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WATER LEVELS AND ARTESIAN PRESSURE IN OBSERVATION WELLS IN THE UNITED STATES IN 1942

PART 2. SOUTHEASTERN STATES

BY

O. E. MEINZER, L. K. WENZEL

and others

Prepared in cooperation with the States of
ALABAMA, FLORIDA, GEORGIA, MARYLAND, MISSISSIPPI
NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE
VIRGINIA, and WEST VIRGINIA
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WATER LEVELS AND ARTESIAN PRESSURE IN OBSERVATION WELLS IN THE UNITED STATES

Part 2. SOUTHEASTERN STATES

INTRODUCTION

By O. E. Meinzer and L. K. Wenzel

The rock formations of the earth are great natural underground reservoirs in which a part of the water derived from rain and snow is stored to supply wells and springs and to maintain the flow of streams during periods of fair weather. Water levels in wells register the stages of these natural reservoirs; they show the extent to which water supplies are depleted by drought or by heavy pumping for public waterworks, irrigation, or industrial uses and the extent to which they are replenished in seasons of abundant rainfall or melting snow. The changes in pressure recorded on flowing wells indicate depletion or replenishment of the artesian reservoirs.

The regular publication of records of water level and artesian pressure in the United States was begun by the Geological Survey in 1935 and has continued yearly since. The records for the entire country were published in a single volume each year through 1939. Beginning with 1940 the 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. (See fig. 1). The following table gives the numbers of these reports. This series of water-supply papers is in a sense an inventory, year by year, of the ground-water supplies of such parts of the country as have been covered.

Water-supply papers on water levels and artesian pressure in observation wells in the United States

Year	North-eastern States	South-eastern States	North-central States	South-central States	North western States	South-western States and Hawaii
1935	777	777	777	777	777	777
1936	817	817	817	817	817	817
1937	840	840	840	840	840	840
1938	845	845	845	845	845	845
1939	886	886	886	886	886	886
1940	906	907	908	909	910	911
1941	936	937	938	939	940	941
1942	944	945	946	947	948	949

The present volume covers the southeastern States and gives records of water level and artesian pressure in about 508 observation wells of the Geological Survey and cooperating agencies in Alabama, Florida, Georgia, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. Of these wells, 63 are equipped with automatic water-stage recorders. For some wells not previously reported complete records of water level are given in this volume, including those for the years before 1942. For wells whose previous records have been published, this volume gives only the current records. If a complete description of a well has been published in a previous report, only the well number or the well number and a brief identifying description are given in this report. The numbers in parentheses immediately following a well number are those of the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in the paper whose number is so marked. This report includes 16,630 individual determinations of water level and artesian pressure.

The water levels in this report are given with reference to datum planes of different kinds. Some are given in depths below the measuring point, which is a recognized reference mark at or near the top of the well from which the depth to water level is usually measured; others are given in height above an assumed datum plane; and still others are given in feet below the land-surface datum, which is a precise plane that approximates the land surface in the vicinity of the well.

Acknowledgments for effective services in the preparation of this report are due Misses Dorothy M. Ireland and Thelma Walls, who typed the offset copy, and to Mrs. Bertha Dale who prepared the illustrations.

Network of key observation wells

During 1942 the Geological Survey established a network of key observation wells in order to make available current information on general ground-water conditions over the country. These wells were selected because the fluctuations of water level in them are believed to be typical,

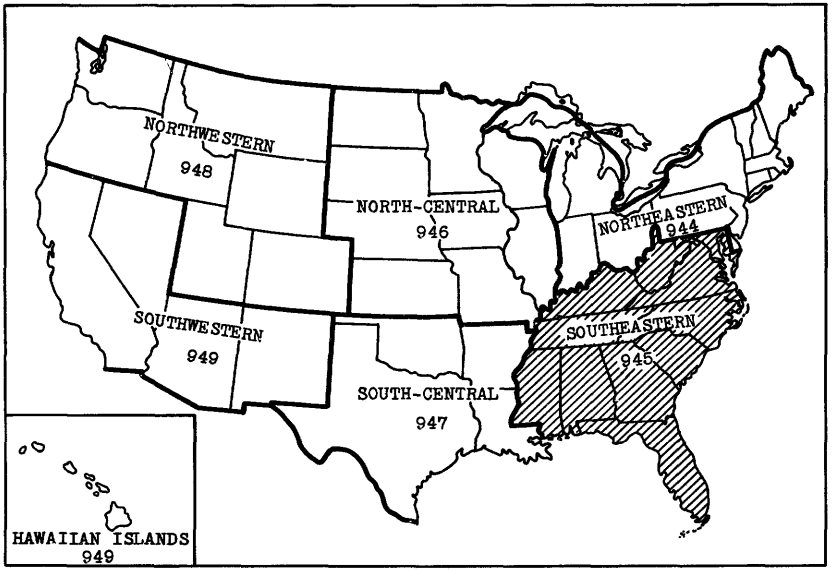

Figure 1.--Outline map of the United States showing sections of the country covered by the six water-supply papers on water levels and artesian pressure in observation wells in 1942. The shaded section represents the part of the country covered by this volume.

and they represent the general fluctuations that occur in the parts of the country in which the wells are situated. At the end of 1942 the network included about 130 wells in 40 States. About 40 of the wells were established expressly for the network in 1942; the other 90 were selected from wells measured regularly in connection with cooperative ground-water investigations. The coverage of the country is still far from adequate, and it is expected that some wells not now included will be added to the network from time to time.

GENERAL SUMMARY OF CHANGES IN GROUND-WATER LEVEL IN 1942 IN THE SOUTHEASTERN PART OF THE UNITED STATES

In 1942 the precipitation in 7 of the 10 States in the southeastern section of the country was above normal. (Alabama, Mississippi, and South Carolina were the exceptions.) As a result, the water levels in many wells of the section were maintained at comparatively high stages. The fluctuations of both water level and artesian pressure in wells depend, however, on many factors besides the amount of precipitation. Consequently, it is usually not possible to find a simple relation between the changes in water level or artesian pressure and the departure from normal precipitation.

The following statements are taken chiefly from the interpretive texts that appear in this volume under the several States. They summarize the changes in ground-water level and artesian pressure that occurred in 1942 in the parts of the underground reservoirs that are tapped by observation wells in the southeastern States.

Florida.--The precipitation at Pensacola, Escambia County, in 1942 was 61.85 inches, which is 15.30 inches above normal. Water levels in wells not affected by pumping were generally higher in 1942 than in 1941.

In northeastern Florida no perceptible change in water level has been noted since the beginning of 1940.

Ground-water levels in the Miami area were about 1 foot lower at the beginning of 1942 than at the beginning of 1941. They declined more or less steadily until the middle of April when, in some wells, they had reached their lowest stages since May 1940. After heavy rains, during the period April 16-18, however, the water levels rose, during the last half of the month, to stages that were generally 0.5 foot higher than during the corresponding period in 1941, and in places, more than 3 feet higher. They remained high through May and June, but in the early part of July they began to decline, and during the period July 16 to September 30 they maintained stages about equal to their stages during the corresponding period in 1941. Rains near the middle of December again arrested the downward trend, and by the end of 1942 the stages reached by the water levels in most wells were about equal to or not more than 0.1 foot lower than their stages at the end of 1941. In areas bordering The Everglades, however, the water levels in some wells were as much as 2 feet lower at the end of 1942 than at the end of 1941.

Georgia.--During the first part of 1942 artesian water levels rose in wells ending in the Ocala limestone in all counties south of Bryan County, presumably as the result of recharge from precipitation on the intake area. In spite of this, however, the average of the artesian water levels in all wells tapping this limestone continued to decline, but the net decline was less at the end of the year than at the end of either 1940 or 1941. In wells in the eastern part of Bryan and Liberty Counties the average level was about 0.5 foot lower at the end of 1942 than at the end of 1941, and in Savannah and the industrial area to the northwest it was about 1.5 feet lower.

Maryland.--In 1942 the water level in a well in Montgomery County that has been observed periodically since 1932 fluctuated about normally during the period March to December but was below normal during January and February. It was 2.77 feet higher at the end of 1942 than at the end of 1941.

Mississippi.--The precipitation in Mississippi was 0.9 inch below normal in 1942. The water level in the municipal well at Hattiesburg reached, during the week ending August 8, the lowest stage that has been recorded in this well during the 3-year period of its record, but at the end of the year the level was rising. There was a net decline of the water level in 1942, which was undoubtedly due to the unusually dry autumn and the large withdrawals at Hattiesburg and Camp Shelby.

In the Mississippi alluvial plain, the water level in 1 well was higher than in 1941, in 8 wells the levels were noticeably lower, and in the remaining 15 wells they were either substantially the same as during 1941 or else their trend was not noticeable.

North Carolina.--The water levels in the observation wells in North Carolina continued to decline in 1942 owing to the deficiency of rainfall that began in 1941 and continued into the first part of 1942. All-time low levels were recorded for 18 of the 29 wells for which previous records are available.

Virginia.--The precipitation in northern Virginia during 1942 was nearly 10 inches above normal, which contrasts sharply with a deficiency of about 13 inches in 1941. Most of the excess in 1942 occurred in March, June, August, and October. The water levels in most of the wells in 1942

were at low stages at the beginning of the year, but by the end of the year they were much higher, owing to heavy rains in August and October. In a typical well near Petersburg, Chesterfield County, there was a net rise in water level of 2.62 feet.

ALABAMA

By C. W. Carlston

INTRODUCTION

The program of observation wells, which was started in 1940 as part of cooperative ground-water investigations in the Coastal Plain of Alabama by the Geological Survey, United States Department of the Interior, and the Geological Survey of Alabama, was continued throughout 1942.

Necessity for curtailment of use of automotive equipment caused measurements to be discontinued on 3 observation wells at the end of 1941 (wells 13, Greene County; 60, Tuscaloosa County, and 1, Dallas County) and measurements were changed from weekly to monthly on a fourth observation well (well 6, Greene County). As a result, the 1942 observation-well program in Alabama included only 2 wells; one of these was equipped with a continuous water-level recorder, the other was measured at the end of each month.

In January, rainfall in Alabama was considerably less than normal; in February, the rainfall was only a little below normal, and in March, for the middle division of Alabama, it was well above normal. On March 27, the water level in the Clanton observation well rose to 17.25 feet below the measuring point, or 0.55 foot higher than the highest measurement recorded during 1941, which was 17.8 feet on March 26 of that year. Decline of the water level in this well during April, May, and early June was halted by heavy rains during the period June 10-19, and on June 22 the water level rose to 18.52 feet below the measuring point. During late June and all of July it again declined but slowly recovered and rose to a peak of 19.95 feet on August 23. During September and October there was another decline, which resulted in the lowest water level for the year on October 24, when it was 21.17 feet below the measuring point. This was 0.9 foot higher than the lowest water level of the year 1941. In the western part of the State, the water level in the well at Eutaw, Greene County observation well 6, was 26.60 feet below the measuring point at the end of October, or 2.19 feet lower than at the end of October 1941; at the end of December 1942 the water level in this well stood at 22.41 feet, or 0.53 foot lower than at the end of 1941. At the end of December 1942 the water level in the Clanton

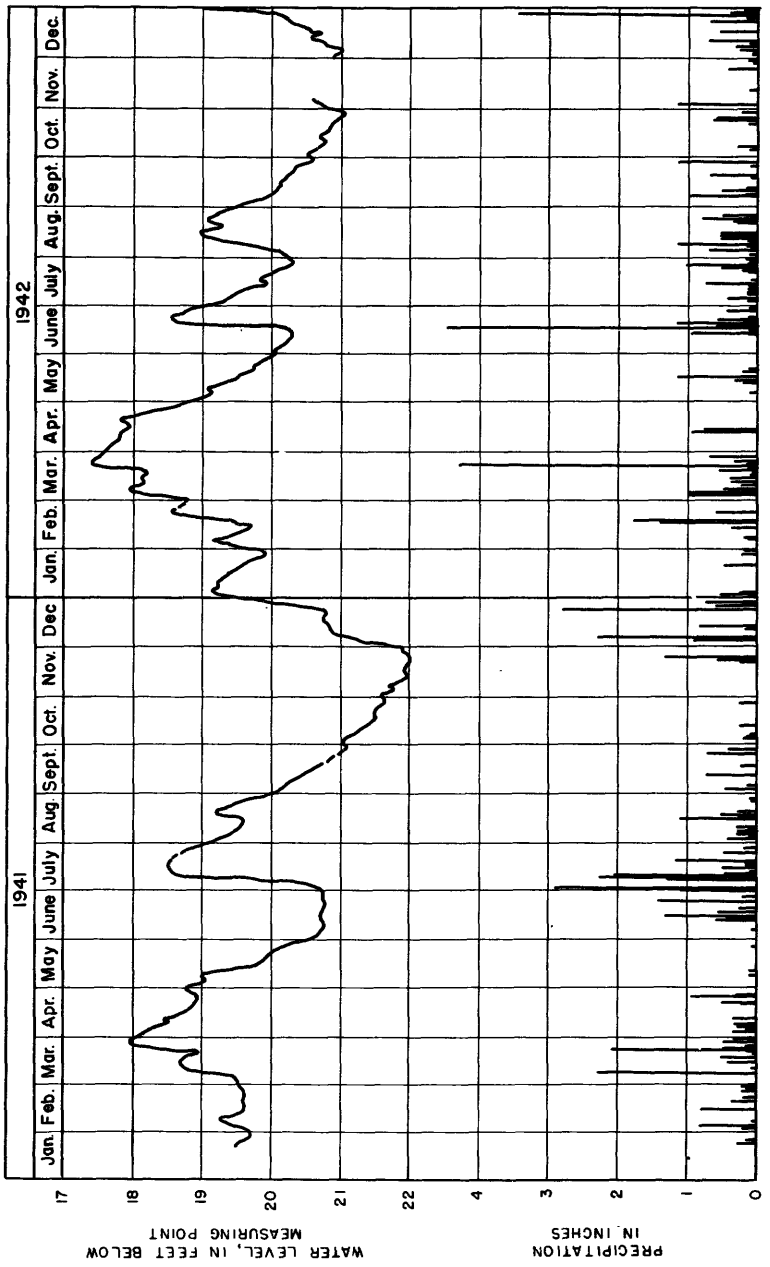

Figure 2.--Lowest daily water level in Chilton County well 10, at Clanton, Ala., and rainfall at Clanton, 1941-42.

observation well (Chilton County well 10) stood at 18.8 feet below the measuring point, or 0.4 foot higher than at the end of 1941.

WATER-LEVEL MEASUREMENTS

Chilton County

10 (*937, p. 7). City of Clanton. In brick house behind settling tanks in waterworks lot on north side of Clanton.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	19.40	Apr. 6	17.33	July 6	19.50	Sept.28	20.58
12	19.35	13	17.85	13	19.56	Oct. 5	20.48
19	19.44	20	18.18	20	20.13	12	20.72
26	19.66	27	18.56	27	19.27	19	20.92
Feb. 2	19.67	May 4	19.01	Aug. 3	19.74	26	21.06
9	19.50	11	19.39	10	19.11	Nov. 2	20.75
16	19.07	18	19.56	17	19.15	9	20.53
23	18.29	25	19.79	24	19.07	Dec. 3	20.80
Mar. 2	18.20	June 1	20.00	31	19.52	10	20.62
9	18.19	8	20.25	Sept. 7	19.90	17	20.42
16	18.12	15	19.34	14	20.10	24	20.20
23	17.45	22	18.60	21	20.19	31	19.05
30	17.55	29	19.20				

Dallas County

1 (*937, p. 7). Selma Waterworks. Behind north end of pump building on water works property, at Selma. Measurements discontinued.

Greene County

6 (*937, p. 8). Cotton Patch Restaurant. At Eutaw. Unused dug well in front of restaurant.

Water level, in feet below measuring point, 1942

Jan. 31	19.52	Apr. 30	18.10	July 31	23.63	Oct. 31	26.60
Feb. 28	19.13	May 31	18.68	Aug. 31	25.08	Nov. 30	26.34
Mar. 31	18.06	June 30	18.50	Sept.30	25.87	Dec. 31	22.41

13 (*907, p. 6; 937, p. 8). W. F. Bell. At Boligee. This is the old mill-house well. Measurements discontinued.

Montgomery County

34 (*907, p. 6; 937, p. 8). City of Montgomery. Measurements discontinued.

Tuscaloosa County

60 (*907, p. 6; 937, p. 8). T. D. Stewart. At Ralph. Measurements discontinued.

FLORIDA

Two well-measurement programs in which the Geological Survey, United States Department of the Interior, has participated have been in progress in Florida for several years, both in connection with general investigations of ground-water conditions in the parts of the State under study. Under one program, certain wells in the northeastern, western, and central parts of the State are measured; under the other program, wells in the southeastern part of the State are measured. The two programs are discussed separately in this report.

NORTHEASTERN, WESTERN, AND CENTRAL FLORIDA

By H. H. Cooper, Jr.

PROGRAM OF WORK

The observation-well program in northeastern, western, and central Florida was continued in 1942 by the Federal Geological Survey in cooperation with the Florida Geological Survey, Herman Gunter, Director. The water level in each of 132 wells was measured in 1942--once in some wells and oftener in many--a total of about 675 measurements being made during the year. Automatic water-stage recorders were maintained on six wells-four in Escambia County and two in Sarasota County. Records from four recording-pressure gages in Duval County were obtained through the courtesy of the cities of Jacksonville and Neptune Beach through 1941, but use of the gages was discontinued in January 1942 because of the gasoline and manpower shortage. At the end of the year 48 wells were included in the observation-well program. Records of 44 wells are given in this report.

FLUCTUATIONS OF WATER LEVEL AND ARTESIAN PRESSURE

During 1942 the precipitation at four rain-gaging stations in western Florida was about 17 inches more than it was in 1941. At Pensacola it was 61.85 inches in 1942, or 15.30 inches above normal, whereas in 1941 it was only 50.86 inches. In Escambia County, water levels in wells not affected by the pumping of other wells stood generally higher in 1942 than in 1941.

The water level in well 62 is influenced by the pumpage of about 9 million gallons a day at a large industrial plant at Pensacola, and that in well 46 is influenced by the pumpage of several million gallons a day at a pulp mill near Cantonment. No progressive decline in water level is detectable in either of these wells during their periods of record.

Only a few measurements of water level were made in northeastern Florida in 1942, so that no correlations of water level with rainfall can be made. The measurements made indicate that pressures in artesian wells were not generally either higher or lower than in 1941. As the withdrawal of artesian water from the limestone formations in northeastern Florida has increased, water levels have gradually declined. However, no progressive decline since the beginning of 1940 is detectable.

Periodic measurements of the artesian pressure in Marion County well 5 (Sharpes Ferry well) were continued during 1942 by the Federal Geological Survey's district office at Ocala. During the first 11 months of the year the pressure in this well was higher than it was at any time during 1941, although the total precipitation at the Ocala airport was 55.35 inches in 1942 as compared with 57.21 inches in 1941. During the 3-month period October to December 1942, the cumulative precipitation was only 3.66 inches and the pressure in well 5 declined steadily throughout this period.

Records from water-stage recorders on wells 5 and 9 in Sarasota County are being obtained through the courtesy of J. G. Kimmel, representing the Palmer Corporation, at Sarasota. A recorder was maintained on well 9 from September 27, 1930, to April 7, 1937, and records for this period will be published in a later report. No recorder was in operation on well 9 during the period April 8, 1937, to November 14, 1941, but Mr. Kimmel made measurements of its water level during that period. A recorder was reinstalled on this well November 15, 1941, and on the same day a recorder was installed for the first time on well 5.

The water level in well 9 is affected considerably by the pumping of other wells in the immediate vicinity, the withdrawn water being used principally for irrigating truck crops and washing the produce for shipment. The water level in well 5 is also affected by withdrawal from other wells, but to a lesser extent, because this well is 3 miles or more from any area of heavy pumpage

Hydrographs for well 9 show that after some periods of rain the water level has risen markedly, but that after other such periods no detectable rise has occurred. Generally, withdrawals from wells decrease after rains that are appreciable in amount, and probably a decrease in withdrawal is the principal cause of rise in water level after rains.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Observation wells in northeastern, western, and central Florida are listed alphabetically by counties and numerically within each county. Complete descriptions are given for newly added wells. The numbers in parentheses immediately following a well number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in the paper whose number is so marked. The water level in each well is expressed in feet and referred to land-surface datum, which is a precise plane of reference that coincides with the average level of the land surface at each well. In the descriptive text preceding the water levels given for each well, the position of that reference plane is defined with reference to the current measuring point at the well and to mean sea level.

Clay County

1 (*907, p. 13; 937, p. 12). Girl Scouts of America. At Camp Chowenaw, about 1,000 feet south of SE. corner of sec. 20, T. 5 S., R. 26E., about 2,200 feet west of south end of bridge across Black Creek on U. S. Highway 17, 3.5 miles northwest of Green Cove Springs. Measuring point, top of 6-inch tee, 1.10 feet above land surface datum. Land-surface datum is 11.74 feet above mean sea level. Record begins in 1934. Water level, in feet above land-surface datum, 1942: Aug. 13, 42.8.

2 (*907, p. 13; 937, p. 12). Mrs. M. A. Chaulker. At Middleburg, in NW¼NW¼ sec. 13, T. 5 S., R. 24 E., at residence of owner, about 500 feet north of South Fork of Black Creek. Measuring point, lip of 3/4-inch faucet 4 feet east of well, 2.00 feet above land-surface datum. Land-surface datum is 27.72 feet above mean sea level. Record begins in 1934. Water level, in feet above land-surface datum, 1942: Feb. 18, 39.5.

4 (*907, p. 14; 937, p. 12). T. J. Jennings. Near north line of SW¼SW¼ sec. 32, T. 4 S., R. 25 E., on southeast side of new highway, 3.2 miles northeast of Middleburg. Measuring point, top of 4-inch valve, 3.30 feet above land-surface datum. Land-surface datum is 26.07 feet above mean sea level. Record begins in 1940. Water level, in feet above land-surface datum, 1942: Feb. 18, 39.5.

5 (*907, p. 14; 937, p. 12). John Huntley. NE¼NE¼ sec. 32, T. 4 S., R. 25 E., about 500 feet northwest of new highway, in rear of residence of owner, 4.2 miles northeast of Middleburg. Measuring point, top of 4-inch valve, 2.50 feet above land-surface datum. Land-surface datum is 24.02 feet above mean sea level. Record begins in 1940. No measurements made in 1942.

7 (*907, p. 14; 937, p. 12). U. S. Navy. At auxiliary air base, about 2.5 miles southeast of Green Cove Springs. Measuring point, top of 6-inch valve, 1.00 foot above land-surface datum. Land-surface datum is 12.14 feet above mean sea level. Record begins in 1940. Water levels, in feet above land-surface datum, 1942: Feb. 18, 26.4; Aug. 13, 26.0.

8 (*907, p. 14; 937, p. 13). St. Elmo Hotel. In Green Cove Springs, north of St. Elmo Hotel. Measuring point, top of 1¼-inch valve in east side of casing, 1.00 foot above land-surface datum. Land-surface datum is 15.89 feet above mean sea level. Record begins in 1934. Water level, in feet above land-surface datum, 1942: Feb. 18, 18.6.

Duval County

12 (*907, p. 14; 937, p. 13). Jacksonville Motor Transit Co. In Jacksonville, about 200 feet east of Riverside Avenue and 75 feet south of McCoy Street. Measuring point, top of 6-inch valve, 1.80 feet above land-surface datum. Land-surface datum is 8.34 feet above mean sea level. Record begins in 1938. Water level, in feet above land-surface datum, 1942: Apr. 7, 31.3.

102 (*907, p. 14; 937, p. 13). V. A. Stevens. SW¼NW¼ sec. 24, T. 2 S., R. 27 E., about 240 feet north of Atlantic Boulevard, in rear of residence of owner. Measuring point, top of 6-inch valve, 0.50 foot above land-surface datum. Land-surface datum is 53.04 feet above mean sea level. Record begins in 1930. Water level, in feet above land-surface datum, 1942: Feb. 19, 1.68.

109 (*907, p. 14; 937, p. 13). J. P. Young. At Floral Bluff, on north side of residence of owner, on west side of Dones Street about 400 feet north of Floral Bluff Avenue, 1,000 feet east of St. Johns River, and 3 miles northeast of Jacksonville. Measuring point, top of 6-inch cross, 2.50 feet above land-surface datum. Land-surface datum is 41.05 feet above mean sea level. Record begins in 1939. No measurements made in 1942.

115 (*907, p. 15; 937, p. 13). City of Jacksonville. In Ortega, at east corner of intersection of Baltic Street and Oxford Avenue, on east side of pump house, 5 miles southwest of Jacksonville. Measuring point, center of recording-pressure gage, 4.70 feet above land-surface datum. Land-surface datum is 16.12 feet above mean sea level. Record begins in 1930. Water levels, in feet above land-surface datum, 1942: Apr. 7, 35.7; Sept. 28, 35.1.

118 (*907, p. 15; 937, p. 13). City of Jacksonville. In Jacksonville, at west corner of intersection of Post and Dancy Streets, on southwest side of pumphouse. Measuring point, center of recording pressure gage, 4.00 feet above land-surface datum. Land-surface datum is 23.79 feet above mean sea level. Record begins in 1940. Water levels, in feet above land-surface datum, 1942: Apr. 7, 34.5; Sept. 25, 32.5.

122 (*907, p. 15; 937, p. 13). City of Jacksonville. In Jacksonville, about 20 feet north of 63d Street, between Russell and Eastland Streets. Measuring point, center of recording pressure gage, 2.50 feet above land-surface datum. Land-surface datum is 14.87 feet above mean sea level. Record begins in 1930. Water levels, in feet above land-surface datum, 1942: Feb. 19, 42.4; Apr. 7, 43.2.

123 (*907, p. 15; 937, p. 13). City of Jacksonville. At Woodstock Park, Jacksonville, on west side of Huron Street, about 150 feet north of Beaver Street, west of pump house. Measuring point, top of 6-inch horizontal pipe at ¼-inch hole for petcock, in pump house, 2.50 feet above land-surface datum. Land-surface datum is 22.78 feet above mean sea level. Record begins in 1930. Water levels, in feet above land-surface datum, 1942: Feb. 18, 35.0; Apr. 7, 36.1; Aug. 15, 34.2; Sept. 28, 33.5.

129 (*907, p. 15; 937, p. 13). Jim Merril. In Ortega, on east side of Ortega Boulevard between First and Palmetto Streets, 5.2 miles southwest of Jacksonville. Measuring point, 1/8-inch hole for petcock in west side of casing, 1.00 foot above land-surface datum. Land-surface datum is 8.63 feet above mean sea level. Record begins in 1940. Water level, in feet above land-surface datum, 1942: Apr. 7, 42.1.

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131 (*907, p. 15; 937, p. 13). G. C. Cole. SW¼ sec. 10, T. 1 S., R. 26 E., on east side of Lem Turner Road, on south side of residence of owner, 0.7 mile north of Trout River, 7.0 miles north of Jacksonville. Measuring point, top of 4-inch cross, level with land-surface datum. Land-surface datum is 17.86 feet above mean sea level. Record begins in 1934. Water levels, in feet above land-surface datum, 1942: Apr. 7, 40.4; Aug. 12, 38.4.

138 (*907, p. 15; 937, p. 13). Joe Quattlebaum. Near west line of NW¼NE¼ sec. 15, T. 2 S., R. 25 E., at residence of owner, 0.8 mile northwest of Marietta. Record begins in 1934. Measurements discontinued.

145 (*907, p. 16; 937, p. 13). Duval County School Board. In rear of Oceanway School, 0.5 mile north of Broward, 10 miles north of Jacksonville. Measuring point, top of 2-inch tee, 1.50 feet above land-surface datum. Land-surface datum is 34.79 feet above mean sea level. Record begins in 1940. Water levels, in feet above land-surface datum, 1942: Feb. 20, 22.3; Apr. 7, 23.3; Sept. 18, 22.0.

147 (*907, p. 16; 937, p. 13). V. C. Johnson. SW¼SW¼ sec. 32, T. 1 N., R. 26 E. Measuring point, top of 4-inch cross, 3.80 feet above land-surface datum. Land-surface datum is 21.85 feet above mean sea level. Record begins in 1940. Water level, in feet above land-surface datum, 1942: Apr. 7, 37.0.

149 (*907, p. 16; 937, p. 13). W. M. Bostwick. At north side of mouth of Drummond Creek, 1.2 miles southwest of Eastport, 6 miles northeast of Jacksonville. Measuring point, top of 6-inch tee, 4.00 feet above land-surface datum. Land-surfsce datum is 29.22 feet above mean sea level. Record begins in 1940. No measurements made in 1942.

154 (*907, p. 16; 937, p. 14). J. M. Shield. SW¼ sec. 22, T. 3 S., R. 27 E., between Florida East Coast Railway and U. S. Highway 1, 1.2 miles north of Sunbeam. Measuring point, top of 4-inch cross, 5.10 feet above land-surface datum. Land-surface datum is 25.2 feet above mean sea level. Record begins in 1940. Water level, in feet above land-surface datum, 1942: Feb. 19, 28.4.

160 (*907, p. 16; 937, p. 14). City of Neptune Beach. At Neptune Beach, about 400 feet from ocean, on southeast corner of intersection of First Street and Florida Avenue. Measuring point, top of blind flange on top of 8-inch tee, 0.50 foot above land-surface datum. Land-surface datum is 12.05 feet below mean sea level. Record begins in 1934. Water level, in feet above land-surface datum, 1942: Feb. 19, 39.1.

164 (*907, p. 16; 937, p. 14). Ribault Club. On Fort George Island, in pump house at Ribault Club. Measuring point, top of ½-inch valve, 15 feet east of northeast corner of pump house, 1.30 feet above land-surface datum. Land-surface datum is 15.71 feet above mean sea level. Record begins in 1930. No measurements made in 1942.

Escambia County

42 (*907, p. 22; 937, p. 17). Pensacola Shipbuilding Co. In Pensacola, about 250 feet north of Bayou Chico, about 1,500 feet west of intersection of Barancas Avenue and Pine Street, on west side of storage tank. Measuring point, top of 2½-inch tee, 11.20 feet above land-surface datum. Land-surface datum is 11.75 feet above mean sea level. Water level affected by tide and by pumping from other wells. Record begins in 1940.

Water level, in feet below land-surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	19.82	Mar. 18	19.30	June 5	19.27	Aug. 12	19.02
14	20.32	25	18.62	10	19.45	19	18.10
21	21.24	Apr. 1	19.25	17	19.33	26	17.90
28	20.79	8	18.88	24	19.61	Sept. 2	18.39
Feb. 4	20.38	15	19.20	July 2	19.58	8	16.89
11	21.00	22	19.11	8	18.82	17	17.83
18	20.47	29	19.39	15	19.00	23	18.16
25	19.33	May 6	19.11	22	19.87	30	18.76
Mar. 4	17.43	13	18.92	29	19.22	Oct. 7	18.98
11	18.79	27	18.93	Aug. 5	19.77	14	19.67

42. Pensacola Shipbuilding Co.--Continued.

Water level, in feet below land-surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 21	17.75	Nov. 11	17.98	Dec. 2	18.16	Dec. 23	19.00
28	18.95	18	18.67	9	18.52	30	19.80
Nov. 4	17.32	25	18.63	16	18.57		

45 (*907, p. 22; 937, p. 17). Geological Survey, U. S. Dept. of Interior, about 1,150 feet southwest of Louisville & Nashville Railroad, about 1,600 feet northeast of Gulf, Florida & Alabama Railroad (near St. Louis-San Francisco Railway) 0.5 mile south of Cantonment. Bench mark 45, top of iron railraod spike driven in 8-inch pine tree, is 25 feet south of well. Measuring point, top of 1-inch hole in base of recorder shelter, 1.48 feet above bench mark 45. Land-surface datum, which is level with bench mark 45, is about 135 feet above mean sea level. Water levels affected by heavy pumping of other wells. Record begins in 1940.

Water level, in feet below land-surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	77.42	Apr. 7	81.52	July 7	78.40	Oct. 6	81.05
13	79.87	14	80.06	14	80.29	13	74.46
20	81.80	21	79.85	22	81.09	20	81.62
27	79.28	28	81.10	28	82.70	27	83.18
Feb. 3	81.92	May 5	76.00	Aug. 4	82.92	Nov. 3	80.37
10	82.15	12	80.09	11	80.84	10	81.70
17	79.75	19	79.92	18	81.17	17	82.32
24	79.57	26	80.66	25	81.97	24	83.44
Mar. 3	79.57	June 2	79.30	Sept. 1	81.44	Dec. 1	80.02
10	80.94	9	81.02	8	82.32	8	82.52
17	80.30	16	80.97	16	83.00	15	83.67
24	80.57	23	80.64	22	82.39	22	83.65
31	82.27	30	81.00	29	81.92	29	83.60

46 (*907, p. 22; 937, p. 18). Geological Survey U. S. Dept. of Interior. 0.4 mile east of Ensley, 43.5 feet east of center line of Louisville & Nashville Railroad, 196 feet north of center line of graded cross road. Bench mark 46, top of 1-inch iron pipe driven into ground, is six feet north of well. Measuring point, top of 1-inch hole in base of recorder shelter, 1.18 feet above bench mark 46. Land-surface datum, which is level with bench mark 46 is about 130 feet above mean sea level. Record begins in 1939.

Highest and lowest weekly water level, in feet below land-surface datum, 1942
(From recorder charts)

Week	Highest level	Lowest level	Week	Highest level	Lowest level
Jan. 3-9	69.66	70.26	June 6-12	(a)	(a)
10-16	70.11	70.31	13-19	(a)	(a)
17-23	70.07	70.27	20-26	(a)	(a)
24-30	69.87	70.20	June 27-July 3	(a)	
Jan. 31-Feb. 6	69.89	70.40	July 4-10	65.93	66.18
Feb. 7-13	69.94	70.36	11-17	65.65	65.94
14-20	71.22	70.36	18-24	65.39	65.78
21-27	69.50	70.22	25-31	65.33	65.51
Feb. 28-Mar. 6	69.40	70.02	Aug. 1- 7	65.13	65.35
Mar. 7-13	69.24	69.69	8-14	65.01	65.15
14-20	69.06	69.29	15-21	64.88	65.06
21-27	68.65	69.24	22-28	64.52	64.97
Mar. 28-Apr. 3	68.49	68.85	Aug. 29-Sept. 4	63.55	64.52
Apr. 4-10	67.90	68.50	Sept. 5-11	(a)	63.55
11-17	67.80	68.14	12-18	(a)	63.16
18-24	67.66	67.79	19-25	62.25	62.60
Apr. 25-May 1	67.46	67.69	Sept. 26-Oct. 2	61.97	62.30
May 2- 8	67.31	67.49	Oct. 3- 9	61.84	61.98
9-15	67.08	67.41	10-16	61.60	61.87
16-22	67.08	67.26	17-23	61.44	61.67
23-29	66.95	67.17	24-30	61.53	61.70
May 30-June 5	(a)	(a)	Oct. 31-Nov. 6	61.52	61.84

a Record for week incomplete.

46. Geological Survey U. S. Dept. of Interior--Continued.

Highest and lowest weekly water level, in feet below land-surface datum, 1942
(From recorder charts)

Week	Highest level	Lowest level	Week	Highest level	Lowest level
Nov. 7-13	61.69	61.97	Dec. 5-11	62.31	62.57
14-20	61.89	61.99	12-18	62.39	62.80
21-27	61.85	62.13	19-25	62.65	62.82
Nov. 28-Dec 4	61.86	62.32	Dec. 26-Jan. 1	(a)	(a)

62. Geological Survey, U. S. Dept. of Interior. In Petterson addition, Pensacola, on south side of Corry Field switching lead of St. Louis-San Francisco Railway, about 1,000 feet east of railroad bridge across Bayou Chico, on west side of Twelfth Avenue extended. Used drilled observation well, diameter 6 inches, depth 142 feet. Measuring point, top of 1-inch hole in base of recorder shelter, 1.50 feet above land-surface datum. Land-surface datum is 13.95 feet above mean sea level. Water-stage recorder maintained on well since June 4, 1940.

Water level, in feet below land-surface datum, 1940-41

Date	Water level	Date	Water level	Date	Water level
June 4, 1940	16.55	Sept. 3, 1940	14.02	Mar. 20, 1941	12.74
11	16.52	Jan. 4, 1941	12.79	25	12.73
18	16.52	11	12.74	30	12.73
27	16.62	17	12.70	Apr. 3	12.69
July 2	16.62	24	12.68	10	12.66
9	16.60	30	12.68	17	12.64
16	15.68	Feb. 6	12.67	24	12.62
22	15.27	13	12.68	May 1	12.60
30	15.04	20	12.71	8	12.58
Aug. 6	14.70	27	12.75	15	12.58
13	14.53	Mar. 6	12.80	22	12.59
20	14.35	13	12.79	29	12.61
27	14.20				

Highest and lowest daily water level, in feet below land-surface datum, 1942
(From recorder charts)

Day	January		February		March		April		May		June	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1	15.29	15.32	15.56	15.65	14.14	14.38	14.01	14.11	14.01	14.15	13.72	13.86
2	15.29	15.36	15.56	15.56	13.95	14.14	14.09	14.11	14.13	14.16	13.79	14.24
3	15.35	15.36	15.56	15.56	13.84	13.95	14.06	14.11	14.01	14.13	14.24	14.34
4	15.32	15.35	15.54	15.54	13.65	13.84	14.03	14.11	14.02	14.10	14.19	14.35
5	15.28	15.32	15.54	15.56	13.64	13.75	13.89	14.03	14.10	14.25	14.21	14.30
6	15.22	15.27	15.56	15.59	13.75	13.92	13.80	13.89	14.25	14.29	14.18	14.30
7	15.16	15.22	15.59	15.66	13.92	13.98	13.82	13.85	14.29	14.40	13.90	14.18
8	15.18	15.22	15.64	15.66	13.74	13.93	13.85	13.94	14.40	14.49	13.82	14.06
9	15.22	15.22	15.59	15.64	13.74	13.93	13.92	13.98	14.34	14.50	14.05	14.23
10	.....	15.22	15.59	15.62	13.93	14.11	13.91	13.96	14.11	14.34	14.21	14.44
11	.....	.....	15.60	15.67	14.11	14.13	13.88	13.96	14.04	14.11	14.44	14.66
12	.....	.....	15.67	15.91	14.13	14.20	13.72	13.88	14.07	14.15	14.63	14.68
13	.....	.....	15.91	16.00	14.20	14.25	13.69	13.77	14.15	14.20	14.54	14.67
14	15.18	15.27	16.00	16.05	14.05	14.24	13.77	13.94	14.14	14.20	14.35	14.54
15	15.27	15.36	15.93	16.05	13.83	14.05	13.95	14.03	14.19	14.28	14.29	14.40
16	15.36	15.47	15.68	15.93	13.80	13.89	13.99	14.03	14.15	14.28	14.40	14.54
17	15.47	15.53	15.60	15.68	13.89	13.97	14.00	14.02	13.75	14.15	14.55	14.61
18	15.44	15.53	15.60	15.63	13.97	14.07	13.92	14.01	13.65	13.81	14.59	14.69
19	15.43	15.47	15.52	15.62	14.07	14.23	13.67	13.92	13.81	14.13	14.66	14.72
20	15.47	15.57	15.45	15.52	14.23	14.27	13.61	13.74	14.14	14.18	14.55	14.73
21	15.57	15.67	15.14	15.45	14.08	14.27	13.74	13.92	14.03	14.15	14.12	14.55
22	15.69	15.77	14.60	15.14	13.94	14.08	13.92	14.01	14.03	14.23	13.98	14.17
23	15.79	15.84	14.23	14.60	13.90	13.96	14.01	14.06	13.99	14.26	14.17	14.38
24	15.85	15.86	14.15	14.23	13.96	14.04	14.06	14.08	13.85	13.99	14.27	14.35
25	15.84	15.86	14.16	14.23	14.00	14.04	13.92	14.08	13.69	13.85	14.20	14.34

a Record for week incomplete.

62. Geological Survey, U. S. Dept. of Interior--Continued.

Highest and lowest daily water level, in feet below land-surface datum, 1942
(From recorder charts)

Day	January		February		March		April		May		June	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
26	15.84	15.90	14.23	14.38	13.87	14.00	13.90	13.93	13.72	13.85	13.83	14.20
27	15.90	15.96	14.38	14.42	13.87	13.94	13.85	13.90	13.85	13.98	13.71	13.83
28	15.96	15.99	14.38	14.42	13.90	13.98	13.89	13.98	13.98	14.13	13.42	13.71
29	15.98	16.00	.....	.....	13.77	13.89	14.00	14.07	14.12	14.15	13.36	13.63
30	15.97	15.98	.....	.....	13.75	13.85	14.01	14.07	13.99	14.15	13.63	13.93
31	15.65	15.97	.....	.....	13.85	14.01	.....	.....	13.86	13.99	.....	.....

Highest and lowest daily water level, in feet below land-surface datum, 1942
(From recorder charts)

Day	July		August		September		October		November		December	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1	.....	.....	14.60	14.92	12.90	13.15	13.77	13.86	12.34	12.73	13.07	13.40
2	.....	.....	14.49	14.60	13.15	13.31	13.79	13.97	12.20	12.43	13.40	13.57
3	.....	.....	14.42	14.49	13.25	13.31	13.97	14.18	12.43	13.03	13.57	13.67
4	.....	.....	14.42	14.60	13.16	13.25	13.62	14.14	13.00	13.06	13.67	13.91
5	.....	.....	14.91	14.60	12.84	13.17	13.62	13.72	12.91	13.00	13.80	13.96
6	.....	.....	14.31	14.41	12.55	12.83	13.72	14.34	12.94	13.11	13.45	13.80
7	13.69	13.95	14.85	14.31	12.41	12.53	14.34	14.64	12.98	13.11	13.44	13.56
8	13.96	14.06	13.34	13.85	12.43	12.57	14.27	14.58	12.70	12.98	13.56	13.95
9	13.98	14.11	13.05	13.34	12.57	12.77	14.27	14.34	12.60	12.88	13.95	13.96
10	13.11	.....	13.03	13.19	12.77	12.90	14.10	14.30	12.88	13.29	13.92	14.08
11	.....	.....	13.19	13.41	12.91	12.94	13.70	14.10	13.28	13.39	13.95	14.12
12	14.60	14.62	13.41	13.43	12.89	12.92	13.53	13.70	13.32	13.66	13.63	13.94
13	14.50	14.62	13.43	13.51	12.70	12.89	13.69	14.16	13.37	13.64	13.56	13.63
14	14.60	14.83	13.51	13.61	12.67	12.74	14.16	14.36	13.12	13.36	13.48	13.66
15	14.67	14.83	13.51	13.60	12.74	12.95	14.25	14.36	12.70	13.12	13.66	13.92
16	14.76	14.84	13.42	13.51	.....	.....	14.24	14.41	12.42	12.70	13.91	14.06
17	14.84	14.93	13.27	13.42	12.95	13.05	13.93	14.41	12.43	12.88	14.06	14.28
18	14.82	14.93	13.31	13.39	.....	.....	13.44	13.93	12.88	13.69	14.28	14.43
19	14.80	14.83	13.35	13.38	.....	.....	13.35	13.51	13.69	14.21	14.28	14.46
20	14.75	14.87	13.26	13.35	.....	.....	13.51	13.79	14.21	14.37	14.00	14.28
21	14.87	14.99	13.25	13.34	.....	.....	13.50	13.79	14.37	14.47	13.98	14.08
22	14.98	15.14	13.33	13.34	.....	.....	13.10	13.50	13.94	14.95	13.99	14.08
23	15.07	15.20	13.32	13.35	.....	.....	12.58	13.10	13.83	14.14	13.97	14.02
24	15.14	15.20	13.32	13.32	.....	.....	12.70	13.08	14.14	14.41	13.95	14.02
25	14.85	15.16	13.32	13.33	.....	.....	12.87	13.14	14.33	14.41	13.84	13.95
26	14.70	14.85	13.31	13.32	.....	.....	12.80	13.00	14.23	14.33	13.76	13.84
27	14.52	14.70	13.29	13.35	.....	.....	13.00	13.52	14.32	14.38	13.50	13.76
28	14.53	14.56	13.22	13.29	.....	.....	13.52	13.80	13.76	14.36	13.45	13.62
29	14.66	14.70	13.09	13.22	.....	.....	13.32	13.66	12.95	13.76	13.62	14.50
30	14.70	14.87	12.94	13.09	.....	.....	13.01	13.32	12.78	13.07	14.00	14.35
31	14.87	14.92	12.85	12.94	.....	.....	12.73	13.01	.....	.....	14.35	13.87

62-A. Geological Survey, U. S. Dept. of Interior. In Petterson addition, Pensacola on south side of Corry Field switching lead of St. Louis-San Francisco Railway, about 1,000 feet east of railroad bridge across Bayou Chico, on west side of Twelfth Avenue extended. Used drilled observation well, diameter 4 inches, depth 17.5 feet. Measuring point, top of coupling on 4-inch casing, 0.81 foot above land-surface datum. Land-surface datum is 13.95 feet above mean sea level.

