. Formerly S20/61-28dac1 (shallow). J. A. Haggard. Drilled unused artesian well, diameter 8 inches, reported depth 368 feet. Land-surface datum is 2,044 feet above msl. Records available: 1940-50.

Water level above land-surface datum

Jan. 28, '46	18.2	Nov. 21, '46	16.3	Sept. 8, '47	6.2	Nov. 19, '48	16.0
Feb. 26	18.8	Dec. 16	17.3	Oct. 21	11.7	Feb. 26, '49	20.2
Mar. 23	16.8	Jan. 22, '47	18.2	Nov. 24	15.5	May 12	11.2
Apr. 22	14.5	Feb. 21	18.4	Dec. 16	17.7	Aug. 17	5.4
May 29	12.2	Mar. 27	15.1	Jan. 29, '48	20.0	Nov. 30	16.4
June 20	k 4.1	Apr. 17	15.5	Feb. 26	19.9	Feb. 20, '50	c 5.3
July 24	k 3.8	May 23	13.1	Mar. 18	17.6	May 29	10.3
Aug. 26	8.2	June 20	8.9	Apr. 21	17.0	Aug. 23	7.2
Sept. 26	8.9	July 18	6.8	May 24	14.0	Nov. 28	15.6
Oct. 23	11.6	Aug. 14	6.1	Aug. 12	8.1		

c Nearby well being pumped.

k Nearby well flowing.

S20/61-29dbb1. John Papus. (State Engineer No. 380). Drilled unused artesian well, diameter 8 to 6 inches, depth 475 feet, cased to 475. Land-surface datum is 2,094 feet above msl. Records available: 1943-50.

Water level above land-surface datum

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, '46	36.8	Sept. 24, '46	24.4	May 23, '47	29.7	May 12, '49	27.0
Feb. 22	34.1	Oct. 23	25.8	Aug. 14	22.5	Aug. 17	19.1
Mar. 23	31.6	Nov. 21	31.6	Nov. 24	33.8	Nov. 30	29.9
Apr. 24	27.7	Dec. 16	31.7	Feb. 13, '48	39.0	Feb. 7, '50	36.0
May 21	26.2	Jan. 22, '47	31.9	May 17	29.1	May 8	25.8
June 20	23.9	Feb. 21	31.8	Aug. 11	21.7	Aug. 10	19.3
July 30	23.5	Mar. 27	30.1	Nov. 19	32.2	Nov. 10	27.3
Aug. 21	24.2	Apr. 17	31.6	Feb. 10, '49	35.9		

S20/61-29dca1. Julia Russell. (State Engineer No. 52). Drilled domestic and irrigation artesian well, diameter 8 to 6 inches, depth 664 feet, cased to 650. Land-surface datum is 2,083.37 feet above msl. Records available: 1939-47. Measurement discontinued after Dec. 16, 1947.

Water level above land-surface datum

Jan. 28, '46	43.4	July 30, '46	25.6	Jan. 22, '47	39.1	July 18, '47	37.8
Feb. 26	40.5	Aug. 26	25.1	Feb. 21	34.0	Aug. 14	39.3
Mar. 30	36.0	Sept. 24	26.0	Mar. 24	32.2	Sept. 8	39.2
Apr. 24	29.9	Oct. 23	28.1	Apr. 17	35.3	Oct. 21	47.3
May 27	27.1	Nov. 21	36.8	May 23	46.0	Nov. 24	51.6
June 20	24.5	Dec. 16	34.7	June 30	43.3	Dec. 16	52.4

S20/61-30bbb2. City of Las Vegas. (State Engineer No. 110). Drilled municipal artesian well, diameter 8 inches, depth 830 feet. Land-surface datum is 2,201 feet above msl. Records available: 1945-50.

Feb. 26, '46	3.98	Sept. 24, '46	11.72	May 21, '47	11.75	May 12, '49	15.08
Mar. 23	3.84	Oct. 12	10.55	Aug. 14	15.33	Aug. 17	19.31
30	4.49	Nov. 29	7.91	Nov. 28	10.31	Nov. 30	15.35
Apr. 19	6.98	Dec. 16	7.53	Feb. 13, '48	8.86	Feb. 7, '50	13.35
May 16	7.98	Jan. 22, '47	7.27	May 24	14.42	May 8	18.16
June 20	10.08	Feb. 25	7.63	Aug. 12	18.05	Aug. 10	21.86
July 17	10.94	Mar. 24	8.49	Nov. 16	17.60	Nov. 10	18.27
Aug. 21	11.38	Apr. 17	10.80	Feb. 10, '49	10.27		

S20/61-30bcc1. U. S. Geol. Survey. Drilled test and observation water-table well, diameter 2 inches, depth 30 feet, cased to 20. Records available: 1946-50.

May 16, '46	20.15	Dec. 16, '46	20.59	Nov. 28, '47	21.23	Aug. 17	22.37
June 20	20.28	Jan. 22, '47	20.60	Feb. 13, '48	21.28	Nov. 30	22.56
July 17	20.34	Feb. 25	20.65	May 24	21.44	Feb. 7, '50	22.78
Aug. 21	20.40	Mar. 24	20.70	Aug. 12	21.69	May 8	23.86
Sept. 24	20.48	Apr. 17	20.72	Nov. 16	21.87	Aug. 10	23.22
Oct. 23	20.53	May 21	20.84	Feb. 10, '49	21.92	Nov. 10	24.90
Nov. 29	20.56	Aug. 19	21.09	May 12	22.08		

S20/61-33cca1. Formerly S20/61-33cca1 (deep). E. H. Allen. (State Engineer No. 205). Drilled domestic and irrigation artesian well, diameter 3 to 1½ inches, depth 400 feet, cased to 400. Land-surface datum is 2,058.59 feet above msl. Records available: 1940-49. Measurement discontinued after Nov. 28, 1949.

Water level above land-surface datum

Jan. 25, '46	25.5	Oct. 25, '46	14.5	July 18, '47	10.0	Apr. 21, '48	25.2
Feb. 27	23.6	Nov. 29	24.5	Aug. 18	8.6	May 26	17.5
Mar. 25	18.5	Dec. 24	26.6	Sept. 8	9.8	Aug. 12	12.7
Apr. 29	15.2	Jan. 30, '47	30.7	Oct. 23	19.1	Nov. 19	27.6
May 20	14.3	Feb. 26	25.4	Nov. 30	28.2	Feb. 18, '49	31.4
June 21	10.6	Mar. 24	26.0	Dec. 18	30.1	May 13	23.0
July 19	10.4	Apr. 17	25.4	Jan. 29, '48	32.6	Aug. 19	12.1
Aug. 31	12.6	May 26	21.7	Feb. 19	32.1	Nov. 28	25.8
Sept. 25	11.8	June 27	10.2	Mar. 18	28.2		

S20/61-33cca4. Formerly S20/61-33ccal (shallow). E. H. Allen. (State Engineer No. 205). Drilled domestic and irrigation artesian well, diameter 1 inch, depth 200 feet, cased to 200. Land-surface datum is 2,058.59 feet above msl. Records available: 1940-49. Measurement discontinued after Nov. 28, 1949.

Water level above land-surface datum

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 25, '46	17.9	Oct. 25, '46	11.3	July 18, '47	8.2	Apr. 21, '48	23.6
Feb. 27	17.4	Nov. 29	17.4	Aug. 18	7.2	May 26	15.2
Mar. 25	13.8	Dec. 24	19.4	Sept. 8	8.2	Aug. 12	9.9
Apr. 29	11.8	Jan. 30, '47	23.6	Oct. 23	17.0	Nov. 19	25.2
May 20	10.0	Feb. 26	21.5	Nov. 30	25.1	Feb. 28, '49	28.7
June 21	7.6	Mar. 24	23.4	Dec. 18	27.4	May 13	21.9
July 19	6.5	Apr. 17	20.4	Jan. 29, '48	29.6	Aug. 19	9.6
Aug. 31	8.2	May 26	15.7	Feb. 19	30.0	Nov. 28	24.1
Sept. 25	8.1	June 27	8.2	Mar. 18	26.0		

S20/61-33ccd1. Clark County Hospital. (State Engineer No. 202). Drilled unused artesian well, diameter 8 inches, depth 386 feet. Records available: 1950. Feb. 20, +30.3; May 16, +23.6; Aug. 10, +9.2; Nov. 9, +21.6.

S20/61-34adc1. S. W. Craner. (State Engineer No. 47). Drilled domestic and irrigation artesian well, diameter 8 inches, depth 354 feet, cased to 178. Records available: 1939-50.

Water level above land-surface datum

Jan. 21, '46	32.8	Nov. 30, '46	29.6	Sept. 9, '47	25.1	Nov. 19, '48	27.5
Feb. 28	34.9	Dec. 21	30.6	Oct. 23	25.9	Feb. 25, '49	32.6
Mar. 26	33.6	Jan. 23, '47	32.1	Nov. 25	28.7	May 13	31.1
Apr. 30	31.8	Feb. 26	32.7	Dec. 17	30.9	Aug. 18	20.6
May 28	30.2	Mar. 21	31.7	Jan. 29, '48	33.4	Nov. 22	25.6
June 25	27.5	Apr. 18	30.4	Feb. 20	34.3	Feb. 8, '50	31.7
July 19	24.3	May 27	28.5	Mar. 18	35.6	May 17	28.8
Aug. 27	26.1	June 27	26.2	Apr. 21	34.3	Aug. 10	21.5
Sept. 25	24.2	July 18	25.0	May 18	32.3	Nov. 30	27.2
Oct. 25	26.5	Aug. 20	24.8	Aug. 13	25.9		

S20/61-35ddc2. Estella Beam. (State Engineer No. 368). Drilled unused artesian well, diameter 8 to 6 inches, depth 418 feet, cased to 310. Records available: 1945-50.

Water level above land-surface datum

May 15, '46	32.2	Oct. 15, '47	27.5	Oct. 15, '48	25.9	Oct. 15, '49	23.1
June 15	31.6	Nov. 15	29.4	Nov. 15	29.0	Apr. 15, '50	32.3
July 15	30.3	Dec. 15	30.6	Dec. 15	31.7	May 15	30.3
Aug. 15	30.3	Jan. 15, '48	31.7	Mar. 15, '49	33.5	June 15	28.5
Sept. 15	30.5	Feb. 15	32.6	Apr. 15	32.7	July 15	26.6
Oct. 15	33.5	Mar. 15	34.1	May 15	28.7	Aug. 15	26.6
Nov. 15	35.9	Apr. 15	33.2	June 15	25.3	Sept. 15	29.2
Dec. 15	36.0	July 15	25.9	July 15	22.7	Oct. 15	33.2
July 15, '47	26.7	Aug. 15	24.9	Aug. 15	21.1	Nov. 15	35.1
Aug. 15	25.6	Sept. 15	23.8	Sept. 15	20.8	Dec. 15	36.3
Sept. 15	25.2						

S20/61-36bbb1. A. C. Delkin. (State Engineer No. 393). Drilled domestic and irrigation artesian well, diameter 8 inches, depth 325 feet, cased to 300. Records available: 1944-50.

Water level above land-surface datum

Jan. 23, '46	20.2	Aug. 21, '46	18.9	Apr. 22, '47	20.4	Feb. 21, '49	23.8
30	23.6	Sept. 23	16.3	May 16	18.4	May 18	19.2
Feb. 25	33.0	Oct. 23	21.4	Aug. 14	13.7	Aug. 18	16.6
Mar. 26	29.5	Nov. 18	29.8	Nov. 10	24.0	Nov. 25	23.2
Apr. 25	22.5	Dec. 16	29.9	Feb. 20	26.6	Feb. 10, '50	22.9
May 22	21.0	Jan. 27, '47	31.6	May 26	18.9	May 11	21.5
June 20	17.7	Feb. 20	32.0	Aug. 13, '48	15.1	Aug. 14	16.7
July 22	16.3	Mar. 25	22.3	Nov. 15	22.8	Nov. 16	22.4

S20/62-3bbd1. Las Vegas Army Air Field. Drilled unused well, diameter 8 inches, depth 242 feet, cased to 200, perforated 120 to 200. Records available: 1945, 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 9, '47	51.72	Aug. 18, '48	50.61	Aug. 19, '49	55.62	May 30, '50	55.01
Nov. 19	51.26	Nov. 15	51.33	Nov. 29	56.09	Aug. 17	55.45
Feb. 26, '48	50.72	Feb. 11, '49	51.60	Feb. 27, '50	55.25	Nov. 17	55.60
May 27	50.17	May 20	52.45				

S20/62-19bcc1. Byron Thornton. (State Engineer No. 443). Drilled domestic and irrigation well, diameter 8 inches, depth 150 feet. Records available: 1945-50.

Jan. 24, '46	30.56	Sept. 27, '46	32.03	May 27, '47	30.95	May 20, '49	31.55
Feb. 28	30.29	Oct. 24	32.15	Aug. 19	32.29	Aug. 19	33.09
Mar. 29	30.12	Nov. 22	31.88	Nov. 10	32.56	Nov. 14	33.61
Apr. 25	30.08	Dec. 28	32.43	Feb. 25, '48	31.34	Feb. 27, '50	32.44
May 28	30.43	Jan. 16, '47	31.20	May 27	31.22	May 30	32.44
June 27	31.04	Feb. 19	30.90	Aug. 16	32.69	Aug. 16	33.72
July 29	31.58	Mar. 26	30.68	Nov. 22	32.84	Nov. 17	34.09
Aug. 30	31.83	Apr. 23	30.64	Feb. 27, '49	31.78		

S20/62-33ccc1. U. S. Geol. Survey. Drilled test and observation water-table well, diameter 1 inch, depth 42 feet, cased to 42. Records available: 1945-50.

Jan. 23, '46	24.94	Dec. 17, '46	23.64	Oct. 23, '47	23.60	Nov. 17, '48	22.72
Feb. 28	24.27	Jan. 30, '47	22.98	Nov. 28	22.15	Dec. 30	22.13
Mar. 29	23.67	Feb. 26	22.30	Dec. 18	22.84	Feb. 25, '49	21.43
Apr. 25	23.24	Mar. 25	21.85	Jan. 22, '48	21.83	May 18	19.47
May 27	23.03	Apr. 22	21.47	Feb. 28	21.07	Aug. 18	20.88
June 2	23.14	May 27	21.56	Mar. 24	20.72	Nov. 30	21.17
July 29	23.81	June 26	22.03	Apr. 22	20.43	Feb. 24, '50	20.26
Aug. 27	24.22	July 23	22.51	May 26	20.63	May 29	20.27
Sept. 26	24.22	Aug. 19	23.07	June 22	21.22	Aug. 22	21.30
Oct. 30	24.30	Sept. 10	22.38	Aug. 13	22.38	Nov. 28	20.79
Nov. 30	23.81						

S21/61-3abb2. W. S. Park. (State Engineer No. 238). Drilled domestic and irrigation artesian well, diameter 4 inches, depth 807 feet. Records available: 1944-50.

Water level above land-surface datum

Jan. 21, '46	38.50	Sept. 25, '46	25.90	May 27, '47	27.20	May 13, '49	29.10
Feb. 25	35.20	Oct. 24	28.80	Aug. 21	19.80	Aug. 18	16.60
Mar. 26	35.20	Nov. 27	33.10	Nov. 25	28.00	Nov. 25	25.20
Apr. 24	32.50	Dec. 23	34.50	Feb. 20, '48	35.10	Feb. 8, '50	31.80
May 25	39.80	Jan. 29, '47	37.10	May 28	30.80	May 17	24.10
June 25	26.20	Feb. 26	31.70	Aug. 13	21.30	Aug. 10	27.50
July 19	23.70	Mar. 25	30.10	Nov. 19	24.50	Nov. 28	27.30
Aug. 27	22.20	Apr. 21	29.80	Feb. 25, '49	33.60		

S21/61-4aad1. Opaco Lumber Co. (State Engineer No. 386). Drilled unused artesian well, diameter 10 inches, depth 793 feet, cased to 770, perforated 338 to 438 and 642 to 770. Records available: 1946-50.

Water level above land-surface datum

Jan. 25, '46	47.2	Sept. 25, '46	26.5	May 26, '47	34.1	May 13, '49	35.3
Feb. 27	44.4	Oct. 25	30.7	Aug. 16	22.6	Aug. 25	23.7
Mar. 25	39.1	Nov. 29	38.6	Nov. 25	34.4	Nov. 28	39.8
Apr. 30	36.0	Dec. 24	39.2	Feb. 19, '48	46.5	Feb. 8, '50	46.7
May 20	33.7	Jan. 27, '47	43.0	May 13	34.2	May 16	37.7
June 21	28.7	Feb. 26	31.3	Aug. 17	24.1	Aug. 10	24.6
July 19	26.3	Mar. 24	39.8	Nov. 19	36.0	Nov. 15	37.2
Aug. 21	26.0	Apr. 17	38.0	Feb. 26, '49	42.8		

S21/61-4baa1. William Ellis. (State Engineer No. 48). Drilled domestic and irrigation artesian well, diameter 8 inches, depth 381 feet. Land-surface datum is 2,056.30 feet above msl. Records available: 1939-47. Measurement discontinued.

S21/61-4baa1--Continued.

Water level above land-surface datum

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 21, '46	31.4	July 19, '46	10.1	Jan. 30, '47	32.5	July 18, '47	9.3
Feb. 27	22.7	Aug. 27	10.8	Feb. 26	23.4	Aug. 15	6.3
Mar. 25	17.5	Sept. 30	10.9	Mar. 24	28.9	Sept. 9	10.1
Apr. 30	12.8	Oct. 25	15.5	Apr. 17	25.0	Oct. 21	19.4
May 20	12.5	Nov. 29	26.8	May 26	13.8	Nov. 18	22.4
June 21	10.5	Dec. 24	28.2	June 8	12.2	Dec. 18	32.1

S21/61-7acc1. Formerly S21/61-7acc1 (shallow). Kimball & Williams. (State Engineer No. 155). Drilled domestic and irrigation artesian well, diameter 8 inches. Land-surface datum is 2,179.4 feet above msl. Records available: 1940-49. Measurement discontinued.

Water level above land-surface datum

Jan. 21, '46	7.4	Aug. 28, '46	1.80	Feb. 24, '47	3.70	Jan. 26, '48	2.44
Feb. 22	6.96	Sept. 30	1.45	Mar. 24	2.95	Feb. 23	2.87
Mar. 25	6.11	Oct. 25	1.93	Apr. 21	2.55	Mar. 22	2.72
Apr. 24	5.18	Nov. 19	3.49	May 19	1.95	Apr. 23	1.97
May 20	4.21	Dec. 18	3.65	June 27	.35	May 20	1.00
June 24	2.94	Jan. 27, '47	4.08	Dec. 18	1.98	Feb. 28, '49	1.15
July 17	2.10						

S21/61-7acc2. Formerly S21/61-7acc1 (deep). Kimball & Williams. (State Engineer No. 155). Drilled domestic and irrigation artesian well, diameter 6 inches, depth 355 feet. Land-surface datum is 2,179.4 feet above msl. Records available: 1940-50.

Water level in feet above or below land-surface datum

Jan. 21, '46	+9.90	Nov. 19, '46	+5.49	Sept. 12, '47	0.28	Nov. 19, '48	+0.58
Feb. 22	+9.35	Dec. 18	+5.75	Oct. 21	+1.51	Feb. 28, '49	+3.09
Mar. 25	+8.58	Jan. 27, '47	+6.21	Nov. 18	+2.76	May 16	+ .10
Apr. 24	+7.58	Feb. 24	+5.83	Dec. 18	+4.01	Aug. 15	3.72
May 20	+5.91	Mar. 24	+5.05	Jan. 26, '48	+4.53	Nov. 28	1.63
June 24	+5.10	Apr. 21	+4.60	Feb. 23	+4.91	Feb. 19, '50	.47
July 17	+4.20	May 19	+3.94	Mar. 25	+4.71	May 26	4.12
Aug. 28	+3.75	June 27	+2.50	Apr. 23	+3.85	Aug. 10	6.07
Sept. 30	+3.41	July 25	+ .49	May 20	+2.65	Nov. 20	5.06
Oct. 25	+3.94	Aug. 15	+ .08	Aug. 10	1.32		

S21/61-15bbb1. T. T. Schofield. Dug domestic and irrigation water-table well, diameter 60 inches, depth 9 feet. Records available: 1945-50.

Jan. 25, '46	7.00	Sept. 25, '46	7.33	May 26, '47	6.69	May 6, '49	5.40
Feb. 25	6.89	Oct. 23	7.16	Aug. 20	7.38	Aug. 10	7.34
Mar. 27	6.40	Nov. 22	6.85	Nov. 14	6.99	18	6.27
Apr. 24	6.39	Dec. 23	6.72	Feb. 14, '48	6.17	Nov. 22	6.03
May 17	6.53	Jan. 29, '47	6.67	May 12	5.89	Feb. 7, '50	5.61
June 24	6.84	Feb. 18	6.62	Aug. 11	6.65	May 15	5.58
July 22	7.05	Mar. 26	6.54	Nov. 17	6.40	Aug. 7	6.03
Aug. 26	7.25	Apr. 18	6.55	Feb. 25, '49	5.59	Nov. 15	5.80

S21/61-18bcc1. Henry Deadrich. (State Engineer No. 29). Drilled unused artesian well, diameter 8 inches, depth 292 feet. Records available: 1930, 1938-42, 1946-50.

Oct. 15, '46	40.00	Nov. 15, '47	41.85	Jan. 15, '49	42.61	Jan. 15, '50	45.31
Nov. 15	39.33	Dec. 15	40.95	Feb. 15	42.19	Feb. 15	45.15
Dec. 15	38.86	Mar. 15, '48	40.17	Mar. 15	42.32	Mar. 15	45.57
Jan. 15, '47	38.80	Apr. 15	40.49	Apr. 15	42.96	Apr. 15	46.25
Feb. 15	38.70	May 15	41.75	May 15	44.10	May 15	46.94
Mar. 15	39.10	June 15	42.69	June 15	45.13	June 15	47.88
Apr. 15	39.40	July 15	43.81	July 15	46.13	July 15	48.49
May 15	40.10	Aug. 15	44.68	Aug. 15	46.82	Aug. 15	48.98
June 15	41.00	Sept. 15	45.05	Sept. 15	47.25	Sept. 15	49.25
Aug. 15	42.60	Oct. 15	44.93	Oct. 15	47.20	Oct. 15	49.27
Sept. 15	42.95	Nov. 15	44.13	Nov. 15	46.41	Nov. 15	49.02
Oct. 15	42.75	Dec. 15	42.29	Dec. 15	45.75	Dec. 15	48.23

S21/61-21bbb1. Moe Sedway. (State Engineer No. 123). Drilled irrigation and domestic artesian well, diameter 6 inches, depth 850 feet, cased to 600. Records available: 1940-50.

Water level above land-surface datum

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 21, '46	47.0	Nov. 19, '46	37.9	Sept. 9, '47	21.8	Nov. 17, '48	22.6
Feb. 25	44.0	Dec. 23	36.0	Oct. 22	23.1	Feb. 14, '49	27.2
Mar. 20	45.5	Jan. 27, '47	36.2	Nov. 18	23.9	May 6	19.9
Apr. 22	39.8	Feb. 17	35.2	Dec. 17	27.1	Aug. 10	10.4
May 17	38.9	Mar. 21	30.7	Jan. 30, '48	24.1	Nov. 22	20.6
June 24	28.2	Apr. 16	28.9	Feb. 16	24.9	Feb. 21, '50	22.5
July 22	39.7	May 20	23.9	Mar. 17	22.9	May 15	16.8
Aug. 20	37.8	June 18	20.9	Apr. 21	21.5	Aug. 7	11.7
Sept. 30	37.4	July 19	19.7	May 18	21.6	Nov. 15	16.8
Oct. 24	35.5	Aug. 18	18.8	Aug. 16	16.4		

S21/61-21dcd1. W. N. Connell. Dug unused water-table well, diameter 60 inches, depth 22 feet. Records available: 1944-50.

Jan. 3, '46	19.88	July 25, '46	20.51	Dec. 17, '47	20.29	July 22, '49	20.36
10	19.82	Aug. 22	20.46	Jan. 30, '48	20.02	Aug. 10	20.71
21	19.79	29	20.46	Feb. 19	19.88	Sept. 15	20.94
28	19.76	Sept. 23	20.55	Mar. 19	19.74	Oct. 20	21.24
Feb. 14	19.67	Oct. 24	20.50	Apr. 21	19.60	Nov. 14	21.12
26	19.65	Nov. 22	20.18	May 18	19.58	Dec. 19	20.79
Mar. 27	19.54	Dec. 23	19.56	Aug. 16	20.72	Jan. 3, '50	20.46
Apr. 3	19.51	Jan. 29, '47	19.71	Sept. 17	20.82	Feb. 17	20.29
24	19.45	Feb. 18	19.59	Oct. 21	20.90	Mar. 17	20.20
30	19.46	Mar. 26	19.46	Nov. 17	20.85	Apr. 20	20.04
May 7	19.45	Apr. 18	19.39	Dec. 17	20.62	May 25	19.96
13	19.45	May 20	19.37	Jan. 17, '49	20.36	June 20	20.18
20	19.47	June 19	19.67	Feb. 21	20.36	July 17	20.65
27	19.55	July 19	20.10	Mar. 21	20.05	Aug. 23	20.85
June 10	19.74	Aug. 13	20.50	Apr. 18	19.88	Sept. 25	20.91
22	19.98	Sept. 9	20.64	May 14	19.80	Oct. 20	21.05
July 12	20.28	Oct. 21	20.65	June 22	19.86	Nov. 15	21.25
18	20.32	Nov. 14	20.64				

S21/61-22bca1. E. C. Wilbourne. (State Engineer No. 34). Drilled domestic and irrigation artesian well, diameter 6 inches, depth 690 feet. Records available: 1939-47. Measurement discontinued.

Water level above land-surface datum

Jan. 24, '46	42.6	July 22, '46	32.3	Jan. 29, '47	40.4	July 19, '47	30.2
Feb. 19	43.5	Aug. 26	33.5	Feb. 18	38.3	Aug. 13	31.7
Mar. 27	36.2	Sept. 25	32.1	Mar. 26	37.8	Sept. 9	31.2
Apr. 24	33.8	Oct. 23	32.7	Apr. 18	34.0	Oct. 21	31.5
May 17	32.6	Nov. 22	35.5	May 20	30.8	Nov. 14	31.9
June 24	33.5	Dec. 23	39.8	June 19	30.3	Dec. 17	36.6

S21/61-22ccc1. A. P. Baker. (State Engineer No. 117). Drilled unused artesian well, diameter 6 inches, depth 500 feet. Land-surface datum is 2,070.8 feet above msl. Records available: 1940-50.

Water level above land-surface datum

Jan. 15, '46	31.2	Nov. 22, '46	30.1	Sept. 9, '47	25.6	Nov. 17, '49	25.3
Feb. 15	30.9	Dec. 23	31.1	Oct. 21	27.0	Feb. 25	26.3
Mar. 15	30.6	Jan. 29, '47	31.1	Nov. 13	27.5	May 14	25.8
Apr. 15	30.0	Feb. 18	30.9	Dec. 17	28.7	Aug. 10	23.4
May 15	30.5	Mar. 26	29.1	Jan. 30, '48	28.7	Nov. 22	24.6
June 15	30.0	Apr. 16	28.7	Feb. 19	29.0	Feb. 17, '50	26.2
July 18	28.0	May 20	27.7	Mar. 19	28.3	May 25	22.7
Aug. 15	28.5	June 18	26.8	Apr. 21	27.1	Aug. 8	15.1
Sept. 15	27.5	July 19	26.8	May 18	25.4	Nov. 15	16.8
Oct. 15	29.0	Aug. 15	26.7	Aug. 16	24.4		

S21/61-29dac1. F. M. Ferguson. (State Engineer No. 94). Drilled unused artesian well, diameter 6 inches, depth 280 feet. Records available: 1944-50.

Water level above or below land-surface datum

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 29, '46	+2.23	Sept. 25, '46	+0.98	May 19, '47	+0.51	May 6, '49	1.68
Feb. 26	+2.16	Oct. 14	+1.06	Aug. 13	+1.14	Aug. 10	2.35
Mar. 20	+2.03	Nov. 19	+1.30	Nov. 14	.74	Nov. 22	2.36
Apr. 22	+1.85	Dec. 18	+1.23	Feb. 19, '48	.27	Feb. 17, '50	2.42
May 17	+1.64	Jan. 27, '47	+1.23	May 12	1.22	May 17	3.12
June 22	+1.51	Feb. 17	+1.13	Aug. 16	2.01	Aug. 7	3.83
July 22	+1.38	Mar. 21	+1.79	Nov. 19	1.39	Nov. 15	3.74
Aug. 20	+1.22	Apr. 16	+1.64	Feb. 25, '49	1.29		

S21/61-33bac1. Clark County Airport. (State Engineer No. 39). Drilled unused artesian well, diameter 6 inches, depth 222 feet. Land-surface datum is 2,189.8 feet above msl. Records available: 1938-50.

Jan. 29, '46	0.24	Nov. 19, '46	0.96	Aug. 15, '47	2.46	Nov. 24, '48	3.25
Feb. 28	.45	Dec. 23	.86	Sept. 9	2.53	Feb. 25, '49	2.66
Mar. 26	.47	Jan. 29, '47	.97	Oct. 21	2.81	May 14	3.46
Apr. 22	.50	Feb. 18	.95	Nov. 13	2.57	Aug. 10	4.27
May 17	.68	Mar. 26	1.53	Dec. 17	2.33	Nov. 22	3.62
June 22	.97	Apr. 16	1.41	Jan. 30, '48	2.00	Feb. 21, '50	3.36
July 22	1.31	May 20	1.52	Feb. 19	2.03	May 18	6.21
Aug. 26	1.58	June 18	1.91	Apr. 22	9.65	Aug. 7	5.82
Sept. 25	1.52	July 19	2.35	Aug. 18	6.25	Nov. 28	5.08
Oct. 24	1.29						

S21/61-34ccc1. Public Domain. Dug unused water-table well, diameter 60 inches, depth 25 feet. Records available: 1944-50.

Jan. 21, '46	23.37	Sept. 23, '46	24.04	Aug. 24, '47	24.20	May 6, '49	23.91
Feb. 14	23.30	Oct. 24	23.94	Oct. 22	24.35	Aug. 10	25.11
Mar. 26	23.30	Nov. 19	23.77	Nov. 19	24.16	Nov. 22	24.55
Apr. 22	23.24	Dec. 23	23.65	Feb. 9, '48	23.84	Feb. 7, '50	24.33
May 17	23.25	Feb. 18, '47	23.56	May 12	24.36	May 15	24.29
June 22	23.74	Mar. 21	23.57	Aug. 16	24.09	Aug. 8	24.75
July 18	23.94	Apr. 16	23.63	Nov. 17	24.36	Nov. 15	(f)
Aug. 28	24.01	May 20	23.60	Feb. 25, '49	24.00		

f Dry.

S21/61-34dcc1. Fred Nagamatsu. (State Engineer No. 74). Drilled unused well, diameter 6 inches. Records available: 1944-50.

Jan. 29, '46	4.14	Sept. 23, '46	5.57	May 20, '47	5.88	Feb. 25, '49	5.48
Feb. 26	3.97	Oct. 24	5.73	Aug. 21	7.02	May 6	7.05
Mar. 27	4.06	Nov. 19	4.93	Oct. 22	7.13	Aug. 10	7.58
Apr. 22	4.07	Dec. 23	4.69	Nov. 19	6.08	Nov. 22	6.58
May 17	4.27	Jan. 20, '47	4.56	Feb. 9, '48	5.17	Feb. 7, '50	6.10
June 22	4.56	Feb. 18	4.65	May 12	7.24	May 15	7.96
July 18	5.19	Mar. 21	5.58	Aug. 16	8.04	Aug. 8	9.07
Aug. 28	5.54	Apr. 16	5.35	Nov. 17	7.06	Nov. 15	7.65

S21/61-36adc2. U. S. Geol. Survey. Drilled test and observation water-table well, diameter 1½ inches, depth 20 feet. Records available: 1946-50.

Apr. 24, '46	10.61	Jan. 20, '47	11.20	Oct. 22, '47	10.51	Nov. 24, '48	10.66
May 20	10.73	Feb. 21	10.97	Nov. 26	10.34	Feb. 26, '49	10.68
June 26	11.15	Mar. 25	10.73	Dec. 17	10.91	May 6	9.79
July 24	11.53	Apr. 23	10.39	Jan. 30, '48	10.64	Aug. 18	10.26
Aug. 28	11.83	May 20	10.71	Feb. 25	10.57	Nov. 22	10.72
Sept. 27	11.92	June 23	10.57	Mar. 19	10.34	Feb. 28, '50	10.43
Oct. 24	11.83	July 19	11.16	Apr. 22	9.95	May 18	10.56
Nov. 27	11.53	Aug. 13	11.40	May 25	9.83	Aug. 17	11.23
Dec. 23	11.37	Sept. 8	10.33	Aug. 18	10.82	Nov. 15	11.80

S21/62-7bac2. S. Barbee. (State Engineer No. 286). Drilled domestic and irrigation artesian well, diameter 8 inches, depth 225 feet. Records available: 1945-50.

Water level above and below land-surface datum

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 23, '46	+2.85	Sept. 27, '46	+1.57	May 27, '47	+2.80	May 17, '49	+3.60
Feb. 25	+2.90	Oct. 29	+1.72	Aug. 19	+1.42	Aug. 18	+2.20
Mar. 27	+3.37	Nov. 30	+2.21	Nov. 26	+1.66	Nov. 22	+2.77
Apr. 30	+2.75	Dec. 20	+2.82	Feb. 25, '48	+2.37	Feb. 24, '50	+3.20
May 28	+2.68	Jan. 23, '47	+3.07	May 26	+2.13	May 25	+2.45
June 25	+2.23	Feb. 20	+3.55	Aug. 13	+1.99	Aug. 17	+1.65
July 24	+1.90	Mar. 25	+3.42	Nov. 17	+3.70	Nov. 16	+1.65
Aug. 28	.80	Apr. 22	+3.15	Feb. 26, '49	+4.20		

S21/62-21cbc2. L. E. Billman. (State Engineer No. 430). Drilled unused artesian well, diameter 8 inches, depth 500 feet. Records available: 1944-50.

Water level above land-surface datum

Jan. 23, '46	55.80	Sept. 26, '46	49.40	May 27, '47	45.50	May 18, '49	38.90
Feb. 25	53.20	Oct. 30	49.30	Aug. 19	42.10	Aug. 18	35.90
Mar. 27	52.90	Nov. 30	49.30	Nov. 28	42.30	Nov. 30	36.20
May 1	51.70	Dec. 30	49.30	Jan. 25, '48	42.00	Feb. 28, '50	37.40
27	51.10	Jan. 30, '47	48.60	Feb. 25	39.80	May 25	37.20
June 25	49.20	Feb. 26	48.30	Aug. 13	29.20	Aug. 17	35.00
July 29	46.40	Mar. 25	49.00	Nov. 17	33.40	Nov. 17	34.20
Aug. 28	48.40	Apr. 22	48.90	Feb. 26, '49	35.10		

S21/62-27aad1. U. S. Geol. Survey. Drilled test and observation water-table well, diameter 3 inches, depth 12 feet. Records available: 1945-50.

Jan. 2, '46	4.39	Aug. 27, '46	4.78	Apr. 22, '47	4.33	May 18, '49	4.27
26	4.33	Sept. 26	4.98	May 27	4.45	Aug. 18	4.72
Feb. 28	4.24	Oct. 30	4.62	Aug. 19	5.05	Nov. 30	4.44
Apr. 2	4.25	Nov. 30	4.53	Nov. 28	4.58	Feb. 24, '50	4.29
May 2	4.27	Dec. 31	4.42	Feb. 25, '48	4.35	May 30	4.39
June 5	4.50	Jan. 30, '47	4.38	May 26	4.34	Aug. 22	4.69
25	4.65	Feb. 26	4.33	Nov. 17	4.61	Nov. 16	4.54
July 29	4.69	Mar. 25	4.32	Mar. 3, '49	4.30		

S21/62-29ccc1. J. R. Bond. (State Engineer No. 134). Drilled domestic and irrigation artesian well, diameter 6 inches, depth 404 feet. Records available: 1944-50.

Water level above land-surface datum

Jan. 30, '46	12.10	Sept. 27, '46	3.03	May 20, '47	6.42	May 18, '49	8.10
Feb. 25	6.76	Oct. 29	3.98	Aug. 15	2.70	Aug. 18	6.55
Mar. 27	7.87	Nov. 30	5.43	Nov. 26	3.88	Nov. 25	6.89
Apr. 30	8.54	Dec. 23	6.14	Feb. 25, '48	9.10	Feb. 28, '50	8.80
May 20	7.02	Jan. 23, '47	7.32	May 25	8.40	May 25	8.80
June 26	3.77	Feb. 24	7.91	Aug. 18	7.90	Aug. 17	5.54
July 27	3.43	Mar. 25	7.55	Nov. 24	6.70	Nov. 17	5.36
Aug. 28	3.06	Apr. 23	6.95	Feb. 26, '49	8.50		

S22/61-4bcc1. Fitzpatrick. (State Engineer No. 41). Drilled unused well, diameter 8 inches, depth 355 feet. Records available: 1938-50.

Jan. 21, '46	78.15	Apr. 16, '47	79.07	July 15, '48	82.00	Oct. 15, '49	81.57
Feb. 20	78.10	May 19	79.04	Aug. 15	81.71	Nov. 15	81.05
Mar. 15	78.10	June 18	79.49	Sept. 15	81.22	Dec. 15	80.32
Apr. 27	78.10	July 19	79.88	Oct. 15	81.12	Jan. 15, '50	80.11
May 17	78.10	Aug. 13	80.16	Nov. 15	80.81	Feb. 15	81.09
June 22	78.65	Sept. 9	79.88	Dec. 15	80.84	Mar. 15	81.33
July 22	78.90	Oct. 27	80.32	Jan. 15, '49	80.20	Apr. 15	82.48
Aug. 20	79.15	Nov. 19	79.98	Feb. 15	80.08	May 15	82.78
Sept. 25	79.00	Dec. 17	80.10	Mar. 15	80.28	June 15	82.80
Oct. 17	78.80	Jan. 26, '48	80.36	Apr. 15	80.80	Aug. 15	82.93
Nov. 19	78.50	Feb. 19	79.51	May 15	81.02	Sept. 15	82.55
Dec. 18	78.40	Mar. 17	80.68	June 15	81.57	Oct. 15	82.58
Jan. 20, '47	78.40	Apr. 21	81.57	Aug. 15	81.34	Nov. 15	82.53
Feb. 17	78.53	May 18	81.44	Sept. 15	81.41	Dec. 15	82.08
Mar. 21	79.34	June 23	82.49				

S22/61-9cbb1. Daisy Bell. (State Engineer No. 42). Drilled unused water-table well, diameter 10 inches, depth 127 feet. Records available: 1944-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Dec. 23, '46	94.29	May 19, '47	94.47	Aug. 16, '48	95.50	Nov. 22, '49	96.50
Jan. 27, '47	94.29	Aug. 13	94.63	Nov. 17	95.76	Feb. 10, '50	96.55
Feb. 17	94.33	Nov. 19	94.87	Feb. 25, '49	95.80	May 15	96.63
Mar. 21	94.32	Feb. 14, '48	95.11	May 14	96.02	Aug. 7	96.96
Apr. 16	94.40	May 16	95.12	Aug. 10	96.17	Nov. 15	96.18

S22/61-16ccc1. Dalton Buck. Drilled unused well, diameter 10 inches. Records available: 1944-50.

Jan. 27, '46	84.15	Sept. 25, '46	84.75	Aug. 13, '47	85.14	May 14, '49	86.29
Feb. 15	84.35	Oct. 24	84.85	Nov. 19	85.30	Aug. 10	86.47
Mar. 27	84.45	Nov. 19	84.85	Feb. 19, '48	85.51	Nov. 22	86.65
Apr. 22	84.45	Dec. 23	84.95	May 16	85.63	Feb. 10, '50	86.65
May 17	84.45	Feb. 17, '47	84.94	Aug. 16	85.94	May 15	86.99
June 22	84.50	Mar. 21	84.96	Nov. 17	86.17	Aug. 7	87.05
July 22	84.55	Apr. 16	84.98	Feb. 25, '49	86.25	Nov. 15	87.29
Aug. 19	84.65	May 19	84.99				

Pahrump Valley
(See also Nye County)

S21/54-10aac1. Bowman. Formerly H. D. Cornell. (State Engineer No. 22). Drilled unused well, diameter 14 inches, depth 800 feet, cased to 472, perforated 100 to 450. Records available: 1944-50.

Jan. 15, '46	27.65	Jan. 15, '48	26.65	Mar. 15, '49	27.10	Feb. 15, '50	30.92
Feb. 15	28.45	Feb. 15	27.04	Apr. 15	30.75	Mar. 12	31.86
Mar. 15	28.50	Mar. 15	29.62	May 15	30.20	Apr. 15	33.07
Apr. 15	28.95	Apr. 15	28.67	June 15	32.25	May 15	31.87
May 15	30.40	Aug. 15	30.34	July 15	32.62	June 15	32.93
June 15	31.05	Sept. 15	31.09	Aug. 14	32.95	July 15	34.12
July 15	31.15	Oct. 15	30.74	Sept. 15	33.73	Aug. 15	33.56
Aug. 15	31.80	Nov. 15	30.36	Oct. 14	33.29	Sept. 15	33.97
Sept. 15	31.90	Dec. 14	28.89	Nov. 15	32.98	Oct. 15	33.41
Oct. 15	31.20	Jan. 20, '49	27.32	Dec. 19	31.31	Nov. 15	31.98
Nov. 15	28.85	Feb. 15	26.97	Jan. 14, '50	30.54	Dec. 15	31.15
Dec. 15	27.75						

Douglas County

Carson Valley

12/20-17ba1. John Helwinkel, Jr. 3 miles south-southeast of Gardnerville, 0.2 mile southeast of ranch headquarters. Drilled irrigation water-table well, diameter 18 inches, depth 365 feet. Records available: 1948-50.

May 11, '48	10.19	Mar. 23, '49	17.78	Mar. 30, '50	19.47	Dec. 1, '50	15.11
Nov. 30	17.65	July 9	8.82	May 24	11.82	19	14.68
Jan. 31, '49	17.84	Nov. 4	18.62	Sept. 26	15.98		

13/20-8ca1. C. W. Godecke. 100 feet northwest of west entrance to Douglas County airport. Drilled irrigation well, diameter 18 inches to 60 feet, 12 inches to bottom, depth 300 feet. Records available: 1942, 1948-50.

May 12, '48	1.98	Mar. 23, '49	1.45	Mar. 30, '50	0.35	Dec. 1, '50	3.73
Nov. 30	2.74	July 6	.52	Aug. 15	3.83	19	2.25
Jan. 31, '49	2.19	Nov. 4	1.30	Sept. 26	3.96		

13/20-31bd1. H. Dangberg. 1 mile south of junction of State Highway 37 and U. S. Highway 395. Drilled irrigation water-table well, diameter 16 inches, depth 413 feet, cased to 400, perforated 60 to 400. Records available: 1950. Mar. 30, 3.42; Aug. 15, 7.52; Sept. 26, 4.75; Dec. 1, 2.21; Dec. 19, 2.12.

13/20-32dc1. Mack Land & Cattle Co. 75 feet west of southwest corner of cemetery. Drilled irrigation water-table well, diameter 18 inches, reported depth 420 feet. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 12, '48	7.99	Mar. 23, '49	9.93	Mar. 30, '50	10.25	Dec. 1, '50	8.76
Nov. 30	9.70	July 6	7.98	May 24	7.83	19	8.85
Jan. 31, '49	9.39	Nov. 4	10.09				

14/19-25ba1. Carson Indian Agency. 2 miles southwest of junction of U. S. Highway 395 and road along west side of valley, 0.25 mile southeast of road. Drilled irrigation water-table well, diameter 12 inches, depth 239 feet. Records available: 1946, 1948-50.

May 10, '46	10.49	Jan. 31, '49	18.61	Mar. 30, '50	14.22	Sept. 26, '50	19.20
May 21, '48	13.70	Mar. 23	15.23	May 24	17.25	Dec. 1	16.65
Aug. 3	20.09	Nov. 4	21.02	Aug. 14	18.68	19	13.74
Nov. 30	18.93						

Elko County

Antelope Valley

(See Goshute-Antelope Valley)

Clover Valley

31/62-3a1. Owner unknown. 1 mile east of junction of U. S. Highway 93 and road to Sprucemont. Dug stock water-table well, diameter 30 by 36 inches, depth 141 feet. Records available: 1948-49. Aug. 28, 1948, 129.75; Mar. 28, 1949, 129.70; June 10, 129.70; Sept. 15, 129.58. Measurement discontinued.

34/61-12a1. J. L. Vandiver and J. S. Badt. 7.5 miles north of junction of U. S. Highway 93 and State Highway 11. Drilled domestic well, diameter 6 inches, depth 195 feet. June 9, 1948, 9.58; Sept. 14, 17.40; Apr. 26, 1950, 11.04; June 14, 10.35. Measurement discontinued.

34/63-21a1. Leslie Davis. 4.7 miles southeast of Tobar, 0.25 mile southwest of road, at abandoned homestead. Dug unused water-table well, diameter 108 inches. Records available: 1948-50. Aug. 25, 1948, 12.58; June 9, 1949, 12.54; Sept. 14, 12.52; Apr. 25, 1950, 12.49; Sept. 12, 12.52.

35/62-26b1. Lloyd Higley. 1.1 miles east of U. S. Highway 93, 200 feet south of road. Dug irrigation water-table well, size 72 by 84 inches, depth 10 feet. Records available: 1948-50. Aug. 25, 1948, 7.72; Mar. 28, 1949, 7.47; June 9, 7.00; Sept. 14, 7.89; Dec. 21, 7.45; Apr. 25, 1950, 6.93; Sept. 12, 6.82.

35/62-27b1. U. S. Geol. Survey. 150 feet south of cattle guard, 40 feet east of highway. Drilled test and observation well, diameter 6 inches, depth 286 feet, cased to 197. Records available: 1949-50.

May 31, '49	8.90	July 19, '49	8.77	Dec. 21, '49	9.78	June 22, '50	8.45
June 1	8.96	Aug. 25	9.39	Apr. 25, '50	8.62	Sept. 12	8.47
10	8.63	Sept. 14	9.63	June 14	7.45		

35/62-27b2. U. S. Geol. Survey. Adjacent to well 35/62-27b1. Drilled test and observation water-table well, diameter 1 inch, depth 15 feet. Records available: 1949-50.

June 8, '49	8.96	Aug. 25, '49	9.25	Dec. 21, '49	9.77	June 22, '50	7.15
July 8	8.67	Sept. 14	9.55	Apr. 25, '50	8.94	Sept. 12	8.68

35/62-28a1. J. P. Wallman. West of U. S. Highway 93, 6 miles north of Snow Water Lake, 4 miles west of Tobar. Drilled stock well, diameter 6 inches, depth 41 feet. Records available: 1949-50. May 4, 1949, 10.89; Sept. 14, 11.04; Apr. 25, 1950, 9.14, June 14, 7.93. Measurement discontinued.

36/61-36a1. K. C. Ranch. At ranch headquarters. Dug unused water-table well, diameter 48 inches, depth 23 feet. Records available: 1948-50. Measurement discontinued. July 7, 1948, 5.05; June 9, 1949, 2.36; Sept. 14, 8.65; Apr. 26, 1950, 5.83; June 14, 2.62.

Diamond Valley

(See Eureka County for other wells in Diamond Valley.)

26/53-12d1. Farm Emergency Relief Administration. North of Jiggs-Union road, 5.5 miles east-southeast of Union, 2 miles north of Alkali Flat. Dug stock water-table well, diameter 60 by 108 inches, depth 13 feet. Records available: 1947-48. June 17, 1947, 5.89; Oct. 27, 7.45; May 6, 1948, 6.27. Measurement discontinued.

Goshute-Antelope Valley

28/68-8d1. Owner unknown. 11 miles northeast of Boone Spring. Drilled stock well, diameter 6 inches. Records available: 1948-49. June 25, 1948, 98.45; Sept. 15, 1949, 104.71. Measurement discontinued.

32/66-33c1. Owner unknown. 4.5 miles north of Dolly Varden siding of Western Pacific Railroad, 200 feet east of north-south road. Drilled unused water-table well, diameter 8 inches, depth 55 feet. Records available: 1948-49. May 21, 1948, 46.46; June 9, 1949, 46.68; Sept. 14, 46.83. Measurement discontinued.

34/66-8a1. Owner unknown. 4.7 miles west-southwest of Shafter. Unused water-table well, depth 30 feet. Records available: 1948-50. June 25, 1948, 19.00; Mar. 28, 1949, 19.77; June 9, 18.79; Sept. 14, 21.39; Sept. 13, 1950, 21.07.

34/67-6a2. Western Pacific Railroad. At Shafter, northwest of railroad tracks, in pumphouse. Drilled railroad well, diameter 16 inches, reported depth 250 feet. Records available: 1948-50. May 21, 1948, 27.38; Mar. 28, 1949, 30.51; June 9, 28.60; Sept. 14, 28.51; Sept. 13, 1950, 27.53.

34/67-16d1. Utah Construction Land & Cattle Co. 3 miles southeast of depot at Shafter. Dug stock water-table well, depth 58 feet. Records available: 1948-50. June 25, 1948, 44.07; Sept. 14, 1949, 43.31; Sept. 13, 1950, 42.97.

Humboldt River Valley

33/52-27d1. Carlin Town Government. 55 feet northeast of city power plant. Drilled unused well, diameter 20 inches, depth 550 feet, cased to 125. Records available: 1938-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, '46	4.85	Apr. 28, '47	6.65	June 28, '48	6.55	Oct. 20, '49	6.87
Feb. 28	4.95	May 28	5.70	July 28	7.27	Nov. 19	5.31
Mar. 28	5.35	June 28	6.75	Aug. 16	6.89	Dec. 26	3.70
Apr. 28	5.60	July 28	7.45	Dec. 20	4.37	Jan. 19, '50	3.27
May 28	5.95	Aug. 28	8.35	Jan. 20, '49	4.47	Feb. 20	3.92
June 28	7.05	Sept. 27	8.55	Feb. 22	5.27	Mar. 22	5.67
July 28	7.25	Oct. 28	8.75	Mar. 21	5.07	Apr. 20	4.63
Aug. 28	8.45	Nov. 28	7.45	Apr. 19	5.01	May 20	4.65
Sept. 28	8.25	Dec. 28	5.35	May 9	4.55	June 20	3.99
Oct. 28	7.55	Jan. 28, '48	5.15	18	3.57	Aug. 19	5.29
Nov. 28	4.25	Feb. 28	5.25	June 17	4.10	Sept. 20	5.73
Dec. 28	4.35	Mar. 28	5.95	July 26	5.75	Oct. 19	6.13
Jan. 28, '47	4.45	Apr. 28	6.55	Aug. 19	6.17	Nov. 25	3.16
Feb. 26	4.90	May 28	6.65	Sept. 20	6.40	Dec. 18	2.85
Mar. 28	6.25						

33/53-20d1. C. E. Lee, known as Box K Ranch. About 100 feet north of U. S. Highway 40, 30 feet northeast of ranch house. Dug domestic water-table well, size 48 by 48 inches, depth 14 feet. Records available: 1946-50. Measurement discontinued.

Jan. 28, '46	9.05	Apr. 28, '47	9.75	Aug. 28, '48	11.45	Nov. 26, '49	11.45
Feb. 28	9.85	May 28	9.15	Sept. 24	11.65	Dec. 31	11.15
Mar. 28	9.05	June 28	10.10	Oct. 26	11.80	Jan. 26, '50	11.05
Apr. 28	9.15	Aug. 28	9.95	Nov. 26	11.45	Feb. 26	10.85
May 28	8.95	Sept. 27	10.15	Dec. 26	11.05	Mar. 22	11.15
June 28	8.95	Oct. 28	11.25	Jan. 26, '49	11.15	Apr. 28	10.15
July 28	10.40	Nov. 28	11.05	Feb. 28	11.95	May 28	10.55
Aug. 28	11.85	Dec. 28	11.05	Mar. 24	10.95	June 28	10.85
Sept. 28	10.95	Jan. 28, '48	12.05	Apr. 28	11.65	July 28	10.45
Oct. 28	11.05	Feb. 28	10.70	May 28	11.05	Aug. 27	10.95
Nov. 28	10.05	Mar. 28	10.75	June 20	10.15	Sept. 22	11.35
Dec. 28	10.45	Apr. 28	11.65	July 28	10.65	Oct. 28	12.15
Jan. 28, '47	10.25	May 28	10.65	Aug. 28	10.95	Nov. 28	9.85
Feb. 26	11.20	June 28	10.80	Sept. 19	10.75	Dec. 26	10.15
Mar. 28	9.95	July 28	10.95	Oct. 26	11.30		

35/56-1b1. Moffat. 0.75 mile northwest of Ryndon. 0.25 mile north of U. S. Highway 40. Dug stock water-table well, diameter 36 inches, depth 10 feet. Records available: 1944-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, '46	4.30	Feb. 26, '47	4.20	May 28, '48	4.05	Sept. 19, '49	4.90
Feb. 28	4.50	Mar. 28	4.35	June 28	4.20	Oct. 26	3.70
Mar. 28	3.50	Apr. 26	4.35	July 28	5.20	Nov. 26	5.00
Apr. 28	3.10	May 27	7.60	Aug. 28	1.00	Dec. 31	3.90
May 28	3.50	28	7.40	Sept. 24	1.10	Jan. 26, '50	4.40
June 28	6.40	June 26	4.80	Oct. 26	2.00	Feb. 26	3.10
July 28	4.00	July 26	5.50	Nov. 26	3.90	Mar. 22	1.10
Aug. 28	6.30	Aug. 26	7.20	Dec. 26	4.00	Apr. 28	4.30
Sept. 28	6.50	Sept. 27	6.00	Jan. 26, '49	4.10	May 28	2.20
Oct. 24	6.55	Oct. 28	5.90	Feb. 28	e3.20	June 28	2.70
26	5.40	Nov. 28	6.80	Mar. 24	2.30	July 28	2.70
28	6.20	Dec. 28	5.30	Apr. 28	1.40	Aug. 27	5.00
Nov. 26	5.00	Jan. 28, '48	e7.80	May 28	1.45	Sept. 22	4.30
Dec. 26	5.10	Feb. 28	e6.70	June 20	2.00	Oct. 28	4.00
28	4.70	Mar. 27	e5.70	July 28	3.85	Nov. 28	3.60
Jan. 28, '47	4.70	Apr. 28	e4.70	Aug. 28	4.30	Dec. 26	3.80

e Estimated.

35/56-30c1. Fernald. At ranch headquarters, 150 feet northwest of ranch house. Dug unused water-table well, depth 19.6 feet. Records available: 1938-50.

Jan. 28, '46	15.10	May 28, '47	8.90	Aug. 28, '48	15.40	Dec. 31, '49	14.70
Feb. 28	13.45	June 28	7.90	Sept. 14	15.90	Jan. 26, '50	16.20
Mar. 28	13.00	July 28	9.70	Oct. 26	15.80	Feb. 26	12.10
Apr. 28	13.20	Aug. 28	14.50	Nov. 26	15.10	Mar. 22	12.60
May 28	6.30	Sept. 27	14.80	Dec. 26	15.10	Apr. 28	12.70
June 28	7.90	Oct. 30	15.40	Mar. 24, '49	12.95	May 28	5.20
July 28	9.80	Nov. 28	15.30	Apr. 28	14.70	June 28	8.60
Aug. 28	10.10	Dec. 28	14.30	May 28	11.20	July 28	8.50
Sept. 28	10.30	Feb. 28, '48	14.40	June 20	8.30	Aug. 27	11.10
Oct. 24	13.15	Mar. 28	13.90	July 28	9.75	Sept. 22	13.00
Nov. 28	13.70	Apr. 28	14.10	Aug. 28	15.10	Oct. 28	13.10
Feb. 26, '47	13.00	May 28	6.00	Sept. 19	15.20	Nov. 28	12.80
Mar. 28	13.70	June 28	6.20	Oct. 26	14.50	Dec. 26	13.20
Apr. 28	13.30	July 28	11.20	Nov. 26	14.30		

37/59-26a1. At Deeth, 180 feet north of railroad station, 30 feet northeast of ranchhouse, in galvanized iron shed. Dug unused water-table well, diameter 48 inches, depth 13.6 feet. Records available: 1938-50.

Jan. 28, '46	7.50	Apr. 28, '47	4.90	July 28, '48	6.50	Nov. 26, '49	10.20
Feb. 28	5.70	May 28	5.10	Aug. 28	7.60	Dec. 31	9.90
Mar. 28	4.50	June 28	5.90	Sept. 24	7.40	Jan. 26, '50	9.10
Apr. 28	4.40	July 28	5.00	Oct. 26	7.90	Feb. 26	9.30
May 28	4.60	Aug. 28	7.20	Nov. 26	8.00	Mar. 22	8.65
June 28	5.70	Sept. 27	6.20	Dec. 26	7.90	Apr. 28	4.75
July 28	7.20	Oct. 28	9.20	Mar. 24, '49	8.40	May 28	4.95
Aug. 28	5.80	Nov. 28	9.40	Apr. 28	4.60	June 28	4.70
Sept. 28	6.30	Dec. 28	9.10	May 28	4.50	July 28	4.50
Oct. 28	8.00	Jan. 28, '48	7.90	June 20	5.40	Aug. 27	8.60
Nov. 28	8.30	Feb. 28	7.50	July 28	7.15	Sept. 22	8.60
Dec. 28	6.60	Mar. 28	6.00	Aug. 28	8.70	Oct. 28	9.70
Jan. 28, '47	7.20	Apr. 28	5.10	Sept. 19	8.90	Nov. 28	8.90
Feb. 26	5.85	May 28	5.40	Oct. 26	9.60	Dec. 26	9.10
Mar. 28	5.50	June 28	5.40				

Lamoille Valley

33/56-8d1. Moffat, known as Ten Mile well. At ranch headquarters, 30 feet southwest of ranchhouse. Dug domestic water-table well, diameter 42 inches, depth 11.5 feet. Records available: 1944-50.

33/56-8d1--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, '46	7.10	Apr. 28, '47	6.20	July 28, '48	7.20	Oct. 26, '49	9.60
Feb. 28	6.65	May 28	6.70	Aug. 28	8.00	Nov. 26	8.20
Mar. 28	6.10	June 28	6.80	Sept. 24	9.10	Dec. 31	8.40
Apr. 28	6.80	July 28	8.00	Oct. 26	9.10	Jan. 26, '50	8.70
May 28	4.60	Aug. 28	8.80	Nov. 26	10.00	Feb. 26	7.30
June 28	5.10	Sept. 27	8.90	Dec. 26	10.30	Mar. 22	7.20
July 28	6.40	Oct. 28	8.90	Feb. 28, '49	8.60	Apr. 28	8.20
Aug. 28	9.00	Nov. 28	9.00	Mar. 24	6.20	May 28	6.20
Sept. 28	9.20	Dec. 28	8.20	Apr. 28	5.20	July 28	9.00
Oct. 28	8.20	Jan. 28, '48	8.30	May 28	5.00	Aug. 27	9.40
Nov. 28	8.60	Feb. 28	9.00	June 28	6.70	Sept. 22	8.10
Dec. 28	7.40	Mar. 28	8.10	July 28	7.15	Oct. 28	8.50
Jan. 28, '47	6.70	Apr. 28	6.80	Aug. 28	7.20	Nov. 28	8.00
Feb. 26	8.00	May 28	6.10	Sept. 19	9.60	Dec. 26	8.20
Mar. 28	6.60						

33/57-22d1. Sutacha. Formerly Ryan. 0.5 mile west of road junction, 0.25 mile north of road. Drilled unused water-table well, diameter 18 inches, depth 60 feet. Records available: 1948-50.

July 28, '48	37.80	Apr. 7, '49	38.20	Nov. 26, '49	38.20	June 28, '50	29.40
Aug. 28	37.60	28	38.25	Dec. 31	38.20	July 28	39.70
Sept. 24	37.90	May 28	33.50	Jan. 26, '50	38.00	Aug. 27	39.30
Nov. 26	37.80	June 20	38.50	Feb. 26	38.10	Sept. 22	39.30
Dec. 26	37.90	July 28	38.55	Mar. 22	39.00	Oct. 28	38.70
Jan. 26, '49	37.90	Aug. 28	38.50	Apr. 28	38.90	Nov. 28	38.70
Feb. 28	37.50	Sept. 19	38.50	May 28	40.20	Dec. 26	37.80
Mar. 24	38.25	Oct. 26	38.45				

33/58-5a1. George Ogilvie. About 0.8 mile north of Humboldt School, at ranch headquarters, at northwest corner of ranchhouse. Dug domestic water-table well, diameter 24 inches, depth 9.8 feet. Records available: 1934-50.

Jan. 28, '46	6.10	Apr. 28, '47	3.20	July 28, '48	5.40	Oct. 26, '49	7.60
Feb. 28	5.80	May 28	4.70	Aug. 28	7.40	Nov. 26	6.70
Mar. 28	5.50	June 28	5.00	Sept. 24	7.20	Dec. 31	7.00
Apr. 28	3.10	July 28	5.50	Oct. 26	7.40	Jan. 26, '50	7.10
May 28	3.60	Aug. 28	5.50	Nov. 26	7.40	Feb. 26	5.40
June 28	5.10	Sept. 27	6.90	Dec. 26	7.20	Mar. 22	5.90
July 28	6.20	Oct. 28	6.60	Jan. 26, '49	7.00	Apr. 28	5.60
Aug. 28	7.10	Nov. 28	6.90	Mar. 24	4.60	May 28	2.60
Sept. 28	7.60	Dec. 28	6.60	Apr. 7	4.89	June 28	2.80
Oct. 28	5.60	Jan. 28, '48	5.40	28	4.95	July 28	3.00
Nov. 28	5.70	Feb. 28	5.00	May 28	3.00	Aug. 27	4.90
Dec. 28	6.10	Mar. 28	5.30	June 20	3.20	Sept. 22	6.50
Jan. 28, '47	6.90	Apr. 28	5.80	July 28	4.30	Oct. 28	7.30
Feb. 26	6.90	May 28	3.50	Aug. 28	6.80	Nov. 28	6.90
Mar. 28	5.80	June 28	6.30	Sept. 19	7.20	Dec. 26	7.00

33/58-7a1. No. 2 Lytton Lane. 50 feet south of center of road. Drilled unused water-table well, diameter 3 inches, depth 7.6 feet. Records available: 1934-50.

Jan. 28, '46	3.40	Apr. 28, '47	1.90	June 28, '48	2.20	Nov. 26, '49	5.60
Feb. 28	3.10	May 28	2.20	July 28	1.80	Dec. 31	(f)
Mar. 28	3.40	June 28	(f)	Aug. 28	(f)	Feb. 26, '50	2.80
Apr. 28	1.90	July 28	5.60	Sept. 24	3.90	Mar. 22	3.10
May 28	2.40	Aug. 28	(f)	Oct. 26	3.90	Apr. 28	2.30
June 28	1.90	Sept. 27	4.00	Nov. 26	3.95	May 28	3.20
July 28	2.40	Oct. 28	4.20	Apr. 28, '49	4.40	June 28	3.40
Sept. 28	4.40	Nov. 28	4.20	May 28	2.70	July 28	3.10
Oct. 28	4.60	Dec. 28	4.40	June 20	2.95	Aug. 27	3.60
Nov. 28	3.00	Jan. 28, '48	3.70	July 28	3.55	Sept. 22	4.30
Dec. 28	3.40	Feb. 28	2.40	Aug. 28	(f)	Oct. 28	4.90
Jan. 28, '47	3.50	Mar. 28	3.60	Sept. 19	(f)	Nov. 28	3.70
Feb. 26	3.70	Apr. 28	3.00	Oct. 26	(f)	Dec. 26	3.60
Mar. 28	3.20	May 28	2.20				

f Dry.

33/58-18c1. John Patterson. 0.3 mile north of road, at north side of house. Dug unused water-table well, diameter 60 inches, depth 13.3 feet. Records available: 1934-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, '46	2.80	Apr. 28, '47	2.00	July 28, '48	3.00	Oct. 26, '49	5.80
Feb. 28	3.20	May 28	3.00	Aug. 28	3.60	Nov. 26	5.90
Mar. 28	2.65	June 28	3.40	Sept. 24	3.80	Dec. 31	6.10
Apr. 28	2.40	July 28	3.40	Oct. 26	4.00	Jan. 26, '50	6.80
May 28	2.60	Aug. 28	3.70	Nov. 26	4.10	Feb. 26	6.60
June 28	2.30	Sept. 27	3.40	Dec. 26	4.10	Mar. 22	6.60
July 28	2.20	Oct. 28	3.50	Jan. 26, '49	4.80	Apr. 28	5.00
Aug. 28	2.80	Nov. 28	2.80	Feb. 28	8.20	May 28	4.00
Sept. 29	2.80	Dec. 28	3.70	Mar. 24	7.00	June 28	4.60
Oct. 28	4.00	Jan. 28, '48	3.80	Apr. 28	5.20	July 28	4.40
Nov. 28	4.00	Feb. 28	4.45	May 28	4.70	Aug. 27	4.90
Dec. 28	3.00	Mar. 28	3.90	June 20	4.30	Sept. 22	5.00
Jan. 28, '47	3.00	Apr. 28	3.60	July 28	4.80	Oct. 28	5.00
Feb. 26	3.30	May 28	3.00	Aug. 28	5.00	Nov. 28	4.40
Mar. 28	2.90	June 28	3.20	Sept. 19	5.80	Dec. 26	4.40

33/58-19ad1. H. Conrad. Lamoille Church. At southwest corner of first house west of Lamoille Church. Dug domestic water-table well, diameter 48 inches, depth 16 feet. Records available: 1934-50.

Jan. 28, '46	10.30	May 28, '47	7.60	Aug. 28, '48	8.90	Oct. 26, '49	10.80
Feb. 28	11.40	June 28	1.50	Sept. 24	9.00	Nov. 26	11.00
Mar. 28	8.40	July 28	3.50	Oct. 26	9.40	Dec. 31	12.50
Apr. 28	k.09	Aug. 28	4.60	Nov. 26	9.90	Jan. 26, '50	12.50
May 28	1.30	Sept. 27	7.10	Dec. 26	12.10	Feb. 26	11.55
June 28	2.00	Oct. 28	8.00	Jan. 26, '49	13.20	Mar. 22	12.00
July 28	2.00	Nov. 28	10.90	Feb. 28	12.50	Apr. 28	11.10
Aug. 28	1.60	Dec. 28	12.60	Mar. 24	11.10	May 28	1.70
Sept. 28	2.50	Jan. 28, '48	11.80	Apr. 7	9.08	June 28	1.60
Oct. 24	7.00	Feb. 28	11.40	28	10.00	July 28	3.20
Nov. 28	9.60	Mar. 28	13.70	May 28	3.60	Aug. 27	3.80
Dec. 26	10.80	Apr. 28	10.20	June 20	2.70	Sept. 22	7.00
Jan. 28, '47	11.00	May 28	3.10	July 28	3.50	Oct. 28	8.30
Feb. 26	10.10	June 28	5.90	Aug. 28	6.80	Nov. 28	11.30
Mar. 28	8.30	July 28	7.60	Sept. 19	9.00	Dec. 26	10.65
Apr. 28	7.20						

k Adjacent field being irrigated.

33/58-30a1. Joe Sutacha. Known as Charles well. 1.1 miles south of Lamoille Church, 0.3 mile west of road. Dug unused water-table well, diameter 42 inches, depth 24.1 feet. Records available: 1934-50.

Jan. 28, '46	19.10	Apr. 28, '47	1.50	July 28, '48	4.20	Nov. 26, '49	18.50
Feb. 28	21.10	May 28	2.80	Aug. 28	13.55	Dec. 31	19.50
Mar. 28	20.80	June 28	5.40	Sept. 24	13.60	Jan. 26, '50	21.10
Apr. 28	18.40	July 28	7.20	Oct. 26	15.10	Feb. 26	21.90
May 26	3.60	Aug. 28	13.70	Nov. 26	16.75	Mar. 22	13.80
June 25	2.50	Sept. 27	7.65	Dec. 26	18.90	Apr. 28	15.40
July 28	4.40	Oct. 28	18.00	Feb. 28, '49	12.50	May 28	6.20
Aug. 26	7.70	Nov. 28	15.00	Mar. 24	18.85	June 28	6.50
Sept. 28	13.00	Dec. 28	16.40	Apr. 28	20.00	July 28	9.10
Oct. 28	19.00	Jan. 28, '48	18.85	May 28	5.00	Aug. 27	11.70
Nov. 28	17.30	Feb. 28	22.10	June 20	4.90	Sept. 22	15.30
Dec. 28	9.20	Mar. 28	(f)	July 28	8.30	Oct. 28	15.60
Jan. 28, '47	9.60	Apr. 28	17.20	Aug. 28	10.20	Nov. 28	12.70
Feb. 26	12.80	May 28	2.50	Sept. 19	12.50	Dec. 26	12.80
Mar. 28	16.40	June 28	4.70	Oct. 26	16.00		

f Dry.

34/57-18a1. U. S. Bureau of Land Management. Known as Dry Lake well. 100 feet east of dirt road, 50 feet northeast of water tank. Drilled stock water-table well, reported depth 148 feet. Records available: 1944-50.

34/57-18a1--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 28, '46	41.30	Apr. 28, '47	45.60	June 28, '48	45.60	Oct. 26, '49	47.80
Feb. 28	41.20	May 28	47.40	July 28	46.40	Nov. 26	48.60
Mar. 28	40.80	June 28	45.70	Aug. 28	46.00	Dec. 31	45.70
Apr. 28	45.90	July 28	45.80	Sept. 24	45.80	Feb. 26, '50	45.40
May 28	52.10	Aug. 28	45.70	Oct. 26	44.40	Mar. 22	43.50
June 28	49.60	Sept. 27	45.80	Nov. 26	44.00	Apr. 28	50.50
July 28	50.40	Oct. 28	44.40	Dec. 26	46.00	May 28	48.40
Aug. 28	53.50	Nov. 28	45.80	Apr. 28, '49	46.10	June 28	48.50
Sept. 28	51.40	Dec. 28	41.20	May 28	41.50	July 28	48.50
Oct. 28	50.50	Jan. 28, '48	41.30	June 20	48.10	Aug. 27	45.45
Nov. 28	52.50	Feb. 28	41.45	July 28	50.30	Oct. 28	45.70
Feb. 26, '47	41.30	Mar. 28	46.20	Aug. 28	46.30	Nov. 28	46.00
Mar. 28	47.40	Apr. 28	45.30	Sept. 19	47.00	Dec. 26	46.10

35/58-3cb1. Randolph. 250 feet west of State Highway 11. Dug unused water-table well, diameter 60 inches, depth 7.6 feet. Records available: 1934-50.

Jan. 28, '46	7.10	July 28, '47	5.20	Aug. 28, '48	(f)	Nov. 26, '49	7.30
Mar. 28	4.70	Aug. 28	6.20	Sept. 24	(f)	Dec. 31	7.25
Apr. 28	2.90	Sept. 27	6.40	Oct. 26	(f)	Feb. 26, '50	6.50
July 28	5.35	Oct. 28	6.70	Mar. 24, '49	6.70	Mar. 22	6.40
Aug. 28	6.30	Nov. 28	6.90	Apr. 28	5.30	Apr. 28	4.80
Oct. 24	6.57	Dec. 28	6.70	May 28	4.90	July 28	2.60
28	6.80	Jan. 28, '48	6.20	June 20	2.30	Aug. 27	5.60
Nov. 28	6.50	Feb. 28	6.50	July 28	2.00	Sept. 22	6.00
Dec. 28	6.60	Mar. 28	6.35	Aug. 28	7.20	Oct. 28	6.30
Feb. 26, '47	5.95	Apr. 28	2.60	Sept. 19	7.10	Nov. 28	7.50
Mar. 28	5.50	June 28	2.40	Oct. 26	6.85	Dec. 26	7.50
June 28	2.30	July 28	2.30				

f Dry.

Ruby Valley

28/59-9c1. Owner unknown. 7 miles east of road on west side of Ruby Valley. Dug stock water-table well, diameter 48 inches, depth 44 feet. Records available: 1948-49. July 7, 1948, 37.27; June 10, 1949, 38.63; Sept. 14, 38.08.

30/60-18a1. Walter Ward. At ranch headquarters. Drilled stock well, diameter 4 inches, depth 510 feet. Records available: 1948-49. Aug. 26, 1948, 13.10; June 10, 1949, 1.70; Sept. 14, 12.52. Measurement discontinued.

31/60-4a1. Owner unknown. 3.8 miles east of junction of State Highway 11 and road through west side of Ruby Valley, 1.6 miles south of State Highway 11. Drilled stock water-table well, diameter 8 inches, depth 20 feet. Records available: 1948-50. June 30, 1948, 5.79; June 10, 1949, 3.04; Sept. 15, 7.44; Apr. 26, 1950, 4.18; June 14, 2.96; Sept. 12, 8.92.

31/60-16c1. Owner unknown. West side of Franklin River. Drilled stock water-table well, diameter 8 inches, depth 35 feet. Records available: 1948-50. June 30, 1948, 8.77; June 10, 1949, 5.29; Sept. 15, 10.90; Apr. 26, 1950, 6.96; June 14, 4.98.

32/60-29c1. U. S. Geol. Survey. 1.7 miles east of junction of State Highway 11 and road along west side of valley, 150 feet north of highway. Drilled observation well, diameter 6 inches, depth 202 feet, cased to 137. Records available: 1949-50. June 10, 1949, 2.75; July 19, 3.56; Sept. 15, 4.38; Dec. 21, 4.33; Apr. 26, 1950, 2.48; June 14, 2.51; Sept. 12, 3.78.

32/60-29c2. U. S. Geol. Survey. 1.7 miles east of junction of State Highway 11 and road along west side of valley, 150 feet north of highway. Driven observation water-table well, diameter 1½ inches, depth 15 feet. Records available: 1949-50. Sept. 15, 1949, 6.95; Dec. 21, 6.85; Apr. 26, 1950, 5.22; June 14, 5.43; Sept. 12, 6.40.

33/60-35d1. Owner unknown. 0.4 mile north of "Y" in road, 0.95 mile west of State Highway 11. Dug stock water-table well, diameter 14 inches. Records available: 1948-50. June 29, 1948, 5.70; June 10, 1949, 4.80; Sept. 14, 7.77; Apr. 26, 1950, 4.97; June 14, 4.50; Sept. 12, 7.12.

Esmeralda CountyFish Lake Valley

1/36-8d1. Owner unknown. 2.25 miles south of Gap Spring, in northeast angle of road junction. Dug unused water-table well, diameter 42 inches, depth 13.5 feet. Records available: 1949-50. Oct. 13, 1949, 13.50; Mar. 22, 1950, 12.41. Measurement discontinued.

S1/35-21a1. Rex B. Clark. 1.1 miles east of State Highway 3A, 0.25 mile north of east-west road. Drilled stock water-table well, diameter 13 inches. Records available: 1949-50. Nov. 8, 1949, 13.70; Mar. 21, 1950, 13.12; Sept. 20, 13.60.

S1/35-28a1. Rex B. Clark. 0.25 mile west of Arlemont Ranch headquarters, 50 feet south of Chiatovich Creek. Drilled stock water-table well, diameter 16 inches, depth 624 feet, cased to 600, perforated 150 to 600. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 21, '47	25.84	Feb. 21, '48	25.60	June 21, '48	26.10	Mar. 21, '50	28.50
Nov. 21	25.80	Mar. 21	26.00	July 21	26.20	June 29	28.91
Dec. 21	25.65	Apr. 21	26.10	Aug. 21	26.60	Sept. 20	29.47
Jan. 21, '48	25.45	May 21	26.10	Sept. 15, '49	28.65		

S2/35-2d1. White Mountain School. 3 miles south of Arlemont Ranch headquarters, 30 feet west of road. Drilled unused water-table well, diameter 24 inches, depth 8 feet. Records available: 1947-50. Measurement discontinued.

Oct. 21, '47	6.10	Feb. 21, '48	5.50	June 21, '48	5.60	Sept. 15, '49	(f)
Nov. 21	5.92	Mar. 21	5.70	July 21	5.80	Mar. 21, '50	7.67
Dec. 21	5.60	Apr. 21	5.75	Aug. 21	6.00	July 26	(f)
Jan. 21, '48	5.45	May 21	5.75	Mar. 29, '49	6.76	Sept. 20	(f)

f Dry.

S2/35-15c1. O. Z. D. Davis. 0.8 mile east of State Highway 3A, 50 feet northwest of house. Drilled domestic water-table well, diameter 6 inches, depth 50 feet. Records available: 1949-50. Nov. 11, 1949, 44.57; Sept. 20, 1950, 44.68.

S2/35-28d1. E. L. Cord. Circle L Ranch. Well No. 3. 0.25 mile east of State Highway 3A, 40 feet south of east-west road. Drilled irrigation water-table well, diameter 12 inches, reported depth 110 feet. Records available: 1945, 1949-50. Mar. 29, 1949, 50.25; Sept. 15, 52.11; Nov. 9, 50.39; Mar. 22, 1950, 51.66; Sept. 20, 56.64.

S2/35-33a1. E. L. Cord. Circle L Ranch. Well No. 1. 50 feet west of State Highway 3A, opposite main gate to ranch. Drilled irrigation water-table well, diameter 12 inches, depth 120 feet. Records available: 1946-47, 1949. Dec. 12, 1946, 51.91; Oct. 7, 1947, 56.05; Nov. 30, 1949, 62.47. No measurement made in 1950.

S2/35-33a9. E. L. Cord. Circle L Ranch. Well No 13. 410 feet east of State Highway 3A, 300 feet north of south road to ranch headquarters. Drilled irrigation water-table well, diameter 14 to 8 inches, depth 1,010 feet, cased to 800, perforated 150 to 800, reported collapsed at 355. Records available: 1950. Mar. 22, 53.65; Sept. 20, 53.46.

S2/35-34b2. E. L. Cord. Circle L Ranch. Well No. 5. 150 feet east of house. Drilled irrigation water-table well, diameter 12 inches, reported depth 100 feet. Records available: 1942, 1944-47, 1949. Mar. 18, 1946, 17.00; May 13, 19.00; Sept. 18, 12.25; Dec. 12, 11.74; Apr. 23, 1947, 13.09; Nov. 9, 19.15; Nov. 30, 1949, 18.42. No measurement made in 1950.

S3/35-3b2. F. J. Willeman. 0.3 mile east of State Highway 3A, 125 feet northwest of house. Drilled irrigation, stock, and domestic well, reported depth 720 feet. Records available: 1949-50. Oct. 11, 1949, 22.05; Mar. 22, 1950, 22.60; Sept. 20, 22.62.

S3/35-4a2. S. Folwick. About 0.2 mile east of State Highway 3A, 250 feet north of galvanized iron shed, 100 feet south of road. Drilled unused water-table well, diameter 14 to 8 inches, depth 88 feet. Records available: 1949-50. Nov. 10, 1949, 46.51; Mar. 22, 1950, 46.57; Sept. 20, 47.71.

S3/35-4a3. S. Folwick. 400 feet east of State Highway 3A. Drilled unused water-table well, diameter 13 inches, depth 75.5 feet. Records available: 1949-50. Nov. 29, 1949, 45.88; Mar. 22, 1950, 45.95; Sept. 20, 46.78.

S3/35-4d3. S. Folwick. 50 feet east of State Highway 3A, 200 feet north of entrance road to General Store. Drilled irrigation water-table well, diameter 14 inches, depth 132 feet, reported perforated 70 to 132. Records available: 1950. Mar. 22, 44.95; Sept. 20, 45.68.

S3/35-14c1. C. Parkinson. 1.1 miles east of State Highway 3A, in shed 300 feet west of road. Drilled irrigation water-table well, diameter 12 inches, reported depth 79 feet. Records available: 1949-50. Nov. 29, 1949, 22.24; Sept. 20, 1950, 23.01.

S3/35-14c2. C. Parkinson. About 1 mile east of State Highway 3A, 600 feet west of ranch headquarters. Drilled irrigation water-table well, diameter 12 inches. Records available: 1950. Sept. 20, 29.88.

S3/35-14c4. U. S. Bureau of Land Management. 0.39 mile east of State Highway 3A, 75 feet north of east-west dirt road. Drilled unused well, diameter 12 inches. Records available: 1945, 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 7, '47	39.61	Feb. 21, '48	38.80	July 21, '48	39.30	Nov. 29, '49	40.14
21	39.09	Mar. 21	39.10	Aug. 21	39.60	Mar. 21, '50	40.01
Nov. 21	38.90	Apr. 21	39.20	Mar. 29, '49	39.39	June 29	40.74
Dec. 21	38.75	May 21	39.10	Sept. 15	40.26	Sept. 20	39.70
Jan. 21, '48	38.60	June 21	39.20				

S3/35-25b1. Bar 99 Ranch. 0.25 mile north-northeast of ranch headquarters. Drilled irrigation water-table well, diameter 14 inches, depth 123 feet. Records available: 1949-50. Nov. 10, 1949, 4.64; Mar. 21, 1950, 3.30; Sept. 20, 6.85.

S3/35-26a3. Bar 99 Ranch. 30 feet east of State Highway 3A, 300 feet southwest of ranch headquarters. Drilled unused water-table well, diameter 12 inches, depth 125 feet. Records available: 1945, 1947-50.

Oct. 7, '47	12.62	Feb. 21, '48	11.40	June 21, '48	16.40	Sept. 15, '49	15.79
21	11.50	Mar. 21	11.50	July 21	16.30	Nov. 30	13.20
Nov. 21	11.45	Apr. 21	13.50	Aug. 21	17.20	Mar. 21, '50	11.77
Dec. 21	11.35	May 21	16.10	Mar. 29, '49	13.89	Sept. 20	15.27
Jan. 21, '48	11.15						

3/40-2c1. Miller's Mill well. 0.25 mile south of U. S. Highways 6 and 95, 350 feet west of road to mill. Dug unused water-table well, size 96 by 60 inches, depth 61.3 feet. Records available: 1948-50. May 13, 1948, 39.20; Aug. 4, 39.15; Nov. 10, 39.10; Mar. 30, 1949, 39.15; Mar. 22, 1950, 39.15; Sept. 19, 39.33.

Eureka County

Antelope Valley

16/51-7d1. Bartholomae Corp. About 18 miles south of junction of U. S. Highway 50 and road along east side of valley, 30 feet west of road. Dug stock water-table well, diameter 72 inches, depth 29 feet. Records available: 1949-50. Sept. 13, 1949, 25.51; Mar. 16, 1950, 25.39; June 19, 25.28; Sept. 19, 25.54.

18/51-34d1. Bartholomae Corp. About 12.4 miles south of junction of U. S. Highway 50 and road along east side of valley, about 50 feet east of road. Drilled stock water-table well, diameter 6 inches, depth 134 feet. Records available: 1949-50. Sept. 13, 1949, 94.06; Mar. 16, 1950, 94.08; June 19, 94.09; Sept. 19, 94.03.

Crescent Valley

29/48-3d1. U. S. Geol. Survey. 2 feet south of fence corner. Drilled observation water-table well, diameter 4 inches, depth 8 feet, cased to 8. Land-surface datum is 4,721.1 feet above msl. Records available: 1948-50. Aug. 8, 1948, 5.65; Oct. 26, 4.24; Mar. 15, 1949, 3.64; July 21, 4.95; Sept. 7, 5.80; Mar. 20, 1950, 4.42.

29/48-34c1. Dan Filippini. About 3 miles northeast of ranch headquarters. Drilled stock water-table well, diameter 6 inches. Land-surface datum is 4,731.3 feet above msl. Records available: 1948-50.

June 9, '48	6.34	Oct. 26, '48	7.47	July 21, '49	6.67	Mar. 20, '50	7.39
Aug. 11	6.97	Mar. 15, '49	6.08	Sept. 7	7.28	Sept. 13	7.70

30/49-6a1. U. S. Geol. Survey. 14 feet north of center line of dirt road. Drilled observation water-table well, diameter 4 inches, depth 9 feet, cased to 9. Land-surface datum is 4,712.1 feet above msl. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 12, '48	4.50	Oct. 25, '48	4.76	July 21, '49	4.17	Mar. 20, '50	3.78
Sept. 15	4.95	Mar. 15, '49	2.61	Sept. 7	4.85	Sept. 13	4.82

31/49-5c1. Wm. Connelly. At Beowawe, 0.4 mile east and 0.23 mile south of railroad station. Dug domestic water-table well, diameter 48 inches, depth 9.5 feet. Land-surface datum is 4,698.3 feet above msl. Records available: 1948-50. Aug. 10, 1948, 7.31; Oct. 26, 7.01; Mar. 15, 1949, 7.54; July 21, 6.77; Sept. 9, 7.69; Mar. 20, 1950, 7.43; Sept. 13, 7.55.

Diamond Valley

19/53-5a1. A. C. Florio. In pumpshed. Drilled stock water-table well, diameter 6 inches. Records available: 1947-50. Oct. 3, 1947, 177.90; Oct. 27, 176.86; Apr. 30, 1948, 176.70; June 16, 1949, 179.95; Sept. 13, 180.04; Mar. 16, 1950, 179.82; Sept. 16, 176.35.

19/53-13b1. Owner unknown. In Eureka, second block north of county courthouse, 50 feet east of U. S. Highway 50, 15 feet southeast of windmill tower. Dug unused water-table well, size 48 by 72 inches, depth 18.5 feet. Records available: 1948-50. July 14, 1948, 14.74; June 22, 1949, 15.10; Sept. 13, 15.91; Dec. 16, 15.49; Mar. 16, 1950, 15.38; June 19, 15.40; Sept. 16, 16.54.

20/53-15b1. U. S. Bureau of Land Management. About 3 miles north of junction of U. S. Highway 50 and State Highway 20, 1 mile east of highway. Dug stock water-table well, diameter 48 inches, depth 99 feet. Records available: 1947-50.

June 17, '47	75.87	Mar. 24, '49	76.49	Dec. 16, '49	75.53	June 19, '50	75.62
Oct. 27	75.77	June 16	75.74	Mar. 17, '50	75.21	Sept. 16	74.88
Apr. 30, '48	71.75	Sept. 12	77.11				

20/53-31d1. A. C. Florio. About 6 miles west of Eureka, 1 mile south of U. S. Highway 50. Drilled stock well, diameter 6 inches. Records available: 1947-50.

Aug. 21, '47	158.50	Oct. 27, '47	158.54	June 16, '49	158.12	Mar. 16, '50	165.25
Oct. 2	158.53	Apr. 30, '48	158.34	Sept. 13	165.90	Sept. 16	158.33

21/53-5c1. A. C. Florio. About 11.5 miles north of junction of U. S. Highway 50 and State Highway 20, 1 mile east of highway. Drilled stock water-table well, diameter 48 inches, depth 42 feet. Records available: 1947-50.

June 17, '47	28.94	June 15, '48	28.72	Dec. 16, '49	28.94	June 19, '50	28.85
Oct. 27	28.90	June 17, '49	28.92	Mar. 17, '50	28.83	Sept. 16	28.90
Apr. 25, '48	28.78	Sept. 13	28.98				

22/52-11d1. A. C. Florio. 2 miles northeast of junction with State Highway 20, 0.8 mile east of road. Dug stock well, diameter 60 inches, depth 40 feet. Records available: 1947-50. June 17, 1947, 35.94; Oct. 27, 36.08; June 17, 1949, 37.90; Sept. 13, 37.45; Mar. 17, 1950, 37.80; Sept. 16, 37.27. Measurement discontinued.

22/54-27c1. Robert Stucki. At ranch headquarters. Drilled domestic and irrigation well, diameter 12 inches, depth 94 feet, cased to 93, perforated 46 to 93. Records available: 1949-50.

July 8, '49	6.25	Sept. 12, '49	6.82	Mar. 17, '50	7.64	June 19, '50	7.22
Aug. 11	5.49	Dec. 16	6.89	May 23	7.13	Sept. 16	7.87

22/54-33d1. A. L. Jones. About 1.5 miles southwest of Stucki ranch headquarters, 0.5 mile north of dirt road. Drilled irrigation well, diameter 12 inches, depth 191 feet, cased to 190, perforated 15 to 25 and 144 to 190. Records available: 1949-50. July 8, 1949, 7.49; Aug. 11, 6.25; Sept. 12, 5.72; Dec. 16, 5.93; Mar. 17, 1950, 6.24; June 19, 6.09; Sept. 16, 6.53.

Kobeh Valley

21/49-17b1. Fred Etchegaray. About 12 miles north of junction of U. S. Highway 40 and 3-Bar road, 0.5 mile west of road. Drilled stock water-table well, diameter 6 inches, depth 60 feet. Records available: 1948-50. Jan. 15, 1948, 40.87; Sept. 13, 1949, 40.78; Mar. 16, 1950, 41.59; Sept. 19, 42.28.

Humboldt County

Grass Valley

(See also Pershing County.)

35/37-14d3. Kenneth Eddie. Formerly J. D. Kerscher. At ranch headquarters, 300 feet south of barn, 30 feet north of earth reservoir. Drilled irrigation water-table well, diameter 12 inches, depth 107 feet. Land-surface datum is 4,318 feet above msl. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 16, '46	32.31	Apr. 20, '48	44.13	Dec. 21, '48	44.95	Dec. 15, '49	45.91
Mar. 17, '47	41.71	May 24	34.50	Mar. 15, '49	45.57	Feb. 21, '50	46.27
Apr. 5	36.92	June 29	35.42	May 2	38.63	Mar. 22	45.00
June 10	40.49	July 21	39.92	23	36.96	Apr. 27	31.01
July 9	41.87	Aug. 26	47.35	June 21	40.97	June 30	36.49
Sept. 8	44.34	Sept. 29	43.96	Sept. 1	50.70	Sept. 22	43.65
Oct. 3	43.65	Oct. 28	44.38	13	47.12	Oct. 18	44.23
27	43.85	Dec. 6	44.27	Oct. 24	45.52	Nov. 22	44.83
Jan. 9, '48	44.45						

35/37-28b1. U. S. Bureau of Land Management. Buttonsage well. 1.9 miles southwest of beacon at CAA airport, 0.15 mile west of dirt road. Drilled unused water-table well, diameter 12 inches, depth 73 feet. Land-surface datum is 4,300 feet above msl. Records available: 1946-50.

June 4, '46	33.90	May 23, '48	36.89	Mar. 2, '49	37.66	Dec. 15, '49	38.17
July 23	35.30	June 29	37.24	14	37.62	Feb. 21, '50	38.03
Mar. 20, '47	35.85	July 21	37.50	May 2	37.38	Mar. 22	37.82
May 9	36.00	Aug. 26	37.85	23	37.30	Apr. 27	37.61
June 13	36.38	Sept. 28	38.00	June 21	37.44	June 30	37.90
July 8	36.67	Oct. 28	37.88	Sept. 1	38.40	Sept. 22	38.70
Sept. 8	37.35	Dec. 6	37.74	13	38.50	Oct. 18	38.57
Jan. 6, '48	37.15	21	37.76	Oct. 24	38.40	Nov. 27	38.36
Apr. 20	36.89						

35/37-34a2. Owner unknown. Formerly M. Heubach. 0.2 mile west of "pole" road, 0.1 mile north of east-west dirt road. Drilled unused water-table well, diameter 10 inches, depth 82.5 feet. Land-surface datum is 4,301.5 feet above msl. Records available: 1946-50.

May 16, '46	17.68	Apr. 20, '48	20.28	Mar. 2, '49	21.11	Dec. 15, '49	22.07
July 24	19.77	May 23	20.34	14	21.07	Feb. 21, '50	21.73
Oct. 2	20.20	June 29	21.09	May 2	20.92	Mar. 22	21.54
Mar. 17, '47	19.32	July 21	21.72	23	20.98	Apr. 27	21.35
May 9	19.20	Aug. 26	22.22	June 21	21.60	June 30	22.42
June 11	20.27	Sept. 28	22.22	Sept. 1	23.00	Sept. 22	23.35
July 8	20.85	Oct. 28	21.86	15	23.04	Oct. 18	22.98
Sept. 8	21.60	Dec. 6	21.60	Oct. 24	22.59	Nov. 27	22.50
Jan. 6, '48	20.68	21	21.45				

Humboldt River Valley

35/36-14c1. Charles Hilyer. At ranch headquarters, 12 feet west of concrete building. Drilled domestic and stock water-table well, diameter 12 inches, depth 18 feet. Land-surface datum is 4,236.3 feet above msl. Records available: 1947, 1949-50.

June 11, '47	10.18	Mar. 22, '50	11.53	June 30, '50	9.13	Oct. 18, '50	12.35
Dec. 15, '49	12.69	Apr. 27	11.13	Sept. 22	12.04	Nov. 22	12.48
Feb. 20, '50	12.16						

35/37-2b1. Henry Harrar. 3.5 miles southwest of Winnemucca, 0.25 mile north of U. S. Highway 40, 0.3 mile west of ranch headquarters. Drilled stock water-table well, diameter 8 inches, depth 21 feet. Land-surface datum is 4,257.8 feet above msl. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 5, '47	7.05	Dec. 16, '49	7.60	Apr. 27, '50	2.59	Oct. 4, '50	7.20
Oct. 1	7.31	Feb. 21, '50	6.89	June 30	e1.50	19	7.30
Sept. 14, '48	7.50	Mar. 22	6.32	Sept. 22	7.05	Nov. 27	6.99

e Estimated.

35/37-8d2. D. H. McNinch. 0.25 mile north of U. S. Highway 40, 400 feet west of ranch headquarters. Drilled unused water-table well, diameter 16 inches, depth 77 feet. Land-surface datum is 4,301 feet above msl. Records available: 1947-50.

Jan. 11, '47	57.11	Oct. 28, '48	58.73	June 21, '49	55.49	Mar. 22, '50	57.40
Apr. 20, '48	57.39	Dec. 6	58.71	Sept. 1	58.30	Apr. 27	56.88
May 23	57.54	21	58.75	13	58.38	June 30	55.54
June 29	56.87	Mar. 2, '49	58.62	Oct. 24	58.59	Sept. 22	58.13
July 21	57.01	May 2	57.13	Dec. 15	58.67	Oct. 18	58.41
Aug. 26	58.07	23	56.24	Feb. 21, '50	58.17	Nov. 22	58.45
Sept. 28	58.65						

36/38-16c1. Geo. Hay Co. 200 feet east of dirt road, 70 feet north of Western Pacific railroad tracks. Drilled irrigation water-table well, diameter 12 inches, depth 55.2 feet. Land-surface datum is 4,291.6 feet above msl. Records available: 1947-50.

Apr. 25, '47	16.90	Aug. 26, '48	18.81	May 2, '49	16.87	Feb. 23, '50	18.47
July 23	17.76	Sept. 28	19.20	23	16.08	Mar. 22	17.90
Sept. 20	18.28	Oct. 28	19.18	June 21	15.70	Apr. 26	17.34
Apr. 20, '48	17.94	Dec. 6	19.40	Sept. 7	18.85	June 29	15.76
May 23	16.92	21	19.37	15	18.74	Sept. 22	19.39
June 29	16.64	Mar. 2, '49	19.04	Oct. 24	19.27	Oct. 18	18.93
July 21	17.75	15	18.74	Dec. 15	19.26	Nov. 22	19.54

36/40-19d1. Diamond S Ranch. 0.15 mile north of ranch headquarters. Drilled irrigation water-table well, diameter 14 inches, depth 51 feet. Records available: 1949-50.

Apr. 8, '49	23.90	Mar. 22, '50	22.98	June 29, '50	12.70	Oct. 18, '50	18.38
Dec. 15	22.04	Apr. 27	20.04	Sept. 22	16.69	Nov. 27	19.95
Feb. 23, '50	23.00						

36/40-30aa1. Diamond S Ranch. 500 feet west of road to ranch headquarters, 250 feet north of railroad tracks. Drilled unused water-table well, diameter 6 inches, depth 101 feet. Records available: 1949-50.

Dec. 15, '49	34.79	Mar. 22, '50	35.75	June 29, '50	25.28	Oct. 18, '50	29.93
Feb. 23, '50	35.82	Apr. 27	33.10	Sept. 22	28.33	Nov. 24	31.86

37/38-33d1. Geo. Hay Co. At ranch headquarters. Dug unused water-table well, diameter 36 inches, depth 16 feet. Land-surface datum is 4,294.6 feet above msl. Records available: 1947-50.

July 11, '47	11.62	Mar. 15, '49	13.58	Jan. 27, '50	13.60	June 29, '50	10.50
15	11.72	May 27	10.73	Feb. 23	12.43	July 26	11.40
Sept. 9	13.50	June 13	10.03	27	13.58	Aug. 11	12.14
Oct. 22	13.72	July 26	11.93	Mar. 10	12.97	Sept. 8	12.10
Apr. 21, '48	12.57	Aug. 17	12.78	22	12.80	22	13.52
May 28	12.30	Sept. 13	13.87	Apr. 26	12.20	Oct. 17	12.98
Sept. 15	13.79	Oct. 21	13.60	27	12.05	18	13.20
Oct. 4	13.82	Nov. 30	13.88	May 18	11.55	Nov. 22	13.40
28	14.17	Dec. 30	13.62	June 26	10.53	24	13.94
Dec. 10	13.82						

37/39-33d1. Bullhead Ranch. 0.4 mile northwest of ranch headquarters, at northwest corner of corral. Drilled stock water-table well, diameter 12 inches, depth 24 feet. Land-surface datum is 4,309.5 feet above msl. Records available: 1947, 1949-50.

July 25, '47	7.70	Dec. 15, '49	8.75	Apr. 27, '50	5.80	Oct. 18, '50	9.02
Sept. 6	9.29	Feb. 23, '50	7.86	Sept. 20	8.95	Nov. 27	8.59
Oct. 1	9.40	Mar. 22	7.31				

Paradise Valley

37/38-2a1. U. S. Bureau of Land Management. At holding corrals, at south end of corrugated iron shed. Drilled stock well, diameter 6 inches, depth 79 feet. Land-surface datum is 4,335 feet above msl. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 16, '46	34.10	Mar. 18, '47	34.75	Apr. 21, '48	35.49	Nov. 30, '49	36.37
Mar. 3	34.20	Apr. 22	34.81	27	35.47	Dec. 30	36.29
Apr. 1	34.10	May 20	34.86	May 28	35.46	Jan. 27, '50	36.35
25	34.32	June 24	34.91	Sept. 14	35.80	Feb. 14	36.38
May 28	34.40	July 18	35.01	Oct. 5	35.87	Mar. 31	36.36
June 28	35.83	31	35.01	28	35.89	Apr. 24	36.34
July 29	34.60	Aug. 25	35.14	Mar. 15, '49	35.92	May 9	36.35
Aug. 28	34.72	Sept. 9	35.25	May 27	35.94	June 13	36.32
Oct. 2	34.63	Oct. 24	35.32	June 21	35.98	July 31	36.44
31	34.67	Dec. 18	35.44	July 26	36.07	Aug. 11	36.37
Nov. 29	30.17	Jan. 30, '48	35.44	Aug. 17	36.15	Sept. 8	36.55
Dec. 20	34.87	Feb. 20	35.44	Sept. 13	36.23	Oct. 13	36.64
Jan. 24, '47	30.17	Mar. 29	35.43	Oct. 21	36.35	Nov. 24	36.67
Mar. 3	31.37						

38/39-28d1. Cordoza. 0.5 mile south of Dutch Flat road. Drilled stock water-table well, diameter 8 inches, depth 30 feet. Land-surface datum is 4,312 feet above msl. Records available: 1947-50.

July 12, '47	12.00	Oct. 28, '48	13.14	Oct. 26, '49	13.39	May 9, '50	10.50
28	12.62	Mar. 15, '49	11.53	Nov. 30	12.80	June 13	11.51
Sept. 9	13.22	May 27	10.13	Dec. 30	12.50	July 31	13.07
Apr. 21, '48	10.82	June 13	11.39	Jan. 27, '50	12.18	Aug. 11	13.38
May 28	10.72	July 26	13.15	Feb. 28	11.92	Sept. 9	13.99
Sept. 14	14.06	Aug. 17	13.80	Mar. 31	11.68	Oct. 13	13.46
Oct. 5	13.69	Sept. 13	14.22	Apr. 24	11.50	Nov. 24	12.67

39/39-3c1. Gerhard Miller, Sr. At ranch headquarters, 125 feet north of ranchhouse. Dug stock and domestic water-table well, diameter 96 inches, depth 22 feet. Land-surface datum is 4,342 feet above msl. Records available: 1947-50.

Sept. 15, '47	11.42	Mar. 15, '49	11.24	Nov. 30, '49	12.07	June 13, '50	12.18
Apr. 21, '48	10.38	May 16	11.02	Dec. 30	14.90	July 31	14.45
May 28	10.83	July 8	11.76	Jan. 27, '50	12.14	Aug. 17	12.89
Sept. 14	15.81	28	13.59	Feb. 28	11.82	Sept. 19	13.50
Oct. 5	12.05	Aug. 17	13.00	Mar. 31	11.73	Oct. 20	13.50
28	12.03	Sept. 19	12.52	Apr. 27	11.74	Nov. 27	12.95
Dec. 10	12.12	Oct. 26	12.19	May 12	12.08		

39/39-11b1. George Miller, Sr. 1.25 miles southeast of ranch headquarters. Drilled unused water-table well, diameter 8 inches, depth 15 feet. Land-surface datum is 4,334 feet above msl. Records available: 1947-50.

Oct. 15, '48	9.78	June 15, '49	8.85	Dec. 15, '49	9.38	July 15, '50	9.63
Nov. 15	9.58	July 15	9.37	Jan. 15, '50	8.89	Aug. 15	9.80
Dec. 15	9.13	Aug. 15	9.78	Feb. 15	8.69	Sept. 15	9.86
Jan. 15, '49	9.07	Sept. 15	9.95	Mar. 15	8.53	Oct. 15	9.74
Feb. 15	9.11	Oct. 15	9.71	May 15	8.64	Nov. 15	9.66
Mar. 15	8.92	Nov. 15	9.26	June 15	8.83	Dec. 15	9.03

39/39-16d1. Dwight C. Vedder. 1 mile east of ranch headquarters, 50 feet south of dirt road. Drilled stock water-table well, diameter 12 inches, depth 45.5 feet. Land-surface datum is 4,331.7 feet above msl. Records available: 1947-50.

July 21, '47	9.14	Dec. 10, '48	9.93	Sept. 19, '49	9.78	Apr. 27, '50	10.00
Apr. 21, '48	8.82	Mar. 17, '49	9.39	Oct. 26	10.07	June 13	10.27
May 28	8.87	May 16	9.08	Nov. 30	10.30	July 31	10.52
Aug. 26	10.23	28	9.03	Dec. 30	9.90	Aug. 17	9.32
Sept. 14	10.69	June 21	9.20	Jan. 27, '50	9.66	Sept. 19	9.50
Oct. 6	9.97	July 28	10.49	Feb. 28	9.55	Oct. 20	10.22
28	9.96	Aug. 15	10.55	Mar. 31	10.50	Nov. 29	9.38

39/39-24b1. Dwight C. Vedder. At west side of house. Drilled domestic water-table well, diameter 6 inches, depth 24 feet. Land-surface datum is 4,333.9 feet above msl. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 16, '46	6.00	Mar. 18, '47	5.40	Apr. 27, '48	6.70	Dec. 30, '49	8.95
Feb. 16	5.95	Apr. 22	6.36	May 28	9.39	Jan. 27, '50	8.69
Mar. 2	5.60	May 21	6.90	Sept. 15	9.23	Feb. 28	8.47
Apr. 5	3.30	June 25	7.64	Oct. 6	9.10	Mar. 31	8.28
May 28	4.71	July 14	8.07	28	8.90	Apr. 27	8.20
June 28	5.90	21	8.26	Dec. 10	8.62	May 17	8.18
July 29	5.40	Aug. 25	8.60	Mar. 17, '49	7.69	June 13	8.65
Aug. 28	7.70	Sept. 9	8.75	June 21	8.86	July 30	8.71
Oct. 31	7.30	Oct. 24	8.60	July 28	9.06	Aug. 17	9.18
Nov. 29	7.10	Dec. 18	8.05	Aug. 15	9.22	Sept. 19	9.50
Dec. 20	6.90	Jan. 30, '48	6.90	Sept. 19	8.90	Oct. 20	8.70
Jan. 24, '47	7.10	Feb. 20	7.18	Oct. 26	9.25	Nov. 29	8.50
Mar. 3	6.40	Mar. 29	7.00	Nov. 30	9.02		

39/39-33c1. Owner unknown. Formerly Godcheaux Land & Cattle Co. Drilled stock water-table well, diameter 12 inches, depth 37 feet. Land-surface datum is 4,318.2 feet above msl. Records available: 1945-50.

Mar. 3, '46	5.22	Apr. 22, '47	6.20	Apr. 27, '48	7.63	Dec. 30, '49	8.77
Apr. 1	4.67	May 20	6.25	May 28	7.56	Jan. 27, '50	8.60
25	4.15	June 24	7.00	Sept. 14	8.92	Feb. 28	8.42
May 28	4.25	July 18	7.77	Oct. 28	8.75	Mar. 31	8.22
June 28	5.07	Aug. 25	8.30	Dec. 10	8.50	Apr. 24	8.09
July 29	7.78	Sept. 13	8.42	Mar. 15, '49	7.82	May 9	8.03
Aug. 28	6.80	Oct. 24	8.50	May 27	7.70	June 13	8.26
Oct. 31	6.40	Dec. 18	7.40	June 21	8.08	July 31	9.00
Nov. 29	6.95	Jan. 30, '48	7.90	Aug. 15	9.10	Aug. 17	9.42
Dec. 20	6.80	Feb. 20	7.90	Sept. 13	9.60	Sept. 19	9.60
Jan. 24, '47	5.80	Mar. 29	7.81	Oct. 26	9.45	Oct. 20	9.50
Mar. 3	6.50	Apr. 21	7.50	Nov. 30	9.26	Nov. 29	9.17
18	6.40						

40/39-10d1. Owner unknown. Formerly C. L. Lewis. At junction of gravel road with State Highway 8B, 100 feet east of highway. Drilled unused water-table well, diameter 12 inches, depth 55 feet. Land-surface datum is 4,422 feet above msl. Records available: 1945-50.

Jan. 16, '46	43.50	Mar. 18, '47	45.40	June 25, '48	42.91	Sept. 16, '49	46.34
Feb. 16	43.40	Apr. 22	44.49	July 30	43.49	Oct. 20	47.19
Mar. 2	44.20	May 29	44.02	Aug. 25	44.60	Nov. 30	47.56
Apr. 1	42.52	June 24	46.86	Sept. 23	45.80	Dec. 30	47.80
25	42.03	July 23	55.02	Oct. 25	46.38	Jan. 27, '50	47.68
May 28	40.50	Aug. 25	48.80	Nov. 22	46.92	Feb. 28	47.33
June 28	40.50	Sept. 23	46.06	Jan. 31, '49	47.42	Apr. 28	44.29
July 29	41.60	Oct. 24	47.05	Feb. 25	47.51	May 12	43.78
Aug. 28	42.80	Dec. 18	46.80	Mar. 17	47.16	June 13	41.92
Oct. 2	44.00	Jan. 30, '48	46.88	Apr. 29	44.36	July 31	43.50
31	44.40	Feb. 20	46.98	May 26	42.81	Aug. 14	44.20
Nov. 29	44.80	Mar. 19	46.95	June 20	42.81	Oct. 2	45.91
Dec. 20	45.10	Apr. 27	46.46	July 28	44.45	24	46.37
Jan. 24, '47	45.30	May 17	45.09	Aug. 17	45.44	Nov. 27	46.91
Mar. 3	45.50						

40/39-26b1. Henry McCleary Timber Co. About 0.3 mile north of ranch headquarters, 200 feet east of road. Drilled domestic well, diameter 16 inches, reported depth 300 feet. Land-surface datum is 4,360 feet above msl. Records available: 1945-50.

Jan. 16, '46	6.90	Oct. 31, '46	8.30	July 23, '47	8.35	May 17, '48	7.77
Mar. 3	6.60	Nov. 29	7.50	Aug. 25	9.08	June 25	7.68
Apr. 1	4.90	Dec. 20	6.60	Sept. 18	9.02	July 30	9.08
25	3.43	Jan. 24, '47	7.90	Oct. 24	9.15	Aug. 25	9.11
May 28	3.80	Mar. 3	6.60	Dec. 18	8.70	Sept. 23	10.32
June 28	5.20	18	7.30	Jan. 30, '48	8.78	Oct. 25	9.57
July 29	6.76	Apr. 22	7.70	Feb. 20	8.76	Nov. 22	10.55
Aug. 28	7.55	May 29	6.99	Mar. 29	8.68	Jan. 31, '49	11.40
Oct. 2	7.92	June 24	7.59	Apr. 27	8.20	Feb. 25	12.00

40/39-26b1--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 17, '49	8.93	Aug. 19, '49	9.20	Jan. 27, '50	9.32	July 31, '50	8.39
Apr. 29	8.41	Sept. 16	9.74	Feb. 28	9.04	Aug. 14	8.80
May 26	7.20	Oct. 25	9.71	Apr.	7.36	Sept. 25	9.35
July 8	8.20	Nov. 30	9.62	May 12	6.47	Oct. 20	9.49
27	8.89	Dec. 30	9.50	June 13	6.25	Nov. 10	9.43

41/40-6c1. Joe Boggio. 75 feet southeast of house. Drilled unused water-table well, diameter 16 inches, depth 55 feet. Land-surface datum is 4,458 feet above msl. Records available: 1945-50.

Jan. 16, '46	5.54	Apr. 22, '47	5.55	Aug. 25, '48	9.22	Oct. 20, '49	10.46
Feb. 16	4.94	May 29	7.86	Sept. 23	8.11	Nov. 30	10.66
Mar. 2	4.59	June 24	8.79	Oct. 25	10.42	Dec. 30	10.70
Apr. 1	3.89	July 23	9.51	Nov. 22	10.67	Jan. 22, '50	9.95
25	2.90	Aug. 25	11.50	Dec. 16	10.46	Feb. 15	6.72
May 28	3.35	Oct. 24	11.37	Jan. 31, '49	10.58	Mar. 14	5.45
June 28	4.75	Dec. 18	11.25	Feb. 25	10.43	Apr. 28	4.00
July 29	7.30	Jan. 30, '48	10.33	Mar. 17	6.35	May 10	3.85
Aug. 28	8.40	Feb. 20	10.38	Apr. 29	5.35	June 15	3.99
Oct. 2	9.25	Mar. 29	10.42	May 26	4.82	July 27	6.40
Nov. 29	9.60	Apr. 27	10.54	June 20	5.43	Aug. 17	7.69
Dec. 20	9.50	May 17	6.68	July 27	8.20	Sept. 12	8.78
Jan. 24, '47	9.50	June 25	5.11	Aug. 19	9.15	Oct. 23	9.34
Mar. 3	9.00	July 30	8.06	Sept. 16	9.99	Nov. 22	8.44
15	8.95						

41/40-22d1. Ernest Gondra. At north side of house. Drilled domestic water-table well, diameter 7 inches, depth 41 feet. Records available: 1947-50.

Apr. 21, '48	9.05	Jan. 31, '49	11.82	Sept. 16, '49	10.71	May 18, '50	7.30
May 17	6.33	Feb. 25	10.20	Oct. 20	10.56	June 16	5.63
June 25	6.58	Mar. 25	9.90	Nov. 30	10.77	July 26	8.84
July 30	8.00	Apr. 29	7.85	Dec. 30	10.59	Aug. 15	10.30
Aug. 25	8.45	May 26	7.00	Jan. 22, '50	9.80	Sept. 25	9.85
Sept. 23	9.10	June 21	9.55	Feb. 15	9.70	Oct. 24	9.88
Oct. 25	10.90	July 28	9.83	Mar. 14	9.03	Nov. 22	10.90
Nov. 22	10.90	Aug. 19	9.51	Apr. 28	7.70		

41/40-30a1. Shelton School. At northeast corner of school building. Drilled domestic water-table well, diameter 8 inches, depth 27 feet. Land-surface datum is 4,414 feet above msl. Records available: 1945-50.

Apr. 27, '48	9.50	Feb. 25, '49	8.11	Oct. 20, '49	10.59	May 12, '50	3.35
May 17	3.30	Mar. 17	6.87	Nov. 30	9.63	June 16	3.01
June 25	3.76	Apr. 29	3.47	Dec. 30	9.00	July 26	6.61
July 30	7.40	May 26	2.97	Jan. 22, '50	8.12	Aug. 15	8.30
Aug. 25	8.10	June 21	3.47	Feb. 16	2.10	Sept. 25	9.50
Sept. 23	7.80	July 29	7.69	Mar. 14	4.02	Oct. 24	9.68
Oct. 25	10.95	Aug. 19	8.85	Apr. 28	3.42	Nov. 22	8.43
Nov. 22	10.24	Sept. 16	9.92				

42/39-25c1. U. S. Bureau of Land Management. 0.3 mile south of right-angle bend in State Highway 8B, 200 feet east of highway, in covered pit. Dug unused water-table well, diameter 66 inches, depth 17.6 feet. Land-surface datum is 4,523 feet above msl. Records available: 1945-50.

Jan. 16, '46	7.40	Jan. 24, '47	8.00	Feb. 20, '48	6.91	Feb. 25, '49	8.59
Mar. 2	7.30	Mar. 3	7.80	Mar. 29	8.68	Mar. 25	7.88
Apr. 1	6.80	18	7.67	Apr. 27	8.72	Apr. 29	7.79
25	5.54	Apr. 22	7.64	May 17	7.89	May 26	4.97
May 28	3.70	May 29	7.95	June 25	6.02	June 20	4.87
June 28	4.69	June 24	7.86	July 30	7.34	July 27	7.09
July 29	6.70	July 23	8.12	Aug. 25	8.17	Aug. 19	8.00
Aug. 28	7.71	Aug. 25	8.87	Sept. 23	8.72	Sept. 16	8.68
Oct. 2	8.24	Oct. 3	9.28	Oct. 25	8.82	Oct. 20	9.90
31	8.30	24	9.23	Nov. 27	8.77	Nov. 30	8.88
Nov. 29	7.60	Dec. 18	9.16	Dec. 16	8.71	Dec. 30	8.89
Dec. 20	8.10	Jan. 30, '48	8.81	Jan. 31, '49	8.59	Jan. 22, '50	8.53

42/39-25c1--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 15, '50	8.50	May 18, '50	5.46	Aug. 16, '50	6.52	Oct. 11, '50	8.04
Mar. 14	8.17	June 15	4.30	Sept. 12	7.56	Nov. 22	8.19
Apr. 21	5.55	July 27	5.12				

42/40-14c1. J. M. Freeman. About 250 feet west of flour mill, at south side of stone house. Drilled domestic and stock water-table well, diameter 12 inches, depth 12.5 feet. Land-surface datum is 4,606 feet above msl. Records available: 1946-50.

Apr. 26, '46	5.08	May 21, '47	7.18	Aug. 25, '48	8.32	Dec. 30, '48	8.67
May 16	6.40	June 24	7.72	Sept. 23	8.89	Jan. 22, '50	7.93
28	5.65	July 23	8.61	Oct. 25	7.68	Feb. 15	6.32
June 28	6.70	Aug. 25	8.86	Nov. 22	8.95	Mar. 14	5.36
July 29	8.41	Sept. 23	9.76	Mar. 17	7.40	Apr. 28	4.00
Aug. 28	8.00	Oct. 24	9.37	Apr. 29	3.90	May 24	4.11
Oct. 2	9.13	Dec. 18	9.47	July 8	7.80	June 14	6.25
31	8.00	Jan. 30, '48	8.28	27	7.70	July 25	6.98
Nov. 29	8.95	Feb. 20	8.11	Aug. 29	8.31	Aug. 16	7.85
Dec. 20	9.10	Mar. 29	8.00	Sept. 16	9.08	Sept. 19	8.41
Jan. 24, '47	9.20	Apr. 27	6.42	Oct. 27	8.53	Oct. 23	7.56
Mar. 3	9.10	May 17	6.00	Nov. 30	8.39	Nov. 22	8.31
18	7.87	June 25	7.69				
Apr. 22	7.48	July 30	6.90				

42/40-18a1. E. C. Lye. 350 feet east of dirt road. Drilled irrigation water-table well, diameter 12 inches, depth 53 feet. Land-surface datum is 4,614 feet above msl. Records available: 1945-50.

Jan. 16, '46	11.98	Mar. 18, '47	14.60	July 30, '48	7.06	Oct. 20, '49	5.48
Feb. 16	10.38	Apr. 22	14.50	Aug. 25	7.91	Nov. 30	12.93
Mar. 2	9.28	May 29	9.15	Sept. 23	8.50	Dec. 30	13.58
Apr. 1	6.76	June 24	8.07	Oct. 25	9.69	Jan. 22, '50	14.17
25	5.89	July 28	8.08	Nov. 22	11.60	Feb. 15	11.83
May 28	5.67	Aug. 25	8.85	Dec. 16	12.90	Mar. 14	7.81
June 28	6.82	Sept. 23	9.98	Jan. 31, '49	13.08	Apr. 28	5.36
July 29	7.87	Oct. 24	11.69	Feb. 25	14.36	May 24	5.01
Aug. 28	8.70	Dec. 18	13.72	Mar. 17	13.51	June 14	5.61
Oct. 2	10.58	Jan. 30, '48	13.40	Apr. 29	5.48	July 25	6.96
31	9.20	Feb. 20	13.84	May 26	5.52	Aug. 16	7.77
Nov. 29	12.75	Mar. 29	14.37	July 8	7.05	Sept. 19	8.60
Dec. 20	13.10	Apr. 27	14.29	27	7.70	Oct. 11	9.46
Jan. 24, '47	13.80	May 17	7.95	Aug. 19	8.49	Nov. 22	11.49
Mar. 3	14.20	June 25	5.70	Sept. 16	9.26		

Quinn River Valley

42/37-33b2. Hassenyager. Formerly T. C. Barber and A. L. Varnes. 1.5 miles west of U. S. Highway 95, 0.2 mile south of ranch headquarters, 20 feet west of road. Drilled irrigation water-table well, diameter 18 inches, depth 95 feet. Records available: 1948-50.

Apr. 21, '48	36.54	July 18, '48	40.42	Aug. 22, '48	37.83	July 20, '49	39.08
June 20	37.33	25	39.75	Sept. 13	37.57	Sept. 15	38.00
27	38.42	Aug. 1	39.83	Oct. 5	37.22	Jan. 20, '50	38.23
July 4	37.75	8	39.00	Mar. 17, '49	37.53	Mar. 24	38.31
11	40.00	15	38.00	May 16	37.98	Sept. 16	38.64

43/37-4c2. Owner unknown. Formerly Norris & Collins. 2 miles west of U. S. Highway 95, 0.5 mile north of dirt road. Drilled unused water-table well, diameter 6 inches, depth 42 feet. Land-surface datum is 4,230 feet above msl. Records available: 1947-50.

Sept. 18, '47	32.05	Oct. 5, '48	32.37	July 20, '49	32.59	Mar. 24, '50	33.76
Apr. 21, '48	32.70	Mar. 17, '49	33.06	Sept. 15	33.13	June 28	32.80
Aug. 26	31.96	May 16	32.94	Jan. 20, '50	33.67	Sept. 16	33.65

43/37-28a1. Elmo Bowly. Formerly Middaugh. 1.3 miles west of Orovida, 0.5 mile north of gravel road, 125 feet north of house. Dug and drilled irrigation water-table well, size of dug portion, 5 by 6 feet, diameter drilled portion, 12 inches, dug to depth of 11.5 feet, drilled to depth of 57 feet. Land-surface datum is 4,234 feet above msl. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 23, '46	9.69	Jan. 5, '48	9.10	Oct. 5, '48	9.62	Jan. 20, '50	9.79
Oct. 9	9.55	Apr. 21	9.36	Mar. 17, '49	9.42	Mar. 24	10.13
Mar. 18, '47	9.40	June 16	9.78	July 20	10.05	June 28	10.39
Nov. 5	8.13	Aug. 26	10.07	Sept. 15	10.00	Sept. 16	10.74

43/37-34d1. A. E. Hosack. 0.6 mile west of U. S. Highway 95, 130 feet north of road. Dug and drilled unused water-table well, dug to depth of 17 feet, drilled to depth of 52 feet, size of dug portion, 4 by 4 feet, diameter, drilled portion, 12 inches. Land-surface datum is 4,270 feet above msl. Records available: 1947-50.

Sept. 16, '47	40.08	Oct. 5, '48	41.13	July 20, '49	42.10	Mar. 24, '50	42.72
Apr. 21, '48	40.89	Mar. 17, '49	41.63	Sept. 15	42.40	June 28	43.86
Aug. 26	41.10	May 16	41.90	Jan. 20, '50	42.56	Sept. 15	45.06

Lander County

Reese River Valley

27/43-33cd1. Owner unknown. At Watts. About 0.25 mile north of dirt road, 20 feet west of roadbed, 8 feet south of elevated water tank. Drilled unused well, diameter 6 inches, depth 114 feet. Land-surface datum is 4,810 feet above msl. Records available: 1947-50.

Nov. 19, '47	13.00	Aug. 25, '48	13.57	June 23, '49	13.10	Sept. 19, '49	14.08
Jan. 8, '48	12.70	Sept. 28	13.69	July 25	13.61	Oct. 26	13.95
Apr. 22	12.36	Nov. 13	13.40	Aug. 24	13.94	Mar. 21, '50	13.29
July 10	12.96	Mar. 16, '49	12.90				

30/42-24cc1. U. S. Bureau of Land Management. 1 mile northeast of Airways beacon, 80 feet north of road, at edge of alkali flat. Drilled stock water-table well, diameter 6 inches, depth 53.5 feet. Land-surface datum is 4,634 feet above msl. Records available: 1947-50.

Oct. 24, '47	11.82	Aug. 25, '48	11.64	June 23, '49	11.60	Oct. 26, '49	11.91
Jan. 9, '48	10.91	Sept. 28	11.67	July 25	11.40	Mar. 21, '50	10.90
Apr. 22	10.82	Nov. 13	11.46	Aug. 24	11.79	Sept. 14	12.15
July 9	11.05	Mar. 16, '49	10.30	Sept. 19	12.01		

30/43-9aa1. Copper Canyon Mining Co. 60 feet northeast of reservoir, 100 feet east of power line. Drilled unused well, diameter 12 inches, depth 201 feet, cased to 192. Land-surface datum is 4,767 feet above msl. Records available: 1947-50.
Apr. 25, 1947, 134.58; May 22, 134.56; Oct. 24, 134.72; Jan. 9, 1948, 134.84; Mar. 16, 1949, 135.00; Mar. 21, 1950, 136.70; Sept. 14, 136.00.

30/44-18ad1. Copper Canyon Mining Co. 225 feet south of dirt road, 100 feet west of bridge across Reese River. Drilled unused well, diameter 12 inches, depth 329 feet. Land-surface datum is 4,609 feet above msl. Records available: 1947-50.
Nov. 13, 1947, 6.08; Jan. 8, 1948, 5.77; Mar. 16, 1949, 5.47; Mar. 21, 5.68; Sept. 14, 1950, 6.40.

30/44-22cb1. Owner unknown. At Dillon, 0.25 mile north of dirt road, 30 feet east of old roadbed. Drilled unused water-table well, diameter 6 inches, depth 80 feet. Land-surface datum is 4,676 feet above msl. Records available: 1947-50.

Nov. 8, '47	26.64	Aug. 25, '48	26.89	June 23, '49	27.18	Oct. 26, '49	27.29
Jan. 8, '48	26.68	Sept. 28	26.98	July 25	27.19	Mar. 21, '50	27.37
Apr. 22	26.73	Nov. 13	26.96	Aug. 24	27.22	Sept. 14	27.66
July 9	27.16	Mar. 16, '49	27.05	Sept. 19	27.26		

30/45-4bd1. Martin Jenkins Ranch. 0.25 mile west of State Highway 8A, 500 feet south of barn. Drilled domestic and stock well, diameter 6 inches, depth 40 feet. Land-surface datum is 4,613 feet above msl. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Nov. 7, '47	19.21	Aug. 25, '48	19.01	June 23, '49	18.17	Oct. 26, '49	19.75
Jan. 8, '48	19.17	Sept. 28	19.53	July 25	18.75	Mar. 21, '50	19.83
Apr. 22	19.50	Nov. 13	19.51	Aug. 24	19.13	Sept. 14	19.59
July 9	18.56	Mar. 16, '49	19.32	Sept. 19	19.56		

30/45-18aa1. U. S. Bureau of Land Management. About 0.5 mile west of State Highway 8A, 0.75 mile northeast of ranch headquarters, 35 feet southwest of fence corner. Dug stock water-table well, size 4 by 4 feet, depth 60 feet. Land-surface datum is 4,635 feet above msl. Records available: 1947-50.

Nov. 8, '47	25.06	Aug. 25, '48	24.20	June 23, '49	24.20	Oct. 26, '49	25.04
Jan. 8, '48	23.69	Sept. 28	24.39	July 25	24.63	Mar. 21, '50	24.69
Apr. 22	23.82	Nov. 13	24.15	Aug. 24	24.92	Sept. 14	25.45
July 9	23.90	Mar. 16, '49	24.03	Sept. 19	25.06		

32/45-2a1. E. Marvel. 100 feet south of house at ranch headquarters, 2 feet north-east of concrete watering trough. Drilled unused water-table well, diameter 6 inches, depth 60 feet. Land-surface datum is 4,515 feet above msl. Records available: 1946-50.

Apr. 9, '46	5.55	June 19, '47	4.31	June 26, '48	4.72	July 25, '49	4.40
Aug. 18	4.30	July 24	4.90	Aug. 25	6.36	Aug. 24	4.85
Oct. 25	4.28	Sept. 9	4.73	Sept. 28	5.44	Sept. 19	5.11
Dec. 12	4.54	Oct. 24	5.31	Nov. 12	5.51	Oct. 26	4.72
Mar. 21, '47	5.05	Nov. 22	5.30	Mar. 16, '49	5.40	Mar. 21, '50	4.48
Apr. 24	4.48	Jan. 7, '48	5.59	June 23	4.53	Sept. 14	4.21
May 22	4.16	Apr. 22	5.01				

32/45-9ab1. Owner unknown. 25 feet southeast of right angle turn in road. Drilled unused water-table well, no casing, depth 9.5 feet. Land-surface datum is 4,509 feet above msl. Records available: 1946-50.

Apr. 9, '46	6.47	July 24, '47	8.60	Sept. 28, '48	(f)	Oct. 26, '49	(f)
Aug. 18	7.20	Sept. 9	9.13	Nov. 12	(f)	Mar. 21, '50	9.75
Oct. 25	7.90	Oct. 24	10.29	Mar. 16, '49	10.12	May 25	7.99
Dec. 12	8.00	Nov. 21	10.00	June 23	7.60	June 16	7.35
Mar. 21, '47	8.80	Jan. 7, '48	10.05	July 25	8.73	July 17	7.74
Apr. 24	7.82	Apr. 22	9.60	Aug. 24	(f)	Aug. 15	8.70
May 22	7.57	June 26	8.01	Sept. 19	(f)	Sept. 14	9.35
June 19	7.70	Aug. 25	9.60				

f Dry.

32/45-11d1. U. S. Geol. Survey. 0.15 mile south of right angle bend in road, thence easterly 1.77 miles on trail, 250 feet west of Humboldt River. Drilled test and observation well, diameter 6 inches, depth 197 feet, cased to 171. Records available: 1949-50.

June 21, '49	6.95	Mar. 19, '50	7.93	June 15, '50	6.89	Aug. 15, '50	8.23
Sept. 9	9.48	May 25	6.98	July 17	7.35	Sept. 14	9.01
Dec. 1	9.44						

32/45-11d2. U. S. Geol. Survey. 0.15 mile south of right-angle bend in road, thence 1.77 miles easterly, 250 feet west of Humboldt River. Drilled observation well, diameter 2 inches, depth 24 feet, cased to 24, perforated 20 to 24. Records available: 1949-50. June 21, 1949, 7.30; Sept. 9, 8.74; Dec. 1, 9.12; Mar. 19, 1950, 8.58; May 25, 7.74; June 15, 7.56; July 17, 7.45.

32/45-20b1. R. M. Clark. 4 blocks south of U. S. Highway 40, in west end of garage. Drilled domestic water-table well, diameter 6 inches, depth 13.5 feet. Land-surface datum is 4,509 feet above msl. Records available: 1946-50.

Apr. 11, '46	6.04	July 24, '47	7.05	Aug. 25, '48	7.51	Oct. 26, '49	7.53
Aug. 18	7.26	Sept. 9	7.44	Sept. 28	7.56	Mar. 21, '50	6.88
Oct. 25	6.77	Oct. 24	7.34	Mar. 16, '49	6.65	May 25	6.86
Dec. 12	6.35	Nov. 14	7.16	June 23	6.96	June 15	7.09
Mar. 20, '47	5.93	Jan. 7, '48	6.90	July 25	7.34	July 17	7.44
Apr. 24	5.95	Apr. 22	6.71	Aug. 24	7.62	Aug. 15	7.71
May 23	6.30	June 26	6.99	Sept. 19	7.72	Sept. 14	7.75

32/45-22c1. Owner unknown. 1 mile north of U. S. Highway 40. Drilled observation water-table well, diameter 2 inches, depth 5.5 feet. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 10, '46	3.16	Oct. 24, '47	5.45	Mar. 16, '49	4.63	Apr. 25, '50	3.78
Oct. 25	4.02	Jan. 7, '48	4.99	June 23	3.28	May 25	3.85
Mar. 20, '47	3.65	Apr. 22	4.45	July 25	4.20	June 15	3.54
Apr. 24	3.62	June 16	4.37	Aug. 24	4.83	July 17	4.08
May 22	3.90	Aug. 25	5.15	Sept. 19	5.13	Aug. 15	4.62
July 24	4.83	Sept. 28	5.42	Oct. 26	5.19	Sept. 14	4.97
Sept. 9	5.35	Nov. 12	5.32	Mar. 21, '50	4.48		

32/46-10d1. U. S. Bureau of Reclamation. 1 mile west of Argenta house, 0.2 mile northwest of Humboldt River. Dog stock water-table well, size 8 by 10 feet, depth 10 feet. Records available: 1945-50.

Aug. 22, '45	4.50	June 19, '47	5.92	Sept. 28, '48	6.55	Oct. 26, '49	6.05
Apr. 11, '46	2.38	July 24	6.09	Nov. 12	6.00	Mar. 21, '50	4.91
Aug. 18	5.70	Sept. 9	6.64	Mar. 16, '49	5.15	May 25	4.58
Oct. 25	5.25	Nov. 21	5.80	June 23	3.75	June 15	3.90
Dec. 12	5.49	Jan. 7, '48	5.41	July 25	5.50	July 17	4.72
Mar. 20, '47	4.32	Apr. 22	4.83	Aug. 24	6.27	Aug. 15	5.77
Apr. 23	4.40	June 26	4.10	Sept. 19	6.52	Sept. 14	6.31
May 22	5.04	Aug. 25	6.44				

32/46-11d1. U. S. Bureau of Reclamation. 0.25 mile northwest of bridge over Humboldt River, at Argenta house. Dog stock water-table well, size 4 by 5 feet, depth 13.2 feet. Land-surface datum is 4,543 feet above msl. Records available: 1945-50.

Nov. 15, '45	6.80	June 19, '47	5.95	Aug. 25, '48	8.72	Oct. 26, '49	7.93
Apr. 11, '46	3.77	July 24	8.05	Sept. 28	8.60	Mar. 21, '50	6.42
Aug. 18	7.82	Sept. 9	9.20	Nov. 12	7.87	May 25	6.01
Oct. 25	7.41	Oct. 24	9.50	Mar. 16, '49	6.74	June 15	4.51
Dec. 12	6.79	Nov. 21	7.91	June 23	5.12	July 17	6.42
Mar. 20, '47	6.23	Jan. 7, '48	7.39	July 25	7.46	Aug. 15	7.92
Apr. 23	6.34	Apr. 22	6.63	Aug. 24	8.30	Sept. 14	8.60
May 22	6.82	June 26	5.71	Sept. 19	8.56		

32/46-16d1. U. S. Bureau of Reclamation. About 150 feet northwest of bridge across dredged ditch, 2 feet south of fence line. Drilled observation water-table well, diameter 2 inches, depth 11 feet. Land-surface datum is 4,538 feet above msl. Records available: 1946-50.

Apr. 11, '46	5.07	June 19, '47	6.60	Jan. 8, '48	6.69	June 15, '50	6.04
Oct. 25	6.65	July 24	7.22	Mar. 16, '49	6.33	July 17	6.54
Mar. 20, '47	5.63	Sept. 9	7.60	Mar. 21, '50	6.40	Aug. 15	7.14
Apr. 24	5.81	Oct. 24	7.26	May 25	5.33	Sept. 14	7.61
May 22	6.35	Nov. 21	7.04				

32/46-27ba1. Southern Pacific Co. 0.4 mile east of U. S. Highway 40. Drilled unused well, diameter 12 inches, depth 431 feet. Land-surface datum is 4,560 feet above msl. Records available: 1947-50.

Nov. 6, '47	19.68	Mar. 16, '49	19.53	May 25, '50	19.34	July 17, '50	19.59
Jan. 7, '48	19.45	Mar. 21, '50	19.56	June 16	19.37	Aug. 15	19.89

32/46-31bb1. Humboldt Petroleum Co. About 700 feet west of railroad semaphore, 150 feet south of U. S. Highway 40. Drilled oil test well, diameter 6 inches, reported depth 126 feet. Land-surface datum is 4,529 feet above msl. Records available: 1947-50.

Oct. 24, '47	12.00	Aug. 25, '48	12.07	July 25, '49	11.86	May 25, '50	11.44
Nov. 6	11.97	Sept. 28	12.22	Aug. 24	12.17	June 15	11.58
Jan. 7, '48	11.80	Nov. 12	12.13	Sept. 19	12.19	July 17	11.83
Apr. 22	11.44	Mar. 16, '49	11.66	Oct. 26	12.14	Aug. 15	12.06
June 26	11.58	June 23	11.50	Mar. 21, '50	11.70	Sept. 14	12.14

Lincoln CountyLake Valley

(See also White Pine County.)

9/65-1b1. Fred Twisselman. Formerly McCulloch. 500 feet north of main building at Geyser Ranch. Drilled irrigation well, diameter 12 inches, depth 165 feet. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 16, '47	23.64	Mar. 21, '49	36.37	Feb. 14, '50	37.39	June 21, '50	37.23
Apr. 16, '48	36.62	Sept. 19	37.23	Mar. 20	36.08	Sept. 12	37.61
Oct. 1	37.15						

3/66-23d1. U. S. Bureau of Land Management. In center of Patterson Wash, 2.5 miles east of U. S. Highway 93. Drilled stock well, diameter 6 inches. Records available: 1946-50.

July 26, '46	41.73	Oct. 1, '48	42.61	Sept. 19, '49	42.02	June 21, '50	41.40
Sept. 25, '47	42.13	Sept. 6, '49	43.21	Mar. 20, '50	41.70	Sept. 12	41.22
Dec. 31	41.66						

Meadow Valley

S1/68-28c1. C. Ronnow. At mouth of canyon, 2.9 miles northeast of Panaca. Drilled irrigation well, diameter 12 inches, reported depth 75 feet. Records available: 1945-50.

Sept. 25, '47	47.44	Apr. 25, '48	45.35	Mar. 21, '49	49.17	Dec. 14, '49	46.59
Dec. 30	45.87	Sept. 27	49.29	Sept. 19	48.76	Mar. 20, '50	45.25

S1/68-32a2. Paul Edwards Estate. At ranch headquarters, about 80 feet east of road. Drilled unused water-table well, diameter 12 inches, reported depth 50 feet, uncased. Land-surface datum is 4,785.2 feet above msl. Records available: 1946-50.

Water level above land-surface datum

Mar. 16, '46	36.10	Apr. 14, '46	32.13	Sept. 27, '48	39.57	Dec. 14, '49	35.75
21	34.61	Dec. 30, '47	34.78	Mar. 21, '49	34.38	June 22, '50	37.69
Apr. 5	33.49	Apr. 25, '48	34.09	Sept. 19	37.78	Sept. 12	39.20

S1/68-33b1. Lafe Matthews Estate. 0.2 mile east of junction with U. S. Highway 93. Drilled irrigation well, diameter 10 inches, depth 120 feet, cased to 80, perforated 60 to 80. Land-surface datum is 4,784.7 feet above msl. Records available: 1946-50.

Mar. 1, '46	32.76	Apr. 14, '46	30.53	Dec. 16, '46	32.99	Mar. 21, '49	33.37
7	31.83	24	30.32	Apr. 17, '47	31.72	Sept. 21	37.17
16	33.34	May 26	32.84	Sept. 25	35.19	Dec. 14	36.50
21	32.02	June 27	32.78	Dec. 30	33.76	Mar. 20, '50	32.35
28	31.67	July 28	33.18	Apr. 25, '48	31.66	June 22	35.37
Apr. 5	31.27	Nov. 2	33.42	Sept. 27	36.99	Sept. 12	37.23

S2/67-24d1. Duffin. 2.7 miles south of junction of U. S. Highway 93 and State Highway 25. Dug unused water-table well, size 48 by 48 inches, depth 10 feet. Land-surface datum is 4,677.6 feet above msl. Records available: 1946-50.

Mar. 7, '46	4.00	May 9, '46	4.24	Dec. 16, '46	4.34	Sept. 19, '49	5.76
16	3.99	25	4.42	Apr. 17, '47	4.15	Nov. 22	5.14
21	3.95	June 26	4.87	Sept. 25	5.58	Dec. 14	4.95
Apr. 5	3.99	July 27	5.00	Apr. 25, '48	4.43	Mar. 20, '50	4.55
14	3.99	Aug. 26	5.20	Sept. 27	5.47	June 22	5.04
25	4.09	Nov. 2	4.70	Mar. 21, '49	3.45	Sept. 12	5.55

S2/68-5c1. "Stock Yard Well". 600 feet north of stockyards, 150 feet west of railroad. Dug stock water-table well, size 96 by 96 inches, depth 12 feet. Land-surface datum is 4,733.8 feet above msl. Records available: 1946-47, 1949-50.

Mar. 7, '46	10.57	Apr. 25, '46	10.71	Aug. 26, '46	12.44	Nov. 22, '49	12.79
16	10.57	May 9	10.82	Nov. 2	12.41	Dec. 14	12.45
21	10.58	26	11.08	Dec. 16	11.87	Mar. 20, '50	10.95
Apr. 5	10.55	June 26	11.62	Apr. 17, '47	11.12	July 22	12.17
14	10.68	July 27	12.14	Sept. 19, '49	13.54	Sept. 12	13.26

S2/68-7a2. P. Findlay. Drilled domestic water-table well, diameter 4 inches, reported depth 40 feet. Land-surface datum is 4,726.5 feet above msl. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 7, '46	17.26	May 9, '46	17.26	Dec. 16, '46	17.99	Sept. 27, '48	20.34
16	17.18	25	17.52	Apr. 17, '47	17.40	19, '49	20.17
21	17.25	June 26	18.28	Sept. 25	19.71	Dec. 14	18.82
Apr. 5	17.20	July 27	18.59	Dec. 30	18.63	Mar. 20, '50	18.07
14	17.16	Aug. 26	18.76	Apr. 25, '48	17.91	Sept. 12	21.30
25	17.22	Nov. 2	19.63				

S2/68-8b1. L. Free. Drilled irrigation well, diameter 10 inches, reported depth 88 feet. Land-surface datum is 4,721.7 feet above msl. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 7, '46	12.19	May 25, '46	12.62	Dec. 16, '46	12.99	Mar. 21, '49	13.87
16	12.17	June 22	13.54	Apr. 17, '47	12.65	Sept. 19	15.54
21	12.14	July 27	13.97	Sept. 25	15.18	Dec. 14	14.82
Apr. 5	12.10	Aug. 26	14.11	Apr. 25, '48	130.31	Mar. 20, '50	12.88
14	12.09	Nov. 2	13.59	Sept. 28	15.76	Sept. 12	18.57
May 9	12.32						

a Pumping.

S2/68-8b5. U. S. Geol. Survey. Drilled observation well, diameter 8 inches, depth 110 feet. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
June 28, '49	12.57	Sept. 19, '49	13.70	Mar. 20, '50	10.72	June 22, '50	14.49
30	12.29	Nov. 22	12.10	23	11.08	Sept. 12	14.94
Aug. 29	13.55	Dec. 14	11.64	Apr. 12	11.72		

S3/67-2a1. Grant Lee. Drilled irrigation well, diameter 10 inches, depth 220 feet. Land-surface datum is 4,605.1 feet above msl. Records available: 1946, 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 1, '46	16.79	Apr. 5, '46	16.71	Dec. 14, '46	17.85	Sept. 19, '49	19.87
7	16.71	June 13	21.36	Apr. 27, '48	21.57	Nov. 22	19.13
16	16.03	July 27	19.21	28	19.86	Dec. 14	18.93
21	16.60	Nov. 2	18.32	Mar. 21, '49	17.72	Mar. 20, '50	18.26
27	16.63						

S3/67-28c2. U. S. Geol. Survey. Drilled observation artesian well, diameter 6 inches, depth 172 feet. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Dec. 13, '46	+1.81	Apr. 25, '48	+2.30	Sept. 19, '49	+2.71	Mar. 20, '50	+2.27
25, '47	+1.75	Mar. 21, '49	+2.68	Dec. 14	+2.20	Sept. 12	+1.82
30	+2.08						

S3/67-33b1. U. S. Geol. Survey. Drilled observation water-table well, diameter 6 inches, depth 10 feet. Land-surface datum is 4,472.3 feet above msl. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 28, '46	1.93	June 26	4.07	Sept. 25, '47	6.04	Sept. 19, '49	5.86
Apr. 5	2.01	July 27	4.70	Dec. 30	2.75	Dec. 14	2.87
14	2.15	Aug. 26	4.12	Apr. 25, '48	2.31	Mar. 20, '50	3.24
25	2.45	Dec. 13	.84	Sept. 27	4.79	June 22	3.74
May 9	2.74	Apr. 17, '47	2.36	Mar. 21, '49	1.53	Sept. 12	5.15
25	3.03						

S4/67-4c1. Joe Allec. Drilled domestic well, diameter 8 inches, depth 35 feet. Records available: 1946-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 5, '46	12.74	June 26, '46	12.97	Apr. 17, '47	9.51	Mar. 21, '49	11.20
14	12.33	July 27	13.93	Sept. 24	10.69	Sept. 19	12.82
25	12.26	Aug. 26	13.72	Dec. 30	10.58	Mar. 20, '50	11.93
May 9	12.44	Nov. 2	12.63	Apr. 25, '48	9.54	Sept. 12	13.32
25	12.61	Dec. 17	11.66	Sept. 27	12.23		

Pahrnagat Valley

S4/60-2d1. Wells-Stewart Land & Livestock Co. Drilled unused well, diameter 10 inches, reported depth 150 feet. Records available: 1946, 1948-50. Dec. 17, 1946, 40.77; Feb. 19, 1948, 40.78; Mar. 22, 1949, 40.83; Sept. 20, 41.20; Mar. 21, 1950, 41.75; Sept. 13, 43.12.

S4/60-2d2. Wells-Stewart Land & Livestock Co. 65 feet north of well 2d1. Drilled irrigation well, diameter 12 to 11 inches, reported depth 471 feet, cased to 471, perforated 50 to 199. Records available: 1949-50. Sept. 20, 1949, 42.28; Mar. 21, 1950, 42.31; Sept. 13, 43.96.

S4/60-34a2. W. U. Schofield, Jr. 0.3 mile west of Hiko Post Office, 150 feet south of west end of earth embankment. Drilled unused well, diameter 10 inches, reported depth 96 feet, cased to 96, perforated 60 to 96. Records available: 1946, 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 8, '46	58.12	Dec. 17, '46	61.33	Sept. 30, '48	61.02	Mar. 21, '50	61.35
Oct. 29	60.70	Feb. 19, '48	64.31	30, '49	60.69	Sept. 12	60.98

S5/60-10b1. Owner unknown. 0.45 mile northwest of State Highway 25. Drilled unused well, diameter 5 inches, depth 81 feet. Records available: 1945-46, 1948-50.

Aug. 8, '46	63.85	Feb. 19, '48	70.40	Mar. 22, '49	63.82	Mar. 21, '50	64.09
Dec. 17	74.19	Sept. 30	64.81	Sept. 20	64.01	Sept. 13	64.15

S6/61-18d2. Gardner Chism. 2.5 miles south of Ash Springs, 300 feet west of U. S. Highway 93. Drilled unused well, diameter 6 inches, depth 41 feet. Records available: 1946-50.

Aug. 13, '46	7.96	Feb. 19, '48	7.17	Mar. 22, '49	6.72	Mar. 21, '50	7.62
Dec. 17	7.70	Sept. 30	6.81	Sept. 20	8.41	Sept. 13	8.25
Apr. 18, '47	6.83						

S6/61-30d1. L. and E. Wadsworth. About 2.5 miles north of Alamo, 700 feet west of U. S. Highway 93. Drilled unused well, diameter 6 inches, depth 39 feet. Records available: 1946-50.

Aug. 8, '46	15.68	Feb. 19, '48	16.00	Mar. 22, '49	16.82	Mar. 21, '50	15.97
Dec. 17	16.30	Sept. 30	15.90	Sept. 20	15.45	Sept. 13	15.62
Apr. 18, '47	14.87						

S6/61-32d4. Kirk Buffum. 1.25 miles north of Alamo, 200 feet east of U. S. Highway 93. Drilled domestic well, diameter 6 inches, reported depth 57 feet. Records available: 1946, 1948-50. Aug. 13, 1946, 16.25; Dec. 17, 17.60; Feb. 19, 1948, 16.86; Mar. 22, 1949, 18.21; Sept. 20, 17.25; Mar. 21, 1950, 14.72; Sept. 13, 17.08.

S7/61-5d1. Harvey Frehner. In Alamo. 300 feet west of U. S. Highway 93. Drilled unused well, diameter 6 inches. Records available: 1946-50.

Aug. 13, '46	13.66	Feb. 18, '48	14.49	Mar. 22, '49	13.92	Mar. 21, '50	12.17
Dec. 17	13.10	Sept. 30	12.98	Sept. 20	14.57	Sept. 13	14.24
Apr. 18, '47	13.13						

S8/61-2c1. J. H. Hail. 5.8 miles south of Alamo, 150 feet west of U. S. Highway 93. Drilled irrigation well, diameter 10 inches, depth 92 feet. Records available: 1946-50.

Aug. 12, '46	22.78	Feb. 18, '48	22.32	Mar. 22, '49	19.73	Mar. 21, '50	19.37
Dec. 17	22.39	Sept. 30	24.85	Sept. 20	22.98	Sept. 13	23.42
Apr. 18, '47	22.49						

S8/61-24d1. Bill Grieves. 0.25 mile north of north end of Pahrnagat Lake, 80 feet west of U. S. Highway 93. Dug unused water-table well, size 4 by 4 feet. Records available: 1946-50.

Aug. 12, '46	6.76	Apr. 18, '47	3.75	Sept. 30, '48	7.85	Mar. 2, '50	3.38
Dec. 17	3.92	Feb. 18, '48	3.49	Sept. 20, '49	6.97	Sept. 13	6.88

S8/62-31b1. John Richards. About 0.5 mile west of U. S. Highway 93, 0.25 mile southwest of Pahrnagat Lake dam. Drilled unused well, diameter 10 inches, depth 66 feet. Records available: 1945-48, 1950. Aug. 12, 1946, 19.42; Dec. 17, 20.26; Apr. 18, 1947, 18.60; Feb. 18, 1948, 20.10; Sept. 30, 20.51; Sept. 13, 1950, 20.39.

Lyon County

Carson River Valley

17/22-35b1. Break-A-Hart Ranch. 200 feet south of State Highway 28. Drilled irrigation well, diameter 16 inches. Records available: 1949-50. Jan. 31, 1949, 23.10; Apr. 4, 23.82; Aug. 15, 27.80; Jan. 17, 1950, 23.00; Dec. 21, 19.78.

18/25-31a1. Southern Pacific Co. At Appian, 40 feet east of railroad tracks, at south end of concrete platform. Drilled unused well, diameter 6 inches. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 5, '49	34.54	Aug. 15, '49	35.35	June 16, '50	31.12	Nov. 29, '50	33.06
May 25	31.80	Mar. 30, '50	36.05	Aug. 17	32.65	Dec. 21	30.59
July 6	32.06						

Mason Valley

11/25-11a1. McDonald. Formerly Wilbur Rouse. 0.25 mile southwest of right angle turn in State Highway 3. Drilled irrigation well, diameter 12 inches, reported depth 247 feet. Records available: 1948-50. Aug. 19, 1948, 62.33; Dec. 1, 63.79; Mar. 25, 1949, 66.97; Nov. 4, 63.30; Mar. 30, 1950, 67.75; Nov. 29, 63.99.

11/25-11b1. Judd. 100 feet south of State Highway 3. Drilled domestic and stock well, diameter 6 inches, reported depth 75 feet. Records available: 1948-50.

Aug. 20, '48	31.98	Mar. 15, '49	38.53	Nov. 4, '49	34.59	Aug. 18, '50	30.55
Dec. 1	34.18	July 6	31.88	Mar. 30, '50	39.27	Nov. 29	34.82

14/25-28d1. School District. 50 feet west of U. S. Highway 95. Drilled unused well, diameter 6 inches, depth 38.2 feet. Records available: 1947-50.

Nov. 13, '47	5.35	Aug. 20, '48	4.00	July 6, '49	2.44	June 16, '50	2.43
Mar. 29, '48	5.95	Dec. 1	5.13	Nov. 4	4.88	Aug. 18	3.47
Apr. 24	5.80	Mar. 25, '49	5.41	Mar. 30, '50	5.66	Nov. 29	5.10
May 27	4.60						

15/25-26c1. Mason Valley Ranch. 1.35 miles east of U. S. Highway 95. Drilled unused well, diameter 8 inches, depth 49 feet. Records available: 1945, 1947-50.

Nov. 13, '47	6.75	Aug. 20, '48	7.35	July 6, '49	6.18	June 16, '50	5.25
Mar. 29, '48	5.70	Dec. 1	7.90	Nov. 4	7.01	Aug. 18	6.39
Apr. 24	5.64	Mar. 25, '49	5.77	Mar. 30, '50	6.01	Nov. 29	5.15
May 27	5.72						

"Unnamed" Valley

16/21-29c1. Owner unknown. 200 feet north of U. S. Highway 50, 0.2 mile west of State Highway 17. Drilled unused water-table well, diameter 4 inches, depth 59.3 feet. Records available: 1947-50

Oct. 1, '47	51.35	Nov. 22, '48	51.65	Dec. 16, '49	51.95	Aug. 17, '50	52.08
Nov. 13	51.31	Apr. 4, '49	51.88	Mar. 30, '50	52.00	Dec. 1	52.19
Jan. 12, '48	51.44	Aug. 15	51.85	June 16	52.05	21	52.20
Apr. 24	51.50						

Smith Valley

10/24-4cd1. Herb Rountree. In corrugated iron shed. Drilled irrigation well, diameter 14 to 12 inches, depth 250 feet. Land-surface datum is 4,910 feet above msl. Records available: 1948-50.

July 21, '48	63.54	Nov. 30, '48	59.66	Nov. 4, '49	65.99	Aug. 18, '50	66.79
Aug. 5	61.64	Mar. 9, '49	60.48	Mar. 30, '50	66.46	Sept. 28	66.46
Nov. 2	59.61	Aug. 17	70.11	May 26	73.64	Nov. 29	65.87

10/24-5cb1. Fred Fulstone. At ranch headquarters. Dug and drilled stock and domestic well. Dug portion, size 4 by 5 feet, depth 60 feet. Drilled portion, diameter 8 inches, total depth 480 feet. Land-surface datum is approximately 4,898 feet above msl. Records available: 1949-50. June 8, 1949, 55.28; July 6, 54.77; Aug. 17, 53.82; May 26, 1950, 55.44; Aug. 18, 53.18; Sept. 28, 52.66.

10/24-7bd1. Rex B. Clark. Formerly S. Strieby. At ranch headquarters. Drilled domestic well, diameter 4 inches, reported depth 128 feet. Land-surface datum is 4,910 feet above msl. Records available: 1949-50. May 6, 1949, 62.80; Aug. 17, 62.40; May 26, 1950, 64.53; Aug. 18, 62.60; Sept. 28, 62.54; Nov. 29, 63.28.

11/23-1ab1. C. G. Smith. 10 feet southeast of corral. Dug stock water-table well, diameter 3.5 feet, depth 29.6 feet. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 10, '49	21.97	Nov. 4, '49	21.34	May 26, '50	22.35	Sept. 28, '50	21.00
Aug. 22	21.22	Mar. 30, '50	21.97	Aug. 9	21.11	Nov. 29	20.97

11/23-3dc1. R. B. Day. 0.2 mile north of intersection of graded gravel road. Drilled irrigation well, diameter 12 inches, depth 242 feet, cased to 164, perforated 0 to 164. Land-surface datum is 4,830 feet above msl. Records available: 1948-50.

July 15, '48	48.78	Mar. 10, '49	50.49	Aug. 22, '49	48.40	Aug. 9, '50	48.62
Nov. 30	49.24	June 8	49.55	Nov. 4	48.68	Nov. 29	49.46
Jan. 31, '49	50.14						

11/23-11ba1. A. Bunkowski. 200 feet south of graded gravel road, 60 feet northeast of house. Drilled domestic well, diameter 3 inches, reported depth 70 feet. Records available: 1949-50. Dec. 30, 1949, 10.68; Mar. 30, 1950, 12.18; May 24, 9.80; Aug. 9, 8.37; Nov. 29, 9.87.

11/23-24cd1. Mrs. Kate Gallaner. 2 miles west of Central, 35 feet north of gravel road, 150 feet southwest of house. Drilled domestic artesian well, diameter 3 inches. Records available: 1949-50. Aug. 22, 1949, 34.00; Nov. 4, 34.30; Mar. 30, 1950, 36.30; Aug. 9, 33.20; Sept. 28, 37.20; Nov. 29, 37.20.

11/23-27dc1. C. and M. Groso. 0.25 mile west of graded gravel road, 60 feet north-west of house. Drilled unused well, diameter 4 inches, depth 88.5 feet. Records available: 1948-50.

Oct. 22, '48	67.79	Mar. 10, '49	71.69	Mar. 29, '50	71.90	Sept. 28, '50	61.62
Nov. 30	68.67	Aug. 22	58.51	May 24	66.75	Nov. 29	66.86
Jan. 31, '49	69.87	Nov. 4	63.71	Aug. 9	56.24		

11/24-18ad1. Mrs. W. E. Allen. About 150 feet west of county road, 400 feet south of fish hatchery. Jetted unused artesian well, diameter 2 inches, reported depth 80 feet. Land-surface datum is 4,727.7 feet above msl. Equipped with recording gage. Records available: 1949-50.

Sept. 15, '49	22.8	Jan. 15, '50	24.7	May 15, '50	23.5	Oct. 15, '50	24.7
Oct. 15	21.6	Feb. 15	24.1	Aug. 15	26.1	Nov. 15	24.7
Nov. 15	24.7	Mar. 15	25.1	Sept. 15	25.1	Dec. 15	26.9
Dec. 15	24.6	Apr. 15	25.0				

11/24-18da1. Mrs. Mary Harrison. 1 mile north of Central. Drilled domestic and irrigation artesian well, diameter 3 inches, reported depth 81 feet. Land-surface datum is 4,740.26 feet above msl. Records available: 1948-50. June 2, 1948, 26.00; Mar. 10, 1949, 27.70; May 11, 24.90; Mar. 30, 1950, 27.20; Aug. 9, 26.00; Sept. 28, 25.80; Nov. 29, 28.00.

11/24-22dc1. Fred Fulstone. 300 feet west of drainage way. Dug unused water-table well, size 18 by 30 inches, reported depth 130 feet. Land-surface datum is 4,888.46 feet above msl. Equipped with recording gage. Records available: 1948-50.

May 15, '48	58.10	Jan. 15, '49	60.47	Sept. 15, '49	61.84	May 15, '50	60.04
June 15	58.46	Feb. 15	60.73	Oct. 15	62.00	June 15	60.47
July 15	58.77	Mar. 15	60.89	Nov. 15	62.19	Aug. 15	60.95
Aug. 15	59.12	Apr. 15	61.14	Dec. 15	61.78	Sept. 15	61.02
Sept. 15	59.45	May 15	61.36	Jan. 15, '50	60.24	Oct. 15	61.13
Oct. 15	59.69	June 15	61.22	Feb. 15	58.65	Nov. 15	61.21
Nov. 15	59.98	July 15	61.43	Mar. 15	59.15	Dec. 15	59.46
Dec. 15	60.27	Aug. 15	61.66	Apr. 15	59.99		

11/24-27cc1. A. A. Chisholm. 1.5 miles south of State Highway 3. Drilled domestic well, diameter 4 inches, reported depth 123 feet. Land-surface datum is 4,879.7 feet above msl. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 3, '48	42.23	Mar. 9, '49	46.14	June 8, '49	46.72	June 13, '50	45.87
31	42.97	May 11	47.80	Aug. 22	45.92	Aug. 29	43.25
May 10	44.62	19	47.56	Dec. 21	44.68	Sept. 28	42.57
24	44.57	31	46.98	Mar. 30, '50	45.97	Nov. 29	42.79

11/24-32ab1. Nellie Albright. 200 feet south of road, 35 feet west of house. Drilled domestic well, diameter 3 inches, reported depth 130 feet. Land-surface datum is 4,824 feet above msl. Records available: 1948-50.

Mar. 29, '48	0.94	June 30, '48	2.53	Jan. 31, '49	2.55	Mar. 30, '50	4.31
May 10	4.01	July 21	2.60	Mar. 10	2.81	May 26	7.45
24	2.65	Aug. 5	3.95	May 11	5.81	Aug. 17	3.80
27	2.35	Nov. 2	2.05	Aug. 22	6.12	Sept. 28	3.36
June 16	2.26	30	2.08	Nov. 4	3.48	Nov. 29	2.90

11/24-32dc1. A. Nuti. 500 feet northeast of house. Drilled irrigation well, diameter 16 inches, reported depth 390 feet. Land-surface datum is 4,865 feet above msl. Records available: 1948-50.

Mar. 3, '48	23.62	June 30, '48	31.00	Jan. 31, '49	30.04	Mar. 30, '50	28.50
May 24	28.02	July 15	29.79	Mar. 9	30.46	Aug. 18	28.00
27	27.66	21	29.87	June 8	28.50	Sept. 28	27.23
June 2	27.98	Nov. 30	29.62	Nov. 4	27.76	Nov. 29	26.92

j Air gage.

12/23-22ac3. S. H. Hunnewill. 0.2 mile southeast of Hunnewill house, 40 feet northeast of bend in road. Drilled stock artesian well, diameter 6 inches, reported depth 50 feet. Land-surface datum is 4,680 feet above msl. Records available: 1948-50. Aug. 6, 1948, +9.00; Jan. 31, 1949, +9.40; June 8, +9.20; Aug. 22, +8.80; Sept. 28, 1950, +9.00; Nov. 29, +10.20.