62-A. Geological Survey, U. S. Dept. of Interior--Continued.
Water level, in feet below land-surface datum, 1940-42

Date	Water level	Date	Water level	Date	Water level
May 25, 1940	12.01	Aug. 7, 1941	12.19	May 20, 1942	11.38
July 9	10.32	14	12.30	27	11.29
16	9.03	28	12.35	June 5	11.42
22	9.52	Sept. 4	12.28	10	11.42
30	10.04	11	12.10	17	11.63
Aug. 6	10.29	18	12.05	24	10.67
13	11.04	25	12.22	July 1	10.73
Jan. 4, 1941	11.06	Oct. 9	12.16	8	10.88
11	11.29	16	12.02	15	11.32
17	11.21	23	12.19	22	11.35
24	11.56	30	12.37	29	11.37
30	11.72	Nov. 6	12.36	Aug. 5	11.17
Feb. 6	11.95	13	12.44	12	11.21
13	12.08	20	12.51	19	11.09
20	12.10	27	12.69	26	10.79
27	12.17	Dec. 4	12.59	31	11.01
Mar. 6	12.41	11	12.62	Sept. 2	11.04
13	11.94	18	12.64	8	11.07
25	11.67	Jan. 6, 1942	11.63	16	11.51
30	11.68	14	11.58	23	11.53
Apr. 3	11.49	21	11.68	30	10.09
10	11.14	27	11.89	Oct. 7	11.19
17	11.36	Feb. 4	11.71	14	11.18
24	11.55	11	11.89	21	11.27
May 1	11.70	18	10.70	28	11.28
8	11.75	25	10.49	31	11.45
15	12.03	Mar. 4	10.35	Nov. 4	11.41
22	12.24	11	10.39	11	11.40
29	12.33	18	10.45	18	11.52
June 5	12.46	25	10.49	25	11.57
12	9.58	Apr. 1	10.40	30	11.76
19	10.87	8	10.51	Dec. 2	11.83
26	12.12	15	10.46	9	11.96
July 3	12.54	22	10.64	16	12.16
17	11.97	29	11.06	23	12.28
24	12.08	May 6	11.22	30	12.19
31	12.14	13	11.39	31	12.21

Marion County

5 (*817, p. 32; 840, p. 52; 845, p. 50; 886, p. 67; 907, p. 25; 937, p. 19). Formerly U. S. Engineer Dept. Sharpes Ferry well. Sec. 11, T. 15 S., R. 23 E., about 8 miles east of Ocala, on east side of Oklawaha River and north side of road that crosses river at Sharpes Ferry. Measuring point, top of 6-inch casing, 3.00 feet above land-surface datum. Land-surface datum is 39.53 feet above mean sea level. Record begins in 1933.

Water level, in feet above land-surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 3	11.2	Apr. 4	12.15	July 4	11.8	Oct. 10	12.1
10	10.9	11	12.4	11	11.9	17	11.85
12	11.45	18	12.6	18	11.95	24	11.6
17	11.4	25	12.4	25	11.95	26	11.7
24	11.50	May 2	12.3	Aug. 1	12.2	31	11.5
31	11.10	9	12.2	8	11.7	Nov. 7	11.3
Feb. 7	11.4	12	12.1	15	12.2	14	11.1
14	11.3	16	12.1	22	12.1	21	10.9
21	11.3	23	12.0	29	12.2	27	10.75
26	11.55	30	11.9	Sept. 5	12.3	28	10.7
28	11.4	June 1	11.6	12	12.2	Dec. 5	10.6
Mar. 7	11.5	6	11.6	19	12.2	12	10.5
14	11.75	13	11.45	24	12.1	19	10.4
21	11.65	20	11.4	26	12.2	26	10.2
28	12.1	27	11.5	Oct. 3	12.1	31	10.1
Apr. 2	12.15						

Nassau County

2 (*907, p. 17; 937, p. 14). G. G. Gerbing. In Amelia City, 5.5 miles south of Fernandina, at residence of owner, in southeast corner of pump house. Measuring point, top of 2-inch horizontal pipe, 1.00 foot above land-surface datum. Land-surface datum is 9.98 feet above mean sea level. Record begins in 1939. No measurements made in 1942.

8 (*907, p. 17; 937, p. 14). Charles Pelot. Near SE. corner, of NE¼ sec. 1, T. 1 N., R. 28 E., about 400 feet from ocean, in rear of beach cottages, 1.1 miles south from Franklintown, 8.9 miles south of Fernandina. Measuring point, top of 4-inch cross, 1.80 feet above land-surface datum. Land-surface datum is 13.70 feet above mean sea level. Record begins in 1939. No measurements made in 1942.

23 (*907, p. 17; 937, p. 14). National Park Service. About 1,000 feet northwest from end of south jetty to St. Marys Entrance, 2.6 miles northeast of Fernandina. Measuring point, 1/8-inch hole for petcock in northwest side of casing, 2.80 feet above land-surface datum. Land-surface datum is 7.82 feet above mean sea level. Record begins in 1939. Water level, in feet above land-surface datum, 1942: Feb. 20, 28.3.

28 (*907, p. 17; 937, p. 14). State of Florida. About 50 feet east of Kingsley Creek, about 50 feet north of State Highway 13, at Kingsley Creek drawbridge, 3.2 miles southwest of Fernandina. Measuring point, top of concrete wall around well, 2.80 feet above land-surface datum. Land-surface datum is 6.00 feet above mean sea level. Record begins in 1939. Water level, in feet above land-surface datum, 1942: Feb. 20, 23.1.

34 (*907, p. 17; 937, p. 15). W. L. Hardee. At Hardee dock, about 150 feet east of Amelia River, 0.3 mile southwest of Fernandina. Measuring point, top of 3-inch cross, 2.00 feet above land-surface datum. Land-surface datum is 3.79 feet above mean sea level. Record begins in 1939. No measurements made in 1942.

44 (*907, p. 17; 937, p. 15). Seaboard Railway. At Seaboard Railway station at Yulee, south of pump house near elevated tank. Measuring point, top of 6-inch coupling on surface casing, 1.40 feet above land-surface datum. Land-surface datum is 35.00 feet above mean sea level. Record begins in 1934. A measurement made on Aug. 14, 1942, will appear in a later volume of this series.

50 (*907, p. 18; 937, p. 15). Higgenbotham. SW¼SE¼ sec. 4, T. 2 N., R. 26 E., about 100 feet south of Seaboard Railway, in rear of residence of owner, 0.6 mile east of Italia. Measuring point, top of 6-inch tee, 1.20 feet above land-surface datum. Land-surface datum is 17.79 feet above mean sea level. Record begins in 1940. No measurements made in 1942.

51 (*907, p. 18; 937, p. 15). Drew Sauls. Near SW. corner NW¼ sec. 29, T. 2 N., R. 25 E. in Callahan. Measuring point, top of 2-inch cross, 1.00 foot above land-surface datum. Land-surface datum is 18.8 feet above mean sea level. Record begins in 1940. Water levels, in feet above land-surface datum, 1942: Feb. 20, 40.8; Apr. 7, 42.0.

52 (*907, p. 18; 937, p. 15). Civilian Conservation Corps. NW¼SW¼ sec. 15, T. 3 N., R. 24 E., on site of former Civilian Conservation Corps camp, about 500 feet east of U. S. Highway 1, 1.4 miles southeast of Hilliard. Measuring point, top of 4- by 2-inch reducing coupling, 0.50 foot above land-surface datum. Land-surface datum is 61.49 feet above mean sea level. Record begins in 1938. Water levels, in feet with reference to land-surface datum, 1942: Feb. 20, 0.31; Apr. 7, 1.27; Aug. 14, -0.46.

St. Johns County

2 (*907, p. 18; 937, p. 15). P. J. Manucy. At Vilano Beach, on east side of North River, about 150 feet north of Vilano Bridge, 1.9 miles northeast of St. Augustine. Measuring point, top of 6-inch tee, 2.70 feet above mean sea level. Record begins in 1934. Water level, in feet above land-surface datum, 1942: Feb. 19, 30.2.

3 (*907, p. 18; 937,p.15). Francis Usina. At Usina's Beach, on east side of North River, 2.4 miles north of Vilano Bridge, 4.0 miles north of St. Augustine. Measuring point, top of 4-inch valve, 1.10 feet above land-surface datum. Land-surface datum is 6.55 feet above mean sea level. Record begins in 1934. No measurements made in 1942.

4 (*907, p.19; 937,p.15). Mill Creek School. On northwest side of Nine Mile Road about 700 feet northeast of its intersection with State Highway 48 in rear of schoolhouse, 8.3 miles southeast of Shands Bridge. Measuring point, top of 3-inch tee, 0.50 foot above land-surface datum. Land-surface datum is 26.74 feet above mean sea level. Record begins in 1934. No measurements made in 1942.

5 (*907,p.19; 937,p.15). G. L. Oesterricker. On east side of Inland Waterways Canal, on north side of State Highway 306, 3.2 miles south of Palm Valley, in rear of residence of owner. Measuring point, top of 3/4-inch faucet at northwest corner of residence, 1.20 feet above land-surface datum. Land-surface datum is 4.53 feet above mean sea level. Record begins in 1934. No measurements made in 1942.

8 (*907,p.19; 937,p.15). Parish Brothers. Near SW. corner of NE¼NE¼ sec. 4, T. 5 S., R. 28 E.,0.5 mile southwest of Florida East Coast Railway, 2.5 miles southeast of Bayard. Measuring point, top of 6-inch tee, 3.00 feet above land-surface datum. Land-surface datum is 17.77 feet above mean sea level. Record begins in 1934. Water level, in feet above land-surface datum, 1942: Aug. 15, 34.9.

Seminole County

35 (*845,p.51; 886,p.68; 907,p.25; 937,p.19). Owner's well 1, on farm 3. C. S. Lee. SE¼NW¼ sec. 26, T. 20 S., R. 31 E., near edge of marsh bordering southeast side of Lake Jessup, 4.2 miles northeast of Oviedo. Unused drilled irrigation well, diameter 4 inches, depth 125 feet, cased to 62 feet. Measuring point to Nov. 20, 1941, top of 4-inch discharge pipe, 3.5 feet above land-surface datum. Measuring point beginning May 30, 1942, top of 4-inch valve, 3.50 feet above land-surface datum. Land-surface datum is 15.22 feet above mean sea level. Water levels, in feet above land-surface datum, 1942: May 30, 21.7; July 25, 22.5; Aug. 18, 22.0.

Sarasota County

5. Designated as well 46 in Florida Geol. Survey 23d-24th Ann. Rept. (combined). R.M. Canty. SE¼NE¼ sec. 19, T. 36 S., R. 20 E., about 300 feet south of State Highway 18, about 12 miles east of Sarasota. Unused drilled irrigation well, diameter 8 inches, depth 720 feet. Measuring point, top of 8-inch casing, level with land-surface. Land-surface datum is 43.60 feet above mean sea level. Water-stage recorder maintained on well since Nov.15,1941.

Highest and lowest daily water level, in feet below land-surface datum, 1941
(From recorder charts)

Date	Highest level	Lowest level	Date	Highest level	Lowest level
Nov. 16	4.13	4.26	Dec. 10	4.31	4.35
17	4.19	4.32	11	4.31	4.37
18	4.23	4.32	12	4.29	4.36
19	4.21	4.32	13	4.22	4.29
20	4.17	4.28	14	4.23	4.37
21	4.19	4.25	15	4.29	4.40
22	4.23	4.29	16	4.24	4.37
23	4.29	4.34	17	4.21	4.36
24	4.34	4.41	18	4.27	4.36
25	4.38	4.45	19	4.24	4.35
26	4.39	4.47	20	4.25	4.32
27	4.40	4.49	21	4.29	4.33
28	4.45	4.51	22	4.22	4.31
29	4.47	4.54	23	4.14	4.23
30	4.40	4.50	24	....	4.15
Dec. 1	4.37	4.47	25	4.01	4.06
2	4.38	4.47	26	4.05	....
3	4.40	4.48	27	....	....
4	4.33	4.46	28	....	4.17
5	4.33	4.40	29	4.10	4.19
6	4.32	4.38	30	4.09	4.18
7	4.34	4.41	31	4.09	4.18
8	4.26	4.37			
9	4.30	4.33			

5. R. M. Canty--Continued.

Highest and lowest daily water level, in feet below land-surface datum, 1942
(From recorder charts)

Day	January		February		March		April		May		June	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1	4.00	4.16	4.32	4.47	4.34	4.52	4.38	4.48	4.75	4.84	5.01	5.07
2	3.87	4.08	4.45	4.57	4.09	4.37	4.44	4.54	4.76	4.84	5.02	5.09
3	3.95	....	4.56	4.62	4.29	4.41	4.46	4.55	4.78	4.83	4.93	5.02
4	....	....	4.54	4.64	4.34	4.45	4.51	4.56	4.81	4.87	4.93	4.95
5	....	....	4.47	4.57	4.14	4.39	4.53	4.57	4.84	4.89	4.90	4.93
6	4.08	4.12	4.40	4.49	4.22	4.38	4.54	4.56	4.88	4.92	4.86	4.92
7	3.98	4.10	4.39	4.49	4.28	4.40	4.51	4.54	4.86	4.91	4.78	4.89
8	4.02	4.06	4.49	4.62	4.16	4.28	4.49	4.55	4.84	4.92	4.74	4.86
9	3.94	4.06	4.60	4.66	4.21	4.40	4.47	4.55	4.87	4.99	4.72	4.81
10	3.92	4.09	4.59	4.67	4.34	4.42	4.45	4.52	4.94	5.02	4.69	4.79
11	4.07	4.15	4.47	4.60	4.21	4.34	4.50	4.60	4.95	5.04	4.70	4.80
12	4.05	4.14	4.52	4.68	4.18	4.26	4.58	4.66	4.93	5.04	4.71	4.80
13	4.04	4.13	4.63	4.77	4.15	4.25	4.63	4.73	4.95	5.05	4.71	4.80
14	4.00	4.11	4.65	4.75	4.15	4.26	4.67	4.76	4.98	5.08	4.67	4.75
15	3.97	4.08	4.52	4.74	4.19	4.29	4.67	4.81	4.95	5.06	4.55	4.70
16	3.98	4.10	4.48	4.60	4.21	4.30	4.67	4.77	4.98	5.04	4.54	4.59
17	4.04	4.10	4.50	4.58	4.20	4.30	4.55	4.70	5.00	5.07	4.59	4.66
18	4.00	4.06	4.54	4.65	4.16	4.26	4.50	4.56	5.06	5.12	4.63	4.67
19	3.97	4.03	4.58	4.66	4.25	4.32	4.52	4.58	5.08	5.12	4.63	4.70
20	4.00	4.08	4.57	4.63	4.28	4.31	4.56	4.62	5.05	5.10	4.63	4.68
21	4.05	4.11	4.60	4.64	4.26	4.29	4.58	4.61	5.02	5.05	4.65	4.69
22	4.10	4.13	4.53	4.62	4.28	4.34	4.56	4.61	5.00	5.03	4.62	4.67
23	4.13	4.17	....	4.53	4.28	4.32	4.61	4.69	5.02	5.08	4.57	4.63
24	4.16	4.21	....	4.22	4.25	4.29	4.66	4.73	5.05	5.12	4.55	4.64
25	4.15	4.21	4.22	4.37	4.28	4.35	4.67	4.75	5.05	5.14	4.56	4.66
26	4.15	4.22	4.31	4.36	4.29	4.35	4.69	4.76	5.04	5.14	4.56	4.67
27	4.11	4.20	4.25	4.48	4.28	4.37	4.69	4.80	5.04	5.14	4.57	4.67
28	4.06	4.22	4.43	4.52	4.24	4.41	4.73	4.83	5.02	5.14	4.54	4.65
29	4.22	4.38	....	....	4.37	4.50	4.72	4.84	5.04	5.15	4.54	4.64
30	4.27	4.38	....	....	4.37	4.50	4.73	4.82	5.05	5.16	4.51	4.60
31	4.22	4.35	....	....	4.32	4.45	....	....	5.01	5.12	....	....

Highest and lowest daily water level, in feet below land-surface datum, 1942
(From recorder charts)

Day	July		August		September		October		November		December	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1	4.46	4.53	4.38	4.43	3.69	3.78	3.70	3.74	4.77	4.85	5.38	5.45
2	4.45	4.49	4.39	4.42	3.69	3.74	3.74	3.81	4.85	4.98	5.38	5.55
3	4.48	4.54	4.40	4.45	3.64	3.71	3.80	3.88	4.95	5.04	5.50	5.58
4	4.52	4.56	4.40	4.46	3.59	3.71	3.86	3.92	4.96	5.06	5.52	5.62
5	4.49	4.56	4.37	4.46	3.61	3.68	3.87	3.96	4.98	5.07	5.52	5.62
6	4.45	4.52	4.33	4.44	3.61	3.71	3.87	3.95	4.99	5.08	5.50	5.61
7	4.46	4.53	4.30	4.38	3.60	3.70	3.91	4.02	5.01	5.12	5.49	5.60
8	4.45	4.54	4.32	4.42	3.61	3.72	3.97	4.07	5.02	5.12	5.45	5.60
9	4.46	4.57	4.31	4.41	3.61	3.71	3.99	4.09	5.05	5.12	5.48	5.56
10	4.47	4.54	4.28	4.37	3.61	3.70	3.95	4.08	5.03	5.14	5.43	5.57
11	4.46	4.56	4.24	4.34	3.59	3.69	3.96	4.03	5.10	5.21	5.31	5.46
12	4.45	4.54	4.19	4.28	3.56	3.64	4.01	4.11	5.21	5.29	5.30	5.37
13	4.46	4.55	4.18	4.27	3.56	3.63	4.12	4.20	5.26	5.32	5.35	5.48
14	4.42	4.53	4.12	4.18	3.61	3.65	4.15	4.21	5.27	5.34	5.46	5.53
15	4.37	4.45	4.08	4.14	3.63	3.67	4.16	4.20	5.34	5.43	5.29	5.46
16	4.38	4.45	4.07	4.11	3.68	3.73	4.20	4.29	5.41	5.51	5.08	5.29
17	4.44	4.50	4.07	4.10	....	3.76	4.28	4.34	5.47	5.57	5.27	5.42
18	4.43	4.48	4.06	4.12	3.63	3.72	4.30	4.37	5.51	5.60	5.35	5.45
19	4.38	4.44	4.02	4.10	3.61	3.70	4.33	4.42	5.53	5.65	5.32	5.44
20	4.35	4.40	4.00	4.09	....	3.65	4.37	4.47	5.59	5.69	5.29	5.40
21	4.34	4.39	3.98	4.09	3.50	3.58	4.40	4.50	5.59	5.68	5.30	5.39
22	4.30	4.39	3.96	4.08	3.52	3.63	4.41	4.52	....	5.68	5.23	5.40
23	4.31	4.38	3.90	4.04	3.57	3.66	4.47	4.59	....	....	5.23	5.31

5. R. M. Canty--Continued.

Highest and lowest daily water level, in feet below land-surface datum, 1942
(From recorder charts)

Day	July		August		September		October		November		December	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
24	4.32	4.43	3.85	3.97	....	3.71	4.53	4.61	5.54	5.62	5.24	5.31
25	4.34	4.45	3.86	3.95	3.58	3.69	4.56	4.62	5.57	5.64	5.25	5.32
26	4.37	4.49	3.84	3.92	3.56	3.65	4.53	4.63	5.60	5.65	5.24	5.30
27	4.38	4.49	3.81	3.90	3.53	3.61	4.59	4.67	5.58	5.64	5.25	5.30
28	4.35	4.46	3.77	3.86	3.60	3.69	4.67	4.77	5.56	5.64	5.21	5.28
29	4.36	4.44	3.78	3.82	3.69	3.75	4.77	4.83	5.48	5.59	5.10	5.22
30	4.39	4.46	3.76	3.82	3.71	3.75	4.79	4.85	5.43	5.49	5.15	5.20
31	4.41	4.47	3.74	3.80	....	....	4.76	....	....	....	5.13	5.20

9. Designated as well P-100 in Florida Geol. Survey 23d-24th Ann. Rept. (combined). Palmer Corporation. At Palmer Farms, near SE. corner of SW¼SE¼ sec. 20, T. 36 S., R. 19 E., about 7 miles east of Sarasota. Unused drilled irrigation well, diameter 6 inches, depth 730 feet, cased to 101 feet. Measuring point, top of 6-inch casing, 6.00 feet above land-surface datum. Land-surface datum is 33.56 feet above mean sea level. Water-stage recorder maintained on well Sept. 27, 1930, to Apr. 6, 1937, and since Nov. 15, 1941.

Highest and lowest daily water level, in feet with reference to land-surface datum, 1941
(From recorder charts)

Date	Highest level	Lowest level	Date	Highest level	Lowest level
Nov. 16	+0.60	+0.49	Dec. 9	-0.47	-0.79
17	+.59	+.50	10	-.79	-.98
18	+.60	+.23	11	-.98	-1.16
19	+.28	-.11	12	-1.01	-1.17
20	-.04	-.56	13	-.18	-1.00
21	-.57	-1.11	14	-.01	-.17
22	-1.09	-1.19	15	-.01	-.22
23	-1.20	-1.27	16	-.14	-.33
24	-1.27	-1.40	17	-.10	-.35
25	-1.40	-1.51	18	-.27	-.64
26	-1.43	-1.56	19	-.62	-.89
27	-1.53	-1.61	20	-.68	-.83
28	-1.54	-1.62	21	-.80	-.84
29	-1.49	-1.65	22	-.80	-1.02
30	-1.49	-1.68	23	-1.00	-1.21
Dec. 1	-1.27	-1.53	24	+.08	-1.24
2	-1.45	-1.54	25	+.35	+.09
3	-1.35	-1.55	26	+.47	+.35
4	-.65	-1.35	27	....	....
5	-.25	-.65	28	....	....
6	-.25	-.82	29	+.68	+.42
7	-.64	-.83	30	+.49	-.21
8	-.55	-.64	31	-.21	-.84

Highest and lowest daily water level, in feet with reference to land-surface datum, 1942
(From recorder charts)

Day	January		February		March		April		May		June	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1	-0.80	-1.05	-1.64	-1.74	.....	.....	-1.23	-1.46	-1.48	-1.57	-1.78	-1.88
2	+.15	-1.05	-1.70	-1.81	.....	.....	-1.47	-1.82	-1.48	-1.57	-1.71	-1.80
3	+.50	+.15	-1.78	-1.84	.....	.....	-1.81	-1.88	-1.50	-1.56	-1.60	-1.71
4	.....	.....	-1.78	-1.83	.....	.....	-1.83	-1.89	-1.56	-1.59	-1.59	-1.64
5	.....	.....	-1.74	-1.82	.....	.....	-1.85	-1.88	-1.59	-1.85	-1.62	-1.65
6	+.82	+.54	-1.71	-1.79	+.83	+.44	-1.85	-1.92	-1.85	-1.89	-1.57	-1.63
7	+.55	+.27	-1.71	-1.78	+.98	+.45	-1.90	-1.95	-1.81	-1.88	-1.51	-1.59
8	+.61	+.14	-1.78	-1.85	+.53	+.33	-1.93	-2.00	-1.75	-1.85	-1.49	-1.51
9	+.64	+.40	-1.79	-1.89	+.65	+.53	-1.94	-2.01	-1.68	-1.90	-1.48	-1.56
10	+1.35	+.46	-1.75	-1.89	+.63	+.56	-1.68	-1.99	-1.59	-1.70	-1.42	-1.51

9. Palmer Corporation--Continued.

Highest and lowest daily water level, in feet with reference to land-surface datum, 1942
(From recorder charts)

Day	January		February		March		April		May		June	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
11	+1.54	+1.35	-0.98	-1.80	+0.63	-0.11	-1.84	-1.99	-1.54	-1.65	-1.43	-1.51
12	+1.49	+.80	-.83	-.98	-.09	-.93	-1.95	-2.05	-1.51	-1.62	-1.42	-1.50
13	+.80	+.49	-.86	-.96	-.92	-1.10	-1.97	-2.07	-1.50	-1.62	-1.39	-1.43
14	+.52	-.10	-.78	-.93	-1.02	-1.17	-1.96	-2.06	-1.46	-1.58	-1.36	-1.43
15	-.04	-.48	-.73	-.90	-1.11	-1.21	-1.90	-2.02	-1.31	-1.52	-1.33	-1.42
16	-.45	-.97	-.72	-1.07	-1.16	-1.46	-.94	-1.90	-1.24	-1.35	-1.34	-1.38
17	-.96	-1.13	-1.01	-1.08	-1.37	-1.46	-.44	-.94	-1.20	-1.28	-1.34	-1.38
18	-1.03	-1.13	-.78	-1.10	-.82	-1.43	-.34	-.44	-1.22	-1.28	-1.24	-1.36
19	-.86	-1.05	-.65	-.78	-.62	-.86	-.31	-.37	-1.18	-1.23	-1.20	-1.25
20	-.88	-.98	-.62	-.68	-.45	-.72	-.23	-.79	-1.15	-1.20	-1.17	-1.21
21	.....	.....	-.63	-.76	-.30	-.45	-.79	-.96	-1.13	-1.17	-1.15	-1.21
22	.....	.....	-.71	-.77	-.40	-.48	-.96	-1.11	-1.15	-1.20	-1.13	-1.27
23	.....	.....	-.15	-.71	-.37	-1.05	-1.11	-1.21	-1.18	-1.29	-1.22	-1.28
24	.....	.....	+.69	-.15	-1.05	-1.36	-1.18	-1.31	-1.27	-1.36	-1.21	-1.30
25	-1.31	-1.38	+.74	+.68	-1.36	-1.60	-1.26	-1.34	-1.30	-1.41	-1.21	-1.30
26	-1.34	-1.50	+.75	+.51	-1.57	-1.69	-1.27	-1.34	-1.37	-1.45	-1.22	-1.33
27	-1.42	-1.50	+.63	+.39	-1.21	-1.70	-1.26	-1.42	-1.36	-1.46	-1.25	-1.35
28	-1.22	-1.44	+.43	.....	-.98	-1.21	-1.35	-1.46	-1.36	-1.89	-1.23	-1.33
29	-1.44	-1.62	.....	.....	-1.07	-1.22	-1.36	-1.49	-1.85	-1.95	-1.21	-1.31
30	-1.61	-1.70	.....	.....	-1.14	-1.37	-1.43	-1.53	-1.88	-1.97	-1.19	-1.25
31	-1.61	-1.69	.....	.....	-1.17	-1.31	.....	.....	-1.84	-1.94	.....	.....

Highest and lowest daily water level, in feet with reference to land-surface datum, 1942
(From recorder charts)

Day	July		August		September		October		November		December	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1	-0.98	-1.19	-0.22	-0.39	+1.08	+0.96	-0.80	-1.00	-2.14	-2.22	-1.60	-1.86
2	-.99	-1.02	-.16	-.23	+1.11	+1.01	-1.00	-1.20	-2.20	-2.27	-1.86	-2.17
3	-1.02	-1.08	-.23	-.44	+1.25	+1.12	-1.16	-1.27	-2.24	-2.38	-2.14	-2.38
4	-1.03	-1.08	-.44	-.53	+1.35	+1.20	-1.20	-1.36	-2.23	-2.44	-2.32	-2.54
5	-.97	-1.08	-.38	-.51	+1.35	+1.19	-1.31	-1.46	-2.31	-2.42	-2.37	-2.56
6	-.94	-1.00	-.25	-.38	+1.22	+1.14	-1.28	-1.44	-2.22	-2.34	-2.37	-2.54
7	-.97	-1.04	-.16	-.22	+1.23	+1.12	-1.25	-1.37	-2.15	-2.30	-2.35	-2.45
8	-1.02	-1.10	-.11	-.22	+1.21	+1.10	-1.26	-1.41	-2.16	-2.27	-1.35	-2.43
9	-1.04	-1.13	-.08	-.26	+1.18	+.74	-1.32	-1.50	-2.20	-2.34	-1.14	-1.36
10	-1.02	-1.12	-.00	-.20	+.74	+.67	-1.39	-1.49	-2.30	-2.42	-1.00	-1.16
11	-1.05	-1.13	-.05	-.23	+.75	+.25	-1.45	-1.55	-2.29	-2.41	-.83	-1.00
12	-1.01	-1.11	+.06	-.05	+.43	+.09	-1.53	-1.60	-2.39	-2.49	-.77	-.83
13	-1.06	-1.15	+.09	-.01	+.13	+.05	-1.56	-1.63	-2.40	-2.53	-.79	-.88
14	-.95	-1.15	+.14	+.04	....	....	-1.62	-1.67	-2.47	-2.59	-.88	-1.18
15	-.89	-1.04	+.92	+.09	....	....	-1.67	-1.75	-2.50	-2.57	-1.18	-1.63
16	-.92	-1.00	+1.12	+.92	....	.....	-1.71	-1.85	-2.50	-2.56	-1.32	-1.65
17	-.91	-.97	+1.54	+1.11	....	....	-1.78	-1.91	-2.47	-2.54	-1.27	-1.53
18	-.90	-.93	+1.60	+1.47	....	....	-1.77	-1.93	-2.49	-2.57	-1.44	-1.71
19	-.87	-.90	+1.52	+1.37	-.01	-.15	-1.72	-1.85	-2.48	-2.58	-1.58	-1.70
20	-.74	-.87	+1.41	+.54	+.34	-.02	-1.75	-1.85	-2.50	-2.58	-1.56	-1.71
21	-.62	-.77	+.54	+.43	+.52	+.32	-1.76	-1.86	-2.49	-2.58	-1.66	-1.73
22	-.58	-.64	+.76	+.45	+.35	+.02	-1.80	-1.92	-2.48	-2.56	-1.59	-1.74
23	-.47	-.62	+.84	+.71	+.01	-.17	-1.83	-1.95	-2.37	-2.55	-1.62	-1.74
24	-.43	-.56	+.90	+.74	-.13	-.27	-1.81	-1.94	-1.75	-2.41	-1.70	-1.77
25	-.48	-.64	+1.06	+.88	+.01	-.15	-1.85	-1.93	-1.49	-1.75	-1.70	-1.78
26	-.45	-.59	+1.13	+.61	+.14	+.01	-1.72	-1.91	-1.40	-1.52	-1.72	-1.78
27	-.38	-.56	+.71	+.49	+.17	+.07	-1.65	-1.85	-1.39	-1.51	-1.58	-1.70
28	-.48	-.59	+.80	+.65	+.32	-.17	-1.83	-1.91	-1.45	-1.55	-1.51	-1.73
29	-.42	-.56	+.86	+.64	-.17	-.48	-1.91	-2.08	-1.54	-1.56	-.70	-1.75
30	-.37	-.51	+.93	+.85	-.48	-.80	-1.93	-2.08	-1.56	-1.70	-.45	-.74
31	-.30	-.51	+.99	+.91	....	....	-2.05	-2.16	.....	.....	-.34	-.42

SOUTHEASTERN FLORIDA

By R. H. Brown

INTRODUCTION

During 1942 the observation-well program in southeastern Florida was continued in connection with the ground-water investigation made by the Geological Survey, United States Department of the Interior, in cooperation with Dade County and the cities of Miami, Miami Beach, and Coral Gables. It includes work in Broward, Dade, and Palm Beach Counties.

In southeastern Florida most wells that furnish potable water penetrate beds of sand, sandy limestone, or calcareous sandstone of Pleistocene and Pliocene age. The beds, which occur just below the surface, are permeable and readily yield large supplies of water. Beneath most of the region the beds are 100 to 150 feet thick, but they thin out toward The Everglades and in some places near the coast these increase in thickness to about 300 feet. Recharge occurs primarily through a combination of local penetration of rainfall and underground percolation from the adjacent Everglades. Figures 3 and 4 show the close correlation between rainfall and ground-water levels.

Beneath these highly permeable aquifers are thick beds of relatively impermeable material that serve as aquicludes for artesian water in underlying limestones of Miocene, Ogligocene, and Eocene age. As indicated in a previous paper,[1/] however, the artesian water in these limestones is generally too highly mineralized for domestic or public use.

Although most of the water-level observations made by the Geological Survey in 1942 in southeastern Florida are in Dade County, three automatic water-stage recorders were operated in the other two counties, one on a well in Broward County and one on each of two wells in Palm Beach County. Individual measurements of water level made during the year reached a total of about 6,000. Of the 135 observation wells measured regularly in Dade County, 11 are equipped with automatic water-stage recorders, and 1 is equipped with an automatic pressure recorder.

1/ Water levels and artesian pressure in observation wells in the United States in 1939: U. S. Geol. Survey Water-Supply Paper 886, p. 64, 1940.

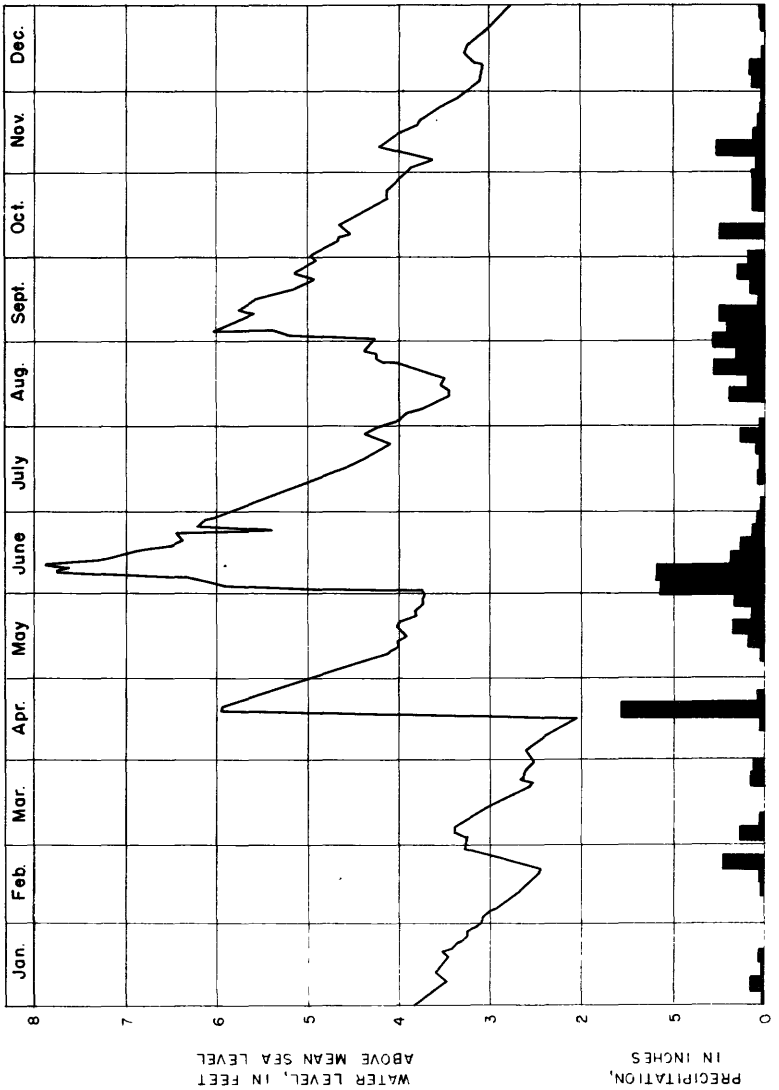

Figure 3.--Graph showing fluctuation of water level during 1942 in well S-196, and precipitation at the University of Florida Experiment Station, Homestead, Dade County, Fla.

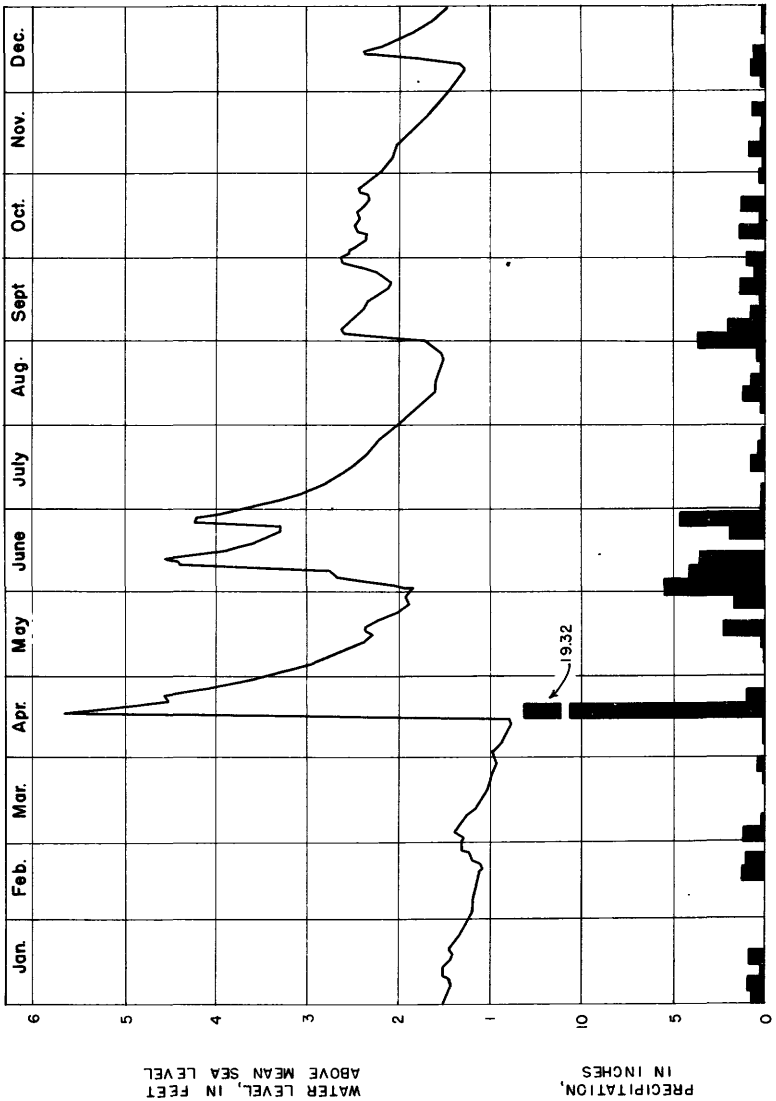

Figure 4.--Graph showing fluctuation of water level during 1942 in well S-18, at Opa Locka, Dade County, Fla., and precipitation at Miami Airport.

The rainfall at Miami during 1942 totaled 56.80 inches, as compared with a 37-year average of 58.87 inches. It was subnormal in January, May, and in each month of the period July to November; above normal in February, March, and December; and considerably above normal in April and June. The rainfall in April amounted to 13.62 inches, of which 13.14 inches occurred during the 3-day period April 16-18.

At the beginning of 1942 ground-water levels in the region were about 1 foot lower than at the beginning of 1941. They declined more or less steadily until the middle of April, when in some wells they reached the lowest stages since May 1940. The downward trend was reversed, however, following the heavy rains, and the water levels rose to stages that were generally 0.5 foot higher than during the corresponding period in 1941 and in places more than 3 feet higher. Water levels remained high through May and June, but in the early part of July they began to decline, and through the latter half of that month and all of August and September they maintained stages that were about equal to those of the corresponding period in 1941. Rains near the middle of December arrested the downward trend, and by the end of 1942 the water levels were about equal to or 0.1 foot lower than at the end of 1941. In areas bordering The Everglades, however, the water levels in some wells were as much as 2 feet lower than at the end of 1941.

Summary of data on ground-water levels for southeastern Florida

Well	First measured	Lowest observed level, in feet below measuring point		Highest observed water level, in feet below measuring point		Water level on last date of record in 1942
		Water level	Date	Water level	Date	
D151	Dec. 21, 1939	12.64	June 4, 1941	d7.3	Sept. 22, 1940	11.87
F9	July 6, 1939	a7.19	Apr. 22, 1940	a3.52	Sept. 23, 1940	a7.02
F12	June 28, 1939	a11.09	Mar. 18, 1940	a6.50	Sept. 23, 1940	a10.72
F25	June 27, 1939	a9.50	June 27, 1939	a5.43	Sept. 24, 1940	a8.36
F62	Nov. 7, 1939	12.68	June 10, 1941	7.01	Sept. 24, 1940	12.29
F109	Nov. 10, 1939	10.74	Apr. 30, 1940 May 7, 1940 May 28, 1940	7.32	Oct. 1, 1940	10.33
F174	Nov. 17, 1939	13.60	May 7, 1940	8.65	Sept. 23, 1940	13.16
F179	Nov. 17, 1939	10.43	Apr. 18, 1940	d5.90	Sept. 22, 1940	d9.85
F186	Nov. 18, 1939	13.11	May 28, 1940	7.47	Sept. 24, 1940	12.58
F233	Nov. 14, 1939	11.87	Apr. 30, 1940	9.11	Sept. 25, 1940	11.54
F234	Nov. 13, 1939	7.57	June 10, 1941	4.26	Sept. 24, 1940	6.94
F240	Nov. 20, 1939	10.02	May 20, 1940 Apr. 13, 1942	5.50	Sept. 24, 1940	9.57
F243	Nov. 25, 1939	10.56	Apr. 13, 1942	6.78	Sept. 24, 1940	9.95
F253	Nov. 25, 1939	8.32	Apr. 13, 1942	4.36	Sept. 23, 1940	8.15

Summary of data on ground-water levels for southeastern Florida--Continued

Well	First measured	Lowest observed level, in feet below measuring point		Highest observed water level, in feet below measuring point		Water level on last date of record in 1942
		Water level	Date	Water level	Date	
F268	Nov. 22, 1939	8.19	Apr. 13, 1942	4.18	Sept. 23, 1940	8.08
F273	Dec. 6, 1939	14.42	June 10, 1941	10.07	Sept. 24, 1940	13.82
F284	Dec. 7, 1939	12.72	May 20, 1940 May 27, 1940	8.68	Sept. 24, 1940	12.09
F309	Jan. 9, 1940	10.85	Apr. 13, 1942	6.90	Sept. 24, 1940	10.42
F331	Jan. 12, 1940	7.68	Apr. 13, 1942	2.40	Sept. 23, 1940	6.78
G3	Feb. 1, 1940	d7.39	Apr. 12, 1942 Apr. 13, 1942	d3.02	Sept. 21, 1940	d7.31
G16	Mar. 7, 1940	6.11	Apr. 30, 1940	1.95	Sept. 23, 1940	5.78
G72	May 29, 1940	7.60	May 29, 1940	3.56	Sept. 30, 1940	d6.87
G113	Aug. 13, 1940	13.10	Mar. 16, 1942	9.67	Sept. 24, 1940	12.96
G121	Aug. 22, 1940	10.81	Aug. 19, 1941	8.35	Sept. 25, 1940	10.64
G123	Aug. 21, 1940	10.07	Mar. 16, 1942	7.64	Oct. 16, 1940 Oct. 23, 1940	9.74
S1A	May 19, 1927	b-1.5	Mar.11-15,1939 Apr.21-23,1939 Feb. 3, 1940	b7.8	Oct. 14, 1929 Oct. 15, 1929	b- .1
S18	June 22, 1939	a9.90	June 22, 1939	d4.50	Apr. 17, 1942	d8.64
S19	Nov. 20, 1939	d8.50	Apr. 18, 1940	d2.86	Sept. 21, 1940	d8.06
S171	Mar. 13, 1940	4.06	Apr. 10, 1940	1.50	Sept. 23, 1940	3.53
S182	Jan. 25, 1940	d12.35	May 30, 1940	d4.22	Sept. 21, 1940	d10.25
S191	Feb. 20, 1940	d8.20	May 30, 1940 May 31, 1940	d .72	Sept. 21, 1940 Sept. 22, 1940	6.10
S196	Oct. 4, 1932	c10.71	May 10, 1939	c .74	Oct. 5, 1933	c7.50
S233	Aug. 17, 1939	a6.42	Apr. 13, 1942	a1.67	Sept. 24, 1940	a4.68
S290	May 31, 1940	18.04	Apr. 13, 1942	13.30	Sept. 24, 1940	16.59
F294	Dec. 7, 1939	15.58	May 20, 1940	11.03	Sept. 24, 1940	14.69
S329	Sept. 3, 1940	7.56	June 10, 1941	1.76	Sept. 21, 1940	7.18
S1042	Apr. 18, 1941	d8.27	Aug. 11, 1942	5.12	Apr. 18, 1942	d7.65
S1140	July 18, 1941	d15.94	Dec. 31, 1942	10.26	Jan. 24, 1942	d15.94

a Record furnished by city of Miami Beach.
b Record furnished by city of Miami and referred to city of Miami datum.
c Record furnished by University of Florida Subtropical Experiment Station, Homestead, Fla.
d From recorder chart.
e Estimated.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

In the three counties that make up southeastern Florida individual measurements of water level to a total of 2,840 were made in 39 observation wells. These measurements are given, by wells, in the records that follow. Complete records through 1942 are given for wells for which records have not been published in earlier annual water-supply papers on water levels. The altitudes of measuring points given are considered only approximate, as it is likely that they may be changed slightly--less than 0.2 foot--when the level network is adjusted. Water levels given for wells equipped with water-stage recorders are tape measurements used in setting or checking the instrument charts.