12/24-30cd1. Owner unknown. 50 feet north of east-west road. Drilled unused well, diameter 8 inches, depth 70 feet. Land-surface datum is 4,797.66 feet above msl. Records available: 1948-50.

May 28, '48	46.45	Mar. 10, '49	47.27	Mar. 30, '50	47.87	Aug. 9, '50	48.54
June 30	46.80	June 8	47.92	May 26	48.02	Sept. 28	48.33
Nov. 30	47.28	Aug. 22	48.34	June 26	48.58	Nov. 29	48.36
Jan. 31, '49	47.20	Nov. 4	48.40				

Mineral County

Gabbs Valley

10/35-11a1. U. S. Bureau of Land Management. 20 miles north of Luning, 250 feet east of State Highway 23. Drilled stock well, diameter 6 inches, depth 265 feet. Records available: 1948-50. May 14, 1948, 185.95; Mar. 28, 1949, 186.00; Sept. 14, 185.75; Mar. 20, 1950, 186.38; Sept. 19, 185.76.

11/34-4a1. Dr. Grant. 11 miles west of State Highway 23. Drilled unused well, diameter 12 inches, depth 82.5 feet. Records available: 1946-50. Mar. 15, 1946, 59.30; May 14, 1948, 59.25; Mar. 28, 1949, 59.27; Sept. 14, 59.26; Sept. 19, 1950, 59.26. Measurement discontinued.

Soda Spring Valley

8/34-28c1. Basic Magnesium Plant. Drilled unused well, diameter 8 inches. Records available: 1949-50. Nov. 28, 1949, 137.00; Mar. 20, 1950, 137.72; Sept. 19, 136.95.

Whiskey Flat

6/31-33b1. Wm. F. Merchant. 2.45 miles east of State Highway 31, about 100 feet south of east-west dirt road. Drilled stock well, diameter 6 inches, depth 92 feet. Records available: 1948-50. May 11, 1948, 34.79; Nov. 28, 1949, 34.84; Apr. 15, 1950, 35.05. Measurement discontinued.

6/31-33b2. Wm. F. Merchant. 850 feet south of dirt road. Drilled unused well, diameter 8 inches, depth 69 feet. Records available: 1949-50. May 11, 1949, 42.30; Nov. 28, 42.26; Jan. 19, 1950, 42.28; Sept. 19, 42.23.

Nye County

Pahrump Valley
(See also Clark County.)

S19/53-9bbc1. Van Horn & Stringfellow. Drilled irrigation well, diameter 14 inches. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 2, '47	83.50	Nov. 18, '48	85.00	Nov. 29, '49	86.04	Apr. 24, '50	85.84
Dec. 23	83.93	Jan. 28, '49	84.88	Dec. 22	85.96	May 23	86.42
Jan. 9, '48	83.81	Feb. 15	84.74	Feb. 15, '50	85.45	June 21	86.53
Oct. 26	86.45	Mar. 16	84.67	Mar. 20	85.40	Aug. 15	85.66

S19/53-10cbb1. Dickey & Harris. Drilled unused well, diameter 18 inches, depth 250 feet. Records available: 1946-50.

Sept. 19, '46	90.37	May 19, '48	90.62	July 28, '49	91.67	Apr. 24, '50	92.08
Apr. 1, '47	90.32	Aug. 4	90.85	Aug. 23	91.79	May 23	92.12
June 4	90.33	Oct. 26	91.24	Sept. 16	91.92	June 21	92.16
Aug. 5	90.44	Nov. 18	91.22	Nov. 29	92.12	Aug. 15	92.23
Nov. 20	90.46	Feb. 15, '49	91.19	Dec. 29	92.13	Nov. 21	92.42
Feb. 28, '48	90.43	May 24	91.40	Feb. 16, '50	92.10	Dec. 20	92.48

S19/53-16daa1. Stavers. Drilled irrigation well, diameter 8 inches, reported depth 700 feet. Records available: 1945, 1947-50.

Apr. 1, '47	44.39	Nov. 18, '48	44.60	Aug. 23, '49	45.67	May 23, '50	44.84
May 19, '48	42.90	Feb. 15, '49	44.58	Nov. 29	44.88	Aug. 15	45.13
Aug. 26	45.80	May 24	45.07	Feb. 15, '50	44.74	Nov. 21	45.14
Sept. 15	44.30						

S19/53-22acd1. Stavers. (State Engineer No. 31.) Drilled domestic and irrigation well, diameter 16 inches, reported depth 540 feet, cased to 280, perforated 112 to 124. Records available: 1947-50.

Feb. 7, '47	41.34	May 19, '48	43.35	Jan. 28, '49	43.74	Feb. 15, '50	45.06
Apr. 1	41.27	Aug. 4	44.12	Feb. 15	43.48	Apr. 24	46.04
June 4	41.32	Oct. 26	44.20	Feb. 23	43.28	May 23	46.07
Sept. 5	41.80	Oct. 26	45.00	Mar. 16	43.35	June 21	46.54
Nov. 20	41.99	Nov. 18	44.55	Nov. 29	45.81	Aug. 15	47.45
Feb. 28, '48	42.44	Dec. 15	44.15	Dec. 22	45.49	Nov. 21	46.35

S19/53-33daa1. Hughes & Harmer. (State Engineer No. 56.) Drilled unused artesian well, diameter 12 inches. Records available: 1948-50.

Water level above land-surface datum

June 17, '48	56.65	July 28, '49	52.15	Feb. 15, '50	53.00	Aug. 15, '50	53.50
Feb. 23, '49	55.65	Aug. 23	52.05	May 23	53.60	Nov. 21	53.60
May 24	52.85	Nov. 29	52.80				

S20/53-24caa1. Ray Thomas. Pahrump Ranch. (State Engineer No. 40.) Drilled unused artesian well, diameter 10 inches, depth 570 feet. Records available: 1945, 1948-50.

S20/53-24caa1--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 19, '48	27.85	Jan. 28, '49	28.62	Aug. 23	36.42	Apr. 24, '50	31.25
July 10	27.92	Feb. 16	28.52	Sept. 16	36.90	May 23	32.03
Aug. 5	28.11	Mar. 16	29.84	Nov. 15	31.14	June 21	31.40
Sept. 15	28.81	Apr. 29	29.82	29	30.91	Aug. 15	31.47
18	28.62	May 24	29.80	Dec. 22	30.72	Sept. 19	31.35
Oct. 26	29.33	June 14	30.03	Jan. 24, '50	30.41	Oct. 19	31.04
Nov. 18	29.57	July 29	33.38	Mar. 20	30.44	Nov. 21	30.74
Dec. 15	29.98						

S21/53-1adcl. U. S. Bureau of Land Management. (State Engineer No. 41). Drilled unused water-table well, diameter 10 inches, depth 74 feet. Records available: 1945, 1947-50.

Apr. 1, '47	25.95	May 19, '48	25.71	May 24, '49	26.04	May 23, '50	26.14
Aug. 5	26.29	Aug. 26	26.56	Aug. 23	26.76	Aug. 15	26.67
Nov. 20	26.63	Nov. 18	27.00	Nov. 29	26.98	Nov. 21	26.89
Feb. 28, '48	25.90	Feb. 18, '49	26.44	Feb. 15, '50	26.55		

S21/53-24aa1. Townsend. (State Engineer No. 42). Drilled unused well, diameter 10 inches, depth 120 feet. Records available: 1947-50.

Apr. 1, '47	21.95	May 19, '48	21.83	May 24, '49	21.86	May 23, '50	21.95
Aug. 5	22.59	Aug. 26	22.46	Aug. 23	22.65	Aug. 15	22.48
Nov. 20	22.63	Nov. 18	22.59	Nov. 29	22.72	Nov. 21	22.70
Feb. 28, '48	22.06	Feb. 18, '49	22.11	Feb. 15, '50	22.27		

S21/54-15aca1. Rooker. (State Engineer No. 23). Drilled unused artesian well, diameter 20 to 14 inches, depth 506 feet, 20-inch casing to unknown depth, 14-inch casing to 130 feet. Records available: 1946-50.

Apr. 1, '47	27.42	May 19, '48	27.93	May 24, '49	28.70	May 23, '50	30.32
Aug. 5	31.31	Aug. 27	31.06	Aug. 23	31.88	Aug. 15	32.45
Nov. 20	29.18	Nov. 18	29.25	Nov. 29	30.62	Nov. 21	31.99
Feb. 28, '48	27.44	Feb. 18, '49	27.88	Feb. 15, '50	29.23		

S21/54-28bd1. Bowman. (State Engineer No. 50). Drilled unused well, diameter 10 inches, depth 140 feet. Records available: 1946-50.

Apr. 1, '47	18.98	May 19, '48	18.96	May 24, '49	19.14	May 23, '50	19.08
Aug. 5	18.98	Aug. 26	19.02	Aug. 23	19.16	Aug. 15	19.41
Nov. 20	18.83	Nov. 18	18.65	Nov. 29	19.18	Nov. 21	19.55
Feb. 28, '48	18.93	Feb. 18, '49	19.16	Feb. 15, '50	19.20		

Ralston Valley

5/44-32bb1. Owner unknown. 12.5 miles north of junction of U. S. Highway 6 and State Highway 8A. Dug unused water-table well, depth 18 feet. Records available: 1948-50. May 12, 1948, 12.17; Mar. 30, 1949, 12.50; Mar. 24, 1950, 12.40; Sept. 19, 12.75.

White River Valley
(See also White Pine County.)

9/61-7b1. Lloyd Sorenson. In corral, north of iron tank. Dug stock water-table well, diameter 48 inches, depth 43 feet. Records available: 1945, 1947-50. Oct. 1, 1947, 31.00; Feb. 27, 1948, 30.86; Oct. 26, 30.96; Mar. 23, 1949, 30.62; Sept. 17, 30.76; Mar. 15, 1950, 30.52; Sept. 13, 30.69.

10/60-36b1. U. S. Bureau of Land Management. 6 feet east of small stone house. Drilled stock well, diameter 8 inches, reported depth 80 feet. Records available: 1947-50. Oct. 1, 1947, 41.67; Feb. 27, 1948, 41.90; Oct. 26, 41.78; Mar. 23, 1949, 41.67; Sept. 17, 41.77; Mar. 15, 1950, 42.54; Sept. 13, 41.52.

Ormsby County

15/20-8b10. M. W. Johnstone. Formerly C. C. Keever. 0.4 mile northeast of junction of U. S. Highway 395 and Carson Hot Springs road, 150 feet southeast of house. Dug unused water-table well, diameter 60 inches, depth 18.3 feet. Records available: 1946, 1948-50. Apr. 19, 1946, 5.20; May 17, 1948, 5.92; Nov. 30, 7.05; Jan. 24, 1949, 6.62; Mar. 30, 1950, 4.46; Sept. 26, 6.77; Nov. 28, 5.38.

15/20-8c1. J. Harrison. 500 feet east of U. S. Highway 395. Dug domestic water-table well, diameter 36 inches, depth 9.45 feet, cased to 9.45. Records available: 1946, 1948-50. Apr. 29, 1946, 4.22; May 17, 1948, 5.47; Nov. 30, 7.14; Jan. 24, 1949, 6.00; Mar. 30, 1950, 3.25; Sept. 26, 7.12; Nov. 28, 3.33.

15/20-8d1. Catholic Cemetery. 0.75 mile east of U. S. Highway 395. Dug unused water-table well, diameter 96 inches, depth 16.9 feet, stone-cribbed. Records available: 1946, 1948-50. Apr. 29, 1946, 11.03; May 17, 1948, 11.70; Nov. 30, 12.03; Jan. 24, 1949, 11.10; Mar. 30, 1950, 11.50; Sept. 26, 12.05; Nov. 28, 11.58.

15/20-9a7. Jesse James. 0.5 mile north of U. S. Highway 50, 0.25 mile west of airport road. Drilled unused well, diameter 6 inches, depth 62.5 feet. Records available: 1948-50. Nov. 30, 1948, 13.66; Jan. 24, 1949, 13.72; Mar. 30, 1950, 13.25; Sept. 26, 13.74; Nov. 28, 13.68.

15/20-17a1. Simone Lompa and Rinaldo Cremetti. 0.4 mile east of Carson St. Drilled irrigation well, diameter 10 inches, reported depth 590 feet. Records available: 1946, 1948-50. May 2, 1946, 4.53; May 18, 1948, 10.39; Nov. 30, 11.63; Jan. 24, 1949, 11.00; Mar. 30, 1950, 5.38; Sept. 26, 12.04; Nov. 28, 6.80.

15/20-17c1. State Children's Home. 400 feet west-northwest of State Children's Home, 50 feet south of East Fifth St. Drilled irrigation well, diameter 18 to 12 to 10 inches, depth 595 feet, cased to 595. Records available: 1946, 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 30, '46	2.56	May 19, '48	10.86	Jan. 24, '49	6.45	Sept. 26, '50	9.02
May 18, '48	12.01	Nov. 30	7.90	Mar. 30, '50	5.10	Nov. 28	6.29

Pershing County

Grass Valley

(See also Humboldt County.)

32/38-18b1. U. S. Bureau of Land Management. (Turner). In intersection of dirt roads. Drilled stock well, diameter 6 inches, depth 124.8 feet, reported cased to 130. Land-surface datum is 4,529 feet above msl. Records available: 1946-50.

May 15, '46	76.40	Apr. 20, '48	76.40	Oct. 29, '48	76.45	June 21, '49	76.43
Mar. 19, '47	76.38	May 24	76.37	Dec. 7	76.46	Sept. 7	76.44
June 12	76.40	June 29	76.41	22	76.42	15	76.44
July 9	76.40	July 21	76.40	Mar. 15, '49	76.40	Oct. 24	76.45
Sept. 8	76.40	Aug. 26	76.44	May 2	76.42	Mar. 22, '50	76.39
Oct. 25	76.42	Sept. 29	76.46	23	76.43	Oct. 19	76.37
Jan. 9, '48	76.43						

32/38-36b1. Fred Kerlee. 0.25 mile west of Leach Hot Springs, 30 feet northeast of ranchhouse. Drilled unused well, diameter 12 inches, reported depth 110 feet. Land-surface datum is 4,604 feet above msl. Records available: 1947-50.

May 8, '47	78.11	Apr. 20, '48	78.61	Oct. 29, '48	78.93	June 21, '49	79.23
June 12	78.19	May 24	78.66	Dec. 7	79.02	Sept. 7	79.32
July 9	78.17	June 29	78.75	22	79.00	15	79.32
Sept. 8	78.22	July 21	78.78	Mar. 15, '49	79.15	Oct. 24	79.30
Oct. 25	78.10	Aug. 26	78.78	May 2	79.14	Mar. 22, '50	79.54
Jan. 9, '48	78.56	Sept. 29	78.88	23	79.20	Oct. 19	79.83

33/37-24a1. Lloyd Sweeney. In concrete pit, 50 feet south of ranchhouse. Dug unused and drilled well, dug portion, size 6 by 7.5 feet, depth 11 feet, drilled portion, diameter 10 inches, depth 52 feet. Total depth 63 feet. Land-surface datum is approximately 4,400 feet above msl. Records available: 1945-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 24, '46	1.80	Oct. 25, '47	11.77	Sept. 29, '48	12.23	June 21, '49	10.75
Mar. 19, '47	9.17	Jan. 6, '48	12.00	Oct. 29	12.51	Sept. 1	12.22
May 5	5.38	Apr. 20	11.30	Dec. 7	12.70	15	13.30
June 12	6.07	May 24	6.04	22	12.76	Oct. 24	13.67
July 9	9.29	June 29	7.20	Mar. 15	13.07	Mar. 22, '50	13.55
Sept. 8	11.25	July 21	9.60	May 2	9.14	Oct. 19	13.56
Oct. 3	11.50	Aug. 25	11.35	23	9.07		

33/37-24d1. Lloyd Sweeney. 1 mile south of ranch headquarters. Drilled irrigation well, diameter 14 inches, depth 72.8 feet. Land-surface datum is 4,414 feet above msl. Records available: 1945-50.

Mar. 19, '46	13.31	Oct. 3, '47	14.39	Aug. 25, '48	14.79	May 23, '49	13.62
Apr. 24	9.99	25	14.56	Sept. 29	15.25	June 21	a30.24
July 24	11.40	Jan. 6, '48	14.89	Oct. 29	15.45	Sept. 2	16.24
May 5, '47	11.72	Apr. 20	14.49	Dec. 7	14.80	15	16.30
June 12	12.52	May 24	12.60	22	15.63	Oct. 24	16.54
July 9	13.02	June 29	13.38	Mar. 15, '49	15.90	Mar. 22, '50	16.16
Sept. 8	14.14	July 21	14.11	May 2	14.77	Oct. 19	16.57

a Pumping.

33/38-32b1. U. S. Bureau of Land Management. 2.5 miles southeast of Sweeney Ranch, 150 feet west of dirt road. Drilled stock well, diameter 6 inches, depth 54 feet. Land-surface datum is 4,431 feet above msl. Records available: 1945-50.

May 15, '46	28.50	Jan. 9, '48	28.96	Oct. 29, '48	29.62	June 21, '49	30.05
July 24	28.40	Apr. 20	29.16	Dec. 7	29.69	Sept. 7	30.24
Mar. 19, '47	28.64	May 24	29.20	22	29.70	15	30.33
June 12	28.51	June 29	29.30	Mar. 15, '49	29.81	Oct. 25	30.37
July 9	28.62	July 21	29.42	May 2	29.90	Mar. 22, '50	30.49
Sept. 8	28.79	Aug. 26	29.58	23	29.98	Oct. 19	30.65
Oct. 25	28.82	Sept. 29	29.65				

34/37-22a1. J. Ballard. Formerly "Schlarbaum". 0.5 mile east of main dirt road on west side of valley. Drilled unused well, diameter 6 inches, depth 49.5 feet. Land-surface datum is 4,329 feet above msl. Records available: 1946-50.

June 5, '46	10.05	Apr. 20, '48	10.54	Oct. 28, '48	12.21	June 21, '49	11.27
July 23	10.95	May 24	10.52	Dec. 6	11.97	Sept. 1	12.51
Mar. 19, '47	9.85	June 29	10.87	21	11.84	15	12.62
July 9	10.86	July 21	11.33	Mar. 2, '49	11.47	Oct. 24	12.60
Sept. 8	11.75	Aug. 26	12.00	May 2	10.92	Mar. 22, '50	11.45
Oct. 25	11.79	Sept. 28	12.30	23	10.97	Oct. 19	12.77

Humboldt River Valley

29/33-33c1. Southern Pacific Co. 2.5 miles east of Oreana. Drilled industrial and municipal well, diameter 12 inches, reported depth 432 feet. Land-surface datum is 4,264 feet above msl. Records available: 1946-50.

Jan. 9, '46	66.17	Oct. 10, '46	65.83	June 20, '47	65.36	Mar. 15, '49	70.10
Feb. 19	65.86	Mar. 21, '47	65.27	July 7	65.68	July 19	68.63
Apr. 12	65.80	Apr. 25	65.24	Aug. 5	65.94	Sept. 13	68.92
26	65.80	May 19	65.16	Oct. 3	66.42	Mar. 19, '50	68.71
June 12	65.55	June 9	65.20	4, '48	67.10	June 27	69.22
Aug. 19	65.95						

33/32-28d1. Cliff and Cecil Campbell. At Humboldt. 0.5 mile west of U. S. Highway 40. Drilled irrigation well. Records available: 1950. Apr. 26, 34.37; Oct. 17, 35.30.

Buena Vista Valley

30/35-4c1. Gallio. 1 mile east of ranch headquarters. Dug stock water-table well, size 4 by 4 feet, depth 45.5 feet. Records available: 1947-50. Nov. 10, 1947, 37.56; June 18, 1948, 30.24; Sept. 13, 37.60; Mar. 14, 1949, 39.55; July 19, 32.97; Mar. 19, 1950, 39.40; Sept. 16, 38.25.

30/35-27b1. Neill Talcott. 5 miles east of Unionville, 250 feet south of road. Drilled well, diameter 8 inches, reported depth 100 feet, cased to 100, perforated 25 to 100. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7, '48	21.91	Apr. 23, '48	23.82	Mar. 14, '49	26.12	Sept. 13, '49	28.43
27	23.23	Sept. 13	25.02	July 19	26.11	Mar. 19, '50	27.38

Washoe County

Spanish Springs Valley

21/20-26b1. Owner unknown. 320 feet west of State Highway 33, 300 feet north of airport buildings. Drilled unused well, diameter 6 inches, depth 96 feet. Records available: 1948-49. No measurement made in 1950.

Apr. 27, '48	66.61	May 19, '48	66.50	Dec. 1, '48	66.60	Mar. 22, '49	66.44
May 4	66.69	Nov. 1	66.60	Jan. 26, '49	71.61	June 24	66.52

Steamboat Valley

17/20-5d1. Feretto Estate. 200 feet west of U. S. Highway 395. Dug domestic water-table well, depth 16.8 feet. Records available: 1942-50.

Jan. 21, '46	15.30	Apr. 23, '47	14.95	Aug. '48	16.22	Nov. 24, '49	14.91
Feb. 22	15.30	May 28	14.77	Oct. 4	16.45	Dec. 27	15.25
Mar. 20	15.50	June 25	15.12	28	15.90	Jan. 25, '50	14.22
Apr. 19	15.30	Aug. 1	16.11	Dec. 1	15.70	Feb. 28	14.42
May 21	14.40	29	16.44	24	15.44	Mar. 21	14.82
June 19	14.50	Sept. 29	16.29	Jan. 26, '49	15.90	Apr. 25	15.01
July 20	14.50	Oct. 27	15.92	Feb. 26	15.08	May 23	13.92
Aug. 23	15.55	Nov. 29	15.42	Mar. 29	14.91	June 27	14.53
Sept. 30	16.00	Jan. 24, '48	15.28	Apr. 26	14.83	July 24	14.73
Oct. 28	15.63	Feb. 21	15.49	May 26	14.64	Aug. 28	15.24
Nov. 27	14.78	Mar. 22	15.57	June 24	14.52	Sept. 25	14.91
Dec. 23	16.98	Apr. 25	15.26	July 23	15.72	Oct. 23	14.87
Jan. 23, '47	15.64	May 31	14.00	Aug. 25	16.10	Nov. 20	15.01
Feb. 22	15.51	June 25	14.74	Sept. 29	16.30	27	14.81
Mar. 26	15.10	July 29	15.80	Oct. 24	15.44	Dec. 18	14.52

Sun Valley

20/20-17ba1. H. L. Gepford. 1 mile east of main Sun Valley road, center of valley, 100 feet south of east-west dirt road. Drilled unused well, diameter 6 inches, depth 187 feet. Records available: 1948-50.

Feb. 2, '48	88.12	May 26, '49	92.63	Dec. 27, '49	91.80	July 24, '50	92.85
June 30	88.90	June 24	92.80	Feb. 1, '50	92.97	Aug. 28	92.44
Aug. 5	89.05	July 23	92.70	28	93.06	Sept. 25	92.16
Sept. 18	89.19	Aug. 25	92.54	Mar. 21	93.17	Oct. 23	91.96
Dec. 1	90.22	Sept. 29	92.54	Apr. 25	93.22	Nov. 20	91.47
Mar. 22, '49	91.60	Oct. 24	92.58	May 23	93.20	27	91.39
Apr. 26	92.58	Nov. 24	92.69	June 27	93.10	Dec. 18	91.34
May 16	92.64						

20/20-18aa1. H. L. Gepford. 30 feet east of dirt road. Drilled unused well, diameter 6 inches, reported depth 164 feet. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 5, '48	29.22	July 23, '49	29.42	Feb. 28, '50	29.84	Aug. 28, '50	30.10
Sept. 18	29.09	Aug. 25	29.46	Mar. 21	29.82	Sept. 25	30.07
Dec. 1	29.30	Oct. 24	29.70	Apr. 25	29.80	Oct. 23	30.06
Mar. 22, '49	28.82	Nov. 24	29.62	May 23	29.83	Nov. 20	29.90
Apr. 26	29.14	Dec. 27	29.73	June 27	30.06	27	29.91
May 26	29.24	Feb. 1, '50	29.80	July 24	30.10	Dec. 18	29.91
June 24	29.38						

20/20-30ab2. Frank Nelson. 250 feet east of road, 125 feet southeast of house. Drilled domestic well, diameter 6 inches, depth 50 feet. Records available: 1948-50.

Feb. 2, '48	17.89	May 26, '49	18.00	Dec. 27, '49	18.59	July 24, '50	18.76
June 30	18.06	June 24	18.40	Feb. 1, '50	18.27	Aug. 28	19.02
Aug. 5	19.87	July 23	18.97	28	18.12	Sept. 25	19.02
Sept. 18	18.72	Aug. 25	19.14	Mar. 21	18.06	Oct. 23	20.20
Dec. 1	18.40	Sept. 29	19.07	Apr. 25	18.02	Nov. 20	18.97
Jan. 26, '49	18.22	Oct. 24	18.92	May 23	18.18	27	18.78
Mar. 22	17.84	Nov. 24	18.74	June 27	18.40	Dec. 18	18.08
Apr. 26	17.96						

Truckee Meadows

18/19-1cd1. L. H. Pickens. 0.1 mile west of Timothy Drive. Drilled domestic well, diameter 6 inches, reported depth 110 feet. Land-surface datum is 4,585.73 feet above msl. Records available: 1948-50.

Dec. 7, '48	16.04	Aug. 22, '49	13.29	Feb. 15, '50	17.95	Aug. 14, '50	14.35
Mar. 29, '49	19.96	Sept. 19	12.89	Mar. 14	19.21	Sept. 18	13.59
Apr. 26	20.07	Oct. 18	11.84	Apr. 18	20.05	Oct. 23	13.63
May 27	20.64	Nov. 15	13.05	May 16	18.45	Nov. 20	15.92
June 27	20.39	Dec. 20	15.96	June 13	16.27	Dec. 18	15.27
July 25	15.37	Jan. 18, '50	17.80	July 17	14.36		

18/19-12ad1. F. P. Quinn. 20 feet north of Holcomb Lane. Drilled unused well, diameter 6 inches, depth 26 feet. Land-surface datum is 4,580.1 feet above msl. Records available: 1949-50.

Mar. 29, '49	14.25	Aug. 22, '49	20.59	Nov. 15, '49	23.65	Oct. 23, '50	20.01
May 25	14.18	Sept. 19	21.12	Aug. 14, '50	24.02	Nov. 13	21.98
June 25	19.24	Oct. 18	22.59	Sept. 18	21.31	Dec. 11	23.98
July 25	21.19						

18/19-12ad2. F. P. Quinn. 20 feet north of Holcomb Lane. Drilled domestic and irrigation well, diameter 6 inches, reported depth 135 feet. Land-surface datum is 4,580.1 feet above msl. Records available: 1949-50.

May 12, '49	15.35	Apr. 25, '50	34.07	July 24, '50	28.55	Oct. 23, '50	21.86
June 17	19.72	May 23	33.50	Aug. 21	25.55	Nov. 27	24.85
Feb. 28, '50	34.09	June 13	31.46	Sept. 25	22.42	Dec. 26	27.17
Mar. 20	34.35						

18/19-12ba2. L. H. Pickens. 0.1 mile west of Timothy Drive. Dug and drilled domestic well. Dug portion, diameter 60 inches, depth 30 feet. Drilled portion, depth 87 feet. Land-surface datum is 4,586.8 feet above msl. Records available: 1948-50.

Dec. 7, '48	18.95	Aug. 22, '49	17.14	Jan. 25, '50	23.08	July 17, '50	19.04
Mar. 29, '49	23.61	Sept. 19	15.23	Feb. 15	23.16	Aug. 14	19.32
Apr. 26	24.27	Oct. 18	15.68	Mar. 14	24.61	Sept. 18	17.01
May 27	20.17	Nov. 15	18.85	Apr. 18	25.79	Oct. 16	19.10
June 25	17.09	Dec. 13	20.73	May 16	24.18	Nov. 13	19.77
July 25	18.00	Jan. 18	23.35	June 13	21.37	Dec. 18	20.74

18/19-12bd1. Mrs. B. Menzi. 200 feet south of Holcomb Lane. Drilled domestic and stock well, diameter 6 inches, depth 152 feet. Land-surface datum is 4,594.7 feet above msl. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 25, '49	33.39	Oct. 18, '49	33.27	Mar. 14, '50	38.73	Aug. 21, '50	35.88
June 20	34.12	Nov. 15	34.19	Apr. 11	39.54	Sept. 18	34.96
July 18	34.52	Dec. 13	35.05	May 16	40.30	Oct. 16	34.96
Aug. 15	34.38	Jan. 18, '50	36.88	June 13	38.06	Nov. 27	35.50
Sept. 19	33.09	Feb. 15	37.61	July 17	36.03	Dec. 26	36.18

18/19-12bd2. Mrs. B. Menzi. 200 feet south of Holcomb Lane. Drilled domestic well, diameter 6 inches, depth 85.5 feet. Land-surface datum is 4,600 feet above msl. Records available: 1949-50.

May 25, '49	28.50	Oct. 18, '49	26.28	Mar. 14, '50	31.51	Aug. 14, '50	29.81
June 20	27.59	Nov. 15	27.47	Apr. 11	32.33	Sept. 18	28.80
July 18	27.26	Dec. 13	28.26	May 16	32.77	Oct. 16	28.63
Aug. 15	27.24	Jan. 18, '50	29.97	June 13	31.82	Nov. 13	28.91
Sept. 12	26.71	Feb. 15	30.65	July 17	30.47	Dec. 18	29.49

18/19-12cb1. Godschalk. Formerly D. Bradberry. 0.4 mile south of Holcomb Lane, 400 feet east of Fairview Road. Drilled domestic well, diameter 6 inches, reported depth 239 feet. Land-surface datum is 4,721 feet above msl. Records available: 1949-50.

June 15, '49	128.83	Nov. 15, '49	127.67	Apr. 15, '50	130.14	Aug. 15, '50	130.90
July 15	129.08	Dec. 15	127.83	May 15	130.65	Sept. 15	130.57
Aug. 15	128.90	Jan. 15, '50	128.48	June 15	131.09	Oct. 15	130.04
Sept. 15	128.42	Feb. 15	129.09	July 15	131.14	Nov. 14	129.56
Oct. 15	127.98	Mar. 15	129.53				

18/19-12cb5. Vuksan. 0.5 mile south of Holcomb Lane, 300 feet east of Fairview Road. Drilled domestic well, diameter 6 inches, reported depth 160 feet, cased to 160. Land-surface datum is 4,741.7 feet above msl. Records available: 1949-50.

May 19, '49	111.70	Aug. 2, '49	113.93	Dec. 12, '49	115.93	July 10, '50	119.30
June 24	112.39	Oct. 24	115.40	Mar. 7, '50	116.90	Sept. 7	120.36

18/19-12da1. W. W. Caffrey. 300 feet west of Thomas Creek Road. Drilled domestic and stock well, diameter 8 inches, reported depth 100 feet. Land-surface datum is 4,604.5 feet above msl. Records available: 1949-50.

Mar. 29, '49	24.17	Oct. 18, '49	18.72	Mar. 14, '50	28.35	Aug. 14, '50	14.35
June 25	15.34	Nov. 15	19.60	Apr. 18	26.45	Sept. 12	13.10
July 18	14.20	Dec. 13	22.24	May 16	17.77	Oct. 16	14.65
Aug. 15	15.94	Jan. 18, '50	25.19	June 13	13.85	Nov. 13	18.57
Sept. 12	14.78	Feb. 21	27.47	July 17	13.85	Dec. 18	20.00

18/19-13aa1. W. W. Caffrey. 0.25 mile south of Holcomb Lane, 200 feet west of Thomas Creek Road. Dug domestic water-table well, diameter 48 inches, depth 38.5 feet. Land-surface datum is 4,651.2 feet above msl. Records available: 1949-50.

June 7, '49	4.64	Nov. 15, '49	12.30	Apr. 18, '50	31.05	Sept. 12, '50	6.15
July 18	5.12	Dec. 13	18.88	May 16	21.43	Oct. 16	7.48
Aug. 15	5.20	Jan. 18, '50	23.74	June 13	9.33	Nov. 13	12.30
Sept. 12	3.94	Feb. 15	24.02	July 17	6.18	Dec. 18	16.85
Oct. 18	6.77	Mar. 14	26.00	Aug. 14	5.35		

18/19-13ab1. Kendrick Johnson. 0.4 mile west of Thomas Creek Road. Dug irrigation water-table well, depth 10.5 feet. Records available: 1949-50.

May 28, '49	3.97	Oct. 18, '49	3.44	Mar. 14, '50	4.47	Aug. 14, '50	3.70
June 20	3.93	Nov. 15	3.69	Apr. 18	4.62	Sept. 12	3.57
July 18	3.98	Dec. 13	3.90	May 16	4.02	Oct. 16	3.71
Aug. 15	3.93	Jan. 18, '50	1.90	June 13	3.97	Nov. 13	3.83
Sept. 12	3.26	Feb. 15	4.17	July 17	3.80	Dec. 18	3.82

18/20-7bc1. Paul Faulstick. 350 feet south of Holcomb Lane. Drilled domestic well, diameter 6 inches, reported depth 118 feet. Land-surface datum is 4,558.41 feet above msl. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 20, '49	6.24	Oct. 18, '49	7.44	Mar. 14, '50	13.32	Aug. 14, '50	7.28
June 20	6.81	Nov. 15	7.59	Apr. 18	14.20	Sept. 12	6.67
July 18	7.62	Dec. 13	9.57	May 16	11.33	Oct. 16	7.56
Aug. 15	6.99	Jan. 18, '50	11.44	June 13	9.02	Nov. 13	8.24
Sept. 12	6.46	Feb. 15	12.10	July 17	7.98	Dec. 18	8.99

18/20-7bc2. Joe Maffi. 250 feet east of Holcomb Lane. Drilled domestic well, diameter 6 inches. Land-surface datum is 4,566.34 feet above msl. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 28, '49	9.82	Oct. 18, '49	12.64	Mar. 22, '50	19.60	Aug. 14, '50	12.50
June 20	11.29	Nov. 15	13.52	Apr. 18	19.92	Sept. 12	12.53
July 18	11.98	Dec. 13	15.59	May 16	16.12	Oct. 16	12.40
Aug. 15	11.47	Jan. 18, '50	17.48	June 13	14.32	Nov. 13	12.57
Sept. 12	11.04	Feb. 15	18.38	July 17	13.17	Dec. 18	14.07

18/20-7cb1. Emery Kery. 150 feet east of Thomas Creek Road, 15 feet west of house. Drilled domestic well, diameter 6 inches, reported depth 109 feet. Land-surface datum is 4,589.95 feet above msl. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Dec. 7, '48	19.69	Oct. 18, '49	21.61	Mar. 14, '50	30.75	Aug. 14, '50	20.87
May 12, '49	20.91	Nov. 15	23.35	Apr. 18	29.97	Sept. 12	19.92
June 16	20.70	Dec. 13	24.34	May 16	24.42	Oct. 23	19.93
July 18	21.40	Jan. 18, '50	28.71	June 13	23.47	Nov. 13	22.69
Aug. 15	21.27	Feb. 25	29.48	July 17	21.36	Dec. 18	24.13
Sept. 12	20.84						

18/20-7dc1. Mrs. Martin Estate. In Sierra Manor Subdivision, 150 feet west of Sierra Manor Road. Drilled unused well, diameter 12 inches, reported depth 203 feet. Land-surface datum is 4,568 feet above msl. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 25, '49	12.17	Jan. 18, '50	13.65	May 16, '50	15.20	Sept. 12, '50	12.80
Sept. 29	11.39	Feb. 15	14.26	June 13	13.41	Oct. 16	12.64
Oct. 24	12.07	Mar. 17	14.90	July 17	12.87	Nov. 13	12.43
Nov. 25	12.32	Apr. 18	15.88	Aug. 14	13.32	Dec. 18	12.55
Dec. 28	13.13						

18/20-20a1. Louis Damonte. 130 feet west of U. S. Highway 395. Dug unused water-table well, diameter 36 inches, depth 22.8 feet. Records available: 1942-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 21, '46	9.30	Mar. 26, '47	10.48	July 29, '48	9.28	Nov. 25, '49	9.44
Feb. 22	9.10	Apr. 23	10.85	Aug. 30	8.74	Dec. 27	10.21
Mar. 20	9.80	June 6	6.00	Oct. 4	5.92	Jan. 25, '50	9.61
Apr. 19	7.80	25	9.18	28	6.20	Feb. 28	10.59
May 21	3.00	Aug. 1	10.56	Dec. 1	9.25	Mar. 21	11.08
June 19	5.40	29	9.32	22	9.72	Apr. 25	6.67
July 20	6.00	Sept. 29	8.69	Jan. 26, '49	10.51	May 23	6.30
Aug. 23	4.88	Oct. 27	7.10	Feb. 26	10.94	June 27	5.04
Sept. 30	7.22	Nov. 29	8.98	Mar. 29	11.90	July 24	5.69
Oct. 17	6.29	Dec. 22	10.00	Apr. 26	5.90	Aug. 28	7.33
28	5.32	Jan. 24, '48	10.92	May 26	9.59	Sept. 25	5.05
Nov. 27	6.32	Feb. 21	11.67	June 24	8.20	Oct. 23	5.91
Dec. 26	8.40	Mar. 22	11.82	July 23	8.76	Nov. 20	5.16
Jan. 23, '47	9.44	Apr. 24	11.52	Aug. 25	8.13	27	5.57
Feb. 24	10.37	May 31	6.59	Sept. 29	7.76	Dec. 18	7.06
28	10.50	June 25	8.94	Oct. 24	8.55		

19/19-11b1. Reno High School. Southwest corner of West Fifth St. and West St., 30 feet east of northeast wing of school building. Drilled unused water-table well, diameter 4 inches, depth 49 feet. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 3, '49	28.48	Dec. 27, '49	31.09	Apr. 25, '50	31.87	Sept. 25, '50	29.34
24	28.75	Jan. 25, '50	32.10	May 23	30.68	Oct. 23	28.96
Sept. 29	29.19	Feb. 28	e33.10	June 27	28.90	Nov. 20	30.40
Oct. 24	29.65	Mar. 3	32.19	July 24	28.94	27	29.50
Nov. 25	30.25	21	32.43	Aug. 28	29.05	Dec. 18	29.53

e Estimated.

19/19-16c1. Chrissie Caughlin. 150 feet south of paved road. Dug unused water-table well, diameter 48 inches, depth 45 feet. Records available: 1942-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 21, '46	41.50	May 28, '47	37.41	Aug. 30, '48	37.57	Nov. 24, '49	40.86
Feb. 22	(f)	June 30	38.65	Oct. 4	39.46	Dec. 27	41.32
Mar. 20	41.20	Aug. 1	38.75	28	40.14	Jan. 25, '50	41.18
Apr. 19	40.80	29	38.66	Dec. 1	41.01	Feb. 28	41.86
May 21	38.90	Sept. 29	38.43	22	41.32	Mar. 21	(f)
June 19	38.20	Oct. 27	40.64	Jan. 26, '49	41.91	Apr. 25	40.02
July 20	36.60	Nov. 29	41.04	Feb. 26	41.56	May 23	39.31
Aug. 23	38.63	Dec. 22	42.05	Mar. 29	41.50	June 27	38.12
Sept. 30	39.20	Jan. 24, '48	41.30	Apr. 26	39.61	July 24	37.56
Oct. 28	40.34	Feb. 21	(f)	May 26	39.69	Aug. 28	38.08
Nov. 27	41.26	Mar. 22	(f)	June 24	38.32	Sept. 25	39.61
Dec. 23	41.50	Apr. 27	39.82	July 23	37.37	Oct. 23	39.34
Jan. 23, '47	42.30	May 31	39.14	Aug. 25	38.01	Nov. 20	39.85
Feb. 22	(f)	June 25	38.14	Sept. 29	39.08	27	40.16
Mar. 26	(f)	July 29	41.71	Oct. 24	40.32	Dec. 18	39.94
Apr. 23	40.03						

f Dry.

Washoe Valley

17/19-23a 2. F. DeLongchamps. In Washoe City, 300 feet west of U. S. Highway 395. Dug unused well, depth 11 feet. Records available: 1942-49. Measurement discontinued.

Jan. 21, '46	0.60	Nov. 27, '46	2.45	Sept. 29, '47	5.62	Aug. '48	6.00
Feb. 22	1.40	Dec. 23	2.32	Oct. 27	4.63	Oct. 4	5.90
Mar. 20	1.30	Jan. 23, '47	2.37	Nov. 29	3.73	28	5.33
Apr. 19	1.70	Feb. 22	2.42	Jan. 24, '48	2.80	Dec. 1	4.30
May 21	2.50	Mar. 26	3.40	Feb. 21	2.54	22	4.04
June 19	3.40	Apr. 23	2.49	Mar. 22	2.60	Jan. 26, '49	3.48
July 20	7.20	May 27	3.75	Apr. 24	2.79	Feb. 26	2.13
Aug. 23	4.85	June 29	4.90	May 31	3.04	Mar. 22	2.25
Sept. 30	4.80	Aug. 1	7.58	June 25	6.37	May 26	3.16
Oct. 28	3.38	29	6.33	July	6.22	June 24	4.55

White Pine County

Lake Valley

10/65-36d2. McCulloch. 0.4 mile north of Geyser ranchhouse, 30 feet west of power line. Drilled unused well, diameter 10 inches, depth 58 feet. Records available: 1947-50.

Apr. 16, '47	24.42	Mar. 21, '49	22.53	Mar. 2, '50	25.14	June 21, '50	24.15
16, '48	25.08	Sept. 19	28.74	20	25.07	Sept. 12	25.79
Oct. 1	24.82						

Newark Valley

18/55-31d1. Owner unknown. 0.7 mile north of U. S. Highway 50, 700 feet west of Newark Valley Road. Dug stock water-table well, diameter 36 inches, depth 43 feet. Records available: 1946-50.

Dec. 21, '46	34.65	Mar. 16, '48	34.20	Sept. 12, '49	33.81	June 19, '50	33.74
Apr. 19, '47	34.25	Mar. 24, '49	33.89	Dec. 16	33.63	Sept. 19	33.57
Jan. 4, '48	34.14	June 16	33.98	Mar. 16, '50	33.76		

19/56-30d2. Don Eldridge. 5.5 miles north of highway. Dug stock water-table well, diameter 42 inches, depth 37 feet. Records available: 1948-50. Apr. 30, 1948, 32.05; June 16, 1949, 32.00; Sept. 12, 31.75; Dec. 16, 32.13; Mar. 16, 1950, 31.74; June 19, 33.38; Sept. 19, 31.73.

20/55-10d1. U. S. Bureau of Land Management. 14.5 miles north of U. S. Highway 50. Dug stock water-table well, diameter 36 inches, depth 22 feet. Records available: 1948-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 14, '48	8.17	June 16, '49	8.53	Dec. 16, '49	8.13	June 19, '50	8.73
Apr. 30	8.29	Sept. 12	8.66	Mar. 16, '50	8.42	Sept. 19	8.48
Mar. 24, '49	8.08						

21/55-10b1. R. W. Hooper. 1.25 miles northeast of Strawberry. Dug domestic water-table well, diameter 60 inches, depth 34 feet. Records available: 1948-50.

Jan. 14, '48	24.79	June 16, '49	20.72	Dec. 16, '49	23.62	June 19, '50	23.15
Apr. 30	21.28	Sept. 12	25.31	Mar. 16, '50	19.55	Sept. 19	26.15
Mar. 24, '49	18.75						

Snake River Valley

13/70-36ba1. U. S. Bureau of Land Management. 0.25 mile northeast of State Highway 73. Drilled stock well, diameter 38 inches, depth 70 feet. Records available: 1947-50. Measurement discontinued.

Aug. 13, '47	51.21	Sept. 24, '48	51.20	Nov. 26, '48	51.25	June 23, '49	51.46
Nov. 29	51.20	Oct. 1	51.23	Dec. 3	51.24	Aug. 26	51.31
July 23, '48	51.19	8	51.22	10	51.25	Sept. 22	51.25
30	51.19	15	51.22	17	51.27	Oct. 20	51.21
Aug. 6	51.19	22	51.23	24	51.28	Nov. 1	51.18
13	51.20	29	51.24	31	51.27	Dec. 21	51.19
20	51.20	Nov. 5	51.25	Jan. 7, '49	51.27	Jan. 20, '50	51.13
Sept. 10	51.20	12	51.26	May 3	51.39	Feb. 16	51.12
17	51.22	19	51.24	29	51.42	Mar. 24	51.09

Spring Valley

13/67-8d1. A. Schaurman. 4.3 miles east of U. S. Highway 93, 0.4 mile north of gravel road. Dug stock water-table well, diameter 36 inches, reported depth 45 feet. Records available: 1947-50.

Dec. 29, '47	13.13	Aug. 23, '49	14.19	Dec. 20, '49	12.71	June 21, '50	15.10
Aug. 20, '48	13.89	Sept. 18	13.60	Mar. 18, '50	12.23	Sept. 14	14.55

15/66-13d1. J. P. Johanson. 8 miles north of U. S. Highway 6, 75 feet northwest of house. Drilled domestic well, diameter 6 inches, depth 82 feet. Records available: 1947-50. Aug. 14, 1947, 15.08; Sept. 18, 1949, 19.21; Mar. 18, 1950, 18.57; June 21, 20.02; Sept. 14, 21.41.

17/68-6d1. U. S. Bureau of Land Management. 0.3 mile west of gravel road, under windmill tower. Dug stock water-table well, diameter 48 inches, depth 28 feet. Records available: 1948-50. Aug. 5, 1948, 22.63; Sept. 22, 1949, 23.54; Dec. 20, 22.38; Mar. 18, 1950, 21.69; June 21, 21.89; Sept. 14, 23.57.

18/68-31a1. Delbert Eldridge. West of gravel road. Drilled irrigation well, diameter 10 to 6 inches, reported depth 220 feet. Records available: 1948-50. Aug. 6, 1948, 41.46; Aug. 16, 1949, 43.01; Sept. 18, 42.89; Mar. 18, 1950, 43.68; June 21, 42.83.

Steptoe Valley

15/64-7a1. Lloyd Sorenson. 270 feet east of road junction. Drilled irrigation well, diameter 16 inches, reported depth 200 feet. Records available: 1948-50.

Apr. 1, '48	35.75	Sept. 18, '49	36.17	Jan. 16, '50	37.22	Mar. 20, '50	37.68
Mar. 29, '49	37.24	Oct. 3	36.23	30	37.37	27	37.53
Apr. 4	37.30	Nov. 15	35.99	Feb. 6	37.53	Apr. 3	37.56
11	37.24	28	36.09	13	37.58	10	37.52
18	37.06	Dec. 12	36.41	20	37.22	June 22	38.23
26	36.78	19	36.57	27	37.67	Sept. 14	38.10
May 2	36.66	Jan. 2, '50	36.93	Mar. 6	37.73		

16/63-1b1. Owner unknown. 3.5 miles northeast of Ely, 125 feet east of U. S. Highway 50. Drilled unused well, diameter 6 inches. Records available: 1949-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 23, '49	66.32	Dec. 19, '49	66.79	Feb. 13, '50	67.85	Mar. 27, '50	66.15
Oct. 3	66.71	Jan. 2, '50	65.89	20	67.92	Apr. 3	65.47
Nov. 15	67.40	16	67.40	27	67.93	10	65.02
28	67.05	30	67.55	Mar. 6	64.48	June 20	65.41
Dec. 12	66.89	Feb. 6	67.73	20	67.18	Sept. 14	68.47

16/63-14a1. Bill Goodman. North of railroad right-of-way fence line. Drilled unused well, diameter 10 inches, depth 130 feet. Records available: 1947, 1949-50. May 14, 1947, 22.00.

Mar. 29, '49	23.29	Sept. 19, '49	27.53	Jan. 16, '50	25.11	Mar. 6, '50	23.96
Apr. 4	23.34	Oct. 3	28.54	30	24.76	20	23.82
11	23.19	Nov. 15	27.36	Feb. 6	24.55	27	23.53
18	22.93	28	26.73	13	24.43	Apr. 3	23.38
26	22.80	Dec. 12	26.14	20	24.25	10	23.36
May 2	22.67	19	25.88	27	24.09	June 20	24.15
Sept. 6	28.25	Jan. 2, '50	27.40				

19/63-12a1. U. S. Geol. Survey. 600 feet east of old railroad grade. Drilled observation well, diameter 12 inches to 181 feet, 8 inches to 540 feet. Depth 915 feet. Records available: 1949-50. July 5, 1949, 21.20; Sept. 29, 15.62; Dec. 15, 15.24; Mar. 15, 1950, 15.24; June 20, 15.13; Sept. 15, 14.60.

20/64-32c2. U. S. Geol. Survey. (No. 3 of Water-Supply Paper 467.)* Near U. S. Highway 50. Drilled test and observation well, diameter 10 inches, depth 122 feet. Records available: 1918, 1949-50. Sept. 29, 1949, 14.35; Dec. 15, 13.67; Mar. 15, 1950, 13.70; June 20, 13.56.

White River Valley

11/61-35a1. Public domain. 300 feet west of road. Drilled stock well, diameter 6 inches. Records available: 1947-50.

Sept. 9, '47	12.52	Oct. 26, '48	12.79	Dec. 15, '49	12.21	June 20, '50	11.43
Oct. 30	12.60	Mar. 25, '49	10.53	Mar. 15, '50	11.25	Sept. 13	12.69
May 6, '48	11.08	Sept. 17	12.65				

12/61-12d4. Lowell Peterson. In southwest corner of intersection of State Highway 38 and gravel road along White River, west of house. Drilled unused well, diameter 6 inches, depth 79 feet. Records available: 1947-50. Measurement discontinued.

Oct. 1, '47	60.74	Oct. 26, '48	61.31	Sept. 17, '49	60.62	Mar. 15, '50	60.08
28	61.27	Mar. 23, '49	60.46	Dec. 15	58.97	June 20	61.39
May 6, '48	60.53	May 5	60.67				

12/61-34a1. U. S. Bureau of Land Management. Drilled stock well, diameter 7 inches, depth 72 feet. Records available: 1947-50.

July 15, '47	58.06	May 6, '48	58.60	May 5, '49	59.64	Mar. 15, '50	59.72
Oct. 29	58.30	Oct. 26	58.99	Sept. 17	59.51	June 20	59.71
Mar. 23, '48	58.50	Mar. 23, '49	59.34	Dec. 15	57.65	Sept. 13	59.78

12/62-18d1. U. S. Geol. Survey test well. 0.25 mile southwest of State Highway 38. Drilled test and observation well, diameter 6 inches, depth 108 feet, cased to 105. Records available: 1947-50.

Nov. 25, '47	55.50	May 19, '48	44.02	Sept. 17, '49	45.06	Apr. 25, '50	45.33
Dec. 18	50.73	June 6	44.10	Jan. 12, '50	45.12	May 30	45.35
Mar. 30, '48	43.91	13	44.15	16	44.94	June 20	45.45
May 4	44.01	22	44.08	31	45.30	27	45.40
6	43.80	Sept. 20	44.80	Feb. 28	45.27	Aug. 1	45.56
9	43.89	Mar. 23, '49	44.25	Mar. 15	46.38	Sept. 13	45.92
12	44.00	May 5	44.55	28	45.32		

* Exploratory drilling for water and use of ground water for irrigation in Steptoe Valley, Nev., by W. O. Clark and C. W. Riddell.

12/62-29a1. Jim Oxborrow. 0.5 mile west of State Highway 38. Drilled stock well, diameter 6 inches. Land-surface datum is 5,546.29 feet above msl. Records available: 1947-50.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 17, '47	20.16	Mar. 23, '49	22.37	Dec. 15, '49	21.99	June 20, '50	23.30
May 4, '48	21.05	May 5	22.20	Mar. 15, '50	22.94	Sept. 13	29.08
Oct. 26	23.19	Sept. 17	23.34				

12/62-31d2. Carter Bros. 0.3 mile south of road. Dug stock water-table well, size 48 by 48 inches, depth 16 feet. Land-surface datum is 5,516.25 feet above msl. Records available: 1947-50.

July 18, '47	12.45	Oct. 26, '48	14.55	Sept. 17, '49	15.01	June 20, '50	14.18
Oct. 29	12.60	Mar. 23, '49	11.92	Dec. 15	12.48	Sept. 13	15.00
Dec. 2	11.78	May 5	11.82	Mar. 15, '50	12.65		

12/62-33a5. Wayne Gardner. In Lund, 1 block north of Carter's store. Dug domestic and stock water-table well, size 48 by 48 inches, depth 31 feet. Land-surface datum is 5,578.45 feet above msl. Records available: 1947-50.

July 23, '47	19.80	Oct. 26, '48	20.93	Sept. 17, '49	21.23	June 20, '50	21.15
Nov. 6	19.39	Mar. 23, '49	24.64	Dec. 15	21.32	Sept. 13	21.08
May 12, '48	21.82	May 5	22.45	Mar. 15, '50	25.44		

NEW MEXICO

By C. S. Conover

Scope of Water-Level Program

The observation-well program in New Mexico was continued in 1950 in cooperation with the State Engineer of New Mexico. Investigations of ground-water resources have been in progress in certain of the irrigated areas since 1925. Studies of the occurrence of ground water, on a county-wide basis, were continued in 1950 in cooperation with the State Bureau of Mines and the State Engineer. Measurements were made in 1,365 wells, not including the Virden Valley in Hidalgo County. Recording gages were maintained on 31 wells. Water levels are measured in many observation wells each January or February, when the major part of the recovery from pumping of the previous season has taken place, and comparison with water levels of previous years can best be made. These winter measurements indicate the amount of ground water in storage, and comparison of measurements between years show the changes of storage resulting from changes in recharge from precipitation, and discharge by pumping for irrigation. Net yearly changes are shown graphically for most of the irrigated areas. Maps have also been included showing the net changes in water level in the decade from 1940 to 1950. For those areas in which records began after 1940, maps of changes in water level are given for the period from beginning of record to 1950. Measurements are also made in selected observation wells, generally at 2-month intervals, in order to note seasonal fluctuations in water levels caused by precipitation and changes in pumping schedules. The pattern of seasonal fluctuations aids in interpreting the net yearly changes in water level. Estimates of the amount of ground water pumped during the year in each area are made to determine the part played by the artificial withdrawal in the yearly changes in water level.

Summary of Changes of Water Levels

Precipitation was about normal in 1950 in areas where ground water is used for irrigation. As most of the precipitation occurred during the growing season, the ground water pumped for irrigation was comparatively small. The water levels, as a general rule, declined less than in some prior years when pumping was greater but declined considerably more than in 1949 when excessive precipitation occurred. However, in the areas of increased development of ground water in 1950 such as in Lea County, Estancia Valley, and Animas Valley record net annual declines were observed. Because of the general year-to-year decline, resulting from withdrawal from ground-water storage, water levels in all heavily pumped areas were at all time low levels by the end of 1950. Only in some outlying areas, such as in part of Lea County, where pumping is minor, were water levels higher than in 1941, immediately preceding the heavy rains of 1941 and 1942. Pumpage of ground water in 1950 in New Mexico, with the exception of the Gila, Rio Grande, and Tularosa Valleys, is estimated at about 615,000 acre-feet and the irrigated acreage as about 340,000 acres including some lands given ground water to supplement inadequate surface water. This is an increase of about 185,000 acres and 255,000 acre-feet over 1940 and about 30,000 acres and 140,000 acre-feet over 1949.

Presentation and Significance of Data

Measurements for most of the observation wells in New Mexico are listed by counties in which the wells are situated. Measurements of artesian head in the Roswell artesian basin and of water levels in the artesian-intake area of that basin are listed under the common heading "Chaves and Eddy Counties (Roswell basin)." Measurements of water levels in the Santa Fe County part of the Estancia Valley are given under Torrance County. The data for the counties are presented in five parts.

Part 1 for each county gives the number of observation wells and the number of measurements made in them during the year, the amounts of precipitation and pumpage, and a general discussion of the changes in water levels for the year. Part 2 shows the water levels in January or February for all observation wells, change since preceding January, highest and lowest levels during January of past years, and length of record. For years in which January readings were not made, February readings were used if available. If a reading is used other than for January or February a footnote is added stating the month. The lowest level published for a well is a nonpumping level, that is, a static level, except in some instances where

windmills were pumping and the water level was not lowered appreciably by the pumping. The year of beginning of record is considered as the first year in which a January or February measurement was made. The years of missing record are succeeding years in which a January or February measurement was not made, or when the measurement made was affected by pumping to the extent that it would be the lowest recorded level. If a measurement made while a well is being pumped is lower than a previous low, then the present year will not be reported as missing until the following year, if at that time it is still the lowest level. In some cases, a previous year will be reported as missing, because of a low reading as a result of the effects of pumping, yet a yearly change will be shown. For wells having recording gages, the highest and lowest levels for the month of January are used, except in Torrance and Valencia Counties, where the levels for February are used. However, for the wells equipped with recording gages, the measurement reported for the present year and the yearly change are taken from tape measurements in order to keep the records of these wells comparable with those of the other observation wells. The lowest level when taken from recorder graph is the lowest of the highest daily water levels in order to avoid recording nonrepresentative low levels resulting from the effects of pumping. The years are all in the present century and the "19" of the year is omitted. The year 1942, for instance, is shown simply as 42. The current and past changes in the amount of water stored underground in the vicinity of the well are shown. Part 3 gives the data for wells measured at fixed periods, generally bimonthly. These records show the seasonal trend of water levels in the area. Part 4 presents the data for the wells on which recording gages are maintained. These show the day-to-day fluctuations of water levels in typical wells. In some wells they serve to show the effects of precipitation in recharging the ground-water reservoir, in others the effects of transportation, and in others the effects of nearby pumping. Part 5 lists miscellaneous data concerning the observation wells, such as revisions of the well-location number, descriptions of new wells, a few miscellaneous water-level records that do not conform to the other tables, and data useful in interpreting the changes in water level in the particular well. Reference to part 5, and to other parts, is given in column 3 in part 2.

All measurements except the mean monthly and mean annual artesian heads in the Roswell basin are given in feet below land-surface datum. The mean artesian heads are referred to mean sea level.

Standard footnotes that are frequently used are as follows:

- a Pumping.
- b Pumped recently.
- c Nearby well being pumped.
- d Nearby well pumped recently.
- e Dry at depth given.
- f From recorder graph.
- g Estimated.
- h Tape measurement.
- i Possible discrepancy of a few tenths of a foot between present and previous land-surface data.
- m Measurement discontinued.

Well-Numbering System

The system of numbering wells in New Mexico used in all counties, except in the Virden Valley of the Gila River in Hidalgo County and the thermal wells in the Hot Springs area in Sierra County, is based on the subdivisions of sectionized land. The number is divided into four segments by periods. The first segment denotes the township north or south of the New Mexico base line; the second denotes the range east or west of the New Mexico principal meridian; and the third denotes the section. In a county such as Roosevelt, where wells are situated both north and south of the base line, an N is added to the first segment of the well number if the well is north of the base line, but no letter is added if the well is south of the base line. Similarly, in a county where wells are both east and west of the meridian, an E is added to the second segment of the well number of those wells east of the meridian. In counties where all the wells are within a single quadrant the direction north or south of the base line or east or west of the meridian is not given. The fourth segment of the number, which consists of three digits, denotes the particular 10-acre tract in which the well is situated. For this purpose, the section is divided into four quarters, numbered 1, 2, 3, and 4, for the northwest, northeast, southwest, and southeast quarters, respectively. The first digit of the fourth segment gives the quarter section. Similarly, the quarter section is divided into four 40-acre tracts numbered in the same manner, and the second digit denotes the 40-acre tract. Finally, the 40-acre tract is divided into four 10-acre tracts, and the third digit denotes the 10-acre tract. Thus, well 12.36.24.123 in Lea County is in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T. 12 S., R. 36 E. If a well cannot be located accurately to a 10-acre tract, a zero is used as the third digit, and if it cannot be located accurately within a 40-acre tract, zeros are used for both the second and third digits. If the well cannot be located more closely than

the section, the fourth segment of the well number is omitted. When it becomes possible to locate accurately a well in whose number zeros have been used, the proper digit or digits are substituted for the zeros. In Water-Supply Paper 911 and earlier reports the digits corresponding to unknown 10-acre and 40-acre tracts were simply omitted, but this practice caused some confusion in cataloging the wells. In Water-Supply Paper 941 and subsequent reports, wells the last segment of whose numbers end in one or two zeros correspond to wells whose numbers in earlier reports are the same except for the omission of the last one or two zeros. Lower-case letters are added to the last segment to designate the second, third, fourth, and succeeding wells in the same 10-acre tract. The following diagram shows the method of numbering the tracts within a section.

111	112	121	122	211	212	221	222
(1)		(2)		(1)		(2)	
113	114	123	124	213	214	223	224
[1]				[2]			
131	132	141	142	231	232	241	242
(3)		(4)		(3)		(4)	
133	134	143	144	233	234	243	244
311	312	321	322	411	412	421	422
(1)		(2)		(1)		(2)	
313	314	323	324	413	414	423	424
[3]				[4]			
331	332	341	342	431	432	441	442
(3)		(4)		(3)		(4)	
333	334	343	344	433	434	443	444

Section

CHAVES AND EDDY COUNTIES (ROSWELL BASIN)

Part 1. General Discussion

The Roswell basin extends along the west side of the Pecos River from Roswell in Chaves County to Lakewood in Eddy County. Irrigation is by ground water from both shallow water-table wells and deep artesian wells. There are 305 wells in Chaves County and 131 wells in Eddy County. Mean monthly artesian heads were computed by averaging the daily maximum and minimum heads for each month. The mean annual head for each well was obtained by averaging the mean monthly heads. Values for missing days were estimated by inspection of the recorder graph when feasible; otherwise they were obtained by simple interpolation. A day of record is one in which both a maximum and minimum water-level reading were recorded or estimated. The mean monthly and mean annual artesian heads are given in feet above mean sea level; the daily maximum heads are given in feet below land-surface datum. Water levels were measured in 403 shallow wells in the main part of the basin in January 1950, most of which had been measured in January of previous years. Water levels also were measured in January in 33 wells in the Salt Creek-Macho Draw area. Measurements were made in 57 wells bimonthly; recording gages were maintained throughout the year on 2 wells and intermittently on 4 wells. A recording gage was installed in September on a well in the Salt Creek-Macho Draw area, about 10 miles north of Roswell.

The precipitation for 1950 was on the average near normal but about 3 inches below that for 1949. More than 90 percent of the precipitation in 1950 occurred during the growing season from April to September. Precipitation was above normal in July and September and at some stations in June.

Records of power used in 1950 for 939 wells for which comparable records were also available in 1949, indicate that, on the average, about 23 percent more water was pumped in 1950 than in 1949. It is probable, therefore, that about 121,000 acre-feet of shallow water and about 211,000 acre-feet of artesian water was pumped for irrigation in 1950 in the main part of the Roswell basin. Additional ground water, possibly 20,000 acre-feet, was pumped onto an estimated 7,000 acres in the northern extension of the Roswell basin in the vicinity of Salt Creek and Macho Draw.

New record low mean annual artesian heads were set in 1950 in five of the six artesian wells equipped with recording gages. The 1950 mean annual heads were lower than the previous record low year of 1949 in the Berrendo-Smith, Mountain View, and Artesia wells by 1.30 feet, 6.74 feet and 4.12 feet, respectively, and lower than the previous record low year of 1947 in the Orchard Park and Greenfield wells by 2.21 feet and 1.09 feet, respectively. Though a new mean annual low was not established in 1950 in the Berrendo well, the head declined 0.9 foot from 1949 to a level only 0.2 foot above the record low mean annual level set in 1940. The average change in head in the six artesian wells was a decline of 5.3 feet in 1950 as compared with a rise of 1.7 feet in 1949 and declines of 1.4 and 4.0 feet in 1948 and 1947, respectively. The mean annual artesian heads for 1950 were below the average for the period of record by from 4.6 feet in the Berrendo well, in the northern part of the basin, to 25.9 feet in the Artesia well, in the southern part of the basin. The average of the mean annual heads for the six artesian wells was below the average for the period of record by 11.6 feet in 1950, 6.8 feet in 1949, 9.3 feet in 1948, and 8.5 feet in 1947. The difference between the highest mean annual artesian head, which was in 1942 for all wells (except Greenfield which was in 1941), and the artesian head in 1950, which was the lowest in all but the Berrendo well, ranges from 8.8 feet in the Berrendo well to 39.4 feet in the Artesia well. In spite of the record decline of the mean annual heads to new low levels, record low mean monthly levels were reached in June 1950 only in the Mountain View well. Normally, small rises in artesian head occur in April and May followed by large declines with a seasonal low in August. However, in 1950 because of the small amount of precipitation during the first half of the year much pumping was continued in April and May. Heavy rains in late June and in July caused cessation of pumping with a resultant rise in artesian head so that the pumping in August did not lower the heads below previous August levels. The August 1950 levels were from only 0.1 foot to 7.8 feet above the previous low August levels of 1948.

The highest and lowest water levels in 1950 in the wells in the intake area of the Roswell basin, based upon bimonthly measurements, were in January and September, respectively. Because the rise in water levels after September was smaller than the decline preceding September, net declines were shown for the year. The declines for the year were approximately the same as in 1948 when the amount of water pumped from the artesian aquifer to the east was about equal to that pumped in 1950. Water levels in wells in the intake area at the end of 1950 were, in the northern end of the basin, a few feet below the previous low levels observed in 1941, prior to the above-normal precipitation in 1941 and early 1942, while the levels in the southern part of the basin were still slightly above the 1941 levels.

Net annual declines in water levels in shallow wells occurred in 1950 throughout the irrigated area of the Roswell basin. Net declines from January 1950 to January 1951 of more than 2 feet occurred under nearly 200 square miles and more than 6 feet under about 25 square miles. In Chaves County the net annual declines in shallow water levels for 1950 were more than 2 feet under 114 square miles, comprising most of the irrigated area (fig. 15). Water levels declined more than 4 feet under three small areas totaling 23 square miles; these areas are west of Dexter, west of Hagerman, and north of Lake Arthur. In the Eddy County part of the Roswell basin, the shallow water levels showed net annual declines for 1950 of more than 2 feet under 30 square miles and more than 4 feet under 48 square miles. A net decline of more than 6 feet occurred under 5 square miles of the heavily pumped area along Cottonwood Creek southwest of Lake Arthur. A net decline of more than 8 feet occurred under about 8 square miles of the heavily pumped area extending from Artesia southward about 3 miles (fig. 16).

In the decade from January 1940 to January 1950 significant net declines of shallow water levels occurred in the heavily pumped areas in the Roswell basin. Net declines of more than 10 feet occurred under about 135 square miles, and more than 20 feet under about 37 square miles. In the heavily pumped area northwest of Dexter, water levels declined more than 25 feet under nearly 6 square miles and more than 30 feet under $1\frac{1}{2}$ square miles. Southwest of Hagerman water levels declined more than 25 feet under nearly 13 square miles and more than 30 feet under about 1 square mile. Southwest of Artesia, a 20-foot decline occurred under about 6 square miles. Southwest of Lakewood, a 10-foot decline occurred under 3 square miles. (See figs. 17 and 18). Thus it is seen that the decline in water levels has been such that new all-time low levels have been reached in the major portion of the Roswell basin.

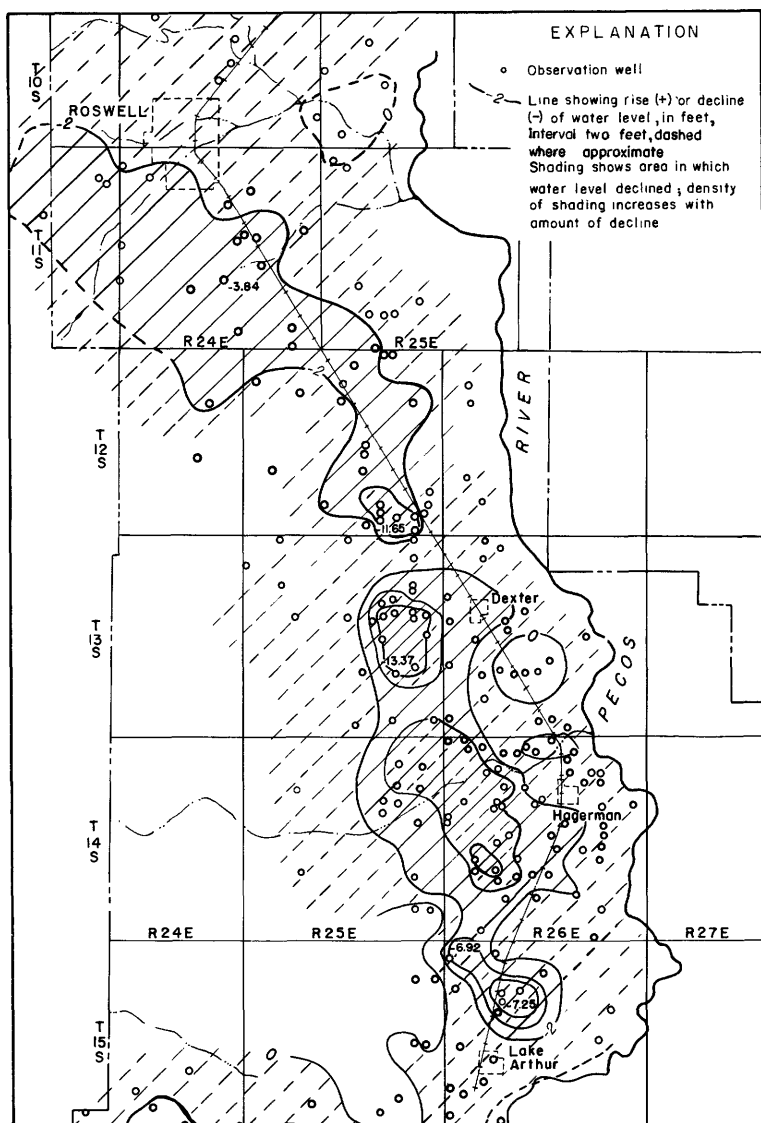


Figure 15. --Change in water level from January 1950 to January 1951 in northern part of Roswell shallow ground-water basin, Chaves County.

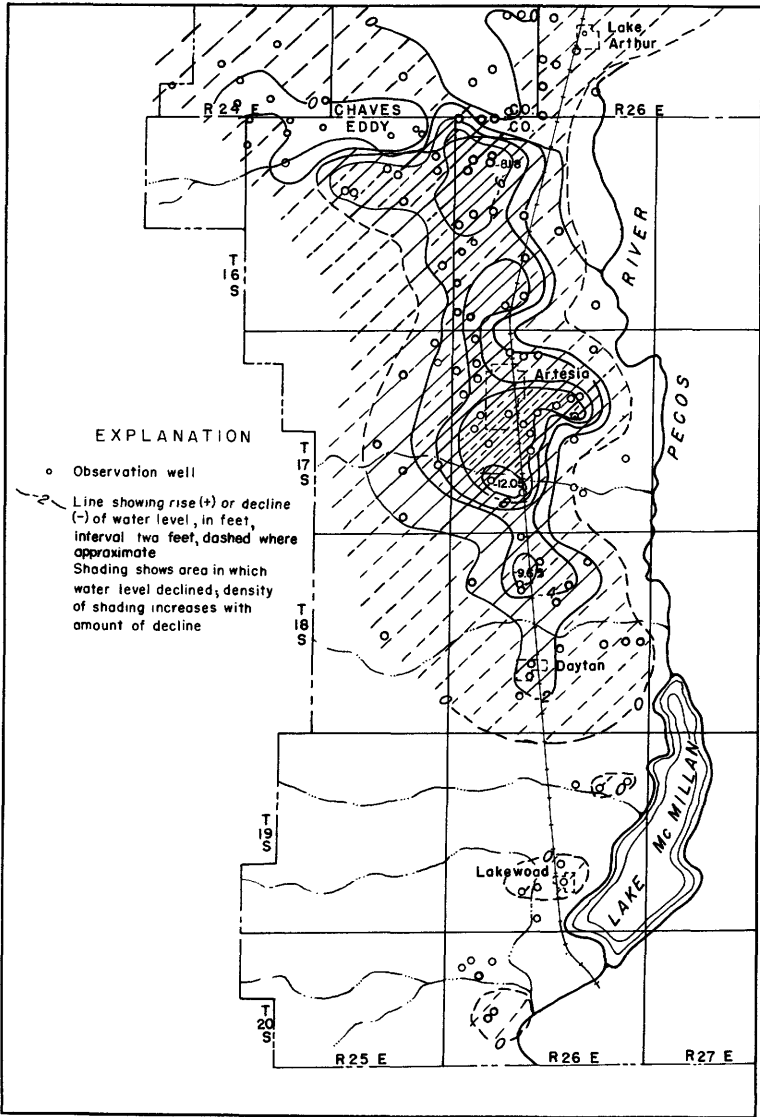


Figure 16. --Change in water level from January 1950 to January 1951 in southern part of Roswell shallow ground-water basin, Eddy County.

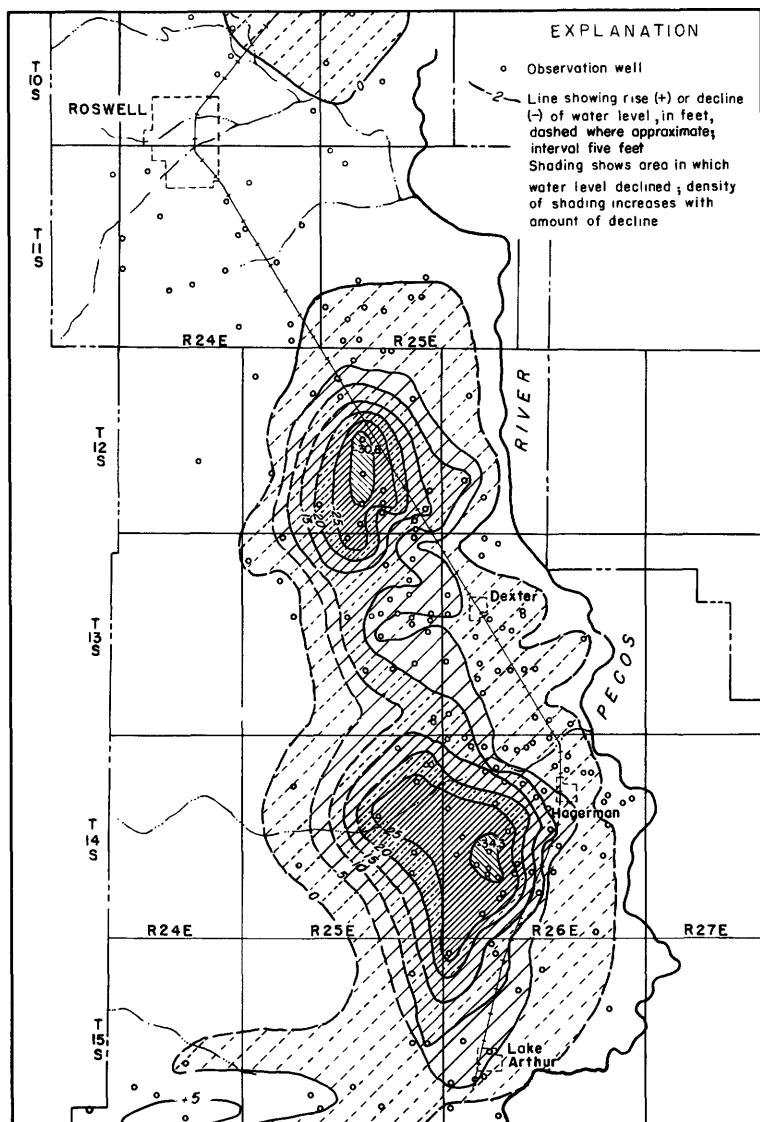


Figure 17. --Change in water level from January 1940 to January 1950 in northern part of Roswell shallow ground-water basin, Chaves County.

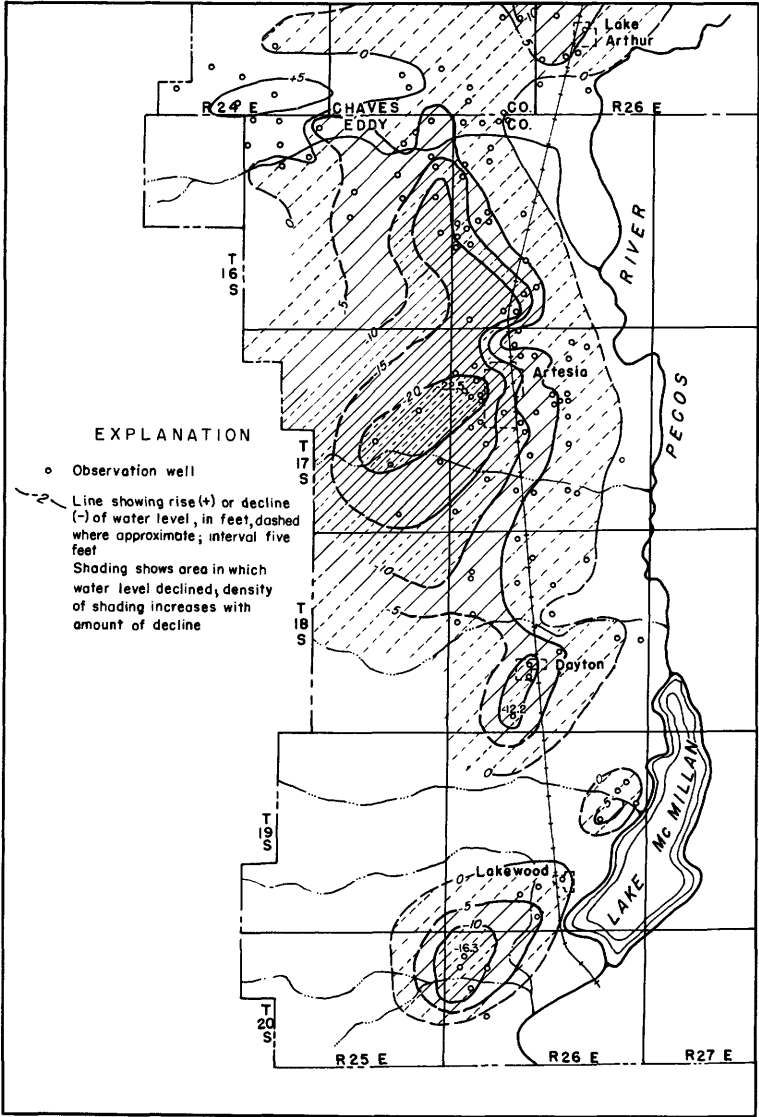


Figure 18. --Change in water level from January 1940 to January 1950 in southern part of Roswell shallow ground-water basin, Eddy County.

Departure in 1950 from average for period of record and change from 1949 to 1950 of mean monthly and mean annual heads in artesian wells in Roswell basin

	Berrendo		Berrendo-Smith		Mountain View		Orchard Park		Greenfield		Artesia	
	10. 24. 9. 330		10. 24. 21. 212		11. 24. 29. 242		12. 25. 23. 110		13. 25. 27. 211		18. 26. 5. 330	
	Dept. from Avg.	1949 to 1950	Dept. from Avg.	1949 to 1950	Dept. from Avg.	1949 to 1950	Dept. from Avg.	1949 to 1950	Dept. from Avg.	1949 to 1950	Dept. from Avg.	1949 to 1950
Jan.	-3.1	+0.44	-3.4	+0.70	-13.7	-8.59	-3.1	-2.30	-3.4	+0.87	-17.4	+0.65
Feb.	-3.7	-.59	-4.7	-1.41	-15.2	-11.17	-8.8	-10.75	-18.2	-19.64	-21.7	-5.22
Mar.	-4.8	-.95	-5.6	-1.08	-16.3	-10.72	-16.6	+6.95	-13.8	+12.68	-29.3	+1.86
Apr.	-4.9	+.14	-5.0	-.36	-16.0	-10.37	-21.8	-3.88	-16.9	-2.55	-26.5	+1.16
May	-5.8	-1.65	-6.5	-2.13	-16.5	-12.33	-18.9	-14.30	-20.7	-22.50	-29.4	-7.85
June	-5.7	-1.86	-5.8	-3.13	-17.2	-13.95	-26.2	-25.73	-26.1	-35.37	-34.1	-16.50
July	-3.5	+.85	-3.0	+.27	-4.6	-1.70	-12.8	-9.72	-8.8	-9.89	-23.4	+3.67
Aug.	-5.1	-1.10	-4.2	-1.97	-4.6	-3.06	-22.9	-20.58	-15.5	-27.27	-34.1	+.18
Sept.	-5.3	-1.60	-4.2	-1.98	-5.1	-3.64	-14.6	-9.59	-7.8	-12.77	-27.1	-3.88
Oct.	-4.3	-.81	-3.9	-.59	-4.0	-.76	-2.3	+2.52	+2.2	+2.56	-21.8	-5.38
Nov.	-4.8	-1.84	-4.8	-1.89	-5.4	-2.15	-3.2	-5.81	-1.9	-6.12	-23.4	-8.98
Dec.	-4.6	-1.67	-5.0	-2.09	-5.7	-2.41	-4.5	-7.40	-4.9	-7.67	-22.2	-9.07
Year	-4.6	-.88	-4.7	-1.30	-10.4	-6.74	-12.5	-8.00	-11.3	-10.63	-25.9	-4.12
Record began	June 1926		June 1940		July 1940		August 1925		May 1940		April 1931	

Mean monthly and mean annual artesian heads in Roswell basin in 1950 and highest and lowest mean annual and mean monthly artesian heads, in feet above mean sea level

Name of well Location number	Berrendo			Berrendo-Smith			Mountain View			Orchard Park			Greenfield			Artesia		
1950	Days of record	Head	Days of record	Days of record	Head	Days of record	Days of record	Head	Days of record	Days of record	Head	Days of record	Days of record	Head	Days of record	Days of record	Head	Days of record
Jan.	31	3567.16	31	3567.15	31	3555.32	27	3536.77	j 31	3528.45	j 28	3371.14						
Feb.	28	3566.44	28	3565.75	28	3553.64	28	3521.02	28	3503.81	28	3364.07						
Mar.	31	3564.22	31	3562.80	31	3550.00	31	3503.63	21	3487.26	20	3349.81						
Apr.	30	3562.06	j 30	3559.68	30	3545.88	24	3489.64	j 24	3469.70	20	3345.43						
May	31	3561.28	31	3559.63	31	3546.28	31	3496.08	j 22	3475.17	22	3345.93						
June	30	3561.08	30	3558.63	30	3544.71	30	3487.94	j 29	3467.92	30	3339.70						
July	31	3562.11	31	3560.03	31	3555.38	31	3498.18	j 29	3480.17	26	3346.54						
Aug.	31	3559.81	31	3557.33	31	3553.14	j 28	3485.36	31	3467.61	31	3331.33						
Sept.	30	3560.89	30	3559.79	30	3554.69	25	3501.22	30	3487.90	30	3344.52						
Oct.	31	3563.94	31	3563.40	31	3560.31	31	3525.82	31	3518.97	31	3360.68						
Nov.	j 24	3564.39	30	3564.15	30	3561.40	30	3530.14	30	3523.58	30	3363.96						
Dec.	j 25	3565.35	31	3564.88	31	3562.37	31	3530.06	31	3522.96	31	3366.93						
Mean annual	j 353	3563.23	j 365	3561.94	365	3553.59	j 347	3508.82	j 337	3494.46	j 327	3352.50						
Mean annual:																		
Highest	1942	3571.8	1542	3571.0	1942	3569.5	1942	3528.1	1941	3517.5	1942	3391.9						
Lowest	1940	3563.0	1950	3561.94	1950	3553.59	1950	3508.82	1950	3494.46	1950	3352.50						
First year of record	1927	3571.2	1941	3566.2	1941	3564.2	1926	3525.7	1941	3517.5	1932	3384.6						
Mean monthly:																		
Highest	Dec. '26	3574.2	Jan. '43	3574.4	Jan. '43	3573.7	Jan. '42	3544.0	Jan. '42	3535.4	Jan. '43	3402.1						
Lowest	Aug. '48	3559.71	Aug. '48	3557.17	June '50	3544.71	Aug. '48	3477.89	Aug. '48	3459.79	Aug. '48	3330.64						
Record began	June 1926		June 1940		July 1940		August 1925		May 1940		April 1931							

j A few days estimated.

Records of Artesian Head

10.24.9.330. Berrendo well. Maximum daily fluctuation, Aug. 22, 1950, 3.33.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	18.63	18.74	19.79	22.69	23.86	24.97	24.83	23.14	26.75	23.07	21.74	.....
2	18.55	18.78	19.78	22.70	23.98	24.76	24.63	23.13	26.85	22.99	21.67	.....
3	18.51	18.81	19.92	22.46	24.37	24.29	24.47	23.15	26.87	22.83	21.74	.....
4	18.57	18.82	20.00	22.90	23.92	23.91	24.48	23.13	26.35	22.60	21.68	.....
5	18.57	18.76	19.74	23.07	23.72	23.82	24.57	23.11	25.73	22.41	21.58	.....
6	18.64	18.73	19.65	23.03	23.76	23.74	23.53	23.08	25.27	22.28	21.57	20.39
7	18.68	18.85	19.86	23.13	23.72	23.78	23.22	23.57	24.90	22.19	21.56	20.37
8	18.63	18.92	20.06	23.18	23.50	23.69	23.11	24.01	24.82	22.04	21.45	20.33
9	18.58	18.99	20.29	22.93	23.60	23.82	23.02	24.44	25.19	21.92	21.59	20.41
10	18.70	19.08	20.27	22.78	23.82	23.96	22.97	24.48	24.64	21.85	21.49	20.33
11	18.62	19.09	20.35	23.02	23.91	23.98	23.23	25.85	24.58	21.82	21.48	20.28
12	18.58	19.08	20.44	23.00	23.85	23.87	23.17	26.93	24.82	21.79	21.34	20.33
13	18.57	19.05	21.03	23.02	23.65	23.69	23.08	26.15	24.29	21.71	21.30	g20.40
14	18.61	19.11	20.82	22.99	23.34	24.04	23.01	26.59	24.94	21.65	21.21	g20.50
15	18.59	19.14	21.06	23.27	23.25	24.14	23.05	26.26	24.82	21.56	21.25	g20.52
16	18.59	19.13	21.00	23.08	23.17	24.29	22.97	26.24	24.92	21.53	21.35	g20.50
17	18.54	19.12	21.00	22.87	23.19	24.35	22.89	25.98	25.86	21.56	21.22	20.44
18	18.55	19.34	21.10	22.90	23.26	23.94	23.29	25.81	24.52	21.60	21.08	20.42
19	18.80	19.28	21.05	23.00	23.36	23.80	23.52	25.77	24.35	21.64	20.99	20.44
20	18.77	19.20	20.95	22.98	23.48	24.10	23.77	25.77	24.25	21.68	21.00	20.48
21	18.80	19.24	21.25	23.10	23.67	24.83	23.95	25.57	24.16	21.62	20.95	20.71
22	18.83	19.35	21.42	23.25	23.61	24.87	24.08	25.70	24.08	21.57	20.94	20.62
23	18.81	19.35	21.61	23.17	24.39	24.66	23.68	25.97	24.02	21.51	20.92	20.59
24	18.82	19.43	21.74	23.09	24.68	24.58	23.35	25.99	23.79	21.58	g20.95	20.45
25	18.85	19.52	21.80	23.35	24.78	24.63	23.27	26.02	23.66	21.80	.....	20.33
26	19.07	19.42	21.67	23.40	24.90	24.81	23.19	26.29	23.57	21.79	.....	20.32
27	18.93	19.36	21.55	23.59	24.56	25.07	23.12	26.49	23.55	21.92	.....	20.36
28	18.82	19.45	21.54	23.77	24.47	25.25	23.09	26.91	23.46	21.93	.....	20.33
29	18.78		22.09	24.17	24.39	25.37	23.12	26.59	23.37	21.92	.....	20.30
30	18.77		22.28	23.88	25.15	25.00	23.17	26.69	23.22	21.85	.....	20.34
31	18.73		22.59		25.01		23.19	26.96		21.83		20.25

g Estimated.

10.24.21.212. Berrendo-Smith well. Maximum daily fluctuation, Mar. 30, 1950, 5.13.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	13.02	13.74	15.20	19.26	20.15	21.14	21.52	19.25	23.94	18.27	16.86	15.47
2	12.97	13.86	15.17	19.13	20.22	20.85	21.02	19.29	24.32	18.06	16.77	15.47
3	12.95	13.91	15.31	18.80	20.02	20.53	20.84	19.29	23.33	17.78	16.94	15.37
4	13.10	13.93	15.34	19.52	20.25	19.86	20.97	19.13	22.78	17.49	16.97	15.32
5	13.10	13.88	15.19	g19.63	19.74	19.70	21.05	19.15	21.87	17.31	16.77	15.29
6	13.14	13.82	15.06	19.73	19.84	19.70	20.27	19.10	21.30	17.18	16.70	15.00
7	13.12	14.00	15.53	19.93	19.83	20.09	20.13	19.03	20.94	17.11	16.58	14.94
8	12.99	14.09	15.77	20.00	19.48	19.92	20.13	19.65	20.77	16.92	16.39	15.03
9	12.92	14.22	15.84	19.39	19.91	20.17	19.84	20.02	20.65	16.78	16.58	15.14
10	13.10	14.38	15.92	19.14	19.99	20.46	19.68	20.69	20.52	16.73	16.39	15.04
11	12.95	14.40	15.83	19.86	20.00	20.03	20.05	21.28	20.25	16.65	16.23	14.89
12	12.91	14.34	15.93	19.77	19.88	19.84	19.80	22.06	20.12	16.70	16.11	15.22
13	12.90	14.27	16.00	19.73	19.28	20.25	19.79	21.81	20.14	16.62	16.19	15.44
14	12.99	14.40	16.28	19.50	18.90	20.49	19.69	21.85	20.33	16.58	16.12	15.42
15	12.92	14.53	16.51	19.68	18.93	20.62	19.74	22.39	20.22	16.45	16.27	15.43
16	12.90	14.58	16.69	19.28	18.95	20.73	19.47	22.74	20.30	16.39	16.33	15.53
17	12.89	14.55	16.58	19.00	19.06	20.58	19.32	23.03	20.27	16.42	16.14	15.54
18	12.94	14.85	16.77	19.14	19.05	20.45	19.85	22.82	20.09	16.48	15.87	15.51
19	13.30	14.71	16.53	19.33	19.14	20.25	20.22	22.69	19.85	16.52	15.75	15.57
20	13.37	14.39	16.45	19.24	19.10	20.94	20.45	22.73	19.77	16.49	15.80	15.62
21	13.45	14.54	17.04	19.38	19.12	21.34	20.55	22.29	19.75	16.38	15.78	15.76
22	13.47	14.69	17.45	19.75	18.96	21.57	20.57	22.62	19.72	16.38	15.81	15.75
23	13.44	14.74	17.68	19.32	19.47	21.58	19.84	23.14	19.75	16.29	15.74	15.75
24	13.50	15.01	18.07	19.34	19.88	21.62	19.46	23.22	19.35	16.36	15.75	15.55
25	13.60	15.03	18.18	19.75	20.14	21.43	19.33	23.17	19.10	16.72	15.65	15.39

10. 24. 21. 212--Continued.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	14.07	14.80	17.78	19.55	20.49	21.58	19.25	23.62	18.97	16.68	15.50	15.39
27	13.88	14.71	17.60	19.94	20.63	21.92	19.24	23.57	18.85	17.16	15.42	15.47
28	13.72	14.89	17.62	20.23	20.35	22.49	19.28	22.99	18.70	16.92	15.43	15.45
29	13.65		18.35	20.34	20.22	22.48	19.37	23.57	18.58	16.93	15.45	15.48
30	13.78		18.75	19.96	20.83	21.78	19.35	23.82	18.44	16.82	15.44	15.52
31	13.68		19.27		21.02		19.35	24.29		16.93		15.40

g Estimated.

11. 24. 29. 242. Mountain View well. Maximum daily fluctuation, Mar. 28, 1950, 2.15.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	61.63	62.33	64.65	70.33	70.62	72.43	73.41	69.77	77.16	68.58	66.22	64.83
2	61.56	62.54	64.45	70.22	71.06	71.85	72.68	69.83	77.24	68.45	66.28	64.83
3	61.51	62.62	64.55	70.00	71.18	71.77	72.51	69.94	76.08	68.08	66.57	64.52
4	61.73	62.63	64.64	70.78	70.87	72.89	69.63	75.58	67.80	67.80	66.50	64.42
5	61.70	62.56	64.58	71.28	70.51	70.67	72.81	69.70	74.52	67.58	66.19	64.70
6	61.81	62.48	64.39	71.27	70.93	70.99	72.35	69.79	73.75	67.41	66.11	64.29
7	61.69	62.67	64.76	71.30	70.59	71.16	72.14	69.70	73.15	67.32	66.08	64.19
8	61.39	62.79	65.07	71.44	70.37	71.49	71.96	70.40	72.71	67.00	66.08	64.39
9	61.42	62.94	65.12	70.39	71.05	71.78	71.52	71.05	72.25	66.87	66.12	64.48
10	61.57	63.09	65.31	71.21	71.20	72.04	71.38	71.65	71.71	66.82	66.08	64.30
11	61.39	63.05	65.43	71.16	71.17	71.18	71.62	72.30	71.63	66.72	65.84	64.15
12	61.34	63.02	65.50	71.05	70.91	71.01	71.73	73.00	71.64	66.65	65.63	64.49
13	61.38	62.94	65.35	71.02	69.88	71.39	71.85	73.09	71.85	66.52	65.55	64.66
14	61.52	63.15	65.58	70.63	69.35	71.68	71.82	72.91	72.07	66.42	65.50	64.70
15	61.47	63.20	66.02	70.36	69.23	72.03	71.52	73.70	72.12	66.30	65.63	64.65
16	61.49	63.27	66.49	70.27	69.23	72.09	71.02	74.04	72.38	66.30	65.73	64.85
17	61.51	63.27	66.67	70.08	69.18	71.93	70.80	74.59	72.17	66.37	65.53	64.61
18	61.55	63.49	66.90	70.33	69.07	71.33	71.64	75.05	72.00	66.36	65.35	64.57
19	61.59	63.13	66.60	70.67	69.21	71.18	72.25	75.45	71.80	66.42	65.22	64.69
20	61.75	62.99	66.37	70.88	69.49	71.69	72.66	75.06	71.63	66.33	65.35	64.83
21	61.80	63.24	67.47	70.73	69.24	72.24	72.34	74.75	71.75	66.28	65.30	64.97
22	61.72	63.52	68.09	70.90	69.10	72.19	71.42	75.54	71.69	66.19	65.30	64.95
23	61.67	63.56	68.45	70.24	69.78	72.49	70.65	75.80	71.63	66.14	65.18	64.97
24	61.74	63.91	68.93	70.01	70.28	72.58	70.47	76.08	70.65	66.24	65.18	64.61
25	61.84	64.04	68.87	70.65	70.73	72.64	70.33	76.14	70.13	66.25	65.05	64.35
26	62.23	63.81	68.42	70.70	71.38	72.48	70.20	76.70	69.82	66.23	64.87	64.37
27	62.17	63.68	68.15	71.07	71.39	73.33	70.01	76.07	69.58	66.27	64.74	64.55
28	62.06	64.24	68.13	71.04	70.81	73.85	69.88	75.68	69.30	66.26	64.88	64.60
29	62.09		69.26	71.34	70.64	74.24	69.92	76.44	69.08	66.17	64.94	64.59
30	61.98		69.79	70.88	71.50	73.61	69.93	76.75	68.84	66.07	64.79	64.65
31	62.24		70.00		72.24		69.74	77.02		66.19		64.48

12. 25. 23. 110. Orchard Park well. Maximum daily fluctuation, July 6, 1950, 15.09.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	6.02	13.67	29.60	63.39	52.67	61.51	64.79	31.82	74.80	22.37	21.10	13.19
2	5.77	14.78	28.58	57.92	56.13	57.76	61.85	32.32	75.73	22.08	20.25	13.50
3	5.98	15.97	28.67	57.87	56.89	57.43	62.50	32.14	67.90	21.43	19.12	12.65
4	6.38	16.35	29.82	60.54	51.52	51.55	61.83	33.25	.....	20.68	19.05	12.13
5	6.48	16.77	29.06	61.98	50.21	49.01	64.83	35.60	.....	20.33	17.31	12.25
6	7.73	15.99	28.98	61.67	51.70	51.32	49.71	35.53	.....	19.23	16.49	12.25
7	8.03	17.42	30.78	63.25	47.78	52.67	46.80	36.33	.....	18.56	17.68	11.93
8	7.17	19.56	32.52	62.85	46.31	52.83	48.87	41.60	.....	19.32	16.48	12.35
9	6.84	23.04	33.59	58.03	48.37	60.09	49.60	44.77	42.37	19.65	16.79	14.07
10	7.35	24.90	34.42	55.40	50.14	60.27	48.85	51.18	42.70	19.25	15.05	12.93
11	7.35	26.05	34.80	57.18	48.25	55.27	52.27	.....	42.82	19.05	13.95	12.45
12	7.94	24.87	34.17	58.18	45.18	51.55	53.23	.....	45.05	20.00	13.53	13.04
13	8.20	23.72	33.07	56.09	44.30	55.50	52.87	g59.32	48.01	20.00	13.69	13.38
14	7.90	26.10	33.92	52.71	40.99	57.77	50.81	64.28	50.59	20.13	14.32	15.23
15	7.92	26.85	36.85	51.07	40.27	56.48	50.05	66.95	49.73	20.36	14.90	13.95

12. 25. 23. 110--Continued.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
16	8.08	27.90	37.46	48.95	40.38	54.83	44.45	68.22	48.14	20.00	15.38	15.98
17	7.50	28.42	38.83	47.38	40.61	53.78	42.90	70.04	44.03	20.10	15.39	17.67
18	7.76	30.58	41.56	50.29	40.37	49.28	48.81	71.44	41.66	20.73	15.30	16.52
19	8.49	29.03	40.12	52.22	40.73	47.79	50.15	73.95	38.00	19.49	15.22	18.27
20	9.20	28.40	40.20	52.64	42.64	50.00	51.73	74.02	36.88	19.11	16.42	19.23
21	10.38	27.99	44.36	52.76	40.78	52.11	50.00	72.80	35.73	19.24	16.17	19.25
22	10.29	28.91	51.03	52.58	41.27	56.10	40.42	73.29	35.21	19.69	15.38	19.57
23	10.02	29.31	51.67	50.00	45.90	56.80	35.57	74.95	34.58	19.50	14.65	19.39
24	11.85	30.29	49.40	49.67	49.85	59.80	34.95	75.10	31.88	20.28	14.11	18.54
25	11.74	30.16	49.42	.....	54.77	60.99	34.85	75.49	28.86	20.32	13.38	17.62
26	.....	28.25	52.63	.....	54.32	60.42	33.00	74.63	27.12	20.90	13.03	17.44
27	.....	27.59	58.22	.....	56.05	63.63	31.56	70.52	25.68	20.35	12.69	18.45
28	.....	28.80	54.33	.....	52.15	66.82	31.34	69.62	24.97	20.20	13.18	18.46
29	.....		54.35	.....	52.00	68.93	31.02	73.09	24.27	18.92	13.77	18.86
30	12.90		58.65	.....	58.53	64.81	30.38	75.37	23.08	18.48	13.90	18.12
31	13.31		62.46		60.65		30.85	76.34		20.25		17.27

g Estimated.

13. 25. 27. 211. Greenfield well. Maximum daily fluctuation, July 22, 1950, 16.55.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	+9.62	6.23	20.97	58.00	48.92	61.27	60.38	23.49	71.13	8.20	6.21	+2.36
2	+10.11	7.60	19.48	52.50	53.35	56.26	58.26	23.10	70.58	7.74	3.50	+2.12
3	+9.20	8.50	20.39	51.03	56.50	56.02	62.68	23.52	62.04	6.45	2.79	+2.92
4	+8.94	9.35	19.92	53.18	46.28	g45.00	52.41	23.69	51.40	4.80	1.92	+2.66
5	g+9.15	7.56	17.51	55.26	47.05	g44.75	57.65	25.89	41.23	4.29	1.05	+1.75
6	g+8.90	7.00	17.10	55.88	48.12	47.20	g46.00	25.22	35.53	3.43	.58	+1.70
7	g+8.60	10.50	20.22	56.44	43.32	48.10	g45.70	27.59	34.26	3.30	.00	+1.44
8	+9.32	11.72	21.24	55.75	42.06	g46.65	g45.30	34.95	36.07	3.43	+1.86	+1.83
9	+9.84	16.37	24.00	48.45	44.92	51.89	43.33	37.30	37.79	2.86	+1.85	+1.34
10	+8.96	18.80	25.70	46.87	48.69	.....	42.63	43.79	36.58	2.30	+2.23	+3.19
11	+8.96	20.89	27.12	.....	45.52	49.22	.....	52.48	36.12	2.59	+3.60	+3.86
12	+8.96	15.92	24.32	.....	45.78	47.59	51.07	53.12	38.00	3.00	+4.12	+3.35
13	+8.22	14.93	22.22	.....	g40.50	54.57	50.00	55.50	39.59	2.27	+3.76	.00
14	+8.79	20.45	27.80	44.15	.....	53.93	47.97	55.00	43.56	1.70	+2.16	.77
15	+9.09	20.30	29.00	44.23	36.57	51.25	43.92	58.76	42.13	1.58	+1.95	+1.17
16	+9.05	23.65	32.14	42.68	35.00	53.10	41.72	62.52	41.10	1.68	+1.65	+1.22
17	+9.26	25.17	33.87	g40.85	38.01	52.10	43.10	65.14	38.17	1.29	+1.72	+1.80
18	+7.82	25.93	35.32	43.82	37.44	49.58	48.15	65.67	31.60	2.15	+1.12	+1.27
19	+6.39	22.92	32.89	46.30	38.48	48.34	45.52	68.99	28.60	1.70	+1.77	+1.61
20	+5.65	23.24	32.10	49.34	37.93	47.72	45.22	65.66	29.07	2.25	.20	1.97
21	+4.76	23.33	40.22	48.93	33.98	50.10	41.93	66.28	27.48	2.66	+1.75	1.66
22	+4.26	22.67	.....	48.91	35.84	51.84	29.88	68.84	24.80	1.80	+1.40	.96
23	+4.25	23.55	.....	46.47	39.10	51.92	25.17	70.53	22.78	2.37	+2.00	2.44
24	+2.36	23.52	.....	45.40	.....	55.47	24.73	68.09	18.82	2.90	+2.52	+1.40
25	+1.11	23.23	.....	55.83	.....	55.88	26.92	69.42	15.62	3.77	+2.97	+1.68
26	1.50	20.08	.....	59.32	.....	54.63	23.72	69.24	13.78	6.33	+2.83	+1.16
27	2.15	18.46	.....	59.62	53.92	57.68	23.15	66.46	12.35	6.22	+3.35	3.19
28	1.58	19.30	.....	59.88	50.12	62.74	23.32	66.49	11.64	7.12	+2.12	2.53
29	1.28	.....	.....	59.43	48.00	62.70	22.74	69.82	10.30	5.77	+1.93	2.28
30	.85	.....	.....	51.37	56.05	61.00	22.14	70.34	8.83	5.30	+1.56	1.50
31	4.03	.....	57.19	.....	59.90	.....	23.27	70.97	.....	5.09	.....	.27

g Estimated.

18. 26. 5. 330. Artesia well. Maximum daily fluctuation, Mar. 7, 1950, 4. 65.

Daily highest artesian head from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	27. 63	33. 93	56. 38	43. 92	54. 82	56. 58	46. 87	68. 07	37. 39	33. 08	28. 14
2	.....	27. 75	34. 82	54. 62	44. 99	54. 49	54. 93	49. 60	68. 68	37. 20	33. 29	28. 10
3	h18. 85	28. 30	34. 36	53. 58	45. 21	54. 25	54. 08	51. 45	65. 88	36. 89	33. 27	27. 75
4	.....	28. 48	35. 12	.....	45. 08	51. 17	52. 97	53. 12	61. 76	36. 45	32. 15	27. 50
5	h20. 19	28. 25	35. 07	.....	42. 88	47. 87	53. 59	54. 59	58. 18	35. 78	31. 63	27. 52
6	20. 39	27. 57	33. 92	.....	42. 58	47. 02	50. 95	55. 28	55. 00	34. 75	31. 49	26. 77
7	20. 55	28. 52	34. 63	52. 68	42. 15	46. 85	50. 20	56. 04	53. 57	34. 56	31. 58	26. 45
8	20. 55	28. 91	36. 50	51. 72	41. 50	47. 48	49. 69	58. 93	52. 43	33. 72	31. 30	26. 42
9	20. 23	28. 78	36. 01	47. 63	42. 45	48. 38	48. 61	61. 99	50. 81	33. 42	31. 43	26. 61
10	21. 55	28. 45	37. 35	45. 95	44. 37	49. 04	47. 81	63. 57	49. 15	33. 31	31. 13	26. 25
11	22. 33	28. 40	38. 35	47. 18	.....	47. 73	48. 28	65. 97	48. 44	33. 50	30. 48	25. 97
12	22. 52	27. 50	38. 73	47. 68	47. 43	46. 27	49. 36	67. 90	47. 70	33. 41	29. 92	26. 01
13	22. 27	26. 97	38. 29	48. 30	46. 70	48. 71	48. 65	67. 51	47. 27	33. 28	29. 60	26. 52
14	21. 98	27. 95	38. 79	47. 44	45. 47	51. 59	47. 50	66. 43	47. 29	33. 32	29. 60	26. 77
15	22. 03	28. 79	40. 10	45. 87	44. 98	53. 68	46. 90	67. 83	47. 33	32. 84	29. 85	26. 63
16	22. 00	29. 58	42. 47	43. 68	46. 32	54. 98	45. 07	68. 97	48. 06	32. 70	30. 22	26. 66
17	22. 67	30. 34	43. 96	43. 12	.....	56. 33	44. 57	66. 55	46. 98	33. 01	29. 85	26. 57
18	23. 14	30. 93	44. 66	45. 00	.....	55. 95	45. 40	63. 38	46. 36	32. 82	29. 50	26. 38
19	23. 55	30. 80	45. 84	46. 52	.....	54. 82	.....	62. 07	46. 73	32. 82	29. 35	26. 52
20	24. 44	29. 91	.....	47. 24	.....	56. 39	.....	60. 04	46. 00	32. 56	29. 31	27. 38
21	24. 30	30. 45	.....	47. 49	.....	56. 96	.....	59. 34	45. 25	32. 26	29. 37	27. 78
22	23. 73	30. 85	.....	46. 70	.....	54. 95	.....	60. 32	44. 32	32. 20	29. 20	27. 95
23	23. 22	31. 48	.....	44. 23	50. 04	55. 53	43. 37	62. 30	43. 61	32. 15	29. 15	28. 17
24	24. 14	31. 84	.....	43. 23	51. 15	58. 12	42. 96	63. 87	42. 39	32. 35	28. 83	26. 83
25	24. 74	32. 31	.....	44. 19	51. 62	58. 20	42. 81	63. 90	41. 63	32. 28	28. 48	25. 83
26	25. 44	32. 49	.....	.....	51. 88	58. 64	42. 13	66. 33	41. 13	31. 90	28. 33	25. 65
27	26. 32	32. 07	.....	.....	52. 00	57. 58	41. 70	65. 90	40. 55	31. 63	27. 93	26. 88
28	26. 08	33. 27	.....	.....	50. 52	57. 32	41. 74	65. 35	40. 11	31. 71	28. 09	27. 65
29	26. 27	.....	.....	.....	50. 11	58. 55	42. 75	67. 39	39. 85	31. 57	28. 43	28. 28
30	26. 84	.....	55. 49	.....	52. 33	57. 68	43. 81	67. 74	38. 97	31. 75	28. 12	28. 74
31	27. 31	.....	56. 10	.....	53. 91	.....	43. 83	67. 83	.....	32. 17	.....	28. 49

h Tape measurement.

Water levels in artesian-intake area of Roswell basin, 1950

Location number	11. 22. 1. 312	12. 23. 5. 310j	14. 23. 8. 340	16. 23. 15. 323	18. 23. 5. 333	19. 23. 27. 111
Owner	H. L. Wood	J. B. Patterson	M. D. Kincaid	D. W. Runyan	Joe Clements	C. R. Coffin
Jan. 6, 20, 28	260. 39	.....	266. 84	e222. 45	417. 90	375. 47
Mar. 9, 10, 16	260. 86	245. 18	267. 15	223. 25	418. 15	378. 09
May 9, 10, 12	263. 87	a246. 56	a269. 07	223. 82	418. 76	375. 69
July 12, 15	265. 00	.....	270. 40	224. 64	419. 38	378. 80
Sept. 9, 11, 13	265. 61	.....	270. 86	225. 73	a420. 20	a378. 92
Nov. 10, 13	263. 41	.....	269. 92	225. 42	418. 68	374. 97
Change:						
Jan. 49-50	+ . 51	.....	+ . 36	- . 44	-14. 34	- . 87
Jan. 50-51	.....	.....	-2. 35	-2. 71	- . 38	-1. 29

a Pumping.

e Measurement uncertain.

j Incorrectly designated as 12. 23. 5. 320 from 1942 to 1949.

High and low January water levels

Well number	High	Year	Low	Year	Record began	Year missing
11. 22. 1. 312	253. 75	45	260. 90	49	45	--
12. 23. 5. 310j	228. 74	43	243. 33	41	41	49
14. 23. 8. 340	258. 00	45	270. 01	41	41	--
16. 23. 15. 323	211. 92	45	225. 70	41	41	--
18. 23. 5. 333	387. 46	47	417. 90	50	47	--
19. 23. 27. 111	368. 83	46	379. 30	41	41	45

j Incorrectly designated as 12. 23. 5. 320 from 1942 to 1949.

Part 2. Water levels in January 1950 in Salt Creek Valley - Macho Draw Area

Location number	Owner	See part	Water level	Day
7. 24. 32. 131	Herbert M. Corn	5	68. 67	25
32. 430	Jess Corn	5	i61. 42	25
7. 26. 4. 331a	Cecil Pendergrass	5	14. 31	27
5. 310	Mr. Stewert	5	21. 16	26
6. 420	do.	5	21. 16	26
17. 224	L. W. White	5	13. 10	27
19. 242	E. Everett	5	8. 88	26
19. 442	Gus Everett	5	18. 90	26
19. 444	E. Everett	5	10. 94	26
20. 244	Gus Everett	5	25. 25	27
20. 312	E. Everett	5	12. 81	26
30. 433	do.	5	10. 98	26
8. 24. 4. 142	Jess Corn	5	67. 90	25
4. 333	do.	5	38. 58	25
5. 233	do.	3, 5	65. 34	25
5. 324	do.	5	68. 47	25
5. 343	do.	5	73. 49	25
8. 142	Buck R. Spurrier	5	61. 48	25
8. 324	do.	5	58. 12	28
15. 111	Jess Corn	3, 5	c24. 90	25
22. 143	do.	5	26. 55	26
22. 234	do.	5	16. 83	26
35. 432	W. G. Wiggins	3, 5	50. 94	26
9. 23. 25. 411	Clyde S. Marley	5	105. 72	28
35. 424	do.	5	120. 29	28
36. 133	do.	5	122. 16	28
9. 24. 2. 430	M. B. Wiggins	5	32. 08	26
9. 140	Dr. Connors	5	i67. 87	27
11. 130	do.	5	i32. 95	26
14. 340	do.	5	22. 03	27

c Nearby well being pumped.

i Possible discrepancy of a few tenths of a foot between present and previous land-surface data.

Part 2. Water levels in Chaves County

Location number (1)	Owner (2)	See part (3)	Jan.		1950 Day (5)	Change 1949-50 (6)	Highest		Lowest		Record	
			Level (4)				Level (7)	Year (8)	Level (9)	Year (10)	Be- gan (11)	Years missing (12)
8.24.27.433	Poe Corn	-	64.74	26		+0.7	64.74	50	65.4	49	49	
9.24.5.130	(See 11.24.5.310)					+ .68						
17.331	Oscar White	4, 5	120.39	29		-1.64	120.39	50	121.07	49	49	
20.322	(See 11.24.20.411)											
10.24.8.111	O. S. Stockton	-	a41.42	30		+10.90	38.26	48	52.32	49	38	42, 44
8.333	Ira Lee	3	44.85	30		+ .03	40.67	47	44.88	49	47	
15.342	W. C. Crawford	-	13.00	30		+ .18	8.82	38	13.18	49	38	39, 42, 44, 47
16.133	G. D. Perrine	-	27.11	30		+ .06	22.85	43	28.70	41	38	
17.111	C. C. Henry & G. P. Mabry	5	43.48	30		- .11	38.92	46	43.48	50	46	
18.424	L. T. Lewis	-		-		-	34.32	42	44.50	41	38	49, 50
22.322	A. B. Carpenter	-	16.52	30		- .38	11.19	42	19.70	41	38	
27.111	Jack Taylor	-	19.83	30		+ .06	15.20	42	25.17	38	38	
32.111	F. W. Lewis	3	31.22	30		+ .30	27.48	46	31.52	49	46	
33.244	J. L. Westover	-	5.62	31		-1.10	4.52	49	6.52	48	41	47
34.333	Elmer Butler	-	e4.95	31		-	2.67	42	5.16	49	41	48, 50
36.222	State of New Mexico	-	2.85	30		+ .11	2.13	47	4.15	41	41	
10.25.17.344	P. E. Cannon	-	7.88	30		+ .22	4.16	42	8.10	49	41	
18.222	J. R. Pendergrass	-	9.29	30		+ .39	3.28	42	9.68	49	41	
19.331	E. H. Pugh	3	34.23	30		+ .95	30.76	42	35.18	49	41	46
29.222	U. S. Government	-	2.27	30		-1.12	.95	48	3.15	41	41	
31.413	L. W. Barringer	5	21.57	30		-	-	-	-	-	50	
11.23.1.433	S. M. Wiggins	3	60.12	30		+ .12	56.07	47	60.24	49	47	
12.221	S. P. Hamlin	-	60.09	30		+ .06	51.57	43	61.14	40	38	41, 42, 47, 48
15.222	C. E. Smith	3, 5	101.29	28		-	-	-	-	-	50	
11.24.5.310	Lacy Shortridge	3, 5	89.92	27		-1.64	88.28	49	89.92	50	49	
6.311	R. B. Wirtz	-	a50.58	30		+2.22	37.61	39	51.87	41	39	40, 47
6.433	Mr. Watkins	-	(m)				28.98	42	41.29	41	38	49, 50
6.444	Morie Huff	-	40.07	30		- .12	31.20	43	42.06	41	39	
10.114	E. M. Haley	-	(m)				16.85	42	26.60	41	40	49, 50
10.114a	do.	5	25.69	28		-	-	-	-	-	.50	
10.224	C. E. Smith	3	17.05	28		- .19	11.69	42	b19.61	39	38	
10.321	G. A. Oney	-	26.43	28		+ .07	21.13	42	28.64	40	38	39
13.144	Frank Peters	-	112.94	27		- .42	11.93	48	16.08	43	38	46
14.331	H. M. Flourney	3	30.65	27		-1.48	27.58	48	30.65	50	48	
15.421	M. L. Barnett	-	38.29	28		- .48	30.09	42	41.49	41	38	
15.431	M. L. and S. Barnett	-	39.56	28		- .82	31.30	j42	42.80	41	38	
17.121a	D. H. Johnson	-	57.38	30		+ .12	48.96	43	57.50	49	42	46
18.333	G. V. Coker	-	88.23	30		+ .30	79.36	43	90.84	41	39	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
11. 24. 19. 333	C. M. Kelley	5	99.00	30	-	-	-	-	-	50	
20. 411	Oscar White	5	(m)		-	63.18	49	-	-	49	50
22. 333	John Tweedy	-	a48.97	28	-0.25	40.03	42	52.26	41	38	
23. 312	T. T. Sanders	-	21.90	27	-1.15	20.75	49	21.90	50	49	
23. 411a	H. E. Babcock, Jr.	-	c13.25	27	-1.12	10.35	42	17.34	41	38	45
23. 433a	Tweedy Gin	-	-	-	-	16.43	46	20.40	47	46	49, 50
28. 113	Rocky Arroyo School	3	64.96	28	+1.64	53.52	42	69.20	41	38	
29. 144	Mr. Ferrell	-	82.39	28	+1.45	69.82	42	85.65	41	38	
29. 333	F. W. Clow	-	89.70	28	-	78.91	42	89.70	50	42	45.46, 49
34. 411b	Belle Hurst	-	46.88	28	+1.54	40.40	43	51.53	41	39	
36. 133	Wiley Grizzle	-	c55.23	28	-24.55	25.28	43	36.02	40	39	42
36. 211	Harold Allison	-	(m)			15.44	42	24.88	40	38	45.48-50
36. 333	Wiley Grizzle	-	37.47	28	-4.18	28.45	42	37.47	50	39	40, 41
11. 25. 6. 123a	J. P. White & Co.	-	c26.11	30	-9.40	13.26	43	16.71	49	43	44, 47, 48
6. 421a	do.	3	18.72	30	-19	4.44	42	18.72	50	41	
22. 333	Mrs. T. E. Whitney	-	5.60	27	+2.17	5.36	42	7.85	47	38	
28. 234	E. Whitney	-	8.43	27	+2.65	5.35	42	11.08	49	38	
28. 244	R. O. Whitney	-	8.77	27	+2.58	4.07	42	11.35	49	38	43
28. 333	Owner unknown	-	12.39	27	+1.14	5.34	44	12.53	49	38	39-43
29. 111	Farmers Inc.	-	7.84	27	-53	5.47	39	8.74	43	38	
29. 343	Albert Hobson	-	11.55	27	-65	4.38	40	11.55	50	39	
29. 444	Glenn Wheeler	4	11.77	4	+66	14.59	42	12.75	49	38	
30. 333	J. P. White & Co.	-	18.89	27	-2.93	9.24	42	18.89	50	38	
31. 223	Ruby Brown	-	(a)	27	-	8.60	42	15.92	49	39	50
31. 433b	Albert Watson	-	30.36	27	+66	23.60	43	31.02	49	39	42
31. 433c	do.	-	30.21	27	+21	27.31	47	30.42	49	47	
32. 333	George Bogart	-	(m)			16.89	42	28.28	48	38	41, 49, 50
12. 24. 13. 111	W. T. Weldy	3	70.01	26	+51	62.36	43	70.52	49	42	
23. 441a	Monte Goodin	-	c88.48	26	-4.49	75.53	43	c88.48	50	38	41
12. 25. 2. Lot 3	B. F. Heine	-	18.85	27	-	9.80	42	18.85	50	38	49
2. Lot 4	V. H. Hodges	-	17.13	27	+1.35	7.27	42	c18.48	49	38	
3. 334	J. W. Young	-	33.02	27	+91	21.21	42	33.93	49	39	
7. 144a	S. E. Hamill	-	42.90	27	+58	37.08	43	45.00	38	38	
8. 441	L. G. White	5	48.81	27	-	-	-	-	-	50	
9. 422	Cumberland township	3	52.55	27	+1.06	39.60	42	53.61	49	38	
13. 111	M. E. Colclazier	-	19.42	26	-99	11.23	43	19.42	50	39	
16. 111	Ernest Nelson	-	16.11	27	-	29.50	43	35.98	41	38	50
16. 222	State of New Mexico	-	61.08	27	+84	42.25	38	61.92	49	38	
22. 231	W. T. Clardy	-	88.49	27	+1.43	51.84	39	89.92	49	39	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12. 25. 22. 411	W. T. Clardy	3	89.16	27	+0.71	89.16	50	39.87	49	49	
25. 413	Ann E. Freeman	-	34.86	26	- .33	17.90	42	36.25	47	38	40, 41
26. 311	J. K. Murphey	-	(a)	27	-	40.62	38	75.82	49	38	50
27. 211	W. T. Clardy	-	85.48	27	0	48.70	39	85.48	49	39	
30. 222	Ivy Woodman	-	80.45	26	- .12	78.24	43	81.50	41	38	
33. 122	McCloud Estate	-	92.85	26	-2.02	90.83	49	92.85	50	49	
34. 211	Fred Corn	-	75.35	26	-2.16	39.09	38	75.35	50	38	39-41
34. 431	Jack Maak	-	72.13	26	-	43.14	42	72.13	50	39	49
35. 111a	C. E. Smith	-	66.14	27	- .51	65.63	49	66.14	50	49	
35. 131	do.	-	67.58	26	- .18	47.14	44	67.58	50	44	
35. 311b	H. G. Moberly	-	(m)		-	36.42	42	55.79	46	38	47-50
35. 311c	Jack Maak	-	63.73	26	- .30	56.90	47	63.73	50	47	
35. 411a	A. C. Stone	3	59.91	26	- .86	40.23	45	59.91	50	45	
36. 112	O. B. Berry	-	(a)	26	-	-	-	-	-	49	50
36. 133	H. Kuykendall	-	43.95	26	-2.06	23.91	42	43.95	50	38	45, 47
36. 141	O. B. Berry	5	37.68	26	-	-	-	-	-	50	
36. 142	do.	-	(m)		-	13.85	42	32.72	47	38	46, 50
36. 211	Owner unknown	-	31.17	26	-	24.55	44	31.17	50	44	46, 48, 49
36. 313	M. L. Kuykendall	-	37.93	26	- .83	22.84	38	44.06	47	38	42
12. 26. 7. 421	Cecil Johnson	-	.48	26	+1.23	-	-	5.60	38	42	
18. 221	do.	-	a41.31	26	-25.78	10.87	42	16.12	48	42	46
18. 221a	do.	3	14.81	26	+ .60	14.57	45	15.74	48	45	
29. 333	T. S. Lawing	3	16.14	26	+ .15	14.20	40	17.98	46	39	
30. 213	Loman Wiley	-	27.11	26	-1.88	13.32	42	27.11	50	38	
13. 25. 1. 111	M. L. Kuykendall	-	25.77	26	+ .38	12.78	42	26.62	48	38	40
1. 111a	do.	-	27.70	26	+ .60	27.70	50	28.43	48	48	
1. 331	Will Schaaphok	-	23.41	26	+1.56	9.77	42	24.97	49	38	
3. 111	Grace Stanley	-	78.08	26	- .42	45.40	38	78.08	50	38	
5. 111	W. H. Belcher	-	69.46	26	-1.50	60.70	42	69.46	50	38	44
6. 333	R. L. Lowe	-	80.87	26	+ .40	78.22	38	82.16	44	38	
8. 133	W. H. Jeffries	-	65.99	25	+1.74	59.61	42	70.33	41	39	
10. 344	H. W. Reintke	-	(m)		-	37.30	38	66.98	45	38	41, 46-50
11. 111	Kermit Southard	-	54.78	26	-	36.01	42	54.78	50	39	47-49
11. 343	J. E. Brockman	-	60.87	25	+3.33	42.21	42	64.20	49	38	
12. 133	M. E. Colclazier	-	35.59	26	+2.63	17.93	42	38.22	49	38	45, 46, 48
12. 311	Hal Bogle	-	33.29	26	+3.03	16.23	42	138.86	48	39	46
13. 113	W. F. Kerr	-	44.63	25	+8.02	29.95	42	52.65	49	38	
13. 133	Fletcher Bros.	-	46.63	25	-	32.76	42	49.69	46	42	47, 49
13. 233a	W. F. Kerr	-	36.64	25	+2.32	21.05	42	38.96	49	38	
13. 233b	do.	-	35.27	25	+4.33	22.96	42	39.60	49	38	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
13. 25. 13. 311	Fletcher Bros.	-	48. 14	25	-	32. 13	42	52. 59	46	40	41, 47, 49
13. 433	Mrs. J. W. Wier	-	40. 22	25	+2. 11	25. 54	42	42. 33	49	38	
14. 111	Fletcher Bros.	5	67. 38	25	-	-	-	-	-	50	
14. 131	do.	-	67. 10	25	+3. 17	48. 65	42	70. 27	49	38	
14. 231	William Zappe	3	48. 21	25	+4. 87	40. 12	42	62. 97	49	40	
15. 311	Rex Richmond	-	a92. 39	25	-7. 31	68. 88	38	85. 08	49	38	43, 45
15. 422	A. A. Gilland	-	67. 85	25	+3. 15	49. 63	42	71. 00	49	38	40, 41
17. 411	R. Thaman	3	66. 34	25	+2. 52	55. 08	42	73. 26	47	39	40, 44
23. 111	I. F. Wortman	-	52. 77	25	+4. 83	51. 21	42	65. 17	41	38	
24. 333	Hal Bogle	-	56. 27	24	+1. 63	41. 34	42	57. 90	49	38	
26. 211	Belle Hurst	-	63. 11	24	+2. 24	47. 33	42	65. 35	49	38	40, 41
26. 222	do.	-	(m)			41. 42	42	56. 63	46	38	48-50
27. 111	Hal Bogle	-	77. 57	24	-	69. 30	38	186. 62	48	38	46, 47, 49, 50
27. 211b	do.	-	87. 46	24	+57	61. 95	42	78. 14	49	39	40, 41, 44
34. 323	L. D. & W. F. Kerr	3	a92. 83	24	-1. 14	86. 79	48	87. 46	50	48	
35. 311a	do.	-	78. 47	24	-11. 58	74. 63	47	81. 25	49	46	
35. 322	W. F. Kerr	-	58. 38	24	-45	58. 73	43	78. 47	50	43	
36. 421a	R. M. Ware	-	60. 75	24	-53	39. 00	38	58. 38	50	38	41, 45
36. 421c	do.	-	9. 89	25	+88	39. 79	42	61. 63	49	38	
13. 26. 5. 111	R. H. Aston	-	8. 08	25	+2. 43	7. 40	42	16. 08	48	39	
5. 231b	C. P. Sterrett	-	13. 45	25	+2. 81	7. 43	42	14. 98	48	38	
5. 231c	do.	-	14. 44	25	+3. 01	13. 45	50	19. 47	48	47	
5. 331	W. W. Harris	-	15. 29	4	-64	13. 27	42	18. 27	47	38	
7. 333	Howard Amason	4	12. 44	25	+1. 84	f 6. 28	42	f17. 64	49	40	
16. 114a	U. S. Gov't. fish hatchery	-	9. 23	25	-	8. 01	43	12. 59	48	38	49
16. 114b	do.	-	12. 71	25	-48	4. 81	43	9. 23	50	39	
16. 114c	do.	-	11. 54	25	+61	5. 19	43	12. 71	50	39	40
17. 321	Leo Nowak	3	14. 00	25	+77	8. 90	39	14. 24	44	38	47
17. 443	H. Vandenbout	-	26. 31	25	-1. 70	11. 28	42	14. 77	49	38	
18. 311	W. F. Kerr	-	18. 08	25	+2. 03	11. 50	42	26. 31	50	38	
19. 222	A. T. Stone	-	35. 53	24	-16. 39	18. 08	50	22. 83	46	38	
19. 333	Hal Bogle	-	(m)			18. 20	47	35. 53	50	38	44
19. 432	F. H. Riencke	-	17. 25	42	6. 19	6. 19	42	14. 94	46	38	49, 50
20. 113	A. T. Stone	-	10. 89	42	17. 25	17. 25	42	23. 20	46	38	47-50
20. 333	Mrs. O. W. Lockhead	-	17. 62	24	-	10. 89	42	17. 85	47	38	46, 48, 49
22. 331	E. B. Clay	-	9. 40	25	-2. 53	5. 90	47	9. 40	50	47	
23. 111	do.	3	5. 78	25	+35	3. 55	42	7. 12	48	38	47
28. 111a	Joe Nowak	-	19. 60	24	+87	19. 60	50	20. 47	49	49	
28. 121	Geo. Grassie	3	22. 96	25	-1. 25	14. 82	39	22. 96	50	38	42
28. 221b	Hal Bogle	-	c21. 62	25	-10. 82	9. 76	47	12. 45	48	47	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
13. 26. 28. 311	Joe Giles and Anna Heinzel	-	-	-	-	10.42	39	17.38	48	38	49, 50
29. 111	J. H. Reid	-	(m)	-	-	9.67	39	15.72	40	39	42, 45-50
28. 113	do.	-	20.83	24	+0.95	13.39	42	121.78	49	38	46-48
29. 113a	K. O. Southard	-	21.40	24	+ .69	20.80	48	22.09	49	48	
29. 211	J. H. Reid	-	14.03	24	+ .58	7.22	39	14.61	49	38	41
29. 333	M. Y. Monical	-	18.75	24	+ .54	11.04	42	19.29	49	38	
31. 241	Hal Bogle	-	(m)	-	-	6.03	42	19.45	48	38	49, 50
31. 311	E. O. Moore	-	a75.31	24	-18.25	35.30	38	57.06	49	38	
33. 421	K. O. Southard	-	17.67	24	+ .43	15.62	42	19.92	47	38	
34. 313	Elton Langford	-	11.42	24	- .03	8.28	39	12.27	47	38	
34. 431	Mrs. Elizabeth Cole	-	23.39	24	- .73	20.55	47	32.79	44	41	46
14. 25. 1. 343	V. F. Flores	-	75.11	24	+1.17	43.20	38	76.28	49	38	40, 47
1. 344	do.	-	72.86	23	- .22	36.04	36	72.86	50	36	
1. 344a	do.	3, 5	71.19	23	-	-	-	-	-	50	
2. 233a	L. F. Massencave	3	76.94	23	+2.69	52.13	42	79.63	49	40	48
2. 431	J. V. Thomas	-	93.48	23	+ .68	67.69	43	94.16	49	43	
2. 444	do.	-	(m)	-	-	48.50	38	71.17	46	38	41, 45, 47-50
8. 411	Ray Mathes	-	95.57	21	+1.02	93.24	42	96.59	49	39	
11. 233	A. W. Langneeger	5	(m)	-	-	-	-	-	-	49	50
11. 233a	do.	5	100.47	21	-	-	-	-	-	50	
11. 333	do.	-	(m)	-	-	78.83	42	111.03	49	42	46, 50
11. 333a	do.	5	111.41	21	-	-	-	-	-	50	
11. 433	do.	-	106.47	21	+ .03	106.47	50	106.50	49	49	
12. 133a	C. H. Whitman Estate	-	92.45	24	+ .38	60.82	42	92.83	49	42	
12. 313	L. T. Lewis	-	(a)	24	-	60.75	38	192.54	48	38	41, 49, 50
12. 314	do.	-	94.20	24	+ .03	71.35	44	94.23	49	44	
13. 213	W. J. Graham	-	(m)	-	-	59.54	42	91.32	49	42	50
13. 213a	do.	5	89.62	21	-	-	-	-	-	50	
13. 311a	E. O. Moore	-	98.10	21	+ .24	80.38	45	98.34	49	45	
14. 131	A. W. Langneeger	-	113.34	21	- .32	84.52	39	113.34	50	39	46
20. 443	Breed Hurst	3	74.91	20	+1.39	71.46	42	76.30	49	38	
24. 133	E. O. Moore	-	ac100.85	20	-12.44	56.73	38	88.41	49	38	
24. 421	Henry Johnson	-	76.43	20	- .61	72.33	48	76.43	50	48	
25. 111	J. M. Norris	-	(m)	-	-	56.05	38	85.88	49	38	50
25. 111a	do.	-	83.72	20	- .55	59.92	43	83.72	50	43	
25. 111b	do.	5	86.48	20	-	-	-	-	-	50	27-37, 48-50
25. 221	do.	-	-	-	-	24.50	26	n59.93	47	26	42
36. 111	H. V. Parker	-	a91.68	20	-14.46	55.69	43	77.22	49	42	48
36. 133	do.	-	a91.73	20	-20.18	71.55	49	-	-	49	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
14.25 36.211	H. V. Parker	-	a87.52	20	-6.82	60.83	44	80.90	49	44	
14.26 3.111	Flora West	-	15.48	23	-27	12.03	39	15.99	48	38	40, 41
3.243	Mary Brown	-	14.30	23	-2.22	12.08	49	a16.80	47	45	
3.413	Howard Menefee	-	10.94	23	-44	8.35	39	11.85	48	38	
4.133a	C. R. Williamson	-	23.05	23	-1.06	18.43	39	23.95	47	38	
4.141	Roy Lockhead	-	23.71	23	-77	18.47	39	24.66	47	38	
4.231	Jim Chadwick	-	20.91	23	-69	15.82	39	21.66	47	38	
5.131	L. M. Harter	-	32.48	23	-09	21.70	42	33.01	47	38	
5.211	M. D. Menoud	-	(m)			22.20	42	29.65	47	38	49, 50
5.243	J. D. S. McKinistry	-	24.63	23	-1.31	20.00	39	25.76	47	38	
5.433a	J. D. Jones	-	36.25	23	-91	34.62	47	36.25	50	47	
6.111	Wiley Grizzle	-	37.27	23	+93	16.30	38	38.20	49	38	
6.211	do.	-	37.05	23	+35	18.54	38	37.40	49	38	
6.232	Tom Andrews	-	42.38	23	+17	26.82	42	42.55	49	40	
6.241	do.	-	(m)			23.80	38	32.43	46	38	42, 47-50
7.443	O. T. Kunkel	3	47.56	24	-40	30.25	36	bn56.00	48	36	
8.112	G. L. Truitt	-	42.09	23	+49	21.80	38	42.58	49	38	
8.243	P. Flores, Jr.	-	42.24	23	+31	19.83	38	42.55	49	38	
8.312	Oscar Kiper	-	69.46	24	+88	41.54	42	70.36	49	42	
8.433b	Tom Ferguson	-	a87.48	24	-13.08	74.40	49	75.49	48	48	
9.143a	V. R. Barnett	-	43.66	23	-1.58	42.08	49	43.66	50	49	
9.434	Cave Bros.	-	25.35	23	-38	8.35	38	25.35	50	38	45, 48
9.442	Oscar Cave	-	20.22	23	-63	12.25	42	20.80	48	38	41
10.121	S. W. Smith	-	8.12	23	+6.21	8.12	50	14.91	43	38	47, 48
10.221	John Langnegger	-	12.11	23	-91	10.88	42	13.35	44	42	
10.244	do.	-	14.01	23	-63	10.69	45	15.17	48	38	
11.111	do.	-	17.17	23	-41	14.52	46	18.53	48	38	
11.121	H. A. Kiper	-	17.10	23	-40	15.13	39	18.21	48	38	43
11.231	Royce Langford	-	14.84	23	-49	14.35	49	15.36	48	48	
11.444	W. E. Utterback	-	(m)			7.99	48	11.61	47	38	50
12.433b	Mr. Commins	3	14.71	23	+1.34	12.50	42	16.88	41	40	
13.121	L. M. Lang	-	15.95	23	+1.27	14.30	42	17.50	41	38	
14.212	B. L. Barnett	-	12.45	23	+07	11.36	42	13.40	41	40	46
14.421	Jim Michelet	-	a21.10	23	-7.75	10.49	43	14.33	48	43	
14.441	do.	-	c21.70	23	-6.20	10.04	42	16.42	48	38	
14.443	Owner unknown	-	12.24	23	+2.08	11.22	44	15.36	48	44	
15.113	Hattie McCullough	-	22.75	23	-89	13.40	42	22.75	50	38	48
15.322	F. H. Evans	3	7.60	23	+5.22	5.55	42	13.40	48	42	
15.333	Dub Andrus	3	34.66	23	+10	16.42	38	35.47	48	38	
17.122a	R. A. & T. A. Bledsoe	-	c77.00	24	-3.86	73.14	49	73.26	48	48	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
14. 26.17. 211a	A. L. Hewitt	-	a82.22	24	-9.66	55.10	45	72.56	49	45	48
17. 444	Pearson Bros.	-	70.85	21	+ .06	38.42	38	70.91	49	38	
18. 113	R. G. Campbell	-	83.17	24	- .48	50.57	39	83.17	50	39	
18. 131	William Cooke	-	82.87	24	- .53	50.83	42	82.87	50	42	47
18. 131a	do.	-	83.73	24	- .54	74.92	47	83.73	50	47	
19. 211	Pearson Bros.	-	75.45	24	- .23	39.68	38	75.45	50	38	45
19. 311	Henry Johnson	-	71.53	20	-	36.12	38	71.53	50	38	49
19. 424	E. E. Lane	-	88.04	20	- .81	87.23	49	88.04	50	49	
19. 444	do.	3	87.55	20	-1.13	49.10	38	87.55	50	38	
19. 444a	do.	3	87.73	20	- .94	86.79	49	87.73	50	49	
20. 143	Pearson Bros.	-	89.98	21	-2.39	48.15	38	89.98	50	38	45
20. 211	Ernest Langnegger	-	85.70	21	+ .15	85.70	50	85.85	49	49	
20. 343	do.	-	96.28	21	- .18	56.26	38	96.28	50	38	41
21. 311	G. E. Wade, Jr.	-	61.85	21	- .42	61.85	49	62.27	50	49	
21. 333	do	-	(m)			33.38	42	63.96	48	38	44, 45, 49, 50
22. 141	Wayne Adams	-	35.86	23	+1.65	21.66	42	37.64	48	38	
23. 131	E. A. White	-	13.51	23	+ .19	6.89	42	16.57	48	38	
23. 214a	F. E. Pilley	-	b15.04	23	- .92	13.96	45	16.56	48	45	
23. 413	E. A. White	5	13.14	23	+ .95	8.99	42	16.53	48	42	
27. 111	J. L. Ogle	-	20.07	21	+1.05	8.43	42	21.12	49	38	
27. 424a	M. C. Brown	-	26.50	21	+1.75	25.40	47	28.25	49	45	
28. 111	William Langnegger	-	61.98	21	+ .78	32.32	42	62.76	49	42	
28. 211	L. T. Lewis	-	24.16	21	+1.29	24.18	42	47.39	49	38	41
28. 423	do.	-	27.98	21	+1.03	14.14	42	29.01	49	42	
29. 112	P. E. Stoes	-	99.59	21	-	58.80	38	99.59	50	38	40, 41, 49
29. 213	do.	-	89.72	21	- .64	49.52	38	89.72	50	38	
29. 441a	J. W. Wiggins	-	64.19	21	- .87	32.25	38	64.19	50	38	
29. 441b	do.	-	63.56	21	- .98	31.20	38	63.56	50	38	41
32. 131a	B. M. Hopkins	-	82.67	21	-1.22	53.09	43	82.67	50	42	48
32. 331	B. E. Spencer	3	64.80	21	-6.79	32.85	38	64.80	50	38	
35. 212	J. H. King	-	27.65	21	+ .70	27.65	50	28.35	49	49	
35. 344	J. Q. Mitchell	3, 5	70.97	21	+ .71	65.68	43	71.68	49	41	
15. 24. 23. 344	Carroll Jackson	-	67.11	20	- .23	58.87	44	a67.35	46	38	
27. 344	S. A. Lanning	-	58.48	20	0	58.48	k49	61.75	38	38	
28. 244	State of New Mexico	-	88.05	20	+ .03	88.05	50	92.30	41	38	43, 46
32. 211	Carl Mangum	3	48.21	20	-1.03	37.63	45	50.72	41	40	
34. 341	S. A. Lanning	-	25.55	20	+ .13	25.55	50	39.82	42	38	41
35. 143	E. P. Malone	-	16.37	20	+3.81	16.37	50	27.70	38	38	
36. 244	W. F. Waller	-	46.60	19	+ .70	45.62	48	47.30	49	48	
15. 25. 12. 111a	E. H. Corzine	-	52.42	20	-1.23	35.64	42	52.42	50	38	47, 48

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
15. 25. 12. 212b	E. H. Corzine	-	58.71	20	+2.06	41.92	44	60.77	49	44	
24. 111	Hal Bogle	-	17.28	19	+1.42	12.06	42	18.70	49	38	
24. 211	do.	5	(m)			7.65	42	16.52	46	38	
24. 211a	do.	5	20.85	19	-.04	7.65	42	20.85	50	38	48-50
26. 423	R. T. Spence	-	8.15	19	-2.20	3.59	42	8.38	48	42	41
27. 321	Pearson Bros.	-	30.51	13	+1.97	17.50	42	36.25	48	38	
28. 331	T. C. Sexton	-	31.03	13	+3.89	27.64	45	38.56	48	38	40, 41, 43
28. 331a	do.	-	37.03	13	+6.83	26.48	45	43.86	49	44	
33. 112	Carroll Jackson	-	-	-	-	11.18	42	b26.92	48	38	39, 50
35. 111	M. M. Spence	3	27.13	13	+1.33	15.51	42	29.56	46	38	
35. 311	Z. C. Robinson	-	39.31	13	+2.11	28.85	42	41.42	49	38	40, 46
35. 311a	do.	5	a28.52	13	+1.82	a28.52	50	31.61	47	46	
36. 333b	J. M. Norris	-	31.12	13	-1.09	29.63	48	31.12	50	48	
36. 333c	do.	5	31.25	19	-	-	-	-	-	50	
15. 26. 4. 444	Harry Cowan	3	41.55	19	+9.6	33.14	42	42.51	49	40	
5. 121	B. E. Spencer	-	(m)			34.80	38	52.78	49	38	50
5. 142	A. Russell Estate	-	47.13	21	-.85	25.55	43	47.13	50	38	
6. 311	Calvin Graham	5	61.51	20	-6.49	28.66	38	61.51	50	38	
7. 312	C. H. Foster	-	55.77	20	-.70	36.25	44	58.89	48	44	
8. 411	E. M. George	-	33.79	19	-1.23	18.08	44	33.79	50	44	
8. 413	do.	-	33.37	19	-1.53	15.53	44	33.37	50	44	
9. 133	do.	-	28.09	19	-.53	16.68	42	28.09	50	40	
14. 222	Breeb Hurst	-	6.38	19	+1.52	2.38	42	7.93	48	41	
14. 433	Peck Dority	-	10.82	19	+1.36	10.82	50	12.18	49	48	
17. 211	E. M. George	-	35.53	19	-2.57	12.06	44	35.53	50	44	
18. 112	R. T. Spence	-	55.24	20	-6.50	31.29	44	55.24	50	44	
19. 211	Lake Arthur Cemetery	3	36.31	19	+1.53	23.87	42	39.96	48	42	
19. 442	Paul Robinson	5	12.08	13	-	5.47	42	12.44	46	38	47-49
20. 144	W. M. Opfer	-	30.60	13	+4.3	18.30	42	31.03	49	38	
29. 111	E. C. Jackson	-	9.18	13	+1.47	3.68	42	10.66	48	38	
30. 131	Paul Robinson	-	7.74	13	+1.17	2.10	40	7.92	48	39	42
30. 224	Mrs. G. R. Pate	-	(m)			6.27	42	13.93	48	38	50
30. 411	C. R. Yoder	-	15.07	13	+1.98	13.35	43	b17.05	49	43	
31. 111	E. J. Gromo	-	8.00	13	-.03	7.97	49	13.73	41	38	
31. 333	B. E. Spencer	-	18.52	13	+4.1	15.12	42	19.02	48	42	
32. 231	Mrs. H. C. Evans	-	b 9.96	13	-.04	7.70	42	b 9.98	50	38	

a Pumping.

b Pumped recently.

c Nearby well being pumped.

d Dry at depth given.

f From recorder graph.

i Possible discrepancy of a few tenths of a foot

j between present and previous land-surface data.

Also 1943.

k Also 1950.

m Measurement discontinued.

n Measurement uncertain.

Part 3. Water levels during 1950

Location number	8. 24. 5. 233	8. 24. 15. 111	8. 24. 35. 432	9. 24. 5. 130	10. 24. 8. 333	10. 24. 32. 111	10. 25. 19. 331	11. 23. 1. 433
Owner	Corn	Corn	Wiggins	Short-ridge	Lee	Lewis	Pugh	Wiggins
Jan. 25-27, 30	65. 34	c24. 90	50. 94	89. 92	44. 85	31. 22	34. 23	60. 12
Mar. 7, 8	65. 50	24. 96	50. 66	89. 55	(a)	31. 09	35. 11	61. 83
May 8	67. 51	25. 98	53. 65	92. 71	49. 56	32. 80	j35. 18	67. 25
July 11, 12	67. 34	22. 75	54. 02	93. 10	49. 72	34. 04	a38. 32	67. 59
Sept. 6-8, 11, 12	67. 80	20. 18	-	87. 25	51. 12	34. 25	35. 80	68. 49
Nov. 1, 8, 9	67. 07	22. 39	53. 48	91. 48	47. 89	32. 91	35. 20	63. 87

Location number	11. 23. 15. 222	11. 24. 10. 224	11. 24. 14. 331	11. 24. 28. 113	11. 25. 6. 421a	12. 24. 13. 111	12. 25. 9. 422	12. 25. 22. 411
Owner	Smith	Smith	Flour-ney	School	White	Weldy	Town-site	Clardy
Jan. 26-28, 30	101. 29	17. 05	30. 65	64. 96	18. 72	70. 01	52. 55	89. 16
Mar. 9, 10	b102. 78	21. 89	37. 84	65. 81	9. 45	71. 03	52. 29	c97. 97
May 8-10	107. 21	29. 33	45. 01	70. 76	8. 71	76. 08	55. 58	101. 09
July 11-13	108. 40	23. 48	43. 74	73. 25	5. 68	78. 09	57. 31	96. 46
Sept. 8, 9, 11	109. 52	24. 35	43. 09	75. 21	4. 36	79. 56	58. 75	98. 01
Nov. 8, 10	105. 31	b21. 24	33. 78	71. 05	8. 62	74. 35	56. 35	94. 10

Location number	12. 25. 35. 411a	12. 26. 18. 221a	12. 26. 29. 333	13. 25. 14. 231	13. 25. 17. 411	13. 25. 34. 323	13. 26. 17. 321	13. 26. 23. 111
Owner	Stone	Johnson	Lawing	Zappe	Thaman	Kerr	Nowak	Clay
Jan. 24-26	59. 91	14. 81	16. 14	58. 10	66. 34	87. 46	11. 54	5. 78
Mar. 10	67. 37	14. 28	16. 94	c74. 21	70. 31	87. 06	11. 30	5. 82
May 9, 10	72. 71	14. 66	17. 73	bc85. 05	85. 26	87. 58	b22. 39	a33. 31
July 12, 13	71. 53	15. 14	16. 61	c86. 88	89. 17	88. 20	b18. 16	7. 52
Sept. 8, 11	70. 44	15. 27	17. 26	80. 10	91. 36	88. 68	13. 82	a28. 97
Nov. 9	66. 84	15. 22	17. 65	c76. 84	77. 14	89. 05	b24. 38	6. 99

Location number	13. 26. 28. 121	14. 25. 1. 344a	14. 25. 2. 233a	14. 25. 20. 443	14. 26. 7. 443	14. 26. 12. 433b	14. 26. 15. 322	14. 26. 15. 333
Owner	Grassie	Flores	Massen-gale	Hurst	Kunkel	Commins	Evans	Andrus
Jan. 20, 23-25	22. 96	71. 19	76. 94	74. 91	47. 56	14. 71	7. 60	34. 66
Mar. 10, 11	19. 68	72. 03	77. 65	75. 15	48. 08	a34. 04	2. 53	34. 14
May 10	25. 11	77. 56	83. 58	75. 45	41. 73	16. 38	3. 89	43. 55
July 13	21. 83	80. 34	87. 15	75. 52	36. 02	16. 06	7. 66	39. 21
Sept. 11, 12	25. 95	84. 10	88. 58	74. 55	40. 65	16. 96	6. 64	41. 40
Nov. 9-11	19. 57	b79. 30	84. 87	74. 55	a48. 45	15. 58	9. 21	39. 26

Location number	14. 26. 19. 444	14. 26. 19. 444a	14. 26. 32. 331	14. 26. 35. 344	15. 24. 32. 211	15. 25. 35. 111	15. 26. 4. 444	15. 26. 19. 211
Owner	Lane	Lane	Spencer	Mitch-ell	Mangum	Spence	Cowan	Ceme-tery
Jan. 13, 19-21	87. 55	87. 73	64. 80	70. 97	48. 21	27. 13	41. 55	36. 31
Mar. 11, 15	88. 93	89. 66	65. 16	a83. 35	a49. 68	29. 80	42. 95	36. 65
May 11	91. 26	92. 11	66. 71	a77. 93	51. 22	a31. 85	44. 74	36. 71
July 13, 14	92. 41	93. 15	67. 63	81. 53	53. 06	b31. 79	44. 24	37. 31
Sept. 11, 12	93. 12	93. 80	68. 20	i72. 78	b52. 44	b31. 00	46. 67	37. 05
Nov. 9-11	92. 58	b93. 02	68. 53	i73. 11	b51. 48	30. 48	44. 50	36. 96

a Pumping.

b Pumped recently.

c Nearby well being pumped.

i Possible discrepancy of a few tenths of a foot between present and previous land-surface data.

j Measurement uncertain.

Part 4. Daily highest water level from recorder graph

9. 24. 17. 331. Oscar White.

Daily highest water level from recorder graph

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 7	101.72	Oct. 5	110.36	Nov. 3	114.84	Dec. 2	117.49
8	101.88	6	110.55	4	114.96	3	117.54
9	102.26	7	110.71	5	115.08	4	117.60
10	102.64	8	110.92	6	115.19	5	117.65
11	103.05	9	111.12	7	115.31	6	117.72
12	103.46	10	111.31	8	115.43	7	117.77
13	103.86	11	111.49	9	115.54	8	117.81
14	104.24	12	111.66	10	115.63	9	117.87
15	104.61	13	111.83	11	115.87	10	117.93
16	104.97	14	111.98	12	115.89	11	117.99
17	105.32	15	112.12	13	115.99	12	118.03
18	105.67	16	112.31	14	116.07	13	118.07
19	106.01	17	112.45	15	116.15	14	118.13
20	106.35	18	112.60	16	116.25	15	118.17
21	106.68	19	112.75	17	116.33	16	118.21
22	107.01	20	112.91	18	116.41	17	118.26
23	107.33	21	113.05	19	116.49	18	118.31
24	107.63	22	113.20	20	116.57	19	118.35
25	107.92	23	113.36	21	116.67	20	118.39
26	108.21	24	113.54	22	116.76	21	118.43
27	108.47	25	113.67	23	116.84	22	118.47
28	108.73	26	113.81	24	116.93	23	118.51
29	109.00	27	113.95	25	117.02	24	118.55
30	109.22	28	114.09	26	117.10	25	118.59
Oct. 1	109.45	29	114.21	27	117.17	26	118.62
2	109.69	30	114.33	28	117.23	27	118.65
3	109.92	31	114.46	29	117.31	28	118.68
4	110.15	Nov. 1	114.68	30	117.37	29	118.71
		2	114.87	Dec. 1	117.43	30	118.75
						31	118.78

h Tape measurement.

11. 25. 29. 444. Glenn Wheeler.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	11.12	11.89	12.42	11.15	12.81	13.06	13.65	12.76	15.10	10.62	11.64	9.25
2	11.12	11.89	12.28	10.86	12.69	13.07	13.95	13.02	15.25	10.62	12.09	9.25
3	11.39	11.85	12.23	10.86	12.66	13.33	14.20	13.19	15.39	10.61	12.46	9.26
4	11.73	11.81	12.19	11.07	12.66	12.77	14.50	13.42	15.12	10.58	12.24	9.27
5	11.85	11.77	12.12	11.38	.....	12.36	14.67	13.71	14.45	10.57	11.30	9.33
6	11.93	11.76	12.05	11.71	.....	12.16	14.73	13.94	14.51	10.59	10.74	9.29
7	12.07	11.72	12.05	12.16	.....	12.00	14.76	13.32	14.55	10.67	10.45	9.17
8	11.99	11.72	12.02	12.56	12.81	11.98	14.90	12.77	14.56	10.72	10.40	9.08
9	11.94	11.94	11.97	13.01	12.66	11.91	14.35	12.36	14.45	10.72	10.33	9.04
10	12.23	12.05	11.95	13.20	13.19	11.83	13.50	12.29	14.15	10.76	10.31	9.03
11	12.36	12.13	11.91	13.33	12.91	11.73	13.09	11.96	14.25	10.83	10.65	9.02
12	12.49	12.19	11.88	13.19	12.55	11.70	12.63	11.70	14.37	11.28	10.46	9.07
13	12.60	12.12	11.89	12.76	12.35	12.00	12.24	11.50	14.39	11.84	10.34	9.17
14	12.47	12.24	12.05	12.65	12.22	12.79	11.97	11.85	14.41	12.18	10.55	9.27
15	12.47	12.15	12.27	12.68	12.18	13.37	12.63	12.56	14.39	12.56	10.76	9.35
16	12.43	12.07	12.42	12.85	12.74	13.69	13.36	13.21	14.16	12.48	10.65	9.44
17	12.46	12.01	12.43	13.01	13.17	13.97	13.97	13.69	13.94	12.78	10.11	9.52
18	12.25	11.99	12.59	13.03	13.46	13.94	14.24	14.21	13.69	12.98	9.75	9.58
19	12.13	11.91	12.42	13.26	13.61	13.74	14.09	14.60	13.10	13.06	9.63	9.85
20	12.09	11.88	12.32	13.11	13.62	14.16	13.22	14.78	13.00	13.06	9.58	10.60
21	12.31	12.14	12.45	13.32	13.58	14.31	12.69	14.87	13.41	13.30	9.79	11.13
22	12.34	12.30	12.25	13.25	13.57	14.36	11.93	14.82	13.68	13.56	10.28	11.53
23	12.30	12.44	12.17	13.22	13.85	14.34	11.42	14.58	13.78	13.71	10.69	11.79
24	12.38	12.58	12.14	13.15	13.85	14.14	11.18	14.58	12.94	13.94	10.33	11.80
25	12.31	12.64	12.09	13.06	13.93	13.28	11.14	14.64	11.94	14.06	10.20	11.41

11. 25. 29. 444--Continued.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	12. 22	12. 62	11. 92	12. 96	13. 31	12. 46	11. 20	14. 88	11. 34	13. 71	10. 08	11. 39
27	12. 09	12. 54	11. 76	12. 84	12. 66	12. 33	11. 22	.....	11. 00	13. 15	10. 01	11. 87
28	12. 03	12. 50	11. 65	12. 96	12. 24	12. 22	11. 06	.....	10. 80	12. 80	9. 73	12. 31
29	11. 98		11. 54	13. 04	12. 19	12. 80	10. 95	15. 06	10. 70	12. 49	9. 45	12. 59
30	11. 95		11. 49	12. 85	12. 47	13. 20	11. 65	15. 15	10. 63	12. 12	9. 33	12. 65
31	11. 92		11. 56		12. 76		12. 47	15. 13		11. 75		12. 20

13. 26. 7. 333. Howard Amason.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	15. 61	.....	17. 31	.....	17. 08	.....	.....	h20. 20	.....	.....	.....
2	.....	15. 64	.....	17. 26	.....	17. 08	.....	.....	20. 20	.....	.....	.....
3	.....		.....	17. 17	.....	17. 07	.....	.....	20. 21	18. 14	.....	.....
4	h15. 29	.....	.....	17. 11	.....	17. 05	18. 85	17. 51	20. 16	18. 06	.....	.....
5	15. 29	.....	.....	17. 05	.....	17. 01	18. 80	.....	20. 07	17. 98	.....	.....
6	15. 31	.....	.....	17. 00	.....	16. 98	18. 75	.....	19. 96	17. 92	.....	h18. 20
7	15. 33	.....	.....	.....	.....	16. 96	18. 67	.....	19. 84	17. 87	.....	18. 20
8	15. 36	.....	.....	.....	.....	16. 93	18. 56	h17. 68	19. 68	17. 83	.....	18. 20
9	15. 37	.....	.....	.....	h16. 53	16. 92	18. 45	17. 72	19. 58	17. 79	h17. 93	18. 22
10	15. 38	.....	h15. 19	.....	16. 53	16. 92	18. 33	17. 87	19. 53	17. 76	17. 96	18. 23
11	15. 40	.....	15. 19	.....	16. 55	16. 92	18. 24	18. 04	19. 50	17. 74	18. 05	18. 22
12	.....	.....	15. 23	.....	16. 57	16. 92	.....	18. 22	19. 44	17. 72	18. 13	18. 20
13	.....	.....	15. 25	.....	16. 58	16. 93	18. 02	18. 40	19. 38	17. 72	18. 22	18. 18
14	15. 48	.....	15. 26	.....	16. 57	.....	17. 94	18. 56	19. 34	17. 75	18. 26	.....
15	15. 48	.....	15. 27	.....	16. 57	.....	17. 88	18. 72	19. 29	17. 79	18. 27	.....
16	15. 49	.....	15. 29	.....	16. 57	.....	17. 82	18. 84	.....	17. 82	18. 27	.....
17	15. 50	.....	15. 36	.....	.....	.....	17. 78	.....	.....	17. 82	.....	.....
18	15. 51	.....	15. 47	.....	.....	.....	17. 75	.....	.....	17. 87	.....	.....
19	15. 52	.....	15. 68	.....	.....	.....	17. 75	.....	19. 17	.....	.....	17. 96
20	15. 53	.....	15. 86	.....	.....	.....	17. 75	.....	19. 14	.....	.....	17. 94
21	15. 54	15. 64	16. 02	.....	.....	h18. 10	17. 78	h19. 26	19. 13	.....	.....	17. 93
22	15. 50	15. 64	16. 18	.....	h16. 75	18. 13	17. 84	19. 26	19. 11	.....	18. 17	17. 91
23	15. 50	15. 63	16. 34	.....	16. 76	18. 20	17. 87	19. 28	19. 09	.....	18. 16	17. 90
24	15. 52	15. 61	16. 48	.....	16. 79	18. 30	17. 82	19. 35	19. 08	h17. 93	18. 16	17. 89
25	15. 54	15. 61	16. 61	.....	16. 83	18. 41	17. 78	19. 45	19. 03	17. 93	18. 15	17. 87
26	15. 56	15. 59	16. 74	.....	16. 87	18. 52	17. 74	19. 57	18. 94	17. 94	18. 14	17. 86
27	15. 57	15. 58	.....	.....	16. 92	18. 63	17. 70	19. 69	.....	17. 95	18. 13	.....
28	15. 59	15. 56	.....	.....	16. 98	18. 73	17. 65	19. 75	.....	17. 95	18. 02	.....
29	15. 59	.....	.....	.....	17. 01	18. 84	17. 61	19. 84	.....	17. 95	18. 01	.....
30	15. 59	.....	h17. 22	.....	g17. 04	.....	17. 57	.....	.....	17. 95	.....	.....
31	15. 59	.....	17. 25	.....	h17. 08	.....	17. 54	.....	.....	17. 95	.....	.....

g Estimated.

h Tape measurement.

Part 5. Miscellaneous Data

7. 24. 32. 131. Corn. Drilled irrigation well, diameter 14 inches, depth 276 feet.
Mar. 12, 1949, 68. 30.

7. 24. 32. 430. Corn. 0.9 mile northeast of rock house. Drilled irrigation well,
diameter 16 inches. Mar. 12, 1949, 60. 92.

7. 26. 4. 331a. Pendergrass. West side of earthen tank. Drilled irrigation well,
diameter 14 inches.

7. 26. 5. 310. Stewart. Drilled irrigation well, diameter 24 inches, depth 60 feet.
Mar. 14, 1949, 23. 00.

7. 26. 6. 420. Stewart. Dug and drilled irrigation well, diameter 60 inches, depth 60 feet.
Mar. 14, 1949, 23. 78.

7. 26. 17. 224. White. Drilled irrigation well, diameter 8 inches. Mar. 14, 1949, 13. 78.

7. 26. 19. 242. Everett. Drilled irrigation well. Mar. 14, 1949, 30. 98, pumped
recently.