The numbers in parentheses immediately following the numbers of the wells refer to the water-supply papers in which earlier records appear and the appropriate pages in those papers. An asterisk before the number of a water-supply paper indicates that the well is described in that paper.

Broward County

F294 (*907, p. 34; 937, p. 26). City of Hollywood. SE¼SE¼ sec. 9, T. 51 S., R. 42 E. Measurements discontinued Jan. 6, 1942. Water level, in feet below measuring point, 1942: Jan. 6, 14.69.

S329 (*907, p. 34; 937, p. 27). City of Fort Lauderdale. SW¼NE¼ sec. 12, T. 50 S., R. 41 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	6.61	Apr. 8	7.30	July 16	4.60	Oct. 15	5.65
13	5.89	16	4.51	23	5.33	22	5.86
16	6.00	23	3.79	30	5.76	29	5.95
23	5.57	30	4.89	Aug. 6	6.12	Nov. 5	6.38
28	5.93	May 7	5.24	13	6.41	11	6.64
Feb. 5	6.19	14	5.40	20	6.51	19	6.98
13	6.37	21	5.31	27	6.71	26	7.22
19	6.46	28	5.29	Sept. 3	5.39	Dec. 3	7.43
26	6.12	June 4	4.97	10	5.52	10	7.30
Mar. 12	6.57	18	4.11	17	5.88	17	6.72
19	6.65	25	3.94	24	5.59	24	7.04
26	6.86	July 2	3.88	Oct. 1	5.63	31	7.15
Apr. 3	7.02	9	4.33	8	5.99		

Dade County

D151 (*886, p. 66;*907, p. 28; 937, p. 23). Peoples Water and Gas Company. Center of sec. 16, T. 52 S., R. 42 E. Automatic water-stage recorder removed Jan. 17, 1942.

Water level, in feet below measuring point, 1942

Jan. 6	12.25	Mar. 16	12.48	June 22	11.19	Sept.28	11.66
13	12.11	30	12.28	July 6	11.56	Oct. 12	11.19
17	12.21	Apr. 13	12.48	20	11.82	26	11.24
19	12.10	27	10.02	Aug. 3	12.06	Nov. 9	11.30
Feb. 2	12.26	May 11	11.12	17	12.43	23	11.85
16	12.22	25	11.96	31	12.07	Dec. 7	12.19
Mar. 2	11.93	June 8	11.39	Sept.14	11.60	21	11.87

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F9 (*886, p. 65;*907, p. 29; 937, p. 23). City of Miami Springs. SW¼SE¼ sec. 19, erroneously given as SE¼SE¼ in Water-Supply Paper 907, T. 53 S., R. 41 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	6.81	Mar. 30	6.97	July 6	6.13	Oct. 12	5.45
19	6.75	Apr. 13	7.10	20	6.17	26	5.76
28	6.87	27	5.17	31	6.23	30	5.89
Feb. 2	6.95	29	5.41	Aug. 3	6.20	Nov. 9	5.76
12	6.91	May 11	6.35	17	6.43	23	6.48
16	6.92	25	6.89	28	6.30	27	6.66
25	6.65	29	6.67	31	6.10	Dec. 7	6.85
Mar. 2	6.75	June 8	5.76	Sept.14	5.62	21	6.99
16	7.17	22	5.41	28	5.60	Dec. 30	7.02
27	6.92	26	5.74	30	5.71		

F12 (*886, p. 66;*907, p. 29; 937, p. 23). City of Miami Springs. NE¼SE¼ sec. 24, erroneously given as SE¼NE¼ in Water-Supply Paper 907, T. 53 S., R. 40 E.

Water level, in feet below measuring point, 1942

Jan. 5	10.23	Mar. 30	10.62	July 6	8.91	Oct. 12	8.49
19	9.95	Apr. 13	10.78	20	9.22	26	9.18
28	10.58	27	8.19	31	9.45	30	9.24
Feb. 2	10.49	29	8.55	Aug. 3	9.37	Nov. 9	9.14
12	10.94	May 11	9.73	17	9.50	23	9.98
16	10.93	25	10.42	28	9.37	27	10.00
25	10.28	29	10.41	31	9.13	Dec. 7	10.45
Mar. 2	10.27	June 8	9.01	Sept.14	8.62	21	10.53
16	11.07	22	8.14	28	8.53	30	10.72
27	10.80	26	8.27	30	8.62		

F25 (*886, p. 65;*907, p. 26; 937, p. 23). City of Opa Locka. NE¼SW¼ sec. 21, T. 52 S., R. 41 E.

Water level, in feet below measuring point, 1942

Jan. 5	8.40	Apr. 13	9.18	July 20	7.60	Oct. 12	7.42
19	8.34	27	6.52	Aug. 3	7.88	26	7.68
Feb. 2	8.48	May 11	7.78	17	8.00	Nov. 9	7.90
16	8.78	25	8.22	31	7.56	23	8.28
Mar. 2	8.53	Jume 8	7.03	Sept.14	7.30	Dec. 7	8.66
16	8.84	22	6.79	28	6.84	21	8.36
30	8.99	July 6	6.92				

F62 (*886, p. 67;*907, p. 30; 937, p. 24). City of Miami. SE¼SE¼ sec. 14, T. 53 S., R. 41 E.

Water level, in feet below measuring point, 1942

Jan. 6	12.33	Apr. 13	12.57	July 20	11.89	Oct. 12	11.39
19	12.30	27	8.43	Aug. 3	12.08	25	11.40
Feb. 2	12.37	May 11	10.93	17	12.39	Nov. 8	11.50
16	12.43	25	11.88	31	12.26	22	11.88
Mar. 2	12.08	June 8	11.29	Sept.14	11.45	Dec. 7	12.25
16	12.44	22	10.59	28	11.65	20	12.29
30	12.42	July 6	11.32				

F109 (*886, p. 67;*907, p. 30; 937, p. 24). City of Miami. NE¼SE¼ sec. 10, T. 53 S., R. 41 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	10.41	Apr. 13	10.71	July 20	9.87	Oct. 12	9.34
19	10.37	27	7.43	Aug. 3	10.06	25	9.46
Feb. 2	10.47	May 11	9.37	17	10.29	Nov. 8	9.55
16	10.49	25	10.15	31	10.10	22	9.96
Mar. 2	10.22	June 8	9.19	Sept.14	9.35	Dec. 7	10.40
16	10.60	22	8.74	28	9.51	20	10.33
30	10.56	July 6	9.41				

F174.City of Miami. SW¼NE¼ sec. 9, T. 54 S., R. 41 E. Southeast corner of Southwest 31st Avenue and 12th Street. Drilled fire well, diameter 6 inches, depth 67.0 feet. Measuring point, lip of hydrant, 2.0 feet above land surface and approximately 14.67 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Nov. 17, 1939	11.45	Aug. 19, 1940	12.10	Aug. 4, 1931	12.86
20	10.98	26	12.26	18	13.33
27	11.48	Sept. 2	12.43	28	13.26
Dec. 4	11.94	9	12.17	Sept. 1	13.30
11	12.46	16	11.43	16	12.95
19	12.87	23	8.65	29	12.35
26	13.10	30	9.70	Oct. 13	12.61
Jan. 3, 1940	12.89	Oct. 7	10.57	24	12.66
8	12.99	14	11.35	25	12.68
16	12.81	21	11.86	27	12.69
22	12.89	28	12.41	Nov. 10	12.88
29	13.13	Nov. 4	12.26	24	12.67
Feb. 5	13.27	11	12.37	Dec. 8	12.89
12	13.12	18	12.78	22	13.16
19	13.10	25	12.83	Jan. 5, 1942	13.33
26	13.14	Dec. 2	13.00	19	13.36
Mar. 5	13.27	9	13.12	Feb. 2	13.46
12	13.28	16	13.23	4	13.48
19	13.41	23	13.28	16	13.47
26	13.40	30	12.66	Mar. 2	13.13
Apr. 2	13.02	Jan. 13, 1941	12.66	16	13.48
8	13.39	27	12.50	30	13.31
15	13.48	Feb. 10	12.38	Apr. 13	13.49
18	13.48	17	12.08	27	10.30
20	13.47	Mar. 3	12.73	May 11	12.13
22	13.51	17	13.01	25	13.01
29	13.58	26	12.81	June 8	11.89
May 7	13.60	31	12.85	22	11.25
13	13.55	Apr. 14	12.43	July 6	12.26
20	13.57	23	12.83	20	12.92
27	13.49	28	12.95	Aug. 3	12.94
June 3	10.90	May 12	12.41	17	13.35
10	11.62	26	13.05	31	13.11
17	12.28	28	13.12	Sept.14	12.18
24	12.71	June 9	13.47	28	12.61
July 1	12.70	21	13.49	Oct. 12	12.32
8	12.94	23	13.44	25	12.02
15	13.15	26	13.19	Nov. 8	12.21
23	13.36	July 7	12.72	22	12.59
29	13.32	21	11.91	26	12.75
Aug. 5	13.17	24	12.27	Dec. 7	13.11
14	12.58	26	12.43	20	13.16

F179.City of Miami. SE¼NW¼ sec. 16, T. 54 S., R. 41 E. Southwest corner of Southwest 32nd Avenue and 24th Terrace. Drilled fire well, diameter 6 inches, depth 77.1 feet. Measuring point, top of nailhead driven horizontally into recorder shelf, 2.4 feet above land surface and approximately 11.17 feet above mean sea level, 1929 adjustment. Recorder installed May 18, 1940. Measurements prior to May 18, 1940, have been corrected to measuring point described above.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Nov. 17, 1939	8.3	Mar. 17, 1941	9.63	Jan. 19, 1942	9.87
Apr. 18, 1940	10.4	24	9.47	26	10.03
May 18	10.03	31	9.47	Feb. 2	9.98
25	10.02	Apr. 7	9.53	3	10.00
June 1	8.98	14	9.08	9	9.98
6	8.14	21	9.37	16	9.93
10	8.58	28	9.52	23	9.73
13	8.78	May 5	8.91	Mar. 2	9.70
17	9.04	12	9.04	9	9.85
20	9.20	19	9.37	16	10.04
21	9.25	26	9.62	23	9.95
24	9.40	June 2	9.89	30	9.83
27	9.26	9	9.98	Apr. 13	10.00
July 1	9.43	16	10.04	20	5.95
8	9.54	23	9.92	27	7.39
15	9.74	26	9.58	May 4	8.28
22	9.88	30	9.64	11	8.88
29	9.86	July 7	9.10	18	9.34
Aug. 5	9.71	14	7.93	25	9.64
12	9.34	21	8.74	June 1	9.70
19	8.86	25	9.12	8	8.61
26	9.00	29	9.26	15	7.70
Sept. 2	9.23	Aug. 4	9.47	22	8.03
9	8.79	11	9.77	29	8.59
16	8.24	18	9.87	July 6	8.99
23	5.94	25	9.72	13	9.36
30	6.68	28	9.74	20	9.46
Oct. 7	7.45	Sept. 1	9.83	27	9.54
12	8.09	8	9.64	Aug. 3	9.60
14	8.20	15	9.49	10	9.76
21	8.58	22	9.06	17	9.89
28	8.87	24	8.93	24	9.87
Nov. 4	8.90	29	8.88	31	9.62
11	8.99	Oct. 5	8.99	Sept. 7	8.62
18	9.27	7	9.03	14	8.85
25	9.46	13	9.17	21	9.12
Dec. 2	9.62	20	9.12	28	9.15
9	9.74	24	9.29	Oct. 5	8.85
16	9.77	27	9.32	12	8.87
23	9.75	Nov. 3	9.43	19	8.83
30	9.27	10	9.51	25	8.59
Jan. 6, 1941	9.49	17	9.30	Nov. 2	8.68
13	9.28	24	9.24	8	8.71
20	9.04	Dec. 1	9.19	16	8.87
27	9.21	8	9.54	22	9.15
Feb. 3	9.32	12	9.65	30	9.48
10	9.08	15	9.70	Dec. 7	9.67
17	8.97	22	9.71	14	9.58
24	9.17	29	9.84	20	9.67
Mar. 3	9.38	Jan. 5, 1942	9.89	28	9.77
10	9.38	12	9.82		

F186 (*886, p. 66;*907, p. 32; 937, p. 24). City of Miami. SE¼SE¼ sec. 1, T. 54 S., R. 40 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	12.20	Apr. 13	12.76	July 6	11.09	Oct. 12	11.17
19	12.26	27	9.61	20	11.81	25	11.02
Feb. 2	12.46	May 11	11.36	Aug. 3	11.93	Nov. 8	11.33
10	12.54	25	12.13	17	12.12	22	11.61
16	12.58	June 8	10.25	31	11.84	Dec. 7	12.25
Mar. 2	12.25	22	9.97	Sept.14	10.78	20	12.46
16	12.54	29	10.61	28	11.19	30	12.58
30	12.69	30	10.74				

F233 (*886, p. 67;*907, p. 30; 937, p. 24). City of Miami. SW¼SE¼ sec. 33, T. 53 S., R. 41 E.

Water level, in feet below measuring point, 1942

Jan. 6	11.53	Apr. 13	11.65	July 20	11.14	Oct. 12	10.41
19	11.45	27	10.03	Aug. 3	11.21	25	10.46
Feb. 2	11.56	May 11	10.99	17	11.50	Nov. 8	10.33
16	11.42	25	11.61	31	11.07	22	11.07
Mar. 2	11.24	June 8	10.53	Sept.14	10.71	Dec. 7	11.45
16	11.72	22	10.53	28	10.73	20	11.54
30	11.47	July 6	11.17				

F234.City of Miami. NW¼NW¼ sec. 27, T. 53 S., R. 41 E. Southeast corner of Northwest 27th Avenue and 36th Street. Drilled fire well, diameter 6 inches, depth 45.0 feet. Measuring point, lip of hydrant, 0.5 foot below land surface and approximately 7.87 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Nov. 13, 1939	5.95	Dec. 31, 1940	6.71	Dec. 23, 1941	6.58
July 9, 1940	6.94	Jan. 14, 1941	6.35	Jan. 6, 1942	6.58
16	7.49	28	6.83	19	6.82
23	7.30	Feb. 11	6.34	Feb. 2	6.93
30	7.47	17	6.45	16	6.83
Aug. 6	7.02	Mar. 4	6.87	Mar. 2	6.64
13	6.51	18	7.33	16	7.06
20	6.48	Apr. 1	6.97	30	6.90
27	6.62	15	6.84	Apr. 27	4.89
Sept. 3	6.73	29	7.01	May 11	6.20
10	6.07	May 12	6.76	25	6.88
17	5.77	27	7.33	June 8	5.86
24	4.26	June 10	7.57	22	5.82
Oct. 1	4.75	24	7.42	July 6	6.37
8	5.62	July 8	6.49	20	6.40
15	5.90	23	6.77	Aug. 3	6.54
22	6.02	Aug. 6	7.11	17	6.78
29	5.94	19	6.94	31	6.48
Nov. 5	6.19	Sept. 2	6.77	Sept.14	5.97
12	6.25	16	6.62	28	6.02
19	6.65	30	6.10	Oct. 12	5.75
26	6.77	Oct. 14	6.37	25	5.90
Dec. 3	6.94	28	6.47	Nov. 8	5.94
10	7.04	Nov. 11	6.60	22	6.46
17	7.16	25	6.23	Dec. 7	6.93
24	6.88	Dec. 9	6.61	20	6.94

F240 (*886, p. 67; *907, p. 30; 937, p. 24). City of Hialeah. NW¼NE¼ sec. 8, T. 53 S., R. 41 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	9.49	Mar. 16	9.77	June 22	7.31	Sept. 28	8.16
19	9.54	30	9.85	July 6	8.09	Oct. 12	8.23
Feb. 2	9.64	Apr. 13	10.02	20	8.78	26	8.54
5	9.69	27	5.89	Aug. 3	8.97	Nov. 9	8.78
6	9.69	May 11	8.31	17	9.20	23	9.11
7	9.70	25	9.23	31	8.98	Dec. 7	9.59
16	9.77	June 8	8.02	Sept.14	7.99	21	9.57
Mar. 2	9.46						

F243.City of Hialeah. NE¼NE¼ sec. 31, T. 52 S., R. 41 E. Northwest corner of East 4th Avenue and 61st Street. Drilled fire well, diameter 6 inches, depth 65.5 feet. Measuring point, lip of hydrant, 3.4 feet above land surface and approximately 11.38 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Nov. 25, 1939	8.92	Jan. 13, 1941	8.84	Dec. 22, 1941	9.47
July 9, 1940	9.53	27	9.27	Jan. 5, 1942	9.76
15	9.80	Feb. 10	8.63	19	9.82
22	10.00	11	8.65	Feb. 2	9.98
29	9.93	13	8.70	5	10.03
Aug. 5	9.79	14	8.73	6	10.04
10	9.76	15	8.78	7	10.06
12	9.75	17	8.91	16	10.18
16	8.18	Mar. 3	9.43	Mar. 2	10.00
19	8.18	17	9.68	16	10.25
26	8.86	31	9.48	30	10.41
28	8.84	Apr. 14	9.13	Apr. 13	10.56
29	8.80	28	9.68	27	7.78
30	8.77	May 12	9.38	May 11	9.21
Sept. 2	8.94	26	9.88	25	9.63
9	8.09	June 9	10.32	June 8	8.26
16	7.78	23	10.32	22	8.19
24	6.78	27	9.93	July 6	8.28
30	7.20	July 7	8.84	20	8.84
Oct. 7	7.70	21	8.55	Aug. 3	8.99
14	7.96	Aug. 4	9.17	17	9.08
21	8.22	18	9.15	31	8.20
28	8.26	Sept. 1	9.30	Sept.14	8.16
Nov. 4	7.97	15	9.26	28	8.00
11	8.43	29	8.74	Oct. 12	8.65
18	8.63	Oct. 13	9.02	26	9.02
25	8.85	27	9.19	Nov. 9	9.28
Dec. 7	9.21	Nov. 10	9.31	23	9.66
23	9.34	24	8.73	Dec. 7	10.08
30	8.74	Dec. 8	9.10	21	9.95

F253.City of Hialeah. SE¼NW¼ sec. 12, T. 53 S., R. 40 E. Southwest corner of West 9th Avenue and 30th Street. Drilled fire well, diameter 6 inches, depth 47.4 feet. Measuring point, lip of hydrant, 3.6 feet above land surface and approximately 9.27 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Nov. 25, 1939	5.98	Oct. 7, 1940	5.18	Oct. 13, 1941	6.27
Feb. 5, 1940	7.60	14	5.38	27	6.47
12	7.46	21	5.60	Nov. 10	6.65
19	7.44	28	5.51	24	6.32
26	7.62	Nov. 4	5.55	Dec. 8	6.69
Mar. 4	7.85	11	5.80	18	6.94
11	7.96	18	6.09	22	7.02
18	8.14	25	6.29	Jan. 5, 1942	7.49
25	8.09	Dec. 7	6.70	19	7.60
Apr. 1	7.23	23	6.83	Feb. 2	7.82
8	7.81	30	6.39	5	7.85
15	8.14	Jan. 13, 1941	6.54	6	7.85
22	8.24	27	6.87	7	7.86
29	8.05	Feb. 10	6.36	12	7.94
May 6	8.13	11	6.13	16	7.96
13	8.16	13	6.31	Mar. 2	7.76
20	8.20	14	6.32	16	8.11
27	8.24	15	6.37	30	8.15
June 3	5.97	17	6.47	Apr. 13	8.32
10	6.99	22	6.71	27	5.97
17	7.10	Mar. 3	7.03	May 11	7.27
24	7.45	17	7.36	25	7.72
July 1	7.64	31	7.15	June 8	6.13
8	7.47	Apr. 14	6.83	22	5.34
15	7.80	28	7.37	July 1	5.65
22	7.93	May 12	6.97	6	5.68
29	7.81	26	7.67	20	6.01
Aug. 5	7.54	30	7.90	Aug. 3	6.12
12	7.22	June 9	8.14	17	6.33
19	6.45	23	7.80	31	5.56
26	6.50	27	7.14	Sept.14	5.54
28	6.49	July 7	6.44	28	5.65
29	6.47	21	6.19	Oct. 12	6.17
30	6.53	Aug. 4	6.42	26	6.66
Sept. 2	6.53	18	6.67	Nov. 9	6.90
9	6.12	Sept. 1	6.85	23	7.54
16	5.38	15	6.73	Dec. 7	8.03
23	4.36	16	6.59	21	8.10
30	4.82	29	6.06	29	8.15

F268 (*886, p. 67;*907, p. 31; 937, p. 25). City of Hialeah. SW¼SE¼ sec. 18, T. 53 S., R. 41 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	7.82	Apr. 13	8.19	July 20	6.96	Oct. 12	6.35
19	7.74	27	5.27	31	7.04	26	6.69
28	7.93	29	5.64	Aug. 3	7.01	30	6.79
Feb. 2	7.91	May 11	6.95	17	7.27	Nov. 9	6.82
16	8.00	25	7.75	28	7.24	23	7.44
25	7.66	29	7.68	31	7.06	27	7.61
Mar. 2	7.65	June 8	6.53	Sept.14	6.30	Dec. 7	7.82
16	8.10	22	5.90	28	6.39	21	7.95
27	8.07	26	6.29	30	6.49	30	8.08
30	7.95	July 6	6.65				

F273.Town of North Miami. SW¼NE¼ sec. 29, T. 52 S., R. 42 E. East side of Northeast 14th Avenue at end of 127th Street. Drilled fire well, diameter 6 inches, depth 73.5 feet. Measuring point, lip of hydrant, 1.7 feet above land surface and approximately 14.86 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Dec. 6, 1939	13.33	Jan. 28, 1941	13.58	Jan. 19, 1942	13.91
July 9, 1940	13.82	Feb. 17	13.04	Feb. 2	14.08
15	14.09	Mar. 4	13.73	16	14.04
22	14.26	18	14.08	Mar. 2	13.76
29	14.30	31	13.73	16	14.22
Aug. 5	14.09	Apr. 15	13.31	30	14.12
12	13.35	29	13.81	Apr. 13	14.32
20	12.94	May 13	13.64	27	11.36
27	13.32	27	14.20	May 11	12.89
Sept.3	13.52	June 10	14.42	25	13.66
10	11.00	24	14.29	June 8	13.06
17	11.13	July 8	13.43	22	12.73
24	10.07	22	13.38	July 6	13.23
Oct. 1	10.98	Aug. 5	13.99	20	13.70
9	12.06	19	14.34	Aug. 3	13.95
16	12.64	Sept. 2	14.01	17	14.26
22	12.95	16	13.98	31	13.94
30	12.15	30	13.30	Sept.14	13.39
Nov. 5	12.69	Oct. 14	13.78	28	13.49
12	13.13	28	13.79	Oct. 12	13.11
19	13.50	Nov. 11	13.89	26	13.08
26	13.73	25	13.19	Nov. 9	13.12
Dec. 8	13.86	Dec. 9	13.53	23	13.66
24	13.43	23	13.76	Dec. 7	14.03
31	13.05	Jan. 6, 1942	14.07	21	13.82
Jan.14, 1941	13.07				

F284 (*886, p. 66;*907, p. 28; 937, p. 25). Town of North Miami. SW¼SE¼ sec. 26, T. 52 S., R. 41 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	12.28	Apr. 13	12.65	July 20	11.68	Oct. 12	11.30
19	12.19	27	9.95	Aug. 3	11.94	26	11.40
Feb. 2	12.35	May 11	11.32	17	12.22	Nov. 9	11.46
16	12.36	25	11.96	31	11.99	23	11.94
Mar. 2	12.19	June 8	11.21	Sept.14	11.41	Dec. 7	12.29
16	12.50	22	10.58	28	11.39	21	12.09
30	12.48	July 6	11.08				

F288 (*886, p. 66;*907, p. 28; 937, p. 25). Town of North Miami Beach. SW¼SW¼ sec. 7, T. 52 S., R. 42 E.

Water level, in feet below measuring point, 1942

Jan. 6	9.67	Apr. 13	10.29	July 20	8.80	Oct. 12	8.56
19	9.60	27	7.10	Aug. 3	9.28	26	8.56
Feb. 2	9.81	May 11	8.38	17	9.68	Nov. 9	8.95
16	9.92	25	8.97	31	9.62	23	9.38
Mar. 2	9.68	June 8	8.40	Sept.14	8.88	Dec. 7	9.77
16	10.03	22	7.68	28	8.71	21	9.12
30	10.09	July 6	8.08				

F309. City of Coral Gables. NE¼SE¼ sec. 18, T. 54 S., R. 41 E. Southwest corner of Riviera Drive and Toledo Street. Drilled fire well, diameter 4 inches, depth 13.9 feet. Measuring point, lip of hydrant, 0.6 foot above land surface and approximately 11.82 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Jan. 9, 1940	10.46	Jan. 13, 1941	10.03	Jan. 6, 1942	10.58
July 9	10.34	27	9.97	19	10.62
16	10.56	Feb. 10	9.80	Feb. 2	10.77
22	10.72	17	9.59	16	10.75
30	10.82	Mar. 3	10.10	Mar. 2	10.47
Aug. 6	10.62	17	10.36	16	10.82
14	10.12	31	10.18	30	10.71
20	9.39	Apr. 14	9.76	Apr. 13	10.85
27	9.71	28	10.23	27	8.23
Sept. 3	9.96	May 12	9.69	May 11	9.66
10	9.59	26	10.30	25	10.40
17	8.90	June 9	10.72	June 8	9.23
24	6.90	23	10.80	22	8.79
Oct. 1	7.61	July 7	10.07	July 6	9.60
8	8.30	21	9.39	20	10.16
14	8.92	Aug. 4	9.98	Aug. 3	10.37
21	9.35	18	10.47	17	10.62
29	9.68	Sept. 1	10.50	31	10.39
Nov. 4	9.63	16	10.14	Sept. 14	9.53
11	9.73	29	9.57	28	9.84
18	10.11	Oct. 13	9.74	Oct. 12	9.55
25	10.19	27	9.96	25	9.24
Dec. 2	10.41	Nov. 10	10.15	Nov. 8	9.41
9	10.50	24	9.88	22	9.84
16	10.59	Dec. 8	10.15	Dec. 7	10.37
23	10.52	22	10.33	20	10.42
30	10.06				

F331. Town of South Miami. NE¼NE¼ sec. 35, T.54 S., R. 40 E. South side of Sunset Drive about 300 feet west of Ludlum Road. Dug fire well, about 4 feet square, depth 10.9 feet. Measuring point, top of concrete curb, flush with land surface and approximately 9.72 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1940-42

Jan. 12, 1940	6.12	Jan. 27, 1941	5.85	Jan. 5, 1942	6.65
July 15	6.52	Feb. 10	5.69	19	6.82
22	6.75	17	5.40	Feb. 2	7.07
30	6.95	Mar. 3	5.75	16	7.29
Aug. 5	7.01	17	5.90	Mar. 2	7.18
12	6.65	31	5.50	16	7.24
20	5.43	Apr. 14	5.07	30	7.48
26	5.07	16	5.20	Apr. 13	7.68
Sept. 2	5.31	29	5.90	27	4.81
9	4.68	May 12	4.69	May 11	5.98
16	3.70	26	5.77	25	6.50
23	2.40	June 11	6.52	June 8	4.77
30	2.65	24	6.82	22	3.95
Oct. 7	3.38	July 8	6.36	July 6	5.02
14	4.02	22	4.55	20	5.89
21	4.70	Aug. 5	5.66	Aug. 3	6.36
28	5.06	18	6.13	17	6.77
Nov. 4	4.33	Sept. 1	6.14	31	6.62
11	4.76	16	6.34	Sept. 14	5.02
18	5.18	29	5.22	28	5.58
25	5.40	Oct. 13	5.40	Oct. 12	5.77
Dec. 2	5.80	27	5.45	25	4.85
9	5.97	Nov. 10	6.13	Nov. 8	5.47
16	6.27	24	6.11	22	6.15
23	6.26	Dec. 8	5.98	Dec. 7	6.78
30	5.90	22	6.33	20	6.78
Jan. 13, 1941	5.82				

G3. U. S. Geological Survey. NE¼SW¼ sec. 13, T. 53 S., R. 40 E. In Miami Springs, 0.30 mile east of Florida East Coast Railroad borrow pit and 0.32 mile west of city of Miami supply well 16. Dug and driven observation well, diameter 6 inches, depth 8.5 feet. Measuring point, top of casing at south side, 3.2 feet above land surface and approximately 8.08 feet above mean sea level, 1929 adjustment. Recorder installed Feb. 15, 1940.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Feb. 1, 1940	6.47	Dec. 1, 1940	5.51	Dec. 8, 1941	5.76
5	6.75	7	5.75	15	5.94
12	6.55	14	6.01	22	6.04
15	6.72	21	6.23	29	6.38
19	6.55	23	5.63	Jan. 5, 1942	6.53
26	6.75	30	5.50	12	6.47
Mar. 4	6.99	Jan. 6, 1941	5.80	19	6.60
11	7.10	13	5.53	26	6.79
18	7.28	20	5.85	Feb. 2	6.86
25	7.17	27	5.84	9	6.94
Apr. 1	6.62	Feb. 3	5.91	16	6.92
4	6.87	10	5.30	23	6.70
8	7.05	17	5.49	Mar. 2	6.79
11	7.21	24	5.80	9	6.88
15	7.29	Mar. 3	6.05	16	7.12
18	7.24	10	6.11	23	7.22
22	7,34	17	6.33	30	7.18
25	7.30	24	5.83	Apr. 6	7.22
29	6.92	31	6.14	13	7.37
May 2	6.67	Apr. 7	6.15	20	4.28
6	7.09	14	5.83	27	5.46
8	7.12	21	6.18	May 4	6.09
13	7.05	28	6.43	11	6.55
16	7.06	May 5	5.88	18	6.65
20	7.10	12	5.98	25	6.98
24	7.19	19	6.44	June 1	6.85
27	7.15	26	6.80	8	5.45
June 3	5.21	June 2	7.18	15	4.86
6	5.86	9	7.20	22	4.45
10	6.33	16	6.99	29	4.73
13	5.98	23	6.69	July 6	4.91
17	6.42	30	6.15	13	5.11
20	6.65	July 7	5.90	20	5.05
24	6.80	14	5.56	27	5.00
27	6.68	21	5.43	Aug. 3	5.14
July 1	6.90	28	5.50	10	5.40
8	6.70	31	5.45	17	5.35
15	7.00	Aug. 4	5.53	24	5.46
22	7.09	11	5.78	31	4.94
29	6.89	14	5.80	Sept. 7	4.54
Aug. 5	6.48	18	5.73	14	4.71
12	6.10	25	5.65	21	4.96
19	5.83	Sept. 1	5.95	28	4.84
26	5.87	8	5.82	Oct. 5	5.02
Sept. 2	6.02	15	5.77	12	5.15
9	5.48	22	4.92	19	5.43
16	4.65	29	4.93	26	5.66
23	3.58	Oct. 5	5.08	Nov. 2	5.98
30	3.88	13	5.33	9	5.79
Oct. 7	4.21	20	5.39	16	6.18
14	4.38	27	5.55	23	6.56
21	4.59	31	5.68	30	6.87
28	4.53	Nov. 3	5.67	Dec. 7	7.13
Nov. 4	4.58	10	5.78	14	7.01
11	4.80	17	5.20	21	7.17
18	5.18	24	5.39	28	7.19
25	5.35	Dec. 1	5.37		

G16. U. S. Geological Survey. SE¼NE¼ sec. 36, T. 53 S., R. 40 E. West side of Red Road, 100 feet north of Northwest 20th Street. Driven observation well, diameter 2 inches, depth 8.7 feet. Measuring point, top of casing, flush with land surface and approximately 6.75 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Mar. 7, 1940	5.78	Nov. 4, 1940	4.35	Nov. 24, 1941	4.59
11	5.77	11	4.48	Dec. 8	4.95
19	5.89	18	4.84	17	4.76
26	5.91	25	5.02	22	5.13
Apr. 2	5.66	Dec. 2	5.16	Jan. 5, 1942	5.43
9	5.98	9	5.27	19	5.41
16	6.04	16	5.37	Feb. 2	5.62
23	6.04	23	5.30	10	5.69
30	6.11	30	4.60	16	5.62
May 7	6.08	Jan. 13, 1941	4.59	Mar. 2	5.49
14	6.00	27	5.05	16	5.84
21	5.97	Feb. 10	4.15	30	5.80
28	6.03	17	4.58	Apr. 13	5.95
June 4	3.46	Mar. 3	5.17	26	4.09
11	4.98	17	5.40	May 11	5.27
18	5.19	31	5.23	25	5.76
25	5.54	Apr. 14	4.90	June 8	4.42
July 2	5.46	28	5.42	22	4.32
9	5.42	May 12	4.92	29	4.59
16	5.82	26	5.60	30	4.64
23	5.85	June 9	5.98	July 6	4.92
30	5.80	23	5.74	20	5.02
Aug. 6	5.01	July 7	4.79	Aug. 3	5.01
13	4.44	21	4.83	17	5.22
21	4.69	Aug. 4	5.16	31	4.87
26	4.01	14	5.29	Sept. 14	4.15
Sept. 2	4.91	18	5.33	28	4.29
9	4.54	Sept. 1	5.41	Oct. 12	4.08
16	4.13	15	5.13	25	4.34
23	1.95	17	5.05	Nov. 8	4.56
30	3.28	29	4.52	22	5.12
Oct. 7	3.71	Oct. 13	4.74	Dec. 7	5.60
14	4.17	27	4.80	20	5.72
21	4.72	Nov. 10	4.89	30	5.78
28	4.52				

G72. U. S. Geological Survey. NW¼NE¼ sec. 3, T. 52 S., R. 39 E. East side of Florida State Highway 26, at Dade-Broward county line. Driven observation well, diameter 2½ inches, depth 4.8 feet. Recorder installed May 29, 1940. Three measuring points, all referred to sea-level datum of 1929: First, top of metal strip fastened to recorder shelf, 4.4 feet above land surface and approximately 10.15 feet above mean sea level. Second (after 2½-inch well casing was replaced, on Mar. 20, 1941, by 8-inch casing), 5.0 feet above land surface and approximately 10.73 feet above mean sea level, depth of new well, 4.0 feet; recorder reinstalled Mar. 21, 1941. Third (after well was deepened, on May 26, 1942, to 4.6 feet), 10.65 feet above mean sea level. In the following table all water levels are expressed with reference to the third measuring point.

Water level, in feet below third measuring point, 1940-42

May 29, 1940	7.60	July 29, 1940	4.89	Sept. 30, 1940	3.56
June 3	5.03	Aug. 5	4.86	Oct. 7	3.57
10	4.84	12	4.83	14	3.62
17	4.80	19	4.59	21	3.72
24	5.04	26	4.48	28	3.74
July 1	4.89	Sept. 2	4.31	Nov. 4	3.60
8	4.98	9	3.97	12	3.77
15	4.92	16	3.82	18	3.92
22	4.88	23	3.57	25	4.04

G72. U. S. Geological Survey--Continued.

Water level, in feet below third measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Dec. 1, 1940	4.17	Aug. 18, 1941	4.31	Apr. 17, 1942	5.42
7	4.30	25	4.32	20	5.30
14	4.44	Sept. 1	4.40	26	5.59
21	4.55	8	4.31	May 4	6.25
23	4.44	15	4.37	18	5.73
30	4.38	22	4.10	24	6.72
Jan. 6, 1941	4.40	29	4.04	26	6.80
13	4.44	Oct. 5	4.05	June 1	6.12
20	4.44	13	4.13	7	4.60
27	4.49	20	4.19	15	4.02
Feb. 3	4.58	27	4.28	21	3.94
10	4.38	Nov. 3	4.40	29	3.73
17	4.35	10	4.39	July 5	3.66
24	4.43	17	4.34	13	3.73
Mar. 3	4.48	24	4.39	19	3.80
10	4.44	Dec. 1	4.43	27	3.72
17	4.48	8	4.52	Aug. 2	3.90
21	4.47	15	4.59	10	4.10
24	4.46	18	4.62	16	3.99
31	4.51	22	4.67	24	4.15
Apr. 7	4.49	29	4.76	30	4.18
14	4.43	Jan. 5, 1942	5.01	Sept. 6	3.88
21	4.51	12	4.90	13	3.93
28	4.57	19	5.17	21	4.06
May 5	4.55	26	5.52	27	4.06
12	4.53	Feb. 2	5.90	Oct. 5	4.19
19	4.71	9	6.25	11	4.38
26	5.30	16	6.55	19	4.57
June 2	6.07	23	6.08	25	4.61
9	6.64	Mar. 2	6.35	31	4.84
16	5.82	9	6.22	Nov. 6	5.26
23	4.92	10	6.34	14	5.77
30	4.80	16	6.68	15	5.86
July 7	4.31	21	6.91	20	6.19
14	4.42	23	6.93	27	6.67
21	4.28	30	6.78	Dec. 5	7.10
28	4.25	Apr. 6	6.87	12	7.02
Aug. 4	4.26	8	7.16	19	7.09
11	4.32	13	7.24	26	7.28

G113. U. S. Geological Survey. SE¼NE¼ sec. 25, T. 53 S., R. 41 E. Northeast corner of North Miami Avenue and 29th Street. Driven observation well, diameter 2 inches, depth 19.0 feet. Measuring point, top of casing, 0.6 foot above land surface and approximately 14.07 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Aug. 14, 1940	11.47	Dec. 3, 1940	12.69	June 11, 1941	13.00
20	11.98	10	12.72	24	12.88
27	11.77	17	12.82	July 8	11.86
Sept. 4	12.14	24	12.48	23	12.29
10	10.95	31	12.33	Aug. 6	12.70
18	11.02	Jan. 14, 1941	12.05	19	13.03
24	9.67	28	12.31	Sept. 2	12.98
Oct. 1	10.42	Feb. 11	12.05	16	12.74
8	10.99	17	12.04	Oct. 1	12.30
15	11.53	Mar. 4	12.58	14	12.55
22	11.77	18	12.88	28	12.60
29	11.73	Apr. 1	12.67	Nov. 11	12.64
Nov. 5	11.81	15	12.36	25	12.36
12	11.96	29	12.54	Dec. 9	12.75
19	12.33	May 12	12.33	23	12.73
26	12.59	27	12.84	Jan. 6, 1942	12.98

G113. U. S. Geological Survey--Continued.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Jan. 19, 1942	12.80	May 25, 1942	12.75	Sept.14, 1942	12.31
Feb. 2	12.93	June 8	12.24	28	12.34
16	12.85	22	11.95	Oct. 12	11.90
Mar. 2	12.60	July 6	12.43	25	11.97
16	13.10	20	12.50	Nov. 8	11.91
30	12.85	Aug. 3	12.60	22	12.46
Apr. 13	13.01	17	12.90	Dec. 7	12.86
27	10.72	31	12.64	20	12.96
May 11	12.08				

G121. U. S. Geological Survey. SE¼NE¼ sec. 35, T. 53 S., R. 41 E. East side of Northwest 10th Avenue, about 30 feet north of 14th Street. Driven observation well, diameter 2 inches, depth 11.4 feet. Measuring point, top of casing, 3.2 feet above land surface and approximately 11.60 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1940-42

Aug. 22, 1940	9.97	Mar. 4, 1941	10.33	Feb. 2, 1942	10.66
28	9.70	18	10.61	16	10.52
Sept. 4	10.01	Apr. 1	10.41	Mar. 2	10.28
11	9.06	15	10.18	16	10.80
18	9.05	29	10.25	30	10.53
25	8.35	May 13	10.06	Apr. 13	10.71
Oct. 2	8.45	27	10.63	27	8.99
8	9.04	June 11	10.74	May 11	10.00
15	9.47	24	10.63	25	10.63
22	9.58	July 9	9.50	June 8	9.92
30	9.45	23	10.13	22	9.70
Nov. 5	9.76	Aug. 6	10.48	July 6	10.29
12	9.82	19	10.31	20	10.30
19	10.08	Sept. 2	10.68	Aug. 3	10.37
26	10.36	16	10.35	17	10.50
Dec. 3	10.40	Oct. 1	9.95	31	10.27
10	10.48	14	10.22	Sept.14	10.05
17	10.58	28	10.30	28	10.05
24	10.14	Nov. 11	10.41	Oct. 12	9.63
31	10.08	25	10.16	25	9.70
Jan. 14, 1941	9.74	Dec. 9	10.48	Nov. 8	9.60
28	10.13	23	10.42	22	10.23
Feb. 11	9.87	Jan. 6, 1942	10.65	Dec. 7	10.56
17	9.89	19	10.46	20	10.64

G123. U. S. Geological Survey. Sec. 33, T. 54 S., R. 41 E. Southwest corner of Southwest 7th Avenue and 9th Street, Miami. Driven observation well, diameter 2 inches, depth 10.3 feet. Measuring point, top of casing, 2.5 feet above land surface and approximately 11.16 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1940-42

Aug. 21, 1940	8.93	Nov. 26, 1940	9.30	Apr. 29, 1941	9.54
28	9.17	Dec. 4	9.06	May 12	9.25
Sept. 4	9.13	11	9.29	27	9.76
11	8.94	17	9.43	June 11	9.87
18	8.52	24	9.52	24	9.68
25	8.27	31	9.27	July 9	9.04
Oct. 2	7.89	Jan. 14, 1941	9.02	23	9.55
9	7.66	28	8.90	Aug. 5	9.75
16	7.64	Feb. 11	8.68	19	9.98
23	7.64	17	8.99	Sept. 2	9.92
30	7.79	Mar. 4	9.68	16	9.59
Nov. 6	7.67	18	9.90	30	9.15
13	8.35	Apr. 1	9.68	Oct. 14	9.39
19	9.35	15	9.44	28	9.40

G123. U. S. Geological Survey--Continued.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Nov. 11, 1941	9.67	Mar. 30, 1942	9.68	Aug. 17, 1942	9.88
25	9.37	Apr. 13	9.88	31	9.47
Dec. 9	9.77	27	8.63	Sept. 14	9.32
23	9.73	May 11	9.35	28	9.30
Jan. 6, 1942	9.92	25	9.84	Oct. 12	8.93
19	9.84	June 8	9.08	25	8.84
Feb. 2	9.84	22	8.96	Nov. 8	7.73
16	9.77	July 6	9.57	22	9.42
Mar. 2	9.69	20	9.54	Dec. 7	9.78
16	10.07	Aug. 3	9.59	20	9.74

S1A (*907, p. 31; 937, p. 25). City of Miami. SW¼NW¼ sec. 19, erroneously given as NW¼SW¼ on Water-Supply Paper 907), T. 53 S., R. 41 E.

Water level, in feet, with reference to city of Miami datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	*0.3	Apr. 6	+0.4	July 6	+1.7	Oct. 5	+2.1
12	+.6	13	-.1	13	+1.1	12	+1.6
19	+.7	20	+4.2	20	+1.2	19	+1.7
26	+.5	27	+2.7	27	+1.4	26	+1.4
Feb. 2	+.2	May 4	+1.6	Aug. 3	+1.2	Nov. 2	+1.4
9	-.7	11	+1.0	10	+.9	9	+.8
16	-.3	18	+.7	17	+1.1	16	+1.3
23	+.2	25	+.2	24	+1.4	23	+.7
Mar. 2	-.2	June 1	+.5	31	+1.5	30	+.3
9	+.1	8	+1.8	Sept. 7	+2.6	Dec. 7	+.4
16	-1.2	15	+2.7	14	+2.0	14	.0
23	-.6	22	+2.5	21	+1.7	21	+.2
30	+.1	29	+2.4	28	+2.1	28	+.1

Maximum and minimum monthly water levels, in feet, with reference to city of Miami datum, 1942

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Max.	+0.7	+0.3	+0.3	+4.9	+1.9	+3.2	+1.7	+1.5	+2.7	+2.2	+1.4	+0.6
Min.	-.6	-.7	-1.2	-.3	-.1	.0	+.3	+.5	+1.6	+.8	+.3	-.6

S18 (*886, p. 66; *907, p. 28; 937, p. 25). Model Dairy. NW¼NW¼ sec. 15, T. 52 S., R. 41 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	8.68	Apr. 6	9.26	July 6	7.09	Sept. 28	7.51
12	8.59	13	9.37	13	7.53	Oct. 5	7.67
19	8.69	20	5.48	20	7.80	12	7.65
26	8.78	27	6.38	27	8.00	19	7.73
Feb. 2	8.86	May 4	7.10	Aug. 3	8.22	26	7.71
9	8.93	11	7.67	10	8.46	Nov. 2	7.94
16	8.98	18	7.79	17	8.55	9	8.05
23	8.90	25	8.25	24	8.62	16	8.25
Mar. 2	8.79	June 1	8.33	31	8.44	23	8.47
9	8.85	8	7.37	Sept. 6	7.60	30	8.65
16	9.06	15	6.09	14	7.80	Dec. 7	8.83
23	9.13	22	6.80	21	8.05	21	8.27
30	9.18	29	6.33				

S19(*886, p.66; *907, p. 29; 937, p. 26) City of Miami. NW¼NE¼ sec. 25, T. 53 S., R. 40 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	7.15	Apr. 6	7.93	July 6	6.07	Oct. 5	5.85
12	7.07	13	8.17	13	6.54	12	5.67
19	7.47	20	4.20	20	6.28	19	6.10
26	7.67	27	5.48	27	6.20	26	6.11
23	7.60	29	5.97	31	6.52	30	6.47
Feb. 2	7.70	May 4	6.65	Aug. 3	6.60	Nov. 2	6.65
9	7.72	11	7.25	10	6.94	9	6.37
12	7.80	18	7.22	17	6.66	16	6.64
16	7.78	25	7.59	24	6.60	23	7.24
23	7.51	29	7.58	28	6.59	27	7.28
25	7.51	June 1	7.41	31	6.39	30	7.26
Mar. 2	7.65	8	6.01	Sept. 7	5.16	Dec. 7	7.64
9	7.57	15	5.00	14	5.52	14	7.73
16	7.92	22	5.36	21	6.01	21	7.88
23	8.19	26	5.59	28	5.74	28	7.96
27	8.12	29	5.89	30	5.89	30	7.97
30	8.16						

S171. City of Miami. NW¼SE¼ sec. 20, T. 54 S., R. 41 E. In pit, northwest corner Coconut Grove Water Plant, Loquat Avenue east of LeJeune Road. Abandoned drilled public supply well, diameter 10 inches, depth 46.8 feet. Measuring point, top of flange threaded on casing, 7.5 feet below land surface and approximately 4.62 feet above mean sea level, 1929 adjustment. Recorder installed Mar. 14, 1939 and removed Jan. 17, 1942.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Mar. 13, 1940	3.8	July 22, 1940	3.64	Mar. 17, 1941	3.64
14	3.78	29	3.73	24	3.56
19	3.78	Aug. 5	3.43	31	3.47
26	3.68	12	3.11	Apr. 7	3.56
Apr. 2	4.00	19	3.23	14	3.11
4	4.03	26	3.16	21	3.40
8	3.82	Sept. 2	3.32	28	3.33
10	4.06	9	3.12	May 5	2.88
11	3.97	16	2.62	12	2.89
15	3.92	23	1.50	19	3.42
18	3.71	30	1.87	26	3.43
22	3.88	Oct. 7	2.20	June 2	3.86
25	3.81	14	2.65	3	3.90
29	3.84	21	2.79	5	3.75
May 2	3.87	28	2.93	6	3.72
6	3.92	Nov. 4	2.95	10	3.70
10	3.72	11	2.95	16	3.80
13	3.65	18	3.43	24	3.57
16	3.68	25	3.58	July 1	3.49
20	3.69	Dec. 2	3.57	7	3.00
23	3.67	9	3.70	14	3.51
27	3.71	16	3.62	21	3.23
30	3.79	23	3.53	28	3.30
June 3	3.87	30	3.38	Aug. 4	3.47
6	2.95	Jan. 6, 1941	3.48	11	3.52
10	3.15	13	3.10	18	3.79
13	3.28	20	3.43	25	3.18
17	3.26	27	3.31	Sept. 1	3.68
20	3.34	Feb. 3	3.22	8	3.26
24	3.45	10	3.30	15	3.36
27	3.46	17	3.17	22	2.65
July 1	3.64	24	3.27	29	2.88
8	3.43	Mar. 3	3.45	Oct. 5	2.93
15	3.71	10	3.71	13	3.04

S171. City of Miami--Continued.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1941	3.03	Jan. 17, 1942	3.65	July 6, 1942	3.21
27	3.10	19	3.61	20	3.23
Nov. 3	3.21	Feb. 2	3.71	Aug. 3	3.31
10	3.51	16	3.68	17	3.64
17	3.10	Mar. 2	3.46	31	3.31
24	3.15	16	3.94	Sept.14	3.01
26	3.20	30	3.46	28	3.04
Dec. 1	2.98	Apr. 13	3.62	Oct. 12	2.69
8	3.51	27	2.32	25	2.62
15	3.62	May 11	3.10	Nov. 8	2.37
22	3.39	25	3.60	22	3.19
29	3.81	June 8	2.82	Dec. 7	3.56
Jan. 5, 1942	3.65	22	2.72	20	3.53
12	3.70				

S182. International Fruit Co. NW¼NW¼ sec. 5, T. 56 S., R. 40 E. Well located 300 feet north of Quail Roost Drive, 0.4 mile west of U. S. Highway 1. Abandoned drilled irrigation well, diameter 6 inches, depth 32.7 feet. Measuring point, top of tee threaded on casing, 2.8 feet above land surface and approximately 13.94 feet above mean sea level, 1929 adjustment. Recorder installed Feb. 10, 1940.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Jan. 25, 1940	9.50	June 24, 1940	10.54	Mar. 3, 1941	9.30
29	9.64	27	9.43	10	9.24
31	9.71	July 1	9.22	17	9.58
Feb. 5	9.90	2	9.26	24	8.69
10	9.62	8	9.49	31	8.85
12	9.64	15	9.91	Apr. 7	8.84
19	9.60	22	10.10	14,	8.58
21	9.69	29	10.30	21	9.09
23	9.79	Aug. 5	9.99	28	9.43
26	9.85	12	9.32	May 5	6.56
Mar. 4	10.17	16	8.84	12	7.28
11	10.36	19	8.47	19	8.11
18	10.59	26	7.38	26	8.87
25	10.76	30	7.10	June 2	9.52
28	10.72	Sept. 2	7.30	9	10.08
29	10.70	9	5.92	16	10.02
Apr. 1	10.74	16	5.85	23	10.23
4	10.83	23	5.04	30	9.53
8	10.94	30	5.27	July 7	9.27
11	11.01	Oct. 7	5.94	14	7.20
15	11.12	14	6.44	21	7.44
18	11.22	21	7.11	28	7.95
22	11.33	28	7.70	Aug. 4	8.50
25	11.44	Nov. 4	7.33	11	8.93
29	11.53	11	7.96	18	9.28
May 2	11.63	18	8.47	25	9.25
6	11.76	25	8.86	Sept. 1	9.31
10	11.89	Dec. 2	9.23	8	9.37
13	11.98	9	9.59	15	9.67
16	12.00	16	9.89	22	7.47
20	12.08	23	9.87	29	7.80
23	12.16	30	9.22	Oct. 5	7.79
27	12.28	Jan. 6, 1941	9.45	13	8.07
30	12.35	13	9.21	20	8.06
June 3	10.13	20	8.98	27	8.37
6	9.97	27	9.10	Nov. 3	8.74
10	10.05	Feb. 3	9.47	10	8.96
13	10.09	10	8.75	17	9.15
17	10.20	17	8.64	24	9.35
20	10.36	24	9.02	Dec. 1	8.87

S182. International Fruit Co.--Continued.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Dec. 8, 1941	8.77	Apr. 20, 1942	6.46	Aug. 31, 1942	10.03
15	8.89	27	7.32	Sept. 7	8.23
22	9.17	May 4	8.20	14	7.52
29	9.39	11	7.35	21	8.06
Jan. 5, 1942	9.69	18	8.19	28	7.94
12	9.74	25	9.02	Oct. 5	8.35
19	9.98	June 1	9.52	12	8.53
26	10.18	8	7.31	19	8.84
Feb. 2	10.41	15	6.57	25	8.82
9	10.64	22	6.79	Nov. 2	9.02
16	10.80	29	7.14	8	9.15
23	10.59	July 6	7.57	16	9.30
Mar. 2	10.52	13	8.23	22	9.57
9	10.50	20	8.78	30	9.86
16	10.73	27	8.96	Dec. 7	10.17
23	10.96	Aug. 3	9.40	14	9.60
30	11.17	9	9.83	20	9.80
Apr. 6	11.21	17	10.15	28	10.09
13	11.50	24	10.23		

S191. A. H. Singleton. SE¼SW¼ sec. 19, T. 56 S., R. 39 E. 160 feet north of Coconut Palm Drive, 0.3 mile east of Krome Avenue. Drilled and uncased irrigation well, diameter 10 inches, depth 20.1 feet. Measuring point, top of metal strip fastened to recorder-shelter sill, 0.5 foot above land surface and approximately 9.41 feet above mean sea level, 1929 adjustment. Recorder installed Feb. 20, 1940, and removed Jan. 15, 1942.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Feb. 20, 1940	5.76	July 22, 1940	5.56	Feb. 24, 1941	4.95
26	5.86	29	4.77	Mar. 3	5.20
Mar. 4	6.11	Aug. 5	3.63	10	5.23
11	6.23	12	4.32	17	5.38
18	6.45	14	2.73	24	4.29
25	6.64	16	2.77	31	4.35
Apr. 1	6.26	19	3.02	Apr. 7	4.51
4	6.18	24	2.92	14	4.34
8	6.20	26	2.82	21	4.88
11	6.30	31	2.75	28	4.86
15	6.44	Sept. 2	2.94	May 5	3.03
18	6.59	9	1.16	12	3.79
22	6.75	16	1.27	19	4.54
25	6.90	23	.86	26	5.16
29	7.06	30	1.21	June 2	5.72
May 2	7.17	Oct. 7	2.19	9	6.22
6	7.33	14	3.09	16	5.81
10	7.50	21	3.77	23	5.61
13	7.61	28	4.31	30	5.01
16	7.75	Nov. 4	4.12	July 7	4.49
18	7.81	11	4.48	14	2.75
23	7.98	18	4.88	21	3.16
27	8.10	25	5.23	28	3.40
30	8.20	Dec. 2	5.47	Aug. 4	3.97
June 3	6.82	9	5.68	11	4.52
6	6.25	16	5.87	18	4.17
10	6.10	23	5.93	25	3.80
13	6.08	30	5.15	Sept. 1	4.21
17	6.16	Jan. 6, 1941	5.18	8	4.63
20	6.28	13	4.98	15	3.51
24	6.48	20	5.00	22	2.57
27	6.07	27	5.10	29	3.36
July 1	5.42	Feb. 3	5.39	Oct. 5	3.59
8	5.40	10	4.79	13	3.63
15	5.79	17	4.55	20	3.64

S191. A. H. Singleton--Continued.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Oct. 27, 1941	4.04	Dec. 29, 1941	5.08	June 29, 1942	2.81
Nov. 3	4.48	Jan. 5, 1942	5.38	July 27	4.69
10	4.65	12	5.55	Aug. 24	5.02
17	4.66	15	5.56	Sept. 16	3.40
24	4.87	Feb. 9	6.28	17	3.50
Dec. 1	4.03	Mar. 9	5.94	Oct. 5	4.27
8	4.19	Apr. 6	6.70	Nov. 2	5.06
15	4.48	May 4	4.42	30	5.78
22	4.81	June 1	5.43	Dec. 28	6.10

S196 (*907, p. 33; 937, p. 26). State of Florida. SW¼SE¼ sec. 35, T. 56 S., R. 38 E.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	6.68	Apr. 6	7.86	July 6	4.93	Oct. 5	5.60
12	6.73	14	8.22	13	5.56	12	5.67
19	6.89	20	4.44	20	6.01	19	6.09
26	7.05	27	5.08	27	5.91	26	6.23
Feb. 2	7.30	May 4	5.80	Aug. 3	6.37	Nov. 2	6.48
9	7.57	11	6.30	10	6.86	9	6.23
16	7.80	19	6.27	17	6.80	16	6.40
23	7.47	25	6.51	24	6.05	23	6.72
Mar. 2	7.10	June 1	6.58	31	6.04	30	7.03
9	7.17	8	2.55	Sept. 8	4.58	Dec. 7	7.26
16	7.43	15	3.43	15	4.80	14	7.04
23	7.80	22	3.88	21	5.36	21	7.22
31	7.84	29	4.34	28	5.33	28	7.44

Maximum and minimum monthly water levels, in feet below measuring point, 1942

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Max.	a6.50	7.05	6.92	4.34	5.51	2.42	4.55	5.92	4.26	5.36	6.11	7.04
Min.	a7.23	7.83	7.84	8.27	6.58	6.58	6.22	6.87	6.07	e6.40	7.03	7.50

S233. City of Miami Beach. NE¼NE¼ sec. 32, T. 51 S., R. 42 E. At south side of sand road through dump, 0.2 mile east of paved road leading to dump, 0.3 mile north of Ives Dairy Road. Abandoned dug and driven test well, diameter 1¼ inches, depth 8.8 feet. Measuring point, top of casing, 1.0 foot below land surface and approximately 7.13 feet above mean sea level, 1929 adjustment. Record for 1939 furnished by city of Miami Beach.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Aug. 17, 1939	3.28	Aug. 27, 1940	4.50	Dec. 8, 1940	5.01
24	5.12	Sept. 3	4.58	24	5.16
30	5.32	10	2.47	31	4.41
Nov. 21	3.58	17	1.83	Jan. 14, 1941	3.69
June 18, 1940	4.17	24	1.67	28	4.35
24	4.75	Oct. 1	2.40	Feb. 11	3.68
July 1	5.11	9	2.96	17	3.77
8	5.41	15	3.31	Mar. 4	4.72
15	5.67	22	3.76	18	4.99
22	5.92	30	2.89	Apr. 1	4.61
29	6.03	Nov. 5	3.04	15	3.88
Aug. 5	5.75	12	3.24	29	5.89
12	5.41	19	4.10	May 13	5.12
20	4.54	26	4.51	27	5.75

a Estimated.

S233. City of Miami Beach--Continued.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
June 11, 1941	6.23	Dec. 23, 1941	5.37	June 22, 1942	3.35
25	6.40	24	5.16	July 6	3.86
July 8	5.42	Jan. 6, 1942	5.64	20	4.66
22	4.46	19	5.60	Aug. 3	5.30
Aug. 5	5.27	Feb. 2	5.85	17	5.80
19	5.64	16	6.04	31	5.82
Sept. 2	5.78	Mar. 2	5.77	Sept.14	5.01
16	5.92	16	6.06	28	5.16
30	4.76	30	6.21	Oct. 12	4.44
Oct. 14	5.28	Apr. 13	6.42	26	4.19
28	5.56	27	3.00	Nov. 9	4.94
Nov. 11	5.30	May 11	4.13	23	5.37
25	4.60	25	4.89	Dec. 7	5.75
Dec. 9	4.91	June 8	4.48	21	4.68

S290. J. C. Kersey. NE¼NE¼ sec. 3, T. 52 S., R. 41 E. About 30 feet northwest of milking shed west of Honey Hill Road, 0.6 mile west of Northwest 12th Avenue. Abandoned drilled irrigation well, diameter 4 inches, depth 83.4 feet. Measuring point, lip of elbow, 0.4 foot above land surface and approximately 19.21 feet above mean sea level, 1929 adjustment.

Water level, in feet below measuring point, 1940-42

May 31, 1940	17.44	Dec. 7, 1940	16.59	Nov. 25, 1941	16.10
June 3	15.52	24	16.57	Dec. 9	16.36
11	15.99	31	15.84	22	16.83
18	16.08	Jan. 14, 1941	15.60	Jan. 6, 1942	17.18
25	16.40	28	15.93	19	17.19
July 2	16.61	Feb. 10	15.44	Feb. 2	17.42
9	16.88	11	15.39	16	17.62
16	17.13	13	15.44	Mar. 2	17.33
23	17.36	14	15.48	16	17.68
30	16.79	15	15.53	30	17.84
Aug. 6	16.88	17	15.58	Apr. 13	18.04
14	16.39	Mar. 4	16.42	27	14.69
20	16.06	18	16.75	May 11	15.97
27	16.06	31	16.38	25	16.55
28	15.93	Apr. 14	15.84	June 8	15.61
29	15.90	29	16.56	22	14.94
30	15.90	May 12	16.78	July 6	15.23
Sept. 3	16.07	26	17.33	20	16.15
10	13.93	June 9	17.80	Aug. 3	16.73
17	13.79	23	17.96	17	17.14
24	13.30	July 7	16.45	31	17.13
Oct. 1	13.95	21	16.01	Sept.14	16.35
8	14.56	Aug. 4	16.61	28	16.12
15	14.97	18	16.69	Oct. 12	16.13
22	15.45	Sept. 1	17.05	26	15.91
29	15.17	15	17.07	Nov. 9	16.59
Nov. 5	14.98	29	16.25	23	17.01
12	15.44	Oct. 13	16.72	Dec. 7	17.37
18	15.86	27	17.94	21	16.59
26	16.09	Nov. 10	16.84		

Palm Beach County

S1042. Lake Worth Drainage District. NW¼NE¼ sec. 22, T. 46 S., R. 42 E. In pasture, 0.2 mile south of Delray Road (Atlantic Avenue), 1.05 miles west of Lake Worth Drainage District equalizing canal 3. Abandoned drilled supply well, diameter 4 inches, depth 119.6 feet. Measuring point, top of metal strip fastened to recorder shelf, 5.4 feet above land surface. Recorder installed July 31, 1941, and maintained in operation for U. S. Geological Survey by the drainage district.

S1042. Lake Worth Drainage District--Continued.

Water level, in feet below measuring point, 1941-42

Date	Water level	Date	Water level	Date	Water level
Apr. 18, 1941	7.31	Jan. 23, 1942	6.12	July 24, 1942	7.92
July 31	6.59	30	6.58	31	7.69
Aug. 7	6.97	Feb. 6	6.90	Aug. 7	8.15
14	6.29	13	7.14	14	8.20
21	6.74	20	6.26	21	7.70
28	7.37	27	6.71	28	7.57
Sept. 4	7.40	Mar. 6	6.53	Sept. 4	6.53
11	7.34	13	6.94	11	6.88
18	7.00	20	7.19	18	7.40
25	5.55	27	7.51	25	7.51
Oct. 2	6.15	Apr. 3	7.13	Oct. 2	7.03
9	6.75	10	7.57	9	6.27
16	7.17	18	5.12	13	6.77
23	7.11	24	6.08	16	6.94
30	7.42	May 1	6.85	23	7.22
Nov. 6	7.36	8	7.28	30	7.53
13	6.68	15	7.64	Nov. 6	7.43
20	7.30	22	7.56	13	7.59
28	6.99	29	6.14	20	7.88
Dec. 5	7.11	June 5	5.41	27	7.79
12	7.37	12	5.52	Dec. 4	8.03
19	7.55	19	6.14	11	7.97
26	7.51	26	6.06	18	8.08
Jan. 2, 1942	7.56	July 3	6.64	24	8.15
9	7.04	10	7.18	31	7.59
16	6.96	17	7.26		

S1140. Town of Boca Raton. SE¼SE¼ sec. 19, T. 47 S., R. 43 E. About 250 feet west of water tank at Boca Raton Water Plant. Abandoned drilled public supply well, diameter 10 inches, depth 119.8 feet. Measuring point, top of metal strip fastened to recorder shelf, 0.9 foot above land surface and approximately 16.80 feet above mean sea level, 1929 adjustment. Recorder installed July 18, 1941, and maintained in operation for U. S. Geological Survey by the water plant.

Water level, in feet below measuring point, 1941-42

July 18, 1941	13.80	Jan. 16, 1942	14.41	July 11, 1942	13.12
25	12.99	17	14.35	18	13.60
31	13.06	24	10.26	25	14.03
Aug. 7	13.36	31	10.88	Aug. 1	14.47
12	13.64	Feb. 7	11.60	8	14.95
19	13.99	14	12.22	15	15.19
26	14.22	21	12.70	22	15.41
Sept. 2	14.51	28	12.95	29	15.60
9	14.76	Mar. 7	13.23	Sept. 5	15.66
16	14.95	14	13.55	12	15.53
23	14.54	21	13.96	19	15.52
30	12.89	28	14.19	26	15.60
Oct. 5	13.55	Apr. 4	14.40	Oct. 3	15.64
14	13.00	11	14.64	10	15.28
21	13.38	18	14.59	17	13.53
28	13.68	21	13.45	24	13.76
Nov. 4	13.98	25	12.90	31	14.09
11	14.22	May 2	12.98	Nov. 11	14.55
18	14.43	9	13.37	14	14.64
25	14.61	16	13.77	19	14.80
Dec. 2	14.70	23	13.94	21	14.84
9	14.80	30	14.23	28	15.03
16	14.92	June 6	13.35	Dec. 5	15.28
23	15.02	13	12.18	12	15.53
30	15.16	20	11.90	19	15.69
Jan. 6, 1942	15.29	27	12.28	26	15.83
13	14.85	July 4	12.73		

GEORGIA

By M. A. Warren

PROGRAM OF WORK

A cooperative investigation of ground-water conditions and resources in south Georgia was begun in November 1938 by the Geological Survey, U.S. Department of the Interior and the Division of Mines, Mining, and Geology of the State Division of Conservation. Periodic observations on the water levels in selected observation wells began at that time. Brief discussions of the work and records of measurements in these wells from 1938 to 1941, inclusive, are contained in Geological Survey Water-Supply Papers 845, 886, 907, and 937. At the end of 1942 the program included observations on 169 wells, 9 of which were equipped with automatic water-stage recorders for all or a part of the year. A total of 506 individual tape measurements and pressure readings were made on these wells during the year, all of which are given in this report,as well as 86 measurements made on them prior to 1942. Also included, through the courtesy of the Emory University Field Station, are 482 measurements made of the water levels in 10 wells in Baker County and 3 wells in Early County. Records of these 13 wells for the period October 1939 to December 1941 are published in Water-Supply Paper 937.

The following table lists all counties in Georgia for which records of water level are given in this report and gives for each the number of wells observed, the number on which water-stage recorders were maintained, and the number of measurements made during 1942, also the number of measurements made prior to 1942 that are published for the first time in this report.

Distribution, by counties, of observation wells in Georgia, 1942

County	Number of wells at end of 1942	Tape measurements and pressure readings		Number of wells with recording gages in 1942	
		1942	Prior to 1942, published in this report	Throughout year	Part of year
Appling	1	1	2	0	0
Baker	10	352	0	0	0
Brantley	2	2	1	0	0
Bryan	23	51	20	0	0
Camden	18	34	2	0	0
Charlton	2	3	0	0	0
Chatham	63	248	52	5	1
Clarke	1	21	0	0	0
Coffee	1	1	1	0	0
Dougherty	1	0	0	0	1
Early	3	129	0	0	0
Effingham	6	20	0	0	0
Evans	1	1	2	0	0
Glynn	13	31	1	0	2
Liberty	14	50	3	0	0
Long	1	5	0	0	0
McIntosh	14	18	0	0	0
Montgomery	1	1	1	0	0
Pierce	2	7	0	0	0
Wayne	4	10	0	0	0
Ware	1	2	1	0	0
	182	997	86	5	4

In Chatham County 5 water-stage recorders were continued in operation throughout the year, on wells 8, 79, 88, 123, and 328. Weekly measurements were made in well 30 and biweekly measurements in well 84. Chatham County well 50 was measured part of the year at weekly intervals and the remainder of the year at biweekly intervals. In Glynn County, a pressure recording gage was maintained in operation for part of the year on wells 1 and 3.

FLUCTUATIONS OF WATER LEVEL IN 1942

The piezometric surface of artesian water in the Ocala limestone in Chatham County continued to decline during 1942, but the decline was less than during either 1940 or 1941. The artesian water levels in Savannah and the industrial area to the northwest averaged about 1.5 feet lower during 1942 than during 1941. It is estimated that the average daily pumpage in the Savannah area during 1942 increased less than 1,000,000 gallons over that of 1941.

The following table lists the average monthly water levels in Chatham County wells 8, 30, 50, 79, 84, 123, and 328 and the total metered pumpage of artesian water in the Savannah area from January 1939 to December 1942. Wells 8 and 79 are in Savannah; wells 30 and 50 are in the industrial area northwest of Savannah, and well 84 in the area east of Savannah, at a point

2.9 miles east of the city hall. Well 123 is near the center of Wilmington Island, about 8 miles southeast of the center of pumpage in the Savannah area, and well 328 is in the northeastern part of Tybee Island, at Fort Screven, approximately 15 miles east-southeast of the center of pumpage. All these wells end in the Ocala limestone, and all of them, except wells 30, 50, and 84, are equipped with water-stage recorders. The average monthly water levels for wells 30, 50, and 84 were computed by averaging all the measurements made in the wells during the month; those for wells 8, 79, 123, and 328 were computed by averaging the daily high and low stages taken from recorder charts. It is estimated that, in addition to the total metered pumpage in Savannah, which is the combined pumpage of that city and the Union Bag & Paper Corporation, there is pumpage of 9,000,000 to 10,000,000 gallons a day by all other users of artesian water in the Savannah area.

Average monthly water levels, in feet with reference to sea level in wells in Chatham County, and average daily metered pumpage in Savannah area, 1939-42

Date	Well 8	Well 30	Well 50	Well 79	Well 84	Well 123	Well 328	Pumpage in millions of gallons
Jan. 1939	-27.3	.....	.....	....	....	....	....	20.680
Feb.	-29.0	-25.2	-18.0	....	....	....	....	23.504
Mar.	-30.1	-25.9	-18.7	....	....	....	....	21.951
Apr.	-29.7	-25.3	-17.7	....	....	....	....	23.038
May	-31.2	-25.8	-18.3	....	....	....	....	23.630
June	-33.2	-27.3	-19.5	....	....	....	....	25.168
July	-33.4	-27.9	-20.2	....	....	....	....	24.770
Aug.	-34.3	-28.7	-20.8	....	....	....	....	24.556
Sept.	-34.6	-29.4	-21.3	....	....	....	....	25.039
Oct.	-28.3	-22.3	-16.1	....	....	....	....	19.713
Nov.	-31.5	-27.8	-20.2	....	....	....	....	24.465
Dec.	-31.0	-28.0	-20.1	....	....	....	....	23.465
Average 1939	-31.1	a-26.7	a-19.2	....	....	....	....	23.332
Jan. 1940	-32.2	-27.5	-20.1	-21.0	....	....	....	26.736
Feb.	-33.9	-30.3	-22.6	-22.6	....	+.30	....	25.941
Mar.	-33.3	-31.0	-22.3	-21.8	....	+.55	....	25.452
Apr.	-35.7	-33.0	-23.5	-23.7	....	+.28	....	26.213
May	-36.4	-29.0	-21.5	-25.3	....	+.16	....	26.114
June	-37.4	-35.9	-22.8	-26.8	....	-.77	....	28.084
July	-38.1	-36.5	-25.1	.....	....	-1.22	....	27.770
Aug.	-41.4	-39.5	-29.0	-28.8	....	-1.38	....	29.467
Sept.	-41.7	-39.1	-28.9	-29.1	-20.2	-1.59	....	28.467
Oct.	-42.9	-39.2	-29.1	-26.9	-18.2	-1.37	....	26.887
Nov.	-43.0	-38.3	-29.0	-26.8	-17.6	-1.20	....	26.865
Dec.	-40.3	-35.7	-26.4	-25.2	-16.8	-.98	....	25.175
Average 1940	-38.0	-34.7	-25.1	a-25.3	.....	a-.66	....	26.931

a Average for 11 months.

Average monthly water levels, in feet with reference to sea level in wells in Chatham County, and average daily metered pumpage in Savannah area, 1939-42

Date	Well 8	Well 30	Well 50	Well 79	Well 84	Well 123	Well 328	Pumpage in millions of gallons
Jan. 1941	-41.3	-37.1	-27.4	-25.2	-16.1	-0.70	.....	26.308
Feb.	-41.8	-37.7	-28.0	-25.7	-16.4	-.70	+2.36	25.790
Mar.	-42.3	-38.3	-28.2	-26.0	-17.1	-.93	+2.15	25.993
Apr.	-44.4	-40.0	-29.7	-28.1	-18.3	-1.19	+2.08	26.776
May	-48.9	-42.4	-32.2	-31.3	-20.6	-1.99	+1.63	29.541
June	-49.6	-42.9	-32.7	-32.4	-22.2	-2.69	+1.31	28.841
July	-45.5	-36.9	-28.1	-30.4	-20.0	-2.61	+1.09	26.326
Aug.	-47.6	-41.8	-31.2	-31.8	-20.6	-2.73	+1.02	29.694
Sept.	-46.0	-42.4	-31.9	-31.7	-21.0	-2.90	+1.27	29.624
Oct.	-47.8	-43.4	-32.6	-32.3	-22.0	-3.06	+1.25	28.762
Nov.	-46.8	-42.5	-32.3	-31.5	-20.9	-2.78	+1.29	27.627
Dec.	-41.3	-40.6	-30.0	-29.8	-18.7	-2.48	+1.15	26.603
Average 1941	-45.3	-40.5	-30.4	-29.7	-19.5	-2.06	a+1.51	27.657
Jan. 1942	-40.6	-38.9	-29.7	-30.1	-17.7	-2.14	+1.43	26.002
Feb.	-38.7	-38.2	-28.6	-28.8	-17.2	-1.88	+1.68	26.105
Mar.	-39.7	-38.8	-29.3	-29.6	-16.9	-1.95	+1.51	26.258
Apr.	-41.6	-39.5	-30.1	-31.4	-18.2	-2.22	+1.52	27.311
May	-46.0	-42.7	-33.3	-34.5	-20.8	-3.02	+1.25	29.589
June	-45.2	-41.9	-32.1	-35.0	-22.9	-3.55	+1.06	28.919
July	-46.6	-43.6	-33.8	-37.1	-23.8	-4.15	+.58	29.827
Aug.	-49.6	-45.1	-34.7	-39.3	-25.2	-4.57	+.27	31.313
Sept.	-47.7	-44.1	-34.2	-37.7	-24.6	-4.51	+.38	28.860
Oct.	-46.2	-43.0	-33.1	-36.4	-22.8	-4.15	+.73	27.848
Nov.	-46.2	-43.1	-33.2	-34.8	-22.0	-4.06	+.46	28.010
Dec.	-44.9	-39.8	-31.5	-32.9	-20.5	-3.61	+.48	25.252
Average 1942	-44.4	-41.6	-32.0	-34.0	-21.0	-3.32	+.95	27.983

Figure 5 shows graphically the data given in the above table for wells 8, 30, 50, 79, and 84. The estimated total pumpage for the Savannah area is also shown. Figure 6 shows the daily high and low water levels in wells 123 and 328 for 1942.

Over the southern part of Bryan and Liberty Counties the artesian water level was about 0.5 foot lower at the end of 1942 than at the end of 1941. During the first part of 1942, the artesian water levels in wells ending in the Ocala limestone rose in all counties south of Bryan, presumably as the result of recharge from precipitation on the intake area. The rise appears to have moved northeast and to have gradually decreased in magnitude. At Jesup, the rise from October 27, 1941, to May 1, 1942, amounted to about 1.6 feet. At Screven the rise from October 28, 1941, to March 12, 1942, was 2.2 feet, and at Patterson the rise was approximately the same. Farther south, at Kingsland and Folkston, the rise amounted to about 2.4 and 2.6 feet, respectively.

In August 1942 a water-stage recorder was installed on a shallow bored well, Chatham County well 343, and during the same month weekly measurements were begun in Oconee County well 1, a dug well at the Southern Piedmont Experiment Station. The water level in Chatham County well 343 declined

a Average for 11 months.

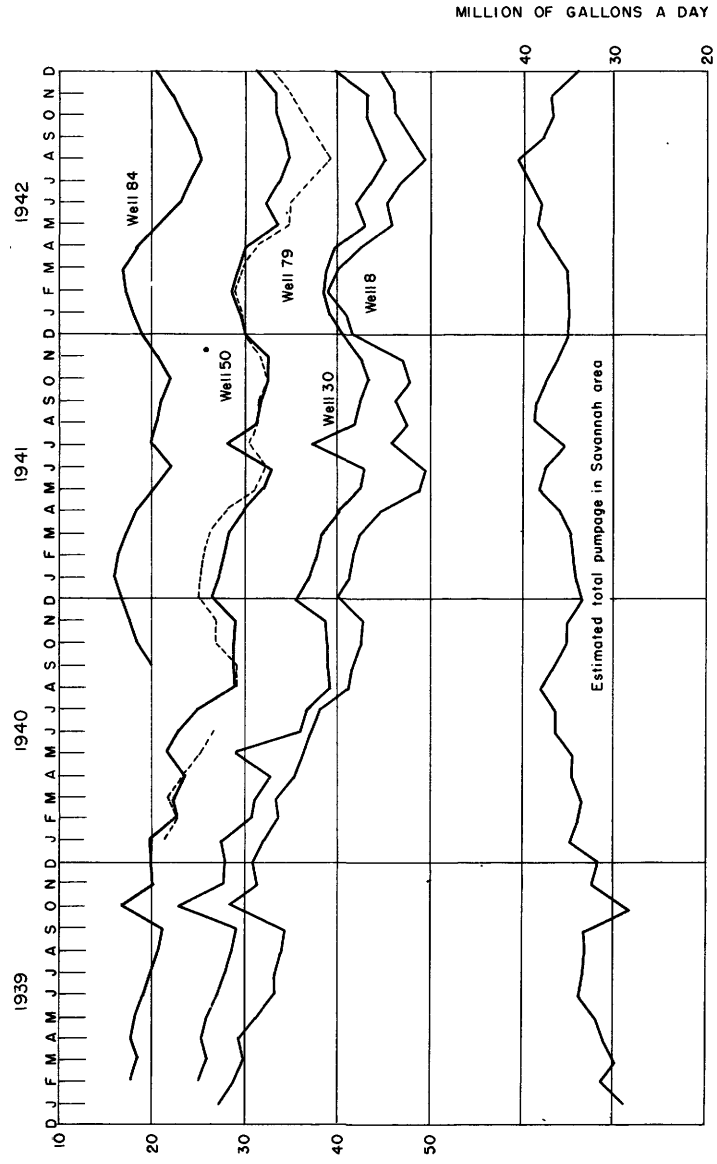

Figure 5.--Hydrograph showing average monthly water levels in Chatham County wells 8, 30, 79, and 84, and estimated average monthly pumpage for Savannah area, Ga.

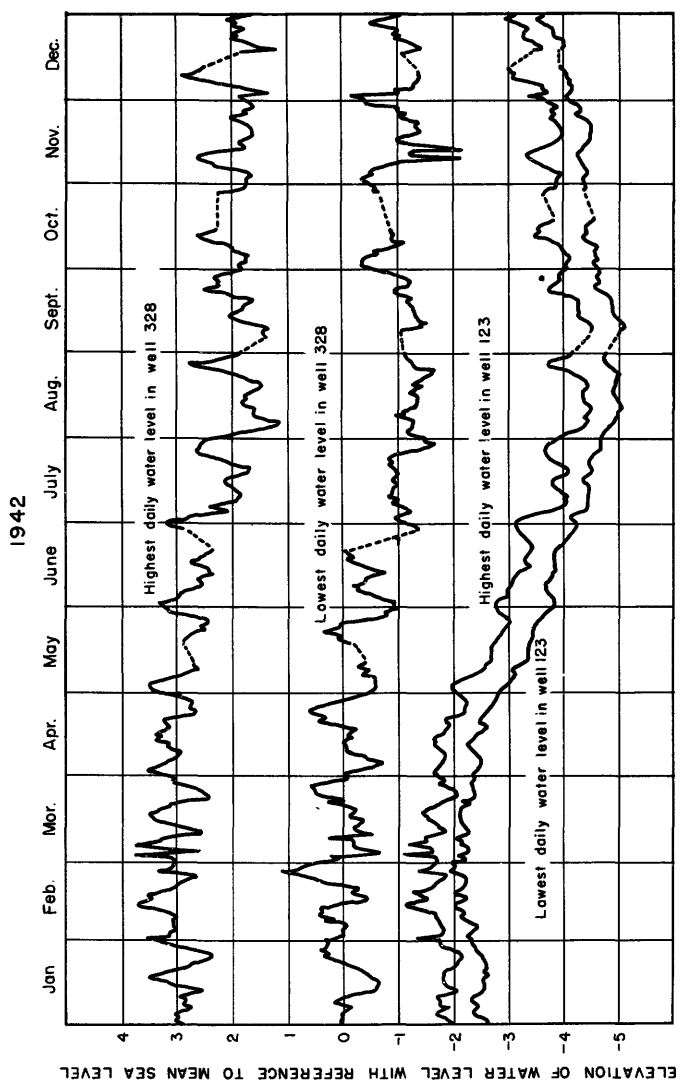

Figure 6.--Graph showing highest and lowest daily water levels in Chatham County wells 123 and 328, on Wilmington and Tybee Islands, Ga.

steadily from 7.76 feet below the measuring point on August 16, 1942, to 10.72 feet below the measuring point on December 25, 1942. The water level in Oconee County well 1 declined from 28.28 feet below the measuring point on August 26, 1942, to 31.09 feet below the measuring point on December 28, 1942.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Observation wells in Georgia are listed alphabetically by counties and numerically within each county. Complete descriptions are given only for newly added wells. The numbers in parentheses immediately following a well number indicate the water-supply papers in which earlier records of that well are given and pages on which they appear. An asterisk indicates that a description of the well is given in that paper. The water level in each well is expressed in feet with reference to a fixed measuring point, or in feet above an assumed datum plane.

Appling County

3. Filtered Rosin Products Co. About 0.1 mile east of Baxley city-limit sign, about 300 feet south of U. S. Highway 341. Used drilled industrial well, diameter 8 inches, depth 625 feet. Cased 525 feet. Measuring point, top of hole in pump base, 1.2 feet above land surface and about 205 feet above mean sea level. Water levels, in feet below measuring point: July 2, 1941, 132.2; Nov. 25, 1941, 132.1; Mar. 19, 1942, 130.0.

Baker County

1 (*937, p. 33). Emory University Field Station well 1. Fred Cross. About 1.1 miles east of Baker-Miller county line, 0.3 mile north of State Highway 91, about 0.25 mile northwest of Nochaway Church, 30 feet southwest of pond.

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	142.77	Mar. 25	142.35	June 4	137.37	Aug. 12	138.34
14	142.43	Apr. 1	142.00	11	142.48	20	138.68
21	142.23	8	141.56	18	142.44	Sept. 2	137.10
28	142.02	15	141.93	25	141.53	Oct. 1	136.82
Feb. 4	141.82	22	141.40	July 1	140.94	14	135.65
11	142.00	29	140.66	8	140.48	28	135.65
18	142.69	May 6	139.52	15	139.24	Nov. 11	134.94
25	142.34	13	139.16	23	138.10	25	134.35
Mar. 4	142.22	22	138.85	29	137.56	Dec. 9	134.70
11	142.40	28	138.15	Aug. 5	137.40	23	137.30
18	142.83						

3 (*937, p. 33). Emory University Field Station well 3. Jette Craft. About 0.7 mile north of Baker-Miller county line, 1.6 miles west of Mimsville, about 0.2 mile northwest of Milford-Cooktown road, 90 feet north of field road.

3 (*937, p. 33). Emory University Field Station well 3 --Continued.

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	177.90	Mar. 11	176.38	May 13	167.71	July 8	169.81
14	173.42	18	174.96	21	167.69	15	169.34
21	170.49	25	177.67	28	167.19	23	167.69
28	168.80	Apr. 1	175.04	June 4	167.25	31	166.99
Feb. 4	167.31	8	172.80	11	174.57	Aug. 6	167.28
11	166.95	15	171.39	18	172.57	13	166.39
18	171.02	22	170.74	25	173.68	20	166.54
25	174.24	29	169.51	July 1	169.54	Sept. 2	a165.69
Mar. 4	172.81	May 6	168.79				

5 (*937, p. 34). Emory University Field Station well 5. D. G. Jones. About 1.8 miles northwest of Crestview, 75 feet east of county road, latitude 31°21'21.39", longitude 84°37'47.35".