- 7.26.19.442. Everett. Drilled irrigation well, diameter 14 inches. Mar. 14, 1949, 15.59.
- 7.26.19.444. Everett. Drilled irrigation well, diameter 8 inches. Mar. 14, 1949, 13.24.
- 7.26.20.244. Everett. About 500 feet northwest of house. Drilled irrigation well, diameter 8 inches. Mar. 14, 1949, 26.44.
- 7.26.20.312. Everett. Drilled irrigation well. Mar. 14, 1949, 13.76.
- 7.26.30.433. Everett. Drilled irrigation well. Mar. 14, 1949, 11.49.
- 8.24.4.142. Corn. Drilled unused well, diameter 12 inches, depth 441 feet. Mar. 12, 1949, 68.95.
- 8.24.4.333. Corn. Drilled unused well, diameter 16 inches, depth 416 feet. Mar. 12, 1949, 42.20.
- 8.24.5.233. Corn. About 200 feet northeast of rock house. Drilled unused well, diameter 12 inches, depth 446 feet. Mar. 12, 1949, 65.37.
- 8.24.5.324. Corn. 0.55 mile south of rock house. Drilled irrigation well, diameter 15 inches. Mar. 12, 1949, 68.77.
- 8.24.5.343. Corn. On north bank of Macho Draw. Drilled irrigation well, diameter 13 inches, depth 415 feet. Mar. 12, 1949, 73.27.
- 8.24.8.142. Spurrier. At center of south side of earthen tank, about 0.4 mile north of house. Drilled irrigation well, diameter 12 inches. Mar. 11, 1949, 61.19.
- 8.24.8.324. Spurrier. About 300 feet south of stone house. Drilled irrigation well, diameter 12 inches, depth 410 feet.
- 8.24.15.111. Corn. About 60 feet northwest of drilled irrigation well. Drilled unused well, diameter 16 inches. Mar. 11, 1949, 25.20.
- 8.24.22.143. Corn. 0.2 mile west of rock house. Drilled irrigation well, diameter 16 inches, depth 275 feet. Mar. 11, 1949, 26.33.
- 8.24.22.234. Corn. 0.2 mile east of rock house, about 0.2 mile south of windmill. Drilled irrigation well, depth 315 feet. Mar. 11, 1949, 16.59.
- 8.24.35.432. Wiggins. 0.5 mile southeast of house. Drilled unused well, diameter 6 inches. July 14, 1949, 53.46; Sept. 8, 1949, 54.26; Nov. 2, 1949, 52.48.
- 9.23.25.411. Marley. On east side of concrete sluice box. Drilled irrigation well, depth 610 feet. Mar. 10, 1949, 105.72.
- 9.23.35.424. Marley. About 70 feet southeast of shed. Drilled irrigation well, depth 826 feet. Mar. 10, 1949, 120.29.
- 9.23.36.133. Marley. Drilled irrigation well. Mar. 10, 1949, 121.80.
- 9.24.2.430. Wiggins. Drilled irrigation well, diameter 12 inches. Mar. 13, 1949, 31.96.
- 9.24.5.130. Shortridge. Formerly 9.24.5.310.
- 9.24.9.140. Connors. Drilled irrigation well, diameter 8 inches. Mar. 10, 1949, 67.95.
- 9.24.11.130. Wiggins. At west side of earthen tank. Drilled irrigation well, diameter 16 inches. Mar. 13, 1949, 31.55.
- 9.24.14.340. Wiggins. Drilled irrigation well. Mar. 13, 1949, 22.42.
- 9.24.17.331. White. Mar. 7, 1950, 120.53; May 8, 122.65; July 11, 109.13; July 17, 104.49; Aug. 17, 94.79; Sept. 7, 101.72; Nov. 8, 115.47.
- 9.24.20.322. White. Formerly 9.24.20.411. May 8, 66.49; July 17, 68.72.

10. 24. 17. 111. Henry and Mabry. Mar. 7, 47. 41, nearby well pumping.
10. 25. 31. 413. Barringer. About 150 feet northeast of drilled irrigation well. Drilled unused well, diameter 6 inches, depth 160 feet.
11. 23. 15. 222. Smith. Drilled irrigation well, diameter 16 inches, depth 649 feet.
11. 24. 10. 114a. Haley. About 300 feet southeast of 11. 24. 10. 114. Drilled irrigation well.
11. 24. 19. 333. Kelley. About 1,000 feet west of 11. 24. 19. 343, on east side of 5- by 6- by 4-foot concrete discharge box. Drilled irrigation well, diameter 14 inches, depth 200 feet.
12. 25. 8. 441. White. South side of earthen tank. Drilled irrigation well, diameter 8 inches, depth 96 feet.
12. 25. 36. 141. Berry. 0.25 mile southeast of 12. 25. 36. 112, along railroad track and Highway 285. Drilled irrigation well, drilled 1946, diameter 16 inches, depth 129 feet.
13. 25. 14. 111. Fletcher Bros. Along east side of north-south road. Drilled irrigation well.
14. 25. 1. 344a. Flores. 95 feet southeast of well 14. 25. 1. 344. Drilled domestic well, diameter 6 inches, depth 135 feet. Sept. 12, 1949, 81. 26; Nov. 5, 74. 65.
14. 25. 11. 233. Langnegger. Measurement discontinued. Turbine pump moved to new well 14. 25. 11. 233a.
14. 25. 11. 233a. Langnegger. At southeast corner of earthen tank, 350 feet east of well 14. 25. 11. 233. Drilled irrigation well.
14. 25. 11. 333a. Langnegger. At southwest corner of earthen tank, north side of road, 528 feet west of well 14. 25. 11. 333. Drilled irrigation well, diameter 16 inches.
14. 25. 13. 213a. Graham. 300 feet southeast of well 14. 25. 13. 213. Drilled irrigation well, diameter 16 inches, depth 250 feet.
14. 25. 25. 111b. Norris. 48 feet northeast of well 14. 25. 25. 111. Drilled irrigation well.
14. 26. 23. 413. White. Windmill pump and tower removed from well.
14. 26. 35. 344. Mitchell. Equipment removed and 6-inch casing pulled. About 300 feet east of new well.
15. 25. 24. 211. Bogle. Measurement discontinued.
15. 25. 24. 211a. Bogle. Domestic well. Formerly 15. 25. 24. 211.
15. 25. 35. 311a. Robinson. Deepened to 325 feet.
15. 25. 36. 333c. Norris. At southwest corner of earthen tank, drilled at or near well 15. 25. 36. 333a filled 1946, 60 feet south of well 15. 25. 36. 333b. Drilled irrigation well, diameter 24 inches.
15. 26. 6. 311. Graham. Measurement discontinued. Pump removed to new well at southeast corner of earthen tank.
15. 26. 19. 442. Robinson. At east side of elevated storage tanks, in board pit with storage pressure tanks.

EDDY COUNTY

Part 1. General Discussion

Roswell basin. --The general discussion of water-level changes in the Eddy County part of the Roswell basin has been included with part 1 for Chaves County as the areas are part of one continuous hydrologic area.

Carlsbad area.--The Carlsbad area lies in southeastern New Mexico, principally west of the Pecos River. Most of the irrigated land is furnished water from the Pecos River but because of continuing water shortages, individually owned wells have been drilled in sufficient numbers to supplement the surface water on much of the area. Irrigation west of the Southern Canal is entirely by ground water. The program that was begun in the air field wells in 1942 and in other wells in 1948 was continued in 1950 by measuring water levels in 72 wells in January and in 16 of them at bimonthly intervals. A recording gage was maintained on well 22.26.24.224, about 2 miles south of Carlsbad. A total of 150 measurements was made. Precipitation in 1950 at Carlsbad was 16.19 inches, about 3 inches above average, of which 12.71 inches, 3.3 inches above average, occurred during the main part of the growing season from April to September. Above-normal precipitation occurred in May, July, September, and October with 5.5 inches in July. The surface water supply for irrigation of lands under the Carlsbad Irrigation District was greater in 1950 than any year since 1947 when development of most of the irrigation wells began. Adequate precipitation and surface-water supply resulted in only small amounts of ground water being used for supplemental irrigation on lands of the district. Because of adequate precipitation, pumping for lands irrigated entirely by ground water west of the Southern Canal was undoubtedly small as compared with 1947 and 1948 and probably about equal to 1949 when precipitation was also above normal. The reduced pumping on project lands resulted in general in small declines in the northern and southern parts of the district and rises of more than 2 feet in four wells near Otis. West of the Southern Canal and east of the airport, water levels showed net rises with a maximum recorded rise of 3.3 feet. (See fig. 19.) During the period from January 1947, when most records of water levels were begun and before large-scale pumping started, to January 1950 it appears on the basis of meager data that in the irrigated area west of the Southern Canal and east of the airport, water levels declined as much as 18 feet under a limited area of less than a square mile and more than 10 feet under about 8 square miles. East of the canal, the ground water levels were in general less than 2 feet lower in January 1950 than in January 1947 except under a narrow strip extending from the Southern Canal near Otis to near Loving where water levels declined more than 2 feet. The map (fig. 20) which shows the change in water level from 1947 to 1950 was constructed in part by adding the contours of lowering given on maps for individual years because the number of wells having records for the full period was meager. Some details of the map may be in error but on the whole the correct picture is shown. Thus in the area east of the canal, where water is pumped for irrigation mainly as a supplement to surface water, the ground water is replenished in years of adequate surface supplies with the result that there has been, in general, very little persistent lowering. However, in the area west of the canal, where all irrigation is by ground water, there is a continuing extraction of water from ground-water storage with the result that, with the exceptions of years of excessive precipitation when pumping is small and recharge, especially from Dark Canyon, is large, there is a year-to-year lowering. The lowering west of the canal for the 4 years from 1947 through 1950 was as much as 15 feet in the center of heaviest pumping and 9 feet at the airport.

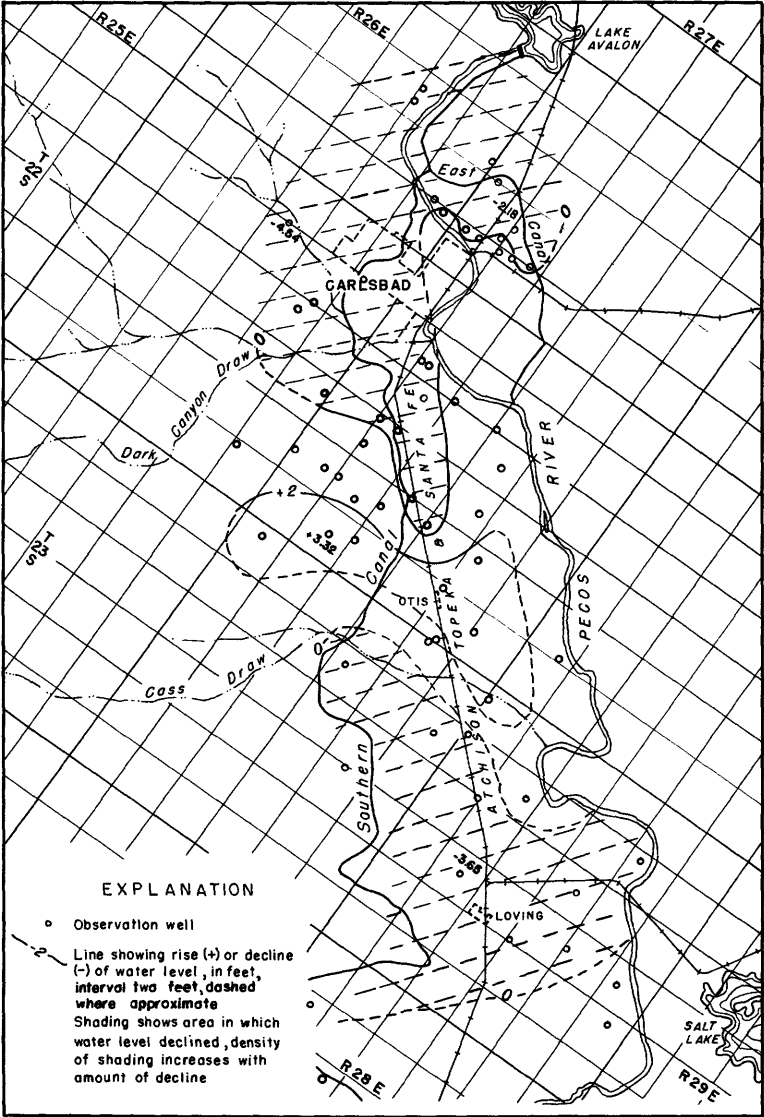


Figure 19. --Change in water level from January 1950 to January 1951 in Carlsbad area, Eddy County.

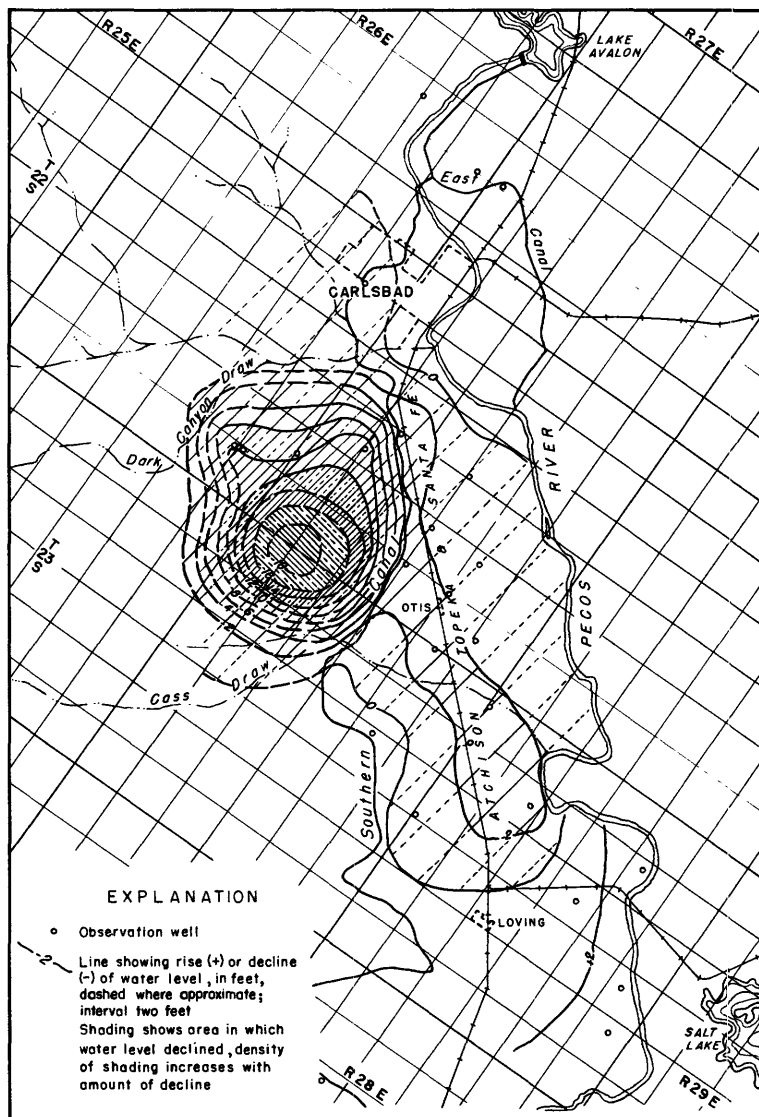


Figure 20. --Change in water level from January or February 1947 to January 1950 in Carlsbad area, Eddy County.

Part 2. Water levels in Eddy County

Location number (1)	Owner (2)	See part (3)	1950		Change 1949-50 (6)	Highest		Lowest		Record	
			Jan. Level (4)	Day (5)		Level (7)	Year (8)	Level (9)	Year (10)	Be- gan (11)	Years missing (12)
16. 25. 1. Lot 3	Pearson Bros.	-	20.46	12	Roswell basin	10.61	44	20.46	50	38	
1. Lot 13a	Charles Buck	-	21.15	12	-4.15	14.66	44	21.15	50	43	
1. 344	Buck Bros.	3	b19.56	13	-2.25	9.50	42	b19.56	50	38	49
2. Lot 9	Ralph Pearson	-	22.04	12	-3.10	14.07	44	22.04	50	38	39
2. Lot 13	do.	-	19.97	12	-3.13	16.84	49	19.97	50	49	
2. Lot 15	do.	-	122.22	12	-1.06	17.35	44	122.22	50	40	
4. Lot 12	J. E. Taylor	-	19.90	12	-1.55	10.58	42	19.90	50	38	48
5. Lot 4	E. P. Malone, Jr.	-	9.38	12	+7.75	9.22	42	13.35	45	38	
5. Lot 5	do.	-	10.72	12	+6.3	9.48	42	14.17	45	38	
5. Lot 13	Fred Croom	-	10.99	12	+1.43	3.12	47	15.72	38	38	
5. 443	W. M. Ault	-	(n)			8.27	42	18.66	46	38	50
6. Lot 4	F. M. Nelson	3	12.68	12	- .65	11.42	42	a15.40	38	38	
6. 313	Frank Childress	4	27.80	12	+1.14	f27.27	42	f30.30	41	38	
8. 111	Pearson Bros.	-	a34.79	19	-4.20	24.27	45	a34.79	50	38	39
10. 333	Orval Gray	-	a69.69	12	-	55.55	44	60.48	46	44	47, 49
10. 333a	do.	5	56.16	12	-	-	-	-	-	50	
10. 334	do.	-	c56.73	12	+4.11	48.60	42	c56.73	50	38	40, 41, 49
11. 133	J. J. Terry	-	40.38	12	+4.02	34.46	44	44.40	49	44	
11. 233	Noah Buck	-	38.26	12	+2.49	28.45	42	40.75	49	38	
12. 124	Buck Bros.	-	32.74	13	+1.9	15.45	42	b32.93	49	38	
12. 412	T. J. Terry	-	(a)	13	-	10.85	42	14.17	41	38	46, 48, 50
13. 211	do.	-	ic22.80	12	+ .93	19.64	42	36.14	48	39	
13. 211a	do.	-	a67.54	12	+8.1	a67.54	50	a68.35	49	49	
14. 213	L. T. Lewis	-	43.05	12	+3.14	30.70	42	46.19	49	38	
15. 233	J. H. Everest	-	(a)	12	-	64.20	39	85.32	48	39	40, 41, 49, 50
15. 331	do.	-	(a)	12	-	82.78	38	97.38	49	38	40, 41, 50
24. 212	Monroe Howard	-	49.98	11	+2.90	30.42	42	52.88	49	38	
25. 211	James Buck	-	72.35	11	-2.45	67.83	48	72.35	50	48	
Ed. Taylor	Ed. Taylor	-	16.34	12	-1.25	15.09	49	29.12	47	38	48
16. 26. 5. Lot 3	H. V. Parker	-	b33.88	12	+1.17	27.35	42	34.05	49	38	45
5. Lot 4	J. L. Taylor	-	21.19	13	-2.24	16.21	38	21.19	50	38	
5. 331	H. V. Parker	-	32.00	13	+1.07	24.07	42	33.07	49	38	41, 43
6. Lot 2	do.	-	20.60	12	+2.35	27.15	42	34.96	49	38	40, 41
6. Lot 4	do.	-	20.60	12	+2.32	19.99	46	29.06	45	44	
6. Lot 4a	do.	-	19.86	13	+9.37	7.20	42	31.99	48	38	
7. 121	L. T. Lewis	-	19.86	13							

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
16. 26. 7. 321	T. J. Frink	-	18. 28	13	+5. 80	3. 09	42	24. 08	49	38	
8. 111	Ira S. Reser	-	19. 23	13	-1. 91	12. 45	42	19. 30	48	38	
15. 333	Carl Manda	-	13. 27	12	+4. 4	9. 66	42	13. 81	48	42	
16. 313	V. L. Gates	-	c17. 02	13	-5. 46	3. 80	42	111. 56	49	38	
17. 311	W. R. Roberts	-	31. 09	13	+1. 93	16. 68	42	33. 02	49	38	
17. 331	Elzie Swift	-	20. 59	12	+2. 95	6. 12	43	23. 54	49	38	42, 48
18. 331	Monroe Howard	-	32. 57	12	+4. 36	14. 32	42	36. 93	49	38	46, 48
18. 411	Ira S. Reser	-	29. 81	12	-	13. 29	42	29. 81	50	38	41, 49
19. 111	H. E. Hall	-	36. 15	11	+3. 56	16. 19	42	39. 71	49	39	
19. 133	E. Jeffers	-	-	-	-	16. 54	42	34. 63	48	38	50
19. 211	H. V. Parker	-	27. 17	11	+4. 07	9. 34	42	31. 24	49	38	
19. 332	L. T. Lewis	5	58. 62	11	-	-	-	-	-	50	
19. 411	E. Jeffers	3	29. 78	11	+4. 2	27. 84	42	37. 18	46	38	
21. 333	J. H. Everest	-	14. 37	12	+2. 68	2. 09	42	17. 05	49	38	
28. 333	H. L. Williams	3	26. 83	11	+2. 79	9. 57	42	29. 62	49	38	
28. 431	R. E. Coleman	5	11. 85	11	+10. 07	8. 72	42	21. 92	49	38	
30. 431	Alvin Bowman	-	a72. 61	11	-6. 48	-	-	-	-	49	
31. 311	F. R. Zumwalt	-	84. 87	11	-11	84. 76	49	84. 87	50	49	
31. 413	T. F. Wilson	-	59. 31	11	+4. 16	35. 33	38	63. 47	49	38	48
32. 231	B. E. Green	-	41. 02	11	+6. 03	20. 41	43	47. 05	49	43	
32. 411	do.	-	37. 11	11	+5. 13	15. 20	42	42. 24	49	38	41
32. 421	Smith Bros.	-	33. 35	11	+4. 69	13. 78	42	38. 04	49	38	45
35. 113	J. T. Fulton	-	13. 71	10	+7. 74	7. 86	43	14. 45	49	43	
17. 25. 1. 143	Fred Savoie	-	119. 55	11	-5. 55	119. 00	49	119. 55	50	49	
12. 211	Artesia Country Club	-	93. 80	11	+2. 22	90. 09	48	94. 02	49	48	
13. 131	O. L. Latham	-	113. 16	10	+2. 27	85. 20	42	113. 43	49	38	41
22. 224	J. M. Jackson	-	164. 60	10	+0. 1	135. 66	42	164. 61	49	38	40
24. 433	do.	-	109. 28	10	+3. 10	82. 40	42	b112. 38	49	38	46
26. 221	Sam Sanders	-	125. 65	10	+7. 6	125. 65	50	126. 41	49	49	
35. 411	Ed Kissingier Estate	3	132. 32	9	-6. 6	107. 95	43	132. 32	50	38	
17. 26. 2. 133	Fred Savoie	-	11. 25	10	+4. 48	5. 62	42	11. 73	49	38	
3. 231	H. R. Rogers	-	11. 81	10	+7. 2	4. 61	42	12. 53	49	38	
3. 333	A. T. Woelk	(m)	(m)			7. 04	42	12. 63	46	42	47-50
3. 433	Mrs. R. W. Box	-	12. 58	10	+1. 04	5. 23	42	113. 62	49	38	43, 48
4. 121a	State of New Mexico	-	20. 30	10	+5. 7	16. 60	47	20. 87	49	47	
4. 331a	Joe Nunn	-	14. 62	10	+12. 86	. 10	38	27. 48	49	38	46-48
4. 331b	do.	-	(m)			. 55	42	14. 5	48	39	50
4. 331c	do.	-	15. 05	10	+7. 87	15. 05	50	22. 92	49	49	
4. 413	R. R. McCorkle	-	20. 07	10	+2. 71	9. 48	41	122. 78	49	38	40, 42, 44, 45
5. 422	J. L. McCabe	-	18. 17	10	+5. 59	9. 83	42	18. 76	49	38	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
17.26. 6.213	Martin Yates, Jr.	-	a74.29	11	-	42.73	46	60.78	48	46	49
6.413	Fred and B. A. Savoie	-	(m)			34.75	42	42.24	45	38	46-50
7.131	J. W. Collins	-	167.12	11	+4.67	42.87	42	71.79	49	38	40, 46
7.221	Buck Jernigan	-	53.67	10	+3.83	32.74	44	57.50	49	44	
7.344	W. F. Cubertson	3	60.90	10	+1.76	31.53	42	62.66	49	40	
7.421	Ivan Rogers	-	46.18	10	+2.50	17.24	42	48.68	49	38	41
7.423	C. A. Houghton	-	44.34	10	+2.65	15.87	42	46.99	49	40	46
7.433	Ed. Stone	-	-	-	-	26.90	42	53.23	48	38	41, 49, 50
7.444	Albert Blake	-	47.10	10	+2.97	20.98	42	50.07	49	38	
10.333	V. L. Gates	3	13.51	10	+8.81	4.60	42	14.32	49	39	
10.433	D. D. Sullivan	-	20.45	10	+2.91	14.41	42	23.36	49	38	46
11.313	W. T. Haldeman	-	(a)	10	-	-	-	-	-	49	50
15.113	R. L. Vogel	-	12.48	10	+5.21	1.48	42	17.69	49	38	41, 43
15.121	do.	-	13.84	10	-	5.00	42	19.45	48	38	41, 49
15.211	J. M. Vogel	-	18.32	10	+2.80	11.57	42	21.12	49	38	
15.411	W. M. Jackson	-	18.98	10	+2.15	11.25	42	22.90	46	38	
16.333	Artesia Cemetery	3	25.22	10	+2.62	6.14	42	27.84	49	38	
16.411	G. G. Armstrong & Son	-	23.94	10	+1.75	11.34	42	25.69	49	39	
17.423	H. A. Denton	-	28.30	12	+2.74	17.93	45	28.30	50	38	40, 42, 48
18.433	A. C. Baca	-	65.81	9	+3.36	38.61	42	69.17	49	38	
18.442	Mrs. Murphy	-	52.58	9	+3.50	26.30	42	56.08	49	38	41
20.133	J. W. Sharp and H. J. Whitaker	-	51.01	9	+3.67	25.48	42	55.51	48	38	43
21.112	Roger Durand	-	26.29	10	+2.61	8.63	42	28.90	49	38	46
21.341	W. S. Hogsett	-	14.31	9	+2.49	5.53	43	16.80	49	38	42
22.233	R. L. Paris	-	24.70	10	+1.22	18.34	42	25.92	49	38	
24.333	Mary E. Yates	3	2.97	9	+1.10	2.13	42	3.82	48	41	
27.413	W. L. Martin	-	14.39	9	-	11.16	42	15.45	48	38	40, 41, 49
27.423	do.	-	1.03	9	+1.03	10.38	42	15.90	41	38	48
28.331	C. E. Martin	-	26.00	9	+5.70	8.78	42	31.70	49	38	
29.131a	do.	-	49.04	9	+4.44	26.04	42	53.48	49	38	
31.133	Dale & Massey	-	(a)	9	-	56.57	43	81.92	49	38	50
18.25.23.111	Mrs. G. M. Phelps	3	117.77	9	+5.47	90.67	42	123.24	49	42	
18.26.2.333	S. O. Higgins	-	14.45	9	-15	10.75	46	14.55	48	38	41
4.111b	T. A. Southard	3	631.25	9	+1.94	18.19	43	33.19	49	k38	
4.433	Charles Rogers	-	25.16	9	+2.56	16.82	43	27.72	49	38	46
7.234a	C. H. Hutsonpiller	4	58.73	5	+1.04	143.62	43	161.21	48	39	
7.234c	do.	-	63.70	9	-1.82	53.73	44	63.70	50	39	42
9.133	Martin Yates, Jr.	5	38.57	9	+1.26	30.43	44	40.34	48	39	40
9.311	C. T. McCauley	-	36.65	9	+1.88	26.62	43	39.43	48	39	
10.311a	Charles Rogers	-	17.47	9	+1.46	17.47	50	18.30	48	48	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
18. 26. 15. 133	J. D. Terry Estate	-	23. 58	9	+0.93	15.78	42	24.51	49	38	41
15. 311	Charles Martin	-	-	-	-	14. 16	42	22.02	40	38	40, 50
18. 241	Ralph Thorp	-	58. 28	9	-18	37.50	43	58.28	50	38	40
18. 323	F. F. Thorp	-	56.79	9	+6.02	38.49	43	362.81	49	38	40
21. 344	Town of Dayton	4	53.43	7	-88	332.97	43	353.50	50	39	
22. 314	Mrs. W. D. Eads	-	a19.61	9	-1.24	8.16	43	a19.61	50	38	40, 41
23. 131	Charles Martin	-	31.00	9	+38	31.00	50	31.38	49	49	
23. 213	R. G. Goodwin	-	26.31	9	+1.12	17.55	42	27.80	41	38	47, 48
24. 131	do.	-	19.24	9	+1.12	14.16	43	22.77	47	43	
24. 223a	do.	3	4.41	9	+2.03	4.41	50	8.39	48	48	
28. 143	Town of Dayton	-	64.30	7	-3.38	52.87	47	64.30	50	47	
33. 111	L. T. Lewis	-	80.13	7	-2.21	64.22	45	80.13	50	38	47
19. 26. 12. 323b	Forrest Lee	-	24.04	7	-	34.07	49	34.38	48	48	50
12. 323c	do.	3.5	17.46	7	+6.71	17.46	50	25.12	48	47	
13. 211a	R. L. House & Forrest Lee	-	10.36	7	+2.97	2.70	42	13.33	49	42	45, 48
13. 344	R. W. Rankin	3	19.14	7	-	11.75	45	19.14	50	45	47-49
14. 431a	Albert Lee	3	18.60	7	-	16.43	47	26.86	48	47	49
14. 431b	do.	-	49.64	6	+11.24	40.73	43	60.88	49	38	40
27. 233	Lakewood school	3	57.46	5	+12.92	46.20	42	70.38	49	38	40
28. 334	L. T. Lewis	-	63.61	5	+12.80	53.11	42	76.41	49	38	47
28. 441	do.	-	52.97	5	+2.18	39.63	42	56.17	48	38	
33. 412	J. H. Everest	-	b58.80	5	+7.79	35.67	42	59.59	49	38	
20. 26. 6. 431	J. G. Moutry & Sons	-	b57.14	5	+6.69	36.57	42	57.88	48	38	
7. 122	P. S. Campbell	3	50.12	5	-	30.99	42	50.03	48	38	
7. 421	E. Manthei	-	50.12	5	-	-	-	-	-	50	
7. 421a	do.	5	50.12	5	-	24.15	42	45.66	49	38	
8. 112	J. G. Moutry & Sons	-	41.26	5	+4.40	61.29	50	61.29	49	47	
17. 231	J. E. Howell	-	53.73	5	+7.56	53.73	50	61.29	49	47	
17. 231	J. E. Howell	-	43.99	5	+7.06	43.00	42	51.05	49	38	46
17. 411	J. I. Angell	-	16.53	5	+6.10	16.53	50	22.63	49	46	
21. 112	M. uel Hernandez	-									
Carlsbad area											
21. 26. 23. 131	Judson Boyd	-	32.15	17	+3.33	32.15	50	37.72	48	47	
23. 133	do.	-	34.30	17	+2.25	34.30	50	36.55	49	49	
24. 424	L. F. Rayroux	-	46.30	17	+1.96	46.30	50	150.34	48	47	
25. 344	Owner unknown	-	15.11	17	+2.17	15.11	50	19.55	48	48	
36. 212	do.	-	23.91	17	+4.44	22.99	48	24.35	49	48	
21. 27. 19. 334	F. R. Dickson	3	26.10	17	+2.12	26.10	50	130.25	48	47	
28. 311	T. Ives	-	7.48	17	+1.89	7.48	50	11.50	48	48	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
21. 27. 29. 434	Fred O'Chesky	-	15.62	17	+2.00	15.62	50	19.91	48	48	
30. 442	T. Ives	3	10.22	17	- .08	10.14	49	10.63	48	48	
31. 112	Jim Stagner	-	7.19	17	+2.10	7.19	50	11.47	48	48	
31. 211	G. A. Blitz	-	6.80	17	+2.10	6.80	50	11.10	48	48	
31. 214	Owner unknown	-	19.65	17	- .86	16.42	48	19.65	50	48	
32. 111	L. E. Loman	-	17.26	17	-1.08	14.65	48	17.26	50	48	
32. 112	do.	3	4.64	17	+ .79	4.64	50	7.66	48	48	
32. 112a	S. Tracy	3, 5	14.95	24	-	-	-	-	-	50	
22. 26. 3. 344	O. G. Willis	3	72.43	17	+2.62	72.43	50	77.91	48	48	
11. 443	Owner unknown	-	45.80	17	+2.55	45.80	50	50.19	48	48	
12. 112	Joe Boyd	-	23.83	17	+3.05	22.7	47	28.70	48	47	
12. 311	A. J. Bradley	-	-	-	-	38.84	49	39.75	48	48	
14. 213	H. E. Stevenson	3	63.87	17	+2.95	63.87	50	68.70	48	48	
24. 224	D. N. Vest	4	78.00	16	+6.67	78.00	50	85.32	48	48	
35. 222	Carlsbad Airfield No. 3	3	149.31	18	+7.49	135.70	43	156.80	49	43	
36. 111	do.	3	148.28	18	+7.41	135.09	43	155.69	49	43	
36. 111a	do.	3	148.14	18	+7.34	134.75	43	155.48	49	43	
22. 27. 8. 313	George Mashaw	-	20.84	17	+2.28	20.84	50	23.23	48	48	
8. 314	do.	-	16.68	17	+2.58	16.68	50	19.45	48	48	
9. 333	M. Enifer	5	38.82	17	-	38.82	50	42.23	48	48	
10. 333	Mrs. M. Enifer	3	6.68	17	+3.96	6.68	50	11.58	48	48	
15. 333	Fred Forn	-	36.42	17	+5.32	35.9	47	142.39	48	47	
15. 411	do.	-	9.50	17	+4.54	9.50	50	15.09	48	48	
17. 124	W. W. Glaze	-	22.89	18	+6.87	22.89	50	30.69	48	48	
20. 111a	E. C. Walterscheid	-	44.15	18	+2.63	44.15	50	46.78	49	49	
20. 122	Mr. Calvinis	-	39.78	17	+5.90	36.9	47	48.87	48	47	
20. 313	Frank Zugary	-	73.74	18	+2.87	62.35	47	76.61	49	47	
21. 344	Dr. Pate	-	46.35	18	+5.30	46.35	50	54.93	48	48	
22. 421	Enea Grandi	3	27.50	18	+5.49	27.50	50	34.79	48	48	
26. 114	Caesar Grandi	-	26.00	18	+6.17	25.3	47	33.49	48	47	
27. 113	do.	-	36.67	18	+6.13	35.0	47	145.28	48	47	
28. 133	I. L. Skeen	3	57.05	18	+7.44	57.05	50	64.49	49	48	
29. 133	Frank Gentry	-	a104.40	18	-10.39	92.00	48	94.01	49	48	
29. 413	Mr. Rogers	-	72.85	18	+7.12	72.85	50	79.97	49	48	
30. 133	W. H. Merchant	3	108.66	18	+5.14	98.94	45	113.80	49	45	
30. 243	Mr. Yarbrow	-	95.81	18	+4.84	95.81	50	100.65	49	48	
32. 233	Mr. Brenningstool	-	b95.96	18	-2.41	86.69	48	b95.96	50	48	
33. 131	Owner unknown	-	74.00	18	-4.88	69.12	49	74.00	50	48	
34. 111	L. T. Lewis	-	44.85	18	+5.27	41.5	47	155.52	48	47	
35. 111	W. Craft	-	28.72	18	+7.32	26.7	47	138.59	48	47	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
22. 27. 35. 433	Munoz Methola	3	27. 05	18	+7. 39	27. 05	50	36. 54	48	48	
36. 133	Brantley & Williams	-	20. 00	18	+5. 52	18. 7	47	26. 99	48	47	
22. 28. 30. 443	Calvani Bros.	-	11. 10	18	+ 53	11. 10	50	11. 93	48	48	
23. 27. 2. 122	Jim Derrick	-	30. 68	18	+7. 09	28. 1	47	39. 48	48	47	
4. 333	Jones & Turner	(in)								49	
4. 433	do.	5	84. 75	18	-	84. 75	50	91. 25	48	48	49
6. 213	J. A. & W. A. Ashbacher	-	134. 60	18	-3. 44	123. 23	48	134. 60	50	48	
10. 143	A. A. Crabb	-	5. 72	18	+2. 11	5. 72	50	11. 95	48	48	
12. 233	Bird Bros.	-	31. 00	18	+4. 48	31. 00	50	36. 00	48	48	
14. 134	A. M. House	-	67. 02	18	+4. 30	67. 02	50	74. 05	48	47	
23. 211	W. H. Sweavingen	3	20. 71	19	+3. 07	20. 71	50	23. 78	49	48	
23. 28. 6. 131	Julius Roberson	-	b15. 26	18	+ 23	12. 4	47	16. 23	48	47	
7. 113	G. Brantly	-	20. 55	18	+3. 63	18. 5	47	24. 96	48	47	
8. 421	E. D. Rosson	-	29. 75	19	-	27. 2	47	33. 36	48	47	49
11. 114	Bonney Yarbrow	-	11. 62	19	+4. 43	11. 62	50	16. 05	49	47	48
15. 411	Joe Yarbrow	-	7. 93	19	+3. 46	7. 93	50	14. 53	48	47	
18. 222	Mr. Carter	-	22. 01	19	+2. 99	22. 01	50	26. 38	48	48	
18. 333	L. T. Lewis	-	57. 95	19	+4. 38	56. 5	47	62. 85	48	47	
20. 144	Mr. Carter	-	48. 80	19	+4. 25	48. 80	50	54. 90	48	48	
22. 333	J. L. Seal	-	35. 03	19	+6. 00	35. 03	50	46. 12	48	48	
23. 133	A. R. Donaldson	3	42. 60	19	+5. 32	42. 60	50	51. 29	48	48	
24. 134	Buford Yarbrow	-	37. 36	19	+4. 42	37. 36	50	143. 64	48	47	
25. 213	Ray Howard	-	33. 56	19	+3. 76	33. 56	50	140. 62	48	47	
29. 411	Owner unknown	-	16. 72	19	+4. 13	16. 72	50	20. 85	49	48	
24. 28. 7. 231	L. T. Lewis	-	15. 23	19	+1. 29	15. 23	50	20. 22	49	48	
17. 231	Carleton & Kraft	-	26. 59	19	-2. 05	23. 18	48	26. 59	50	47	
25. 123	J. E. Montgomery	-	3. 02	19	+1. 84	3. 02	50	5. 84	48	48	

a Pumping.

b Pumped recently.

c Nearby well being pumped.

e Dry at depth given.

f From recorder graph.

i Possible discrepancy of a few tenths of a foot

j Measurement uncertain.

k March.

m Measurement discontinued.

Part 3. Water levels during 1950

Location number	Roswell basin							
	16. 25. 1. 344	16. 25. 6. Lot 4	16. 26. 19. 411	16. 26. 28. 333	17. 25. 35. 411	17. 26. 7. 344	17. 26. 10. 333	17. 26. 16. 333
Owner	Buck Bros.	Nelson	Jeffers	Williams	Kiss-inger	Culbert-son	Gates	Ceme-tery
Jan. 9-13	b19. 56	12. 68	29. 78	26. 83	132. 32	60. 90	13. 51	25. 22
Mar. 15-17	b37. 10	11. 55	29. 86	30. 73	134. 31	66. 59	30. 86	42. 28
May 11, 12	26. 27	-	26. 99	34. 36	136. 96	69. 99	30. 47	44. 41
July 14	b40. 93	13. 22	25. 20	37. 25	137. 80	71. 73	32. 44	42. 10
Sept. 12, 13	b45. 73	13. 48	23. 31	39. 12	139. 31	72. 74	23. 22	39. 08
Nov. 11, 13, 14	b18. 99	14. 23	25. 54	35. 94	136. 98	67. 78	15. 49	30. 03

Location number	17. 26. 24. 333	18. 25. 23. 111	18. 26. 4. 111b	18. 26. 24. 223a	19. 26. 12. 323c	19. 26. 13. 344	19. 26. 14. 431a	19. 26. 27. 233	20. 26. 7. 122
	Yates	Phelps	South-ard	Good-win	Lee	Rankin	Lee	School	Camp-bell
Jan. 5-7, 9	2. 97	117. 77	b31. 25	4. 41	24. 04	10. 36	19. 14	49. 64	b57. 14
Mar. 16, 17	2. 54	134. 80	36. 35	a23. 30	24. 66	9. 95	19. 86	52. 62	59. 99
May 11, 12	3. 03	138. 25	39. 29	4. 88	26. 37	11. 81	24. 25	a66. 32	62. 94
July 14, 17	2. 80	138. 80	b40. 63	4. 58	26. 25	13. 84	c37. 69	a63. 70	66. 63
Sept. 12, 13	3. 53	139. 10	40. 68	5. 56	25. 58	12. 24	23. 76	b54. 76	64. 53
Nov. 13, 14	3. 27	127. 45	b35. 82	5. 47	24. 13	11. 52	20. 16	a54. 52	58. 84

Location number	21. 27. 19. 334	21. 27. 30. 442	Carlsbad area		22. 26. 3. 344	22. 26. 14. 213	22. 26. 35. 222	22. 26. 36. 111
	Dickson	Ives	21. 27. 32. 112	21. 27. 32. 112a	Willis	Steven-son	Air-field	Air-field
Jan. 17, 18, 24	26. 10	10. 22	4. 64	14. 95	72. 43	63. 87	149. 31	148. 28
Mar. 21, 22, 24	26. 68	8. 77	-	13. 27	c73. 00	64. 72	151. 95	150. 91
May 16	28. 15	9. 08	a8. 19	12. 20	74. 88	66. 22	160. 88	159. 85
July 17, 19	29. 38	9. 69	b7. 00	12. 46	75. 99	a78. 34	164. 47	163. 46
Sept. 15	27. 63	8. 46	5. 30	11. 09	(a)	65. 91	160. 54	159. 56
Nov. 14, 17	27. 70	8. 73	5. 50	11. 68	72. 82	66. 06	151. 85	150. 89

Location number	22. 26. 36. 111a	22. 27. 10. 333	22. 27. 22. 421	22. 27. 28. 133	22. 27. 30. 133	22. 27. 35. 433	23. 27. 23. 211	23. 28. 23. 133
	Air-field	Enifer	Grandi	Skeen	Mer-chant	Methola	Swea-vingen	Donald-son
Jan. 17-19	148. 14	6. 68	27. 50	57. 05	108. 66	27. 05	20. 71	42. 60
Mar. 21, 22, 24	150. 79	6. 89	27. 75	a67. 52	110. 68	28. 45	20. 76	42. 68
May 15, 16	159. 70	4. 80	25. 11	68. 46	119. 02	24. 31	20. 82	40. 44
July 17-19	163. 31	4. 20	24. 18	70. 77	121. 79	23. 17	21. 21	40. 35
Sept. 14, 15, 18	159. 41	3. 80	21. 43	68. 66	119. 60	20. 10	20. 83	38. 25
Nov. 14, 15, 17	150. 74	4. 30	21. 52	a69. 94	110. 27	20. 69	19. 20	41. 14

a Pumping.

b Pumped recently.

c Nearly well being pumped.

Part 4. Daily highest water level from recorder graph

16. 25. 6. 313. Frank Childress.

Daily highest water level from recorder graph

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	27.95	Feb. 11	28.37	May 17	27.96	Sept. 1	28.88
6	28.02	12	28.45	18	27.94	12	28.69
7	28.07	13	28.49	19	27.95	13	28.69
8	27.85	14	28.35	July 14	28.51	14	28.71
9	27.78	20	27.74	15	28.45	15	28.68
10	27.89	21	27.66	16	28.45	16	28.64
11	27.89	22	27.76	17	28.47	17	28.68
12	27.80	23	27.63	18	28.52	18	28.75
13	27.80	24	27.49	19	28.54	19	28.79
14	27.80	25	27.49	20	28.57	Oct. 30	28.58
15	27.80	26	27.65	21	28.58	31	28.51
16	27.94	27	27.79	26	28.57	Nov. 1	28.51
17	27.81	Mar. 15	h27.80	27	28.55	2	28.52
18	27.85	16	27.75	28	28.50	3	28.60
19	27.85	17	27.72	29	28.46	4	28.61
20	27.95	18	27.70	30	28.46	5	28.50
21	27.81	19	27.79	31	28.48	6	28.43
22	27.71	20	27.75	Aug. 1	28.58	11	28.49
23	27.73	21	27.84	2	28.67	12	28.43
24	27.66	22	27.77	25	h28.85	13	28.42
25	27.67	May 11	28.09	26	28.85	14	28.39
26	27.92	12	27.96	27	28.85	15	28.39
27	28.14	13	27.92	28	28.84	16	28.55
Feb. 7	h28.22	14	27.93	29	28.82	17	28.42
8	28.22	15	27.93	30	28.82	18	28.25
9	28.32	16	27.97	31	28.86		
10	28.30						

h Tape measurement.

18. 26. 7. 234a. C. H. Hutsonpiller.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	58.54	.....	.....	66.69	.....	.....	h71.30	.....	.....	.....
2	.....	58.57	.....	.....	66.78	.....	.....	71.31	.....	.....	.....
3	.....	58.65	.....	.....	66.90	.....	.....	71.37	69.13	.....	.....
4	.....	58.54	.....	.....	.....	h68.90	.....	71.44	68.96	.....	.....
5	58.72	58.54	.....	.....	.....	68.90	.....	71.50	68.83	.....	.....
6	58.75	58.53	.....	.....	.....	68.96	.....	71.53	68.69	.....	.....
7	58.70	.....	.....	.....	.....	68.98	h69.08	71.52	68.58	.....	.....
8	58.60	.....	.....	.....	.....	69.00	69.12	71.50	68.42	.....	63.32
9	58.55	.....	.....	.....	.....	68.99	69.22	.....	68.27	.....	63.30
10	58.62	.....	.....	.....	.....	68.97	69.33	.....	68.17	.....	63.17
11	58.63	.....	.....	h65.56	.....	68.98	69.46	.....	.....	.....	63.10
12	58.61	.....	.....	65.58	.....	.....	69.59	71.25	67.86	.....	63.03
13	58.62	.....	60.64	65.62	.....	.....	69.72	71.11	67.73	65.02	62.98
14	58.65	.....	60.64	65.69	.....	h69.13	69.85	70.97	67.61	64.95	62.92
15	58.64	.....	60.67	65.70	.....	69.15	69.96	70.84	67.49	64.92	62.88
16	58.64	.....	60.49	65.72	.....	69.16	.....	70.71	67.39	64.85	.....
17	.....	.....	60.84	65.70	.....	69.15	.....	70.59	67.29	64.72	.....
18	.....	.....	60.89	.....	.....	69.15	.....	g70.47	67.19	64.61	.....
19	58.59	.....	61.25	.....	.....	69.15	.....	g70.35	67.12	64.57	62.67
20	58.59	59.50	61.27	.....	.....	69.15	.....	.....	.....	64.54	62.65
21	58.52	59.50	g61.17	.....	h68.23	.....	.....	.....	.....	64.44	62.62
22	58.46	59.57	.....	h65.75	68.26	.....	h70.63	.....	.....	64.38	62.59
23	58.41	59.56	.....	65.78	68.32	.....	70.65	.....	.....	64.34	62.57
24	58.38	59.62	.....	65.88	68.37	.....	70.70	.....	66.62	64.27	62.52
25	58.37	59.66	.....	65.98	68.45	.....	70.76	.....	66.50	64.20	62.44
26	58.51	59.70	.....	66.13	68.52	.....	70.82	.....	66.40	64.12	62.44
27	.....	59.69	.....	66.26	68.60	.....	70.88	.....	66.31	64.05	.....
28	.....	.....	.....	66.34	68.67	.....	70.93	.....	66.22	63.98	.....
29	.....	.....	.....	66.43	68.73	.....	70.99	.....	66.12	.....	.....
30	58.48	.....	.....	66.51	.....	.....	71.05	.....	66.00	.....	.....
31	58.51	.....	.....	66.58	.....	.....	.....	.....	65.92	.....	.....

g Estimated.

h Tape measurement.

18. 26. 21 344. Town of Dayton.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	53.50	52.89	53.21	53.68	54.83	55.70	56.76	56.97	57.76	58.06	57.34	56.94
2	53.49	52.93	53.19	53.71	54.86	55.71	56.77	56.96	57.79	58.08	57.30	56.93
3	53.50	52.91	53.19	53.75	54.90	55.81	56.80	56.96	57.82	58.05	57.31	56.87
4	53.41	52.90	53.22	53.89	54.88	55.79	56.81	56.97	57.87	58.02	57.27	56.84
5	53.42	52.87	53.21	53.91	54.99	55.85	56.84	57.01	57.90	57.99	57.25	56.88
6	53.44	52.88	53.12	53.93	55.00	55.86	56.85	57.02	57.93	57.95	57.27	56.77
7	53.42	52.89	53.23	53.99	55.03	55.93	56.87	57.04	57.95	57.97	57.25	56.74
8	53.34	52.91	53.23	54.00	55.03	55.95	56.89	57.06	57.97	57.93	57.21	56.77
9	53.34	52.95	53.21	54.07	55.07	55.98	56.90	57.08	57.97	57.89	57.24	56.75
10	53.33	52.96	53.21	54.15	55.09	56.03	56.91	57.11	58.00	57.89	57.22	56.69
11	53.29	52.95	53.20	54.19	55.12	56.07	56.90	57.13	58.02	57.87	57.20	56.69
12	53.27	52.96	53.20	54.23	55.13	56.10	56.92	57.17	58.02	57.83	57.19	56.63
13	53.27	53.04	53.24	54.27	55.16	56.11	56.93	57.20	57.99	57.79	57.17	56.62
14	53.20	53.05	53.19	54.30	55.19	56.10	56.92	57.23	58.03	57.77	57.18	56.60
15	53.22	53.07	53.23	54.33	55.21	56.11	56.91	57.27	58.04	57.73	57.20	56.59
16	53.19	53.06	53.23	54.37	55.24	56.11	56.92	57.31	58.05	57.73	57.19	56.59
17	53.18	53.07	53.19	54.38	55.25	56.32	56.91	57.35	58.08	57.71	57.15	56.50
18	53.17	53.15	53.19	54.41	55.29	56.36	56.93	57.38	58.11	57.70	57.11	56.47
19	53.15	53.12	53.21	54.47	55.31	56.40	56.94	57.40	58.11	57.69	57.13	56.43
20	53.11	53.10	53.22	54.48	55.34	56.44	56.94	57.43	58.11	57.69	57.14	56.42
21	53.08	53.10	53.26	54.48	55.38	56.47	56.96	57.46	58.14	57.63	57.09	56.38
22	53.03	53.18	53.23	54.50	55.40	56.54	56.96	57.50	58.15	57.62	57.11	56.37
23	53.01	53.17	53.27	54.55	55.42	56.57	56.96	57.50	58.14	57.59	57.11	56.37
24	52.98	53.18	53.30	54.58	55.46	56.61	56.97	57.50	58.14	57.57	57.09	56.29
25	52.93	53.19	53.28	54.61	55.48	56.65	56.96	57.56	58.14	57.55	57.08	56.24
26	53.03	53.19	53.36	54.66	55.54	56.67	56.95	57.59	58.13	57.51	57.05	56.25
27	52.97	53.15	53.42	54.69	55.53	56.69	56.96	57.61	58.14	57.47	57.03	56.19
28	52.96	53.16	53.50	54.73	55.55	56.71	56.96	57.64	58.13	57.45	57.03	56.16
29	52.92		53.56	54.77	55.59	56.71	56.96	57.67	58.08	57.41	56.99	56.17
30	52.92		53.58	54.80	55.64	56.72	56.96	57.70	58.07	57.39	56.96	56.14
31	52.92		53.62		55.68		56.96	57.73		57.34		56.14

22. 26. 24. 224. D. N. Vest.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	77.29	79.55	77.18	78.75	78.12	78.25	78.64	76.68	.....	73.77	73.17	75.08
2	77.09	79.65	76.74	78.97	78.02	78.23	78.57	76.53	.....	73.89	73.32	75.18
3	77.03	79.73	76.65	79.12	78.08	78.45	78.57	76.30	.....	73.95	73.80	75.38
4	77.40	79.64	76.72	79.78	77.87	78.34	78.57	76.25	.....	73.75	73.64	75.25
5	77.47	79.48	76.59	79.81	78.33	78.34	78.59	76.33	.....	73.49	73.59	75.43
6	77.71	79.41	76.38	79.51	78.24	78.24	78.62	76.46	75.30	73.31	73.74	.....
7	77.64	79.33	76.63	79.41	78.28	78.28	78.59	76.57	75.12	73.37	73.96	75.49
8	77.41	79.38	77.03	79.31	78.22	78.33	78.61	76.75	75.00	73.21	73.93	75.77
9	77.38	79.33	76.93	79.13	78.24	78.34	78.65	.....	74.81	72.96	74.40	76.10
10	77.67	78.98	76.95	79.33	78.33	78.39	78.72	.....	74.70	72.96	74.37	76.10
11	77.64	78.74	76.96	79.40	78.41	78.49	78.88	.....	74.72	72.98	74.19	76.13
12	77.61	78.76	77.05	79.27	78.18	78.52	78.99	.....	74.51	72.94	74.21	76.14
13	77.70	78.93	.....	79.36	78.09	78.58	79.19	.....	74.49	72.79	74.25	76.29
14	77.71	78.79	77.01	79.25	78.07	78.67	78.99	.....	74.41	72.73	74.26	76.44
15	77.73	78.66	77.15	79.13	78.02	78.73	78.82	.....	74.36	72.68	74.33	76.56
16	g78.00	78.44	77.44	79.28	78.08	78.70	78.77	.....	74.37	72.75	74.62	76.71
17	77.87	78.31	77.41	79.32	78.00	78.61	78.75	.....	74.49	72.73	74.38	76.76
18	77.96	78.45	77.40	79.24	77.94	78.59	78.72	.....	74.62	72.63	74.24	76.84
19	78.14	78.19	77.71	79.37	77.93	78.65	78.70	.....	74.55	72.64	74.27	76.79
20	78.44	77.91	77.72	79.09	77.95	78.66	78.65	.....	74.54	72.57	74.72	76.96
21	78.49	77.73	78.06	78.90	78.02	78.62	78.61	.....	74.60	72.42	74.58	77.03
22	78.53	77.79	77.94	78.85	77.95	78.57	78.54	.....	74.54	72.46	74.67	77.06
23	78.57	77.57	77.98	78.72	77.87	78.46	78.45	.....	74.33	72.54	74.78	77.10
24	78.64	77.59	78.16	78.69	77.95	78.45	78.38	.....	74.31	72.58	75.00	77.19
25	73.85	77.51	77.94	78.73	77.89	78.49	78.17	.....	74.19	72.58	74.92	77.02
26	79.42	77.30	78.11	78.54	78.25	78.44	77.89	.....	74.09	72.64	75.00	77.07
27	79.29	77.10	78.17	78.52	78.03	78.43	77.64	.....	74.03	72.72	75.00	.....
28	79.14	77.03	78.32	78.35	77.84	78.44	77.23	.....	74.00	72.83	75.07	77.18
29	79.20		78.56	78.38	78.01	78.53	76.93	.....	73.86	72.99	75.05	77.21
30	79.37		78.59	78.33	78.10	78.71	76.77	.....	73.77	73.04	75.02	77.57
31	79.47		78.64		78.15		76.72	.....		73.08		77.55

g Estimated.

Part 5. Miscellaneous Data

16. 25. 10. 333a. Gray. South side of earthen tank, 150 feet south of well 16. 25. 10. 333. Drilled irrigation well, diameter 16 inches, depth 346 feet.

16. 26. 19. 332. Lewis. About 50 feet north of house. Drilled irrigation well.

16. 26. 28. 431. Coleman. Used irrigation well, Jan. 11, 1950.

18. 26. 9. 133. Yates. At southwest corner of earthen tank, about 150 feet northeast of house across Highway 285. Drilled irrigation well.

19. 26. 12. 323c. Lee. 55 feet west of observation well 19. 26. 12. 323b, north side of old earthen tank, about 125 feet southeast of house. Drilled unused well, diameter 6 inches. May 16, 1949, 32.66; July 21, 29.48; Nov. 8, 24.85.

20. 26. 7. 421a. Manthei. About 250 feet northeast of well 20. 26. 7. 421, east side of earthen tank, about 300 feet southeast of house. Drilled irrigation well, diameter 12 inches.

21. 27. 32. 112a. Tracy. Drilled irrigation well, diameter 15 inches, depth 105 feet.

22. 27. 9. 333. Enifer. Drilled irrigation well, diameter 12 inches. Sept. 29, 1947, 40.62; Jan. 7, 1948, 42.23; Dec. 21, 41.15.

23. 27. 4. 433. Jones and Turner. 50 feet north of east-west fence, 20 feet south of power pole supporting 3 transformers, 150 feet west of house. Drilled irrigation well, diameter 14 inches. Jan. 14, 1948, 91.25; Nov. 10, 90.36; May 17, 1949, 95.86.

HIDALGO COUNTY (ANIMAS, PLAYAS, AND VIRDEN VALLEYS)

Part 1. General Discussion

The Virden Valley is the New Mexico portion of the Duncan-Virden Valley, which lies along the Gila River. Ground water in the Virden Valley is pumped mainly for irrigation to supplement surface-water supply. Measurements were made in six wells. Discussion of the changes in water level is included in the section on Greenlee County, Arizona. In general, because of increased pumping in 1950 and decreased surface diversions, the water levels showed a general lowering of about 1 foot for the year. The Animas Valley is an intermontane valley in the southwestern corner of the State, southwest of Lordsburg. The Playas Valley is separated from Animas Valley by a low divide between the Animas and Pyramid Mountains. Large-scale development of ground water for irrigation in these areas was begun in 1948. Water levels were measured in January in 76 wells in the Animas Valley and in 8 wells in the Playas Valley. Measurements were also made bimonthly in 53 wells in Animas Valley and in 6 wells in Playas Valley. A recording gage was maintained on well 25. 20. 34. 241 about 3 miles northwest of the center of the heavily pumped area in Animas Valley.

Precipitation in 1950 in Animas and Playas Valleys was considerably below normal; it was near normal in 1948 and 1949. The precipitation for 1950 at Animas, which is near the southern end of the irrigated area of Animas Valley, was 4.74 inches--6.13 inches below normal. Though most of the precipitation was during the growing season, all months were deficient, except July, when 3.0 inches were recorded, 0.9 inches above normal. No precipitation was recorded in August when there normally is 2.2 inches. Because the precipitation in Animas and Playas Valleys during the growing season is small, its influence on the amount of pumpage required for irrigation of crops is small. It is estimated that about 7,900 acres were irrigated in Animas Valley in 1950; about 13,000 acre-feet of water was pumped. This compares with 6,000 acres and 11,000 acre-feet, respectively, in 1949. The areal changes in water level from January 1950 to January 1951 in Animas Valley, as shown (fig. 21), were similar in amount and distribution to those of the preceding year. The area of greatest net decline was centered around the area of heaviest pumping in T. 25. S., R. 20 W. where water levels declined more than 3 feet under 7 square miles. Like declines occurred in this area in 1949 under 6 square miles. In an area of 22 square miles, water levels declined more than 2 feet in 1950. Water levels declined more than 1 foot under an oblong area of 75 square miles, about 16 miles southward from the north line of T. 25 S., and with maximum east-west width of about 6 miles along the north line of T. 26 S. During the period of record, from April 1948 to January 1951, the water levels have declined more than 10 feet under most of sections 1, 2, 11, and 12, T. 26 S., R. 20 W., while water levels in the outlying areas, in general, have declined from 1 to 2 feet. Water levels in Playas Valley declined during 1950 about the same amount as in 1949. The maximum recorded decline both years was in well 30. 16. 27. 340 and amounted to 4.8 feet in 1949 and 4.23 feet in 1950.

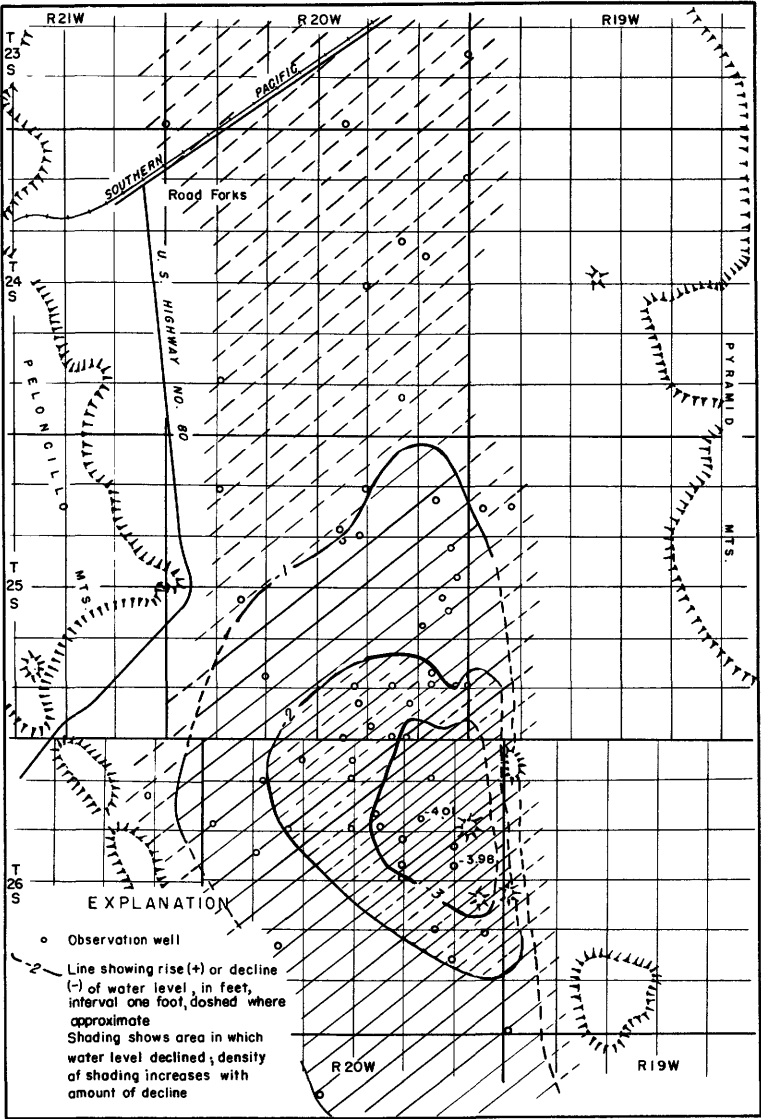


Figure 21. --Change in water level from January 1950 to January 1951 in Animas Valley, Hidalgo County.

Part 2. Water levels in Hidalgo County

Location number (1)	Owner (2)	See part (3)	Jan. 1950		Change 1949-50 (6)	Highest		Lowest		Record	
			Level (4)	Day (5)		Level (7)	Year (8)	Level (9)	Year (10)	Be- gan (11)	Years missing (12)
Animas Valley											
23. 20. 12. 322	Owner unknown	5	57.35	17	-	-	-	-	-	50	
25. 422	Kerr Cattle Co.	3, 5	31.64	17	-	-	-	-	-	50	
31. 333	Unknown	5	31.78	17	-	-	-	-	-	50	
34. 433	Pete Kerr	3, 5	15.09	17	-	-	-	-	-	50	
24. 20. 1. 444	Fred Kerr	3	30.31	17	-0.33	29.98	49	30.31	50	49	
13. 133	Pete Kerr	3, 5	14.78	17	-	-	-	-	-	50	
14. 214	Kerr Cattle Co.	3, 5	15.29	17	-	-	-	-	-	50	
19. 444	R. E. Macow	3	35.11	17	-1.06	34.05	49	35.11	50	49	
22. 222	Owner unknown	3, 5	18.10	17	-	-	-	-	-	50	
29. 333	May Smith	3	39.21	17	-72	38.49	49	39.21	50	49	
35. 214	Elmer L. Kerr	3	18.57	17	-51	18.06	49	18.57	50	49	
25. 19. 7. 134	H. E. Baker	3	25.91	17	+23	25.91	50	26.14	49	49	
7. 234	R. I. Richins & G. A. McDonald	3	31.91	17	-22	31.69	49	31.91	50	49	
25. 20. 8. 111	T. H. McCants	3	58.50	17	-30	58.20	49	58.50	50	49	
10. 222	Valley View Church	3	29.91	17	-1.63	28.28	49	29.91	50	49	
10. 344	W. A. and J. O. Bishop	3	36.70	17	-2.47	34.23	49	36.70	50	49	
10. 443	do.	-	36.11	17	-1.41	34.70	49	36.11	50	49	
12. 123	T. H. McCants	-	25.00	17	-1.34	23.66	49	25.00	50	49	
13. 213	Geo. Wright	3	30.05	17	-1.87	28.18	49	30.05	50	49	
13. 432	Jundt & Rudiger	3	34.48	17	-2.13	32.35	49	34.48	50	49	
15. 122	Mrs. H. K. Wood	3	37.60	17	-2.06	35.54	49	37.60	50	49	
15. 122a	do.	3, 5	37.53	17	-	-	-	-	-	50	
20. 142	Mr. Standsberry	3	61.75	18	+57	61.75	50	62.32	49	49	
24. 124	Elmer L. Kerr	3	39.25	17	-2.29	36.96	49	39.25	50	49	
24. 233	Jundt & Rudiger	-	39.53	17	-2.08	37.45	49	39.53	50	49	
24. 313	do.	3	47.74	17	-2.44	45.30	49	47.74	50	49	
25. 314	Richin Bros.	-	56.17	17	-2.63	53.54	49	56.17	50	49	
25. 334	do.	3	61.39	17	-2.64	58.75	49	61.39	50	49	
25. 434	R. H. Wamel	5	66.67	17	-1.72	64.95	49	66.67	50	49	
25. 444	Richin Bros.	3	71.78	17	-1.71	70.07	49	71.78	50	49	
26. 344	W. Veck	-	53.54	17	-2.67	50.87	49	53.54	50	49	
27. 434	Geo. Tippetts	3, 5	55.27	18	-	-	-	-	-	50	
29. 424	Mr. Standsberry	3, 5	53.80	18	-	-	-	-	-	50	
34. 241	H. H. Hatch	4	55.98	17	-2.78	53.41	49	55.98	50	49	
34. 241a	do.	-	55.98	21	-2.78	53.20	49	55.98	50	49	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
25.20.34.344	W. A. Tyler	3	58.11	18	-2.84	55.27	49	58.11	50	49	
35.241	W. Veck	3	60.16	17	-2.72	57.44	49	60.16	50	49	
35.313	do.	-	61.33	18	-2.90	58.43	49	61.33	50	49	
35.344	do.	-	64.89	18	-3.32	61.57	49	64.89	50	49	
35.434	do.	3	59.73	18	-5.29	54.44	49	59.73	50	49	
26.19.31.333	Luther Edwards	3	86.73	18	-2.50	84.23	49	86.73	50	49	
26.20.2.344	R. H. Wamel	3	70.73	18	-4.25	66.48	49	70.73	50	49	
4.422	W. W. Roark	-	64.17	18	-2.91	61.26	49	64.17	50	49	
4.444	do.	3	66.63	18	-2.84	63.79	49	66.63	50	49	
5.334	D. A. Lee	3	58.43	18	-2.10	56.33	49	58.43	50	49	
5.422	do.	3	57.26	18	-2.28	54.98	49	57.26	50	49	
7.332	J. E. Weatherby	5	52.55	18	-	-	-	-	-	50	
8.434	do.	3	64.44	18	-2.07	62.37	49	64.44	50	49	
9.444	Mrs. H. K. Wood	-	(a)	18	-	-	-	-	-	49	
9.444a	do.	3	c75.46	18	-2.62	72.84	49	c75.46	50	49	50
10.344	S. O. Wright	3	65.28	18	-2.10	63.18	49	65.28	50	49	
11.232	R. H. Wamel	-	73.47	18	-4.63	68.84	49	73.47	50	49	
11.342	do.	-	73.20	18	-4.51	c68.69	49	73.20	50	49	
14.242	do.	3	83.46	18	-3.36	80.10	49	83.46	50	49	
14.424	do.	-	74.52	18	-3.54	70.98	49	74.52	50	49	
15.224	Mr. Crabtree	-	68.34	18	-3.01	65.33	49	68.34	50	49	
15.424	W. Veck	-	164.29	18	-2.43	61.86	49	164.29	50	49	
15.444	Mr. Crabtree	3	65.41	18	-2.41	63.00	49	65.41	50	49	
17.133	J. E. Weatherby	3	55.79	18	-1.58	54.21	49	55.79	50	49	
23.244	W. Veck	5	76.79	18	-3.49	73.30	49	76.79	50	49	
23.433	V. E. Davis	-	171.82	18	-2.13	69.69	49	171.82	50	49	
25.211	Owner unknown	3	97.46	18	-3.72	93.74	49	97.46	50	49	
26.422	Kate Washburn	3.5	79.31	18	-	-	-	-	-	50	
29.142	do.	5	50.52	18	-99	49.53	49	50.52	50	49	
29.142	do.	3	78.60	18	-61	a77.99	49	78.60	50	49	
26.21.11.200	Mr. Baker	3	134.74	19	-1.33	133.41	49	134.74	50	49	
27.19.19.433	Anderson & Wiley	3	132.12	19	-	-	-	-	-	50	
20.343	Felix Gauthier	3.5	131.29	19	-	-	-	-	-	50	
20.433	do.	5	124.48	19	-	-	-	-	-	50	
21.111	U. S. Government	3.5	145.23	19	-	-	-	-	-	50	
22.211	Owner unknown	3.5	71.53	18	-	-	-	-	-	50	
27.20.9.100	K. A. Washburn	3.5	107.01	18	-	-	-	-	-	50	
12.444	Mrs. Edna Curry	3.5	28.66	19	-	-	-	-	-	50	
28.19.15.433	Mr. Gillespie	3.5	213.37	19	-	-	-	-	-	50	
15.433a	do.	3.5	b256.08	19	-	-	-	-	-	50	
20.244	Owner unknown	3	b256.08	19	-4.66	b256.08	50	256.74	49	49	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
29.19.3.100	T. B. Strickland	3, 5	23.40	19	-	-	-	-	-	50	
3.300	do.	3, 5	14.54	19	-	-	-	-	-	50	
30.16.14.211	M. T. Everhart, Jr.	3	33.31	16	-1.19	32.12	49	33.31	50	49	
14.233	do.	5	38.51	16	-	-	-	-	-	50	
16.344	Myers Bros.	3	36.80	16	-1.74	35.06	49	36.80	50	49	
27.340	Victor Land & Cattle Co.	3	48.63	16	-4.39	44.24	49	48.63	50	49	
28.334	Myers Bros.	3, 5	48.03	16	-	-	-	-	-	50	
28.444	do.		(m)								
29.422	do.	3	48.60	16	-4.75	43.85	49	48.60	50	49	50
32.17.13.240	Owner unknown	3	58.25	16	-1.12	58.13	49	58.25	50	49	
23.434	Mr. Timberlake	5	96.88	16	-1.18	96.70	49	96.88	50	49	

a Pumping.
 b Pumped recently.
 c Nearby well being pumped.
 f From recorder graph.

i Possible discrepancy of a few tenths of a foot
 between present and previous land-surface data.
 m Measurement discontinued.

Part 2. Water levels in Hidalgo County

Location number	Previous number	Owner	See part	Mar. 1950		Change 1949-50	Highest		Lowest		Record	
				Level	Day		Level	Year	Level	Year	Be-gan	Years missing
18. 21. 32. 130	181	P. Lunt	3	42.34	16	Virden Valley	38.90	44	55.35	42	40	43, 49
32. 440	185	J. Pierce	3	30.50	16	-	29.12	41	32.50	48	40	42
19. 20. 18. 120	232	Floyd Johns	3	26.28	16	-2.59	20.05	45	29.29	43	40	47
19. 21. 2. 410	201	J. E. Payne	3	44.57	16	+15	41.35	41	46.65	48	40	
2. 330a	202-A	Byron Echols	3	15.28	16	-.68	14.58	49	17.52	48	48	
12. 420	217	Nancy O. Pace	3	20.45	16	+.91	16.98	40	21.36	49	40	

Part 3. Water levels during 1950

Location number	Owner	18. 21. 32. 130	18. 21. 32. 440	19. 20. 18. 120	19. 21. 2. 410	19. 21. 2. 330a	19. 21. 12. 420
		Lunt	Pierce	Johns	Payne	Echols	Pace
Mar. 16		42.34	30.50	Virden Valley			
July 13		43.76	34.00	26.28	44.57	15.26	20.45
Oct. 10		45.56	33.81	30.72	46.39	16.79	23.29
Dec. 28		42.68	33.35	33.38	46.35	17.00	-
				28.70	45.34	15.58	19.17

Part 3. Water levels during 1950

Location number	23. 20. 25. 422	23. 20. 34. 433	Animas Valley		24. 20. 14. 214	24. 20. 19. 444	24. 20. 22. 222	24. 20. 29. 333
			24. 20. 1. 444	24. 20. 13. 133				
Owner	Kerr Cattle Co.	Kerr	Kerr	Kerr	Kerr Cattle Co.	Macow	Owner unknown	Smith
Jan. 17	31. 64	15. 09	30. 31	14. 78	15. 29	35. 11	18. 10	39. 21
Mar. 21, 22	31. 66	a18. 92	a41. 13	14. 71	15. 25	35. 42	17. 99	38. 80
May 22	31. 69	a17. 18	a39. 75	14. 71	15. 23	36. 04	18. 00	39. 36
July 24, 25	-	-	32. 53	-	-	37. 18	-	40. 12
Sept. 26, 27	31. 80	15. 33	a41. 53	15. 18	a25. 39	36. 91	18. 59	40. 12
Dec. 2	31. 84	a19. 32	32. 09	a15. 84	15. 68	36. 10	18. 59	39. 74

Location number	24. 20. 35. 214	25. 19. 7. 134	25. 19. 7. 234	25. 20. 8. 111	25. 20. 10. 222	25. 20. 10. 344	25. 20. 13. 213	25. 20. 13. 432
Owner	Kerr	Baker	Richins & McDonald	McCants	Church	Bishop Bros.	Wright	Jundt & Rudiger
Jan. 17	18. 57	25. 91	31. 91	58. 50	29. 91	36. 70	30. 05	34. 48
Mar. 21, 22	18. 43	(a)	31. 93	a58. 37	29. 70	35. 85	30. 20	34. 43
May 22	a33. 72	a49. 42	32. 09	58. 80	30. 03	37. 39	acj59. 23	35. 83
July 21, 24, 25	19. 43	27. 99	32. 38	59. 11	30. 63	37. 61	32. 30	36. 61
Sept. 26, 27	a33. 9	27. 21	32. 43	59. 30	31. 02	38. 12	32. 44	37. 04
Dec. 2	19. 50	26. 98	32. 50	59. 25	31. 00	37. 47	c34. 66	36. 51

Location number	25. 20. 15. 122	25. 20. 15. 122a	25. 20. 20. 142	25. 20. 24. 124	25. 20. 24. 313	25. 20. 25. 334	25. 20. 25. 444	25. 20. 27. 434
Owner	Wood	Wood	Stands- berry	Kerr	Jundt & Rudiger	Richin Bros.	Richin	Tipp- etts
Jan. 17, 18	37. 60	37. 53	61. 75	39. 25	47. 74	61. 39	71. 78	55. 27
Mar. 21	c37. 63	c47. 31	c61. 80	39. 13	a65. 65	61. 60	74. 46	56. 26
May 22	37. 66	38. 23	61. 87	40. 54	49. 57	67. 42	ac97. 34	58. 87
July 21, 24	37. 70	38. 84	62. 14	41. 78	51. 13	68. 95	76. 69	60. 10
Sept. 26, 27	38. 57	39. 40	62. 48	42. 04	51. 25	66. 85	a98. 55	a66. 61
Dec. 2	e38. 25	39. 03	62. 63	41. 28	49. 96	64. 43	75. 00	57. 97

Location number	25. 20. 29. 424	25. 20. 34. 344	25. 20. 35. 241	25. 20. 35. 434	26. 19 31. 333	26. 20. 2. 344	26. 20. 4. 444	26. 20. 5. 334
Owner	Stands- berry	Tyler	Veck	Veck	Edwards	Wamel	Roark	Lee
Jan. 17, 18	53. 80	58. 11	60. 16	59. 73	86. 73	70. 73	66. 63	58. 43
Mar. 21, 22	53. 80	59. 28	60. 54	(a)	86. 40	70. 40	66. 78	58. 38
May 22, 23	54. 37	63. 43	a76. 72	(a)	86. 82	a102. 25	71. 06	59. 29
July 21, 24	-	63. 67	b69. 49	c66. 04	88. 10	77. 23	72. 38	(b)
Sept. 25, 27	55. 09	63. 06	65. 40	(a)	88. 15	a101. 24	72. 10	61. 00
Dec. 2, 4	55. 38	61. 13	63. 19	64. 24	88. 51	75. 35	69. 87	60. 67

Location number	26. 20. 5. 422	26. 20. 8. 434	26. 20. 9. 444a	26. 20. 10. 344	26. 20. 14. 242	26. 20. 15. 444	26. 20. 17. 133	26. 20. 25. 211
Owner	Lee	Wea- therby	Wood	Wright	Wamel	Crab- tree	Wea- therby	Owner unknown
Jan. 18	57. 26	64. 44	c75. 46	65. 28	83. 46	65. 41	55. 79	97. 46
Mar. 21, 22	58. 07	64. 37	a88. 44	64. 86	82. 60	65. 49	a61. 31	97. 18
May 22, 23	(a)	a75. 83	a96. 24	67. 57	84. 30	a97. 43	a61. 24	98. 00
July 21, 24	a80. 00	66. 62	79. 91	69. 35	86. 05	72. 91	57. 34	99. 00
Sept. 25, 27	61. 03	a77. 33	b83. 66	70. 19	-	71. 48	b59. 20	99. 98
Dec. 2, 4	60. 02	66. 73	78. 61	68. 84	87. 41	69. 37	a60. 74	100. 30

Location number	26. 20. 26. 422	26. 21. 11. 200	27. 19. 19. 433	27. 19. 20. 343	27. 19. 21. 111	27. 19. 32. 211	27. 20. 9. 100	27. 20. 12. 444
Owner	Wash- burn	Baker	Wiley & Anderson	Gauthier	U. S. Gov't.	Owner unknown	Wash- burn	Curry
Jan. 18, 19	79. 31	78. 60	134. 74	132. 12	124. 48	145. 23	71. 53	107. 01
Mar. 21, 22	79. 21	78. 67	134. 70	132. 32	124. 57	145. 31	a71. 84	109. 73
May 22, 23	81. 49	78. 77	(a)	134. 32	124. 66	145. 51	71. 75	111. 52
July 21, 22, 24	82. 57	78. 97	137. 17	135. 08	124. 84	145. 67	-	111. 76
Sept. 25, 26	82. 53	79. 19	(a)	135. 01	125. 07	145. 80	a72. 30	110. 06
Dec. 2, 4	81. 80	a80. 12	135. 92	133. 35	125. 27	145. 76	a72. 86	108. 75

Location number	28. 19. 15. 433	28. 19. 15. 433a	28. 19. 20. 244	29. 19. 3. 100	29. 19. 3. 300
Owner	Giles pie	Giles pie	Unknown	Strick- land	Strick- land
Jan. 19	28. 66	213. 37	b256. 08	23. 40	14. 54
Mar. 22	28. 75	215. 46	b256. 54	23. 86	14. 77
May 23	28. 94	a216. 90	a256. 52	a24. 19	14. 84
July 22	-	-	255. 87	a24. 24	14. 85
Sept. 26	28. 97	a215. 51	255. 78	22. 85	12. 96
Dec. 4	28. 65	a217. 05	a256. 98	a22. 65	13. 47

Location number	30. 16. 14. 211	30. 16. 16. 344	Playas Valley		30. 16. 29. 422	32. 17. 13. 240	Virden Valley
			30. 16. 27. 340	30. 16. 28. 334			
Owner	Ever- hart	Myers Bros.	Cattle Co.	Myers Bros.	Myers Bros.	Owner unknown	
Jan. 16	33. 31	36. 80	48. 63	48. 03	48. 60	58. 25	For part 3,
Mar. 20	33. 65	36. 64	a48. 64	48. 04	48. 10	58. 24	see table
May 19	37. 25	-	(a)	50. 16	48. 90	58. 27	immediately
July 20	-	-	53. 36	-	50. 29	58. 35	following
Sept. 25	a60. 98	36. 41	c55. 34	-	51. 44	58. 41	part 2 Virden
Dec. 1	45. 97	36. 66	(a)	-	51. 97	58. 42	Valley

a Pumping.

b Pumped recently.

c Nearby well being pumped.

e Dry at depth given.

j Measurement uncertain.

Part 4. Daily highest water level from recorder graph

25.20.34.241. H. H. Hatch.

* Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	55.97	55.97	57.01	58.49	60.48	60.57	60.51	61.21	60.75	.....	58.94
2	56.05	55.93	57.04	58.48	60.48	60.76	60.43	61.21	60.73	.....	58.96
3	56.15	.....	57.07	58.53	60.57	60.72	60.38	61.24	60.73	.....	58.91
4	56.24	.....	57.22	58.66	60.59	60.71	60.40	61.37	60.70	59.45	58.89
5	56.28	55.83	57.36	58.62	60.66	60.71	60.36	61.43	60.65	59.46	58.88
6	56.34	55.84	57.50	58.67	60.76	60.71	60.55	61.40	60.60	59.48	58.85
7	56.35	55.92	57.57	58.78	60.82	60.70	60.54	61.36	60.56	59.43	58.84
8	56.29	56.11	57.56	58.88	60.83	60.70	60.55	61.33	60.51	59.40	58.83
9	56.22	56.16	57.57	58.94	60.78	60.66	60.56	61.36	60.45	59.39	58.81
10	56.15	56.19	57.61	59.09	60.76	60.64	60.67	61.25	60.39	59.37	58.79
11	56.19	57.74	.....	60.73	60.70	60.78	61.22	60.33	59.34	58.76
12	56.17	57.83	.....	60.81	60.78	60.81	61.21	60.28	59.31	58.74
13	56.14	57.93	.....	60.77	60.85	60.81	61.27	60.23	59.27	58.73
14	56.02	56.10	58.02	.....	60.75	60.92	60.80	61.21	60.17	59.26	58.71
15	56.01	56.10	58.13	59.46	60.89	60.98	60.98	61.13	60.12	59.25	58.70
16	56.12	56.09	58.21	59.48	60.95	61.09	60.91	61.10	60.08	59.22	58.69
17	55.98	56.28	56.04	58.22	59.63	61.00	61.07	60.91	61.09	60.02	59.19	58.67
18	55.97	56.43	56.01	58.25	59.71	61.03	61.12	60.91	61.08	59.98	59.18	58.65
19	55.97	56.40	56.00	58.35	59.82	60.99	61.22	60.96	61.06	59.96	59.20	58.64
20	55.96	56.32	55.99	58.37	59.84	61.07	61.14	60.96	61.02	59.92	59.19	58.63

25. 20. 34. 241--Continued.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
21	55.95	56.26	56.13	58.42	59.77	61.04	61.07	60.98	60.98	59.89	59.17	58.61
22	55.92	56.21	56.18	58.46	59.75	60.89	60.96	61.10	60.95	59.85	59.17	58.59
23	55.91	56.17	56.22	58.45	59.77	60.79	60.88	61.20	60.89	59.82	59.14	58.58
24	55.88	56.13	56.34	58.44	59.88	60.74	60.82	61.34	60.85	59.77	59.13	58.56
25	55.88	56.09	56.47	58.54	59.95	60.69	60.78	61.39	60.84	59.73	59.10	58.54
26	55.94	56.04	56.45	58.58	60.04	60.67	60.77	61.36	60.84	59.70	59.07	58.53
27	55.96	56.01	56.40	.....	60.13	60.61	60.76	61.37	60.83	59.66	59.05	58.51
28	55.93	55.99	56.46	.....	60.24	60.64	60.71	61.35	60.79	59.63	59.02	58.51
29	55.91		56.56	.....	60.25	60.61	60.73	61.43	60.77	59.63	58.99	58.51
30	55.89		56.71	.....	60.21	60.70	60.62	61.38	60.76	59.59	58.96	.....
31	55.89		56.85		60.38		60.58	61.32		59.55		.....

g Estimated.

Part 5. Miscellaneous Data

23. 20. 12. 322. Owner unknown. Stock well. July 28, 1948, 57.28.

23. 20. 25. 422. Kerr Cattle Co. Drilled irrigation well, diameter 16 inches, depth 150 feet. May 21, 1948, 31.36; July 27, 31.71; Sept. 22, 31.56; Nov. 23, 31.56; Mar. 23, 1949, 31.45; May 21, 31.40, pump removed; Nov. 22, 31.65.

23. 20. 31. 333. Township corner windmill. Stock well, depth 41 feet. July 27, 1948, 39.19, pumping; Feb. 3, 1949, 34.78, pumping.

23. 20. 34. 433. Kerr. North side of stock tank. Drilled stock well.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 6, '48	a18.81	July 27, '48	a19.45	Nov. 23, '48	15.54	May 23, '49	14.89
May 22	a14.98	Sept. 25	a19.82	Mar. 22, '49	a20.27	Nov. 22	a17.04

a Pumping.

24. 20. 13. 133. Kerr. East side of earthen tank and road. Stock well, diameter 6 inches.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 21, '48	14.02	Sept. 22, '48	14.70	Mar. 22, '49	14.51	July 27, '49	14.95
July 27	a15.43	Nov. 23	14.75	May 21	14.42	Nov. 22	a15.43

a Pumping.

24. 20. 14. 214. Kerr Cattle Co. Dug stock and irrigation well, size 10- by 10-feet.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 4, '48	14.77	Sept. 22, '48	15.13	Mar. 22, '49	15.01	July 27, '49	15.86
May 21	14.74	Nov. 23	15.15	May 21	14.95	Nov. 22	15.29
July 27	14.94						

24. 20. 22. 222. Owner unknown. About 100 feet west of old school house. Unused well, diameter 6 inches.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 25, '48	17.37	Sept. 22, '48	18.04	Mar. 22, '49	17.68	July 27, '49	18.10
May 21	17.35	Nov. 23	18.01	May 21	17.59	Nov. 22	18.26
July 27	17.83						

25. 20. 15. 122a. Wood. 40 feet west of well 25. 20. 15. 122 and northeast of dwelling. Irrigation well, diameter 14 inches.

25. 20. 25. 434. Wamel. Well deepened to 200 feet and hit 5 more feet of water gravel.

25. 20. 27. 434. Tippetts. East of house on southwest corner of earthen tank. Irrigation well, diameter 33 inches, depth 102 feet. Land-surface datum is 4,231.80 feet above msl.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 2, '48	a64.19	Nov. 22, '48	53.11	May 23, '49	55.41	Sept. 5, '49	58.80
May 25	a64.82	Feb. 1, '49	b52.72	July 27	a66.26	Nov. 25	a64.76
July 25	53.57	Mar. 21	52.65				

a Pumping.

b Pumped recently.

25. 20. 29. 424. Standsberry. Drilled irrigation well, diameter 16 inches, depth 125 feet.

26. 20. 7. 332. Weatherby. About 75 feet east of house. Domestic and stock well.
Apr. 5, 1948, 51.72, pumping; May 23, 51.18; Feb. 2, 1949, 52.69, pumping.

26. 20. 23. 244. Veck. At west side of earthen tank, Mar. 1950.

26. 20. 26. 422. Washburn. 0.25 mile south of house. Drilled irrigation well, unused prior to Sept. 1948, diameter 16 inches. Land-surface datum is 4,311.09 feet above msl.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 5, '48	75.65	Sept. 27, '48	177.62	May 24, '49	78.96	Sept. 4, '49	81.35
May 25	76.59	Nov. 22	177.00	July 28	80.13	Nov. 23	79.98
July 26	176.75	Mar. 22, '49	76.86				

i Possible discrepancy of a few tenths of a foot between present and previous land-surface data.

26. 20. 29. 142. Washburn. Dec. 4, 51.58.

27. 19. 20. 343. Gauthier. At southwest corner of earthen tank. Drilled irrigation well, unused prior to Mar. 22, 1950, diameter 16 inches. July 29, 1949, 131.90, nearby well pumping; Sept. 3, 1949, 131.92, nearby well pumping; Nov. 23, 1949, 132.13.

27. 19. 20. 433. Gauthier. Drilled irrigation well, diameter 16 inches. July 29, 1949, 131.08, nearby well pumping.

27. 19. 21. 111. U. S. Government. Southeast side of elevated metal tank at old CCC camp east of Animas. Drilled unused well, diameter 6 inches, depth 139 feet. July 29, 1949, 123.93; Sept. 3, 124.03; Nov. 23, 124.36.

27. 19. 32. 211. Owner unknown. 40 feet east of concrete engine base, south side of earthen tank. Drilled unused well, diameter 6 inches, depth 155 feet. May 25, 1949, 144.84; July 29, 145.08; Sept. 3, 145.04; Nov. 23, 145.23.

27. 20. 9. 100. Washburn. 120 feet west of unused windmill well. Stock well, diameter 6 inches. Aug. 1, 1949, 71.20; Sept. 3, 71.20; Nov. 23, 71.45.

27. 20. 12. 444. Curry. Drilled irrigation well, diameter 16 inches. Mar. 22, 1949, 105.15; May 24, 108.35; July 28, 109.14; Nov. 23, 107.37.

28. 19. 15. 433. Gillespie. 100 feet southwest of used stock well. Dug unused well, diameter 36 inches. May 25, 1949, 33.55, nearby well pumping; July 29, 33.41, nearby well pumping; Sept. 3, 31.55; Nov. 23, 29.20.

28. 19. 15. 433a. Gillespie. 100 feet northeast of unused windmill well. Drilled stock well, diameter 6 inches. May 25, 1949, 215.89, pumping; Sept. 3, 215.73; Nov. 23, 206.31.

29. 19. 3. 100. Strickland. 300 feet southwest of house. Stock well, diameter 36 inches, depth 30 feet. May 25, 1949, 23.45; July 29, 22.76; Sept. 3, 22.68; Nov. 23, 22.94.

29. 19. 3. 300. Strickland. 0.5 mile south of house. Dug irrigation well, used after Mar. 22, 1950, depth 17.5 feet. Well deepened to 20.5 feet, June 1951. May 25, 1949, 14.02; July 29, 14.08; Sept. 3, 13.55; Nov. 23, 14.13.

30. 16. 14. 233. Everhart. Drilled irrigation well, diameter 16 inches, depth 100 feet. July 26, 1949, 69.40, pumping.

30. 16. 28. 334. Myers Bros. Drilled well, unused after May 1950, diameter 16 inches. July 26, 1949, 49.46; Sept. 3, 66.30, pumping; Nov. 21, 49.24, possible discrepancy of a few tenths of a foot between present and previous land-surface data.

32. 17. 23. 434. Timberlake. Mar. 20, 96.94.

LEA COUNTY (TATUM - LOVINGTON - HOBBS AREA)

Part 1. General Discussion

The Tatum-Lovington-Hobbs area, in the southeastern corner of New Mexico, is a part of the High Plains. Adequate supplies of ground water, primarily for irrigation, are obtained from wells in the Ogallala formation. Water levels were measured in 184 wells in January 1950 and in about 31 of them at bimonthly intervals. Two recording gages were in operation.

A total of 334 measurements of water level was made during the year. The yearly measurements, compared with those made in previous years, show the net change in ground-water storage; the bimonthly measurements show the seasonal fluctuations and aid in evaluating the net changes in ground-water storage.

Precipitation causes changes in the water levels by changing the amount of recharge to the ground-water body and the amount of ground water pumped for irrigation. The precipitation in 1950 was above normal for most of the area and amounted to 18.66 inches at Tatum--2.22 inches above normal, 17.3 inches at Lovington including an estimate of 7.0 inches for September--2.4 inches above normal, and 18.61 inches at Hobbs--3.02 inches above normal. On the average, about 98 percent of the precipitation, about 6 inches above normal, occurred during the growing season April to September. Most of the above-normal precipitation was in July and September. Though the precipitation was above normal in 1950 it was less than in 1949 when about 8 inches above normal occurred in the growing season. In the last five years only 1947 and 1948 had below-normal rainfall.

The acreage of land served by pumps in Lea County showed a large increase in 1950 as also occurred in 1948 and 1949. The irrigated acreage, as estimated by T. C. Perkins, County Agricultural Extension Agent, was 100,000 acres, an increase of 20,000 acres over 1949 and 75,000 acres over 1948. Because of restrictions, the acreage of cotton was only about 18,500 acres as compared with 55,000 acres in 1949. The acreage of alfalfa and irrigated pasture increased from about 8,000 acres in 1949 to about 20,000 acres in 1950. The water requirement for crops in 1950 was, in general, considerably less than normal, because of the above-normal precipitation, in spite of the increase in acreage. On the basis of metered electric power consumed in 1950 by 62 irrigation pumps for which there were comparable records in 1949, it is estimated that about 30 percent more water was pumped per acre in 1950 than in 1949. It is estimated that about 107,000 acre-feet of water was pumped for irrigation in 1950, an increase of about 41,000 acre-feet over that pumped in 1949. Pumpage for Lovington reportedly increased from about 200 acre-feet in 1949 to 260 acre-feet in 1950 while the pumpage for Hobbs increased from about 1,830 to 1,900 acre-feet.

Because of the increase in pumpage and decrease in precipitation in 1950 as compared with 1949, the water levels showed greater net annual declines in the pumped areas. Figure 22 shows the areal changes in water levels from January 1950 to January 1951. In this period the water levels declined more than 1 foot under about 126 square miles, more than 2 feet under 40 square miles, and more than 3 feet under about 10 square miles, as compared with like declines in 1949 under 23, 2, and zero square miles, respectively. The areas of greatest decline coincide with the areas of greatest pumpage. In the McDonald-Prairieview area, the water levels declined more than 2 feet under about 12 square miles with a maximum recorded decline of more than 4 feet in a limited area 4 miles east of McDonald and near the Texas line east of Prairieview. Near Lovington, water levels declined more than 3 feet in small areas east and northeast of town and about 8 miles north of town. In the heavily irrigated area about 7 miles east of Lovington water levels declined more than 3 feet under nearly 4 square miles. Small rises of water level again occurred in 1950 in a few outlying wells west of the irrigated area. These wells are distant from the areas of concentrated pumping and the changes in water levels closely represent natural conditions. It appears from records of these outlying wells that the water levels under natural conditions would be at their highest levels on record by the end of 1950.

The areal changes in water level in the decade from January 1940 to January 1950 are shown in figure 23. During this period, the precipitation was 18 inches above normal at Lovington. Because of this above-normal precipitation, recharge was above normal with the result that water levels in wells distant from areas of pumping showed net rises in excess of 2 feet during the 10 years. In areas where pumping was minor, the water levels also showed net 10-year rises. However, in the areas where pumping has been practiced for much of the period, water levels showed net declines. In the area near Lovington, where small-scale pumping has been practiced for many years, the water levels under nearly 4 square miles, were 4 feet lower in 1950 than in 1940. During this period the water levels declined more than 2 feet under 6 square miles near McDonald, under 3 square miles near Humble City, and under 5 square miles near Hobbs. For the area as a whole during the period from 1940 to 1950, water levels showed net declines under nearly 100 square miles, declines of more than 2 feet under 25 square miles and more than 4 feet under 6 square miles.

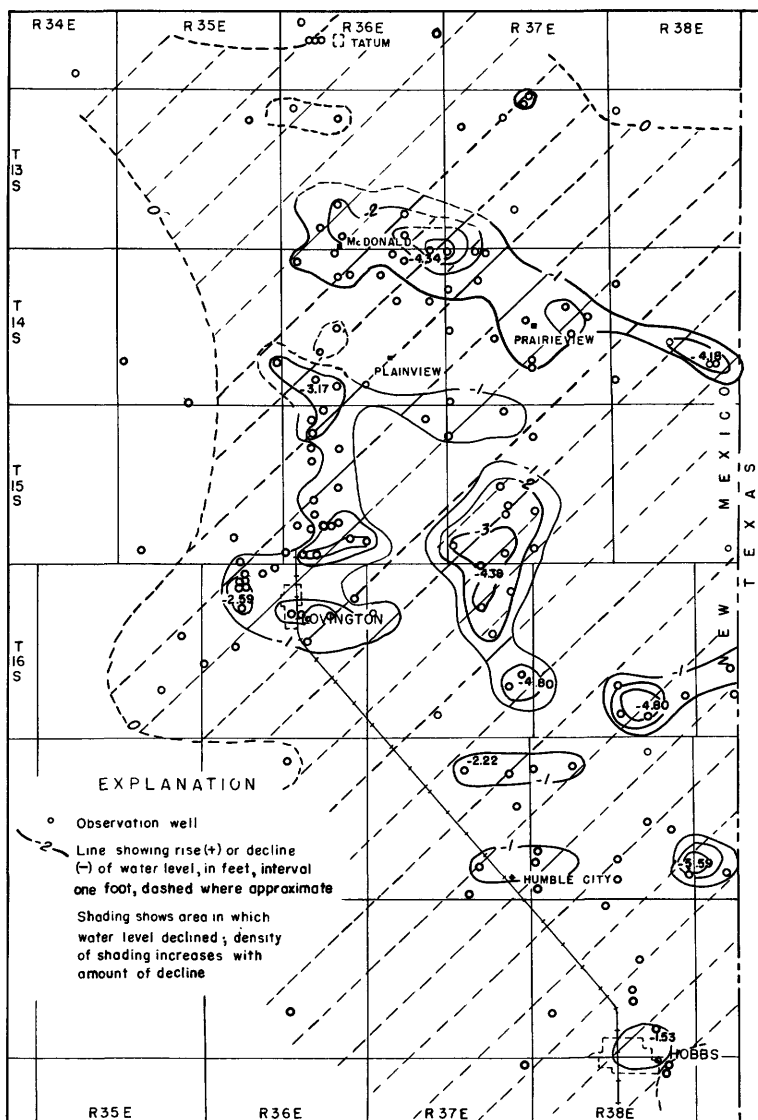
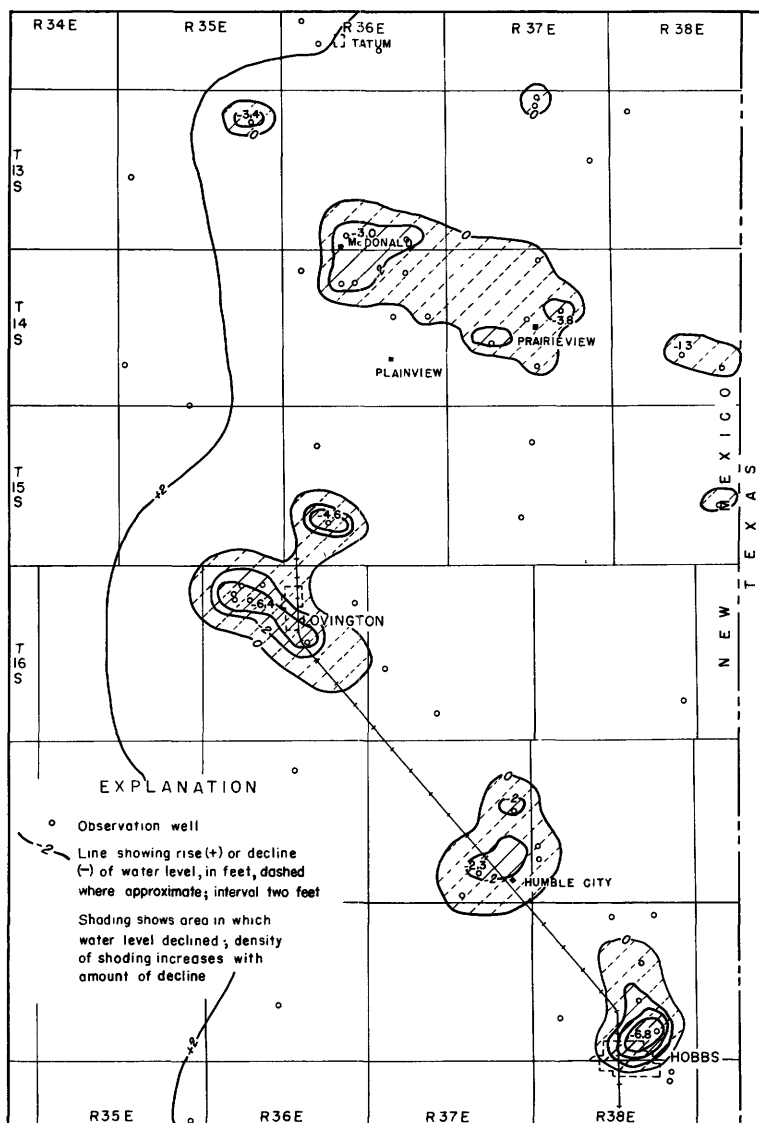


Figure 22. --Change in water level from January 1950 to January 1951 in Tatum-Lovington-Hobbs area of High Plains, Lea County.



Part 2. Water levels in Lea County

Location number (1)	Owner (2)	See part (3)	Jan. 1950		Change 1949-50 (6)	Highest		Lowest		Be- gan (11)	Years missing (12)
			Level (4)	Day (5)		Level (7)	Year (8)	Level (9)	Year (10)		
12.34.11.413	A. D. Jones Estate	3, 5	29.78	15	-	-	-	-	-	50	
13.112	do.	-	32.07	15	-1.33	29.68	48	32.07	50	48	
35.411	do.	-	35.97	15	-35	35.62	49	36.72	48	48	
12.36.19.223	O. V. Fisher	-	28.86	15	-93	22.13	43	32.05	41	39	
24.434	Jerry Clay	-	22.47	16	-	+1.32	42	22.47	50	41	49
24.434a	do.	3	23.52	16	-44	22.85	48	23.52	50	48	
24.434b	do.	-	22.84	16	-36	22.25	48	22.84	50	48	
27.212	State of New Mexico	-	(m)			32.04	42	37.21	41	36	49, 50
29.111	E. D. Holt	-	32.13	15	-51	30.72	47	32.13	50	47	
29.112	do.	-	31.45	15	-53	27.69	44	33.45	41	30	
29.122	do.	4	29.73	15	-51	27.88	47	29.73	50	47	
12.37.20.331	W. O. Dunlap, Jr.	-	2.76	16	-	+15.24	43	2.76	50	41	49
12.38.4.312	G. C. Copeland	-	40.77	16	+08	39.15	43	43.35	41	41	
13.35.11.222	Ashley Green	-	36.24	16	-62	29.14	43	36.24	50	30	32-38
19.211	Clara Elkins	-	45.80	15	-15	44.75	46	49.07	41	41	
13.36.6.231	R. W. Duncan	-	(m)			36.54	48	37.33	49	48	50
6.413	do.	-	46.64	16	+1.63	44.94	48	48.27	49	48	
9.111	W. B. Baum	-	40.00	15	+1.01	38.18	47	41.01	49	47	
26.324	Mrs. Iona McClish	-	42.47	15	-23	42.24	49	42.47	50	49	
28.113	M. R. Anderson	-	45.14	15	-37	44.77	49	45.14	50	49	
32.211	H. N. McDaniels	-	42.76	15	+17	42.76	50	42.93	49	49	
33.321	L. V. Beaman	-	44.86	15	+28	40.16	47	45.14	49	39	
35.413	M. J. McClish	-	41.24	15	-1.02	36.07	45	41.24	50	39	
13.37.3.131	Brady Lowe	-	39.19	16	-11	37.74	47	39.86	41	39	
3.133	do.	-	35.32	16	+68	33.63	43	36.00	49	40	42, 48
7.234	W. D. Patton	3	30.20	16	-33	29.57	48	30.20	50	47	
9.111	A. P. Breckon	-	36.86	16	-07	36.33	48	36.86	50	48	
13.132	A. M. Brownfield	3	e28.7	16	-	26.46	42	30.09	41	30	50
28.413	Mr. Dorn	-	36.08	16	-76	31.70	45	36.08	50	45	
13.38.6.341	Opal Fulton	-	43.60	16	+45	43.02	45	45.62	41	40	
14.35.25.241	M. J. Wiggins	-	43.30	14	+1.58	43.30	50	44.88	49	49	
30.134	W. A. Anderson	-	45.40	14	+60	45.40	50	48.93	41	39	
33.433	do.	3	39.68	14	+08	39.68	50	42.37	30	30	
14.36.1.211	H. L. Wade	-	40.27	14	+53	38.80	48	40.27	50	48	
2.113	C. E. Renshaw	-	48.44	15	+2.17	48.44	50	50.61	49	49	
2.410	do.	-	41.65	15	-1.15	39.02	45	41.65	50	39	
4.111	Lewis Beaman	3, 5	43.14	15	-	-	-	-	-	50	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
15. 36. 1. 311	Mrs. Ida F. Allen	-	43.65	17	-0.05	43.60	49	43.65	50	49	
5. Lot 2	J. P. Caudill	5	59.24	14	-	-	-	-	-	50	
5. 311	do.	-	42.54	14	-2.52	40.02	49	42.54	50	49	
8. 111	Gordon Gann	-	44.01	14	-4.06	39.95	49	44.01	50	49	
8. 111a	do.	3, 5	43.37	14	-	-	-	-	-	50	
8. 131	Orren Beatty	-	(m)			39.93	47	43.23	49	30	50
8. 311	M. G. Adams	-	44.16	14	- .58	40.13	48	44.16	50	48	
9. 311	E. L. and S. L. Sibley	-	146.46	15	-2.16	44.30	49	146.46	50	49	
17. 111	M. G. Adams	-	44.47	14	+.06	44.47	50	44.53	49	49	
20. 133	E. B. Parsons	-	46.62	14	-1.37	45.25	49	46.62	50	49	
21. 111	D. H. Crockett	-	43.47	15	-.92	42.55	49	43.47	50	49	
28. 133	J. R. and Boss Hale	-	50.14	15	-.45	44.53	47	50.14	50	47	
29. 112	G. A. Fisher	-	48.06	14	-1.00	44.90	48	48.06	50	48	
29. 331	D. A. Hudgens	-	47.93	14	+.79	47.93	50	48.72	49	49	
29. 410	do.	5	47.72	14	+2.93	41.89	42	50.65	49	39	46
29. 410a	do.	5	47.72	14	-	-	-	-	-	50	
29. 421	H. R. Fleming	-	48.50	15	+.95	47.69	48	49.45	49	48	
30. 411	Ray Short	-	46.34	14	+1.09	46.34	50	47.43	49	49	
31. 311	O. A. Payton	-	47.52	14	-.05	47.35	48	47.52	50	48	
31. 423	J. and R. Burns	-	51.35	14	-.30	51.05	49	51.35	50	49	
32. 323	Hobby Gann	-	53.87	14	-.27	53.60	49	53.87	50	49	
33. 211	Spencer Nymeyer	-	55.89	17	+5.11	49.14	47	61.00	49	47	
34. 111	Fred Nymeyer	-	48.02	17	-2.32	44.12	48	48.02	50	48	
15. 37. 4. 113	G. F. Crandell	5	37.10	17	-	-	-	-	-	50	
5. 442	Owner unknown	-	(m)			-	-	-	-	49	50
7. 111	D. H. Crockett	5	46.13	17	-	-	-	-	-	50	
10. 113	W. A. Simpson	-	35.15	17	+.09	34.66	45	36.63	39	38	
19. 311	Otto Dean	-	41.09	17	+.42	41.09	50	44.74	48	48	40-42, 44
20. 221	J. E. Steele	-	35.30	17	+.57	35.30	50	35.87	49	49	
21. 333	(See 15. 37. 21. 334)	-									
21. 334	R. W. Dean	3, 5	32.01	17	-	29.20	45	39.46	41	31	49
27. 111	C. L. Naul	-	33.88	17	+.79	29.38	43	34.67	49	42	45
28. 111	E. T. Wilks	5	30.27	17	-	-	-	-	-	50	
31. 132	W. R. Dean	-	35.04	17	+.03	35.04	50	35.07	49	49	
33. 313	E. B. Yarbrough	5	35.97	17	-	-	-	-	-	50	
34. 133	O. S. Bigham	-	30.64	17	+.31	30.64	50	30.95	49	49	
15. 38. 22. 441	Troy C. Fort	-	32.21	17	-.54	28.72	42	32.50	41	40	
35. 133	J. W. Watts	5	37.61	17	-	-	-	-	-	50	
16. 35. 13. 112	W. T. Zuber	3	43.46	18	-.08	43.38	49	43.46	50	49	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
16. 35. 26. 211	Homor Youngblood	-	36. 90	18	-1. 53	35. 37	49	36. 90	50	49	
16. 36. 1. 431	Lorene Easley	-	41. 10	17	+ .58	39. 65	45	43. 84	41	39	
4. Lot 2	W. L. Barbee	-	48. 79	14	- .47	46. 59	47	48. 79	50	47	
4. Lot 12	E. H. Byers	4	47. 68	13	- .31	43. 50	43	47. 74	50	35	
4. 433	City of Lovington		(m)			52. 66	40	53. 89	48	40	42-47, 49, 50
5. Lot 10	Mrs. Mary Coxey	-	49. 77	18	+ .09	44. 53	42	49. 86	49	40	48
5. Lot 14	W. B. Phillips	-	52. 29	18	+1. 20	45. 23	42	53. 49	49	39	
5. Lot 15	I. D. Phillips	-	51. 11	18	+ .88	50. 09	48	51. 99	49	48	
5. 321	Floyd Greer	-	51. 84	18	+1. 32	44. 81	42	53. 16	49	39	
5. 411	Mrs. E. J. Robinson	-	53. 93	18	+1. 28	45. 72	42	55. 21	49	39	
8. 111	C. C. Chambers	-	(m)			49. 89	48	53. 01	49	48	50
8. 211	H. W. Gillette	-	56. 15	18	- .32	53. 67	48	56. 15	50	48	
10. 123	E. Carr	-	58. 39	19	- .50	57. 89	49	58. 39	50	49	
10. 233	J. E. Simmons	-	55. 90	19	+ .41	50. 22	42	56. 31	49	40	
11. 133	C. G. Hudgens	-	53. 35	19	+ .60	50. 71	48	53. 95	49	48	
11. 232	Lorene Easley	-	57. 32	19	+ .34	53. 97	48	57. 66	49	48	
15. 240	I. E. Collier	-	52. 66	19	+ .08	46. 72	43	52. 74	49	39	
17. 133	B. L. Hobbs	-	53. 26	19	- .11	53. 15	49	53. 26	50	49	
19. 111	George Spires	-	47. 09	19	- .51	46. 58	49	47. 09	50	49	
16. 37. 1. 311	H. W. Wilks	5	34. 99	17	-	-	-	-	-	50	
2. Lot 4	Ugi Harada	5	38. 33	17	-	-	-	-	-	50	
7. 114	E. T. Johnson	5	38. 32	17	-	-	-	-	-	50	
11. 111	Mitsu Harada	3	33. 98	17	-2. 05	31. 93	49	33. 98	50	49	
14. 211	A. J. Berkshire & Mitsu Harada	5	39. 73	17	-	-	-	-	-	50	
19. 200	H. T. Monteth		(m)			28. 60	42	30. 90	41	38	50
24. 431	R. L. Robinson	-	35. 09	17	- .19	35. 90	49	36. 20	48	48	
25. 111	Richard M. King	5	36. 87	17	-	-	-	-	-	50	
33. 122	Elbert Shipp	-	29. 34	19	- .11	27. 48	42	30. 63	41	39	47, 48
16. 38. 25. 144	J. S. and Rose Eaves	-	34. 30	17	- .59	31. 90	42	34. 61	41	41	
26. 111	O. A. Woody	5	35. 34	19	-	-	-	-	-	50	
27. 111	do.	5	32. 99	17	-	-	-	-	-	50	
34. 131	Ralph Moe	3	38. 23	19	-1. 63	35. 39	47	38. 23	50	47	
35. 110	O. A. Woody	3	38. 88	19	-2. 36	34. 02	44	38. 88	50	40	
16. 39. 20. 131	O. D. Ferguson	-	34. 34	17	- .73	32. 47	48	34. 34	50	48	
29. Lot 2	L. E. Sims & L. J. Holder	5	54. 85	17	-	-	-	-	-	50	
17. 33. 13. 433	Potash Co. of America	3	158. 84	18	-14. 60	c144. 24	49	158. 84	50	49	
17. 34. 35. 130	Phillips Petro. Co.	3	89. 96	18	- .04	89. 92	49	91. 98	41	41	
17. 35. 35. 213	do.	3	39. 10	18	- .17	38. 60	48	41. 45	41	41	
17. 36. 3. 333	State of New Mexico	3	42. 42	18	+ .05	42. 02	44	44. 29	41	39	
27. 131	Wallace Mitchell	3	33. 31	18	- .26	33. 05	49	33. 31	50	48	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
17.37.10.211	Owner unknown	-	33.42	19	-0.55	32.37	49	33.42	50	49	
12.113	Lee Stiles	5	40.69	19	-	-	-	-	-	50	
13.312	John Catchings	-	32.03	19	-3.42	26.05	44	32.03	50	39	
26.333	David Newby	-	31.30	19	-53	26.21	43	31.30	50	38	
34.441	M. J. Waltman	-	27.71	19	-46	24.60	43	27.71	50	41	
17.38.2.311	O. & G. W. Hickerson	-	44.37	19	-48	43.89	49	44.37	50	49	
7.111	C. M. & W. R. Willess	3, 5	32.78	19	-	-	-	-	-	50	
8.211	J. J. Handley, Jr.	5	36.46	19	-	-	-	-	-	50	
23.111	Owner unknown	-	36.28	19	-27	36.01	49	36.28	50	49	
24.133	R. M. King	5	41.30	19	-	-	-	-	-	50	
27.133	W. E. Manning	-	27.74	19	-58	25.55	47	27.74	50	48	
30.113	W. H. Martin	-	29.50	19	-35	23.97	42	29.50	50	38	
30.312	Mrs. W. L. Goedeke	3	31.59	19	-1.37	26.47	42	31.59	50	30	
31.311	G. L. Beene	-	28.26	19	-1.55	26.71	49	28.26	50	49	
34.113	W. E. Busby	-	27.67	19	-77	24.78	44	27.67	50	44	
36.212	R. M. King	5	59.60	19	-	-	-	-	-	50	
17.39.32.111	do.	5	72.92	19	-	-	-	-	-	50	
18.36.27.111	State of New Mexico	3	40.21	18	-15	38.13	43	41.66	41	39	
18.38.2.131	Sam Dalmont	-	(a)	19	-	27.20	43	30.64	40	39	50
4.232	J. R. Isaacs Estate	3	24.84	19	-49	22.17	43	25.59	40	30	
15.241	Glenn Staley	3	29.75	19	+50	26.77	43	30.25	49	40	
19.413	Carl Dennison	-	b30.75	18	-6.38	24.37	49	-	-	49	
22.411	S. C. Albertson	-	37.49	19	-54	34.43	43	37.49	50	40	
22.433	Glenn Staley	-	41.75	18	-52	41.23	49	41.75	50	49	
26.343	L. V. Pribble	-	48.73	18	-1.05	40.30	43	48.73	50	40	
30.200	Mrs. Sadie Davis	3	23.85	18	+07	23.19	48	27.56	31	31	
19.35.13.211	Clara Fowler	(m)	18.08	18	-	18.38	42	a26.67	30	30	50
13.412	B. E. Hughes	5	119.37	18	-03	17.78	47	20.38	41	39	
24.222	L. S. Evans Estate	-	16.02	18	+24	15.06	47	17.93	41	39	
19.411	do.	-	16.49	18	+10	16.35	47	16.59	49	42	
32.111	S. P. Jordan	-	16.56	18	+21	15.15	42	18.60	40	39	
19.37.1.231	Hobbs Country Club	-	25.20	19	+47	24.75	47	25.87	48	45	
32.241	Mrs. E. A. Anderson	3	12.19	18	+15	11.50	33	12.34	49	30	
32.241a	do.	-	12.20	18	+07	12.20	50	12.30	48	48	
19.38.2.122	Perry Lamar	-	52.62	18	-32	43.59	42	52.62	50	40	
2.242	Bert Dodson	-	46.33	18	+55	44.38	42	46.97	41	41	
2.424	A. C. Cheser	-	43.01	18	-68	42.33	49	46.54	41	41	
34.222	Collins Walker	-	42.72	18	-45	42.27	49	42.72	50	49	42, 48

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
20.35.1.221	J. L. Wood	3, 5	21.82	18	-0.57	19.70	44	25.63	41	30	
1.222	(See 20.35.1.221)										
20.37.9.110	W. H. Laughlin	3	31.00	18	+ .13	27.18	43	42.40	38	30	36, 37
9.110a	do.	-	30.20	18	+ .10	26.36	43	37.12	41	41	

a Pumping. f From recorder graph. m Measurement discontinued.

b Pumped recently.

c Nearby well being pumped.

i Possible discrepancy of a few tenths of a foot between present and previous land-surface data.

j March 30.

Part 3. Water levels during 1950

Location number	12. 34. 11. 413	12. 36. 24. 434a	13. 37. 7. 234	13. 37. 13. 132	14. 35. 33. 433	14. 36. 4. 111	14. 36. 13. 211	14. 37. 14. 112
Owner	Jones	Clay	Patton	Brown-field	Ander-son	Beaman	Cham-bers	Powell
Jan. 14-16	29.78	23.52	30.20	e28.7	39.68	43.14	37.52	c40.30
Mar. 27	29.81	23.50	30.27	28.89	39.70	42.90	37.56	40.75
May 19, 23	29.89	a24.10	30.37	28.96	39.70	44.38	37.66	42.23
July 21, 22, 24	29.96	a23.78	-	-	39.70	44.47	37.85	42.55
Sept. 20, 21	30.04	23.78	30.47	29.00	39.69	45.13	38.01	43.77
Nov. 20, 21	30.10	a24.32	30.47	29.01	39.70	44.31	38.14	43.61

Location number	14. 37. 27. 131	14. 37. 31. 333	14. 38. 28. 121	15. 36. 8. 111a	15. 37. 21. 334	16. 35. 13. 112	16. 37. 11. 111	16. 38. 34. 131
Owner	Fort	Miller	Cox	Gann	Dean	Zuber	Harada	Moe
Jan. 14, 16-19	38.19	44.80	28.16	43.37	32.01	43.46	33.98	c38.23
Mar. 25, 27	38.24	a72.79	28.04	46.46	33.30	c46.60	34.23	38.48
May 18, 19	39.24	55.89	28.58	c74.09	34.57	48.68	(a)	b48.88
July 20, 21, 24	39.62	48.21	e27.60	48.20	a39.77	46.10	42.84	a59.30
Sept. 19-21	39.71	49.27	e29.45	52.47	a40.64	45.60	41.34	43.30
Nov. 18, 20, 21	39.59	48.71	-	47.20	a35.94	44.63	37.94	40.81

Location number	17. 33. 13. 433	17. 34. 35. 130	17. 35. 35. 213	17. 36. 3. 333	17. 36. 27. 131	17. 38. 7. 111	17. 38. 30. 312	18. 36. 27. 111
Owner	Potash Co.	Petro-leum	Petro-leum	State of N. M.	Mitchell	Willess	Goedeke	State of N. M.
Jan. 18, 19	158.84	89.96	39.10	42.42	33.31	32.78	31.59	40.21
Mar. 24, 25	156.10	89.92	39.10	42.67	35.10	32.52	31.74	40.26
May 17, 18	151.34	89.91	39.14	42.67	36.52	b42.90	31.73	40.31
July 20, 21	153.31	89.97	39.20	42.76	34.24	36.47	32.12	40.37
Sept. 19, 21	159.07	89.97	39.22	42.52	33.75	35.06	32.24	40.38
Nov. 18, 20	a186.61	89.94	39.14	42.39	33.57	34.42	32.61	40.45

Location number	18. 38. 4. 232	18. 38. 15. 241	18. 38. 30. 200	19. 37. 32. 241	20. 35. 1. 221	20. 37. 9. 110
Owner	Isaacs	Staley	Davis	Anderson	Wood	Laughlin
Jan. 18, 19	24.84	29.75	23.85	12.19	21.82	31.00
Mar. 24, 25	24.88	30.59	23.78	12.25	c22.00	30.80
May 17, 18	d25.55	b38.87	25.87	12.23	22.11	30.85
July 20	(d)	31.16	24.51	12.10	22.19	31.36
Sept. 19	25.09	31.71	23.80	12.20	22.27	31.45
Nov. 20	24.16	29.87	23.60	12.20	22.45	31.36

a Pumping.

b Pumped recently.

c Nearby well being pumped.

d Nearby well pumped recently.

e Dry at depth given.

Part 4. Daily highest water level from recorder graph

12.36.29.122. E. D. Holt.

Daily highest water level from recorder graph

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	29.71	Mar. 3	29.76	June 2	30.10	Sept. 27	30.04
2	29.70	5	29.77	5	30.13	30	30.00
3	29.69	10	29.79	10	30.14	Oct. 1	30.00
4	29.71	11	29.80	15	30.17	5	29.97
5	29.71	13	29.83	20	30.21	10	29.97
6	29.71	15	29.82	24	30.23	15	29.94
7	29.72	18	29.81	30	30.27	16	29.93
8	29.70	20	29.81	July 1	30.27	20	29.93
9	29.69	25	29.83	4	30.25	25	29.93
10	29.70	31	29.85	5	30.25	27	29.90
11	29.71	Apr. 1	29.85	10	30.25	31	29.89
12	29.71	4	29.85	15	30.24	Nov. 1	29.89
13	29.71	5	29.86	20	30.24	2	29.88
14	29.71	7	29.85	22	30.21	3	29.89
15	29.72	10	29.87	23	30.22	5	29.87
16	29.72	15	29.90	24	30.16	8	29.86
20	29.72	16	29.89	25	30.15	10	29.87
24	29.69	20	29.91	30	30.16	15	29.85
25	29.70	21	29.90	Aug. 1	30.16	19	29.83
26	29.72	23	29.91	5	30.16	20	29.84
27	29.73	25	29.93	10	30.18	21	29.85
29	29.71	30	29.94	12	30.20	25	29.87
30	29.71	May 1	29.94	15	30.19	30	29.82
Feb. 31	29.71	2	29.93	20	30.16	Dec. 1	29.81
1	29.72	3	29.93	25	30.15	5	29.82
5	29.74	4	29.95	31	30.13	10	29.81
10	29.75	5	29.97	Sept. 1	30.13	15	29.80
12	29.73	10	29.99	5	30.13	20	29.79
15	29.75	15	30.00	10	30.12	25	29.79
20	29.75	23	30.08	15	30.11	31	29.77
23	29.76	25	30.09	20	30.11		
28	29.75	31	30.10	25	30.09		
Mar. 1	29.77	June 1	30.11				

16.36.4. Lot 12. E. H. Byers.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	47.74	47.61	47.58	48.01	.....	48.79	48.87	49.50	50.28	50.95	49.93	49.43
2	47.71	47.62	47.56	48.11	.....	48.78	48.88	49.44	50.31	50.89	.....	49.43
3	47.70	47.62	47.56	48.16	.....	48.78	48.90	49.42	50.42	.....	.....	.....
4	47.71	47.61	47.56	48.19	g49.44	48.77	48.92	49.40	50.67	.....	.....	.....
5	47.71	47.61	47.56	48.18	49.45	48.77	48.95	49.39	50.70	.....	.....	.....
6	47.71	47.60	47.55	48.23	49.50	48.75	48.98	49.38	50.67	.....	.....	.....
7	47.70	47.60	47.56	48.33	.....	48.75	.....	49.36	50.64	.....	.....	.....
8	47.69	47.61	47.56	48.44	.....	48.74	.....	49.34	50.63	.....	.....	.....
9	47.69	47.60	47.55	48.55	.....	48.73	49.29	49.33	50.60	50.50	.....	49.38
10	47.69	.....	47.54	48.60	49.28	48.73	49.35	49.33	50.56	50.45	.....	49.37
11	47.68	47.59	.....	48.66	49.25	48.72	49.36	49.33	50.52	50.40	.....	49.35
12	47.68	47.59	47.55	48.74	49.20	48.71	49.41	49.53	50.47	50.35	.....	49.35
13	47.68	47.59	47.55	48.81	49.10	48.71	49.42	49.79	50.46	50.31	.....	49.34
14	47.66	47.59	47.55	48.83	49.13	48.70	49.42	49.89	50.00	50.26	.....	49.34
15	47.67	47.59	47.55	48.86	49.10	48.70	49.41	.....	.....	50.21	.....	49.33
16	47.67	47.59	47.54	48.91	49.08	48.69	49.44	.....	.....	50.18	.....	49.34
17	47.66	47.58	47.54	48.90	49.04	48.69	49.45	.....	.....	50.14	.....	49.32
18	47.66	47.59	47.54	48.87	49.02	48.69	49.55	50.04	.....	50.11	.....	49.33
19	47.66	.....	47.54	48.95	48.99	48.68	49.63	50.02	.....	50.07	.....	49.33
20	47.66	.....	47.53	49.00	48.97	48.69	49.66	50.00	50.61	50.03	h49.56	49.33
21	47.66	.....	47.54	49.05	48.96	48.70	49.70	49.97	50.59	50.01	49.54	49.44
22	47.64	47.57	47.53	49.12	48.93	48.73	49.72	49.96	50.70	49.98	49.53	g49.66
23	47.64	47.56	47.53	49.18	48.91	48.74	49.71	50.08	50.75	49.95	49.53	.....
24	47.63	47.57	47.63	49.21	48.89	48.75	49.68	50.16	50.80	49.93	49.51	.....
25	47.63	47.57	47.69	49.30	48.88	48.75	49.65	50.24	50.82	49.91	49.50	.....

16. 36. 4. Lot 12--Continued.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	47.65	47.57	47.81	49.37	48.88	48.77	49.62	50.33	50.87	49.93	49.49	.....
27	47.63	47.56	47.87	49.42	48.86	48.79	49.59	50.40	50.90	50.03	49.48	49.67
28	47.62	47.57	47.90	.....	48.84	48.80	49.56	50.42	50.89	50.06	49.47	49.64
29	47.62		47.91	.....	48.83	48.82	49.53	50.37	50.85	50.03	49.45	49.62
30	47.62		47.97	.....	48.81	48.85	49.51	50.33	50.90	50.00	49.44	49.58
31	47.62		48.00		48.80		49.52	50.30		49.97		49.56

g Estimated.

h Tape measurement.

Part 5. Miscellaneous Data

12. 34. 11. 413. Jones. 0.65 mile south of U. S. Highway 380, 90 feet east of road leading south to ranch house. Drilled unused well, diameter 15 inches. May 24, 1949, 29.57; July 28, 29.60; Sept. 24, 29.64; Nov. 18, 29.69.

14. 36. 4. 111. Beaman. About 300 feet north of irrigation well. Drilled domestic well, diameter 6 inches. Mar. 23, 1949, 42.73; May 24, 43.47; July 27, 44.06; Sept. 24, 44.82; Nov. 18, 43.62.

14. 36. 29. 211. Vaughn. Drilled irrigation well.

14. 36. 34. 111. Battles. About 40 feet south of road. Drilled irrigation well, diameter 16 inches, depth 110 feet.

14. 37. 27. 131. Fort. Formerly 14. 37. 27. 134.

14. 37. 31. 333. Miller. About 400 feet north of house, 30 feet east of fence line, 100 feet east of section line. Drilled irrigation well, diameter 16 inches, depth 130 feet. Mar. 21, 1949, 43.59; May 23, 46.25; July 27, 50.02; Sept. 23, 47.65; Nov. 17, 45.56.

14. 38. 7. 113. Heidel. About 100 feet east of road. Drilled irrigation well.

14. 38. 21. 311. Cox. Nov. 21, 37.55.

15. 36. 5. Lot 2. Caudill. About 6 feet south of meter pole, about 80 feet south of road, west of house. Drilled irrigation well, diameter 16 inches, depth 105 feet.

15. 36. 8. 111a. Gann. 12 feet southeast of house, 75 feet northeast of irrigation well. Drilled domestic well, diameter 6 inches. Mar. 23, 1949, 41.33; May 24, 45.50; July 27, 46.10; Sept. 23, 45.91; Nov. 17, 43.99.

15. 36. 29. 410. Hudgens. Pump removed to new well 15. 36. 29. 410a, 40+ feet northeast.

15. 36. 29. 410a. Hudgens. About 40 feet northeast of well 15. 36. 29. 410. Drilled irrigation well. Land-surface datum same as well 15. 36. 29. 410.

15. 37. 4. 113. Crandell. About 150 feet northwest of house, 8 feet east of fence. Drilled irrigation well.

15. 37. 7. 111. Crockett. About 0.10 mile south and east of fence lines. Drilled irrigation well, diameter 16 inches, depth 115 feet.

15. 37. 21. 334. Dean. Formerly 15. 37. 21. 333.

15. 37. 28. 111. Wilks. Drilled irrigation well. July 27, 1949, 41.55; Sept. 23, 31.45; Nov. 16, 30.63.

15. 37. 33. 313. Yarbro. About 100 feet east of road. Drilled irrigation well, depth 125 feet.

15. 38. 35. 133. Waits. About 30 feet east of fence. Drilled irrigation well, diameter 16 inches, depth 140 feet.

16. 37. 1. 311. Wilks. About 100 feet east of windmill. Drilled irrigation well, diameter 16 inches, depth 105 feet.

16.37.2. Lot 4. Harada. About 100 feet east of road, 1.4 miles north of south side of section. Drilled irrigation well, depth 125 feet.

16.37.7.114. Johnson. At east end of elevated ditch. Drilled irrigation well, depth 125 feet.

16.37.14.211. Berkshire and Harada. Drilled irrigation well, diameter 16 inches, depth 130 feet.

16.37.25.111. King. About 50 feet south and east of section lines. Drilled irrigation well, diameter 16 inches, reported depth 115 feet.

16.38.26.111. Woody. About 30 feet east of highway. Drilled irrigation well, diameter 16 inches, depth 140 feet.

16.38.27.111. Woody. About 30 feet from north and west side of section. Drilled irrigation well, diameter 16 inches, depth 130 feet.

16.39.29. Lot 2. Sims and Holder. Drilled irrigation well, diameter 18 inches, depth 172 feet.

17.37.12.113. Stiles. 0.15 mile south and 0.05 mile east of section line. Drilled irrigation well, diameter 16 inches, depth 135 feet.

17.38.7.111. Willess. About 200 feet south of road. Drilled irrigation well, diameter 16 inches, depth 135 feet.

17.38.8.211. Handley. About 200 feet south of road. Drilled irrigation well, diameter 20 inches, depth 145 feet.

17.38.24.133. King. About 15 feet east of road. Drilled irrigation well, diameter 16 inches.

17.38.36.212. King. About 30 feet south of road. Drilled irrigation well, diameter 16 inches.

17.39.32.111. King. About 20 feet east of road and 0.05 mile south of road. Drilled irrigation well, diameter 16 inches.

19.35.13.412. Hughes. About 1,000 feet northwest of rock house, 25 feet east of fence line. Drilled unused well, diameter 20 inches, depth 82 feet. July 25, 1944, 18.11; Mar. 22, 1949, 18.12; May 21, 18.18; July 26, 18.20; Sept. 22, 18.09; Nov. 16, 18.13.

20.35.1.221. Wood. Formerly 20.35.1.222.

LUNA COUNTY (MIMBRES VALLEY)

Part 1. General Discussion

The Mimbres Valley, in which ground water is used extensively for irrigation, is in the southwestern part of New Mexico near Deming. The Mimbres River is perennial in its upper course but sinks underground within a short distance of the mountains. In its lower course, where the ground-water irrigation is practiced, it flows only during infrequent floods. Water levels were measured during January in 131 wells and thereafter at bimonthly intervals in 52 of them. A total of 368 measurements was made during the year. Recording gages were maintained on four wells in areas of heavy pumping, as in the preceding year. These areas are east of the Little Florida Mountains, just to the west of the Little Florida Mountains, about 4 miles southwest of Deming, and about 6 miles south of Deming. Precipitation was, in general, only slightly below normal for the year. This, however, was the result of the excess precipitation during July which amounted to 4.76 inches at Deming, 2.79 inches above normal for the month. With the exception of October, precipitation during the remainder of the year was below normal. Precipitation in 1950 at Deming was 7.83 inches, 1.88 inches below normal and at the Mimbres Ranger Station on the headwaters of the Mimbres River, 13.48 inches, 4.89 inches below normal.

The acreage irrigated by ground water in 1950 is estimated as essentially the same as in 1949, 25,800 acres. On the basis of power records for 287 wells, about 75 percent of the total irrigation wells, for which there were comparable records in 1949, it is estimated that 56,000 acre-feet of water was pumped for irrigation in 1950. An additional 1,900 acre-feet of water is estimated to have been pumped for domestic and industrial purposes, a slight decrease from the 2,000 acre-feet pumped during 1949. The areal changes in water level from January 1950 to January 1951 are shown in figure 24. Because of the slight additional pumpage in 1950 as

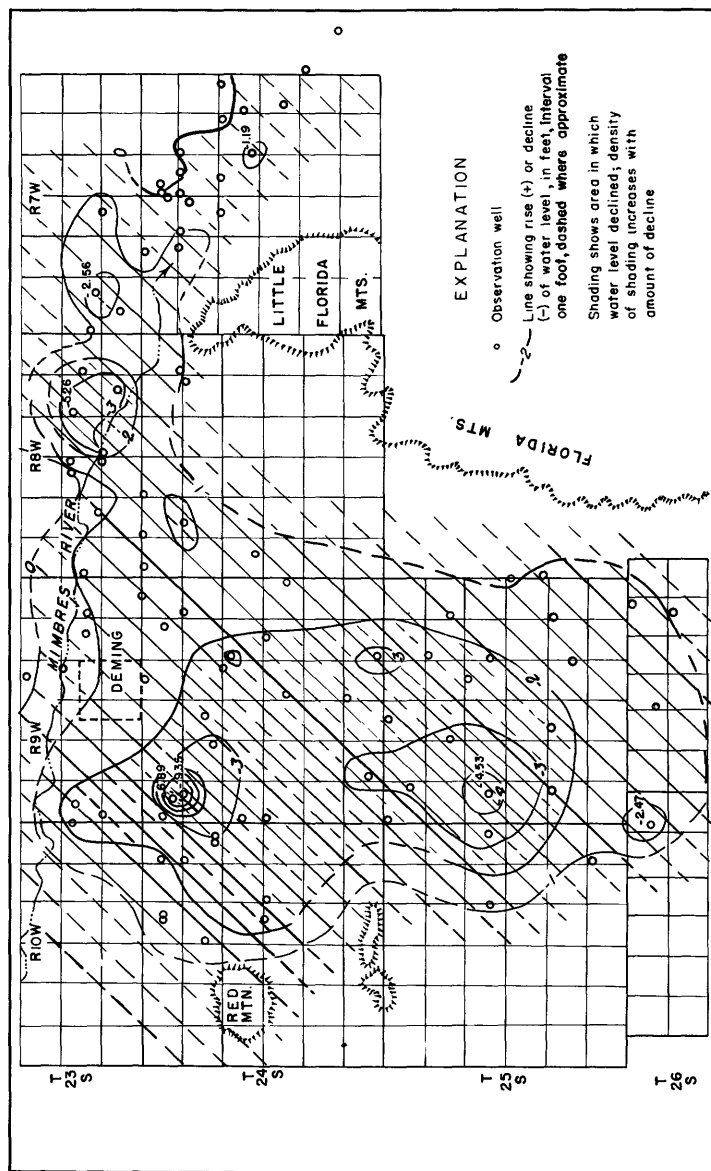


Figure 24. --Change in water level from January 1950 to January 1951 in Mimbres Valley, Luna County.

compared with 1949 the water levels in general showed slightly greater declines. The areas of greatest decline coincide with the areas of greatest pumping. In the heavily pumped area about 8 miles south of Deming, a net decline for the year of more than 3 feet occurred under about 9 square miles, about the same in area as 1949. In the heavily pumped area, about 3 miles southwest of Deming, a net decline of more than 3 feet occurred under about 4 square miles whereas in 1949 the decline was less than 3 feet. East of Deming and west of the Little Florida Mountains, along the Mimbres River, a net decline of more than 3 feet occurred under about 2 square miles. Small rises occurred in this area in the preceding year as a result of recharge from a flood in the Mimbres River in early 1949. East of the Little Florida Mountains, small net declines, generally, less than 1 foot, and a few small rises were observed. The small declines and rises in this area are the result of deepening of wells to lower aquifers that have higher hydrostatic pressures which result in some recharge to the upper aquifers when the deepened wells are not being pumped. Also, the deeper aquifers thus support part of the pumping which formerly was from the shallow aquifers. The areas under which water levels declined a given amount have in general shown a year to year increase because of the gradually increased pumping. However, a decrease in the area of decline occurred in 1949 when pumping was decreased slightly and recharge increased. The comparative areas of decline are given by years in the following table which shows that the decline of water level in 1950 was about equal to 1947.

Area in square miles under which water levels showed a net decline during the year

Year	1+ foot	2+ foot	3+ foot
1941	36	5	1
1942	41	4	0
1943	100	10	1
1944	23	4	1
1945	133	9	1
1946	147	29	1
1947	157	63	19
1948	177	69	19
1949	148	53	9
1950	154	68	15

Figure 25 shows the decline of the ground-water level in the decade from January 1940 to January 1950. The area of greatest decline, more than 18 feet under about 5 square miles and more than 16 feet under about 20 square miles occurred in the heavily pumped area from about 5 to 11 miles south of Deming. Most of the recent development has been in this area. Water levels have declined at a rate of more than 1 foot a year under about 96 square miles which, with few exceptions, encompass all areas of ground-water irrigation.

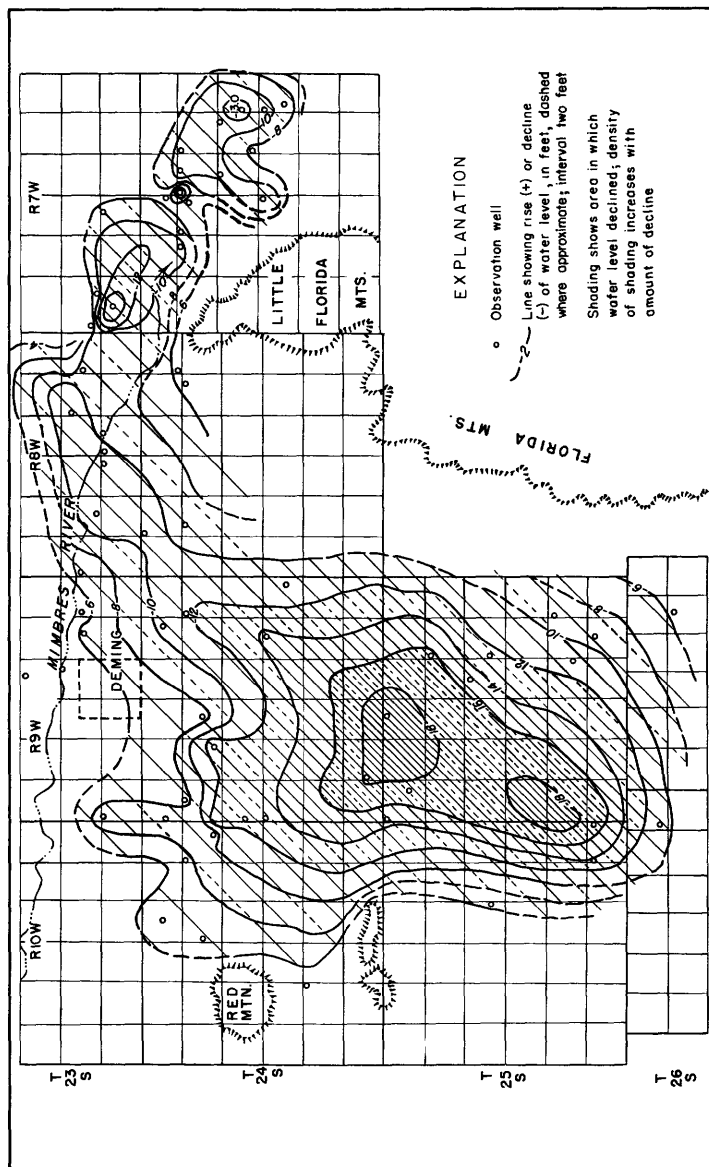


Figure 25. --Change in water level from January 1940 to January 1950 in Mimbres Valley, Luna County.

Part 2. Water levels in Luna County

Location number	Owner	See part	Jan. 1950		Change 1949-50	Highest		Lowest		Record	
			Level	Day		Level	Year	Level	Year	Be- gan	Years missing
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
21.10.6.112	Tom Tigner	3	9.24	4	+0.10	6.57	33	9.76	47	29	
21.11.13.411c	Claude Irwin	3	42.71	4	+9.36	38.77	46	52.07	49	45	
35.310	State of New Mexico	3	23.66	4	+11.07	18.76	32	34.85	48	30	
22.10.18.121	do.	3	74.56	4	+3.51	68.51	30	78.07	49	29	
20.210	do.	-	93.55	4	+8.2	88.72	40	94.37	49	40	42
22.11.2.210	do.	3	26.17	4	+9.67	21.11	30	35.84	49	30	
13.122	do.	3	65.10	4	+4.39	59.07	30	69.49	49	29	
13.221	do.	3	72.32	4	+3.93	66.06	30	76.25	49	29	
13.411	do.	-	73.72	4	+3.95	73.72	50	77.67	49	47	
23.222	do.	3	51.64	4	+4.85	47.43	42	60.30	37	29	31, 33-35
24.211	do.	-	74.82	4	+3.86	74.82	50	78.68	49	47	
23.7.17.242	Jack Smyer	-	a97.27	7	-69	92.90	42	96.58	49	42	44, 47
21.311	Unknown	3	72.36	7	-1.38	69.56	45	72.36	50	45	
30.433	John Kelly	-	68.18	10	-89	58.42	40	68.18	50	40	
30. Lot 16	H. T. Foster	3	29.41	7	+21	22.62	32	29.62	49	32	33, 38
31.111	William Haas	-	cj77.00	7	-9.39	39.49	40	67.61	49	40	46
31.111a	do.	-	(a)	7	-	55.95	47	65.78	49	47	50
31.132	do.	-	(a)	7	-	40.60	40	68.59	49	40	46, 50
31.133	do.	3	c39.77	7	+11.79	c39.77	50	51.56	49	47	
33.211	Lewis and R. S. Smyer	-	68.78	10	-89	59.99	40	68.78	50	40	47
23.8.3.322	U. S. Government	-	(m)			131.14	42	133.64	49	42	43, 50
13.411	E. P. Peoples	-	40.71	7	-01	34.67	30	40.71	50	30	31-36, 44, 47
25.311	Ed Remondini	-	28.94	9	-1.30	20.75	40	28.94	50	40	
26.131	W. L. Bankston	5	(m)							28	31, 33, 47, 49, 50
26.131a	do.	3, 5	44.94	7	-1.53	43.41	49	44.94	50	49	
28.231	C. R. Lewis, Jr.	-	53.80	7	-81	43.50	42	53.80	50	42	
28.241a	do.	-	51.05	7	-36	50.69	49	51.05	50	49	
29.433	E. Krenk	-	55.66	10	-28	42.56	39	55.66	50	39	
30.133	H. A. Norvell	-	52.38	10	+59	44.96	39	52.97	49	39	
33.221	Geo. Dowdle	5	47.47	7	-0.28	35.66	40	47.47	50	40	
34.111	do.	3	44.44	7	-22	33.52	40	44.44	50	40	
34.211	E. B. Law	3	43.39	7	-41	27.50	29	43.39	50	29	
35.233	Joe Remondini	-	34.73	7	-76	29.14	44	34.73	50	44	48
23.9.7.240	P. D. Torres	-	a102.48	4	-96	97.06	40	101.52	49	40	
22.213	Roy Perkins	3	66.74	4	-30	58.77	32	66.74	50	29	30, 31, 33-36
25.311	Albert Ernst	3	60.37	10	+41	50.40	28	60.78	49	28	31, 33

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
23.9.26.410	H. H. Ruebush	-	60.43	4	-0.01	53.64	39	60.43	50	39	
27.221	J. D. McDaniels	3	61.25	4	-	52.18	30	61.25	50	k29	31, 33, 49
30.142	J. M. Mazac	-	83.02	4	-91	82.11	49	84.80	48	47	
31.110	Glen Neighbors	-	83.79	4	-90	75.38	40	83.79	50	40	
23.10.25.242	J. M. Mazac	-	85.80	4	-44	82.84	47	85.80	50	47	
24.6.29.300	Bill Birchfield	-	68.52	9	-	66.89	k41	68.52	50	k41	42, 49
30.111	do.	-	a70.63	9	-56	66.16	k41	a70.63	50	k41	
24.7.3.311	G. D. Hatfield	-	(m)			7.36	46	19.90	49	45	50
3.311a	do.	3, 5	86.78	9	-		-		-	50	
3.321	Lewis Smyer	-	89.00	9	+47	88.90	48	89.47	49	48	
4.424	G. D. Hatfield	3	89.30	9	+1.14	65.36	29	90.44	49	29	30, 33
5.211	R. M. Williamson	3	a91.78	9	-	66.90	32	87.89	48	32	33, 38, 49
8.212	J. M. McDougall	-	89.05	9	-1.17	78.47	40	89.05	50	40	44, 48
9.111	Smyer Bros.	3	86.49	23	+1.24	77.25	39	87.73	49	39	
9.111a	do.	3	85.88	23	-42.97	38.22	47	85.88	50	47	
9.241	G. D. Hatfield	3	91.15	9	+64	84.60	40	91.80	44	40	
9.241a	do.	5	52.26	9	-	21.49	45	52.26	50	45	49
10.111	do.	-	87.41	9	-15.01	20.73	47	91.67	44	40	46
10.211	Fred Hassman	3	94.07	9	-15	82.47	40	94.07	50	40	
11.111	Edith E. Pollard	-	89.27	9	-35	74.69	39	90.49	46	39	42
13.212	F. S. Dale	-	64.69	9	-2.73	61.96	49	73.84	48	40	
13.311	Mr. Miramontes	5	83.87	9	-34	69.97	39	83.87	50	39	
14.221	J. H. Winslow	4	85.72	9	-25	72.11	39	85.86	50	39	
14.331	Cecil and Roger Miller	5	84.44	9	-8.36	76.08	49	84.71	48	40	
15.122	J. L. Caudill	-	92.42	9	-70	79.36	39	92.42	50	39	
16.211b	Geo. Snyder	3	91.05	9	-70	81.08	42	91.05	50	42	
21.222	Hiram Jeter	-	81.87	9	-2.67	70.19	40	81.87	50	40	
21.222a	C. W. Geurin	-	-	-	-	18.76	49	-	-	49	50
24.111	Jasper Wilson	3	80.17	9	-57	69.79	40	80.17	50	40	
24.312	Bill Birchfield	3	75.60	9	-66	68.60	41	75.60	50	41	
24.8.1.333b	F. K. Kretek	3	22.80	9	+08	15.86	45	22.88	49	40	
4.111	Foy Riley	4	45.45	7	-1.40	35.59	41	45.45	50	41	
5.111	R. A. Hackbeil	-	51.65	7	-1.52	34.52	29	51.65	50	29	31-33, 35-37
6.112	Deming Air Base	3	58.34	6	-1.83	49.22	43	58.34	50	43	
7.431	Paul Hrna	-	49.04	10	-	39.06	42	49.04	50	42	43, 49
8.121	Mrs. J. F. Holiday	-	50.35	7	-1.60	40.21	39	50.35	50	39	
11.221	F. K. Kretek	3	22.27	9	-40	12.60	34	22.27	50	32	33, 35
24.9.1.211	Deming Air Base	3	64.15	6	-1.95	55.64	43	64.15	50	43	
1.222	do.	-	61.17	6	-	54.69	44	61.17	50	44	49
2.421	Rosendo Trujillo	3	62.42	6	-1.28	48.10	33	62.42	50	32	34, 35

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
24. 9. 3. 122	Mr. Dixon	-	86.54	6	-1.14	62.42	47	66.54	50	47	
6. 311	J. B. Wells	-	85.10	4	-1.99	61.35	28	85.10	50	28	31, 33
6. 431	State of New Mexico	3	78.09	4	-2.33	457.45	42	78.09	50	42	
7. 211	Emanuel Vocale	-	84.63	4	-2.03	67.49	42	84.63	50	39	
7. 331	S. R. Moir	-	-	-	-	66.10	30	87.80	49	30	31, 33, 50
8. 441	F. A. Bredecko	-	81.63	6	-2.03	68.60	40	81.63	50	40	
9. 411	Joe Clary	3	73.87	6	-1.01	65.16	39	73.87	50	39	
12. 111	E. H. Hatcher	-	63.81	10	-1.48	47.68	28	63.81	50	28	31, 32
13. 111	Mary E. Barrett	-	(m)	-	-	14.92	28	58.61	49	28	31, 33, 50
14. 113	R. O. Fewell	3, 5	67.11	10	-	-	-	-	-	50	
15. 221	Joe Lutonsky	-	(m)	-	-	61.60	47	67.40	47	40	49, 50
15. 221a	do.	-	67.75	10	-1.76	64.65	48	67.75	50	48	
18. 311	Chas. Peter	-	84.72	5	-2.45	72.38	40	84.72	50	40	
19. 111	Francis Ligocky	3	86.19	5	-2.61	72.82	40	86.19	50	40	
21. 131	L. L. Gaskill	-	(m)	-	-	59.33	29	81.95	49	28	33, 50
22. 311	Joe Hrna	-	80.65	6	-2.04	69.50	45	80.65	50	45	
23. 211	O. T. Patterson	-	79.42	10	-1.44	58.12	30	79.42	50	30	33
24. 421	W. F. Roberts	-	68.69	9	-1.70	57.99	41	68.69	50	40	
32. 311	D. D. Roderick	-	87.05	5	-3.55	69.00	40	87.05	50	40	
34. 111a	V. V. Norwood	-	79.87	6	-3.62	65.94	46	79.87	50	46	
35. 331	J. E. Howell	3	78.34	6	-2.70	71.12	48	78.34	50	48	
24. 10. 1. 311	R. V. Griggs	3	86.66	4	-75	78.45	42	86.66	50	41	
3. 411	A. M. & B. L. Speir	3	93.87	5	+0.4	79.17	30	93.91	49	30	31, 33, 34
3. 411b	do.	3	86.17	5	-0.9	75.34	42	86.17	50	41	
3. 412	do.	5	92.31	5	-	-	-	-	-	50	
10. 311	Jim Hurt	3	89.51	5	-91	76.53	30	89.51	50	30	33, 34, 36
12. 111	Morgan Garrett	-	89.48	5	-1.01	79.69	39	89.48	50	39	46
12. 431	Steve Hrna	4	88.77	5	-1.82	77.08	40	88.86	50	40	
12. 432a	do.	-	87.16	5	-1.64	77.29	40	87.16	50	40	
12. 432b	do.	-	87.84	5	-1.31	78.05	40	87.84	50	40	
22. 211	E. F. Hurt	3	77.79	5	-1.22	69.61	42	77.79	50	42	
23. 111	do.	3	77.77	5	-1.26	76.51	49	77.77	50	49	
29. 222	State of New Mexico	3	68.08	5	-79	63.87	41	68.08	50	41	
24. 11. 1. 333	J. B. Smith	-	101.73	5	-28	99.78	44	101.73	50	44	
25. 8. 19. 331	Unknown	3	67.64	6	-1.28	59.01	42	67.64	50	42	44
25. 9. 4. 211	Val Miller	4	82.59	5	-2.96	63.70	41	82.63	50	41	
6. 111	P. M. Yates	-	78.54	5	-2.49	65.14	41	78.54	50	41	
6. 421	Bernabe Alba	3	85.01	5	-3.22	66.41	39	85.01	50	39	
9. 311	Unknown	5	79.66	5	-	-	-	-	-	50	
11. 111	R. J. Bishop	3	77.44	6	-2.19	60.01	39	77.44	50	39	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
25.9.12.311	Jo Willa Cheek										
12.311a	do.	5	(m)	6	-	56.69	40	67.33	49	40	50
14.311	C. W. Gaines	-	69.42	6	-2.24	57.10	40	69.42	50	40	
15.211	C. H. Paulk	-	75.94	6	-1.75	59.78	39	75.94	50	39	
18.211	S. P. Walker	-	-	-	-	74.30	47	79.13	49	47	50
18.412	Tom Marcak	-	83.62	5	-3.32	73.37	47	83.62	50	47	
19.111	do.	-	(m)			62.41	40	69.81	47	40	48-50
24.222a	D. J. Schmelzla	-	58.16	6	-1.25	52.15	46	58.16	50	46	
25.111	Alan Crotchett	-	56.65	6	-1.69	47.54	40	56.65	50	40	
27.422	Mr. Garret	-	64.52	6	-1.67	53.42	40	64.52	50	40	
28.121	Leonard Zumwalt	3	79.53	5	-2.43	66.03	42	79.53	50	42	
30.212	Ernest Marsh	-	77.71	5	-1.91	71.73	48	77.71	50	48	
35.211	L. V. Conic	5	57.69	6	-1.40	47.21	39	57.69	50	39	
25.10.13.412	Leon Hurst	5	77.56	5	-	-	-	-	-	50	
15.422	C. H. Graves	-	63.39	5	-	57.18	40	63.39	50	40	49
36.111	A. M. Seale, Jr.	-	72.35	5	-2.66	58.84	40	72.35	50	40	45
36.222	do.	5	75.59	5	-2.50	56.94	39	75.59	50	39	
26.9.2.221	T. R. Taylor	3	46.60	6	-1.25	39.69	41	46.60	50	41	42
4.331	R. E. Smyer	-	60.36	6	-1.22	52.28	41	60.36	50	41	47
11.211	State of New Mexico	3	43.16	6	-1.97	37.30	40	43.16	50	40	
26.10.1.310	Fred Chambers	-	68.34	5	-1.55	55.42	28	68.34	50	28	33, 36-39
27.8.4.11	Bill Birchfield	3	24.20	6	-1.58	22.62	49	24.29	40	40	
27.9.12.111	Waterloo School	3	28.51	6	-23	27.12	46	28.51	50	45	
28.8.34.444	Mrs. Hoover	-	38.82	6	-24	38.58	49	38.82	50	48	
29.7.4.111	Francis S. Connatt	-	1.23	6	+15	1.23	50	1.45	48	48	
18.211	R. M. Marshall	-	6.29	6	-	.50	41	14.53	44	k40	43, 49
29.8.12.244	A. G. Anderson	-	8.06	6	-57	7.07	k40	8.06	50	k40	
13.111	Jack Missal	-	17.83	6	-1.10	6.44	kn40	17.83	50	k40	

a Pumping.

c Nearby well being pumped.

f From recorder graph.

i Possible discrepancy of a few tenths of a foot

between present and previous land-surface data.

j Below depth given.

k March.

m Measurement discontinued.

n Also 1942.

o Measurement uncertain.

Part 3. Water levels during 1950

Location number	21. 10. 6. 112	21. 11. 13. 411c	21. 11. 35. 310	22. 10. 18. 121	22. 11. 2. 210	22. 11. 13. 122	22. 11. 13. 221	22. 11. 23. 222
Owner	Tigner	Irwin	State of N. M.	State of N. M.	State of N. M.	State of N. M.	State of N. M.	State of N. M.
Jan. 4	9. 24	42. 71	23. 66	74. 56	26. 17	65. 10	72. 32	51. 64
Mar. 16	9. 34	43. 53	27. 70	75. 13	28. 97	65. 84	72. 92	52. 29
May 16	9. 44	a81. 58	29. 44	75. 47	30. 38	66. 29	73. 29	52. 79
July 18	9. 79	48. 00	30. 30	75. 61	31. 30	66. 75	73. 70	53. 32
Sept. 21	9. 69	49. 00	27. 26	75. 87	30. 41	66. 96	73. 91	53. 45
Nov. 28	9. 24	(a)	28. 76	75. 68	30. 82	66. 95	73. 92	53. 47

Location number	23. 7. 21. 311	23. 7. 30. L. 16	23. 7. 31. 133	23. 8. 26. 131a	23. 8. 34. 111	23. 8. 34. 211	23. 9. 22. 213	23. 9. 25. 311
Owner	Unknown	Foster	Haas	Bank- ston	Dowdle	Law	Perkins	Ernst
Jan. 4, 7, 10	72. 36	29. 41	c39. 77	44. 94	44. 44	43. 39	66. 74	60. 37
Mar. 16, 17	72. 53	29. 89	c42. 63	51. 59	c50. 68	c49. 42	66. 47	60. 50
May 16-18	71. 93	30. 54	44. 42	44. 90	b58. 10	a80. 33	67. 26	61. 75
July 18, 19	70. 20	27. 69	45. 83	51. 07	(a)	c51. 44	67. 80	62. 39
Sept. 21-23	70. 78	29. 34	44. 89	-	54. 31	50. 72	68. 14	62. 70
Nov. 28, 29	-	29. 42	36. 99	-	47. 52	46. 85	66. 68	61. 53

Location number	23. 9. 27. 221	24. 7. 3. 311a	24. 7. 4. 424	24. 7. 5. 211	24. 7. 9. 111	24. 7. 9. 111a	24. 7. 9. 241	24. 7. 10. 211
Owner	Mc- Daniels	Hat- field	Hat- field	William- son	Smyer Bros.	Smyer Bros.	Hat- field	Hass- man
Jan. 4, 9, 23	61. 25	86. 78	89. 30	a91. 78	86. 49	85. 88	91. 15	94. 07
Mar. 16, 17	a62. 97	85. 57	87. 84	90. 25	82. 68	82. 50	90. 19	c92. 72
May 16, 18	a62. 95	88. 33	89. 86	a91. 87	c97. 26	(a)	89. 59	c98. 18
July 18, 19	61. 90	89. 60	91. 43	91. 91	87. 01	86. 89	91. 47	c101. 46
Sept. 21-23	62. 79	92. 63	94. 41	92. 21	90. 51	90. 43	93. 04	101. 92
Nov. 28-30	61. 69	87. 76	90. 63	91. 29	85. 65	85. 40	92. 80	94. 71

Location number	24. 7. 16. 211b	24. 7. 24. 111	24. 7. 24. 312	24. 8. 1. 333b	24. 8. 6. 112	24. 8. 11. 221	24. 9. 1. 211	24. 9. 2. 421
Owner	Snyder	Wilson	Birch- field	Kretek	Air Base	Kretek	Air Base	Tru- jillo
Jan. 6, 9	91. 05	80. 17	75. 60	22. 80	58. 34	22. 27	64. 15	62. 42
Mar. 17	90. 91	79. 92	75. 70	23. 10	58. 54	22. 22	64. 34	62. 61
May 17, 18	88. 35	80. 86	75. 77	a33. 62	58. 80	23. 51	64. 55	ac75. 0
July 19	(a)	k80. 70	75. 80	25. 04	59. 14	24. 19	64. 94	(ac)
Sept. 22, 23	95. 90	-	-	25. 36	59. 53	24. 44	65. 29	69. 51
Nov. 29, 30	94. 79	-	76. 14	23. 82	59. 86	23. 33	65. 62	64. 30

Location number	24. 9. 6. 431	24. 9. 9. 411	24. 9. 14. 113	24. 9. 19. 111	24. 9. 35. 331	24. 10. 1. 311	24. 10. 3. 411	24. 10. 3. 411b
Owner	State of N. M.	Clary	Fewell	Ligocky	Howell	Griggs	Speir Bros.	Speir Bros.
Jan. 4-6, 10	78. 09	73. 87	67. 11	86. 19	78. 34	86. 66	93. 87	86. 17
Mar. 16, 17	c96. 20	73. 16	71. 07	85. 46	c95. 65	c97. 52	93. 72	86. 77
May 16, 17	b95. 06	c79. 39	(a)	87. 77	c85. 20	98. 56	95. 16	90. 16
July 18-20, 26	87. 48	82. 46	86. 96	89. 08	cj88. 94	c101. 37	(c)	a109. 80
Sept. 21-23	95. 21	85. 20	88. 40	90. 40	87. 62	c104. 11	94. 89	90. 31
Nov. 28, 29	83. 65	77. 50	76. 85	89. 30	83. 12	89. 42	95. 46	87. 78

Location number	24. 10. 10. 311	24. 10. 22. 211	24. 10. 23. 111	24. 10. 29. 222	25. 8. 19. 331	25. 9. 6. 421	25. 9. 11. 111	25. 9. 28. 121
Owner	Hurt	Hurt	Hurt	State of N. M.	Unknown	Alba	Bishop	Zum- walt
Jan. 5, 6	89. 51	77. 79	77. 77	68. 08	67. 64	85. 01	77. 44	79. 53
Mar. 16, 18	89. 41	77. 60	77. 51	68. 44	67. 43	85. 42	(a)	79. 08
May 16, 17	91. 99	79. 71	80. 20	68. 75	69. 00	-	(a)	(a)
July 18, 20	90. 97	(a)	(a)	68. 37	a70. 01	91. 13	-	84. 84
Sept. 21-23	92. 26	81. 27	81. 67	e67. 70	b70. 07	b97. 56	83. 13	86. 79
Nov. 28, 29	91. 35	79. 82	79. 95	-	69. 03	89. 20	81. 17	82. 85

Location number	26. 9. 2. 221	26. 9. 11. 211	27. 8. 8. 411	27. 9. 12. 111
Owner	Taylor	State of N. M.	Birch- field	School
Jan. 6	46. 60	43. 16	j24. 20	28. 51
Mar. 18	46. 68	43. 31	25. 03	28. 33
May 17	a56. 68	43. 43	24. 81	28. 94
July 18	a58. 07	43. 61	24. 66	29. 03
Sept. 22	-	43. 84	20. 93	29. 51
Nov. 29	47. 73	44. 05	-	28. 92

- a Pumping.
b Pumped recently.
c Nearby well pumping.
e Dry at depth given.
j Measurement uncertain.
k Water level below depth given.