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	211.73	Mar. 25	212.63	June 10	210.87	Sept. 2	205.72
14	210.79	Apr. 1	211.58	17	210.25	9	204.95
21	210.00	8	210.79	24	209.45	25	202.36
28	209.14	15	211.28	July 1	210.40	Oct. 1	209.07
Feb. 4	208.18	22	210.38	8	211.21	7	208.32
11	207.26	29	209.49	15	210.29	20	205.87
18	211.97	May 6	208.54	22	209.12	Nov. 4	202.98
25	211.57	13	207.68	29	208.42	18	200.91
Mar. 4	211.36	20	208.69	Aug. 5	207.11	Dec. 2	199.14
11	212.37	27	207.57	12	209.22	16	198.46
18	212.07	June 3	206.67	21	207.58	30	202.07

9 (*937, p. 35). Emory University Field Station well 9. Matthew Clias. About 5.2 miles north of Elmodel, 170 feet east of county road, about 0.25 mile east of State Highway 37.

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	185.23	Mar. 25	185.49	June 4	180.38	Aug. 13	180.42
14	183.99	Apr. 1	184.52	11	180.17	20	180.93
21	183.30	8	183.67	18	180.42	Sept. 3	178.20
28	182.76	15	183.50	25	179.57	Oct. 1	178.96
Feb. 4	182.30	22	182.93	July 2	178.69	14	177.77
11	182.22	29	182.25	9	177.91	28	175.99
18	186.78	May 6	181.46	16	177.02	Nov. 11	174.44
25	184.78	13	180.73	23	176.38	25	173.11
Mar. 4	184.49	21	181.13	31	177.18	Dec. 9	172.58
11	185.23	28	181.58	Aug. 6	178.11	23	172.85
18	184.45						

12 (*937, p. 36). Emory University Field Station well 12. Alton Kidd. 0.14 mile north of Milford, 75 feet east of county road.

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	166.79	Mar. 25	179.61	June 4	173.55	Aug. 13	172.15
14	174.31	Apr. 1	178.61	11	173.50	20	173.05
21	174.36	8	177.80	18	173.45	Sept. 3	172.05
28	174.08	15	177.08	25	173.35	Oct. 1	171.45
Feb. 4	173.69	22	176.55	July 2	173.08	14	171.97
11	173.45	29	176.00	9	172.78	28	171.97
18	173.26	May 6	175.38	16	172.75	Nov. 11	171.09
25	•175.75	13	174.87	23	172.43	25	170.17
Mar. 4	176.05	21	174.35	31	171.92	Dec. 9	169.30
11	177.25	28	173.93	Aug. 6	172.27	23	168.15
18	177.38						

a Measurements discontinued after Sept. 2.

15 (*937, p. 36). Emory University Field Station well 15. R. L. Hall. About 7.3 miles north of Baker County courthouse at Newton, about 1,500 feet east of county road at Old Hickory Hill plantation.

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	164.37	Mar. 25	165.28	June 4	159.42	Aug. 13	163.14
14	164.39	Apr. 1	165.35	11	159.12	20	162.56
21	164.14	8	165.08	18	158.64	Sept. 3	159.74
28	163.67	15	164.76	25	158.06	Oct. 1	158.39
Feb. 4	162.96	22	163.96	July 2	159.97	14	157.13
11	162.84	29	162.95	9	159.48	28	155.72
18	163.63	May 6	161.57	16	158.29	Nov. 11	154.56
25	163.74	13	161.55	23	157.03	25	153.52
Mar. 4	163.79	21	163.47	31	156.24	Dec. 9	153.40
11	164.41	28	160.90	Aug. 6	160.94	23	157.44
18	164.70						

16 (*937, p. 37). Emory University Station well 16. Ichaway Plantation, Inc. (W. R. Woodruff). About 3.8 miles east of Elmodel, on north side old county road, about 0.25 mile north of large dry pond.

Water level, in feet above mean sea level, 1942

Jan. 7	157.35	Mar. 25	164.83	June 4	161.05	Aug. 13	156.95
14	158.11	Apr. 1	164.25	11	160.13	20	156.95
21	158.05	8	163.76	18	162.34	Sept. 3	156.75
28	157.71	15	163.37	25	159.60	Oct. 1	154.37
Feb. 4	156.97	22	162.98	July 2	159.27	14	154.05
11	156.88	29	162.41	9	158.84	28	152.50
18	159.03	May 6	161.82	16	158.41	Nov. 11	151.83
25	161.01	13	161.44	23	157.40	25	150.28
Mar. 4	161.32	22	161.25	31	156.99	Dec. 9	149.14
11	163.47	28	160.86	Aug. 6	157.87	23	151.00
18	163.44						

25 (*937, p. 37). Emory University Field Station well 35. P. H. Thompson, Jr. About 3.6 miles west of Patmos, 1 mile east of Baker-Early county line, about 0.6 mile north of Pine Grove Church, latitude 31°23'09.70", longitude 84°37'26.26". Measuring point prior to Aug. 12, 1942, knife edge of iron bar over well, 1.8 feet above land surface, (erroneously given 0.3 foot above land surface in Water-Supply Paper 937) and 201.78 feet above mean sea level. New measuring point established Aug. 12, 1942, top of 6-inch tile casing, level with concrete base around well, 0.3 foot above land surface and 200.28 feet above mean sea level.

Water level, in feet above mean sea level, 1942

Jan. 7	196.18	Mar. 25	195.95	June 10	190.80	Aug. 31	190.36
11	194.84	Apr. 1	194.62	17	191.47	Sept. 2	190.06
21	193.18	8	193.33	24	190.77	9	189.37
28	191.61	15	193.63	July 1	191.41	25	187.35
Feb. 4	190.63	22	192.71	8	190.61	Oct. 7	189.55
11	190.18	29	191.78	15	189.94	19	187.68
18	196.36	May 6	190.88	22	189.10	Nov. 4	186.10
25	195.81	13	190.29	29	189.24	18	184.78
Mar. 4	195.31	20	189.98	Aug. 5	188.76	Dec. 2	184.15
11	196.34	27	189.51	12	191.83	16	184.44
18	195.70	June 3	188.99	21	191.97	30	188.02

27 (*937, p. 38). Emory University Field Station well 37. Doc Davis. About 6.3 miles northwest of Baker County Court House at Newton, 2.9 miles south of Baker-Dougherty county line, 5.2 miles east of State Highway 37, about 150 feet north of county road.

27 (*937, p. 38). Emory University Field Station well 37--Continued.

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 15	a167.54	May 6	166.62	May 28	165.35	June 18	164.63
22	167.34	13	166.22	June 4	164.66	25	b164.70
29	167.11	21	165.77	11	164.93		

29 (*937, p. 38). Emory University Field Station well 39. Ichaway Plantation, Inc. (W. R. Woodruff). About 1.6 miles northeast of Pilgrims Home Church, 0.5 mile southeast of State Highway 91.

Water level, in feet above mean sea level, 1942

Apr. 15	c147.58	May 13	142.33	June 11	143.08	July 2	141.94
22	146.65	22	142.13	18	142.79	8	140.11
29	145.58	28	140.63	25	144.07	15	d138.22
May 6	144.06	June 4	138.57				

Brantley County

1 (*937, p. 39). N. S. McVeigh. Waynesville, on north side State Highway 50. Measuring point, top 4-inch tee on 4-inch casing, 1.5 feet above land surface and 57.5 feet above mean sea level. Water level, in feet above measuring point, 1942: July 31, 1.80.

9. United States. About 1.4 miles north of Atlantic Coast Line Railroad at Waynesville, about 0.1 mile east of county road from Waynesville to Browntown, at site of an abandoned C. C. C. camp. Unused drilled well, diameter 8 to 6 inches, depth 705 feet. Cased 585 feet. Measuring point, top of 8-inch coupling on 8-inch well casing, 0.5 foot above land surface and about 61 feet above mean sea level. Water levels, in feet below measuring point: Aug. 12, 1941, 2.98; July 31, 1942, 2.00.

Bryan County

18 (*907, p. 39; 937, p. 39). Mrs. S. P. Ratom. At Folley Farms, 5.75 miles southeast of Richmond Hill, 1 mile east of Bryan Neck road. No measurement made during 1942.

27 (*886, p. 69; 907, p. 39; 937, p. 39). Henry Ford. About 8 miles south of Richmond Hill, 1 mile southwest of Keller, 0.3 mile south of Belfast road, near west edge of Tivoli River marsh. Water level, in feet above measuring point, 1942: Mar. 10, 5.0.

41 (*886, p. 69; 907, p. 39; *937, p. 39). United States War Department (formerly owned by Mrs. D. B. Gill; during 1942 became part of Camp Stewart firing range). Roding, east of State Highway 63, near intersection of State Highway 144. Water level, in feet above measuring point, 1942: July 16, 12.30.

43. United States War Department. Roding, 0.5 mile west of State Highway 63, on south side of State Highway 144. Used drilled well, diameter 3 inches, depth 400+ feet. Measuring point, top of 3-inch cross on 3-inch casing, 3.0 feet above land surface and 20.8 feet above mean sea level. Water levels, in feet above measuring point: Oct. 27, 1939, 10.4; June 25, 1941, 9.1; Oct. 29, 1942, 7.6.

50. United States War Department. Clyde, about 100 feet southwest of intersection of State Highway 63 and county road. Used drilled well, diameter 3 inches, depth 530 feet. Measuring point, top of 3- by 1½-inch bushing in 3-inch coupling over well, 0.3 foot above land surface and about 22.5 feet above mean sea level.

Water level, in feet above measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Oct. 27, 1939	13.8	Oct. 24, 1941	10.6	July 16, 1942	10.6
Nov. 8, 1940	12.8	Mar. 13, 1942	10.6	Oct. 29 19	9.9
June 25, 1941	11.4				

a In early part of January; well caved and partly filled, no record Jan. 1 to Apr. 8. Well rebored Apr. 9, new depth not known.

b Well dry July 2 to Dec. 23.

c Well caved and partly filled in January; no record Jan. 1 to Apr. 8. Well rebored Apr. 13; new depth 12 feet.

d Well dry July 22 to Dec. 23.

51 (*886, p. 71; 907, p. 39;*937, p. 39). United States War Department (formerly owned by W. H. Davis; during 1941 became part of Camp Stewart firing range). Clyde, about 600 feet southwest of schoolhouse. Water level, in feet above measuring point, 1942: July 16, 8.9.

52 (*886, p. 71; 907, p. 39;*937, p. 39). United States War Department (formerly owned by Bryan County; during 1941 became a part of Camp Stewart firing range). Clyde, a short distance northeast of schoolhouse. Water levels, in feet above measuring point, 1942: Mar. 13, 5.70; July 16, 5.26; Oct. 29, 4.75.

55. United States War Department. Clyde, a short distance east of old Bryan County courthouse. Unused drilled well, diameter 3 inches. Measuring point, top of 3-inch tee on 3-inch casing, 2.5 feet above land surface and about 36 feet above mean sea level.

Water level, in feet below measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Jan. 6, 1939	0.33	Oct. 24, 1941	3.31	July 16, 1942	3.84
Nov. 8, 1940	1.78	Mar. 13, 1942	3.09	Oct. 29	4.50
June 25, 1941	2.62				

63 (*907, p. 39;*937, p. 39). United States War Department (formerly owned by W. C. McCallar; during 1941 became part of Camp Stewart firing range). About 7 miles west of Richmond Hill, 4.5 miles north of Fleming, on east side of the county road that connects Bashlor's Bridge with U. S. Highway 17. No measurement during 1942.

71 (*907, p. 39.*937, p. 39). United States War Department (formerly owned by Green Bay Baptist Church; during 1941 became part of Camp Stewart firing range). South side of River Road, 5.5 miles west of State Highway 63. No measurement during 1942.

85 (*937, p. 39). Henry Ford. About 0.1 mile southwest of Belfast Road, about 150 feet southwest of Seaboard Railway. Measuring point, top of 3-inch casing, 0.3 foot above land surface and 21.24 feet above mean sea level. Water levels, in feet above measuring point, 1942: Mar. 10, 7.1; July 7, 7.0; Dec. 17, 6.4.

87 (*886, p. 71;*907, p. 39; 937, p. 40). Henry Ford. Richmond Hill, about 500 feet west of intersection of U. S. Highway 17 and Bryan Neck road.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	1.42	July 6	1.47	July 28	1.58	Oct. 13	1.93
Mar. 10	1.25	7	1.55	Sept. 2	1.72	Dec. 17	1.89
May 1	1.25	16	1.55	15	1.69		

87a. Henry Ford. Richmond Hill, about 500 feet west of intersection of U. S. Highway 17 and Bryan Neck road. Unused drilled domestic well, diameter 2½ inches, depth not known but believed to be less than 400 feet. Measuring point, top of 2½-inch casing, 1.1 feet above land surface and 22.90 feet above mean sea level.

Water level, in feet with reference to measuring point, 1939-42

Date	Water level	Date	Water level	Date	Water level
Sept. 29, 1939	+1.38	Mar. 10, 1942	-0.65	July 28, 1942	-1.09
July 30, 1941	-.24	May 1	-.78	Sept. 2	-1.24
Aug. 25	-.49	July 6	-1.00	15	-1.28
Oct. 27	-.65	7	-1.05	Oct. 13	-1.39
Jan. 6, 1942	-.83	16	-1.07	Dec. 17	-1.45

96 (*907, p. 39;*937, p. 40). J. W. Harden. About 1.7 miles south of Keller, about 300 feet east of Bryan Neck road. Water level affected by tide. Water level, in feet above measuring point, 1942: July 7, a/3:50 p.m., 6.75.

a Eastern war time.

112 (*907, p. 39; *937, p. 40). United States War Department (formerly owned by L. W. Smith; during 1941 became part of Camp Stewart firing range). South side and 12 miles west along River Road from State Highway 63. No measurements made during 1942.

119 (*907, p. 39; *937, p. 40). Henry Ford. At Kilkenny, about 4.5 miles southeast of Keller. Water level affected by tide. Water level, in feet above measuring point, 1942: July 7, 2:45 p.m., 7.3.

143 (*937, p. 40). A. M. Casin. Near west end of Morgan's bridge over Ogeechee River, on Pine Barren Road, north side of road. Water level, in feet above measuring point, 1942: July 16, 12.54.

146 (*937, p. 40). Alphonso Casin, A. M. Casin, and J. P. Dukes. About 2.25 miles northeast of Lanier, on south side State Highway 30. Measuring point, top of 6-inch coupling on 6-inch casing, 1.01 feet above concrete floor around well, 1.2 feet above land surface and about 68 feet above mean sea level. (Measuring point erroneously described in Water-Supply Paper 937 as top of 6-inch casing.) Water levels, in feet below measuring point, 1942: Mar. 13, 22.14; May 11, 22.35; July 24, 22.32.

148 (*937, p. 40). Henry Ford. Keller, about 80 feet west of Bryan Neck road and about 200 feet north of Belfast road. Measuring point, top of 4-inch tee, 1 foot above land surface and about 17 feet above mean sea level. Water levels, in feet above measuring point, 1942: Mar. 10, 5.04; July 7, 4.98; Dec. 17, 4.64.

149 (*937, p. 40). Henry Ford. About 5.5 miles southeast of Richmond. Hill, at Jack Griswold place. Water levels, in feet above measuring point, 1942: Mar. 10, 3.35; July 7, 3.34; Oct. 29, 3.00; Dec. 17, 2.96.

150. Henry Ford. Richmond Hill, 1 mile north of U. S. Highway 17, about 200 feet east of State Highway 63. Used drilled domestic well, diameter 4 to 3 inches, depth 480 feet, cased about 400 feet. Measuring point, top of 4-inch tee on 4-inch casing, 0.9 foot above land surface. Water levels, in feet above measuring point: Dec. 17, 1940, 11.6; June 25, 1941, 10.65; Oct. 24, 1941, 10.05.

151. Henry Ford. About 0.9 mile west of Keller, on west bluff of Tivoli River, on north side of Belfast road. Used drilled domestic well, diameter 4 inches, depth 500 feet. Cased 160 feet. Measuring point, top of 4-inch tee on 4-inch casing, 1 foot above land surface and about 18 feet above mean sea level. Water levels, in feet above measuring point: Mar. 25, 1941, 7.3; Oct. 24, 1941, 6.18; Mar. 10, 1942, 6.09; Dec. 17, 1942, 5.70.

161. Henry Ford. At Kilkenny, about 4.5 miles southeast of Keller, about 300 feet north of clubhouse, near edge of marsh at oyster house. Used drilled domestic well, diameter 4 inches, depth 480 feet. Cased 142 feet. Measuring point, top of 4-inch cross on 4-inch casing, 0.5 foot above land surface and about 7.8 feet above mean sea level. Water level affected by tide. Water level, in feet above measuring point: Oct. 24, 1941, a/4:20 p.m., nearly low tide; July 2, 1942, b/ 3:30 p.m., 2.2.

Camden County

3 (Formerly 20) (*886, p. 71; 907, p. 40; *937, p. 40). Town of St. Marys, on east side of State Highway 40, 0.25 mile north of Riverview Hotel. Water levels, in feet above measuring point, 1942: July 30, c/27.7; Oct. 15, c/ 26.55.

8 (*886, p. 71; 907, p. 40; *937, p. 41). M. L. Hill. Kingsland, at Hill residence. Water levels, in feet above measuring point, 1942: Mar. 11, 24.20; July 29, 23.45; Oct. 14, d/ 22.45.

12 (*907, p. 40;*937, p. 41). Southwell & Hopkins, Kingsland. About 300 feet north of St. Marys road, on west side of U. S. Highway 17. Water levels, in feet above measuring point, 1942: Mar. 11, 23.5; July 29, 22.65; Oct. 15, e/ 21.9.

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a Eastern standard time. b Eastern war time.

c Well 155, St. Marys Kraft Corporation, 4,327 feet N. 20°10' E. Flowing or pumping about 3,000 gals. a minute.

d Well 94, owned by city of Kingsland, 8 inches diameter, about 530 feet west, flowing about 350 gals. a minute.

e Well 94, diameter 8 inches, owned by city of Kingsland, about 780 feet south, flowing about 350 gals. a minute.

14. R. T. Clark. Scotchville, on northeast side of St. Marys road, 4.5 miles southeast of Kingsland. Used drilled domestic well, diameter 4 inches, depth 475 feet. Measuring point, top of 4-inch tee on 4-inch casing, 4.0 feet above land surface and about 30 feet above mean sea level. Water levels, in feet above measuring point: Aug. 13, 1940, 25.6; Oct. 15, 1942, 25.1.

18 (*886, p. 71; 907, p. 40;*937, p. 41). L. O. Harris. St. Marys, about 0.8 mile north of Riverview Hotel on east side of State Highway 40. Water levels, in feet above measuring point, 1942: Mar. 11, a/26.2; July 30, a/26.2; Oct. 15, a/26.90.

19 (*886, p. 71; 907, p. 40;*937, p. 41). Camden Training School, St. Marys, 1 mile north of Riverview Hotel, on east side of State Highway 40. Water levels, in feet above measuring point, 1942: Mar. 11, b/21.2; July 30 b/21.1; Oct. 15, b/22.0.

32 (*886, p. 71; 907, p. 40;*937, p. 41). Camden County, in front of Camden County courthouse, Woodbine. Measurements discontinued.

39 (*886, p. 72; 907, p. 40;*937, p. 41). Southern Fertilizer & Chemical Co., St. Marys, about 1.5 miles north of Riverview Hotel, near west bank of North River. Water levels, in feet above measuring point, 1942: Mar. 11, c/25.7; July 30, c/25.75; Oct. 15 c/26.05.

42. South Camden Turpentine Co. About 0.2 mile east of Spring Bluff, on northeast side of road to Dover Bluff. Used drilled domestic well, diameter 2 inches, depth about 500 feet. Measuring point, top of 2-inch cross on 2-inch casing, 1.8 feet above land surface and about 23 feet above mean sea level. Water levels, in feet above measuring point: June 14, 1939, 32.7; July 30, 1942, 32.4.

59 (*937, p. 42). Zack Colson. About 3.5 miles southeast of Woodbine, 0.6 mile south of Satilla River. Water level, in feet above measuring point, 1942: July 30, 28.6.

61 (*907, p. 41;*937, p. 42). Camden Properties. Billysville, about 2 miles east of Colesburg, at west end of tenant quarters. Water levels, in feet above measuring point, 1942: Mar. 11, 36.2; July 30, 35.4.

66 (*886, p. 72; 907, p. 41;*937, p. 42). Arthur Lucas, Point Peter, about 2 miles east of St. Marys, at house. No measurements made during 1942.

68 (*907, p. 41;*937, p. 42). Kings Bay Club. At Kings Bay, about 10 miles east of Kingsland, about 4 miles north of St. Marys. Water levels, in feet above measuring point, 1942: July 30, 43.35; Oct. 15, 42.7.

78 (*907, p. 41;*937, p. 42). White Oak Public School. White Oak, on west side of Seaboard Railway, at schoolhouse. Water levels, in feet above measuring point, 1942: Mar. 11, 41.3; July 30, 40.95; Oct. 14, 40.15.

87 (*937, p. 42). Camden Properties. Cabin Bluff, 13 miles southeast of Woodbine, near west bank of Cumberland River. No measurements made during 1942.

92a (*937, p. 42). Camden Race Track. About 2.2 miles southeast of Kingsland on north side of St. Marys road, at race track. Water levels, in feet above measuring point, 1942: Mar. 11, 32.5; July 30, 32.1; Oct. 15, 31.8.

118 (*937, p. 43). L. B. Harrel (formerly owned by Mrs. Elfrieda Wagner). About 9.5 miles west of Kingsland on old Folkston road, about 0.1 mile south of road. Water level, in feet above measuring point, 1942: July 30, 39.55.

144 (*907, p. 41; *937, p. 43). T. C. Haygood, Woodbine, on east side of U. S. Highway 17, 0.5 mile south of road to Folkston. Water levels, in feet above measuring point, 1942: Mar. 11, 36.6; July 30, 37.2; Oct. 14, 37.4.

a Well 155, St. Marys Kraft Corporation, 2,198 feet N. 31°18' E., flowing or pumping, about 3,000 gals. a minute.

b Well 155, St. Marys Kraft Corporation, 1,140 feet N. 43°41' E., flowing or pumping, about 3,000 gals. a minute.

c Well 155, St. Marys Kraft Corporation, 2,014 ft. S. 30°44' W., flowing or pumping, about 3,000 gals. per minute.

Charlton County

4 (*937, p. 43). United States. About 7 miles southwest of Folkston at C.C.C. camp, BS-1 Ga. Water level, in feet below measuring point, 1942: July 29, 12.28.

7 (*937, p. 43). State of Georgia. 1 mile southwest of Folkston, at convict camp. Water levels, in feet below measuring point, 1942: Mar. 12, 13.04; July 29, 14.14.

Chatham County

8 (*845, p. 53; 886, p. 72; 907, p. 41; *937, p. 43). City of Savannah well 8. Savannah, on west side of Stiles Avenue, and about 600 feet south of Louisville road. Water level affected by pumpage in Savannah area. Average daily range of fluctuation during 1942, about 3.4 feet.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Jan. 1-3	Jan. 2	45.49	Jan. 3	50.64
4-10	4	46.96	7	51.31
11-17	17	46.47	12	55.01
18-24	18	45.45	23	53.16
25-31	30	42.12	25	51.76
Feb. 1-7	Feb. 1	43.83	Feb. 6	49.71
8-14	8	45.51	19	51.94
15-21	21	44.69	15	49.53
22-28	22	43.30	28	49.38
Mar. 1-7	Mar. 2	43.85	Mar. 6	49.60
8-14	9	45.55	11	52.87
15-21	20	46.07	15	51.75
22-28	23	45.00	25	52.42
Mar. 29-Apr. 4	Apr. 1	42.74	Mar. 30	49.97
5-11	5	45.65	Apr. 9	54.85
12-18	14	45.12	12	51.20
19-25	19	46.58	24	54.86
Apr. 26-May 2	27	51.48	May 1	63.41
3-9	May 9	52.12	4	63.58
10-16	16	50.57	12	60.42
17-23	17	49.78	21	56.35
24-30	25	49.06	27	56.47
May 31-June 6	June 6	48.18	June 1	57.24
7-13	7	48.50	12	54.04
14-20	14	49.54	20	57.07
June 27-July 4	July 4	50.35	27	59.43
5-11	5	46.52	July 10	59.64
12-18	12	52.35	17	61.40
19-25	20	52.95	21	59.19
July 26-Aug. 1	26	52.04	31	58.36
2-8	Aug. 2	53.20	Aug. 3	61.29
9-15	9	53.34	11	62.42
16-22	16	55.81	21	61.94
23.29	23	56.00	24	62.39
Aug. 30-Sept. 3		(a)		(a)
Sept. 4-12	Sept. 9	48.22	Sept. 5	56.33
13-19	13	52.33	18	61.05
20-26	21	54.98	24	62.62
Sept.27-Oct. 3	Oct. 3	53.21	27	58.39
4-10	5	53.75	Oct. 8	59.63
11-17	17	52.99	11	57.13
Oct. 18-25		(a)		(a)
26-31	31	51.62	26	56.03
Nov. 1-7	Nov. 2	50.37	Nov. 6	57.63
8-14	8	52.30	9	57.36
15-21	16	52.95	19	56.68
22-28	25	53.23	26	57.34
Nov. 29-Dec. 4	Dec. 4	49.68	Dec. 2	58.06
Dec. 5-16		(a)		(a)
17-19	17	52.78	18	58.02
20-26	26	46.54	23	56.21
27-31	27	47.98	29	54.93

a No record.

28 (*886, p. 72; 907, p. 42;*937, p. 44). Reliance Fertilizer Co. Savannah, about 200 feet south of Louisville road, 2 miles west of West Broad Street. Water level affected by pumpage in Savannah area.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Jan. 24	56.2	Apr. 11	58.2	July 4	61.8
Feb. 14	56.3	June 13	61.6		

29. (*907, p. 42;*937, p. 44). Port Wentworth Corporation. Port Wentworth, about 300 feet east of U. S. Highway 17, near elevated steel tank. Water levels, in feet below measuring point, 1942: Mar. 19, 25.9; May 18, 28.2; July 20, 28.5.

30 (*845, p. 53;*886, p. 73; 907, p. 42;*937, p. 44). Dixie Asphalt Corporation. Near west bank of Savannah River, 1 mile northeast of U. S. Highway 17, 3.4 miles northwest of Savannah city hall. Depth 608 feet (previously reported as 620 feet). Cased 234 feet. Water level affected by pumpage in Savannah area.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 3	48.6	Apr. 18	51.3	July 18	56.2	Oct. 10	55.0
17	51.7	25	53.1	25	a59.7	26	52.8
24	51.2	May 2	54.6	Aug. 1	a59.8	31	54.2
Feb. 7	48.9	16	a57.8	8	56.3	Nov. 7	54.0
14	50.4	23	54.6	15	56.8	14	54.8
21	50.4	30	54.0	22	57.8	21	55.3
28	49.3	June 6	a54.3	Sept. 5	57.6	28	54.6
Mar. 7	50.1	13	53.3	12	53.0	Dec. 4	a51.7
14	50.5	26	56.6	19	56.5	23	53.3
Apr. 6	49.1	July 4	53.4	Oct. 3	56.1	31	53.0
11	50.5	11	55.4				

43 (*907, p. 43;*937, p. 45). Savannah, Southern Cotton Oil Co. well 215A. South well, 40 feet north of Lathrop Ave., 1,200 feet southwest of southwest bank of Savannah River, 1.75 miles northwest of Savannah city hall. Water level affected by pumpage in Savannah area. Water levels, in feet below measuring point, 1942: July 20, b/76.9; Oct. 7, 67.0.

46 (*886, p. 73; 907, p. 43;*937, p. 45). Union Bag & Paper Corporation well 5. About 800 feet southwest of Savannah River, 2.4 miles northwest of city hall. No measurements made during 1942.

47 (*886, p. 73; 907, p. 43; 937, p. 45). National Gypsum Co. Near west bank of Savannah River, 1 mile northeast of U. S. Highway 17, 3.25 miles northwest of Savannah city hall. No measurements made during 1942.

48 (*907, p. 43; *937, p. 45). United States War Department, Savannah Army Service Forces Depot (formerly owned by Southeastern Warehouse & Compress Co.). On west bank of Savannah River, 3.8 miles northwest of Savannah city hall. No measurements made during 1942.

50 (*886, p. 74; 907, p. 43; *937, p. 45) Hercules Powder Co. About 95 feet south of Louisville road, 3.2 miles west of West Broad Street, Savannah. Water level affected by pumpage in Savannah area. Measurements made while well 49, diameter 8 inches, about 500 feet west, was pumping.

Water level, in feet below measuring point, 1942

Jan. 3	43.10	Apr. 6	43.44	June 13	47.07	Sept. 19	49.44
17	45.90	11	44.73	26	49.23	Oct. 3	48.66
24	44.63	18	44.98	July 4	48.62	26	47.64
Feb. 7	43.14	25	46.64	11	48.10	Nov. 7	47.83
14	43.95	May 2	48.62	18	49.30	21	48.32
21	43.76	16	47.69	Aug. 1	48.87	Dec. 4	43.89
28	42.87	23	48.26	15	50.23	23	47.53
Mar. 7	43.71	30	48.00	Sept. 5	50.04	31	47.58
14	44.52	June 6	44.58	12	47.59		

a Pump on well operating; water level very nearly stable after pump has been operating 30 minutes, at which time drawdown is about 4 feet.
b Pump on well operating; drawdown about 11.0 feet.

51. Hercules Powder Co. About 180 feet south of Louisville road, about 200 feet southwest of well 50, 3.2 miles west of West Broad Street, Savannah. Unused drilled industrial well, diameter 4 to 3 inches, reported depth 390 feet. Cased 350 feet. Measuring point, top of 2½-inch flange, 2 feet below land surface and 13.07 feet above mean sea level. Abandoned as observation well Oct. 11, 1939, because fluctuations of water level were similar to those in well 50. Water level affected by pumpage in Savannah area. Measurements made while well 49, diameter 8 inches, about 370 feet northwest, was pumping.

Water level, in feet below measuring point, 1939

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 20	a22.6	Feb. 25	30.07	Apr. 1	31.56	May 13	30.39
26	26.89	Mar. 4	30.69	8	30.40	20	31.42
Feb. 6	29.40	11	30.81	15	29.81	27	31.92
11	31.23	18	31.88	29	30.10	June 3	31.32
18	31.11	25	32.35	May 6	30.53	Oct.11	a23.30

61 (*886, p. 74; 907, p. 43; 937, p. 46). Colonial Ice Co. Savannah, in engine room of plant, north of intersection of Indian and McGuire Streets. Measurements discontinued.

62 (*886, p. 74; 907, p. 43; 937, p. 46). Colonial Ice Co. Savannah, in east part of plant, north of intersection of Indian and McGuire Streets. Measurements discontinued.

63 (*907, p. 43;*937, p. 46). Colonial Ice Co. Savannah, 5 feet northwest of McGuire St., about 105 feet northeast of Indian St. Water level affected by pumpage in Savannah area. Water levels, in feet below measuring point, 1942: July 20, 65.90; Oct. 9, 66.67.

74 (*886, p. 75; 907, p. 44;*937, p. 46). Certain-teed Products Corporation, 900 feet southwest of southwest bank of Savannah River, 3 miles northwest of Ssvannah city hall. Measurements discontinued.

76 (*907, p. 44;*937, p. 46). Pierpont Manufacturing Co. About 600 feet southwest of Savannah River, 2.1 miles northwest of Savannah city hall. Water level affected by pumpage in Savannah area. Water levels, in feet below measuring point, 1942: July 20, 76.6; Oct. 7, 77.4.

79 (*886, p. 75; 907, p. 44;*937, p. 46). Georgia Ice Co., Savannah. About 25 feet west of center line of Whitaker Street extended, about 55 feet south of Victory Drive. Measuring point 37.7 feet above mean sea level (erroneously given as 38.8 feet above mean sea level in Water-Supply Papers 907 and 937). Water level affected by pumpage in Savannah area. Average daily fluctuation during 1942, about 1.4 feet.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Jan. 1-3	Jan. 2	65.56	Jan. 1	67.00
4-10	4	65.33	9	68.95
11-17	17	67.29	12	70.36
18-24	20	66.49	23	68.66
25-31	31	65.23	26	68.95
Feb. 1-7	Feb. 2	65.42	Feb. 7	67.98
8-14	9	b66.07	9	c68.11
15-21	17	65.46	15	67.60
22-28	24	64.79	28	68.13
Mar. 1-7	Mar. 3	65.59	Mar. 7	68.27
8-14	9	66.10	10	68.53
15-21	18	65.30	15	67.89
22-28	23	66.44	25	69.34
Mar. 29-Apr. 4	Apr. 3	65.58	29	68.72
5-6		(d)		(d)
7-11	7	67.45	8	70.90

a Wells of Union Bag & Paper Corporation, Savannah, shut down.
b 8 a.m. Eastern standard time.
c 7 p.m. Eastern standard time.
d No record.

79 (*886, p. 75; 907, p. 44; 937, p. 46). Georgia Ice Co.--Continued.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Apr. 12-18	Apr. 13	67.15	Apr. 17	71.21
19-25	20	68.09	25	72.07
Apr. 26-May 2	27	70.36	May 2	74.80
3-9	May 9	71.50	3	74.96
10-16	16	70.58	12	72.80
17-23	19	70.65	21	72.85
24-30	25	70.45	28	73.06
May 31-June 6	June 6	69.97	June 2	74.23
7-13	7	a70.30	7	b72.37
14-20	15	70.83	20	73.78
21-26		(c)	28	(c)
June 27-July 4	29	73.27	July 3	76.62
5-11	July 5	71.25	10	76.96
12-18	13	73.11	17	78.00
19-25	19	73.68	22	77.92
July 26-Aug. 1	27	73.34	31	77.57
2-8	Aug. 2	74.61	Aug. 7	78.39
9-15	9	74.80	10	78.95
16-22	16	75.24	19	78.51
23-29	27	75.75	28	79.07
Aug. 30-Sept.5	Sept.11	(c)	Sept. 7	(c)
Sept. 6-12	11	73.26	7	76.91
13-19	14	73.08	17	76.62
20-26	21	75.46	24	77.72
Sept. 27-Oct. 3	Oct. 2	73.36	27	76.84
4-10	5	73.23	Oct. 8	76.55
11-17	14	73.22	11	75.70
18-25		(c)		(c)
26-31	31	72.10	26	74.68
Nov. 1-7	Nov. 2	71.34	Nov. 6	74.89
8-14	9	d71.74	9	e74.28
15-21	16	71.62	20	72.34
22-28	24	71.47	22	73.14
Nov. 29-Dec. 5	Dec. 5	69.66	Dec. 2	72.71
6-11	6	69.39	7	72.86
12-16		(c)		(c)
17-19	17	70.51	18	72.44
20-26	26	68.41	22	71.57
27-31	27	67.93	31	70.12

81 (*907, p. 45;*937, p. 47). Gordon Saussy. Near west bank of Savannah River, 5.3 miles northwest of Savannah city hall, a short distance south of Savannah Sugar Refining Corporation. Water levels, in feet below measuring point, 1942: Mar. 19, 36.12; May 18, 38.63; July 20, 38.91; Oct. 7, 39.33.

84 (*907, p. 45;*937, p. 47). Standard Oil Co. About 150 feet south of Savannah River, 2.9 miles east of Savannah city hall. Water level affected by pumpage in Savannah area and also by tide.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 3	22.89	Apr. 18	25.21	July 24	30.28	Oct. 26	27.91
17	24.66	May 2	25.43	Aug. 8	31.90	Nov. 7	27.73
Feb. 7	22.68	16	27.37	22	30.64	21	28.56
21	23.8	30	27.87	Sept. 5	31.24	Dec. 4	27.85
Mar. 7	22.72	June 13	28.03	19	30.14	23	26.35
14	23.28	29	29.92	Oct. 3	29.90	31	25.48
Apr. 6	23.36	July 11	29.39				

a 12:15 a.m. Eastern war time.
b 2:30 p.m. Eastern war time.
c No record.
d 8:00 a.m. Eastern war time.
e 9:00 p.m. Eastern war time.

86. Southern Cotton Oil Co. well 215 C.Savannah, about 180 feet north of Lathrop Avenue property line, about 1,050 feet south of Savannah River, 1.8 miles northwest of Savannah city hall. Used drilled industrial well, diameter 12 inches, depth 665 feet. Cased 240 feet. Measuring point, hole in pump-base plate, 2 feet above land surface and 9.2 feet above mean sea level. Water level affected by pumpage in Savannah area.

Water level, in feet below measuring point, 1940-42

Date	Water level	Date	Water level	Date	Water level
Sept. 16, 1940	64.2	June 12, 1941	67.2	July 20, 1942	66.2
Oct. 18	a74.3	Sept.17	a76.6	Oct. 7	a78.3
Nov. 30	59.2				

87 (*907, p. 45; 937, p. 47). Savannah Gas Co. Savannah, about 80 feet south of Bay Street on east side of Reynolds Street, about 55 feet west of Central of Georgia Railway. No measurements made during 1942.

88. W. P. Dowling. About 1,100 feet northwest of Central Junction, 100 feet northeast of Seaboard Railway, 3.9 miles northwest of Savannah city hall. Unused drilled industrial well, diameter 8 inches, reported depth about 400 feet. Measuring point, top of 8-inch casing, 0.5 foot below land surface and 16.86 feet above mean sea level. Water level affected by pumpage in Savannah area. Water-stage recorder installed Oct. 25, 1941.

Water level in feet below measuring point, 1940-41

Sept. 7, 1940	39.52	Dec. 30, 1940	36.62	Jan. 11, 1941	39.19
28	41.03	31	37.59	18	39.69
Dec. 12	40.01	Jan. 2, 1941	38.06	Oct. 10	44.66
28	34.22	4	38.39		

Highest and lowest weekly water level, in feet below measuring point, 1941-42
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Oct. 26-Nov. 1, 1941	Oct. 27, 1942	43.72	Oct. 30, 1942	44.77
Nov. 2-8	Nov. 3	43.66	Nov. 7	44.54
9-15	15	43.64	13	44.26
16-22	16	43.68	21	44.75
23-29	28	41.66	25	44.85
Nov. 30-Dec. 6	30	41.9	Dec. 5	43.5
7-13	Dec. 13	42.53	10	43.55
14-20	15	42.42	18	43.25
Dec. 21-27	26	35.76	21	43.04
Jan. 1-3, 1942	Jan. 2	39.77	Jan. 3	40.34
4-10	4	40.05	8	41.50
11-17	11	41.24	15	42.49
Jan. 18-24	21	41.22	18	42.13
25-31	30	36.95	26	41.41
Feb. 1-7	Feb. 1	38.50	Feb. 7	40.34
8-14	8	40.22	14	41.30
15-21	16	40.64	15	41.27
22-28	24	39.83	22	40.83
Mar. 1-7	Mar. 2	39.64	Mar. 7	41.18
8-14	8	40.37	14	41.66
15-21	18	41.07	20	41.90
22-28	23	41.30	28	42.01
Mar. 29-Apr. 4	Apr. 2	36.68	31	42.31
5-11	5	38.9	Apr. 9	41.97
12-18	15	40.67	17	42.38
19-25	19	42.00	25	43.67
Apr. 26-May 2	27	43.40	May 2	45.70
3-9	May 4	45.43	8	46.37
10-16	16	44.80	11	45.75
17-23	19	44.58	21	45.43
24-30	24	44.64	29	45.37
May 31-June 6	June 4	40.13	31	45.32
7-13	7	42.11	June 13	44.38
14-30	14	43.87	19	45.07
21-26		(b)		(b)

a Pump on well operating; capacity about 1,200 gallons a minute.
b No record.

88. W. P. Dowling--Continued.

Highest and lowest weekly water level, in feet below measuring point, 1941-42
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
June 27-July 4, 1942	June 30, 1942	45.53	June 27, 1942	46.08
July 5-11		(a)		(a)
12-18	July 14	44.72	July 18	46.16
19-25	20	45.38	23	46.09
July 26-Aug. 1	27	45.46	31	45.93
Aug. 2-8	Aug. 3	45.30	Aug. 7	46.33
9-15	10	45.97	14	47.20
16-22	17	46.72	21	47.56
23-29	24	46.91	26	47.60
Aug. 30-Sept. 5		(a)		(a)
Sept. 6-12	Sept. 9	41.09	Sept. 6	46.85
13-19	13	44.54	18	46.49
20-26	20	46.02	25	47.15
Sept. 27-Oct. 3	Oct. 3	45.83	27	46.70
4-10	7	45.83	Oct. 4	46.14
11-17	17	44.90	11	45.99
18-25		(a)		(a)
26-31	31	44.38	30	44.86
Nov. 1-7	Nov. 2	44.05	Nov. 6	45.01
8-14	8	44.65	12	45.46
15-21	16	44.89	20	45.64
22-23	23	45.05	22	45.42
24-28		(a)		(a)
Nov. 29-Dec. 5	Dec. 4	41.85	29	45.06
6-12	6	42.33	Dec. 11	44.86
13-15		(a)		(a)
16-19	19	44.65	16	45.19
20-26	26	40.12	21	44.79
27-31	27	40.92	31	44.39

105 (*845, p. 54; 886, p. 75; 907, p. 45; 937, p. 47). Pratt Gay. On south side of Louisville road, near intersection with Pine Barren road, 8 miles west of Savannah. Reported depth in Water-Supply Paper 845, 375 feet measured depth, Oct. 7, 1939, 332 feet. Water levels, in feet below measur point, 1942: July 24, 6.80; Dec. 5, 6.92.

109 (*845, p. 54; 886, p. 75; 907, p. 45;*937, p. 47). Georgia State Highway Department. South of west abutment of Savannah River bridge on U. S. Highway 17, 7 miles northwest of Savannah. Water level affected by tide and pumpage in Savannah area. Water levels, in feet below measuring point, 1942: May 18, 11:35 a.m., 18.20; Aug. 19, 10:20 a.m., 20.50; Sept. 22, 9:30 a.m., 19.32.

112 (*907, p. 46;*937, p. 47). Mrs. L. O. Givern. Bloomingdale, abou 200 feet north of Central of Georgia Railway station, about 90 feet west of town street. No measurements made during 1942.

117 (*907, p. 46;*937, p. 47). United States War Department. Fort Screven, Tybee Island, about 300 feet south of old lighthouse. Water level affected by tide. Measurements Mar. 4 to July 13, supplied through courtes of C. F. Yarbrough, plant operator.

Water level, in feet below measuring point, 1942

Date	Hour	Water level	Date	Hour	Water level
Mar. 4	b8:30 a.m.	4.5	Mar. 12	b8:20 a.m.	5.2
5	b8:30 a.m.	4.3	13	b8:20 a.m.	4.4
6	b8:30 a.m.	4.9	16	b8:20 a.m.	3.4
7	b8:30 a.m.	5.9	17	b8:20 a.m.	3.6
9	b8:30 a.m.	8.4	18	b8:20 a.m.	3.9
10	b8:20 a.m.	6.6	19	b4:38 p.m.	7.9
11	b8:15 a.m.	5.9	21	b8:20 a.m.	5.4

a No record.
b Eastern War Time.

117 (*907, p. 46; 937, p. 47)--Continued.

Water level, in feet below measuring point, 1942

Date	Hour	Water level	Date	Hour	Water level
Mar. 24	a8:12 a.m.	7.23	July 10	a8:40 a.m.	5.7
Apr. 23	a8:29 p.m.	5.9	11	a9:00 a.m.	5.8
May 20	a8:35 a.m.	5.8	13	a9:15 a.m.	5.2
June 2	a8:20 a.m.	7.1	14	a8:40 a.m.	5.21
3	a8:30 a.m.	6.6	Aug. 22	a12:50 p.m.	8.00
4	a8:30 a.m.	6.8	22	a1:05 p.m.	7.83
10	a8:30 a.m.	5.5			

121 (*886, p. 75; 907, p. 46;*937, p. 48). Robert Schneider. 50 feet north of Tybee road, in northwestern part of Tybee Island. Water level affected by tide.

Water level, in feet below measuring point, 1942

Jan. 17	b1:35 p.m.	5.47	June 6	a12:35 p.m.	4.84
Feb. 28	a1:55 p.m.	5.33	Aug. 22	a12:20 p.m.	7.20
Apr. 25	a11:25 a.m.	5.19	Dec. 4	a2:32 p.m.	5.85

122 (*907, p. 46; 937, p. 48). Georgia State Highway Department. Near southwest end of steel truss bridge over Bull River on Tybee road, 7 miles east of Savannah.

Water level, in feet, 1942

Date	Hour	Water level in Bull River, in feet, with respect to mean sea level	Water level in well, in feet below measuring point
Jan. 17	b2:00 p.m.	-4.0	11.70
Mar. 7	a11:35 a.m.	+3.3	10.60
Apr. 25	a11:10 a.m.	-2.1	11.73
May 30	a12:05 p.m.	-.5	12.35
Aug. 15	a1:50 p.m.	+1.0	13.38
Oct. 10	a12:20 p.m.	+1.5	12.94
Nov. 7	a1:15 p.m.	-2.9	13.33

123 (*886, p. 75; 907, p. 46;*937, p. 48). Henry Walthour Estate. Wilmington Island, on southwest side of dirt road, about 0.5 mile south of Tybee road. Daily fluctuation of water level, due to tides, ranges from about 0.3 foot, during lowest neap tides, to 1.0 foot, during highest spring tides.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Jan. 1-3	Jan. 1	7.76	Jan. 3	6.99
4-10	6	6.86	10	7.64
11-17	17	6.97	16	7.82
18-25	20	7.02	18	7.85
25-31	25	6.52	31	7.62
Feb. 1-7	Feb. 4	6.88	Feb. 7	7.66
8-14	14	6.31	11	7.45
15-21	19	6.46	16	7.43
22-28	28	6.52	24	7.42
Mar. 1-7	Mar. 4	6.22	Mar. 2	7.52
8-14	10	6.63	8	7.51
15-21	20	6.58	17	7.53
22-28	22	6.90	28	7.60
Mar. 29-Apr. 4	Apr. 4	6.81	Apr. 1	7.72
5-11	6	6.83	10	7.65
12-18	16	6.82	12	7.81
19-25	25	7.04	20	7.97
Apr. 26-May 2	May 2	7.16	30	8.15
3-9	9	7.20	May 3	8.39
10-16	15	7.87	11	8.59
17-23	17	7.98	23	8.69
24-30	28	7.98	29	9.01
May 31-June 1	June 1	7.98	June 2	9.02
7-13	7	8.25	12	9.05
14-20	15	8.47	20	9.13
June 21-27		(c)		(c)
28-July 4	July 1	8.33	July 4	9.64

a Eastern war time. b Eastern standard time.
c No record.

123 (*886, p. 75; *907, p. 46; 937, p. 48)--Continued.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
June 5-11	July 5	9.19	July 7	9.66
12-18	14	8.96	18	9.76
19-25	23	8.88	25	9.88
July 26-Aug. 1	26	8.84	Aug. 1	9.97
2-8	Aug. 2	9.47	6	10.17
9-15	13	9.54	11	10.24
16-22	22	a9.51	22	b10.24
23-29	26	8.89	23	10.13
Aug. 30-Sept. 5		(c)		(c)
Sept. 5-12	Sept. 12	9.42	Sept. 9	10.29
13-19	19	9.34	14	10.10
20-26	22	8.90	20	9.92
23-Oct. 3	27	9.06	29	9.86
Oct. 4-10	Oct. 10	8.91	Oct. 4	9.81
11-17	11	8.68	17	9.78
18-25		(c)		(c)
26-31	26	8.84	29	9.63
Nov. 1-7	Nov. 7	8.71	Nov. 3	9.67
8-14	10	8.49	14	9.69
15-21	21	9.09	19	9.73
22-28	24	8.91	22	9.67
29-Dec. 5	Dec. 1	8.54	5	9.39
Dec. 6-12	11	8.18	Dec. 7	9.37
13-16		(c)		(c)
17-19	17	8.61	19	9.27
20-26	22	8.90	21	9.23
27-31	29	8.08	27	8.99

126 (*845, p. 54; 886, p. 76; 907, p. 47;*937, p. 49). Atlantic Mutual Fire Insurance Co. At south end of Wilmington Island. Daily fluctuations of water level, due to tides, range from 0.7 foot during neap tides, to about 1.5 feet during highest spring tides. Water levels, in feet below measuring point, 1942: Jan. 24, b/1:10 p.m., 16.08; Mar. 14, a/1:10 p.m., 15.95.

128. National Order Railway Conductors Home. Oatland Island, about 4 miles southeast of Savannah, on east side of main building. Used drilled domestic well, diameter 12 inches, depth 627 feet. Cased 90 feet. Measuring point, top of hole in pump base plate, 0.5 foot above land surface and about 16 feet above mean sea level. Water levels, in feet below measuring point, 1942: Aug. 15, a/12:05 p.m., 29.84; Nov. 21, a/12:05 p.m., 29.14.

131 (*886, p. 76; 907, p. 47;*937, p. 49). C. E. Oliver. On east side of State Highway 21. 0.8 mile northwest of crossing of Atlantic Coast Line Railraod at Monteith. Water levels, in feet below measuring point, 1942: Mar. 19, 7.60; May 8, 8.98; July 20, 9:42; Oct. 7, 10.18.

133. State Highway Department of Georgia. About 2.6 miles north of Monteith, at foot of shoulder east of State Highway 21, on north bank of Black Creek. Used drilled well, diameter 2 inches, reported depth about 180 feet. Measuring point, top of 2-inch elbow, level with land surface and 6.85 feet above mean sea level.

Water level, in feet above measuring point, 1938-42

Date	Water level	Date	Water level	Date	Water level
Nov. 23, 1938	1.21	Oct. 22, 1940	1.25	May 18, 1942	1.45
June 7, 1939	d2.21	June 13, 1941	1.05	July 20	.92
Oct. 26	1.70	Dec. 16	.9		

134. Mrs. Americus Olesby. 4 miles south of Savannah, about 100 feet southwest of intersection of Waters Avenue and Montgomery road. Used drilled domestic well, diameter 3 inches, depth 300+ feet. Measuring point, top of 3-inch casing, 0.3 foot above land surface and 20.37 feet above mean sea level. Water levels, in feet below measuring point: Nov. 25, 1938, 20.77; June 8, 1942, 29.00.

a Eastern war time. b Eastern standard time. c No record.
d Creek flooded; water level in creek 0.2 foot above measuring point of well.

137 (*907, p. 47;*937, p. 49). C. P. Rowland. Montgomery, in northern part, on east side of Ferguson Avenue. Measuring point 16.07 feet above mean sea level. Water levels, in feet below measuring point, 1942: June 8, 12.61; Sept. 18, 13.45.

143 (*886, p. 76; 907, p. 47;*937, p. 49). M. B. Lane. Anderson, about 600 feet north of Seaboard Railway. Water level, in feet above measuring point, 1942: July 6, 0.97.

144. J. F. Zipperer. On north side U. S. Highway 17, 0.2 mile east of intersection with Fort Argyle road. Used drilled domestic well, diameter 3 inches, depth about 400 feet. Measuring point, top of 3-inch cross, 0.5 foot above land surface and 14.95 feet above mean sea level. Water levels, in feet above measuring point: Nov. 28, 1938, 4.84; Aug. 21, 1940, 3.45; July 6, 1942, 0.85.

145 (*886, p. 76; 907, p. 47;*937, p. 49). A. G. Gillespie. On north side of U. S. Highway 17, 0.25 mile east of Little Ogeechee River. Measuring point, top of 3-inch elbow on overflow pipe, 1.1 feet above land surface and 12.45 feet above mean sea level.

Water level, in feet, with reference to measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Mar. 10	+0.31	July 28	-1.03	Dec. 17	-1.07
July 6	-.85	Oct. 13	-1.17		

166. Chatham County. At school, on north side of Pine Barren road, 0.8 mile west of Louisville road. Used drilled public well, diameter 3 to 2 inches, depth 277 feet. Measuring point, top of 3-inch casing, 0.4 foot above land surface.

Water level, in feet above land surface, 1938, 1940-42

Dec. 1, 1938	4.85	June 25, 1941	7.95	July 16, 1942	8.84
Nov. 11, 1940	6.8	Oct. 24	8.92		

169 (*907, p. 48;*937, p. 49). L. J. Carter. On north side of Pine Barren road, 2.75 miles east of Ogeechee River. Measuring point 23.40 feet above mean sea level. Water levels, in feet above measuring point, 1942: June 9, 1.2; July 16, 1.15.

174 (*907, p. 48;*937, p. 49). Mrs. Eda W. Sapp. About 750 feet north of Pine Barren road, 0.5 mile east of Ogeechee River. Measuring point 23.9 feet above mean sea level. Water levels, in feet above measuring point, 1942: June 9, 6.0; July 16, 5.9.

188 (*907, p. 48;*937, p. 50). A. C. Colbert. Burroughs, between Atlantic Coast Line Railroad and Seaboard Railway. No measurements made during 1942.

194 (*886, p. 76; 907, p. 48;*937, p. 50). Mrs. W. W. Keller, Sr. Drakie's Bluff, on west bank of Savannah River, about 8 miles northwest of Savannah. Water levels, in feet below measuring point, 1942: May 18, 18.04; July 20, 18.43.

199 (*886, p. 76; 907, p. 48;*937, p. 50). Mrs. Hattie F. Keller. Meinhard, about 0.25 mile south from Monteith road, about 750 feet west of Savannah & Atlantic Railway. Water levels, in feet below measuring point, 1942: May 18, 12.34; July 20, 12.64; Oct. 7, 13.63.

203 (*845, p. 54; 886, p. 76; 907, p. 48;*937, p. 50). Atlantic Coast Line Railroad, at house of section foreman, Cherokee Hill. No measurements made in 1942.

213 (*886, p. 76; 907, p. 48;*937, p. 50). J. L. Budreau. Intersection of Burroughs road and U. S. Highway 17. Measuring point, northeast end of concrete base for gasoline pump, across U. S. Highway 17, at J. F. Zipperer's store. Measuring point 16.8 feet above mean sea level.

213 (*886, p. 76; 907, p. 48;*937, p. 50)--Continued.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Jan. 6	0.55	May 1	0.62	July 6	1.20
Mar. 10	.37	June 9	1.00		

221 (*886, p. 76; 907, p. 48;*937, p. 50). J. L. Joyce, Coffee Bluff. Measurements discontinued.

242. J. L. Budreau. East side of Burroughs road, 0.9 mile south of U. S. Highway 17. Used drilled irrigation well, diameter 6 inches, depth 435 feet. Cased 266 feet. Measuring point, top of 6-inch elbow, 0.8 foot above land surface. Water level, in feet, with reference to measuring point: Sept. 24, 1940, +1.99; June 4, 1941, +1.18; Dec. 17, 1942, -0.28.

256 (*937, p. 50). Mrs. W. M. Price. Bloomingdale, on southside of Central of Georgia Railroad, opposite depot. Measuring point, top of 2-inch casing, about 1 foot above land surface and 25.9 feet above mean sea level. Water levels, in feet below measuring point, 1942: Mar. 13, 2.34; May 18, 3.20; July 24, 3.35, Dec. 5, 3.80.

266 (*907, p. 48;*937, p. 50). Dr. J. F. Chisholm. 1 mile east of Augusta road, 3.5 miles north of Monteith. Water levels, in feet below measuring point, 1942: May 18, 5.03; July 20, 5.33; Oct. 7, 6.16.

269 (*907, p. 48;*937, p. 51). J. W. Pierpont Estate, Isle of Hope. Water level affected by tide. Water level, in feet below measuring point, 1942: June 8, 6:35 p.m., 15.32; Sept. 18, 4:45 p.m., 16.43. Water level in Skidway River, above half-tide level, 1942: June 8, a/6:35 p.m., 4.1; Sept. 18, a/4:45 p.m., 4.0.

273 (*907, p. 49;*937, p. 51). C. A. Gross. On west side of Isle of Hope road, 1.5 miles north of Isle of Hope. Water level affected by tide. Water levels, in feet below measuring point, 1942: June 8, a/7:00 p.m., 21.15; Sept. 18, b/5:10 p.m., 21.90.

275 (*886, p. 77; 907, p. 49;*937, p. 51). Mrs. R. J. Travis, Avalon. New measuring point, concrete base for gasoline pump east of garage, 3.14 feet above a former measuring point to which are referred measurements in Water-Supply Papers 907 and 937, and 2.54 feet above another former measuring point to which are referred measurements in Water-Supply Paper 886. Water level affected by tide. Water level, in feet below measuring point, 1942: Sept. 18, b/3:25 p.m., 6.15.

276 (*907, p. 49;*937, p. 51). Dr. J. F. Chisholm. Near Atlantic Coast Line Railroad, 2.5 miles northeast of Monteith. Water level, in feet below measuring point, 1942: July 20, 9.2.

279 (*907, p. 49;*937, p. 51). DeWitt Hotel Corporation. Wilmington Island, at OglethorpeHotel. Water level affected by tide.

Water level, in feet below measuring point, 1942

Jan. 24	Hour	Water level	Date	Hour	Water level
Jan. 24	a1:25 p.m.	13.95	Aug. 15	b12:40 p.m.	16.85
Mar. 14	b1:20 p.m.	14.65	Sept.12	b11:25 a.m.	16.8
May 16	b12:15 p.m.	15.70			

312 (*907, p. 49;*937, p. 51). Miss Mamie Taylor. About 50 feet northeast of Louisville road, about 0.4 mile northwest from intersection with Pine Barren road. No measurements made during 1942.

314 (*907, p. 49; *937,p. 52). J. M. Breckenridge. About 600 feet west of White Bluff Road, 0.3 mile north of Buckhalter Road. Measuring point 22.5 feet above mean sea level. Water levels, in feet below measuring point, 1942: June 8, 31.85; Sept. 18, 33.48.

a Eastern standard time.
b Eastern war time.

321 (*907, p. 49; *937, p. 52). R. C. Hinely. About 8.25 miles south of Savannah city hall, 100 feet north of Vernonburg Avenue, 0.1 mile east of White Bluff road. Measuring point 16.2 feet above mean sea level. Water levels, in feet below measuring point, 1942: June 8, 13.38; Sept. 18, 14.23.

326 (*937, p. 52). Edward Derst. In eastern part of Coffee Bluff. Water level affected by tide. Water levels, in feet above measuring point, 1942: June 8, a/4:15 p.m., 2.09; Sept. 18, a/2:30 p.m., 1.46. Water levels in Forest River, in feet above half tide level, 1942: June 8, a/4:15 p.m., 3.4; Sept. 18, a/2:30 p.m., 3.10.

328 (*907, p. 50; *937, p. 52). United States War Department. Fort Screven, Tybee Island. Daily fluctuation of water level due to tides, ranges from 1.7 feet, during lowest neap tides, to 4.2 feet, during highest spring tides, averaging about 3.05 feet. Highest water level in well lags about 40 minutes behind highest tide in Savannah River, measured about 0.25 mile northeast.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Jan. 1-3	Jan. 1	3.83	Jan. 2	6.90
4-10	4	3.83	6	7.08
11-17	17	3.34	15	7.57
18-24	18	3.48	19	7.33
25-31	31	3.32	26	6.68
Feb. 1-7	Feb. 2	3.75	Feb. 4	7.00
8-14	11	3.17	14	7.37
15-21	15	3.35	18	7.21
22-28	24	3.54	28	6.75
Mar. 1-7	Mar. 2	3.10	Mar. 3	7.62
8-14	14	3.56	9	7.47
15-21	17	3.40	15	7.26
22-28	28	3.79	22	6.93
29-Apr. 4	Apr. 1	3.33	Apr. 4	7.64
Apr. 5-11	10	3.72	6	7.37
12-18	12	3.49	16	7.17
19-25	20	3.66	25	6.64
26-May 2	May 2	b3.37	May 2	c7.56
May 3-9	3	3.7	5	7.54
10-15		(d)		(d)
16-23	16	e4.00	16	f7.13
24-30	30	3.61	29	7.91
31-June 6	31	3.55	June 1	7.88
June 7-13	June 9	4.22	12	7.67
14-20	15	4.11	20	7.25
21-26		(d)		(d)
27-July 4	29	3.69	27	8.28
July 5-11	July 5	g4.46	July 5	h8.02
12-18	14	4.73	18	7.94
19-25	24	4.28	25	8.07
26-Aug. 1	26	4.25	28	8.57
Aug. 2-8	Aug. 2	5.27	Aug. 4	8.24
9-15	12	5.04	10	8.27
16-22	21	5.13	22	8.56
23-29	26	4.10	24	8.60
30-Sept. 4		(d)		(d)
Sept.5-12	Sept.12	4.82	Sept.10	8.49
13-19	13	4.92	19	8.22
20-26	21	4.35	25	8.18
27-Oct. 3	27	4.72	27	7.94
Oct. 4-10	Oct. 10	4.48	Oct. 9	8.07
11-14	12	14.23	12	j7.87
15-26		(d)		(d)
27-31	27	k4.62	27	L7.56
Novl 1-7	Nov. 6	4.53	Nov. 7	7.94
8-14	8	4.18	12	m9.13
15-21	15	5.09	19	8.30

a Eastern War Time
b 10:40 p.m.,
c 4:30 p.m., E. W. T.
d No record
e 10:00 p.m., E. W. T.
f 4:00 p.m., E. W. T.
g 11:00 p.m. E. W. T.
h 9:00 a.m., E. W. T.
i 11:00 a.m., E. W. T.
j 5:20 p.m. E. W. T.
k 12:40 p.m. E. W. T.
L 6:40 p.m., E. W. T.
m Well 336 about 300 feet N. 70° W., pumping about 900 gallons a minute.

328 (*907, p. 50;*937, p. 52)--Continued.

Highest and lowest weekly water level, in feet below measuring point, 1942

Week	Date	Highest level	Date	Lowest level
Nov. 21-28	Nov. 23	4.82	Nov. 22	8.24
29-Dec. 5	Dec. 1	4.92	Dec. 4	8.20
Dec. 6-11	8	3.94	9	8.35
12-16		(a)		(a)
17-19	17	4.96	18	8.37
20-26	22	4.81	20	8.06
27-31	29	4.74	30	7.95

330 (*937, p. 53). State Highway Department. On southeast side of U. S. Highway 17, 6 miles southwest of Savannah, a short distance northeast of entrance to Lebanon Plantation. Measuring point, top of 3-inch coupling on 3-inch casing, 0.5 foot below land surface and 9.5 feet above mean sea level.

Water level, in feet, with reference to measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	+1.01	July 7	-0.46	Aug. 10	-0.84	Sept.15	e-0.77
Mar. 10	+1.09	10	-.32	14	-.98	Oct. 13	-.90
May 1	+.31	16	-.48	21	-1.08	29	-1.03
June 9	-.04	28	-.72	Sept. 2	-1.08	Dec. 17	-.59
July 6	b-.50	Aug. 7	-.90	15	d-.85	19	-.61
6	c-.40						

331. J. E. Poythress. At Jelma Inn, about 13 miles northwest of Savannah, 0.4 mile southeast of Chatham-Effingham county line, along State Highway 21, about 50 feet northeast of highway. Used drilled domestic well, diameter 3 inches, depth 378 feet. Cased 94 feet. Measuring point, top of concrete base for pump around well casing, 0.8 foot above land surface and 23.14 feet above mean sea level. Water levels, in feet below measuring point, 1942: July 20, 11.28; Oct. 7, 12.03.

332. Louis Lucas. Bloomingdale, about 50 feet north of U. S. Highway 80, 0.3 mile east of Bloomingdale Cross road. Used drilled domestic well, diameter 2 inches, depth 365 feet. Measuring point, top of 2-inch inner casing, 0.9 foot above land surface and 24.40 feet above mean sea level. Water levels, in feet below measuring point: Sept. 24, 1941, 1.90; July 24, 1942, 2.51; Oct. 9, 1942, 2.98; Dec. 5, 1942, 2.97.

343. U. S. Department of Agriculture. Barbour Lathrop plant Introduction Station, about 12 miles southwest of Savannah, about 300 feet north of U. S. Highway 17, and about 200 feet northeast of Fort Argyle road. Used bored observation well, diameter 6 inches, depth 14.5 feet. Cased with eight 30-inch lengths of 6-inch sewer tile with uncemented joints. Measuring point, north edge of shoulder of 6-inch tile inside well, level with land surface and 18.67 feet above mean sea level. Water-stage recorder installed Aug. 14, 1942.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Aug. 16-22	Aug. 16	7.76	Aug. 22	8.13
23-29	23	8.09	29	8.51
30-Sept. 5	31	8.49	Sept. 5	8.80
Sept. 6-12	Sept. 6	8.79	10	8.96
13-19	13	8.91	19	9.07
20-26	20	9.06	25	9.29
27-Oct. 3	27	9.07	Oct. 3	9.28
Oct. 4-10	Oct. 5	9.23	10	9.41
11-17	11	9.40	17	9.61
18-24	18	9.59	24	9.77
25-31	26	9.76	31	9.90
Nov. 1-7	Nov. 1	9.87	Nov. 7	10.07

a No record.
b 10:45 a.m. Eastern war time.
c 7:45 p.m. Eastern war time.
d 9:15 a.m. Eastern war time.
e 5:45 p.m. Eastern war time.

343. U. S. Department of Agriculture--Continued.

Highest and lowest weekly water level, in feet below measuring point, 1942
(From recorder charts)

Week	Date	Highest level	Date	Lowest level
Nov. 8-14	Nov. 8	10.05	Nov. 14	10.2
15-21	15	10.2	21	10.33
22-28	22	10.33	28	10.48
Nov. 29-Dec. 5	Dec. 1	10.45	Dec. 5	10.58
Dec. 6-7	6	10.57	7	10.59
7-17		(a)		(a)
18-26	22	10.65	25	10.72
27-31	31	10.33	27	10.7

Coffee County

3. Town of Nicholls. Nicholls, about 0.1 mile north of Atlanta, Birmingham & Coast Railroad, on east side of city street, near elevated steel water tank. Used drilled public-supply well, diameter 6 inches, depth 590 feet. Cased 360 feet. Measuring point, top of hole in pump-base plate, 1.8 feet above land surface and about 190 feet above mean sea level. Water levels, in feet below measuring point: Mar. 27, 1941, 118.53; Mar. 20, 1942, 116.90.

Dougherty County

3 (*845, p. 54; 886, p. 77; 907, p. 50; *937, p. 53). City of Albany well 3. Albany, southwest of intersection of Jackson and Roosevelt Streets, in rear of municipal water-pumping station.

Water level, in feet below measuring point, 1942
(From recorder charts)

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	35.5	Feb. 1	34.9	Mar. 14	30.3	Apr. 25	33.9
3	32.5	2	35.5	16	31.3	27	34.6
5	32.1	5	35.4	20	32.3	May 2	36.1
10	32.7	7	35.6	24	29.0	4	36.7
11	33.1	9	36.0	29	26.9	9	37.3
17	34.5	12	35.5	30	27.1	11	38.3
18	34.7	16	35.3	Apr. 4	29.6	14	37.4
19	35.2	21	32.5	6	30.4	16	37.6
21	34.8	25	31.6	11	32.0	18	38.3
25	35.1	Mar. 7	31.6	12	32.0	21	38.8
26	35.6	10	29.4	14	31.4	22	39.7
28	35.3	13	30.0	20	33.20	23	39.2
31	35.3						

a No record.

Early County

2 (*937, p. 53). Emory University Field Station well 19. Plez Douglas. About 2.4 miles northeast of Damascus, 1.4 miles east of Seaboard Railway, 60 feet south of county road, latitude 31°19'31.14", longitude 84°41'39.53".

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	207.21	Mar. 25	207.40	June 10	207.19	Sept. 2	206.10
14	207.14	Apr. 1	207.17	17	207.35	9	205.65
21	206.93	8	207.11	24	207.03	25	204.49
28	206.78	15	207.20	July 1	207.06	Oct. 7	205.94
Feb. 4	206.61	22	206.73	8	207.31	19	206.00
11	207.25	29	206.16	15	207.15	Nov. 4	204.21
18	207.42	May 6	205.70	22	205.99	18	202.50
25	207.39	13	206.57	29	206.60	Dec. 2	200.61
Mar. 4	207.37	20	206.08	Aug. 5	206.05	16	201.20
11	207.41	27	205.55	12	207.31	30	204.60
18	207.41	June 3	205.37	21	207.00		

6 (*937, p. 54). Emory University Field Station well 23. P. F. Chandler. About 1.3 miles north of Douglasville, 2.7 miles east of Seaboard Railway, 50 feet west of T-junction of county roads, latitude 31°22'23.39", longitude 84°40'00.36".

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	227.61	Mar. 25	227.61	June 10	226.39	Sept. 2	225.75
14	227.28	Apr. 1	227.16	17	227.63	9	225.61
21	226.92	8	226.71	24	227.21	25	223.77
28	226.95	15	227.00	July 1	226.69	Oct. 7	225.74
Feb. 4	226.54	22	226.44	8	226.68	19	224.58
11	227.25	29	225.98	15	226.37	Nov. 4	222.90
18	227.89	May 6	225.48	22	225.29	18	220.11
25	227.79	13	225.98	29	226.25	Dec. 2	217.95
Mar. 4	227.71	20	225.50	Aug. 5	225.41	16	220.74
11	228.02	27	224.85	12	227.45	30	224.85
18	227.79	June 3	224.24	21	226.84		

18 (*937, p. 54). Emory University Field Station well 53. E. B. Davis. About 0.8 mile southeast of Douglasville, 3,125 feet south of county road, north of Big Cypress pond, latitude 31°21'08.49", longitude 84°39'35.94".

Water level, in feet above mean sea level, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	218.30	Mar. 25	218.13	June 10	218.36	Sept. 2	216.99
14	217.88	Apr. 1	217.77	17	218.52	9	216.95
21	217.66	8	217.56	24	217.71	25	215.25
28	217.55	15	217.75	July 1	217.43	Oct. 7	216.92
Feb. 4	217.47	22	217.41	8	217.42	19	216.25
11	217.75	29	217.14	15	217.29	Nov. 4	216.01
18	218.77	May 6	216.72	22	216.72	18	214.99
25	218.31	13	217.44	29	216.57	Dec. 2	213.75
Mar. 4	218.13	20	217.37	Aug. 5	217.10	16	214.63
11	218.37	27	217.02	12	217.81	30	217.81
18	218.19	June 3	216.61	21	217.05		

Effingham County

6 (*937, p. 54). Waldo Bradley. Eden, on east side of U. S. Highway 80, about 0.3 mile northwest of crossing of Central of Georgia Railway and U. S. Highway 80.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Mar. 13	1.90	July 24	2.49	Dec. 5	2.93
May 18	2.27	Oct. 7	2.75		

7 (*886, p. 77; 907, p. 51; *937, p. 54). Central of Georgia Railway, Meldrim, between Central of Georgia Railway and Seaboard Railway, about 200 feet west of station.

Water level, in feet, with reference to measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Mar. 13	+0.29	May 18	-0.14	Oct. 7	-0.57
Apr. 19	+.22	July 24	-.26	Dec. 5	-.72

10 (*886, p. 77; 907, p. 51; *937, p. 55). H. M. Edwards. About 2.2 miles northwest of Bloomingdale, about 100 feet north of U. S. Highway 80.

Water level, in feet below measuring point, 1942

Mar. 13	10.60	July 24	11.34	Dec. 5	11.8
May 18	11.25	Oct. 7	11.74		

16 (*937, p. 55). Coastal Service Co. Springfield, in northern part, near bottom of valley, south of Jacks Branch, about 300 feet east of State Highway 21. No measurements made in 1942.

18 (*937, p. 55). H. B. Robertson. 4 miles southwest of Guyton, near east end of steel bridge over Ogeechee River on Springfield-Statesboro road, on south side of road. Measuring point, 47.12 feet above mean sea level. Water levels, in feet above measuring point, 1942: July 24, 1.60; Oct. 7, 1.32.

20 (*937, p. 55). Pineora Manufacturing Co. Pineora, 3 miles south of Guyton, 0.2 mile west of Central of Georgia Railway. Measuring point, top of 4-inch coupling on 4-inch casing, 2 feet above land surface (erroneously described as top of 4-inch casing in Water-Supply Paper 937). Water levels, in feet below measuring point, 1942: July 24, 40.06; Oct. 7, 40.46.

Evans County

3. City of Claxton. At city waterworks pumping plant, about 300 feet south of Seaboard Railway, 43 feet southeast of 8-inch well equipped with deep-well turbine pump. Drilled emergency public-supply well, diameter 6 inches, reported depth about 660 feet. Measuring point, 1-inch tap hole in 4-inch educator pipe, 3.40 feet above top of 8-inch coupling on 8-inch casing, 3.55 feet above land surface and about 136 feet above mean sea level. Water levels, in feet below measuring point: Oct. 12, 1940, 114.5; July 28, 1941, 115.2; Mar. 19, 1942, 115.37.

Glynn County

1 (*907, p. 51; *937, p. 55). Atlantic Refining Co. well 1. Arco, about 1 mile north of Brunswick, about 1,400 feet northwest of office of Atlantic Refining Co. Measuring point, center of gage, 5.35 feet above concrete floor of pump house and 18.5 feet above mean sea level. Measuring point, to which were referred measurements given in Water-Supply Paper 907 was concrete floor of pump house, 13.15 feet above mean sea level. Pressure-recording gage transferred to well 3, Aug. 1, 1942. Water level affected by pumpage in Brunswick area.

Highest and lowest weekly water level, in feet above measuring point, 1942
(From recorder charts)

Week	Date	Lowest level	Date	Highest level
Jan. 1-3	Jan. 1	21.2	Jan. 3	23.8
4-9	6	21.5	4	24.0
10-20		(a)		(a)
21-24	21	22.1	24	24.0
25-30	29	21.8	25	24.2
31-Mar. 10		(a)		(a)
Mar. 11-14	Mar. 11	22.7	Mar. 14	24.9
15-21	19	23.2	16	25.3
22-28	23	23.1	28	23.9
29-Apr. 3	Apr. 3	23.1	Apr. 1	24.8
Apr. 4-July 8		(a)		(a)
9-11	July 9	22.7	July 11	23.5
12-18	16	22.8	18	24.2
19-25	23	22.6	20	24.6
26-31	31	22.5	27	23.9

a No record.

3 (*845, p. 54; *886, p. 78; 907, p. 51; *937, p. 56). Atlantic Refining Co. well 3. Arco, about 1 mile north of Brunswick, about 1,100 feet southwest of office of Atlantic Refining Co. Measuring point, top of 12-inch valve, 3.5 feet above land surface and 14.0 feet above mean sea level. Measuring point to which were referred measurements given in Water-Supply Papers 845 and 886 was center of pressure-recording gage, 5.12 feet above concrete floor of pump house and 17.6 feet above mean sea level. Pressure-recording gage reinstalled Aug. 1, 1942. Water levels, in feet above measuring point, 1942: July 9, 25.9; July 30, 25.8.

Highest and lowest weekly water levels, in feet above measuring point, 1942
(From recorder charts)

Week	Date	Lowest level	Date	Highest level
Aug. 1-8	Aug. 5	25.4	Aug. 8	26.3
9-15	15	25.1	9	26.3
16-22	20	24.5	18	26.0
23-29	26	25.0	23	26.0
30-Sept. 55	31	25.0	Sept. 1	25.8
Sept. 6-12	Sept. 6	25.0	7	28.5
13-19	18	24.6	13	25.9
20-26	25	24.9	20	26.1
27-Oct. 33	29	24.8	Oct. 3	25.9
Oct. 4-10	Oct. 8	24.6	5	25.7
11-17	17	24.8	15	27.5
18-24	24	24.2	18	25.5
25-31	30	24.0	26	25.4
Nov. 1-7	Nov. 2	23.9	Nov. 7	25.2
8-14	13	24.4	11	25.5
15-21	15	24.6	18	25.6
22-28	22	24.9	26	25.7
29-Dec. 5	Dec. 5	24.8	Dec. 1	26.0
Dec. 6-12	7	24.9	12	31.8
13-19	19	25.1	13	31.4
20-26	21	25.1	25	29.9
27-31	28	25.1	27	26.4

13 (*907, p. 51; *937, p. 56). United States Department of Commerce. St. Simon Island, at lighthouse. Water level affected by tide. Water levels, in feet above measuring point, 1942: Mar. 11, a/12:05 p.m., 33.2; July 9, a/6:25 p.m., 34.4; Oct. 14, a/12:30 p.m., 33.9.

33 (*886, p. 78; 907, p. 51; *937, p. 56). Sea Island Co. Lanier Island, at Sea Island Yacht Club on west bank of Frederica River, south of causeway. Measuring point 7.36 feet above mean sea level.

Water level, in feet above measuring point, 1942

Date	Hour	Water level in Frederica River, in feet, with reference to mean sea level	Water level
Mar. 11	all:30 a.m.	....	38.8
July 9	a5:40 p.m.	+2.9	39.05
10	al2:20 p.m.	+2.6	37.95
Oct. 14	al2:15 p.m.	+4.8	39.05

37 (*937, p. 56). F. G. Horne. St. Simon Island, about 0.25 mile south of Fort Frederica. Measuring point 13.88 feet above mean sea level. Water level affected by tide. Water levels, in feet above measuring point, 1942: Mar. 11, a/ 1:00 p.m., 30.95; July 10, a/ 11:00 a.m., 30.65; Oct. 14, a/3:25 p.m., 30.2.

44 (*886, p. 78; 907, p. 51; *937, p. 56). Sea Island Co. St. Simon Island, on north side Sea Island road, 0.5 mile west of Cloister Hotel, at Gun Club. Measuring point, 7.3 feet above mean sea level. Water level affected by tide. Water levels, in feet above measuring point, 1942: Mar. 11, a/12:05 p.m., 37.4; July 9, a/7:25 p.m., 37.8; July 10, a/10:10 a.m., 37.4; Oct. 14, a/2:40 p.m., 37.4.

45 (*907, p. 52; *937, p. 56). City of Brunswick. In northeastern part of city, in H. E. Coffin Park. Water levels, in feet above measuring point, 1942: Mar. 10, 34.0; Mar. 11, 33.6; Aug. 10, 32.0; Oct. 14, 34.9.

a Eastern war time.

63. S. L. Lewis. About 0.7 mile west of Southern Junction, about 300 feet northeast of U. S. Highway 341, 0.5 mile southeast of Burnett Creek. Used drilled domestic well, diameter 3 inches, depth about 700 feet. Measuring point, top of 3-inch cross, 2.0 feet above land surface and about 26 feet above mean sea level. Water levels, in feet above measuring point: Feb. 2, 1939, 20.1; July 31, 1942, 17.4.

100 (*886, p. 78; 907, p. 52;*937, p. 57). New England Tourist Camp. On U. S. Highway 17, about 6.1 miles south of bridge over Altamaha River, about 300 feet east of highway. Water levels, in feet above measuring point, 1942: Mar. 11, 19.75; July 10, 19.95.

128 (*937, p. 57). A. C. Harrison, Thalman. About 0.1 mile south of crossing of Seaboard Railway and Atlanta, Birmingham & Coast Railway. Water level, in feet above measuring point, 1942: July 31, 33.3.

138 (*886, p. 79; 907, p. 52;*937, p. 57). G. F. Cowman. About 300 feet south of marsh edge of South Brunswick River, east side of U. S. Highway 17. Water level affected by tides. Water levels, in feet above measuring point, 1942: Mar. 11, a/2:15 p.m.,32.6; July 30, a/3:45 p.m., 31.7; Oct.14, a/6:05 p.m., 31.6.

143 (*907, p. 52;*937, p. 57). J. H. McKee. St. Simon Island, about 0.5 mile east of Frederica road, 0.4 mile north of Sea Island road at Black Banks. Water level affected by tide. Water levels, in feet above measuring point, 1942: Mar. 11, a/12:40 p.m., 19.75; July 10, a/10:25 a.m., 16.6; Oct. 14, a/3:05 p.m., 17.3.

192 (*907, p. 52;*937, p. 57). Edgar Rittenhouse. Brunswick, 0.25 mile north of Palmetto Cemetery, about 400 feet east of old canal. Measuring point 13.0 feet above mean sea level. Water level affected by pumpage in Brunswick area. Water level, in feet above measuring point, 1942: July 10, 21.2.

Liberty County

18 (*937, p. 57). E. P. Way. McIntosh, about 0.25 mile northwest of Atlantic Coast Line Railway, on southwest side of State Highway 38. Measuring point 17.7 feet above mean sea level.

Water level, in feet above measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	21.1	July 8	21.55	Sept. 2	21.45	Dec. 18	20.8
Mar. 13	21.2	28	21.45	Oct. 30	20.8		

19 (*907, p. 52;*937, p. 58). Atlantic Coast Line Railroad. McIntosh, about 300 feet southwest of crossing of railroad and State Highway 38, about 10 feet northwest of railroad. Measuring point 18.8 feet above mean sea level. Water levels, in feet above measuring point, 1942: Mar. 13, 2.24; July 8, 1.74; July 28, 1.75; Dec. 18, 1.48.

28. Midway Church. Midway, in front of Midway Church at northeast corner of intersection of U. S. Highway 17 and road to Colonels Island. Used drilled domestic well, diameter 2 inches, reported depth 340 feet. Measuring point, top of 2-inch tee on 2-inch casing, 2.25 feet above land surface. Water levels, in feet above measuring point: Jan. 3, 1940, 8.25; June 17, 1941, 6.07; Nov. 24, 1941, 6.7; July 8, 1942, 6.06.

36 (*907, p. 52; *937, p. 58). W. M. Woods. Dorchester Station, about 0.1 mile east of Seaboard Railway Station, on north side of Sunbury road Measuring point, top of 3-inch cross on 3-inch casing, 2.7 feet above land surface and about 18 feet above mean sea level (erroneously described as top of 3-inch tee on 3-inch casing in Water-Supply Papers 907 and 937). Water levels, in feet above measuring point, 1942: July 8, 13.6; Dec. 19, 13.35.

38 (*907, p. 52; *937, p. 58). Dana Stevens. About 0.4 mile south of Dorchester Village schoolhouse. Water levels, in feet below measuring point, 1942: July 8, 10.36; Dec. 19, 10.95.

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a Eastern war time.

43 (*907, p. 53;*937, p. 58). C. H. Ricks. About 2 miles southeast of Dorchester Village, on north side of road to Colonels Island. Measuring point, top of 3-inch coupling on 3-inch casing, level with land surface and 0.8 foot lower than top of 3-inch tee, which was point to which measurements were referred in Water-Supply Papers 907 and 937. Water level, in feet below measuring point, 1942: Dec. 19, 1.75.

45 (*907, p. 53;*937, p. 58). E. P. Way. Sunbury, 0.3 mile north of Fort Morris. Water level affected by tide. Water level, in feet above measuring point, 1942: July 8, 1:35 p.m., 2.75; Dec. 19, 9:50 a.m., 2.40. Water level in Sunbury Channel of Midway River, in feet below half-tide level, 1942: July 8, a/1:35 p.m., 3.4; Dec. 19, a/2:40 p.m., 0.50.

53 (*886, p. 79; 907, p. 53;*937, p. 58). F. F. Branan (formerly owned by Lionel Tester). About 2.5 miles south of Midway, on west side of U. S. Highway 17.

Water level, in feet above measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Mar. 10	25.0	Sept. 15	25.0	Dec. 19	24.3
July 10	25.0	Oct. 13	25.0		

75 (*937, p. 58). G. A. Breachley. About 3.7 miles south of Riceboro, along U. S. Highway 17, about 100 feet east of highway. Water levels, in feet above measuring point, 1942: Mar. 10, 20.65; July 10, 20.9; Aug. 10, 20.6; Sept. 15, 20.6.

86 (*907, p. 53;*937, p. 58). G. M. Brown. Colonels Island, in southwestern part, 0.25 mile southwest of Colonels Island road. Measurements discontinued.

95 (*937, p. 58). W. M. S. Howard. Colonels Island, in northwestern part near marsh. Water level affected by tide. Water levels, in feet above measuring point, 1942: July 8, a/4:20 p.m., 13.1; Dec. 19, a/11:30 a.m., 12.0.

137 (*907, p. 53;*937, p. 59). H. A. Bacon. Hinesville, about 0.5 mile northeast of Liberty County courthouse along State Highway 38, on north side of highway. Measuring point 45.25 feet above mean sea level.

Water level, in feet below measuring point, 1942

Jan. 6	1.14	May 11	0.77	Dec. 17	1.56
Mar. 13	.75	July 28	.61		

140 (*907, p. 53;*937, p. 59). Mrs. Amber Kiddy. Allenhurst, about 0.1 mile southeast of Atlantic Coast Line Railroad, at site of old sawmill. Measuring point 46.95 feet above mean sea level.

Water level, in feet below measuring point, 1942

Jan. 6	1.19	May 1	0.64	Sept. 2	0.57
Mar. 13	.67	July 28	.59	Dec. 18	1.38

170 (*937, p. 59). J. H. Woodall. On north side of U. S. Highway 17, 0.3 mile northeast of Freedman's Grove.

Water level, in feet above measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	12.95	May 1	12.90	July 28	13.2	Oct. 13	13.1
Mar. 10	12.85	July 13	13.35	Sept. 2	13.1	Dec. 18	12.7
13	12.85						

Long County

8 (*907, p. 53;*937, p. 59). Town of Ludowici. About 100 feet northwest of Atlantic Coast Line Railroad.

a Eastern war time.

8 (*907, p. 53; 937, p. 59)--Continued.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Jan. 6	13.83	May 1	12.87	Sept. 2	13.14
Mar. 13	13.14	July 28	13.08		

McIntosh County

11 (*886, p. 79; 907, p. 53;*937, p. 59). C. A. Stebbins. Darien, southeast of State Highway 131, northeast of city park, about 25 feet west of swimming pool. Water levels, in feet above measuring point, 1942: Mar. 10, 7.4; July 10, 7.4; Aug. 10, 7.0; Oct. 13, 6.8.

14 (*937, p. 59). C. H. Stebbins. South Newport, northeast of intersection of U. S. Highway 17 and Harris Neck road. Water levels, in feet above measuring point, 1942: Mar. 10, 18.05; July 10, 18.35; Aug. 10, 18.05; Sept. 15, 18.05.

22 (*937, p. 60). D. E. McDonald. Eulonia, on west side of U. S. Highway 17, about 0.25 miles south of road to Townsend. Measuring point about 19 feet above mean sea level. Water level, in feet above measuring point, 1942: July 10, 19.55.

25 (*937, p. 60). A. D. Burns. Crescent, on south side State Highway 131, a short distance southeast of post office. Water level, in feet above measuring point, 1942: Aug. 10, 2.56.

27 (*907, p. 54; *937, p. 60). C. B. Mallard. East side of State Highway 131, about 0.4 mile south of right angle bend in road near Crescent, near bluff of south branch of Sapelo River. Water level affected by tide. Water level, in feet above measuring point, 1942: Aug. 10, a/2:00 p.m.,6.13.

38 (*937, p. 60). E. P. Maggioni & Co. Harris Neck, on west bank of Barbours Island River, northeast of Harris Neck airport. No measurements in 1942.

43 (*937, p. 60). Shellman Bluff public well. Shellman Bluff, between houses of Mallard Jones and Doby Hamons. Water level affected by tide. Water level, in feet above measuring point, 1942: Aug. 10, a/3:30 p.m., 18.05.

45 (*937, p. 60). New Masonic Lodge. Half a mile south of Shellman Bluff. Water level affected by tide. Water level, in feet above measuring point, 1942: Aug. 10, a/3:50 p.m., 4.03.