Part 4. Daily highest water level from recorder graph

24. 7. 14. 221. J. H. Winslow.

Daily highest water level from recorder graph

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	85. 86	Mar. 25	84. 70	June 30	85. 78	Sept. 26	86. 87
2	85. 86	31	84. 65	July 1	85. 80	27	86. 97
3	85. 83	Apr. 1	84. 63	5	85. 88	28	86. 99
4	85. 81	5	84. 72	10	85. 97	29	86. 99
5	85. 80	10	84. 79	15	86. 07	30	86. 99
6	85. 79	15	84. 93	19	86. 08	Oct. 1	87. 00
7	85. 76	20	85. 08	20	86. 07	5	86. 96
8	85. 74	25	85. 18	25	86. 08	10	86. 89
9	85. 74	30	85. 33	31	86. 12	15	86. 81
10	85. 71	May 1	85. 34	Aug. 1	86. 15	20	86. 72
15	85. 63	5	85. 50	5	86. 22	25	86. 64
20	85. 52	10	85. 51	10	86. 27	31	86. 54
25	85. 41	15	85. 57	15	86. 34	Nov. 1	86. 53
31	85. 29	18	h85. 62	20	86. 41	5	86. 44
Feb. 1	85. 27	20	85. 62	25	86. 50	10	86. 37
5	85. 19	25	85. 68	31	86. 62	15	86. 29
10	85. 07	27	85. 69	Sept. 1	86. 65	20	86. 21
15	85. 00	31	85. 68	5	86. 73	25	86. 10
20	84. 94	June 1	85. 65	10	86. 82	30	86. 02
25	84. 83	5	85. 60	15	86. 92	Dec. 1	86. 01
28	84. 77	6	85. 58	20	86. 96	5	85. 95
Mar. 1	84. 77	10	85. 64	21	81. 17	10	85. 87
5	84. 82	13	85. 69	22	82. 48	15	85. 78
10	84. 82	15	85. 67	23	85. 28	20	85. 71
15	84. 77	19	85. 60	24	86. 11	25	85. 62
17	h84. 79	25	85. 68	25	86. 62	31	85. 51
20	84. 81						

h Tape measurement.

24.8.4.111. Foy Riley.

Daily highest water level from recorder graph

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	h45.45	Mar. 14	44.89	May 17	h45.85	Sept. 5	47.30
23	45.24	15	44.90	18	45.86	10	47.33
24	45.22	19	h44.92	19	45.88	15	47.37
25	45.22	20	44.90	20	45.88	16	47.38
31	45.17	25	44.89	21	45.89	17	47.35
Feb. 1	45.16	31	44.96	July 19	h46.75	18	47.39
5	45.14	Apr. 1	44.97	20	46.75	23	47.41
10	45.07	5	45.03	26	46.77	25	47.42
15	45.06	10	45.18	31	46.77	30	47.39
20	45.01	15	45.30	Aug. 1	46.77	Oct. 1	47.39
25	44.97	20	45.38	5	46.81	5	47.38
28	44.95	25	45.47	10	46.86	10	47.34
Mar. 1	44.94	30	45.55	15	46.94	15	47.30
5	44.93	May 1	45.56	20	47.03	20	47.24
6	44.90	4	45.60	25	47.10	25	47.19
10	44.91	5	45.63	31	47.19	31	47.14
11	44.89	10	45.70	Sept. 1	47.22	Nov. 1	47.14
12	44.89	12	45.73			29	h46.86
						30	h46.85

h Tape measurement.

24.10.12.431. Steve Hrna.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	88.86	88.03	87.40	87.94	89.53	90.73	91.97	91.90	92.82	93.03	92.17	91.28
2	88.81	88.01	87.38	87.98	89.54	90.77	91.99	91.90	92.85	93.01	92.14	91.26
3	88.79	87.98	87.37	88.02	89.56	90.84	92.01	91.90	92.88	92.98	92.13	91.22
4	88.77	87.97	87.35	88.17	89.55	90.88	92.04	91.91	92.91	92.96	92.10	91.18
5	88.75	87.94	87.33	88.25	89.60	90.93	92.08	91.93	92.94	92.94	92.08	91.16
6	88.74	87.92	87.29	88.27	89.61	90.97	92.10	91.98	92.96	92.88	92.05	91.12
7	88.70	87.90	87.34	88.33	89.63	91.02	92.11	92.03	92.99	92.85	92.02	91.09
8	88.66	87.87	87.32	88.40	89.64	91.10	92.12	92.08	93.01	92.82	92.00	91.06
9	88.63	87.85	87.29	88.47	89.67	91.13	92.13	92.13	93.04	92.79	91.98	91.04
10	88.60	87.80	87.28	88.59	89.70	91.19	92.14	92.18	93.06	92.76	91.95	91.00
11	88.56	87.77	87.24	88.63	89.74	91.23	92.16	92.22	93.09	92.73	91.92	90.97
12	88.54	87.76	87.26	88.71	89.80	91.26	92.15	92.27	93.11	92.70	91.89	90.93
13	88.52	87.76	87.29	88.78	89.83	91.29	92.17	92.30	93.13	92.68	91.85	90.90
14	88.49	87.74	87.26	88.86	89.86	91.30	92.18	92.32	93.15	92.65	91.84	90.88
15	88.46	87.72	87.25	88.89	89.91	91.33	92.20	92.34	93.17	92.63	91.82	90.84
16	88.44	87.69	87.23	88.95	89.96	91.40	92.20	92.37	93.19	92.60	91.78	90.82
17	88.42	87.66	87.22	89.04	90.00	91.45	92.21	92.40	93.19	92.58	91.75	90.78
18	88.39	87.65	87.21	89.07	90.03	91.49	92.21	92.43	93.20	92.55	91.72	90.75
19	88.37	87.61	87.26	89.14	90.08	91.51	92.20	92.45	93.20	92.53	91.69	90.72
20	88.35	87.58	87.28	89.20	90.12	91.55	92.20	92.48	93.21	92.50	91.67	90.69
21	88.31	87.55	87.31	89.24	90.18	91.60	92.17	92.50	93.21	92.47	91.63	.....
22	88.27	87.54	87.38	89.30	90.22	91.65	92.16	92.52	93.23	92.45	91.60	.....
23	88.24	87.52	87.42	89.34	.....	91.73	92.14	92.55	93.22	92.42	91.57	90.60
24	88.19	87.50	87.51	89.38	.....	91.76	92.11	92.59	93.19	92.39	91.54	90.56
25	88.19	87.49	87.53	89.42	90.36	91.79	92.08	92.61	93.17	92.36	91.50	90.53
26	88.19	87.46	87.59	89.45	90.42	91.82	92.05	92.65	93.15	92.33	91.46	90.50
27	88.15	87.42	87.65	89.48	90.47	91.88	92.01	92.67	93.11	92.31	91.43	90.47
28	88.12	87.41	87.69	89.50	90.51	91.90	91.99	92.70	93.10	92.28	91.40	90.44
29	88.09		87.74	89.51	90.55	91.92	91.96	92.73	93.07	92.25	91.36	90.41
30	88.07		87.80	89.52	90.62	91.94	91.93	92.76	93.05	92.22	91.32	90.37
31	88.05		87.84		90.68		91.91	92.79		92.20		90.32

g Estimated.

25.9.4.211. Val Miller.

Daily highest water level from recorder graph

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	82.57	Mar. 20	82.76	July 1	83.71	Oct. 1	84.68
2	82.57	25	82.77	5	83.76	5	84.72
3	82.57	31	82.82	10	83.81	10	84.74
4	82.58	Apr. 1	82.83	15	83.88	15	84.76
5	82.59	5	82.85	18	h83.88	20	84.79
10	82.60	10	82.88	20	83.91	25	84.82
15	82.61	15	82.93	25	83.94	31	84.84
20	82.62	16	82.95	31	83.97	Nov. 1	84.84
25	82.63	May 16	h83.22	Aug. 1	83.98	5	84.86
31	82.63	17	83.22	5	84.01	10	84.89
Feb. 1	82.63	20	83.25	11	84.11	15	84.90
5	82.64	25	83.29	15	84.14	20	84.92
10	82.65	31	83.35	20	84.20	25	84.95
15	82.66	June 1	83.36	25	84.28	30	84.98
20	82.67	5	83.41	31	84.36	Dec. 1	84.99
25	82.68	10	83.46	Sept. 1	84.37	5	85.01
28	82.69	15	83.52	5	84.42	10	85.01
Mar. 1	82.69	20	83.57	9	84.47	15	85.02
5	82.69	25	83.64	21	h84.62	20	85.03
10	82.70	30	83.70	25	84.65	25	85.04
15	82.71			30	84.67	31	85.05

h Tape measurement.

Part 5. Miscellaneous Data

23.8.26.131. Bankston. Measurements reported from September 1948 through November 1949 are for well 23.8.26.131a.

23.8.26.131a. Bankston. 6 feet south of well 23.8.26.131. Drilled unused well, used for irrigation prior to September 1950, diameter 12 inches. Measurements reported from September 1948 through November 1949 for well 23.8.26.131 are for well 23.8.26.131a. Land-surface datum of well 23.8.26.131a is 0.70 foot below that of well 23.8.26.131. Equipment removed to new well 23.8.26.131b, which was drilled 4 feet to southwest in September 1950.

23.8.33.221. Dowdle. Pump removed, Jan. 7, 1950.

24.7.3.311a. Hatfield. About 80 feet west of Hatfield test well No. 2. Shallow well. July 21, 1949, 91.27; Sept. 1, 101.20, nearby well pumping; Nov. 18, 88.22.

24.7.9.241a. Hatfield. Well casing perforated to use upper water strata.

24.7.13.311. Miramontes. Pump removed to new well 10 feet east.

24.7.14.331. Miller. Used irrigation well, Jan. 9, 1950.

24.9.14.113. Fewell. At east side of earthen tank. Drilled irrigation well, diameter 16 inches, depth 405 feet. July 22, 1949, 119.25, pumping; Sept. 2, 122.70, pumping; Nov. 16, 71.13.

24.10.3.412. Speir. Drilled irrigation well, diameter 16 inches, depth 220 feet. Sept. 2, 1949, 93.69.

25.9.9.311. Owner unknown. Stock well, diameter 6 inches. July 22, 1949, 78.40.

25.9.12.311a. Cheek. Drilled irrigation well, diameter 14 inches.

25.9.35.211. Conic. Mar. 18, 57.83.

25.10.13.412. Hurst. Drilled irrigation well.

25.10.36.222. Seale. New well 10 feet east. Mar. 16, 90.32, pumping.

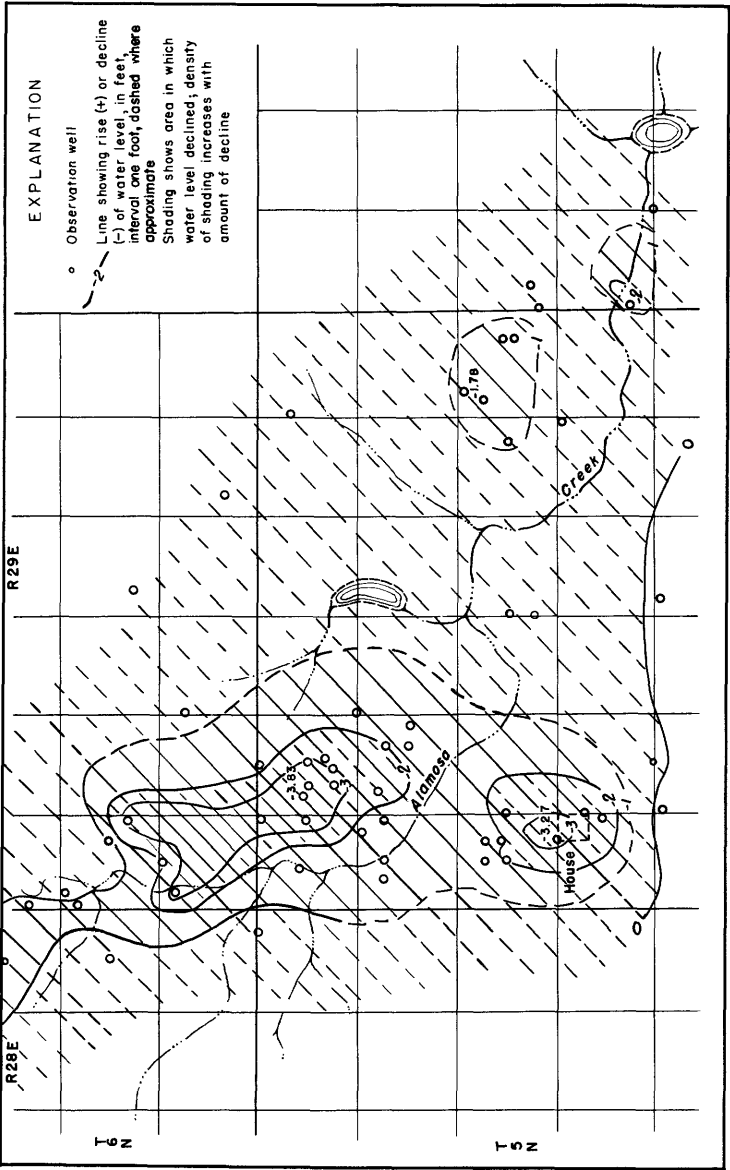
QUAY COUNTY (HOUSE AREA)

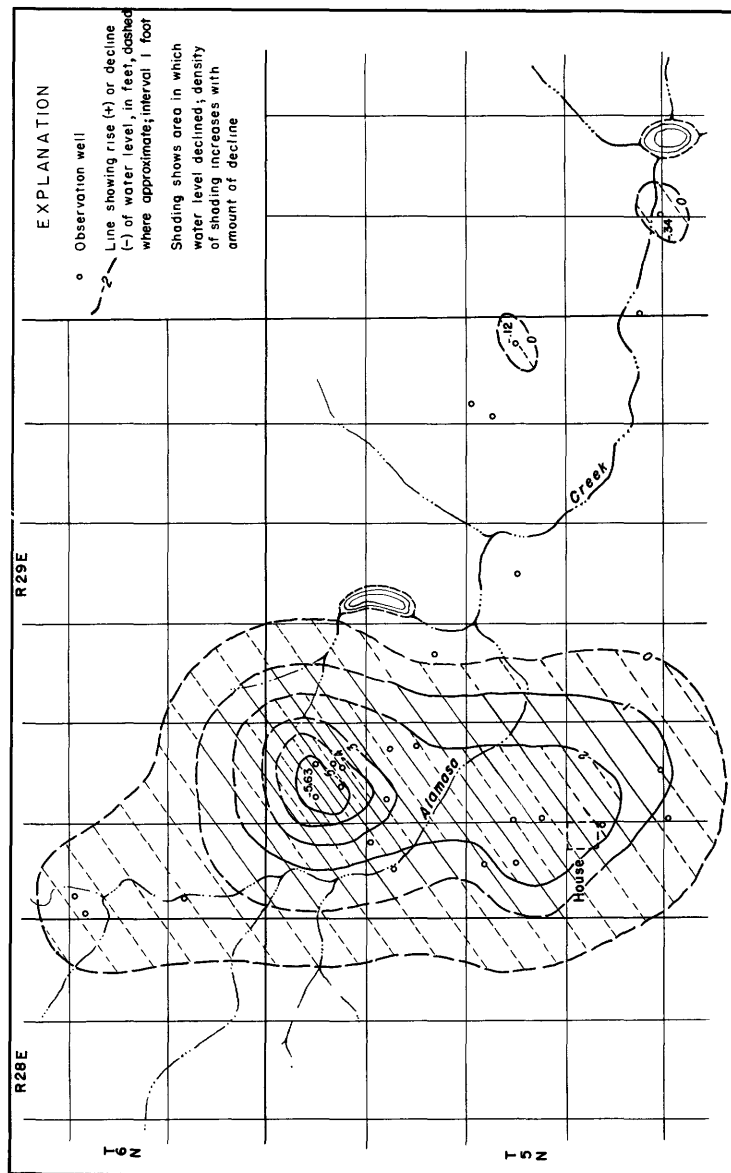
Part 1. General Discussion

The House area, about 40 miles south of Tucumcari, is on the High Plains. Ground water is obtained from the Ogallala formation which here is thicker than in adjoining areas. Water levels were measured in 67 wells in January 1950 and in 22 of them at bimonthly intervals during the year. A total of 177 measurements was made. Recording gages were operated on two wells, the same as in the preceding years, about 0.5 mile and 2.5 miles north of House.

Precipitation in 1950 at House was below normal for the year, 10.3 inches. However, because 9.3 inches of the total occurred during the growing season, April to September, the need for irrigation of crops was reduced except in April and May when there was below-normal rainfall. Approximately 75 irrigation wells were used in 1950 to irrigate an estimated 4,400 acres, an increase of 600 acres over 1949. Pumpage for irrigation is estimated at 6,600 acre-feet as compared with 2,300 acre-feet in 1949 when precipitation was above normal. The amount of land irrigated has increased gradually year by year since irrigation began about 1936.

The net change in water levels from January 1950 to January 1951, see figure 26, was the greatest in magnitude and areal distribution on record except for 1947. The water levels showed net declines of more than 1 foot under 12 square miles of the irrigated area extending from about a mile south to about 6 miles north of House and having a maximum width of about 3 miles. The water levels declined more than 2 feet under 1 square mile in the irrigated area adjacent to House and under 3 square miles in the irrigated area 3 miles north of House. In the lightly irrigated area about 5 miles east of House the water levels declined more than 1 foot under more than 1 square mile with a maximum recorded decline of 2 feet. In the period from April 1941, when records of water level were begun, to January 1950 about 34,000 acre-feet of water was pumped and the water levels declined a maximum of 5 feet under an area about a quarter square mile 3 miles north of House, and more than 2 feet under an elongated area of 5 square miles extending from half a mile south to 3 miles north of House with a maximum width of less than 2 miles. (See fig. 27.) This period includes 1941 when, because of the more than 40 inches of precipitation, the water levels showed net rises by the end of the year of as much as 6.8 feet with rises of 4 to 6 feet in the area of present maximum decline. Thus, the discharge by pumping has more than offset the recharge from precipitation in 1941 and resulted in a virtual lowering of water level of a maximum of more than 12 feet in the heavily pumped area 3 miles north of House.





Part 2. Water levels in Quay County

Location number	Owner	See part	1950		Change 1949-50	Highest		Lowest		Record	
			Level	Day		Level	Year	Level	Year	Be-gan	Years missing
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5.28.1.221	D. C. Wyatt	3	48.79	5	-0.44	46.93	47	48.79	50	47	
5.29.2.131	O. G. Miller	-	23.14	5	+1.73	23.14	50	b24.87	49	48	
4.333	W. Y. Head	5	36.67	5	-	-	-	-	-	50	
5.211	R. H. Currence	-	53.49	5	-41	48.68	44	53.49	50	44	
5.231	do.	-	(m)			42.35	45	47.90	49	44	50
5.312	Troy Pendergrass	-	46.87	5	-82	42.76	47	46.87	50	47	
5.321	J. F. Wallace	-	46.51	5	-84	40.70	46	46.51	50	46	
5.341	William Martin	-	38.88	5	-51	29.73	43	38.88	50	42	
5.342	do.	4	38.65	5	-48	30.15	43	38.65	50	41	
5.411	A. R. Wallace	-	45.84	5	-85	37.95	43	45.84	50	43	
5.413	do.	-	39.06	5	-47	30.96	43	39.06	50	42	
6.144	F. I. Austin	-	29.61	5	-67	23.45	44	29.61	50	44	
6.222	L. L. Poe	3	56.48	5	-1.17	52.37	47	56.48	50	46	
6.422	do.	-	43.60	5	-1.27	36.24	45	43.60	50	45	
7.141	D. L. Birch	3	36.90	5	-32	29.26	43	36.90	50	43	
7.142	do.	-	22.36	5	-22	14.31	42	22.36	50	41	
7.221	J. W. Bolling	-	33.49	5	-28	25.49	42	33.49	50	42	
7.242	C. P. McBride	-	24.02	5	+06	18.44	44	24.02	49	44	
8.114	J. C. Davenport	-	31.12	5	-30	22.75	42	31.12	50	41	
8.232	G. W. Turner	3	41.40	5	+08	34.19	43	41.40	49	42	
8.412	W. W. Kuykendall	-	34.92	5	+34	27.94	43	35.26	49	42	
8.422a	Bill Dwight	-	36.07	5	+09	32.03	45	36.16	49	45	
9.400	W. Y. Head	3	24.86	6	-	21.33	42	24.86	50	42	
13.121	J. C. Barron	3	77.73	6	+53	a76.94	46	79.13	41	41	48, 49
13.131	do.	-	58.34	6	+90	56.80	45	59.24	49	41	
13.234	B. O. Newman	5	50.58	6	-25	50.22	48	50.58	50	45	
13.243	(See 5.29.13.234)										
13.412	J. C. Barron	5	47.65	6	+11	46.61	43	47.97	42	41	
13.421	(See 5.29.13.412)										
14.321	R. A. Tullis	-	36.73	6	+1.21	35.55	45	37.94	49	45	48
15.311b	do.	3	21.27	6	+16	17.91	43	21.43	49	43	
15.331	do.	-	35.64	6	-15	34.48	45	35.64	50	43	47
17.133	W. W. Kuykendall	4	37.83	5	+1.50	f29.68	42	f39.46	49	41	
17.331	M. M. McEndree	-	40.64	5	+1.89	32.92	42	42.53	49	41	
18.213	Dayton Harris	-	40.48	5	+79	35.07	43	41.27	49	41	
18.223	Carl Johnson	-	35.89	5	+95	31.89	45	36.34	49	45	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5. 29. 18. 233	M. R. Wallace	-	50.57	5	+0.96	45.74	42	51.53	49	41	
18. 243	L. M. Bright	-	39.05	5	+1.17	34.83	45	40.22	49	45	
18. 434	Charles Willis	3	53.70	6	+7.77	53.70	50	54.47	49	48	
19. 244	Lester McCasland	-	153.61	6	+5.77	46.66	42	54.18	49	41	
20. 131b	J. M. Thompson	-	55.22	6	+5.54	48.79	43	55.76	49	43	
20. 314	Stanley Elliott	-	(m)			52.20	45	155.03	49	45	50
20. 433b	D. J. Speed	-	50.48	6	+4.41	46.99	43	50.89	49	41	
23. 222	E. C. Harris	3	30.10	6	+8.80	30.10	50	30.90	49	48	
23. 222a	do.	3	30.10	6	+8.80	30.10	50	30.90	49	49	
27. 112	E. D. Gallehon	3	70.75	6	+1.15	70.75	50	71.05	48	47	
29. 111	C. A. Morrow	3	68.25	6	-29	65.91	43	68.25	50	41	
36. 242	State of New Mexico	-	94.63	6	-	94.63	50	96.28	42	42	
5. 30. 18. 314	Jerry Thompson	-	40.09	6	+1.71	39.73	46	41.80	49	46	
18. 331	do.	3	35.78	6	+2.92	34.80	46	36.73	48	45	
19. 132a	Ralph Hendrix	-	27.53	6	+1.58	26.17	44	29.11	49	44	
19. 313	do.	-	18.03	6	+1.55	15.94	42	19.79	48	42	
20. 333	J. C. Barron	3, 5	23.99	6	+1.08	16.82	42	25.07	49	42	
31. 442	T. W. Coleman	3	99.12	6	+1.17	98.95	47	99.77	44	44	
6. 28. 1. 232	C. M. Brown	3	66.63	5	+2.21	66.63	50	66.84	49	48	
13. 333	Ollie Dameron	-	101.78	5	-0.7	100.47	48	101.78	50	48	
23. 112	William Upton	5	74.23	5	-4.7	73.76	49	74.35	47	47	
24. 233	Byers Irwin	3	80.16	5	+5.2	78.12	45	80.81	48	45	
24. 423	W. W. Addison	-	65.22	5	+3.6	62.83	45	65.58	49	42	
25. 411	R. A. Davenport	3	54.04	5	-0.3	52.20	45	54.04	50	44	
6. 29. 19. 313	R. W. Dean	-	54.68	5	+3.35	53.50	47	55.03	49	46	
27. 332	J. D. Green	3	43.56	5	+1.1	43.56	50	44.20	45	45	
30. 112	L. M. McDaniels	3	51.31	5	-0.1	48.08	43	51.31	50	41	
30. 113	do.	-	54.62	5	-1.9	51.29	43	54.62	50	41	
30. 412	R. W. Dean	3	77.02	5	-1.76	73.83	47	77.02	50	47	
30. 424	do.	-	85.74	5	-26	78.23	46	85.74	50	46	
31. 114	Clyde Kuykendall	-	41.80	5	-0.2	36.40	42	41.80	50	41	
31. 122	G. H. Griggs	-	58.51	5	-33	53.57	44	58.51	50	44	
32. 111	Sam Morrow	-	77.00	6	-	70.99	46	77.00	50	46	49
33. 131	Frank Morrow	3	55.45	5	-37	55.45	44	55.45	50	43	
33. 314	P. R. Gates	3	38.77	5	-	38.36	46	39.14	48	46	49

i Possible discrepancy of a few tenths of a foot

between present and previous land-surface data.

a Pumping.

b Pumped recently.

f From recorder graph.

Part 3. Water levels during 1950

Location number	5. 28. 1. 221	5. 29. 6. 222	5. 29. 7. 141	5. 29. 8. 232	5. 29. 9. 400	5. 29. 13. 121	5. 29. 15. 311b	5. 29. 18. 434
Owner	Wyatt	Poe	Birch	Turner	Head	Barron	Tullis	Willis
Jan. 5, 6	48.79	56.48	36.90	41.40	24.86	77.73	21.27	53.70
Mar. 30, 31	48.87	aj66.25	37.04	41.20	a27.39	a78.19	21.44	55.43
May 26, 27	48.86	61.00	37.28	46.67	a34.40	a79.63	21.54	58.03
July 28	48.99	60.63	37.47	43.92	a45.98	79.60	21.59	59.06
Sept. 27	49.40	61.53	37.80	45.90	a51.36	79.99	21.63	59.35
Nov. 30	49.35	60.96	38.09	43.87	25.62	a79.40	21.68	57.76

Location number	5. 29. 23. 222a	5. 29. 27. 112	5. 29. 29. 111	5. 30. 18. 331	5. 30. 20. 333	5. 30. 31. 442	6. 28. 1. 232	6. 28. 24. 233
Owner	Harris	Galle- hon	Morrow	Thomp- son	Barron	Coleman	Brown	Irwin
Jan. 5, 6	30.10	70.75	68.25	35.78	23.99	99.12	66.63	80.16
Mar. 30, 31	30.00	70.62	68.06	35.41	a24.45	100.12	66.85	81.16
May 26, 27	a48.87	70.61	68.17	35.34	a24.66	99.71	66.69	82.95
July 28	31.42	70.55	67.93	35.31	a28.30	99.53	66.62	83.21
Sept. 26, 27	30.83	70.58	68.12	35.33	ac26.70	99.27	66.43	84.05
Nov. 29, 30	30.64	70.54	68.28	35.46	24.87	98.86	66.32	82.31

Location number	6. 28. 25. 411	6. 29. 27. 332	6. 29. 30. 112	6. 29. 30. 412	6. 29. 33. 131	6. 29. 35. 314
Owner	Daven- port	Green	Mc- Daniels	Dean	Morrow	Gates
Jan. 5	54.04	43.56	51.31	77.02	55.45	38.77
Mar. 31	53.92	43.53	51.76	76.89	56.52	a49.54
May 26, 27	(a)	43.52	52.10	77.45	b62.50	a57.91
July 28	54.27	43.50	51.68	77.46	56.99	41.10
Sept. 27	55.92	43.48	51.89	77.25	57.66	40.80
Nov. 30	54.66	43.43	c52.12	77.23	56.55	39.49

a Pumping.

b Pumped recently.

c Nearby well pumping.

j Measurement uncertain.

Part 4. Daily highest water level from recorder graph

5. 29. 5. 342. William Martin.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	38.69	38.41	38.90	38.97	39.83	40.36	40.98	41.31	42.36	42.70	42.62	42.18
2	38.64	38.42	38.90	38.96	39.85	40.36	41.00	41.35	42.37	42.70	42.63	42.18
3	38.62	38.40	38.93	38.95	39.86	40.38	41.01	41.37	42.41	42.68	42.62	42.15
4	38.65	38.39	38.98	39.05	39.85	40.36	41.03	41.41	42.44	42.64	42.61	42.12
5	38.65	38.38	38.98	39.09	39.89	40.39	41.09	41.43	42.47	42.64	42.60	42.12
6	38.66	38.36	38.95	39.12	39.89	40.39	41.11	41.45	42.54	42.62	42.59	42.10
7	38.63	38.35	39.01	39.16	39.90	40.38	41.15	41.45	42.56	42.61	42.57	42.08
8	38.61	38.36	.....	39.24	39.90	40.39	41.15	41.45	42.60	42.60	42.56	42.08
9	38.59	38.34	.....	39.28	39.91	40.38	41.16	41.45	42.61	42.58	42.54	42.08
10	38.61	38.33	.....	39.39	39.92	40.39	41.16	41.49	42.65	42.58	42.52	42.05
11	38.58	38.31	39.04	39.45	39.88	40.39	41.16	41.49	42.66	42.56	42.49	42.04
12	38.56	38.32	39.06	39.47	39.90	40.39	41.16	41.50	42.67	42.53	42.47	42.01
13	38.57	38.33	39.08	39.51	39.92	40.39	41.16	41.60	42.68	42.53	42.45	42.00
14	38.54	38.32	.....	39.54	39.95	40.39	41.16	41.65	42.69	42.50	42.44	41.99
15	38.55	38.32	.....	39.57	39.98	40.40	41.16	41.69	42.69	42.50	42.44	41.98
16	38.55	38.31	.....	39.57	40.01	40.41	.....	41.72	42.70	42.49	42.42	41.96
17	38.54	38.31	.....	39.59	40.08	40.45	.....	41.76	42.72	42.49	42.43	41.94
18	38.54	38.34	39.06	39.60	40.11	40.45	.....	41.79	42.74	42.45	42.36	41.92
19	38.54	38.34	39.08	39.62	40.14	40.55	.....	41.82	42.76	42.45	42.35	41.91
20	38.52	38.34	39.07	39.61	40.18	40.58	.....	41.85	42.78	42.43	42.35	41.90

5. 29. 5. 342--Continued.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
21	38.51	38.37	39.09	39.60	40.18	40.64	.....	41.88	42.80	42.41	42.32	41.89
22	38.49	38.44	39.07	39.60	40.23	40.64	.....	41.93	42.80	42.41	42.32	41.87
23	38.48	38.47	39.06	39.60	40.23	40.69	.....	41.94	42.78	42.41	42.31	41.86
24	38.43	38.57	39.05	39.61	40.25	40.69	.....	42.00	42.77	42.42	g42.28	41.84
25	38.47	38.64	39.02	39.64	40.25	40.75	.....	42.03	42.77	42.41	42.26	41.81
26	38.48	38.67	39.00	39.65	40.29	40.76	.....	42.08	42.77	42.42	42.24	41.81
27	38.45	38.74	39.03	39.71	40.26	40.88	.....	42.14	42.76	.....	42.24	41.79
28	38.42	38.84	39.05	39.73	40.28	40.88	h41.18	42.17	42.75	42.50	42.22	41.77
29	38.43		39.06	39.78	40.28	40.96	41.17	42.21	42.74	42.53	42.20	.....
30	38.42		39.01	39.84	40.31	40.96	41.20	42.25	42.71	42.59	42.20	41.75
31	38.41		39.00		40.33		41.28	42.31		42.59	.....

g Estimated.

h Tape measurement.

5. 29. 17. 133. W. W. Kuykendall.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	37.86	37.69	37.65	38.13	38.91	39.71	40.15	40.64	40.93	40.96	40.63	40.33
2	37.83	37.70	37.63	38.15	38.93	39.75	40.19	40.65	40.93	40.96	40.63	40.32
3	37.82	37.69	37.63	38.17	38.97	39.77	40.21	40.65	40.97	40.95	40.62	40.31
4	37.83	37.69	37.63	38.23	38.99	39.72	40.21	40.65	40.97	40.94	40.59	40.30
5	37.83	37.68	37.62	38.28	39.07	39.75	40.24	40.67	40.98	40.93	40.59	40.30
6	37.83	37.68	37.59	38.33	39.09	39.77	40.27	40.68	40.98	40.93	40.58	40.29
7	37.82	37.67	37.61	38.35	39.12	39.78	40.30	40.69	40.98	40.91	40.57	40.29
8	37.80	37.67	.....	38.41	39.14	39.80	40.32	40.68	40.98	40.90	40.56	40.28
9	37.79	37.67	.....	38.43	39.16	39.81	40.35	40.69	40.98	40.88	40.55	40.27
10	37.80	37.66	.....	38.46	39.19	39.81	40.37	40.70	41.01	40.88	40.55	40.26
11	37.79	37.66	37.61	38.51	39.21	39.82	40.39	40.71	41.02	40.86	40.52	40.25
12	37.77	37.66	37.62	38.54	39.27	39.83	40.40	40.72	41.02	40.85	40.51	40.25
13	37.77	37.66	37.64	38.57	39.27	39.83	40.43	40.75	41.02	40.84	g40.50	40.24
14	37.75	37.67	37.63	38.59	39.30	39.84	40.43	40.76	41.02	40.82	g40.49	40.23
15	37.76	37.67	37.64	38.63	39.32	39.84	40.43	40.76	41.03	40.80	g40.48	40.22
16	37.75	37.67	37.66	38.63	39.34	39.85	40.48	40.78	41.03	40.80	g40.47	40.23
17	37.75	37.66	37.67	38.67	39.37	39.88	40.49	40.79	41.01	40.79	g40.46	40.21
18	37.74	37.67	37.67	38.71	.....	39.88	40.51	40.78	41.01	40.78	40.45	40.20
19	37.75	37.66	37.69	38.77	39.46	39.91	40.53	40.79	41.01	40.77	40.44	40.19
20	37.74	37.65	37.70	38.76	39.49	39.92	40.53	40.84	41.01	40.75	40.43	40.18
21	37.73	37.65	37.73	38.76	39.49	39.94	40.55	40.85	41.01	g40.73	40.42	40.17
22	37.72	37.66	37.75	38.77	39.52	39.96	40.55	40.87	41.01	g40.72	40.41	40.16
23	37.71	37.65	37.77	38.78	39.54	39.99	40.59	40.88	41.01	g40.71	40.41	40.16
24	37.70	37.65	37.80	38.78	39.57	40.01	40.60	40.88	41.00	g40.70	40.40	40.15
25	37.70	37.65	37.85	38.80	39.58	40.04	40.60	40.90	40.99	g40.69	40.38	40.14
26	37.72	37.65	37.85	38.80	39.60	40.06	40.62	40.92	40.99	g40.68	40.37	40.13
27	37.71	37.64	37.90	38.81	39.65	40.06	40.62	40.92	40.99	g40.67	40.36	40.12
28	37.70	37.64	37.95	38.86	39.66	40.11	40.62	40.92	40.99	40.66	40.35	40.12
29	37.70		37.99	38.87	39.67	40.11	40.63	40.93	40.98	40.66	40.34	40.11
30	37.69		38.03	38.90	39.68	40.12	40.63	40.93	40.97	40.65	40.34	40.11
31	37.70		38.05		39.69		40.63	40.93		40.65		40.10

g Estimated.

Part 5. Miscellaneous Data

5. 29. 4. 333. Head. Drilled irrigation well, diameter 18 inches, depth 128 feet.
June 3, 36.52.

5. 29. 13. 234. Newman. Formerly 5. 29. 13. 243.

5. 29. 13. 412. Barron. Formerly 5. 29. 13. 421.

5. 30. 20. 333. Barron. 25 feet north of new drilled stock well.

6. 28. 23. 112. Upton. Mar. 31, 74.45.

ROOSEVELT COUNTY (PORTALES VALLEY)

Part 1. General Discussion

Portales Valley is a broad shallow depression in the High Plains extending east-southeast from the western edge of the Plains through Portales to the Texas State Line. Ground water has been pumped for irrigation many years. Water levels were measured in 186 wells in January 1950 and in 52 of them at bimonthly intervals during the year. A total of 433 water-level measurements was made. Recording gages were continued in operation on four wells as in the preceding years. These wells are: about 7 miles northwest of Portales in the sand dune area, 1 mile north and 1 mile south of Portales near the heavily pumped area, and 1.5 miles west of Arch.

The fluctuations of water levels in Portales Valley are the result primarily of variations in the amount and time of pumping which in turn is affected by the occurrence of precipitation. Precipitation, especially when it is excessive, also causes fluctuations in water level by increasing the recharge. The precipitation in Portales Valley during 1950 was in general above normal for the year with practically 100 percent of the precipitation occurring during the growing season from April through September. About 75 percent of the precipitation occurred during July and September with the eastern half of the valley receiving more than the western half. The above-normal precipitation in July not only caused a reduction in pumping but resulted in significant recharge to the ground-water body. In spite of the above-normal precipitation, pumping in 1950 was greater than in 1949 when precipitation was not only greater but somewhat better distributed during the year for the growing of crops. On the basis of electric power records for 328 pumps in 1950 for which records were also available in 1949, it is estimated that a fifth more water was applied in 1950 than in 1949. It is estimated that about 33,000 acres were irrigated in 1950, about 1,000 acres more than in 1949 and that 40,000 acre-feet of water were pumped, about 8,000 acre-feet more than in 1949. The ground-water levels in Portales Valley showed net declines in the irrigated area northwest of Portales and net rises in the area southeast of Portales in the period from January 1950 to January 1951. (See fig. 28.) The water levels declined more than 1 foot under four areas totaling about 26 square miles northwest of Portales. The largest area of decline of more than 1 foot, about 20 square miles, was nearly circular and centered about 4 miles northwest of Portales. This is the area of greatest pumping where the water levels declined more than 2 feet under two small areas totaling 5 square miles. The greatest decline, more than 3 feet, occurred under about a half square mile in the western part of Portales. The water levels rose throughout the area southeast of Portales with a maximum rise of more than 3 feet under about 4 square miles in the vicinity of Arch. In spite of the above-normal precipitation in 1941, 1948, 1949, and 1950 when rises of water level occurred, especially southeast of Portales, the water levels in the decade from 1940 to 1950 declined an average of 1 foot a year under an elliptical area of about 10 square miles that extends from 5 miles northwest to 2 miles southeast of Portales and having a maximum width of 2 miles. This area of decline coincides with the main area of concentrated pumping. In this period net declines of more than 2 feet occurred under about 7 square miles in the lightly pumped area near Arch. In outlying areas where the effects of pumping have been comparatively small, the water levels in January 1950 were higher than in January 1940 by as much as 4 feet. (See fig. 29.)

In the period from the beginning of record, 1932 to 1950 water levels have shown a net decline throughout the principal area of pumping with a maximum decline of slightly more than 16 feet under about 5 square miles centered 4 miles northwest of Portales. Net declines of more than 10 feet occurred under an elliptically shaped area of 30 square miles extending from 7 miles northwest to 3 miles southeast of Portales with a maximum width of 3 miles. In the lightly pumped area at Arch, water levels at the beginning of 1950 were essentially the same as in 1932. In outlying areas, where the effects of pumping are comparatively small, water levels at the beginning of 1950 were in general, from 2 to 4 feet higher than when records began in 1932. (See fig. 30.) The records of water levels since 1932 indicate that recharge has been above average for the period as evidenced by the rises of water level in the outlying areas. However, in the main areas of pumping, the extraction of water has more than offset the natural rise to the extent that water levels are at the lowest levels on record. On the basis of past records and as the pumping of ground water is mainly from ground-water storage, it is evident that as long as pumping is practiced, the long-term trend in water levels will be a decline.

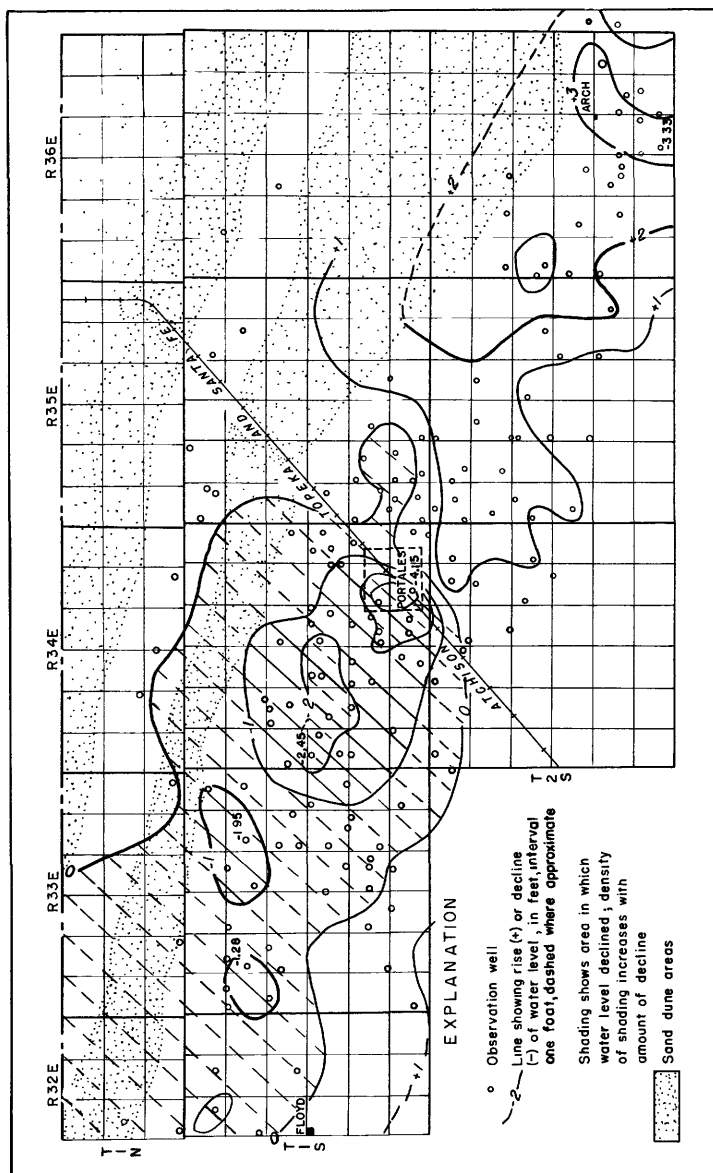


Figure 28. --Change in water level from January 1950 to January 1951 in Portales Valley, Roosevelt County.

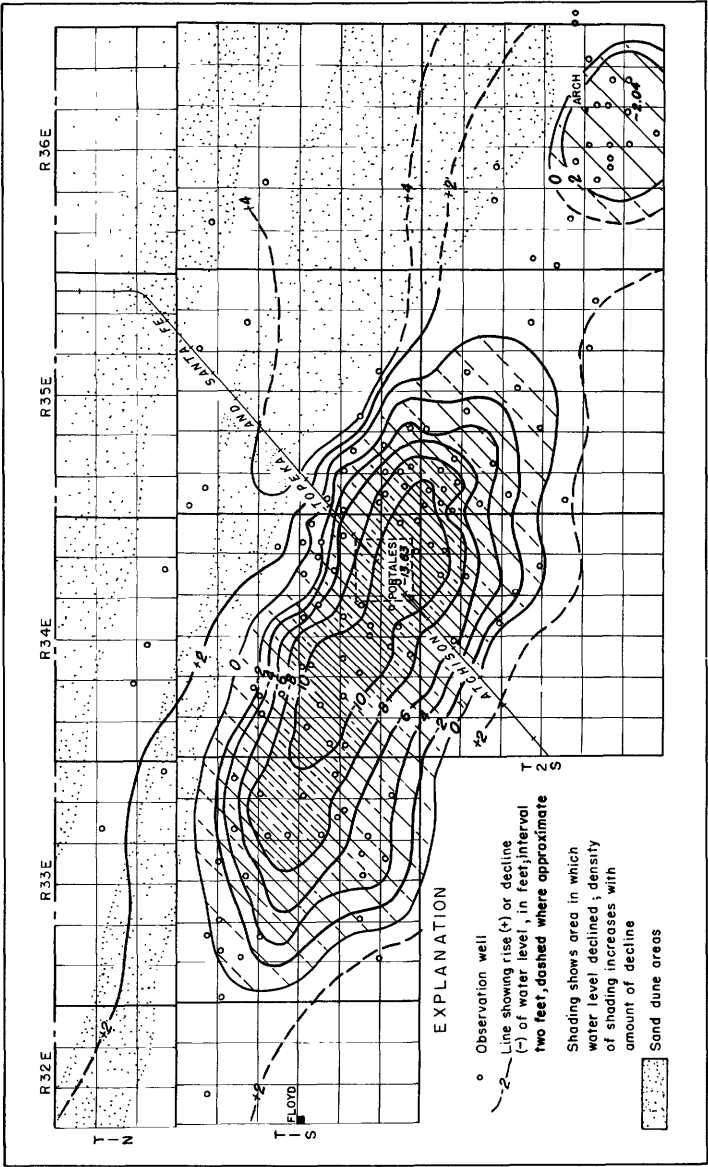


Figure 29. --Change in water level from January 1940 to January 1950 in Portales Valley, Roosevelt County.

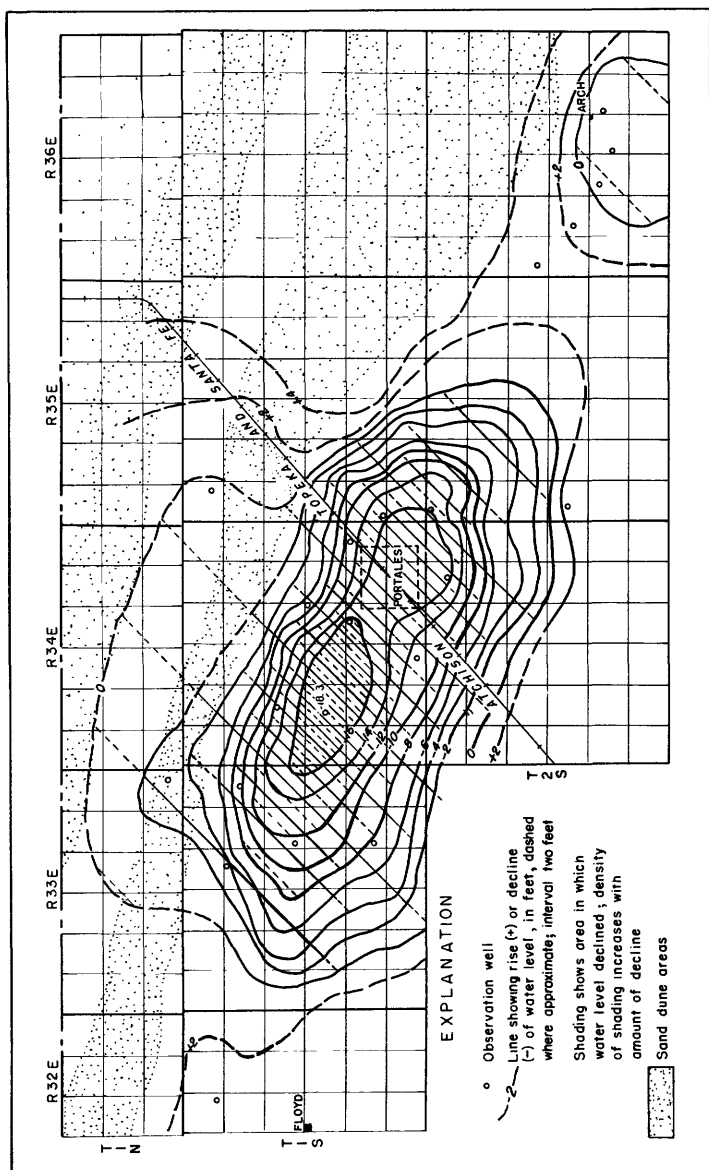


Figure 30. --Change in water level from January 1932 to January 1950 in Portales Valley, Roosevelt County.

Part 2. Water levels in Roosevelt County

Location number (1)	Owner (2)	See part (3)	Jan. 1950		Change 1949-50		Highest		Lowest		Record	
			Level (4)	Day (5)	(6)		Level (7)	Year (8)	Level (9)	Year (10)	Be- gan (11)	Years missing (12)
1N. 32. 7. 300	W. J. Crenshaw	3	16.13	6	+0.22		14.93	43	18.78	41	32	
27. 321	Carl Essary	3	44.91	7	+1.07		44.91	50	45.98	49	48	
30. 421	W. J. Morris	-	60.38	6	+ .64		57.95	47	61.02	49	47	
32. 133	Virgie Hawkins	-	66.65	6	- .22		65.41	47	66.65	50	47	
34. 333	Robert Newman	-	43.16	7	- .19		42.88	48	43.16	50	48	
1N. 33. 16. 112	W. F. Hardwick	-	23.01	8	+1.32		20.00	42	24.68	47	42	
16. 131	do.	-	23.26	8	+1.87		23.26	50	25.83	48	48	
26. 120	Mary E. Miller	-	-	-	-		3.54	42	12.06	39	39	
32. 443	Mr. Kerr	-	30.97	7	+ .39		30.97	50	31.36	49	49	
36. 400a	A. C. Woodburn	4	5.25	8	+ .38		4.15	42	18.23	41	32	
36. 400b	do.	3	a12.55	8	-3.43		1.98	42	13.97	41	32	
1N. 34. 29. 444	J. N. Tefertiller	-	16.65	10	+1.26		10.78	42	20.62	41	39	
33. 224	Jim Bowen	-	16.27	10	+1.85		10.96	42	23.15	41	39	
35. 432a	Earl McColium	-	b19.31	10	+ .85		b19.31	50	20.16	49	49	
1. 31. 1. 222	Bennett & Griffith	3	75.99	6	- .20		75.20	46	75.99	50	45	
1. 32. 2. 431	Ira Brown	-	27.95	7	- .07		27.88	49	27.95	50	49	
3. 431	M. Nall	3	36.70	7	- .38		36.32	49	36.70	50	49	
10. 331	J. R. Meadows	3	46.84	7	- .69		45.23	47	46.84	50	47	
14. 431	Robert Morrison	3, 5	49.72	7	- .72		43.63	45	49.72	50	45	
14. 432	(See 1. 32. 14. 431)											
1. 33. 1. 331	A. C. Woodburn	-	(m)	8	-1.25		41.13	48	142.9	49	48	50
1. 342	do.	-	40.20				38.95	49	40.20	50	49	
5. 432	Clay Jones	-	(m)				13.10	43	23.51	37	35	50
7. 111	E. L. Siak	3	20.80	7	- .91		12.17	42	22.02	41	40	
7. 211	A. Q. Smith	-	20.46	7	- .13		15.29	45	20.46	50	45	
8. 121	do.	-	21.53	7	- .56		11.69	43	22.30	37	35	
8. 311	E. E. Marcus	-	22.88	7	- .85		12.28	43	23.00	41	39	
9. 111	Earl Plank	-	23.36	7	- .22		13.36	43	23.36	50	39	
10. 211	O. B. Sherman	-	27.94	7	- .85		18.63	43	27.94	50	39	41
1. 33. 10. 313a	Jim Allen	3	27.24	7	+ .69		22.49	47	27.93	49	47	
11. 312	C. F. Williams	-	28.76	7	-1.01		18.17	43	28.76	50	35	39
12. 144	A. C. Woodburn	3	39.30	8	+ .09		28.61	32	39.39	49	32	34, 37
13. 111	L. R. King	-	33.03	8	-1.11		17.83	43	33.03	50	35	
14. 131	J. V. Miller	-	31.59	7	- .31		13.89	42	31.59	50	35	44
14. 331c	J. E. Stacey	3	30.67	7	- .34		19.37	45	30.67	50	45	
14. 412	A. D. Pinkert	-	34.57	7	- .10		31.25	48	34.57	50	48	
16. 222	Bethel Church	-	25.79	7	+ .16		11.13	43	25.95	49	42	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. 33. 17. 131	Marvin Wormington	-	23. 73	7	- 1. 10	21. 92	48	23. 73	50	48	
17. 211	Bertha Campbell	3	24. 65	7	- .97	20. 66	47	24. 65	50	47	
18. 112	Mr. Walker	-	30. 49	7	- .39	30. 10	49	30. 49	50	49	
21. 244	Unknown	5	35. 49	7	-	-	-	-	-	50	
22. 111	Mrs. E. J. Smith	-	27. 59	7	- .98	22. 49	47	27. 59	50	47	
22. 433	A. C. Trainer	5	35. 17	7	-	-	-	-	-	50	
23. 311a	D. H. Smith	-	33. 43	7	- .68	25. 61	46	33. 43	50	46	
23. 433	H. A. Miller	-	32. 19	7	- .18	15. 73	42	32. 19	50	36	
24. 111	J. E. Dictson	-	38. 89	7	- .74	18. 40	42	38. 89	50	35	
24. 433	J. E. Jones	-	35. 08	7	- .57	15. 82	42	35. 08	50	36	
26. 221	C. J. & M. Bennett	-	32. 18	7	+ .01	15. 54	42	32. 19	49	36	
26. 331	C. G. Norton	-	36. 13	7	+ .16	22. 56	43	36. 13	50	37	
27. 311	M. R. Washington	-	48. 07	7	- .27	36. 55	43	48. 07	50	41	
27. 411	W. W. McClary	-	39. 86	7	- .09	27. 20	43	39. 86	50	41	
27. 421	Luther Cooper	-	36. 60	7	- .10	23. 31	43	36. 60	50	42	
28. 311	C. C. Ramey	3	48. 00	7	- .89	39. 39	43	48. 00	50	39	
29. 333	M. H. Rea	3	34. 07	7	+ .26	29. 73	43	37. 03	41	41	
31. 244	Luther Cox	-	(m)			44. 61	47	45. 25	48	47	
31. 313	Webbie Starr	-	57. 93	7	+ .05	57. 93	50	58. 07	47	47	
33. 211	W. R. McAfee	-	43. 65	7	- .60	39. 11	47	43. 65	50	47	
34. 211	R. T. Bilberry	3	31. 98	7	- .11	19. 72	43	31. 98	50	40	
36. 131	Edwin Johnson	-	44. 34	7	- .75	31. 89	43	44. 34	50	39	
1. 34. 8. 434	Bob Ledbetter	-	35. 92	9	- .93	28. 33	43	35. 64	41	37	
13. 412	Ben Donathan	3	54. 08	9	- .01	51. 50	44	56. 44	41	39	
15. 131	A. M. Bradley	3	52. 30	9	+ .24	49. 25	46	52. 30	49	46	
17. 111	W. D. Ware	-	39. 47	9	- 1. 33	28. 16	43	39. 47	50	36	38
17. 122	W. T. Duke	-	37. 06	9	- 1. 05	27. 59	43	37. 06	50	37	
17. 411a	O. L. Spencer	3	c36. 56	9	- .06	34. 40	48	c36. 56	50	48	
18. 133	J. E. Tucker	-	41. 90	8	- 1. 85	25. 64	42	41. 90	50	42	43
19. 121a	Unknown	-	42. 38	8	- .56	41. 82	49	42. 38	50	49	
19. 223	Mr. Mathis	-	39. 66	8	- .81	19. 03	42	39. 66	50	35	
19. 341a	Wayne Welch	-	b36. 98	7	- 1. 40	33. 49	48	b36. 98	50	48	
20. 312a	A. G. Ross	5	40. 91	8	-	-	-	-	-	50	
21. 121	L. H. Lee	-	44. 74	9	- .17	26. 36	42	44. 74	50	35	43
21. 141	R. L. Ledbetter	-	(m)			25. 82	42	45. 57	49	35	43, 50
21. 141a	do.	5	45. 81	9	-	44. 25	48	45. 81	50	48	49
22. 131	M. B. McLaughlin	-	44. 17	9	- .30	27. 47	42	44. 17	50	35	
22. 211	Mrs. A. J. Goodwin	-	43. 99	9	- .44	33. 66	35	43. 99	50	35	
22. 222	do.	3	43. 40	9	- .10	38. 17	43	38. 17	41	32	
22. 421a	R. C. Grunig	3	42. 57	9	+ .41	42. 57	50	42. 98	49	49	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. 34. 23. 211	Pope Long	-	-	-	-	36.89	42	42.09	49	37	46, 50
23. 422	E. L. Yandell	-	34.91	9	+0.13	27.73	43	35.04	49	35	
23. 442a	H. T. Wicker	-	39.36	9	-24	28.34	43	39.36	50	41	
24. 112a	J. A. Pinson	-	38.64	9	+41	37.41	47	39.05	49	47	
24. 241	J. T. Gorrell	5	47.40	9	+1.16	42.45	43	48.56	49	37	
24. 243	(See 1. 34. 24. 241)										
24. 312a	W. A. Cummings	-	36.00	9	+50	29.40	43	36.50	49	42	
25. 211	J. B. H. Young	4	44.37	9	+27	32.54	32	44.84	49	32	
26. 313	T. E. Allen	-	41.57	9	-13	28.53	35	41.57	50	35	39-47
27. 211	A. L. Tiffin	-	41.28	9	+43	20.95	42	41.71	49	32	
27. 331a	G. A. Whitmire	-	40.43	9	+20	39.10	48	40.63	49	48	
27. 341	B. F. Smith	-	40.09	9	+40	17.24	42	40.49	49	35	
27. 412	J. E. Plummer	-	40.58	9	+24	20.17	42	40.82	49	35	45
28. 111	G. C. Morris	-	39.29	8	-30	18.84	42	39.29	50	42	
28. 133a	Floyd Reed	-	41.69	8	-39	20.49	42	41.69	50	39	
28. 211	W. B. McGuinness	-	(m)			19.74	42	40.45	49	35	38, 39, 50
28. 211b	do.	-	40.70	8	-25	40.45	49	40.70	50	49	
29. 211	Cecil Stevens	-	38.96	8	-60	17.98	42	38.96	50	35	
30. 121	M. A. Pember	-	35.78	7	-66	16.55	42	35.78	50	35	
31. 222	Unknown	-	35.58	7	-1.03	34.55	49	35.58	50	49	
33. 223a	Portales Municipal Airport	-	37.58	8	-37	28.84	46	37.58	50	46	
33. 431	W. A. Moore	3	25.33	7	-86	7.24	42	25.33	50	32	
34. 143	Arvel Branscomb	-	42.02	8	-20	24.00	43	42.02	50	35	42
34. 234	J. W. Owens	-	41.18	8	-15	39.33	48	41.18	50	48	
35. 312	Eastern N. Mex. College	-	41.71	8	-44	20.06	42	41.71	50	35	
36. 331	Jim Landiss	-	40.58	9	+64	18.84	42	41.22	49	41	
36. 421	Earl McCollum	-	41.89	10	-51	26.64	44	41.89	50	35	
36. 443	Foy Williams	-	40.65	10	+1.39	19.37	42	42.04	49	35	
1. 35. 2. 300	Eastern N. Mex. State Park	3	44.73	10	+15	43.52	44	48.07	40	36	
5. 212	J. R. Carver	-	27.08	10	+05	27.08	50	27.13	49	49	
6. 141	F. K. Montague	3	7.46	10	+57	.54	42	10.70	41	39	
6. 400	J. C. Brown	3	12.39	10	+10	5.24	42	15.46	41	32	
11. 241	Eunice McPherson	3	16.32	10	+01	14.03	43	19.02	41	41	
19. 241	Royce Pember	-	40.55	10	+1.32	40.55	50	41.87	49	49	
19. 332	H. E. Frazier	-	45.75	10	+1.23	37.80	43	46.98	49	35	44, 45
27. 344a	H. J. McCroary	3	30.23	10	+96	30.23	50	31.19	49	47	
28. 143	C. A. Kerby	3	46.32	10	+1.07	44.24	43	51.49	41	35	
29. 111	Clara Nullmeyer	-	42.64	10	0	35.26	43	43.01	48	40	
29. 142	R. E. Lee	-	40.99	10	+43	33.15	43	41.42	49	35	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. 35. 30. 111	V. C. Gibson	-	43. 51	10	+0.75	33. 65	43	44. 26	49	35	
30. 343a	T. E. Livingston		(m)			-	-	38. 82	49	49	50
30. 343b	do.	5	37. 94	10	-	-	-	-	-	50	
30. 441	J. H. Breshears	-	b40. 26	11	-1.04	26. 85	35	b40. 26	50	35	39-46
31. 122	Mary M. Kenyon	-	39. 46	10	+1.01	22. 00	43	40. 47	49	35	
31. 331a	R. A. Young	-	38. 92	10	+80	34. 31	47	39. 72	49	47	
31. 412	R. O. Zahn	-	37. 10	10	+2. 38	30. 40	46	39. 48	49	46	
32. 111	Alvin George	-	33. 75	10	+1.07	19. 65	43	34. 82	49	35	37
32. 212	R. H. Green	-	29. 19	10	+1.62	18. 45	43	30. 81	49	40	
32. 311	R. J. Zahn	-	33. 45	10	+4.68	17. 41	42	b38. 13	49	35	
32. 332	C. E. Lane	-	33. 83	10	+2.99	17. 12	42	36. 82	49	36	37
33. 331	L. C. Green	-	27. 04	10	-	13. 03	42	27. 04	50	35	48, 49
1. 36. 5. 300	W. H. McDaniel	3	33. 75	10	-	32. 84	43	36. 01	41	40	49
16. 100	State of New Mexico	3	19. 43	10	-	b18. 40	45	a30. 20	40	40	46
2. 33. 1. 422	W. B. and H. R. Skeen	-	28. 08	7	-33	26. 58	46	28. 08	50	46	
5. 113	Kenneth Nunn	-	53. 25	7	+31	53. 04	47	53. 56	49	47	
7. 241	John Morgan	-	48. 84	7	+28	48. 84	50	49. 94	46	46	
2. 34. 1. 114	Jack Clark	-	(m)			18. 24	42	41. 23	49	35	36, 37, 50
1. 133	W. F. Clifton	-	37. 69	11	+1.88	18. 18	42	39. 57	49	35	
2. 233	Louisa Trout	4	54. 08	11	+89	f33. 04	42	f55. 37	49	32	
4. 111	Unknown	5	24. 70	7	-	-	-	-	-	50	
4. 441	Maud Wallace	3, 5	10. 85	11	-	+4. 17	42	10. 85	50	39	49
6. 112	Clyde Collis	-	33. 15	7	-02	28. 56	47	33. 15	50	47	
10. 324	Henry Walker	3	28. 28	9	-02	23. 45	46	28. 28	50	46	
10. 343	C. R. Jones	-	34. 73	9	+19	32. 25	43	36. 03	41	35	
11. 122	D. W. Bedinger	-	36. 70	11	+83	19. 20	42	37. 53	49	41	
13. 133	L. J. Sanders	3	24. 69	9	+30	19. 09	45	24. 99	49	45	
14. 113a	W. P. Tarlton	-	32. 96	9	-34	31. 10	48	32. 96	50	48	
14. 443	J. A. Schaffer	-	37. 36	9	+61	29. 22	42	37. 97	49	35	
2. 35. 4. 111	E. S. Weber	3	26. 08	10	+2.25	12. 94	42	28. 33	49	35	36, 37
5. 311	Mr. Sanders	-	31. 49	10	+2.54	12. 87	42	34. 03	49	35	
5. 341	H. R. Sadler	-	31. 14	10	+2.49	13. 45	42	33. 63	49	35	
6. 121	Dallas Clark	3	36. 93	10	+1.82	16. 73	42	38. 75	49	32	
6. 213	Beulah Ombry	-	36. 72	10	+2.49	16. 87	42	39. 21	49	35	37, 46
6. 312a	O. L. Spencer	-	(m)			24. 37	45	37. 11	49	45	46, 50
6. 331	J. A. Akens	-	29. 06	9	+2.04	12. 96	42	31. 14	48	35	36-38
6. 411	F. A. Jewell	-	34. 46	9	+2.07	14. 25	42	36. 53	49	39	
6. 443a	Ora Johnson	3	31. 80	10	+1.35	31. 80	50	33. 15	49	48	
7. 134	A. L. Kelly	-	39. 01	9	+1.60	24. 01	42	40. 61	49	37	
8. 332	D. L. Ray	-	31. 54	9	+1.83	18. 28	42	33. 37	49	35	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2. 35. 9. 122	L. D. Griffith	3	21.95	10	+1.53	20.57	47	23.48	49	47	
9. 333	C. E. Clark	-	29.78	10	+1.35	23.60	45	31.13	49	45	
10. 211	S. H. Hare	-	18.33	10	+1.69	10.30	42	20.02	49	40	
10. 434	Owner unknown	5	18.63	11	-	-	-	-	-	50	
14. 414	First Nat. Bank, Portales	3	2.52	11	+1.91	+0.07	43	3.63	48	40	
15. 131	do.	3	3.62	11	+0.74	+0.02	42	4.36	49	39	
16. 111	Robert Stokes	-	26.37	10	+1.05	24.52	47	27.42	49	47	
16. 333	A. J. Cline	3	8.27	10	+0.73	4.12	42	9.46	48	39	
18. 133	Owner unknown	5	19.21	9	-	-	-	-	-	50	
18. 211	State of New Mexico	3	7.31	9	+1.04	-	42	8.35	49	39	
19. 134	Roy Faircloth	3	27.05	9	+1.11	27.05	50	28.16	48, 49	47	
21. 333	L. V. Campbell	-	42.82	11	-	41.32	48	42.82	50	48	
23. 111	Jack McCarthy	3	23.08	11	+1.04	23.08	50	24.12	49	49	
25. 114a	Joe Caraway	3	24.77	11	+2.23	24.77	50	27.00	49	49	
26. 111	T. M. McCrary	-	29.87	11	+1.55	28.07	42	32.98	41	41	
2. 36. 7. 332	Loren Johnson	3	18.84	11	+1.35	16.60	45	20.21	48	45	
8. 432a	S. W. Davis	3	18.62	11	+1.69	18.62	50	20.31	49	49	
9. 431	H. C. Cosby	-	19.72	11	+1.59	15.67	43	21.63	41	39	
18. 311	H. H. McLain	-	13.75	11	+1.48	13.75	50	15.23	49	48	
18. 341	E. R. McPherson	3	14.80	11	+1.47	9.42	42	18.26	33	32	
19. 113	R. C. Marchbank	-	21.50	11	+1.63	16.93	42	23.13	49	41	
20. 321	W. O. Davis	3	14.90	11	+1.42	8.12	42	16.50	32	32	
21. 432	Mr. Iedbetter	-	16.92	11	+1.60	10.39	43	18.52	49	39	42
25. 112	W. D. Pate	-	14.97	11	+1.58	8.13	42	16.55	49	39	
26. 131	J. N. McGinnis	-	13.89	11	+1.57	5.29	42	15.46	49	32	
26. 311	J. S. Riley	-	13.60	11	+1.53	5.09	42	15.13	49	36	
26. 423	W. B. Cox	-	15.81	11	+1.67	8.15	42	17.48	49	35	38, 39
27. 111	B. L. Kennedy	-	15.47	11	-	6.27	42	16.41	48	39	49
27. 311a	J. M. Riley	3	15.74	11	+1.69	15.74	50	17.43	49	48	
28. 114b	Morgan Trammell	4	16.62	11	+1.68	17.37	42	18.38	49	33	
28. 411	C. A. Tevis	-	16.46	11	+1.57	7.06	42	18.03	49	36	
28. 421	do.	-	17.37	11	+1.68	8.26	42	19.05	49	35	
29. 411	Owner unknown	-	17.79	11	+1.96	17.79	50	19.75	49	48	
30. 111	L. B. Thornton	3	4.35	11	+1.60	7.0	42	5.95	49	42	
34. 111	D. J. Patton	-	(m)	11	-	8.18	42	18.65	49	36	50
34. 111a	do.	-	17.19	11	+1.43	17.19	50	18.62	49	48	
34. 222	W. H. Davenport	-	11.92	11	+1.25	4.01	42	13.17	49	35	
34. 312	L. W. Walker	3	17.69	11	+1.29	17.69	50	18.98	49	48	
35. 212a	Mrs. Eunice Harrison	3	11.09	11	+1.16	10.93	48	12.25	49	48	
35. 311	Mr. Stokes	-	11.13	11	+1.28	11.13	50	12.41	49	48	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2. 37. 19. 331	W. H. McDougal		(m)			12. 74	42	20. 19	41	39	
19. 341	C. R. Anderson	-	17. 35	11	+1. 54	12. 97	42	19. 84	41	39	
21. 312	O. E. Pattison	-	14. 15	11	+ .46	12. 86	46	14. 61	49	46	
30. 134	C. S. Chum	3, 5	19. 74	11	-	-	-	-	-	50	

a Pumping.
 b Pumped recently.
 f From recorder graph.
 i Possible discrepancy of a few tenths of a foot
 between present and previous land-surface data.
 m Measurement discontinued.

Part 3. Water levels during 1950

Location number	1N. 32. 7. 300	1N. 32. 27. 321	1N. 33. 36. 400b	1. 31. 1. 222	1. 32. 3. 431	1. 32. 10. 331	1. 32. 14. 431	1. 33. 7. 111
Owner	Crenshaw	Essary	Woodburn	Bennett & Griffith	Nall	Meadows	Morrison	Sisk
Jan. 6-8	16. 13	44. 91	a12. 55	75. 99	36. 70	46. 84	49. 72	20. 80
Mar. 30	16. 57	44. 66	a12. 51	75. 62	38. 00	46. 87	49. 20	22. 12
May 25	a17. 13	a74. 92	b9. 97	(a)	38. 98	47. 44	50. 98	b31. 51
July 27	a16. 49	48. 08	7. 31	77. 66	38. 26	j47. 84	51. 00	24. 30
Sept. 25	16. 70	47. 08	8. 49	77. 71	38. 29	47. 61	51. 80	26. 67
Nov. 27-29	a16. 51	45. 76	8. 71	76. 49	37. 90	47. 23	50. 80	b23. 64

Location number	1. 33. 10. 313a	1. 33. 12. 144	1. 33. 14. 331c	1. 33. 17. 211	1. 33. 28. 311	1. 33. 29. 333	1. 33. 34. 211	1. 34. 13. 412
Owner	Allen	Woodburn	Stacey	Campbell	Ramey	Rea	Bilberry	Dona- than
Jan. 7-9	27. 24	39. 30	30. 67	24. 65	48. 00	34. 07	31. 98	54. 08
Mar. 28-30	b29. 83	41. 90	a48. 42	25. 00	48. 28	34. 04	32. 77	54. 14
May 24-26	b32. 66	(a)	36. 88	28. 15	49. 80	a34. 73	36. 33	54. 20
July 25, 27	-	42. 38	33. 34	26. 72	49. 40	33. 01	35. 03	54. 32
Sept. 22, 25	30. 98	(a)	33. 10	27. 33	49. 27	a33. 73	34. 48	54. 33
Nov. 22, 27-29	b29. 12	-	31. 26	25. 44	48. 22	33. 25	32. 72	54. 39

Location number	1. 34. 15. 131	1. 34. 17. 411a	1. 34. 22. 222	1. 34. 22. 421a	1. 34. 33. 431	1. 35. 2. 300	1. 35. 6. 141	1. 35. 6. 400
Owner	Bradley	Spencer	Goodwin	Grunig	Moore	State Park	Montague	Brown
Jan. 7, 9, 10	52. 30	c36. 56	43. 40	42. 57	25. 33	44. 73	7. 46	12. 39
Mar. 29	52. 44	c40. 94	43. 61	-	25. 64	b44. 77	7. 40	12. 47
May 23-25	a82. 25	c45. 36	43. 80	a75. 41	26. 48	-	7. 57	12. 47
July 25-27	55. 03	39. 88	43. 46	44. 84	26. 67	44. 65	7. 31	12. 57
Sept. 22, 23, 25	55. 75	41. 48	43. 51	46. 42	26. 80	44. 43	7. 50	12. 29
Nov. 27, 29	54. 17	c42. 14	43. 76	44. 72	26. 50	44. 30	-	12. 35

Location number	1. 35. 11. 241	1. 35. 27. 344a	1. 35. 28. 143	1. 36. 5. 300	1. 36. 16. 100	2. 34. 4. 441	2. 34. 10. 324	2. 34. 13. 133
Owner	Mc Pherson	Mc Croary	Kerby	Mc Daniel	State of N. M.	Wallace	Walker	Sanders
Jan. 9-11	16. 32	30. 23	46. 32	33. 75	19. 43	10. 85	28. 28	24. 69
Mar. 28, 29	16. 41	30. 50	46. 91	a34. 19	a29. 19	e11. 12	28. 98	25. 96
May 23, 24	16. 45	a34. 12	47. 17	a34. 14	a30. 37	11. 64	29. 93	32. 12
July 25, 26	16. 17	30. 30	47. 36	a34. 15	a28. 85	7. 67	e28. 08	25. 90
Sept. 22, 23	15. 95	29. 38	47. 04	33. 84	a21. 80	9. 38	-	c27. 43
Nov. 22, 27, 29	16. 02	29. 08	46. 51	a34. 25	aj28. 35	10. 32	-	23. 88

Location number	2. 35. 4. 111	2. 35. 6. 121	2. 35. 6. 443a	2. 35. 9. 122	2. 35. 14. 414	2. 35. 15. 131	2. 35. 16. 333	2. 35. 18. 211
Owner	Weber	Clark	Johnson	Griffith	Bank	Bank	Cline	State of N. M.
Jan. 9-11	26. 08	36. 93	31. 80	21. 95	2. 52	3. 62	8. 27	7. 31
Mar. 28	28. 61	37. 65	31. 80	22. 88	2. 37	3. 45	8. 13	7. 33
May 24	33. 96	41. 45	39. 72	24. 75	3. 30	4. 29	8. 46	7. 85
July 25, 26	28. 05	39. 70	32. 91	22. 21	. 00	1. 20	6. 73	2. 88
Sept. 22, 26	27. 41	38. 62	31. 31	20. 97	. 59	3. 05	7. 21	4. 65
Nov. 22, 27	24. 99	37. 31	29. 92	20. 40	1. 36	2. 98	7. 67	5. 85

Location number	2. 35. 19. 134	2. 35. 23. 111	2. 35. 25. 114a	2. 36. 7. 332	2. 36. 8. 432a	2. 36. 18. 341	2. 36. 20. 321	2. 36. 27. 311a
Owner	Fair-cloth	McCarty	Caraway	Johnson	Davis	McPherson	Davis	Riley
Jan. 9, 11	27. 05	23. 08	24. 77	18. 84	18. 62	14. 80	14. 90	15. 74
Mar. 28, 29	27. 44	23. 06	b32. 80	19. 37	19. 33	15. 16	15. 24	16. 42
May 24, 25	27. 55	25. 33	25. 79	20. 06	21. 46	15. 74	16. 57	19. 92
July 26	28. 80	22. 38	25. 50	16. 00	18. 43	10. 75	14. 98	15. 20
Sept. 22, 26	26. 86	21. 66	23. 37	15. 02	15. 97	10. 25	12. 85	13. 62
Nov. 27, 28	25. 87	21. 50	22. 25	15. 44	15. 66	11. 15	12. 24	12. 75

Location number	2. 36. 30. 111	2. 36. 34. 312	2. 36. 35. 212a	2. 37. 30. 134
Owner	Thorn-ton	Walker	Harris-son	Chunn
Jan. 11	4. 35	17. 69	11. 09	19. 74
Mar. 28, 29	4. 16	(a)	10. 82	21. 01
May 24, 25	4. 93	18. 59	(a)	(a)
July 26	. 80	15. 25	10. 35	20. 30
Sept. 26	1. 90	14. 13	9. 42	18. 73
Nov. 27, 28	2. 90	14. 10	8. 57	18. 06

a Pumping.

b Pumped recently.

c Nearby well pumping.

e Dry at depth given.

j Measurement uncertain.

Part 4. Daily highest water level from recorder graph

1N.33.36.400a. A. C. Woodburn.

Daily highest water level from recorder graph

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	5. 23	Feb. 6	5. 25	June 20	5. 92	Sept. 5	4. 93
2	5. 23	13	5. 25	25	6. 03	25	h4. 96
3	5. 23	20	5. 26	30	6. 13	26	4. 96
4	5. 23	28	5. 26	July 1	6. 15	27	4. 97
5	5. 23	Mar. 1	5. 27	5	6. 20	28	4. 97
6	5. 23	6	5. 27	6	4. 91	30	4. 99
7	5. 23	13	5. 29	7	4. 71	Oct. 1	5. 00
8	5. 24	20	5. 30	8	4. 71	5	4. 94
9	5. 24	25	5. 31	10	4. 91	10	4. 91
10	5. 24	31	5. 33	11	4. 97	13	4. 94
11	5. 24	Apr. 1	5. 33	12	5. 00	20	5. 01
12	5. 24	6	5. 34	13	4. 99	25	5. 06
13	5. 24	14	5. 36	14	4. 96	31	5. 11
14	5. 24	21	5. 37	15	4. 94	Nov. 1	5. 11
15	5. 24	25	5. 41	20	4. 85	5	5. 14
16	5. 23	30	5. 44	25	4. 12	10	5. 18
17	5. 23	May 1	5. 45	26	4. 07	15	5. 15
18	5. 23	6	5. 48	27	4. 05	20	5. 16
19	5. 23	12	5. 56	30	4. 05	22	5. 15
20	5. 23	20	5. 63	31	4. 07	25	5. 17
21	5. 24	26	5. 71	Aug. 1	4. 10	28	5. 17
22	5. 24	31	5. 76	5	4. 22	30	5. 19
23	5. 24	June 1	5. 69	10	4. 35	Dec. 1	5. 19
24	5. 23	3	5. 67	15	4. 51	5	5. 18
25	5. 23	4	5. 65	20	4. 61	10	5. 20
26	5. 23	7	5. 62	25	4. 70	15	5. 19
27	5. 23	8	5. 62	28	4. 77	20	5. 22
28	5. 23	10	5. 65	31	4. 83	25	5. 23
29	5. 23	15	5. 77	Sept. 1	4. 84	27	5. 23
30	5. 24			4	4. 96		
31	5. 24						
Feb. 1	5. 24						

h Tape measurement.

1. 34. 25. 211. Young.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	44.31	44.13	44.01	44.21	46.17	47.66	48.40	46.26	48.15	46.64	45.78	45.27
2	44.41	44.15	43.93	44.21	46.15	47.61	48.52	46.19	48.24	46.63	45.69	45.41
3	44.47	44.12	43.95	44.23	46.17	47.55	48.59	46.11	48.15	46.55	45.71	45.30
4	44.50	44.18	43.99	44.36	46.25	47.49	48.57	46.06	48.07	46.47	45.65	45.22
5	44.46	44.17	43.98	44.32	46.33	47.43	48.50	46.03	48.04	46.43	45.58	45.33
6	44.47	44.16	43.88	44.30	46.35	47.38	48.41	46.02	47.93	46.38	45.60	45.17
7	44.43	44.13	43.93	44.40	46.57	47.34	48.33	46.01	47.82	46.38	45.57	45.13
8	44.37	44.15	43.98	44.55	46.53	47.47	48.26	46.02	47.72	46.31	45.51	45.20
9	44.33	44.11	44.11	44.74	46.60	47.38	48.18	46.12	47.63	46.27	45.57	45.29
10	44.38	44.10	44.06	44.76	46.73	47.33	48.11	46.38	47.53	46.25	45.49	45.28
11	44.32	44.06	44.07	44.93	46.78	47.30	48.00	46.66	47.45	46.23	45.46	45.31
12	44.29	44.08	44.06	45.00	46.71	47.56	47.96	47.18	47.36	46.18	45.43	45.33
13	44.32	44.10	44.08	45.06	46.64	47.80	47.88	47.46	47.29	46.13	45.43	45.28
14	44.26	44.09	44.02	44.92	46.61	47.94	47.79	47.45	47.20	46.09	45.42	45.25
15	44.28	44.08	44.03	44.88	46.61	48.06	47.69	47.57	47.12	46.08	45.43	45.37
16	44.28	44.06	44.06	45.20	46.58	48.12	.....	47.71	47.09	46.08	45.40	45.42
17	44.25	44.03	44.01	45.15	46.55	48.22	.....	47.89	47.05	46.07	45.33	45.36
18	44.24	44.07	43.99	45.40	46.52	48.31	.....	48.12	47.04	46.20	45.29	45.30
19	44.27	44.03	44.09	45.61	46.55	48.36	.....	48.30	46.99	46.23	45.29	45.26
20	44.23	44.00	44.15	45.81	46.61	48.39	.....	48.43	46.94	46.09	45.35	45.23
21	44.23	43.98	44.13	45.88	46.66	48.35	.....	48.54	46.90	46.04	45.28	45.21
22	44.21	44.01	44.09	46.08	46.68	48.23	.....	48.63	46.97	46.02	45.33	45.17
23	44.18	43.97	44.09	46.23	46.67	48.16	.....	48.65	46.92	45.96	45.32	45.16
24	44.15	44.00	44.11	46.29	46.71	48.13	.....	48.66	47.16	46.05	45.52	45.15
25	44.17	44.01	44.12	46.50	46.72	48.05	46.76	48.77	47.09	45.96	45.62	45.08
26	44.25	43.99	44.11	46.44	47.03	48.03	46.68	48.84	46.95	45.91	45.66	45.09
27	44.16	43.96	44.12	46.47	47.13	48.31	46.59	48.75	46.88	45.86	45.70	45.06
28	44.12	43.98	44.17	46.36	47.20	48.19	46.49	48.62	46.84	45.84	45.41	45.05
29	44.14		44.31	46.34	47.53	48.14	46.42	48.40	46.76	45.81	45.25	45.04
30	44.12		44.25	46.23	47.63	48.40	46.35	48.28	46.70	45.76	45.21	45.03
31	44.14		44.22		47.64		46.31	48.20		45.72		44.98

2. 34. 2. 233. Louisa Trout.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	54.40	53.70	54.87	55.92	57.55	58.43	.....	57.00	57.20	55.57	.....	53.80
2	54.30	53.75	54.80	56.10	57.50	58.44	.....	56.89	57.17	55.53	.....	53.80
3	54.24	53.71	54.71	56.02	57.49	58.46	59.62	56.83	57.22	55.41	.....	53.71
4	54.25	53.82	54.93	56.13	57.45	58.40	59.58	56.82	57.05	55.32	.....	53.67
5	54.21	54.13	54.78	56.32	57.36	58.35	59.38	56.93	56.96	55.30	.....	53.70
6	54.23	54.27	54.65	56.38	57.34	58.33	59.21	56.82	56.85	55.20	.....	53.57
7	54.19	54.37	54.69	56.40	57.39	58.32	59.15	56.78	56.79	55.19	.....	53.52
8	54.10	54.43	54.82	56.60	57.33	58.33	59.10	56.89	.....	55.08	.....	53.59
9	54.06	54.46	54.80	56.52	57.48	58.40	59.02	57.00	.....	55.00	.....	53.59
10	54.09	54.48	54.84	56.48	57.61	58.48	.....	57.00	.....	54.98	.....	53.51
11	54.08	54.68	54.80	56.81	57.64	58.43	.....	57.08	.....	54.95	.....	53.49
12	54.00	54.43	54.78	56.97	57.65	58.52	.....	57.20	.....	54.90	.....	53.45
13	54.02	54.30	54.82	56.82	57.69	58.68	58.70	57.18	.....	54.85	.....	53.49
14	53.92	54.20	54.79	56.69	57.63	58.62	.....	57.13	.....	54.82	.....	53.48
15	53.96	54.21	54.80	56.63	57.60	58.79	.....	57.38	.....	55.00	.....	53.49
16	53.91	54.19	54.87	56.64	57.76	58.93	.....	57.38	.....	55.00	.....	53.47
17	53.87	54.16	54.80	56.59	57.84	59.08	.....	57.48	.....	54.94	.....	53.40
18	53.85	54.30	55.20	56.65	57.82	59.09	.....	57.50	.....	54.82	.....	53.57
19	53.89	54.35	55.23	57.22	57.87	59.07	.....	57.52	.....	54.82	.....	53.46
20	53.82	54.53	55.12	57.34	57.84	58.90	.....	57.50	56.22	54.72	.....	53.47
21	53.80	54.72	55.59	57.52	57.79	58.89	.....	57.54	.....	54.65	.....	53.48
22	53.77	54.60	55.52	57.69	57.76	58.82	.....	57.57	56.09	54.71	53.98	53.49
23	53.78	54.59	55.98	57.40	57.94	58.78	57.82	57.49	56.08	54.79	53.94	53.47
24	53.73	54.59	55.95	57.35	58.10	58.93	.....	57.52	56.05	.....	53.93	53.40
25	53.79	54.64	55.80	57.58	58.39	58.90	57.50	57.53	55.93	.....	53.92	53.32
26	53.84	54.73	55.67	57.52	58.46	58.85	57.45	57.58	55.92	.....	.....	53.34
27	53.72	54.95	55.60	57.50	58.37	59.07	57.29	57.50	55.82	.....	.....	53.32
28	53.70	54.94	55.58	57.47	58.33	59.10	57.23	57.37	55.78	.....	53.95	53.38
29	53.75		55.62	57.69	58.48	59.19	57.11	57.28	55.67	.....	53.89	53.39
30	53.70		55.60	57.56	58.54	59.27	57.09	57.20	55.61	.....	53.81	53.37
31	53.75		55.59		58.48		57.07	57.19		.....		53.28

g Estimated.

2. 36. 28. 114b. Morgan Trammel.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	16.65	16.55	16.66	17.09	17.76	18.74	18.87	16.83	15.66	15.38	14.66	14.31
2	16.63	16.56	16.64	17.08	17.76	18.78	18.88	16.73	15.62	15.38	14.64	14.32
3	16.61	16.55	16.64	17.07	17.77	18.84	18.88	16.63	15.63	15.34	14.67	14.29
4	16.64	16.55	16.67	17.12	17.82	18.87	18.92	16.53	15.64	15.29	14.62	14.27
5	16.64	16.53	16.69	17.15	17.82	18.87	18.92	16.45	15.66	15.25	14.60	14.30
6	16.65	16.52	16.67	17.13	17.84	18.90	18.94	16.36	15.68	15.23	14.61	14.26
7	16.64	16.51	16.72	17.12	17.90	18.89	18.92	.....	15.71	15.23	14.59	14.24
8	16.61	16.51	16.77	17.10	17.90	18.92	18.89	.....	15.77	15.18	14.56	14.28
9	16.59	16.53	16.79	17.08	17.92	18.95	18.85	16.24	15.83	15.14	14.61	14.29
10	16.61	16.51	16.81	17.12	17.98	18.97	18.81	16.21	15.90	15.13	14.56	14.25
11	16.60	16.50	16.83	17.15	18.03	18.99	18.77	16.17	15.93	15.10	14.53	14.25
12	16.59	16.50	16.87	17.15	18.04	19.00	18.73	16.17	15.97	15.06	14.52	14.23
13	16.59	16.52	16.91	17.16	18.07	19.02	18.69	16.15	15.93	15.03	14.50	14.24
14	16.58	16.52	16.94	17.17	18.11	19.04	18.64	16.13	15.87	15.00	14.49	14.24
15	16.58	16.52	16.95	17.17	18.14	19.04	18.58	16.14	15.83	14.97	14.49	14.24
16	16.58	16.52	16.99	17.18	18.14	19.04	18.53	16.14	15.81	14.94	14.51	14.25
17	16.55	16.52	16.99	17.20	18.19	19.07	18.49	16.13	15.79	14.90	14.46	14.23
18	16.55	16.55	16.99	17.20	18.23	19.09	18.44	16.11	15.76	14.87	14.43	14.22
19	16.58	16.56	17.02	17.23	18.28	19.07	18.38	16.10	15.72	14.86	14.42	14.21
20	16.58	16.55	17.01	17.24	18.34	19.07	18.33	16.08	15.69	14.82	14.47	14.21
21	16.57	16.55	17.04	17.32	18.37	19.06	18.27	16.00	15.68	14.80	14.42	14.21
22	16.53	16.58	17.04	17.37	18.39	19.04	18.01	15.97	15.63	14.79	14.42	14.20
23	16.56	16.57	17.05	17.38	18.45	19.02	17.81	15.97	15.60	14.80	14.41	14.25
24	16.55	16.59	17.04	17.40	18.50	19.00	17.68	15.94	15.58	14.78	14.41	14.21
25	16.55	16.61	17.01	17.47	18.55	18.97	17.56	.....	15.56	14.76	14.39	14.18
26	16.62	16.62	16.98	17.48	18.57	18.95	17.44	.....	15.54	14.75	14.38	14.20
27	16.59	16.61	17.01	17.56	18.57	18.92	17.33	15.95	15.51	14.73	14.37	14.22
28	16.57	16.63	17.02	17.65	18.57	18.90	17.23	15.87	15.48	14.72	14.36	14.20
29	16.57		17.08	17.69	18.57	18.88	17.12	15.81	15.44	14.71	14.34	14.19
30	16.55		17.10	17.76	18.63	18.87	17.01	15.76	15.41	14.68	14.33	14.20
31	16.56		17.09		18.69		16.92	15.72		14.66		14.22

Part 5. Miscellaneous Data

1. 32. 14. 431. Morrison. Formerly 1. 32. 14. 432.

1. 33. 21. 244. Owner unknown. Drilled irrigation well.

1. 33. 22. 433. Trainer. 40 feet north of road. Drilled irrigation well.

1. 34. 20. 312a. Ross. About 20 feet east of old well 1. 34. 20. 312. Drilled irrigation well.

1. 34. 21. 141a. Ledbetter. About 7 feet northeast of well 1. 34. 21. 141. Drilled well. Jan. 7, 1948, 44. 25.

1. 34. 24. 241. Gorrell. Formerly 1. 34. 24. 243.

1. 35. 30. 343b. Livingston. About 150 feet east of well 1. 35. 30. 343a. Drilled irrigation well.

2. 34. 4. 111. Owner unknown. About 20 feet south of fence at the west end of concrete discharge box. Drilled irrigation well.

2. 34. 4. 441. Wallace. Well cleaned out and deepened, May 23, 1950.

2. 35. 10. 434. Owner unknown. Drilled irrigation well.

2. 35. 18. 133. Owner unknown. About 30 feet east of road and 50 feet north of fence. Drilled irrigation well.

2. 37. 30. 134. Chunn. About 1,320 feet northeast of house. Drilled irrigation well, diameter 16 inches, depth 115 feet. Mar. 24, 1949, 20. 84; June 1, 24. 97, pumped recently; July 31, 19. 79; Nov. 21, 19. 83.

SIERRA COUNTY (HOT SPRINGS AREA)

Part 1. General Discussion

Water levels were measured in January 1950 in 11 thermal wells at Hot Springs and in 4 nonthermal wells in the vicinity of the municipal supply wells. Recording gages were maintained as in preceding years on three thermal wells: No. 6, a deep artesian well; No. 6a, a shallow well dug in alluvium; and No. 25 a well dug into limestone near the upper edge of the spring area. The pattern of seasonal fluctuation of artesian heads in the thermal wells in 1950 was about usual with the high levels being reached in March or April and the low levels in October. The March-April 1950 levels were about equal to those in 1949 and the lowest since records began. The October 1950 levels were about 0.3 foot below 1949 and also the lowest on record. The artesian pressure in well 6 in October was below land surface for the first time on record. The artesian heads showed a net decline for the year of about 0.3 foot. The status of the artesian heads in the nonthermal wells is not definitely determined by the spot measurements because of the large range in pressures caused by the erratic opening and closing of flowing wells in the area. However, the measurement on the Roy Howe well at the end of 1950 (January 1951) was 18 feet lower than at the beginning of record in 1947 but 9 feet higher than January 1950 when the level was low because of recent use.

Part 2. Water levels in Sierra County

Field No.	Location		Owner	See part	Jan. 1950		Change 1949-50	Highest		Lowest		Record	
	Lot	Block			Level	Day		Level	Year	Level	Year	Be- gan	Years missing
					Hot Springs -- thermal wells								
2	17	1	H. L. Lockhart	-	-	-	-	+1.20	42	-0.35	49	41	46, 50
3	17	1	do.	-	.00	23	+0.30	+1.23	42	-.30	49	41	46
5	12	9	J. E. Malone	-	b-1.32	23	-.03	+.13	42	-1.29	49	39	
6	4	8	Harry Dakos	4	+.28	23	+.27	f+1.57	42	f+.11	49	41	
6a	4	8	do.	4	-1.87	23	+.21	f-1.24	42	f-2.09	49	42	
12	8	40	Mr. Mathis	-	+3.41	23	+.31	+4.53	42	+3.10	49	39	
18	7	105	W. R. Whitehead	-	-2.00	23	+.29	-1.19	42	-2.29	49	39	
19	12	105	Bill Green	-	-1.28	23	+.26	-.20	42	-1.54	49	39	
25	4	93	Jim Knox	4	-8.11	23	+.21	f-6.95	42	f-8.24	49	39	
27	4	42	Ben Graham	-	+1.85	23	-	+2.97	42	+1.85	50	39	49
30	1	102	G. L. Mills	-	-1.76	23	+.31	-.63	42	-2.07	49	39	
33	2	106	C. E. James	-	-.79	23	+.15	+.28	42	-.94	49	41	
					Hot Springs -- nonthermal wells								
	Location number												
14. 4. 5. 310			Cauthen Packing House					-8.26	47	-9.69	48	47	50
6. 110a			Dave Gray	-	(m)	23	+0.24	-98.15	48	-100.66	49	47	
6. 441			Roy Howe	-	g+31.22	23	-11.80	+58.30	47	+43.02	49	47	
6. 442			Mrs. Arnold	-	g+38.72	23	-6.80	+55.57	48	+54.94	47	47	
7. 311			J. A. Slater	5	g+17.55	23	-	+17.55	50	+16.61	48	48	49

b Pumped recently.

f From recorder graph.

g Flowing recently.

j Mar. 1939, Feb. 1940-41, Mar. 1942, Apr. 1943, Jan. 1944-48.

m Measurement discontinued.

Part 4. Daily highest water level from recorder graph

6 Lot 4, block 8. Harry Dakos.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	+0.37	+0.39	+0.42	+0.53	+0.49	+0.42	+0.36	+0.32	+0.18	-0.01	-0.04	+0.01
2	.41	.37	.44	.55	.49	.41	.37	.30	.18	.04	.05	.01
3	.42	.38	.44	.55	.48	.40	.36	.30	.14	-.04	.05	.01
4	.36	.37	.44	.51	.49	.41	.32	.30	.14	+0.02	-.01	+0.03
5	.37	.40	.47	.51	.46	.39	.33	.27	.13	.03	+0.01	-.01
6	.33	.39	.48	.51	.46	.39	.35	.27	.11	+0.01	-.01	+0.02
7	.33	.40	.45	.52	.43	.39	.34	.26	.12	-.04	-.01	.05
8	.39	.40	.47	.52	.43	.37	.32	.22	.14	.06	.00	+0.02
9	.39	.40	.47	.53	.44	.38	.33	.23	.15	.04	-.01	-.01
10	.38	.41	.48	.49	.44	.38	.31	.22	.13	.05	.07	-.01
11	.40	.45	.49	.51	.43	.36	.31	.23	.09	.05	.04	.00
12	.41	.42	.47	.51	.44	.37	.59	.22	.09	.07	.02	+0.01
13	.41	.39	.46	.51	.44	.38	.59	.20	.09	.06	-.01	.00
14	.38	.39	.47	.53	.42	.37	.47	.19	.10	.06	+0.01	-.01
15	.37	.40	.47	.54	.42	.38	.42	.19	.10	.09	-.02	.01
16	.35	.40	.46	.51	.43	.38	.41	.17	.09	.10	-.02	.01
17	.37	.42	.48	.51	.43	.37	.41	.16	.14	.09	+0.01	.02
18	.38	.40	.50	.51	.43	.37	.40	.16	.13	.09	+0.02	-.02
19	.37	.40	.49	.48	.42	.36	.38	.16	.10	.09	.00	+0.01
20	.36	.41	.49	.49	.42	.36	.36	.15	.10	.08	-.01	.00
21	.37	.42	.48	.49	.41	.37	.34	.16	.15	.06	+0.01	-.01
22	.40	.42	.51	.49	.42	.37	.34	.15	.16	.09	.01	+0.01
23	.41	.42	.52	.46	.43	.37	.32	.15	.11	.08	+0.01	+0.01
24	.43	.41	.53	.47	.44	.34	.31	.17	.06	.09	-.01	-.01
25	.43	.40	.56	.49	.44	.35	.30	.18	.07	.06	-.01	+0.04
26	.35	.42	.50	.49	.43	.36	.28	.19	.03	.05	.03	.01
27	.38	.43	.49	.51	.41	.36	.31	.20	.02	.04	.01	.02
28	.40	+.41	.49	.51	.43	.36	.31	.22	.01	.06	.01	.02
29	.39		.50	.49	.40	.38	.29	.23	+0.01	.07	-.01	.04
30	.41		.53	+.47	.42	+.36	.30	.19	.00	.05	.00	.02
31	+.39		+.54		+.43		+.29	+.19		-.04		+.06

6a Lot 4, block 8. Harry Dakos.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.88	1.87	1.85	1.76	1.83	1.90	....	1.56	2.11	2.16	2.36	2.29
2	1.88	1.87	1.84	1.74	1.83	1.90	....	1.07	2.11	2.19	2.36	2.29
3	1.88	1.87	1.84	1.73	1.83	1.90	....	1.06	2.11	2.23	2.36	2.30
4	1.88	1.87	1.83	1.74	1.84	....	....	1.29	2.12	2.19	2.36	2.30
5	1.88	1.86	1.83	1.75	1.85	....	....	1.51	2.13	1.59	2.35	2.29
6	1.88	1.85	1.82	1.75	1.86	....	....	1.64	2.14	1.59	2.34	2.30
7	1.88	1.85	1.82	1.76	1.87	....	....	1.74	2.15	1.77	2.33	2.29
8	1.89	1.85	1.82	1.76	1.88	....	....	1.81	2.15	1.93	2.33	2.29
9	1.88	1.85	1.81	1.76	1.89	....	....	1.87	2.14	2.03	2.33	2.29
10	1.88	1.85	1.81	1.77	1.89	....	....	1.91	2.14	2.11	2.34	2.29
11	1.88	1.84	1.80	1.78	1.89	....	....	1.93	2.15	2.18	2.35	2.28
12	1.87	1.85	1.81	1.78	1.88	....	....	1.96	2.16	2.22	2.35	2.29
13	1.87	1.85	1.81	1.78	1.88	....	....	1.97	2.17	2.25	2.35	2.28
14	1.87	1.85	1.81	1.78	1.88	....	....	1.99	2.18	2.28	2.34	2.28
15	1.87	1.85	1.81	1.77	1.89	....	....	2.01	2.18	2.30	2.33	2.28
16	1.88	1.85	1.81	1.77	1.89	....	....	2.03	2.19	2.32	2.33	2.28
17	1.88	1.85	1.80	1.78	1.89	....	....	2.05	2.20	2.33	2.33	2.29
18	1.88	1.85	1.80	1.78	1.89	....	....	2.07	.89	2.34	2.32	2.29
19	1.88	1.85	1.80	1.79	1.89	....	....	2.08	1.11	2.35	2.31	2.29
20	1.87	1.85	1.79	1.79	1.90	....	....	2.09	1.52	2.35	2.31	2.29
21	1.87	1.85	1.80	1.80	1.90	....	....	2.10	1.74	2.36	2.31	2.29
22	1.87	1.85	1.79	1.80	1.91	....	....	2.11	.57	2.37	2.30	2.29
23	1.86	1.84	1.78	1.81	1.91	....	....	2.12	.55	2.37	2.30	2.29
24	1.86	1.84	1.78	1.81	1.91	....	....	2.13	.94	2.38	2.30	2.29
25	1.86	1.85	1.77	1.82	1.91	....	....	2.13	1.41	2.38	2.31	2.28

6a Lot 4, block 8--Continued.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	1.87	1.85	1.77	1.83	1.90	....	1.90	2.12	1.66	2.37	2.31	2.28
27	1.87	1.85	1.79	1.82	1.91	....	1.31	2.12	1.84	2.37	2.31	2.29
28	1.87	1.85	1.79	1.82	1.91	....	1.30	2.12	1.96	2.36	2.30	2.28
29	1.87		1.79	1.82	1.90	....	1.49	2.11	2.05	2.36	2.30	2.28
30	1.87		1.78	1.83	1.91	....	1.64	2.11	2.10	2.36	2.30	2.28
31	1.87		1.77		1.90		1.75	2.11		2.36		2.28

25 Lot 4, block 93. Jim Knox.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	8.00	8.00	7.97	7.85	7.90	7.97	8.04	8.05	8.21	8.40	8.42	8.36
2	7.98	8.01	7.95	7.84	7.90	7.97	8.04	8.10	8.21	8.42	8.42	8.36
3	7.97	8.00	7.94	7.84	7.91	7.99	8.04	8.10	8.24	8.42	8.43	8.37
4	8.02	8.01	7.95	7.87	7.91	8.02	8.07	8.10	8.24	8.37	8.40	8.35
5	8.01	7.99	7.93	7.88	7.94	8.01	8.07	8.13	8.25	8.35	8.37	8.38
6	8.04	7.98	7.91	7.87	7.94	8.00	8.05	8.13	8.27	8.37	8.39	8.36
7	8.03	7.99	7.94	7.87	7.95	8.00	8.05	8.14	8.25	8.42	8.38	8.33
8	7.99	7.99	7.93	7.86	7.95	8.02	8.08	8.15	8.23	8.44	8.38	8.36
9	7.99	7.98	7.91	7.87	7.95	8.02	8.07	8.17	8.24	8.41	8.39	8.39
10	8.01	7.97	7.92	7.89	7.95	8.01	8.08	8.16	8.25	8.41	8.41	8.38
11	8.00	7.94	7.91	7.88	7.95	8.04	8.08	8.16	8.28	8.42	8.41	8.37
12	7.99	7.97	7.93	7.86	7.95	8.03	7.85	8.17	8.29	8.44	8.40	8.36
13	7.99	8.00	7.93	7.87	7.94	8.02	7.85	8.17	8.28	8.43	8.39	8.37
14	8.01	7.99	7.91	7.85	7.97	8.03	7.94	8.20	8.28	8.44	8.38	8.38
15	8.02	7.99	7.92	7.84	7.98	8.02	7.98	8.22	8.28	8.47	8.39	8.38
16	8.02	7.98	7.91	7.88	7.96	8.01	7.99	8.23	8.30	8.47	8.39	8.38
17	8.02	7.97	7.90	7.87	7.95	8.03	7.99	8.23	8.26	8.47	8.37	8.41
18	8.00	7.98	7.88	7.86	7.95	8.03	8.00	8.23	8.25	8.46	8.36	8.39
19	8.02	7.98	7.90	7.90	7.97	8.04	8.03	8.23	8.28	8.45	8.37	8.37
20	8.00	7.97	7.89	7.90	7.97	8.03	8.03	8.23	8.28	8.46	8.39	8.37
21	8.01	7.97	7.90	7.90	7.98	8.03	8.05	8.23	8.21	8.45	8.37	8.38
22	8.00	7.97	7.86	7.89	7.97	8.02	8.06	8.23	8.24	8.48	8.36	8.36
23	7.99	7.96	7.86	7.91	7.96	8.03	8.08	8.23	8.29	8.46	8.37	8.36
24	7.97	7.97	7.84	7.91	7.95	8.04	8.08	8.22	8.34	8.48	....	8.37
25	7.98	7.97	7.83	7.90	7.95	8.05	8.09	8.21	8.32	8.44	....	8.33
26	8.03	7.98	7.87	7.89	7.95	8.05	8.06	8.20	8.36	8.42	8.41	8.36
27	8.00	7.96	7.87	7.88	7.98	8.03	8.09	8.20	8.37	8.42	8.40	8.35
28	7.98	7.98	7.88	7.87	7.97	8.04	8.08	8.18	8.38	8.43	8.39	8.33
29	8.00		7.88	7.89	7.99	8.03	8.10	8.17	8.37	8.45	8.38	8.33
30	7.98		7.85	7.92	7.97	8.04	8.10	8.20	8.38	8.42	8.37	8.33
31	8.00		7.83		7.96		8.10	8.20		8.41		8.31

Part 5. Miscellaneous Data

14.4.7.311. Slater. 3.3 miles south on Highway 85 from Carrie Tingley Hospital, about 75 yards west of highway. Drilled irrigation artesian well, diameter 10 inches, depth 387 feet. Oct. 3, 1945, +31.87; May 22, 1946, +30.45, pumping; Jan. 25, 1948, +16.61.

TORRANCE COUNTY (ESTANCIA VALLEY)

Part 1. General Discussion

The irrigated area in Estancia Valley is principally in Torrance County but in the last few years it has been extended northward into the southern part of Santa Fe County. In 1950, water levels were measured in 139 wells in February and in about 63 wells in May, August, and November. A total of 311 measurements was made during the year. A recording gauge was maintained on a well about 3 miles northwest of Estancia. Precipitation within the area of the closed basin of Estancia Valley is the original source of ground water, whether by direct infiltration to the water-bearing formations or by runoff from the surrounding higher lands. Recharge to the ground-water body also occurs from return of irrigation water applied on the lands. The amount of pumping required for irrigation of crops is dependent in part upon the amount of precipitation during the growing season. Above-normal precipitation during that period reduces the amount of water required for irrigation, but, if precipitation is deficient during that period, the amount of water that must be pumped is greater than normal. Precipitation in 1950 was below normal at all stations in the area except Estancia where the total

precipitation was 13.94 inches, 0.72 inch above normal. The precipitation at Otto was 6.37 inches, 6.11 inches below normal; at McIntosh 10.26 inches, 3.77 inches below normal; at Tajique 14.28 inches, 6.00 inches below normal; at Edgewood 7.77 inches; and at Mountainair about 14.8 inches including an estimate of 0.9 inch for June and 0.1 inch for October. Precipitation in 1950 was considerably less at Tajique, McIntosh, and Otto and only slightly more at Estancia and Mountainair than in 1949. In general, more than 95 percent of the precipitation occurred during the main part of the growing season from April to September and resulted in near-normal amounts for the period. The above figures indicate that the total recharge to the ground-water body in 1950 was less than normal and the amount of water required for the irrigation of crops was probably about average. The land irrigated with ground water in Estancia Valley in 1950 was nearly double that in 1949. It is estimated that about 19,000 acres were irrigated from wells and that about 19,000 acre feet of water were pumped in 1950 as compared with about 10,000 acres irrigated and 8,000 acre feet of water pumped in 1949. Most of the new development was in Torrance County but some was in the southern part of Santa Fe County. The areas in Estancia Valley in which water levels showed net declines from February 1950 to February 1951 are shown in figure 31. The ground-water levels declined more than 1 foot under a total area of about 100 square miles as compared with 80 square miles the previous year. The greatest net decline for 1950 occurred in the area of heavy pumping about 7 miles northwest of Estancia where the water level declined more than 2 feet under an area of about 9 square miles and more than 3 feet under an area of about $2\frac{1}{2}$ square miles. The maximum decline recorded in that area was 3.07 feet as compared with a maximum recorded decline of 1.97 feet in 1949.

In the other area of heavy pumping about 7 miles southwest of Estancia water levels declined more than 1 foot under an area of about 24 square miles and more than 2 feet under an area of about 6 square miles. In that area the maximum decline recorded was 2.53 feet as compared with a maximum recorded decline of 1.70 feet in the preceding year. The area between Estancia and Moriarty under which water levels declined more than 1 foot was about 40 square miles, or about the same as in 1948 and 1949. However, the area was farther north and west in 1950 than in 1949, covering almost all of T. 8 N., R. 8 E. About 4 miles southwest of Moriarty a decline of 2.12 feet was noted in well 8.8.10.111. About 8 miles east of Estancia water levels declined more than 1 foot under an area of about 8 square miles. The maximum decline recorded in that area was 1.56 feet. About 4 miles southeast of that area a decline of 1.08 feet was recorded in well 6.10.27.444 as compared with a decline of 0.43 foot in the same well in the preceding year. In the southern part of Santa Fe County the water levels declined more than 1 foot under an area of about 19 square miles. Irrigation in that area has increased each year since it began in 1948. The maximum decline recorded there was 1.39 feet in well 10.8.13.133 as compared with a maximum recorded decline of 1.34 feet in well 10.8.36.111 in 1949.

The highest daily water level recorded during the year in well 7.8.27.221, about 3 miles south of the area in which the greatest decline was noted, was 21.13 feet on March 6 and 14. The water level declined to 23.43 feet on May 21, the lowest level recorded. It rose nearly 1.5 feet during the early part of June and again during the early part of July. It declined during the middle of July, rose steadily throughout August, and declined again in the middle of September. From September 17 the water level rose steadily until on December 17 it was 21.75 feet below land surface. On February 13, 1951 the water level in the well was 21.37 feet below land surface, 0.24 foot below the highest level of 1950. In contrast to the general condition of declining water levels, some rises were noted. Well 7.8.12.433 showed a rise of 1.82 feet from February 1950 to February 1951. The well is less than 3 miles east of the area in which the greatest decline was noted and about 3 miles northeast of the well equipped with recording gage. Several other wells north of Estancia showed smaller rises. Most of the wells in the vicinity of Willard showed small rises with well 5.8.25.212 showing a rise of 0.79 foot. With the exception of wells in secs. 13 and 14, T. 4 N., R. 8 E., most of the wells in which water levels rose were not pumped or pumped very little during the year.

The water level in well 7.8.16.142 continued to show an abnormal decline, and from February 1950 to February 1951 declined 10.5 feet. During the preceding year the water level in the well declined 13.4 feet. The water level in well 7.8.9.431, about 0.5 mile south, showed a decline of 9.51 feet from February 1950 to February 1951 as compared with a decline of 8.03 feet during the preceding year. It is probable that both wells are obtaining confined water from a limestone of the Magdalena group which underlies the valley fill in that area. The large decline of water levels in the two wells is probably due partly to continued heavy pumping. Also, it is likely that confined water is leaking into the upper aquifers and other wells may have been drilled into the same formation. A continued increase in irrigated acreage in some sections of the valley can be expected to result in greater declines in those areas than have occurred to date. However, above-normal precipitation, particularly during the growing season, will cause the declines to be less than ordinarily would be expected.

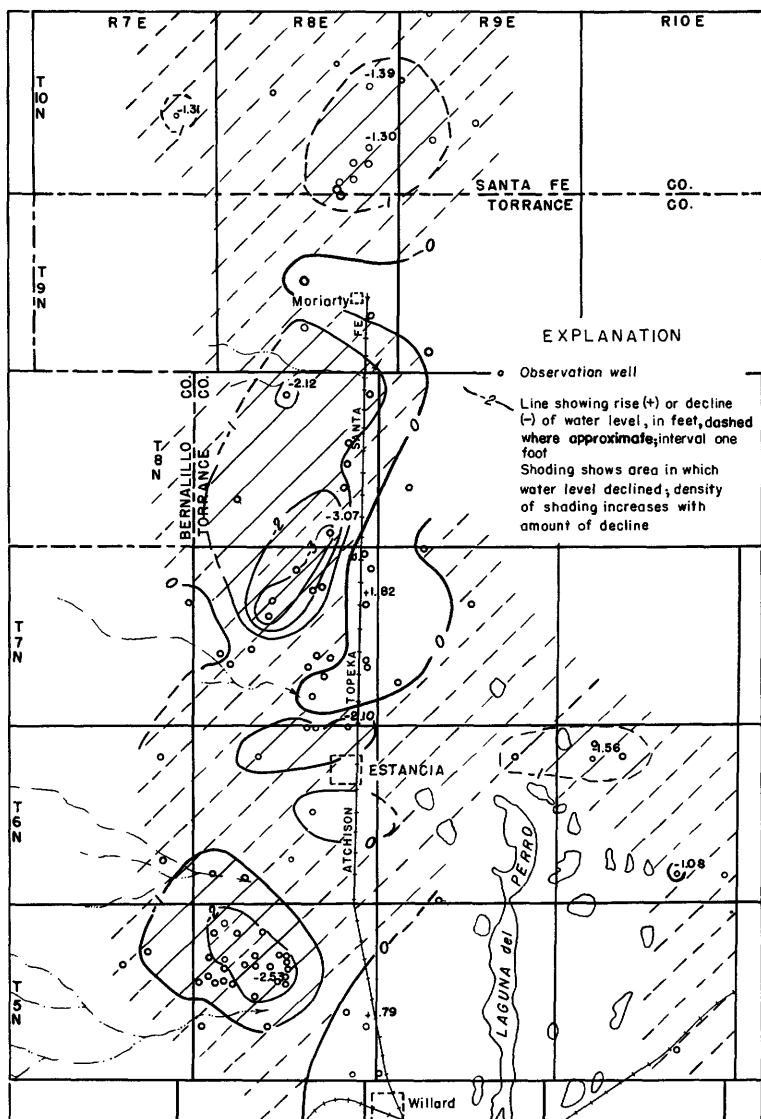


Figure 31. --Change in water level from February 1950 to February 1951 in Estandia Valley, Torrance County.

Part 2. Water levels in Torrance County

Location number	Owner	See part	Feb.		Change 1949-50	Highest		Lowest		Record	
			Level	Day		Level (7)	Year (8)	Level (9)	Year (10)	Be-gan (11)	Years missing (12)
4. 8. 1. 144	J. M. Harper		(m)			52.91	46	54.70	44	42	50
11. 433	R. B. Slease	3.5	83.23	8	-	-	-	-	-	50	
12. 330	do.	3.5	67.94	8	-	-	-	-	-	50	
12. 333	do.	3.5	71.24	8	-	-	-	-	-	50	
13. 133	do.	3.5	80.58	8	-	-	-	-	-	50	
13. 233	do.	3.5	71.14	8	-	-	-	-	-	50	
13. 333	do.	3.5	79.78	8	-	-	-	-	-	50	
13. 412	do.	3.5	65.69	8	-	-	-	-	-	50	
14. 140	do.	5	94.42	8	-	-	-	-	-	50	
14. 433	do.	3.5	93.90	8	-	-	-	-	-	50	
24. 133	do.	3.5	84.80	8	-	-	-	-	-	50	
24. 222	M. E. Ottoson	-	56.08	8	-	55.87	48	57.23	41	41	49
4. 9. 5. 344	Morris Ottoson	-	30.08	8	+0.08	30.08	50	30.33	48	47	
7. 441	Owner unknown					52.68	143	53.39	44	42	49, 50
10. 133	Homer Arnn	3	17.19	8		17.15	47	18.22	41	41	49
5. 7. 11. 411	O. H. Brown	3	88.44	9	-	86.81	48	88.44	50	48	
15. 212	Ewing School	-	117.57	9	-	115.33	46	117.88	41	41	
5. 8. 4. 343	Carter Bowden	-	35.87	9	-	30.24	42	35.87	50	42	48
5. 311	Glenn Gustin	-	66.43	9	-	64.98	49	66.43	50	49	
5. 344	O. R. Ethridge	3	56.16	9	-	51.14	47	56.16	50	47	
6. 431	W. M. Hibner	-	86.58	9	-	85.10	49	86.58	50	49	
7. 431	John Ingle	-	75.37	9	-	70.21	47	75.37	50	47	
8. 331	Madison Davis	-	59.56	9	-	54.24	47	59.56	50	47	
8. 424	Arlington Austin	3	65.63	9	-	62.03	48	65.63	50	48	
9. 423	Carter Bowden	5	57.08	9	-	52.52	47	57.08	50	47	49
10. 331	Frank Craven	-	22.09	8	-	18.25	47	22.09	50	47	
10. 331a	do.	3.5	22.93	8	-	19.79	48	22.93	50	48	
10. 333	do.	-	21.91	8	-	17.32	47	21.91	50	47	
11. 221a	J. V. Chamberlin	-	-	-	-	9.78	45	11.61	49	45	50
11. 221b	do.	5	10.94	9	-	-	-	-	-	50	
12. 111	do.	3.5	120.91	9	-	12.04	43	120.91	50	41	
15. 113	D. S. Bailey	-	22.33	8	-	17.91	47	22.33	50	47	
15. 131	Joe Begley	-	18.45	8	-	14.45	47	18.45	50	46	
15. 131a	do.	3	20.74	8	-	16.29	47	20.74	50	47	
15. 311	Charles Rattan	-	23.17	8	-	19.44	47	23.17	50	47	
15. 313	do.	-	24.58	8	-	20.33	47	24.58	50	46	
16. 111	Arlington Austin	-	57.86	9	-	54.17	48	57.86	50	48	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5. 8. 16. 211	Ben Mullen	-	49.61	8	-1.54	45.96	48	49.61	50	48	
16. 421	Joe Begley	-	30.24	8	-1.46	28.78	49	30.24	50	49	
17. 113	Madison Davis	3	50.46	8	-1.52	45.01	46	50.46	50	46	
17. 212	Virgel Garland	-	55.71	9	-1.60	51.99	48	55.71	50	48	
17. 311a	Ray Brown	3	33.11	8	-1.51	29.50	48	33.11	50	48	
17. 323	do.	-	b32.51	8	-1.58	26.05	42	b32.51	50	41	
18. 233	S. W. Hodgson	3	43.80	8	-1.49	38.69	47	43.80	50	47	
18. 312	Willard Hodgson	-	43.18	8	-1.31	38.57	47	43.18	50	47	
18. 421	F. H. Ayres	-	32.40	8	-1.67	26.89	47	32.40	50	47	
21. 111	R. B. Ford	3	31.95	8	-1.33	27.23	47	31.95	50	46	
24. 311	E. B. Wallace	3	21.98	8	+27	21.93	46	23.25	49	46	
25. 212	Homer Arnn	3	25.99	8	-28	22.45	42	25.99	50	42	
28. 122	Owner unknown	5	18.48	9	-	-	-	-	-	50	
30. 121a	do.	5	29.85	9	-	-	-	-	-	50	
36. 341	Mrs. Iva Moe	-	45.40	8	-1.15	45.11	47	46.69	41	41	
5. 9. 29. 111	Owner unknown	5	22.60	8	-	-	-	-	-	50	
31. 331	Homer Arnn	3	32.84	8	-10	32.56	47	34.10	41	41	
5. 10. 27. 444	Owner unknown	-	40.44	8	-12	40.32	49	40.78	41	41	
6. 7. 11. 222	do.	5	b132.05	9	-	-	-	-	-	50	
25. 133	C. E. Clark	5	169.27	9	+4.87	169.27	50	74.14	49	48	
25. 113	(See 6. 7. 25. 133)										
6. 8. 1. 244	J. H. Wiggins	-	25.01	9	-	20.78	47	21.62	45	42	49
1. 111	Pat Homan	3	21.95	9	+27	21.95	50	22.22	49	49	
2. 111	Ellison Timmins	-	18.67	9	-1.57	16.06	48	18.67	50	48	
3. 221	do.	3	29.47	9	-1.80	26.18	42	29.47	50	41	
9. 112	F. P. Johnson	3	195.32	9	-1.70	93.62	49	195.32	50	49	
15. 444	Estancia Cemetery	3	31.16	9	-30	28.99	43	31.16	50	41	
16. 222	McGee Estate	-	59.90	9	-55	58.66	44	59.90	50	41	
24. 111	Aurileo Brito	-	10.65	9	-	6.22	42	10.78	46	41	49
27. 134	R. M. Spruill	3	21.88	9	-49	19.59	43	21.88	50	42	45
30. 434	J. W. Langley	-	243.67	9	-4.06	25.63	42	40.69	41	41	48
32. 212	O. R. Ethridge	3	26.07	9	-95	23.22	47	26.07	50	47	
34. 311	John Chamberlin	-	(m)			16.11	47	17.68	49	47	50
6. 9. 11. 211	H. E. Means	3, 5	5.80	8	-	-	-	-	-	50	
33. 333	Owner unknown	5	17.17	9	-	-	-	-	-	50	
6. 10. 5. 312	Berkshire Bros.	3, 5	111.35	8	-31	11.04	49	111.35	50	49	
5. 312a	do.	3, 5	11.54	8	-	-	-	-	-	50	
7. 112	Owner unknown	3	6.25	8	-51	5.74	49	6.25	50	49	
8. 112	J. M. Milburn & Son	3, 5	19.04	8	-	-	-	-	-	50	
25. 344	C. A. Blackwell	-	41.94	8	-20	41.74	49	42.38	42	42	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
6.10.27.444	Major Dean	-	20.70	8	-43	20.20	48	20.77	41	41	
7.7.12.444	C. B. Roland	3	44.72	10	-25	41.37	47	46.45	41	41	
7.8.1.231	Myrtle Homan Estate	3	27.47	10	-76	c25.10	47	27.47	50	42	
1.423	Floyd Stump	-	126.61	10	-1.50	23.93	47	126.61	50	41	
3.300	Neal Jensen	-	6.74	10	-1.91	3.27	48	6.74	50	48	
3.300a	do.	-	11.92	10	-1.97	9.95	49	11.92	50	49	
7.121	C. T. Norman	-	77.15	10	+1.12	75.40	48	77.27	49	48	
8.311	do.	3	112.44	10	-1.44	111.00	49	112.44	50	49	
9.431	Knox & Barron	-	54.40	10	-8.03	46.37	49	54.40	50	49	
10.221	Neal Jensen	3	17.86	10	-1.14	15.66	48	17.86	50	42	
10.244	Ted Maxfield	-	18.33	10	+0.7	17.13	47	a22.37	45	42	48
11.132	Neal Jensen	-	9.38	10	-31	7.48	48	9.38	50	48	
12.433	Arthur Schmidt	-	22.88	10	-90	21.65	47	23.53	41	41	
12.433a	do.	3, 5	22.83	10	-87	21.59	48	22.83	50	48	
16.142	J. J. Thomas	-	145.94	10	-13.45	10.92	48	63.53	47	47	
16.422	Jim Ergood	-	45.73	10	-87	43.88	46	45.73	50	41	45
19.424	Bruce Grimes	3	131.62	10	-55	131.07	49	131.62	50	49	
20.240	C. A. Burns	3	88.64	10	-1.08	86.70	48	88.64	50	48	
20.334	Marion Gates	-	112.64	10	-1.47	110.20	48	112.64	50	48	
23.311	O. L. Austin	-	19.85	9	-91	17.80	47	19.85	50	41	
23.324	do.	3	2.24	10	+17	1.74	48	2.45	41	41	
24.431	R. T. Floyd	3	23.08	10	-48	23.34	48	23.08	50	48	
24.433	do.	-	24.65	10	-29	23.68	42	25.20	46	41	
26.141	Mr. Richter	-	10.75	9	-1.36	4.10	47	10.75	50	46	
27.221	F. C. Pace	4	21.26	9	-89	f19.21	47	f21.61	50	41	
33.424	E. C. Hayes Estate	-	53.93	9	-89	52.44	48	53.93	50	41	
34.222	Lilburn Homan	3	22.27	9	-	18.68	48	22.27	50	48	49
7.9.5.211	Owner unknown	-	19.05	10	+31	18.80	48	19.36	49	42	
10.333	Mr. Price	-	14.77	10	+10	14.77	50	15.40	45	42	
30.412	W. L. Davidson	-	11.65	9	-11	11.34	48	11.65	50	48	
8.8.1.434	Bennie Moore	3	31.21	10	-1.08	29.12	48	31.21	50	48	
10.111	W. H. Woodman	-	110.73	7	-1.14	108.05	48	110.73	50	48	
12.212	Lawrence Groff	3	131.34	10	-1.13	30.21	49	131.34	50	49	
13.311	B. M. Maxwell	-	b25.30	10	-1.96	21.87	48	b25.30	50	48	
15.343	Ed. W. Davis	3, 5	97.00	23	-					50	
24.131	Buck & Cunningham	-	c14.50	10	-2.08	10.55	48	c14.50	50	48	
26.222	Owner unknown	3	8.85	10	-90	6.64	47	8.85	50	42	48
29.144	do.	5	121.23	23	-		-		-	50	
34.111	Mr. Sowel	5	79.61	23	-		-		-	50	
35.322	A. C. Hibner	3	54.93	10	-1.98	51.08	48	54.93	50	48	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8. 9. 8. 111	Owner unknown										
29. 111	Mr. Mills	-	23.14	10	-1.41	23.77	42	25.44	49	42	50
29. 111a	do.	-	25.04	10	-3.07	20.89	42	23.14	50	42	
30. 111	G. I. King	-	(m)			20.93	46	25.04	50	44	
9. 8. 2. 112	Valley Irrigation Co.	-	60.31	7	-1.19	20.13	48	20.40	49	48	50
11. 233	Mr. Lubon	3	58.13	7	- .87	b59.12	49	60.31	50	49	
16. 444	Owner unknown	5	c37.12	23	-	57.26	49	58.13	50	49	
24. 330	Valley Irrigation Co.	-	42.42	7	-2.32	40.10	49	42.42	50	48	
26. 433	Everett Shockey	-	46.01	7	- .91	45.10	49	46.01	50	49	
28. 244	Owner unknown	5	78.87	23	-	-	-	-	-	50	
9. 9. 32. 131	G. L. Dean	3	6.67	7	- .17	5.64	47	6.88	41	41	44
32. 131a	do.	3	6.67	7	- .08	5.70	47	6.68	44	44	
10. 7. 23. 212	G. F. Mosley	3	c137.53	7	- .35	137.18	49	c137.53	50	49	
23. 234	Ray Bassett	3	b143.62	7	- .62	143.00	49	b143.62	50	49	
10. 8. 3. 333	Owner unknown	5	167.66	21	-	-	-	-	-	50	
11. 331	Ruben Cavazos	5	120.93	22	-	-	-	-	-	50	
13. 133	Mr. Irby	3, 5	86.75	22	-	-	-	-	-	50	
17. 424	Kenneth Martin	3	135.75	7	- .26	135.49	49	135.75	50	49	
20. 444	Alice M. Martin	5	130.03	21	-	-	-	-	-	50	
25. 311	Floyd Irvin	3	74.06	7	-1.21	72.85	49	74.06	50	49	50
34. 413	Lloyd Smith	-	-	-	-	-	-	-	-	49	
35. 211	Valley Irrigation Co.	-	48.76	7	-1.26	47.50	49	48.76	50	49	
35. 312	do.	3, 5	65.89	7	-	-	-	-	-	50	
35. 331	do.	3	65.12	7	-1.08	c64.04	49	65.12	50	49	
35. 411	do.	3	63.28	7	-1.28	c62.00	49	63.28	50	49	
36. 111	do.	3	b37.51	7	-1.34	34.91	48	b37.51	50	48	
10. 9. 5. 111	Bill King	-	73.55	7	- .66	72.89	49	73.55	50	49	
18. 131	W. E. Dollahan	-	70.96	7	-1.51	69.45	49	70.96	50	49	
21. 431	Everett Shockey	3	27.00	7	-1.07	24.63	47	27.00	50	47	
29. 130	Mr. Terry	3	56.63	7	-1.50	55.13	49	56.63	50	49	

a Pumping.

b Pumped recently.

c Nearby well pumping.

f From recorder graph.

i Possible discrepancy of a few tenths of a foot between present and previous land-surface data.

j Also 1942.

m Measurement discontinued.

Part 3. Water levels during 1950

Location number	4.8. 11.433	4.8. 12.330	4.8. 12.333	4.8. 13.133	4.8. 13.233	4.8. 13.333	4.8. 13.412	4.8. 14.433
Owner	Sleaze	Sleaze	Sleaze	Sleaze	Sleaze	Sleaze	Sleaze	Sleaze
Feb. 8	83.23	67.94	71.24	80.58	71.14	79.78	65.69	93.90
May 19	83.09	67.81	71.21	179.80	71.28	79.75	65.70	93.81
Aug. 2	83.47	68.36	70.53	80.22	71.96	80.39	66.21	94.38
Nov. 2	83.25	68.01	71.12	79.80	71.27	80.08	-	94.24

Location number	4.8. 24.133	4.9. 10.133	5.7. 11.411	5.8. 5.344	5.8. 8.424	5.8. 10.331a	5.8. 12.111	5.8. 15.131a
Owner	Sleaze	Arnn	Brown	Eth- ridge	Austin	Craven	Cham- berlin	Begley
Feb. 8, 9	84.80	17.19	88.44	56.16	65.63	22.93	120.91	20.74
May 18, 19	84.87	17.14	88.64	a96.45	72.45	acj48.19	20.84	c39.24
Aug. 2	85.36	17.25	89.02	60.38	71.99	29.68	13.45	29.62
Nov. 2	85.13	17.22	89.37	61.15	71.86	30.31	-	26.37

Location number	5.8. 17.113	5.8. 17.311a	5.8. 18.233	5.8. 21.111	5.8. 24.311	5.8. 25.212	5.9. 31.331	6.8. 1.111
Owner	Davis	Brown	Hodgson	Ford	Wallace	Arnn	Arnn	Homan
Feb. 8, 9	50.46	33.11	43.80	31.95	22.98	25.99	32.84	21.95
May 18	(a)	37.79	-	33.27	b25.20	25.97	32.85	c23.89
Aug. 2, 9	54.79	36.82	c46.77	35.42	23.99	25.87	32.48	24.74
Nov. 2	54.61	36.69	46.64	36.05	(a)	25.38	32.12	24.27

Location number	6.8. 3.221	6.8. 9.112	6.8. 15.444	6.8. 27.134	6.8. 32.212	6.9. 11.211	6.10. 5.312	6.10. 5.312a
Owner	Timmins	Johnson	Ceme- tery	Spruill	Eth- ridge	Means	Berk- shire Bros.	Berk- shire Bros.
Feb. 8, 9	29.47	195.32	31.16	21.88	26.07	5.80	111.35	11.54
May 18	ac57.59	98.98	30.95	22.19	26.84	10.80	9.75	13.76
Aug. 2, 9	31.40	100.28	30.97	22.33	26.16	7.68	7.81	14.23
Nov. 2, 3	30.75	(a)	30.79	22.70	27.23	7.50	9.46	13.46

Location number	6.10. 7.112	6.10. 8.112	7.7. 12.444	7.8. 1.231	7.8. 8.311	7.8. 10.221	7.8. 12.433a	7.8. 19.422
Owner	Unknown	Milburn & Son	Roland	Homan Estate	Norman	Jenson	Schmidt	Grimes
Feb. 8, 10	6.25	19.04	44.72	27.47	112.44	17.86	22.83	131.62
May 17, 18	b8.77	11.22	45.16	b28.20	113.69	119.19	23.24	131.67
Aug. 1, 9	8.75	(a)	43.91	28.40	114.75	-	24.02	133.54
Nov. 1, 3	8.28	11.05	43.46	26.45	j114.0	-	21.47	130.30

Location number	7.8. 20.240	7.8. 23.324	7.8. 24.431	7.8. 34.222	8.8. 1.434	8.8. 12.212	8.8. 15.343	8.8. 26.222
Owner	Burns	Austin	Floyd	Homan	Moore	Groff	Davis	Unknown
Feb. 9, 10, 23	88.64	2.24	23.08	22.27	31.21	131.34	97.00	8.85
May 17, 19	-	ce3.80	25.29	(a)	ai36.90	-	b97.79	b9.98
Aug. 1, 9	89.26	3.51	25.26	23.14	-	34.10	97.54	9.96
Nov. 1, 9	89.45	3.45	23.22	23.35	-	34.32	98.65	10.55

Location number	8.8. 35.322	9.8. 11.233	9.9. 32.131	9.9. 32.131a	10.7. 23.212	10.7. 23.234	10.8. 13.133	10.8. 17.424
Owner	Hibner	Luhon	Dean	Dean	Mosley	Bassett	Irby	Martin
Feb. 7, 10, 22	54.93	58.13	6.67	6.67	c137.53	b143.62	86.75	135.75
May 16, 17	56.92	b69.68	6.67	6.83	ac146.67	ac157.50	aj137.34	136.09
Aug. 1	57.87	60.21	6.34	6.39	c140.10	(a)	89.70	a138.37
Nov. 1	59.08	60.54	6.52	6.75	139.79	(a)	89.92	136.37

Location. number	10. 8. 25. 311	10. 8. 35. 312	10. 8. 35. 331	10. 8. 35. 411	10. 8. 36. 111	10. 9. 21. 431	10. 9. 29. 130
Owner	Irvin	Irriga- tion Co.	Irriga- tion Co.	Irriga- tion Co.	Irriga- tion Co.	Shockey	Terry
Feb. 7	74.06	65.89	65.12	63.28	b37.51	27.00	56.63
May 16	ad83. 52	ac92. 20	ac90. 55	aj74. 63	bc44. 74	c27. 74	a59. 92
Aug. 1	80. 37	72. 31	71. 54	69. 69	43. 72	27. 75	59. 35
Nov. 1	81. 62	c73. 67	72. 92	a74. 90	(a)	27. 07	57. 88

a Pumping.

b Pumped recently.

c Nearby well being pumped.

d Nearby well pumped recently.

e Dry at depth given.

i Possible discrepancy of a few tenths of a foot between present and previous land-surface data.

j Measurement uncertain.

Part 4. Daily highest water level from recorder graph

7. 8. 27. 221. F. C. Pace.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	21.61	21.31	21.19	21.46	21.89	23.01	22.92	22.67	.....	22.90	22.24	21.86
2	21.58	21.32	21.15	21.50	21.99	23.00	22.89	22.65	.....	22.87	22.23	21.87
3	21.55	21.31	21.15	21.50	22.09	22.98	22.89	22.62	.....	22.84	22.22	21.86
4	21.56	21.30	21.15	21.53	22.21	22.93	22.91	22.59	.....	22.81	22.20	21.84
5	21.56	21.29	21.17	21.55	22.32	22.89	22.93	22.56	.....	22.78	22.18	21.85
6	21.58	21.28	21.13	.....	22.42	22.85	23.01	22.53	.....	22.75	22.17	21.83
7	21.55	21.27	21.19	.....	22.51	22.81	23.08	22.51	.....	22.73	22.15	21.82
8	21.52	21.27	21.19	.....	22.61	22.79	23.11	22.48	h22.77	22.70	22.13	21.83
9	21.50	21.26	21.18	.....	22.69	22.76	23.17	22.45	22.78	22.67	22.14	21.83
10	21.54	21.24	21.18	.....	22.78	22.75	23.24	22.41	22.84	22.65	22.13	21.81
11	.....	21.23	.....	.....	22.84	22.79	23.29	22.39	22.93	22.63	22.11	21.79
12	.....	21.23	.....	.....	22.91	22.89	23.31	22.37	23.03	22.61	22.09	21.78
13	.....	21.25	21.16	.....	22.95	23.01	23.32	.....	23.12	22.59	22.07	21.78
14	.....	21.25	21.13	.....	23.01	23.12	23.30	.....	23.21	22.56	22.05	21.77
15	.....	21.24	21.15	.....	23.06	23.19	23.26	.....	23.28	.....	22.05	21.76
16	.....	21.23	21.17	.....	23.13	23.25	23.22	.....	23.35	.....	22.06	21.76
17	.....	21.22	21.17	.....	23.21	23.29	23.19	.....	23.38	.....	22.02	21.75
18	.....	21.22	21.17	.....	23.29	23.32	.....	.....	23.36	.....	22.01	.....
19	21.42	21.20	21.22	21.34	23.34	23.33	.....	.....	23.33	.....	22.00	.....
20	21.41	21.19	21.23	21.38	23.40	23.30	.....	.....	23.30	h22.44	22.01	.....
21	21.41	21.18	21.29	21.43	23.43	23.25	.....	.....	23.25	22.42	22.00	.....
22	21.39	.....	21.34	21.52	.....	.....	.....	.....	23.22	22.41	21.98	.....
23	21.36	.....	21.41	21.60	.....	.....	.....	22.05	23.18	22.39	21.98	.....
24	21.33	.....	21.49	21.63	.....	.....	.....	.....	23.15	22.37	21.98	.....
25	21.33	.....	21.48	21.65	.....	.....	.....	.....	23.12	22.35	21.97	.....
26	21.39	21.15	21.45	21.65	.....	23.07	.....	.....	23.07	22.33	21.95	.....
27	21.36	21.15	21.43	21.62	23.22	23.03	22.91	.....	23.03	22.32	.....	.....
28	21.32	21.17	21.41	21.64	23.18	23.00	22.86	.....	23.00	22.31	21.93	.....
29	21.32	.....	21.40	21.71	23.13	.....	22.83	.....	22.97	22.29	21.90	.....
30	21.31	.....	21.41	21.81	23.09	22.95	22.80	.....	22.93	22.27	21.89	.....
31	21.31	.....	21.45	.....	23.05	.....	22.79	.....	.....	22.25	.....	.....

h Tape measurement.

Part 5. Miscellaneous Data

4. 8. 11. 433. Slease. Drilled irrigation well, diameter 16 inches, depth 180 feet.

4. 8. 12. 330. Slease. Stock well, diameter 6 inches.

4. 8. 12. 333. Slease. Drilled irrigation well, diameter 16 inches, depth 272 feet.

4. 8. 13. 133. Slease. Drilled irrigation well, diameter 16 inches, depth 225 feet.
May 4, 1949, 79.61; Nov. 2, 80.84.

4. 8. 13. 233. Slease. Drilled irrigation well, diameter 16 inches, depth 216 feet.

4. 8. 13. 333. Slease. Drilled irrigation well, diameter 16 inches, depth 230 feet.
4. 8. 13. 412. Slease. Drilled irrigation well, diameter 16 inches, depth 242 feet.
4. 8. 14. 140. Slease. Drilled irrigation well, diameter 16 inches, depth 200 feet.
4. 8. 14. 433. Slease. Drilled irrigation well, diameter 16 inches, depth 211 feet.
4. 8. 24. 133. Slease. Drilled irrigation well, diameter 20 inches, depth 230 feet.
May 4, 1949, 84.46; Aug. 18, 97.58, pumping; Nov. 2, 84.96.
5. 8. 9. 423. Bowden. Re-equipped with windmill, February 1950.
5. 8. 10. 331a. Craven. Correct Oct. 24, 1948 water-level reading is 22.49.
5. 8. 11. 221b. Chamberlin. 25 feet north of windmill well 5. 8. 11. 221a. Drilled irrigation well, diameter 6 inches.
5. 8. 12. 111. Chamberlin. Small pump on well, casing pulled.
5. 8. 28. 122. Unknown. Stock well, diameter 5 inches.
5. 8. 30. 121a. Unknown. About 125 feet northeast of abandoned observation well
5. 8. 30. 121. Stock well.
5. 9. 29. 111. Unknown. Stock well, diameter 5 inches. Dec. 15, 1949, 22.20.
6. 7. 11. 222. Unknown. Stock well. Dec. 15, 1949, 138.64, pumping.
6. 7. 25. 133. Clark. Formerly 6. 7. 25. 113. Well reworked Feb. 9, 1950, no casing.
6. 9. 11. 211. Means. Drilled irrigation well, diameter 18 inches. May 4, 1949, 5.07;
Aug. 16, 6.55; Nov. 2, 6.94.
6. 9. 33. 333. Unknown. Stock well, diameter 8 inches. Dec. 15, 1949, 17.21.
6. 10. 5. 312. Berkshire Bros. Drilled irrigation well, diameter 16 inches, depth 186 feet. Feb. 16, 1949, 11.04.
6. 10. 5. 312a. Berkshire Bros. 50 feet east of unused well. Drilled irrigation well, diameter 20 inches.
6. 10. 8. 112. Milburn. Drilled irrigation well, diameter 16 inches, depth 169 feet.
Sept. 2, 1948, 7.90; Oct. 26, 11.42; Aug. 16, 1949, 9.44, possible discrepancy of a few tenths of a foot between present and previous land-surface datum; Nov. 2, 1949, 9.02.
7. 8. 12. 433a. Schmidt. Unused well since May 17, 1950. Diameter 12 inches,
Aug. 1950.
8. 8. 15. 343. Davis. Dug stock and domestic well, depth 102 feet.
8. 8. 29. 144. Unknown. Stock well, diameter 6 (?) inches, depth 129 feet.
8. 8. 34. 111. Sowel. Drilled irrigation well, diameter 14 inches, depth 190 (?) feet.
9. 8. 16. 444. Unknown. About 100 feet south of windmill stock well, on east side of wide flat valley. Stock well, diameter 6 inches, depth 70 (?) feet.
9. 8. 28. 244. Unknown. Stock well, diameter 6 inches, depth 100+ feet.
10. 8. 3. 333. Unknown. Stock well, depth 180 feet.
10. 8. 11. 331. Cavasos. Drilled well, diameter 6 inches, depth 142 feet.
10. 8. 13. 133. Irby. Drilled irrigation well, depth 513 feet.
10. 8. 20. 444. Martin. Drilled domestic and stock well, depth 200 feet.
10. 8. 35. 312. Valley Irrigation Co. Drilled irrigation well. May 20, 1948, 65.19;
Oct. 27, 88.5, pumping; Aug. 18, 1949, 69.85; Nov. 4, 85.96, pumping, nearby well pumping.

VALENCIA COUNTY (GRANTS-BLUEWATER AREA)

Part 1. General Discussion

The Grants-Bluewater area is near Grants and Bluewater on Highway 66, about 80 miles west of Albuquerque. The area of irrigated lands is under the Bluewater-Toltec Irrigation District for distribution of surface water from Bluewater Lake. Because surface water is generally deficient, irrigation wells have been drilled by individual farmers for supplemental water. Water levels were measured in 39 wells in February 1950 and in 31 wells every 2 months thereafter. The recording gage on well 12. 11. 9. 222 was maintained in 1950. A total of 183 measurements of water levels was made during the year. Comparison of the measurements of water levels made in February with those made in another year show the net change in ground-water storage while the measurements made every 2 months show the seasonal fluctuations resulting from pumping and recharge. Recharge to ground water in the Grants-Bluewater area is primarily from the surface water supply that leaks from Bluewater Reservoir, from the lower end of Bluewater Canyon, from the canals, and by return of irrigation water applied to the lands. Recharge is also, to some extent, from precipitation directly upon the outcrop of the aquifer in the Zuni Mountains and upon the alluvium and lava in the valley.

Precipitation in 1950 was deficient, amounting to about 6.6 inches at Bluewater, 3.7 inches below normal, and 6.2 inches at Grants. Precipitation during the growing season was slightly above normal only in July. Pumpage in 1950 increased, in part, as a result of the deficient precipitation and, in part, from an increase in acreage irrigated. On the basis of electric power records for 14 of the 22 used irrigation wells and estimates for the other 8 wells, the pumpage of ground water for irrigation in 1950 is believed to have been 11,800 acre-feet, an increase from the 6,900 acre-feet, 9,300 acre-feet, and 10,300 acre-feet estimated as pumped in 1949, 1948, and 1947, respectively. Surface water was not available for diversion in 1950 as it was in 1948 and 1949. Because of the lack of surface water, pumping in the upper part of the area, where most of the surface water has of late years been used, was about 950 acre-feet in 1950 as compared with 150 acre-feet in 1949. Because of the increase in pumpage and reduction in recharge the water levels showed comparatively large net declines for the year. The average net change in water levels from February 1950 to February 1951, in 14 wells which have been measured each February since 1946, was a decline of 5.55 feet as compared with rises of 1.41 feet and 0.17 feet in 1949 and 1948 and declines of 3.91 and 5.88 feet in 1947 and 1946, respectively. Thus the water levels as represented by these 14 wells have shown a net decline from 1946 through 1950 of 13.8 feet, an average decline of 2.8 feet per year.

The greatest observed net lowering of water level for the year was 14.3 feet and occurred in well 12. 11. 9. 114a in the upper end of the irrigated area. Other wells in this area also showed large declines. Part of the large declines in the upper area are the result of deficient recharge in 1950. Water levels rose during 1948 and 1949 when surface water was released from the reservoir. In the lower part of the irrigated area, water levels in general showed a net decline for the year of from 3.5 to 4.0 feet. This decline is greater than in any previous year and compares with declines of 3 feet in 1947 and 1 foot in 1948. As pumping of ground water is a new discharge imposed upon a previously more or less stable ground-water system, over-all declines in water level in this area are expected to continue as long as pumping continues, until the effect of pumping reaches the area of and diverts if possible an equal amount of the ground water that discharges from the swampy area south of Grants near San Rafael. In years when water is available in Bluewater Reservoir to supply surface water to the area, the ground water will be replenished to some extent and if pumping is reduced during the years that surface supplies are available the over-all yearly declines in water level in the future should be somewhat less than in 1950. However, if development continues, additional large declines are to be expected.

Part 2. Water levels in Valencia County

Location number (1)	Owner (2)	See part (3)	Feb. 1950		Change 1949-50		Highest		Lowest		Record	
			Level (4)	Day (5)	(6)		Level (7)	Year (8)	Level (9)	Year (10)	Be-gan (11)	Years missing (12)
9. 10. 10. 432	Fred Mirabal		(m)				84.04	48	84.42	49	48	
10. 9. 26. 224	Robert Gottlieb	3	88.92	7	+0.04		88.75	48	8.95	49	47	
10. 10. 10. 200	Joe Padilla	3	10.90	7	- .62		9.83	47	10.90	50	47	
11. 10. 4. 111	M. C. Read	3	72.73	7	+ .89		69.25	47	73.62	49	47	
4. 211	J. C. Church	3	67.79	7	+ .09		57.37	46	67.88	49	46	
4. 222	E. E. Harden	3	65.92	7	- .75		60.85	47	65.92	50	47	
5. 214	V. M. Vidal	3, 5	72.18	7	+1.52		68.99	47	73.70	49	47	
8. 111	Salvador Milan	3	77.40	7	+1.06		73.75	47	78.46	49	47	
8. 122	do.	-	62.74	7	+1.04		62.74	50	63.78	49	49	
8. 222	do.	3	66.55	7	+1.05		57.85	46	67.60	49	46	
8. 344	do.	-	56.69	8	+ .87		53.02	47	57.56	49	47	
9. 222	A. R. Card	3	62.88	7	+ .84		54.49	46	63.72	49	46	
9. 242	do.	3	60.84	7	+ .82		52.24	46	61.66	49	46	
16. 121	Frank Wilson	3	54.98	7	+ .90		46.47	46	55.88	49	46	
16. 142	do.	-	53.44	7	+ .81		45.50	46	54.25	49	46	
17. 222	Salvador Milan	-	51.37	8	+ .60		47.84	47	51.97	49	47	48
26. 411	City of Grants, well 3	3	9.32	8	+ .45		7.95	47	89.77	49	47	48
27. 410	Cecil Moore	3	37.17	7	+ .33		35.59	47	37.50	49	47	
34. 400	Owner unknown	3	14.60	7	+ .22		14.41	48	14.82	49	48	
12. 10. 23. 233	Green & Wilcox	3	123.50	7	+ .91		115.59	46	124.41	49	46	
29. 434	A. R. Card	3, 5	76.72	8	+ .83		69.23	46	77.55	49	46	
30. 111	E. E. Harden	-	111.45	8	+1.21		107.96	47	112.66	49	47	
30. 242	do.	3	94.64	8	+1.22		89.93	47	95.86	49	47	
30. 332	J. C. Church	3	(m)				106.54	47	111.29	49	47	48, 50
30. 412	Fred Freas	3	99.14	8	+1.13		90.04	46	100.27	49	46	
30. 421	Milton Harding	3	97.47	8	+1.14		88.38	46	98.61	49	46	
32. 111	J. C. Church	3	90.81	8	+1.12		82.09	46	91.93	49	46	
12. 11. 5. 413	J. C. Church	3	186.80	8	+5.19		186.80	50	191.99	49	49	
9. 114a	do.	3	132.06	8	+4.08		132.06	50	136.14	49	49	
9. 222	do.	4	123.52	8	+5.00		115.70	46	136.51	48	46	
9. 424	George Rowley	3	99.01	8	+2.96		99.01	50	105.00	48	47	
11. 343	Tietzen and Hassell		(m)				123.46	49	123.64	48	48	50
14. 213	Dyan Berryhill	3, 5	98.26	8	-		-	-	-	-	50	
15. 341	Edward Freas	3	102.34	8	+4.95		102.34	50	113.79	48	47	
16. 223	E. E. Harden	3	119.87	8	+4.97		119.87	50	131.49	48	47	
20. 424	J. F. Nielson	3	240.54	8	+3.29		240.54	50	250.56	48	47	
22. 414	Mr. Hassell	3	119.12	8	+3.83		110.59	46	129.07	48	46	

Part 2--Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12. 11. 23. 233	Harmon and Read	3	68.80	8	+0.18	68.80	50	70.75	48	47	
25. 223	J. C. Church	3	109.35	8	+1.22	100.18	46	110.57	49	46	
25. 223a	do.	3	110.69	8	+.95	106.82	47	111.64	49	47	
25. 311	Harmon and Read	-	127.25	8	+1.27	124.50	47	128.52	49	47	
27. 222	Harold Prewitt	-	b152.21	8	+2.55	b152.21	50	156.12	48	48	

a Pumping.

j Measurement uncertain.

b Pumped recently.

k Also 1947.

d Nearby well pumped recently.

m Measurement discontinued.

f From recorder graph.

Part 3. Water levels during 1950

Location number	10. 9. 26. 224	10. 10. 10. 200	11. 10. 4. 111	11. 10. 4. 211	11. 10. 4. 222	11. 10. 5. 214	11. 10. 8. 111	11. 10. 8. 222
Owner	Gottlieb	Padilla	Read	Church	Harden	Vidal	Milan	Milan
Feb. 7	b8. 92	10. 90	72. 73	67. 79	65. 92	72. 18	77. 40	66. 55
Apr. 18	a8. 85	11. 12	74. 28	69. 51	66. 05	75. 23	a93. 07	a71. 43
June 26, 27	8. 23	12. 18	c81. 33	a85. 44	c66. 97	89. 19	a96. 83	a83. 75
Aug. 23, 24	a8. 46	13. 31	84. 70	a85. 83	67. 56	a87. 62	90. 96	79. 54
Oct. 16	b8. 65	13. 23	84. 69	77. 14	67. 50	82. 52	b87. 17	a78. 37
Dec. 12, 13	8. 73	11. 89	77. 82	73. 39	67. 72	78. 40	83. 17	72. 09

Location number	11. 10. 9. 222	11. 10. 9. 242	11. 10. 16. 121	11. 10. 26. 411	11. 10. 27. 410	11. 10. 34. 400	12. 10. 23. 233	12. 10. 29. 434
Owner	Card	Card	Wilson	City of Grants	Moore	Unknown	Green & Wilcox	Card
Feb. 7, 8	62. 88	60. 84	54. 98	9. 32	37. 17	14. 60	123. 50	76. 72
Apr. 18	(a)	62. 48	a74. 36	8. 85	37. 44	14. 91	125. 84	d80. 45
June 26, 27	aj74. 85	c74. 08	a82. 96	17. 60	40. 14	e16. 7	136. 35	c98. 14
Aug. 23, 24	b74. 77	d73. 22	a84. 05	18. 09	40. 84	dry	135. 52	c98. 12
Oct. 16, 17	71. 50	69. 29	63. 20	15. 02	40. 38	-	a156. 75	85. 93
Dec. 12	67. 69	66. 07	60. 08	11. 90	39. 26	16. 20	128. 34	83. 98

Location number	12. 10. 30. 242	12. 10. 30. 412	12. 10. 30. 421	12. 10. 32. 111	12. 11. 5. 413	12. 11. 9. 114a	12. 11. 9. 424	12. 11. 14. 213
Owner	Harden	Freas	Harding	Church	Church	Church	Rowley	Berry-hill
Feb. 8	94. 64	99. 14	97. 47	90. 81	186. 80	132. 06	99. 01	98. 26
Apr. 18, 19	95. 84	102. 55	100. 87	a96. 04	187. 74	(a)	99. 50	98. 46
June 27, 28	b102. 62	ac110. 62	ac122. 11	a107. 75	202. 24	146. 37	103. 66	98. 76
Aug. 24	102. 51	a106. 13	a116. 66	a108. 39	202. 71	147. 45	105. 08	99. 13
Oct. 16, 17	100. 81	110. 77	c107. 82	101. 01	203. 38	148. 65	106. 23	99. 30
Dec. 12, 13	-	105. 09	103. 41	96. 76	201. 60	146. 38	106. 26	99. 53

Location number	12. 11. 15. 341	12. 11. 16. 223	12. 11. 20. 424	12. 11. 22. 414	12. 11. 23. 233	12. 11. 25. 223	12. 11. 25. 223a
Owner	Freas	Harden	Nielson	Hassell	Harmon & Read	Church	Church
Feb. 8	102. 34	119. 87	240. 54	119. 12	68. 80	109. 35	110. 69
Apr. 19	103. 92	121. 45	248. 80	120. 35	69. 35	c114. 44	(a)
June 27, 28	a161. 68	j148. 49	j267. 99	135. 67	(a)	(ac)	aj133. 53
Aug. 24	a159. 02	-	253. 08	135. 39	a69. 85	(a)	c127. 42
Oct. 17	ak167.	-	254. 55	134. 74	69. 76	120. 08	121. 21
Dec. 12, 13	116. 10	j133. 78	252. 64	132. 88	70. 12	115. 70	116. 83

- a Pumping.
b Pumped recently.
c Nearby well being pumped.
d Nearby well pumped recently.
e Dry at depth given.
j Measurement uncertain.
k Air gage reading.

Part 4. Daily highest water level from recorder graph

12. 11. 9. 222. J. C. Church.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	122. 93	123. 33	124. 00	124. 78	125. 97	134. 16	140. 65	.....	140. 72	.....	139. 19	138. 10
2	122. 70	123. 43	124. 01	124. 68	126. 44	134. 07	140. 70	.....	140. 86	.....	139. 38	138. 12
3	122. 62	123. 49	124. 00	124. 64	126. 94	134. 14	140. 88	.....	141. 37	.....	139. 48	138. 20
4	122. 70	123. 52	123. 93	124. 68	127. 38	.....	141. 01	.....	141. 64	.....	139. 32	138. 08
5	122. 77	123. 49	123. 93	124. 86	127. 86	.....	141. 08	.....	141. 86	.....	139. 23	138. 10
6	122. 98	123. 48	123. 82	124. 85	128. 26	.....	141. 25	.....	142. 31	.....	139. 22	138. 08
7	123. 02	123. 43	123. 91	124. 85	128. 54	.....	141. 31	.....	142. 61	.....	139. 10	138. 04
8	122. 88	123. 46	124. 09	124. 82	128. 62	.....	141. 25	.....	142. 91	.....	139. 02	138. 07
9	122. 86	123. 51	124. 18	124. 70	129. 01	.....	140. 72	.....	143. 05	.....	139. 02	138. 19
10	123. 02	123. 40	124. 33	124. 78	129. 39	.....	140. 41	.....	143. 00	.....	139. 04	138. 10

12. 11. 9. 222--Continued.

Daily highest water level from recorder graph

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
11	122.99	123.29	124.36	124.92	129.68	.....	140.09	.....	142.50	.....	139.01	138.04
12	122.90	123.30	124.47	125.02	129.89	.....	140.01	.....	142.18	.....	138.99	138.00
13	122.92	123.48	124.58	125.02	130.09	.....	140.04	.....	142.11	.....	138.84	137.95
14	122.95	123.59	124.70	125.03	130.32	.....	140.19	.....	142.16	.....	138.83	137.96
15	122.99	123.69	124.82	125.06	130.41	.....	140.34	.....	142.18	.....	138.84	137.96
16	123.16	123.69	124.96	125.01	130.72	.....	140.44	.....	.....	.....	138.84	137.97
17	123.20	123.70	124.80	124.96	131.07	.....	140.67	.....	.....	139.80	138.74	137.94
18	123.19	123.79	124.72	125.00	131.31	.....	140.76	.....	.....	139.76	138.62	137.92
19	123.26	123.80	124.71	125.19	131.54	.....	140.76	.....	.....	139.72	138.60	137.84
20	123.35	123.71	124.69	125.26	131.71	.....	140.85	.....	.....	139.63	138.70	137.87
21	123.35	123.67	124.72	125.32	132.04	.....	141.06	.....	.....	139.59	138.64	137.85
22	123.24	123.74	124.69	125.38	132.14	.....	141.22	.....	.....	139.55	138.61	137.81
23	123.01	123.75	124.68	125.41	132.36	.....	141.35	.....	.....	139.52	138.60	137.82
24	122.94	123.84	124.65	125.45	132.62	.....	.....	140.04	.....	139.49	138.60	137.80
25	122.95	123.91	124.42	125.58	132.77	.....	.....	139.91	.....	139.42	138.57	137.68
26	123.28	123.89	124.43	125.63	132.93	.....	.....	139.88	.....	139.40	138.54	137.68
27	123.29	123.89	124.47	125.64	133.15	.....	.....	139.93	.....	139.32	138.46	137.66
28	123.20	123.91	124.57	125.62	133.35	140.28	.....	139.92	.....	139.33	138.43	137.61
29	123.21	.....	124.76	125.70	133.48	140.36	.....	139.99	.....	139.30	138.34	137.61
30	123.21	.....	124.83	125.83	133.75	140.48	.....	140.07	.....	139.23	138.25	137.52
31	123.26	.....	124.82	.....	133.97	.....	.....	140.31	.....	139.15	.....	137.39

Part 5. Miscellaneous Data

11. 10. 5. 214. Vidal. Well deepened Aug. 23, 1950 to a reported depth of 141 feet.

12. 10. 29. 434. Card. Pump moved to new well 50 feet west.

12. 11. 14. 213. Berryhill. Corps of Engineers core hole No. 1. Diameter 3 inches, depth 115. June 13, 1949, 98.8; Aug. 19, 98.6.