53 (*907, p. 54;*937, p. 60). Townsend Band Mill. Townsend, about 300 feet east of Seaboard Railway, north of Townsend on Eulonia road. Water level, in feet above measuring point, 1942: Oct. 13, 23.65.

85 (*907, p. 54;*937, p. 60). R. C. Collins. About 0.7 mile west of Crescent, on south side State Highway 131. Water level, in feet below measuring point, 1942: Aug. 10, 4.01.

103 (*907, p. 54;*937, p. 60). A. M. Durant. Valona, on west side of Durant's store. No measurements made during 1942.

130 (*907, p. 54;*937, p. 60). James O'Brien Estate. Ridgeville, on east side of State Highway 131, half a mile south of road to dock. Water level, in feet above measuring point, 1942: Aug. 10, 15.9.

141 (*907, p. 54;*937, p. 61). Sam Jardney. About 6 miles southeast of Townsend, on east side of Briardam road. Water level, in feet above measuring point, 1942: Oct. 13, 19.45.

144 (*907, p. 54;*937, p. 61). Col. Talbot Smith. About 1.5 miles northeast of Darien, about 0.25 mile east of State Highway 131, near marsh. Water level, in feet above measuring point, 1942: Aug. 10, 20.5.

a Eastern war time.

Montgomery County

1. H. V. Thompson. Ailey, a quarter of a mile southeast of Seaboard Railway station, about 200 feet south of railroad. Used drilled industrial well, diameter 6 to 4 inches, depth 403 feet. Cased 345 feet. Measuring point, top of hole in pump base plate, 1.6 feet above land surface and 256.6 feet above mean sea level. Water level, in feet below measuring point: July 30, 1941, 108.15; Dec. 15, 1942, 108.50.

Oconee County

1. U. S. Department of Agriculture. Southern Piedmont Experiment Station, about 2 mile northwest of Watkinsville, 1.2 miles west from U. S. Highway 129, along paved road that passes northern entrance to Southern Piedmont Experiment Station, 71 feet southeast of center line of road. Unused dug domestic well, diameter about 50 inches, depth 35 feet. Not curbed, but covered with concrete top about 6 feet square with 2 foot square opening in center. Measuring point, top of inside southeast edge of concrete cover for well, level with land surface and about 767 feet above mean sea level.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 26	28.28	Sept.30	28.77	Oct. 26	29.44	Nov. 30	30.45
31	28.35	Oct. 5	28.86	Nov. 2	29.67	Dec. 7	30.66
Sept. 7	28.40	12	29.03	9	29.89	14	30.84
14	28.45	13	29.09	16	30.15	21	30.96
21	28.53	19	29.24	23	30.29	28	31.09
28	28.70						

Pierce County

2 (*907, p. 54; *937, p. 61). City of Blackshear. In northeastern part of town, about 25 feet northwest of elevated concrete municipal water tank. Water levels, in feet below measuring point, 1942: Jan. 6, 61.80; Mar. 12, 59.71; July 28, 60.39.

5.(*937, p. 61). Town of Patterson. About 140 feet east of Atlantic Coast Line Railroad station. Water levels, in feet below measuring point, 1942: Mar. 12, 33.65; May 1, 33.05; July 28, 34.14; Sept. 2, 34.47.

Ware County

6. State of Georgia. At Laura S. Walker State Park, 9 miles southeast of Waycross, 1.7 miles south of State Highway 50 along State Highway 177, near elevated water tank. Water levels, in feet below measuring point: Aug. 12, 1941, 56.88; Mar. 12, 1942, 54.82; July 29, 1942, 55.62.

Wayne County

1 (*907, p. 54; *937, p. 61). City of Jesup. West of crossing of Southern Railway and Atlantic Coast Line Railroad.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Jan. 6	37.29	May 1	35.76	Sept. 2	36.4
Mar. 12	36.17	July 28	36.25		

3 (*907, p. 55; *937, p. 61). A. W. Hurn. Gardi, at northwest side of Hurn residence, about 200 feet southwest of Southern Railway. Water level, in feet below measuring point, 1942: Mar. 13, 4.62.

4 (*907, p. 55; *937, p. 61). State Highway Department. On southeast side of State Highway 25, 0.3 mile southeast of Mt. Pleasant. Water level, in feet above measuring point, 1942: Mar. 13, 4.55.

10 (*937, p. 61). Town of Screven. About 600 feet west of Atlantic Coast Line Railroad station. Water levels, in feet below measuring point, 1942: Mar. 12, 57.10; July 28, 57.74; Sept. 2, 58.03.

MARYLAND

MONTGOMERY COUNTY

By A. H. Horton

Periodic measurements of water levels have been made since April 18, 1932, in one observation well in Montgomery County by the Geological Survey, United States Department of the Interior, in cooperation with the Maryland Board of Natural Resources, Department of Geology, Mines, and Water Resources. Records of water levels in this well prior to 1942 have been published in the following water-supply papers: 817, pp. 80-82; 840, p.120; 845,p. 149; 886,p.252; 907,pp. 56-57; and 937, pp. 62-63.

The well is an abandoned dug well lined with loose stone, at the rear of the residence owned by Walter M. Brown, 800 feet northeast of the gaging station on the Northwest Branch of the Anacostia River 1½ miles southwest of Colesville. A continuous water-stage recorder was maintained on this well during 1942.

The highest water level observed in the well during the period of record was 12.75 feet above datum on April 22, 1933; the lowest water level, 6.24 feet above datum, occurred on October 6, 1932.

The water level fluctuated about normally during the period March to December 1942 but was below normal in the first part of the year; no new high or low stage was reached. The highest water level in 1942 was 10.47 feet, on April 11, and the lowest was 6.89 feet, on October 13. The water level in the well was 2.77 feet higher at the end of the year 1942, than at the end of 1941.

Water levels are given in feet above the datum to which the Geological Survey's gage on the Northwest Branch of the Anacostia River near Colesville is referred.

Mean daily water level, in feet above datum, 1942

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	6.93	7.38	8.05	10.32	9.70	9.08	8.30	7.53	7.53	6.93	9.00	8.83
2	6.95	7.39	8.06	10.38	9.65	9.04	8.27	7.51	7.50	6.93	8.98	8.93
3	6.95	7.40	8.31	10.38	9.61	9.01	8.26	7.49	7.48	6.93	8.98	8.92
4	6.96	7.41	8.35	10.37	9.58	8.99	8.24	7.47	7.45	6.92	8.97	8.90
5	6.97	7.42	8.33	10.37	9.51	8.95	8.22	7.44	7.42	6.92	8.97	8.88
6	6.98	7.44	8.34	10.38	9.46	8.92	8.21	7.43	7.38	6.93	8.99	8.88
7	6.98	7.67	8.34	10.39	9.47	8.88	8.18	7.41	7.35	6.92	8.99	8.88
8	6.99	7.75	8.37	10.38	9.43	8.83	8.15	7.39	7.34	6.92	9.00	8.86
9	7.00	7.74	8.50	10.36	9.39	8.78	8.12	7.51	7.33	6.91	9.00	8.85
10	7.02	7.74	8.54	10.43	9.35	8.76	8.09	7.57	7.30	6.91	9.02	8.84
11	7.03	7.76	8.55	10.47	9.31	8.73	8.08	7.62	7.29	6.91	9.01	8.84
12	7.03	7.77	8.58	10.41	9.29	8.70	8.04	7.63	7.27	6.90	9.02	8.85
13	7.03	7.78	8.57	10.36	9.26	8.71	8.02	7.67	7.26	6.89	9.04	8.84
14	7.03	7.79	8.62	10.33	9.21	8.69	8.00	7.73	7.24	7.03	9.00	8.79
15	7.03	7.82	8.66	10.32	9.17	8.64	7.97	7.75	7.22	7.32	8.97	8.81
16	7.04	7.84	8.72	10.28	9.17	8.61	7.94	7.76	7.19	7.83	8.97	8.81
17	7.04	7.94	8.70	10.27	9.20	8.58	7.90	7.77	7.17	8.30	8.97	8.78
18	7.04	7.95	8.73	10.26	9.20	8.55	7.87	7.78	7.14	8.37	8.97	8.76
19	7.08	7.97	8.73	10.21	9.19	8.52	7.85	7.78	7.12	8.33	8.94	8.71
20	7.15	7.98	8.71	10.17	9.17	8.49	7.82	7.78	7.11	8.31	8.94	8.69
21	7.17	8.00	8.73	10.13	9.14	8.46	7.79	7.78	7.07	8.30	8.93	8.67
22	7.19	8.02	8.81	10.07	9.29	8.42	7.75	7.78	7.06	8.32	8.89	8.68
23	7.20	8.04	8.83	10.03	9.48	8.39	7.72	7.77	7.03	8.33	8.88	8.73
24	7.23	8.05	8.83	9.97	9.46	8.35	7.68	7.75	7.00	8.32	8.90	8.78
25	7.25	8.06	8.84	9.95	9.41	8.31	7.65	7.72	6.97	8.32	8.92	8.79
26	7.26	8.06	8.84	9.90	9.37	8.27	7.63	7.69	6.95	9.08	8.89	8.83
27	7.27	8.07	8.85	9.84	9.33	8.34	7.62	7.68	6.95	9.04	8.86	8.84
28	7.29	8.07	8.86	9.80	9.26	8.36	7.61	7.66	6.94	8.99	8.83	8.89
29	7.29	....	8.87	9.77	9.21	8.33	7.60	7.64	6.93	8.95	8.83	9.08
30	7.29	....	9.02	9.73	9.17	8.31	7.58	7.60	6.93	8.95	8.84	9.99
31	7.33	....	9.85	....	9.14	....	7.56	7.56	....	8.97	....	10.10

MISSISSIPPI

By R. W. Adams

INTRODUCTION

The observation-well program in Mississippi, begun in 1938, was continued in 1942 by the Geological Survey, United States Department of the Interior, and the Mississippi Geological Survey. Water-stage recorders, which furnished continuous records of the fluctuations of water level, were maintained at 9 wells during part or all of the year, and periodic measurements were made in 31 wells. In addition, numerous measurements were made in wells at military establishments.

The water level in the municipal well at Hattiesburg, Forrest County, reached, during the week ending August 8, the lowest stage obtained in the 3-year period of record, but at the end of the year it was rising. The net decline of the water level in 1942 was undoubtedly due to the unusually dry autumn and the large withdrawals at Hattiesburg. (See fig. 7).

The water level in the post-office well at Gulfport remained fairly uniform throughout the 18-month period ending about the last of June 1942, when it abruptly declined about 2 feet and remained fairly uniform at the new stage for the rest of the year. A few periods of noticeably low water level were observed, but at no time during 1942 did the level in this well reach the low stages recorded during the tourist season of 1940. The current low water level may be attributed to increased withdrawals in the area.

The automatic recorder on the well at Camp McClellan, in Jackson County, showed that the water level remained nearly uniform until October 11, when the recorder was removed for installation on a well at Biloxi, in a shallower, more intensively pumped sand.

The measurements made during 1942 at the 24 observation wells in the alluvial plain of the Mississippi River show that in 1 well the water levels were higher than in 1941, in 8 wells they were noticeably lower, and in the remaining 15 wells either they were substantially the same as during 1941 or else no noticeable trend was observed.

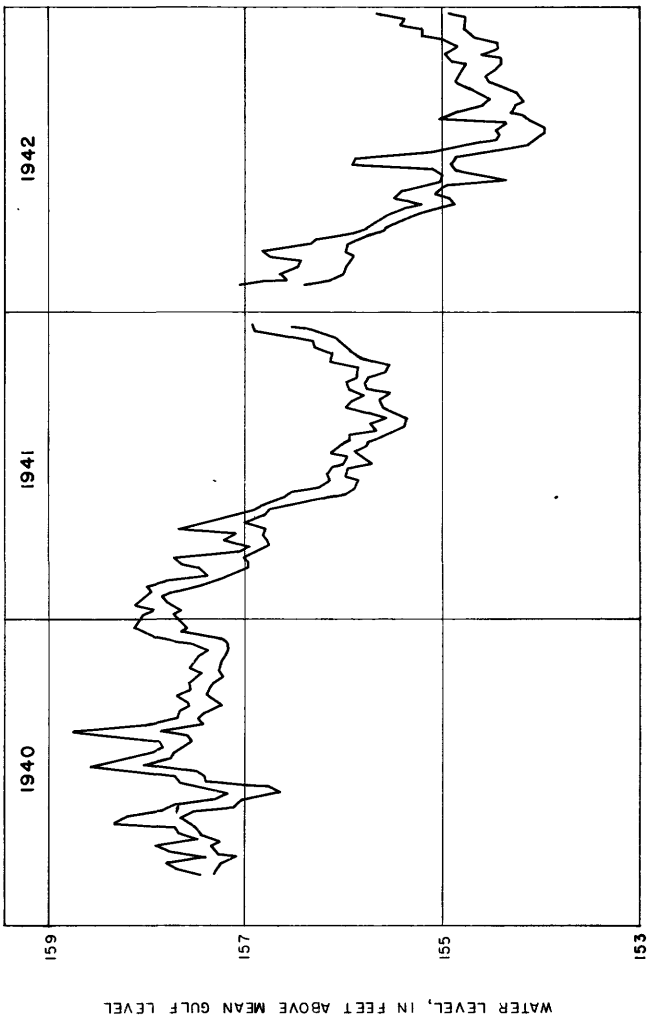

Figure 7.--Graph showing fluctuation of artesian pressure in city of Hattiesburg well, Forrest County, Miss.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Observation wells in Mississippi are listed alphabetically by counties and numerically within each county. Complete descriptions are given only for newly added wells. The numbers in parentheses immediately following a well number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. The water level in each well is expressed in feet below a fixed measuring point or in feet above an assumed datum plane.

Bolivar County

13 (*907, p. 62; 937, p. 66). SW¼NE¼ sec. 12, T. 24 N., R. 6 W. Water levels, in feet above datum, 1942: Apr. 2, 7.03 p.m., 169.5; July 3, 1:16 p.m., 169.4; Sept. 25, 4.23 p.m., 169.2; Dec. 22, 5:05 p.m., 168.5.

18 (*886, p. 281; 907, p. 62; 937, p. 66). Town of Gunnison. NE¼SW¼ sec. 8, T. 24 N., R. 7 W. Water levels, in feet above datum, 1942: Apr. 2 6:10 p.m., 181.5; July 3, 12:35 p.m., 179.4; Sept. 25, 5.50 p.m., 177.8.

35 (*886, p. 281; 907, p. 62; 937, p. 66). Town of Beulah. SW¼NE¼ sec. 27, T. 22 N., R. 8 W. Water levels, in feet above datum, 1942: Apr. 2, 5:05 p.m., 177.8; July 3, 11:57 a.m., 175.1; Sept. 25, 6:34 p.m., 173.8; Dec. 22, 3:30 p.m., 173.6.

50 (*886, p. 281; 907, p. 62; 937, p. 66). NE¼SE¼ sec. 17, T. 21 N., R. 5 W. Water levels, in feet above datum, 1942: Apr. 2, 3:54 p.m., 152.0; July 3, 10:43 a.m., 151.2; Dec. 22, 6:20 p.m., 151.0.

Coahoma County

11 (*907, p. 62; 937, p. 66). Norfleet & Wilsford. NW¼SW¼ sec. 7, T. 29 N., R. 2 W. Water levels, in feet above datum, 1942: Apr. 3, 9:00 a.m., 219.9; July 4, 11:30 a.m., 219.9; Sept. 17, 5:50 p.m., 218.7; Dec. 21, 11:55 a.m., 218.5.

32 (*907, p. 62; 937, p. 66). Coahoma County Agricultural High School. SW¼NW¼ sec. 36, T. 28 N., R. 4 W. Water levels, in feet above datum, 1942: Apr. 3, 3:00 p.m., 217.9; July 4, 1:00 p.m., 217.8; Sept. 18, 9:25 a.m., 217.8; Dec. 21, 1:45 p.m., 214.6.

DeSoto County

3. H. P. Sullivan. NW¼NE¼ sec. 32, T. 1 S., R. 9 W., 1.1 miles west of Walls, in cotton patch, 50 feet north of barn and near residence of owner. Used drilled domestic well, diameter at top 3 inches, reported depth 1,525 feet. Measuring point, top of well head, at ground surface and 209.57 feet above datum. Reference point, U. S. Geological Survey washer and nail on east gate post at entrance to barn, 5.0 feet above surface and 214.86 feet above datum. Water levels, in feet above datum, 1942: Apr. 3, 11:35 a.m., 211.38; Sept. 17, 1:35 p.m., 219.23; Dec. 21, 9:40 a.m., 219.29.

Forrest County

City of Hattiesburg (*907, p. 62; 937, p. 67). SE¼NW¼ sec. 10, T. 4 N., R. 13 W. No measurements made during 1942.

City of Hattiesburg (*907, p. 62; 937, p. 67). Recorder well. SE¼NE¼ sec. 10, T. 4 N., R. 13 W.

Weekly high and low water levels, in feet above datum, 1942

Date	Hour	High water level	Date	Hour	Low water level
Jan. 26	12 noon	157.09	Jan. 31	10 p.m.	156.40
Feb. 1	8 a.m.	156.58	Feb. 7	6 p.m.	156.10
11	1 a.m.	156.64	14	12 noon	155.99

City of Hattiesburg (*907, p. 62; 937, p. 67)--Continued.

Weekly high and low water levels, in feet above datum, 1942

Date	Hour	High water level	Date	Hour	Low water level
Feb. 18	8 a.m.	156.48	Feb. 21	8 p.m.	155.97
24	7 p.m.	156.40	28	3 p.m.	155.94
Mar. 7	12 p.m.	156.73	Mar. 3	9 a.m.	155.88
8	6 a.m.	156.83	12	11 a.m.	155.96
21	6 a.m.	156.36	20	2 a.m.	155.92
23	3 p.m.	156.29	28	1 p.m.	155.80
Apr. 4	1 p.m.	155.91	Apr. 1	12 noon	155.59
5	12 a.m.	155.73	8	11 a.m.	155.53
13	11 a.m.	155.66	16	7 a.m.	155.42
19	10 p.m.	155.56	25	7 p.m.	155.28
27	6 a.m.	155.39	May 2	3 p.m.	155.09
May 3	1 a.m.	155.18	8	2 p.m.	154.86
14	11 p.m.	155.49	11	10 a.m.	154.91
17	6 p.m.	155.42	21	8 a.m.	155.06
24	4 p.m.	155.23	30	2 p.m.	154.96
31	4 a.m.	155.00	June 5	5 p.m.	154.33
June 13	5 a.m.	154.98	7	12 a.m.	154.61
15	8 p.m.	155.05	20	3 p.m.	154.85
26	5 a.m.	155.90	21	1 a.m.	154.90
30	6 a.m.	155.86	July 4	7 p.m.	154.88
July 5	6 a.m.	155.08	11	4 p.m.	154.60
12	6 a.m.	154.70	18	1 p.m.	154.12
21	5 a.m.	154.43	24	1 p.m.	154.06
27	5 a.m.	154.40	30	2 p.m.	153.97
Aug. 5	1 a.m.	154.44	Aug. 6	4 p.m.	153.93
15	8 a.m.	154.35	11	1 a.m.	154.05
21	8 p.m.	155.07	16	6 p.m.	154.12
23	6 a.m.	154.84	26	5 p.m.	154.29
31	6 a.m.	154.58	Sept. 5	2 p.m.	154.25
Sept.12	9 a.m.	154.49	8	11 a.m.	154.15
19	5 a.m.	154.60	14	1 p.m.	154.21
23	4 a.m.	154.70	20	1 p.m.	154.39
29	4 a.m.	154.86	27	1 p.m.	154.51
Oct. 5	6 a.m.	154.83	Oct. 7	11 a.m.	154.55
11	8 a.m.	154.79	16	2 p.m.	154.47
19	6 a.m.	154.73	24	11 p.m.	154.38
31	7 a.m.	154.91	25	1 a.m.	154.38
Nov. 2	6 a.m.	154.94	Nov. 6	1 p.m.	154.57
14	9 a.m.	154.83	13	7 p.m.	154.42
18	6 a.m.	154.96	20	11 p.m.	154.43
27	10 p.m.	155.20	22	1 a.m.	154.66
Dec. 2	10 a.m.	155.20	Dec. 5	2 a.m.	154.76
7	11 a.m.	155.41	11	1 a.m.	154.76
16	6 a.m.	155.37	13	6 p.m.	154.74
25	7 a.m.	155.63	21	10 p.m.	154.97

William Beard. (*937, p. 67). NE¼NE¼ sec. 23, T. 3 N., R. 13 W. Water level, in feet below measuring point, 1942: May 27, 39.21.

Dixie Tung Empire Corporation (*907, p. 63, 937, p. 68). NE¼NE¼ sec. 28, T. 1 N., R. 12 W. Water levels, in feet below measuring point, 1942: Jan. 28, 50.25; Mar. 28, 49.43; May 27, 48.82.

Grenada County

12 (*886, p. 281; 907, p. 63; 937, p. 68). Holcomb School. SW¼SW¼ sec. 15, T. 22 N., R. 3 E. Water levels, in feet above datum, 1942: Apr. 1, 8:55 a.m., 212.2; July 5, 12:08 p.m., 212.2; Sept. 20, 9:19 a.m., 210.6; Dec. 23, 7:05 p.m., 211.3.

16 (*886, p. 281, 907, p. 63; 937, p. 68). Town of Holcomb. NW¼NW¼ sec. 22, T. 22 N., R. 3 E. Water levels, in feet above datum, 1942: Apr. 1, 9:00 a.m., 188.08; July 5, 11:48 a.m., 184.98; Sept. 20, 9:30 a.m., 183.61; Dec. 23, 6:05 p.m., 185.37.

Harrison County

118 (*886, p. 281; 907, p. 63; 937, p. 68). City of Gulfport. Recorder well. NW¼NW¼ sec. 9, T. 8 S., R. 11 W.

Weekly high and low water levels, in feet above mean Gulf level, 1942

Date	Hour	High water level	Date	Hour	Low water level
Jan. 1	3:30 p.m.	43.1	Jan. 2	6:00 a.m.	41.5
10	10:00 a.m.	43.1	9	10:00 a.m.	41.3
11	1:00 a.m.	42.9	15	9:00 a.m.	41.2
24	5:00 p.m.	42.8	21	8:00 a.m.	41.4
30	10:00 p.m.	42.9	28	8:00 a.m.	41.3
Feb. 6	4:00 p.m.	42.6	Feb. 3	8:00 a.m.	41.3
9	5:00 p.m.	42.5	12	9:00 a.m.	41.3
16	4:00 a.m.	43.1	21	9:00 a.m.	41.3
23	7:00 p.m.	42.7	25	8:00 a.m.	41.3
Mar. 2	4:00 a.m.	43.0	Mar. 2	6:00 p.m.	41.3
13	6:00 p.m.	42.8	9	1:00 a.m.	41.3
17	2:00 p.m.	43.3	21	11:00 p.m.	41.5
23	5:00 p.m.	43.3	22	1:00 a.m.	41.5
30	4:00 p.m.	43.1	Apr. 3	8:00 p.m.	41.7
Apr. 9	4:00 p.m.	43.3	10	8:00 a.m.	41.3
16	6:00 p.m.	42.7	12	6:00 a.m.	41.5
22	3:00 p.m.	42.9	23	4:00 a.m.	40.6
27	2:00 p.m.	42.6	30	10:00 p.m.	40.7
May 4	2:00 p.m.	42.5	May 8	6:00 a.m.	40.5
16	1:30 p.m.	42.9	15	4:00 a.m.	41.3
18	1:00 p.m.	43.0	23	5:30 a.m.	40.9
30	1:00 p.m.	42.4	29	4:30 a.m.	41.0
June 4	3:00 p.m.	42.9	June 5	5:00 a.m.	41.0
8	6:00 a.m.	42.5	12	5:00 a.m.	40.9
16	3:00 p.m.	42.2	18	12:00 p.m.	40.3
25	11:00 a.m.	42.2	25	11:00 p.m.	40.6
29	12:00 noon	42.3	July 3	1:30 a.m.	40.3
July 7	4:00 a.m.	41.7	11	3:00 p.m.	37.1
13	6:00 a.m.	40.3	13	5:30 p.m.	36.9
21	5:00 a.m.	40.7	22	10:30 a.m.	37.4
27	1:00 p.m.	40.9	31	2:00 a.m.	39.3
Aug. 3	6:00 a.m.	41.0	Aug. 5	12:00 noon	37.3
11	5:00 a.m.	40.6	13	10:00 p.m.	39.1
20	4:00 a.m.	41.3	20	11:00 p.m.	39.5
23	6:00 a.m.	41.0	28	4:00 p.m.	39.0
31	6:00 a.m.	40.7	Sept. 3	11:00 p.m.	38.9
Sept. 8	5:00 a.m.	40.3	10	10:00 p.m.	38.5
18	6:00 a.m.	40.3	19	8:00 p.m.	39.2
26	2:00 p.m.	40.6	22	8:30 a.m.	39.0
28	2:00 p.m.	40.7	30	6:00 p.m.	39.0
Oct. 8	2:00 p.m.	41.0	Oct. 10	9:00 a.m.	39.4
14	1:00 a.m.	40.7	11	9:00 a.m.	39.5
20	1:00 p.m.	40.9	24	1:00 p.m.	37.0
26	2:00 a.m.	40.5	27	10:00 a.m.	38.9
Nov. 6	3:00 p.m.	40.1	Nov. 7	9:00 a.m.	38.7
9	12:30 a.m.	40.1	11	3:00 p.m.	38.2
16	1:00 p.m.	39.9	15	10:00 a.m.	38.5
27	4:00 p.m.	39.5	24	11:00 a.m.	38.0
Dec. 3	4:00 p.m.	39.4	Dec. 2	10:00 a.m.	37.6
6	3:00 a.m.	39.1	9	10:00 a.m.	37.3
15	4:00 p.m.	39.4	16	11:00 a.m.	37.6
26	12:00 p.m.	39.7	20	11:00 a.m.	38.1

147 (*937, p. 69). Gulf & Ship Island Railroad. NE¼NW¼ sec. 18, T. 5 S., R. 11 W. Water levels, in feet below measuring point, 1942: Jan. 28, 21.37; Mar. 28, 19.29; May 27, 20.86; July 31, 20.91.

Holmes County

38 (*845, p. 162; 886, p. 282; 907, p. 63; 937, p. 69). Town of Tchula. NW¼NW¼ sec. 8, T. 15 N., R. 1 E. Water levels, in feet above datum, 1942: Apr. 1, 3:07 p.m., 137.9; July 5, 7:29 a.m., 136.6; Sept. 20, 1:38 p.m., 137.5; Dec. 23, 4:20 p.m., 138.8.

59 (*845, p. 162; 886, p. 282; 907, p. 63; 937, p. 69). M. L. Smith, Thornton. SE¼NW¼ sec. 8, T. 14 N., R. 1 W. Water levels, in feet above datum, 1942: Apr. 1, 3:33 p.m., 241.2; July 5, 8:10 a.m., 241.9; Sept. 20, 2:05 p.m., 241.2; Dec. 28, 3:45 p.m., 237.2.

Humphreys County

10 (*886, p. 282; 907, p. 63; 937, p. 69). Wister Henry. NW¼NE¼ sec. 35, T. 16 N., R. 3 W. No measurements made during 1942.

18 (*845, p. 162; 886, p. 282; 907, p. 64; 937, p. 69). Belzoni. NW¼SE¼ sec. 3, T. 15 N., R. 3 W. No measurements made during 1942.

56 (*886, p. 282; 907, p. 64; 937, p. 70). Town of Louise. NE¼NE¼ sec. 15, T. 13 N., R. 4 W. Water levels, in feet above datum, 1942: Apr. 1, 6:24 p.m., 128.6; July 4, 8:05 p.m., 127.7; Sept. 24, 9:05 a.m., 127.5; Dec. 23, 1:25 p.m., 127.5.

Issaquena County

24 (*886, p. 282; 907, p. 64; 937, p. 70). SE¼NE¼ sec. 12, T. 9 N., R. 7 W. Water levels, in feet above datum, 1942: Apr. 2, 11:22 a.m., 145.4; July 4, 6:20 p.m., 146.1; Sept. 23, 4:00 p.m., 144.7; Dec. 23, 12:00 noon, 142.7.

Jackson County

9 (*907, p. 64; 937, p. 70). Camp McClellan. SE¼NW¼ sec. 35, T. 6 S., R. 9 W. Automatic water level recorder removed Oct. 11, 1942.

Weekly high and low water levels, in feet above datum, 1942

Week ending	High water level	Low water level	Week ending	High water level	Low water level
Jan. 3	84.7	84.2	May 23	84.7	84.4
10	84.5	84.0	30	84.7	84.2
Feb. 14	84.5	83.7	June 6	84.7	84.3
21	84.3	83.7	13	84.7	84.2
28	84.3	83.8	20	84.7	84.4
Mar. 7	84.5	83.9	27	84.7	84.5
14	84.7	84.2	July 4	84.6	84.4
21	84.5	83.9	11	84.7	84.5
28	84.5	84.0	18	84.7	84.5
Apr. 4	84.4	84.1	25	84.7	84.5
11	84.5	84.0	Aug. 1	84.5	84.1
18	84.5	84.1	8	84.6	84.2
25	84.5	84.1	15	84.5	84.2
May 2	84.6	84.0	22	84.7	84.2
9	84.6	83.9	Sept. 26	84.5	84.0
16	84.7	84.2	Oct. 10	84.3	83.8

65 (*907, p. 64; 937, p. 71). Gulf Hills Development Co. NW¼NE¼ sec. 24, T. 7 S., R. 9 W. No measurements made during 1942.

Jones County

Ed. Howard (*907, p. 64; 937, p. 71). SE¼SE¼ sec. 11, T. 9 N., R. 11 W. Water levels, in feet below measuring point, 1942: Jan. 28, 17.96; Mar. 29, 17.19; July 16, 18.34.

Gilchrist-Fordney Lumber Co. (*907, p. 65; 937, p. 71). NE¼SW¼ sec. 32, T. 9 N., R. 11 W. No measurements made during 1942.

Starch plant, U. S. Department of Agriculture (*907, p. 65; 937, p. 71). Laurel. NE¼SE¼ sec. 7, T. 8 N., R. 11 W.

Weekly high and low water levels, in feet above datum, 1942

Date	Hour	High water level	Date	Hour	Low water level
Jan. 1	5:00 a.m.	100.50	Jan. 3	4:00 a.m.	96.25
4	2:00 a.m.	99.20	10	2:00 p.m.	93.80
11	9:00 a.m.	97.05	17	1:00 a.m.	92.65
18	7:00 a.m.	93.35	20	10:00 a.m.	92.20
31	12:00 noon	95.90	25	1:00 a.m.	92.80
Feb. 7	2:00 a.m.	96.00	Feb. 5	2:00 a.m.	93.80
10	6:30 a.m.	96.50	13	11:00 p.m.	93.30
20	5:00 a.m.	98.70	17	11:00 a.m.	91.60
26	5:00 a.m.	98.60	28	8:00 p.m.	96.65
Mar. 5	6:00 a.m.	98.35	Mar. 4	9:00 p.m.	96.75
10	1:00 a.m.	98.50	11	10:00 p.m.	96.80
20	7:00 a.m.	100.00	18	10:00 p.m.	96.90
22	12:00 p.m.	100.10	25	7:00 p.m.	96.80
29	9:00 a.m.	101.10	29	5:00 a.m.	97.50
Apr. 6	5:00 a.m.	99.75	Apr. 11	7:00 p.m.	97.00
13	7:00 a.m.	98.10	15	12:00 p.m.	96.80
25	12:00 p.m.	99.45	23	1:00 a.m.	96.80
26	3:00 a.m.	100.00	30	10:00 p.m.	97.00
May 5	2:00 a.m.	98.20	May 6	10:00 p.m.	96.80
12	9:00 p.m.	101.00	15	11:30 p.m.	95.20
18	7:00 a.m.	96.30	22	2:00 a.m.	94.80
25	3:00 a.m.	95.95	28	4:00 p.m.	90.55
31	7:00 p.m.	95.45	June 2	7:00 p.m.	91.90
June 8	1:00 p.m.	96.00	11	6:00 p.m.	84.00
18	8:00 a.m.	99.20	14	2:00 a.m.	84.80
21	2:00 p.m.	95.00	25	10:00 p.m.	91.70
29	6:00 a.m.	92.95	July 1	11:00 p.m.	91.70
July 7	6:00 a.m.	93.95	8	11:00 p.m.	91.75
15	3:00 p.m.	93.35	14	12:00 p.m.	91.45
22	5:00 p.m.	93.75	21	11:00 p.m.	91.20
31	5:00 p.m.	93.70	Aug. 1	9:00 p.m.	92.70
Aug. 7	7:00 a.m.	94.30	6	1:00 a.m.	92.70
15	1:00 a.m.	96.50	14	3:00 a.m.	93.00
16	5:00 a.m.	95.50	19	6:00 p.m.	93.40
23	6:00 a.m.	95.10	27	4:00 p.m.	93.30
Sept. 1	2:00 p.m.	101.80	Sept. 3	2:00 a.m.	93.60
7	11:00 p.m.	95.90	11	4:00 p.m.	93.45
15	2:00 a.m.	95.35	14	10:00 p.m.	93.50
20	8:00 p.m.	95.70	25	3:00 p.m.	93.50
28	4:00 p.m.	96.75	29	5:00 p.m.	92.95
Oct. 5	5:00 a.m.	96.65	Oct. 7	9:00 p.m.	93.60
13	1:30 a.m.	95.50	15	6:00 p.m.	92.00
21	1:00 p.m.	97.50	20	10:00 a.m.	92.45
25	10:00 p.m.	95.55	27	12:00 noon	92.00
Nov. 2	5:30 a.m.	96.20	Nov. 5	11:00 p.m.	91.50
8	3:00 p.m.	94.70	12	2:00 p.m.	91.70
15	8:00 a.m.	95.15	17	11:00 p.m.	91.40
27	9:00 a.m.	95.30	23	11:00 p.m.	91.80
Dec. 5	11:30 p.m.	95.45	Dec. 2	11:30 p.m.	92.30
6	3:00 p.m.	96.70	11	8:00 p.m.	92.80
16	6:00 a.m.	96.35	19	12:00 noon	90.90
26	12:00 p.m.	101.55	22	7:00 p.m.	91.40

M. Brannon (*907, p. 65; 937, p. 72). NE¼SW¼ sec. 25, T. 7 N., R. 13 W. Water levels, in feet below measuring point, 1942: Jan. 1, 71.89; Jan. 28, 69.97.

Town of Ovett (*907, p. 65; 937, p. 72). NE¼SW¼ sec. 18, T. 6 N., R. 10 W. Water level, in feet above measuring point, 1942: Jan. 28, 2.89. Flowing prior to measurement.

LeFlore County

60 (*845, p. 162; 886, p. 282; 907, p. 66; 937, p. 72). Mrs. D. B. Jameson, Schlater. NW¼SW¼ sec. 31, T. 21 N., R. 1 W. Water levels, in feet above datum, 1942: Apr. 1, 12:00 m., 144.7; July 3, 9:15 a.m., 145.2; Dec. 22, 11:55 a.m., 145.4.

136 (*845, p. 163; 886, p. 283; 907, p. 66; 937, p. 72). Formerly LeFlore 135. C. M. Journey, Greenwood. NE¼NW¼ sec. 12, T. 19 N., R. 1 E. Water levels, in feet above datum, 1942: Apr. 1, 2:00 p.m., 167.1; July 4, 10:55 a.m., 169.5; Sept. 20, 10:25 a.m., 166.5; Dec. 23, 5:20 p.m., 166.7.

152 (*907, p. 66; 937, p. 72). City of Greenwood. NE¼NW¼ sec. 15, T. 19 N., R. 1 E.

Weekly high and low water levels, in feet above datum, 1942

Date	Hour	High water level	Date	Hour	Low water level
Jan. 1	11:00 a.m.	156.1	Jan. 3	6:00 p.m.	155.5
24	4:00 p.m.	156.3	21	2:00 p.m.	155.5
30	1:00 p.m.	156.7	25	2:00 a.m.	156.3
Feb. 6	2:00 a.m.	157.1	Feb. 1	2:00 a.m.	156.4
13	1:00 p.m.	156.9	10	10:00 p.m.	156.7
16	7:30 p.m.	157.1	20	11:00 p.m.	156.8
24	6:00 a.m.	157.1	22	1:00 a.m.	156.8
Mar. 2	6:00 a.m.	157.1	Mar. 3	10:00 p.m.	156.9
13	7:00 a.m.	157.2	10	10:00 p.m.	157.0
Apr. 18	6:00 p.m.	158.3	Apr. 12	11:00 a.m.	157.3
23	5:00 p.m.	158.2	23	7:00 a.m.	157.6
May 5	5:00 p.m.	158.1	May 7	10:00 p.m.	157.1
14	4:00 p.m.	157.9	12	9:00 p.m.	157.1
17	5:00 p.m.	157.6	21	10:00 p.m.	157.1
20	5:00 p.m.	157.8	25	11:00 p.m.	157.1
Dec. 25	6:00 p.m.	157.0	Dec. 23	7:00 a.m.	156.7

Oktibbeha County

Mississippi State College (*907, p. 66). NE¼SW¼ sec. 1, T. 18 N., R. 14 E.

Weekly high and low water levels, in feet above datum, 1941-42

Jan. 1, 1942	2 p.m.	203.94	Dec. 29, 1941	10 p.m.	203.53
4	1 a.m.	203.75	Jan. 6, 1942	4 a.m.	203.57
17	6 p.m.	204.03	11	6 a.m.	203.75
24	2 p.m.	204.19	18	2 a.m.	203.96
30	4 a.m.	204.45	28	10 p.m.	204.13
Feb. 1	8 p.m.	204.68	Feb. 1	2 a.m.	204.16
11	5 p.m.	204.27	13	11 a.m.	204.11
16	4 p.m.	204.59	19	1 a.m.	204.22
23	6 p.m.	204.68	22	11 a.m.	204.28
Mar. 2	8 a.m.	204.59	Mar. 1	2 a.m.	204.32
8	1 p.m.	204.63	9	10 p.m.	204.35
16	10 p.m.	204.70	21	4 p.m.	204.43
27	6 a.m.	204.66	22	9 a.m.	204.39
30	5 p.m.	204.56	Apr. 1	10 a.m.	204.39
Apr. 9	4 a.m.	204.74	11	10 p.m.	204.46
18	7 p.m.	204.53	16	1 p.m.	204.38
23	6 p.m.	204.50	20	9 a.m.	204.40
May 1	7 p.m.	204.54	28	11 a.m.	204.41
3	8 p.m.	204.50	May 9	11 a.m.	204.35
15	3 a.m.	204.54	10	11 a.m.	204.33
17	8 p.m.	204.41	23	11 a.m.	204.25
27	6 p.m.	204.34	30	11 a.m.	204.14
June 5	4 p.m.	204.26	June 3	3 p.m.	204.18
10	7 p.m.	204.24	13	10 a.m.	204.06
15	5 p.m.	204.13	14	11 a.m.	203.96
22	4 p.m.	204.08	27	1 p.m.	203.78
July 2	8 a.m.	203.91	July 4	11 a.m.	203.72
6	2 a.m.	203.78	11	12 p.m.	203.53

Mississippi State College--Continued.

Weekly high and low water levels, in feet above datum, 1941-42

Date	Hour	High water level	Date	Hour	Low water level
July 12, 1942	4:00 a.m.	203.54	July 18, 1942	10:00 a.m.	203.27
20	6:00 p.m.	203.36	25	11:00 p.m.	203.16
26	2:00 a.m.	203.19	31	1:00 p.m.	203.02
Aug. 2	4:00 p.m.	203.09	Aug. 4	7:00 a.m.	202.98
10	4:00 p.m.	203.08	15	1:00 p.m.	202.87
19	5:00 p.m.	202.94	22	10:00 a.m.	202.83
23	4:00 a.m.	202.91	27	11:30 a.m.	202.71
30	1:00 a.m.	202.77	Sept. 2	8:00 a.m.	202.68
Sept. 6	5:00 p.m.	202.72	10	11:00 a.m.	202.55
15	12:00 m.	202.63	18	10:00 a.m.	202.53
26	6:00 p.m.	202.65	25	2:00 a.m.	202.43
27	5:00 a.m.	202.57	30	8:00 a.m.	202.31
Oct. 5	5:00 p.m.	202.57	Oct. 9	4:00 a.m.	202.34
12	9:00 p.m.	202.50	17	10:00 a.m.	202.35
22	7:00 p.m.	202.67	18	10:00 a.m.	202.48
31	2:00 p.m.	202.70	25	2:00 a.m.	202.43
Nov. 1	6:00 p.m.	202.73	Nov. 3	11:00 a.m.	202.50
9	5:00 p.m.	202.88	8	1:00 a.m.	202.64
21	5:00 p.m.	202.94	18	10:00 a.m.	202.74
25	7:00 p.m.	203.14	27	11:00 a.m.	202.82
Dec. 1	12:00 m.	203.27	Dec. 4	9:00 p.m.	202.91
12	5:00 a.m.	203.10	9	10:00 a.m.	202.92
16	11:00 a.m.	203.24	14	10:00 p.m.	202.91
26	.....	203.40	..	.....	202.96

Quitman County

I5 (*907, p. 67; 937, p. 72). Town of Marks. SE¼NW¼ sec. 35, T. 28 N., R. 1 W.

Weekly high and low water levels, in feet above datum, 1942

Jan. 1	2:30 p.m.	176.7	Jan. 2	2:00 a.m.	176.3
4	12:00 m.	176.6	10	8:30 a.m.	173.5
13	2:00 p.m.	176.6	11	6:00 a.m.	174.5
23	4:00 p.m.	176.7	20	8:00 a.m.	176.3
26	4:00 p.m.	176.7	29	10:00 a.m.	176.3
Feb. 6	2:00 a.m.	176.7	Feb. 2	8:00 a.m.	176.2
14	6:00 p.m.	176.7	13	8:00 a.m.	176.4
15	6:00 p.m.	176.7	19	8:30 a.m.	175.4
22	6:00 p.m.	176.6	28	8:00 a.m.	176.2
Mar. 6	6:00 p.m.	176.8	Mar. 1	6:00 a.m.	176.5
9	6:00 p.m.	177.0	11	8:00 p.m.	176.7
17	5:00 p.m.	177.6	21	7:00 p.m.	176.5
27	6:00 a.m.	177.1	22	7:00 p.m.	176.5
30	6:00 a.m.	176.9	Apr. 1	2:00 a.m.	176.5
Apr. 10	5:00 p.m.	177.5	5	6:00 a.m.	176.5
18	5:00 p.m.	177.5	12	6:00 a.m.	177.0
23	5:00 a.m.	177.5	25	6:00 p.m.	177.0
27	6:00 a.m.	177.4	29	6:00 a.m.	176.9
May 4	6:00 p.m.	177.2	May 8	6:00 a.m.	176.5
16	6:00 a.m.	177.2	16	6:00 a.m.	176.5
18	5:00 a.m.	177.0	23	2:00 a.m.	176.5
30	6:00 p.m.	177.3	27	10:00 a.m.	176.5
31	6:00 p.m.	177.3	June 4	6:00 a.m.	176.7
June 11	5:00 p.m.	177.3	9	6:00 a.m.	176.6
20	5:00 p.m.	176.9	15	6:00 a.m.	176.5
27	5:00 p.m.	177.1	25	6:00 a.m.	176.5
July 2	5:00 p.m.	177.1	30	6:00 a.m.	176.5
9	6:00 p.m.	176.9	July 10	6:00 a.m.	176.5
16	5:00 a.m.	177.1	18	4:00 p.m.	176.5
21	6:00 a.m.	176.9	23	6:00 p.m.	176.3
Aug. 1	5:00 a.m.	176.8	31	6:00 p.m.	176.3
3	4:00 a.m.	176.7	Aug. 8	7:00 p.m.	176.2
13	6:00 p.m.	176.6	14	6:00 a.m.	176.2

15. Town of Marks--Continued.

Weekly high and low water levels, in feet above datum, 1942

Date	Hour	High water level	Date	Hour	Low water level
Aug. 21	5 a.m.	176.5	Aug. 17	6 p.m.	176.2
27	6 p.m.	176.5	25	6 a.m.	176.2
30	5 p.m.	176.6	Sept. 1	7 p.m.	176.1
Sept. 11	5 p.m.	176.5	9	6 a.m.	176.2
19	6 p.m.	176.5	13	6 a.m.	176.1
25	5 p.m.	176.4	25	8 a.m.	175.9
Oct. 3	4 p.m.	176,4	30	6 a.m.	175.8
10	5 p.m.	176.3	Oct. 7	8 a.m.	175.8
17	4 p.m.	176.3	17	8 a.m.	175.8
19	3 p.m.	176.3	24	5 a.m.	175.7
25	5 p.m.	176.3	26	8 a.m.	175.7
Nov. 7	4 p.m.	176.4	Nov. 3	9 p.m.	175.8
9	6 p.m.	176.5	11	8 a.m.	175.9
16	6 p.m.	176.5	15	6 a.m.	176.1
25	6 p.m.	176.5	23	6 p.m.	176.0
Dec. 1	4 a.m.	176.3	Dec. 3	10 a.m.	175.8
7	12 m.	176.3	9	12 m.	176.1
25	10 p.m.	176.4	23	12 p.m.	176.1

21 (*907, p. 67; 937, p. 73). W. R. Harrington. NE¼NE¼ sec. 8, T. 27 N., R. 2 W. Water levels, in feet above datum, 1942: Apr. 3, 3.37 p.m., 201.0; July 2, 8:00 p.m., 201.7; Sept. 19, 9:50 a.m., 199.5; Dec. 21, 2:30 p.m., 200.2.

32 (*845, p. 163; 886, p. 283; 907, p. 67; 937, p. 73). City Cafe, Lambert. SW¼SE¼ sec. 15, T. 27 N., R. 1 W. Water levels, in feet above datum, 1942: Apr. 3, 166.72; July 2, 7:23 p.m., 166.49; Sept. 19, 11.45 a.m., 166.03, Dec. 21, 3:10 p.m., 166.00.

Sunflower County

39 (*907, p. 67; 937, p. 73). E. L. Coleman and others. NW¼SW¼ sec. 28, T. 21 N., R. 3 W. Water levels, in feet above datum, 1942: Apr. 2, 2:47 p.m., 156.2; July 3, 9:45 a.m., 155.7; Dec. 22, 12:45 p.m., 155.2.

Tallahatchie County

24 (*845, p. 163; 886, p. 283; 907. p. 67; 937, p. 73). Town of Tutwiler. SW¼SW¼ sec. 20, T. 25 N., R. 2 W. Water levels, in feet above datum, 1942: Apr. 3, 5:25 p.m., 165.92; July 3, 7:08 a.m., 164.72; Sept. 18, 6:30 p.m., 164.19; Dec. 21, 5:30 p.m., 164.47.

68 (*907, p. 68; 937, p. 73). Town of Sumner. NW¼NE¼ sec. 11, T. 24 N., R. 2 W. Water levels, in feet above datum, 1942: Apr. 3, 6:00 p.m., 213.8; July 3, 7:30 a.m., 213.5; Sept. 25, 2:30 p.m., 214.4. Automatic water-level recorder established on this well, Sept. 25, 1942.

Weekly high and low water levels, in feet above datum, 1942

Week ending	Weekly high	Weekly low	Week ending	Weekly high	Weekly low
Oct. 3	209.4	207.2	Nov. 21	210.8	209.6
10	209.8	207.8	28	210.0	209.0
17	209.8	209.2	Dec. 5	210.0	209.0
24	209.8	209.2	12	210.2	209.0
31	209.8	209.2	19	211.2	209.4
Nov. 7	210.4	208.8	26	210.8	210.2
14	210.8	209.8			

171 (*845, p. 163; 886, p. 283; 907, p. 68; 937, p. 73). Phillip Stave Mill, Phillip. NW¼SW¼ sec. 21, T. 22 N., R. 1 E. Water levels, in feet above datum, 1942: Apr. 1, 10:55 a.m., 151.24; July 3, 8:29 a.m., 150.19; Sept. 25, 11:37 a.m., 149.3; Dec. 22, 10:50 a.m., 149.9.

Tunica County

17 (*907, p. 68; 937, p. 73). G. D. Perry, Sr. SW¼SE¼ sec. 7, T. 5 S., R. 11 W. Water levels, in feet above datum, 1942: Apr. 3, 9:50 a.m., 221.0; July 4, 10:40 a.m., 221.3; Sept. 17, 4:55 p.m., 218.8; Dec. 21, 11:05 a.m., 219.3.

Washington County

25 (*886, p. 283; 907, p. 68; 937, p. 74). Wagner Plantations. SW¼SW¼ sec. 10, T. 18 N., R. 6 W. Water levels, in feet above datum, 1942: Apr. 2, 1:38 p.m., 162.9; July 4, 3:55 p.m., 160.8; Sept. 25, 9:25 p.m., 158.9; Dec. 23, 8:40 a.m., 160.5.

65 (*886, p. 283; 907, p. 68; 937, p. 74). W. D. Atterbury, Estill. NE¼NE¼ sec. 25; T. 16 N., R. 7 W. Water levels, in feet above datum, 1942: Apr. 2, 9:05 a.m., 195.5; July 4, 4:55 p.m., 195.5; Sept. 24, 4:28 p.m., 195.7; Dec. 23, 9:30 a.m., 196.0.

70 (*886, p. 284; 907, p. 68; 937, p. 74). Town of Hollandale. SW¼SE¼ sec. 6, T. 15 N., R. 6 W. Automatic water-level recorder removed Dec. 23, 1942.

Weekly high and low water levels, in feet above datum, 1942

Date	Hour	High water level	Date	Hour	Low water level
Jan. 3	4 p.m.	98.10	.....	.....	.....
9	2 p.m.	98.21	Jan. 5	2 a.m.	98.03
17	9 a.m.	98.29	13	4 p.m.	97.39
18	5 p.m.	98.35	19	3 p.m.	97.39
30	6 p.m.	98.38	26	4 p.m.	97.52
Feb. 6	10 a.m.	98.27	Feb. 4	10 a.m.	97.10
9	2 p.m.	98.27	10	2 p.m.	97.47
16	9 a.m.	98.15	21	6 p.m.	97.54
28	5 p.m.	98.55	25	10 p.m.	97.41
Mar. 10	12 p.m.	99.06	Mar. 5	7 p.m.	98.11
14	9 a.m.	99.55	11	12 a.m.	99.06
21	1 a.m.	99.78	19	2 p.m.	98.64
27	7 p.m.	100.10	24	4 p.m.	99.13
Apr. 4	12 p.m.	99.95	29	2 p.m.	99.38
11	3 a.m.	100.57	Apr. 11	11 a.m.	99.81
18	11 p.m.	101.10	15	11 a.m.	99.83
22	6 a.m.	101.26	24	9 a.m.	100.21
29	6 p.m.	101.35	May 2	1 p.m.	100.25
May 5	1 p.m.	101.27	8	11 a.m.	100.10
11	3 a.m.	101.18	14	11 a.m.	100.07
17	4 a.m.	101.11	23	7 a.m.	99.94
26	6 p.m.	101.03	30	11 p.m.	99.77
31	1 a.m.	100.06	June 6	11 p.m.	99.41
June 10	4 a.m.	100.09	9	11 a.m.	99.33
17	7 p.m.	99.56	14	12 m.	99.39
24	5 p.m.	100.29	25	9 a.m.	99.23
28	7 p.m.	99.42	July 4	6 a.m.	99.10
July 8	6 p.m.	99.24	11	11 p.m.	99.01
12	1 a.m.	99.01	18	12 m.	98.65
19	1 a.m.	98.65	24	8 a.m.	98.11
Aug. 3	7 p.m.	97.67	Aug. 8	9 a.m.	97.48
15	4 p.m.	97,63	9	1 a.m.	97.53
22	3 p.m.	97.63	20	3 p.m.	97.41
24	6 p.m.	98.28	26	1 p.m.	97.56
31	.....	97.53	Sept. 5	10 p.m.	97.38
Sept. 6	1 a.m.	97.39	12	11 p.m.	97.11
13	7 a.m.	97.11	19	11 p.m.	96.63
Oct. 2	1 a.m.	97.26	Oct. 3	12 p.m.	96.29
9	1 p.m.	97.02	7	10 a.m.	96.30
16	7 a.m.	97.63	13	7 a.m.	96.61
24	12 p.m.	97.14	24	11 a.m.	96.56
27	9 p.m.	97.31	30	1 p.m.	96.50
Nov. 1	6 p.m.	97.26	Nov. 6	6 a.m.	96.02
9	7 p.m.	96.17	11	11:p.m.	94.77
17	1 p.m.	96.05	20	7·p.m.	95.21

70. Town of Hollandale--Continued.

Weekly high and low water levels, in feet above datum, 1942

Date	Hour	High water level	Date	Hour	Low water level
Nov. 24	6 p.m.	96.05	Nov. 27	12 m.	95.13
Dec. 5	4 p.m.	96.01	Dec. 4	7 p.m.	95.33
7	7 a.m.	95.92	7	2 p.m.	95.32
13	12 a.m.	95.33	15	8 a.m.	95.24
21	6 a.m.	95.32	23	12 m.	95.10

Yazoo County

25 (*845, p. 163; 886, p. 284; 907, p. 68; 937, p. 74). SW¼NE¼ sec. 32, T. 12 N., R. 2 W. Water levels, in feet above datum, 1942: July 4, 8:55 p.m., 137.0; Sept. 22, 4:47 p.m., 136.3; Dec. 23, 2:10 p.m., 135.6.

NORTH CAROLINA

By M. J. Mundorff

PROGRAM OF WORK

The program of water-level measurements in observation wells in North Carolina, begun in 1931, was continued in 1942 by the Geological Survey, United States Department of the Interior, in cooperation with the State Department of Conservation and Development and the Elizabeth City Public Utility Commission.

Prior to 1942, the program was carried out in three separate projects, but after the establishment of a field headquarters of the Ground Water Division of the Federal Geological Survey at Raleigh, N. C., in August 1941, it was decided to consolidate the projects. E. D. Burchard, district engineer of the Surface Water Division, has continued to operate the 9 observation wells on which he has previously reported.

A systematic survey of the ground-water resources of North Carolina has been undertaken, and work on this program is in progress in Edgecombe, Halifax, Nash, Northampton, and Wilson Counties.

At the beginning of 1942, the water level was being measured daily to monthly in 29 wells. Three wells were added to the program during the year, and records for the 32 wells are published in this report. The location of the wells is shown in figure 8. Near the end of the year, measurements in 8 wells were discontinued, leaving 24 wells under observation at the beginning of 1943. The wells added were one each in Jones, Onslow, and Washington Counties, and the wells discontinued were Nos. 5 and 15 in Guilford County and Nos. 9, 9B, 10, 11, 21, and 23 in Randolph County.

FLUCTUATIONS OF WATER LEVEL

Water-level recorders were in operation on 9 wells; 1 well was measured daily, 3 wells were measured about twice a week, 2 were measured about weekly, and 17 were measured once a month. In 1941 the State-wide rainfall

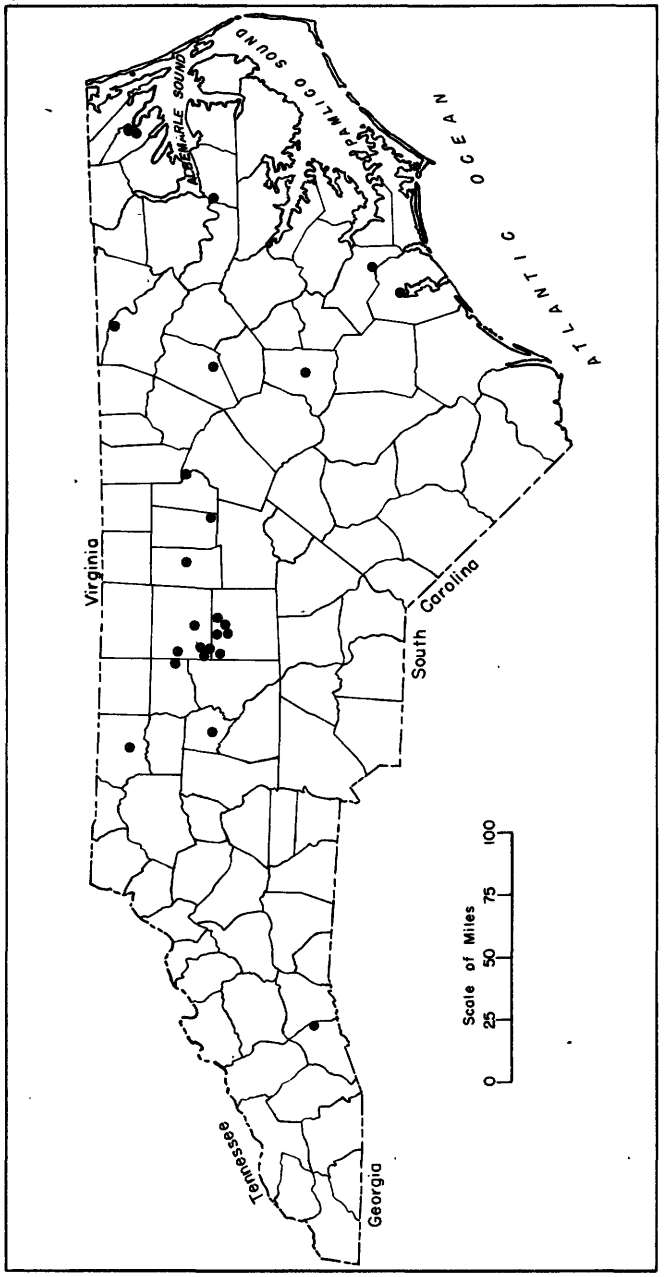

Figure 8.--Map of North Carolina showing location of observation wells.

deficiency amounted to 11 inches. The rainfall was the lowest recorded in the last 11 years. On account of this very great deficiency of rain, the water levels in a number of wells reached record lows in this year. Because the deficiency continued into the first part of 1942, and because of the deficiency in soil moisture, which had to be made up before the water table could begin to rise, the water levels continued to decline in 1942, and all-time low levels were recorded for 18 of the 29 wells for which previous records are available. The highest and lowest water levels recorded for each well are given in the following table.

Summary of highest and lowest levels in wells in North Carolina
(in feet above datum, except as noted)

County	Well	Lowest observed water level		Highest observed water level	
		Date	Water level	Date	Water level
Alamance	1 Governor Holt	Feb. 5, 1934	2.24	Mar. 4, 1939	14.32
Davie	1 Kurfee	Feb. 15, 1942	1.14	Apr. 10, 1936	14.80
Forsyth	19 W. C. Michael	Dec. 3-7, 1935	9.09	Aug. 30, 1940	12.41
Guilford	2 Lindale Dairy	Feb. 13, 1942	6.94	Mar. 5, 1937	13.08
Guilford	4 W. O. Atkins	Dec. 27, 1935	9.91	May 14, 1937	14.43
Guilford	5 Isaac Tonkins	Oct. 16, 1934	9.81	May 30, 1942	12.00
Guilford	7 E. J. Welch	Feb. 25, 1942	6.25	Feb.14-15, 1936	14.78
Guilford	8 Welch Place	Nov. 28, 1942	6.22	Apr. 10, 1936	22,40
Guilford	12 John Blair Estate	July 27, 1941	6.41	Mar. 14, 1935	16.09
Guilford	14 Clodfelter's Dairy	Nov. 28, 1942	8.20	Apr. 10, 1936	16.77
Guilford	15 C. C. Robbins	Sept.28, 1941	a4.00	Jan. 22, 1937	20.16
Halifax	1 Freuler	Jan. 26, 1942	1.73	Aug. 30, 1939	11.27
Nash	1 Alston	Feb. 3, 1935	5.49	Feb. 15, 1939	20.36
Orange	1 McCauley	Aug. 13, 1942	b1.05	May 9, 1939	8.74
Pasquotank	31T Elizabeth City	Jan. 28, 1942	c9.22	Feb. 11, 1939	c1.82
Pasquotank	33T Elizabeth City	Oct. 28, 1942	c17.53	Mar. 18, 1939	c4.39
Randolph	9 W. C. Warner	Aug. 30, 1935	d-2.25	Feb. 17, 1939	18.63
Randolph	9B W. C. Warner	Jan. 31, 1942	.23	Apr. 10, 1936	25.39
Randolph	10 W. F. Beason	(e)	(e)	Mar. 5, 1937	16.13
Randolph	11 Emery Taylor	(f)	(f)	Apr. 2, 1935	18.78
Randolph	20 Dr. Bush	Nov. 28, 1942	7.45	May 14, 1937	14.48
Randolph	21 J. W. Young	Nov. 11, 1942	g6.09	Feb.14-15, 1936	16.75
Randolph	23 Mrs. Lonnie Pugh	Nov. 11, 1942	6.23	Apr. 10, 1936	16.93
Randolph	25 J. S. White	Jan. 31, 1942	6.00	Apr. 10, 1936	13.76
Randolph	27 Walter Lambeth	Jan. 27, 1936	h7.62	Feb.14-15, 1936	29.97
Surry	1 Terrell	(i)	(i)	June 24, 1940	6.50
Transylvania	1 Baldwin	Feb.3-12, 1940	1.23	May 14, 1937	12.10
Wake	1 Fishdam	Jan, 13, 1942	-1.24	May 12, 1937	12.45
Wayne	1 Brick Pit	Feb. 17, 1934	.72	Mar. 11, 1939	6.66

a Less than 4.00 feet (dry) Oct. 25, 1941, to Jan. 31, 1942.
b Estimated from partial data. Lowest measured level, 1.08 feet Oct.11, 1942.
c Water level, in feet below measuring point.
d Dry for several months after Sept.30, 1935; also reached -2.16 July 31, 1942, and was dry for 3 months thereafter.
e Goes dry at 7.00 feet. Dry Oct. 29, 1940, and for several months in 1941 and 1942.
f Goes dry nearly every year at about 4.00 feet.
g Dry Sept.26, 1942. Lowest measured level, 6.09 feet Nov. 11, 1942.
h Lowest measured level. Went dry in 1939, 1940, 1941, and 1942.
i Dry at about 1.20 feet during last 3 months of 1941, and first 5 months of 1942.

The only observation well in the extreme western part of the State, the Baldwin well at Blantyre, in Transylvania County, began to recover in December 1941 and its water level continued to rise steadily through the first half of 1942. The water level in this well was fairly constant at a moderately high stage during the remainder of the year and was 5.29 feet higher on January 1, 1943, than on January 1, 1942.

The Terrell well, in Surry County, was dry most of the last 3 months of 1941 and the first 5 months of 1942 but probably reached its lowest level in January or February 1942. Little recovery was made by this well until August and September. The average water level for the 9 wells retained in the program of water-level measurements near High Point, Guilford County, declined until the end of January, then rose somewhat through the spring and summer, but dropped even lower in November. The Lindale Dairy well at High Point and the Kurfee well at Mocksville , Davie County, reached their lowest recorded levels on nearly the same date, near the middle of February 1942, after which they rose considerably, declining again in the summer and fall, as is usual. The hydrograph of the Lindale Dairy well, showing mean monthly water levels for the period of record, and a graph showing cumulative departure of rainfall from normal, are shown in figure 9. The normal monthly rainfall used is the normal for the years 1935 to 1942--the period of observation of the well--and does not correspond to the normal rainfall for this station for the period of record.

The Governor Holt well, at Haw River, Alamance County, the Freuler well, at Roanoke Rapids, Halifax County, the Alston well, in Nash County, the Fishdam well, in Wake County, and the Brick Pit well, in Wayne County, all reached their lowest levels for the year near the end of January. The water level in the McCauley well, at Chapel Hill, did not make the late winter and spring recovery made by the other wells but continued to decline, reaching record low stages in August and October. Rainfall at Chapel Hill was below normal in January, February, April, May, and June of 1942, and, although above-normal rainfall was recorded in March, very little of it reached the ground-water table, probably because it was not well distributed and therefore a high percentage went into runoff and because that which did soak in served only toward making up soil-moisture deficiency acquired during previous months.

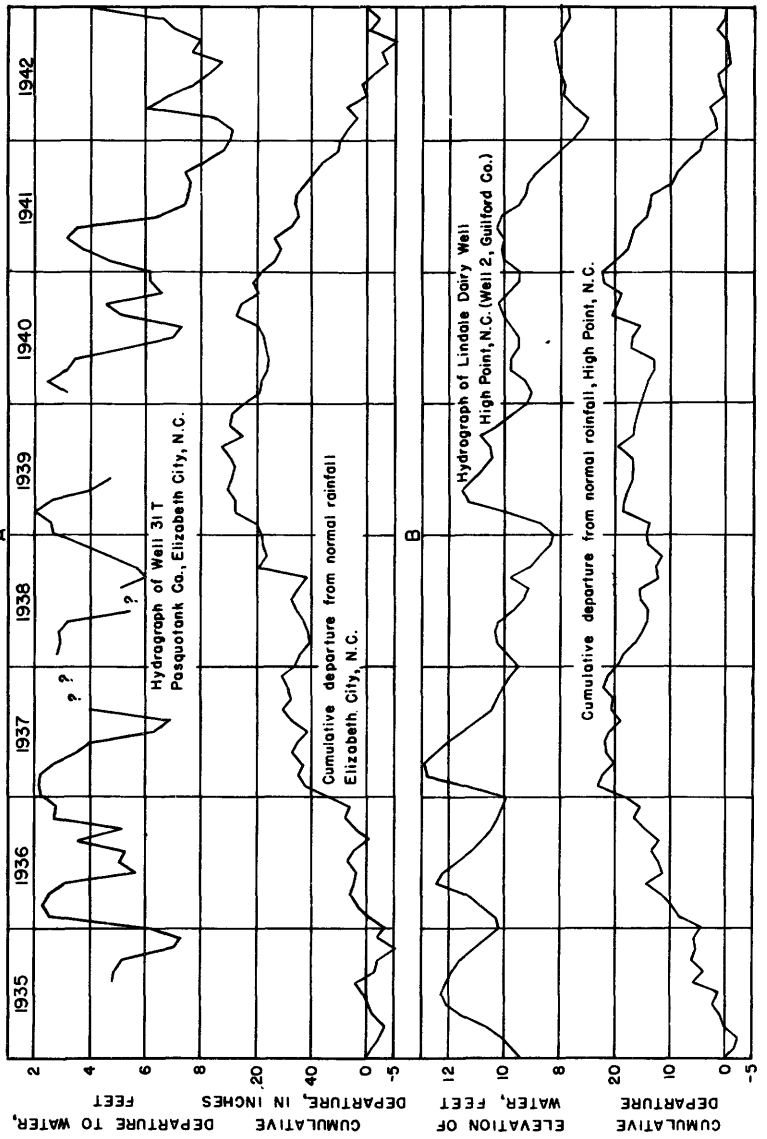

Figure 9.--A, Hydrograph of Pasquotank County well 31T, at Elizabeth City, N. C., and cumulative departure from normal rainfall; B, Hydrograph of Guilford County well 2 (Lindale Dairy well), at High Point, N. C., and cumulative departure from normal rainfall.

Of the 4 observation wells along the coast of North Carolina, 3 record fluctuations of the water table, and 1, at Jacksonville, in Onslow County, records fluctuations in the artesian water level in the Castle Hayne marl, of Eocene age.

Well 31T, at Elizabeth City, is about 1,000 feet from the shallow well field from which Elizabeth City obtains most of its water supply. Pumpage from the well field is not believed to affect the water level in well 31T, except, possibly, in times of drought. A complete description of this well, and of well 33T, which is in the middle of the well field and is greatly affected by pumpage, and a detailed analysis of the factors affecting the water level in these wells, both by A. G. Fiedler, have been published in earlier reports, particularly in Water-Supply Paper 907. The pumpage from the Elizabeth City well field in 1942 is given in the following table.

Water pumped from Elizabeth City wells, 1942

Month	Gallons	Month	Gallons	Month	Gallons
January	17,145,000	May	15,227,000	September	15,002,000
February	14,256,000	June	16,110,000	October	16,842,000
March	15,885,000	July	16,612,000	November	16,005,000
April	15,938,000	August	17,062,000	December	16,555,000

The water level in well 31T reached its record low on January 28, 1942, after which the regular winter and spring recovery began. Because the rainfall for January and February was below normal, only slight recovery was made, but above-normal rainfall in March caused a rise of about 3 feet. The water level lowered steadily during the period April 1 to July 31. A considerable rise was recorded during the first part of August, after which the level declined until the middle of October, when notable rises were recorded. The level declined throughout November and the first week in December. The water level then rose 4.5 feet during the period December 6 to 10, during which nearly 3 inches of rain fell. Continued rainfall through December maintained the water level at an average of about 3 feet below the measuring point, which was 2 feet higher than the highest levels reached at any other time in 1942. The water level in well 33T made a very slight recovery in February and March of 1942 and then declined continuously, going dry July 16, at 17.00 feet below the measuring point. The lowest measured water level was 17.53 feet on October 28, immediately after deepening the well. As the level rose gradually thereafter, it is possible

that the lowest level was reached before that date. The hydrograph of well 31T, showing mean monthly water levels, and a graph showing cumulative departure of rainfall from normal at Elizabeth City are shown in figure 9. The normal monthly rainfall here used is the normal for the period 1935-42, the period of observation of well 31T, and does not correspond to the normal rainfall for Elizabeth City for the entire period of record. The trend of the water-level fluctuations in the Lucas well, in Washington County, and the Weeks well, in Jones County, was very similar to the trend in well 31T. The Weeks well, however, had a marked rise in September, not recorded in the other wells, which was caused by local high rainfall.

The water level in the artesian well at Jacksonville, in Onslow County, is affected by pumpage from the city wells and other nearby wells. Incomplete records indicate that its lowest level--about 4 feet below the ground surface--was reached in August. The highest recorded level since the beginning of record in May 1942 was 0.5 foot above the ground surface on November 30, December 1, and December 18, 1942. This well ceased flowing in 1941, after flowing for many years. The decrease in pressure resulting in the cessation of flow was probably caused both by the drought of 1941 and the greatly increased pumpage from drilled wells in and around Jacksonville.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Observation wells in North Carolina are listed alphabetically by counties and numerically within each county. Complete descriptions are given only for newly added wells. The numbers in parentheses immediately following a well number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in that paper. The water level in each well is expressed in feet below a fixed measuring point or in feet above an assumed datum plane.

Alamance County

1 (*777,p.134; 817,p.216; 840,p.305; 845,p.336; 886,p.516; 907,p.72; 937,p.76). Governor Holt well. J. W. Thompson. South side of Haw River-Graham highway, 0.25 mile west of Haw River. Dug well, diameter 7 feet, depth 61 feet. Datum, about 30 feet below land surface.

Mean daily water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	....	2.82	3.89	5.83	a4.57	6.27	6.95	5.09	4.32	3.80	5.19	5.61
2	....	2.81	3.86	a5.80	4.51	6.15	6.94	5.02	4.25	3.86	5.19	5.66
3	2.87	2.80	3.99	a5.78	4.47	6.04	6.90	4.93	4.22	3.88	5.17	5.69
4	....	2.79	4.11	5.75	a4.51	5.97	6.83	4.84	4.17	3.90	5.10	5.73
5	....	2.79	4.21	a5.71	4.54	5.90	6.74	4.75	4.09	3.90	5.06	5.73
6	....	2.79	4.32	a5.67	4.57	5.82	6.68	4.68	4.04	3.86	5.02	5.79
7	....	2.80	4.41	a5.62	4.60	5.90	6.61	4.62	3.99	3.80	4.99	6.03
8	....	2.80	4.47	a5.58	4.62	6.05	6.53	4.55	4.00	3.75	4.95	6.43
9	....	2.81	5.25	a5.54	4.62	6.20	6.47	4.51	3.95	3.70	4.92	6.92
10	....	2.83	5.56	a5.50	4.61	7.10	6.41	4.49	3.93	3.68	4.91	7.21
11	....	2.85	5.69	5.45	4.59	8.60	6.40	4.45	3.94	3.63	4.90	7.32
12	....	2.87	5.72	5.42	4.57	9.30	6.35	4.38	3.94	3.59	4.87	7.34
13	2.86	2.88	5.70	5.38	4.63	9.60	6.28	4.32	3.93	3.58	4.87	7.25
14	2.86	2.88	5.64	5.34	4.75a	9.99	6.20	4.28	3.87	3.64	4.85	7.09
15	2.86	a2.88	5.55	5.30	4.86a	9.79	6.15	4.28	3.80	3.85	4.77	6.92
16	2.85	a3.10	5.46	5.26	5.50a	9.60	6.05	4.27	3.73	4.15	4.72	6.84
17	2.84	3.36	5.40	5.24	6.20a	9.37	5.98	4.24	3.68	4.36	4.69	6.76
18	2.84	3.60	a5.34	5.23	6.62	9.17	5.95	4.22	3.64	4.46	4.64	6.75
19	2.84	3.76	a5.24	5.17	6.57	8.94	5.89	4.22	3.59	4.55	4.61	6.75
20	2.84	3.85	a5.12	5.13	6.51	8.73	5.83	4.31	3.56	4.57	4.58	6.80
21	2.84	3.90	5.14	5.08	6.53	8.53	5.76	4.49	3.51	4.62	4.56	6.79
22	2.84	3.95	5.24	5.02	6.64	8.33	5.68	4.66	3.50	4.67	4.53	6.78
23	2.84	3.98	5.36	4.98	6.95	8.14	5.61	4.76	3.49	4.73	4.50	6.78
24	2.84	4.00	5.42	4.92	7.09	7.95	5.56	4.80	3.47	4.75	4.90	a6.71
25	2.84	3.99	5.44	4.89	7.07	7.76	5.50	4.78	3.44	4.76	5.36	a6.64
26	2.84	3.95	5.44	4.85	7.00	7.57	5.44	4.72	3.43	4.77	5.56	6.57
27	2.84	a3.93	5.50	4.81	6.92	7.38	5.40	4.66	3.43	5.00	5.62	6.53
28	a2.84	3.92	5.72	4.75	6.80a	7.23	5.36	4.60	3.49	5.12	5.62	6.53
29	a2.83	....	5.80	4.69	6.66a	7.11	5.32	4.53	3.60	5.16	5.62	6.66
30	a2.83	....	5.85	a4.63	6.51	7.02	5.23	4.45	3.71	5.18	5.62	8.05
31	2.82	....	5.85	....	6.41	....	5.17	4.39	....	5.17	....	8.90

Davie County

1 (*777,p.131; 817,p.214; 840,p.303; 845,p.334; 886,p.514; 907,p.70; 937,p.78.) Kurfee well. At Mocksville, on U. S. Highways 64 and 601; one block south of courthouse. Dug well, diameter 3 feet, depth 32 feet. Datum, about 30.4 feet below land surface.

Mean daily water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.15	1.32	2.55	5.37	5.92	6.16	5.98	5.06	4.24	3.34	2.88	2.64
2	2.13	1.28	2.59	5.40	5.92	6.17	5.98	5.03	4.22	3.32	2.86	2.64
3	2.11	1.25	2.62	5.44	5.92	6.17	5.94	5.00	4.19	3.29	2.82	2.64
4	2.08	1.21	2.69	5.51	5.92	6.18	5.90	4.97	4.16	3.25	2.81	2.64
5	2.05	1.18	2.80	5.54	5.90	6.19	5.88	4.93	4.14	3.22	2.79	2.64
6	2.01	1.22	3.07	5.57	5.89	6.19	5.87	4.87	4.09	3.19	2.77	2.70
7	1.99	1.34	3.17	5.61	5.88	6.19	5.84	4.84	4.06	3.15	2.75	2.68
8	1.97	1.31	3.48	5.65	5.88	6.19	5.81	4.81	4.03	3.11	2.73	2.69
9	1.95	1.28	4.95	5.69	5.86	6.17	5.79	4.78	4.00	3.08	2.71	2.67
10	1.91	1.26	4.47	5.73	5.84	6.26	5.76	4.74	3.98	3.06	2.70	2.65
11	1.88	1.23	4.24	5.75	5.82	6.28	5.74	4.71	3.95	3.05	2.68	2.64
12	1.85	1.20	4.18	5.74	5.82	6.22	5.72	4.70	3.93	3.04	2.67	2.64
13	1.82	1.18	4.17	5.75	5.81	6.21	5.67	4.65	3.90	3.03	2.66	2.64
14	1.80	1.15	4.20	5.78	5.79	6.20	5.65	4.61	3.88	3.02	2.66	2.64
15	1.77	1.14	4.27	5.79	5.77	6.18	5.63	4.58	3.84	3.02	2.65	2.64
16	1.73	1.32	4.35	5.81	5.79	6.18	5.60	4.56	3.80	3.02	2.65	2.64
17	1.70	2.58	4.45	5.84	5.74	6.18	5.56	4.57	3.77	3.01	2.65	2.64
18	1.69	2.58	4.54	5.88	5.70	6.17	5.54	4.56	3.74	3.00	2.65	2.64

a Estimated.

1 (*777,p.131; 817,p.214; 840,p.303; 845,p.334; 886,p.514; 907,p.70; 937,p.78.) At Mocksville--Continued.

Mean daily water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
19	1.67	2.55	4.60	5.89	5.69	6.16	5.51	4.52	3.72	2.99	2.65	2.64
20	1.65	2.52	4.65	5.89	5.68	6.16	5.48	4.51	3.69	2.98	2.65	2.64
21	1.62	2.50	4.74	5.89	5.76	6.16	5.44	4.50	3.66	2.98	2.65	2.63
22	1.59	2.49	4.81	5.90	6.27	6.15	5.41	4.49	3.64	2.97	2.65	2.63
23	1.56	2.48	4.86	5.90	5.98	6.14	5.37	4.49	3.61	2.95	2.65	2.63
24	1.53	2.48	4.92	5.91	5.91	6.12	5.33	4.48	3.56	2.93	2.65	2.63
25	1.51	2.48	4.96	5.92	5.91	6.09	5.29	4.45	3.54	2.91	2.65	2.63
26	1.48	2.49	5.01	5.93	5.95	6.07	5.25	4.41	3.50	3.03	2.65	2.63
27	1.45	2.51	5.06	5.93	6.01	6.06	5.22	4.39	3.47	3.03	2.64	2.63
28	1.42	2.53	5.14	5.93	6.04	6.04	5.19	4.37	3.43	2.97	2.64	2.63
29	1.39	....	5.32	5.93	6.06	6.02	5.17	4.34	3.39	2.94	2.64	2.74
30	1.36	....	5.32	5.93	6.09	5.98	5.13	4.31	3.36	2.91	2.64	3.14
31	1.34	....	5.34	....	6.13	....	5.10	4.28	....	2.90	....	2.88
Mean	1.75	1.79	4.24	5.76	5.89	6.15	5.57	4.63	3.82	3.05	2.70	2.67

Forsyth County

19(*777,pp. 138-139; *817,pp. 218-224; *840,pp.309-315; 845,pp. 340,341; 886,p.521; 907,p.77; 937,p.81.) W. C. Michael. 40 feet west of High Point--Kernersville Highway, 1 mile south of Kernersville. Flat topography. Diameter 32 inches, depth 46 feet. Datum about 54.6 feet below land surface.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 29	10.57	May 28	9.97	Aug. 21	9.87	Nov. 10	9.84
Feb. 24	10.37	June 25	9.90	Sept.24	9.89	28	9.77
Mar. 26	10.22	July 30	9.87	Oct. 28	9.67	Dec. 24	9.80
Apr. 23	10.15						

Guilford County

2 (*777,p.138; 817,p.219; 840,p.308-315; 845,p.339; 886,p.519; 907,p.78; 937,p.81). Lindale Dairy Corporation. About 1.5 miles northwest of High Point city limits and 0.5 mile north of U. S. Highway 70, on edge of hill. Dug well, diameter 18 inches, depth 39 feet. Datum about 37 feet below land surface.

Mean daily water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	7.40	7.07	7.06	7.81	....	7.92	8.08	8.16	8.28	8.10	7.88	7.62
2	7.39	7.04	....	7.82	....	7.93	8.10	8.16	8.28	8.11	7.86	7.64
3	7.38	7.02	....	7.84	....	7.93	8.09	8.16	8.29	8.07	7.83	7.60
4	7.37	7.00	7.10	....	....	7.93	8.08	8.16	8.30	8.06	7.79	7.59
5	7.35	7.00	7.16	....	....	7.95	8.08	8.16	8.29	8.07	7.78	7.56
6	7.33	7.01	7.25	7.25	7.84	7.96	8.09	8.15	8.27	8.07	7.78	7.57
7	7.31	7.04	7.27	7.25	7.85	7.97	8.10	8.14	8.26	8.03	7.78	7.57
8	7.30	7.01	7.35	....	7.86	7.96	8.10	8.14	....	8.00	7.79	7.57
9	7.29	6.98	7.54	....	7.84	7.95	8.10	8.14	....	7.98	7.79	7.61
10	7.28	6.97	7.53	....	7.83	7.95	8.10	8.14	....	7.99	7.80	7.63
11	a7.27	6.97	7.55	....	7.81	7.98	8.10	8.14	....	8.00	7.79	7.70
12	a7.25	6.97	7.58	....	7.81	8.00	8.09	8.16	....	7.99	7.77	7.75
13	a7.24	6.94	7.58	....	7.81	8.02	8.08	8.15	....	7.95	7.78	7.77
14	a7.23	6.95	7.60	7.88	7.81	8.04	8.09	8.14	8.25	7.94	7.75	7.74
15	a7.22	....	7.61	7.89	....	8.04	8.10	8.14	8.25	7.95	7.71	7.77
16	a7.20	....	7.61	7.88	7.81	8.03	8.12	8.14	8.24	7.95	7.69	7.84
17	7.19	....	7.64	7.89	7.78	8.04	8.12	8.14	8.23	7.93	7.69	7.82
18	7.18	....	7.66	7.93	7.76	8.04	8.11	....	8.22	7.91	7.68	7.82

a Estimated.

2 (*777,p.138; 817,p.219; 840,pp. 308-315; 845,p.339; 886,p.519; 907,p.78; 937,p.81). Lindale Dairy--Continued.

Mean daily water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
19	7.19	....	7.66	7.93	7.75	8.05	8.13	....	8.22	7.90	7.68	7.81
20	7.18	....	7.64	7.92	7.75	8.06	8.15	....	8.23	7.89	7.66	7.83
21	7.17	....	7.65	7.91	7.75	8.06	8.15	....	8.22	7.89	7.65	7.82
22	7.15	7.04	7.67	....	7.78	8.07	8.15	....	8.21	7.89	7.64	a7.83
23	7.14	7.07	7.68	....	7.81	8.09	8.15	....	8.20	7.87	7.63	a7.85
24	7.13	7.08	7.69	....	....	8.08	8.15	....	8.18	7.83	7.65	a7.86
25	7.12	7.08	7.69	....	....	8.06	8.16	....	8.15	7.82	7.66	a7.88
26	7.11	7.07	7.70	....	7.89	8.05	8.15	....	8.15	7.85	7.65	a7.90
27	7.10	7.07	7.71	....	7.90	8.05	8.15	....	8.18	7.84	7.62	7.92
28	7.09	7.05	7.74	....	7.91	8.06	8.15	....	8.13	7.82	7.59	7.97
29	7.08	....	7.75	....	7.90	8.06	8.16	....	8.08	7.80	7.60	8.03
30	7.06	....	7.76	....	7.90	8.06	8.17	....	8.07	7.80	7.61	8.11
31	7.06	....	7.80	....	7.91	....	8.16	8.27	....	7.84	....	8.07

4 (*777,pp. 138-139; *817,pp. 218-221; *840,pp. 308-315; 845,p. 339; 886,pp. 518-519; 907,p.78; 937,p. 81). W. O. Atkins. About 0.3 mile west of Colfax and 300 feet south of U. S. Highway 421. Flat topography. Dug well,diameter 18 inches, depth 32 feet, tile casing. Datum, about 42 feet below land surface.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 29	10.15	May 28	10.85	Aug. 21	11.45	Nov. 10	10.60
Feb. 25	10.35	June 25	10.90	Sept.24	11.29	28	10.49
Mar. 26	10.08	July 30	11.29	Oct. 28	10.85	Dec. 24	10.27
Apr. 23	10.47						

5 (*777,pp. 138-139; *817,pp.218-221; 840,pp.308-315; 845,p. 339; 886, pp. 518-519; 907,p.78; 937,p.82). Isaac Tonkins. Near Groomtown, about 6 miles southwest of Greensboro, on a hill. Dug well, diameter 48 inches, depth 53 feet. Datum, about 56 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	10.30	Apr. 25	10.10	July 30	9.95	Sept.26	9.99
Feb. 27	10.42	May 30	12.00	Aug. 21	9.90	Nov. 11	b9.76
Mar. 28	9.92	June 27	10.20				

7 (*777,pp.138-139; *817,pp.218-221; *840,pp.308-315; 845,p.339; 886, pp. 518-519; 907,p. 78; 937,p.82). E. J. Welch. 1403 E. Lexington Avenue, High Point, 80 feet north of street, on low flat ridge, diameter 30 inches, depth 28.5 feet. Datum, about 32 feet below land surface.

Water level, in feet above datum, 1942

Jan. 29	6.92	May 28	8.80	Aug. 27	10.40	Nov. 10	10.06
Feb. 25	6.25	June 25	9.01	Sept.24	10.28	28	9.98
Mar. 26	8.30	July 30	10.55	Oct. 28	10.11	Dec. 24	8.86
Apr. 23	8.63	Aug. 21	9.98				

8 (*777,pp.138-139; 817,pp.218-221; *840,pp.308-315; 845,p.339; 886,pp. 518-519; 907,p.78; 937,p.82). Welch Place. 1304 E. Lexington Avenue, High Point, about 800 feet west of well 7, on a gentle slope. Diameter 32 inches, depth 34 feet. Datum about 37 feet below land surface.

Water level, in feet above datum, 1942

Jan. 29	9.70	May 28	11.49	Aug. 27	8.01	Nov. 10	6.38
Feb. 25	9.58	June 25	10.90	Sept.24	7.20	28	6.22
Mar. 26	11.28	July 30	8.38	Oct. 28	6.48	Dec. 24	7.24
Apr. 23	10.79	Aug. 21	10.42				

a Estimated.
b Abandoned.

12 (*777, pp. 138-139; *817, pp. 218-221; *840, pp. 308, 315; 845, p. 340; 886, pp. 518, 520; 907, p. 79; 937, p. 82). John Blair Estate, 1113 S. Tate Street, South High Point, 80 feet northeast of street. Flat topography. Diameter 30 inches, depth 37 feet. Datum, about 42.7 feet below land surface.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 31	8.87	Aug. 27	8.41	Oct. 28	7.41	Nov. 28	7.27
Aug. 21	8.49	Sept.26	7.91	Nov. 10	7.38	Dec. 24	7.62

14 (*777, pp. 138-139; *817, pp. 218, 221; *840, pp. 308-315; 845, p. 340; 886, pp. 518, 521; 907, p. 79; 937, p. 82). Clodfelter Dairy. At southeastern corner of High Point, 0.5 mile east of U. S. Highway 311, near Springfield Church, on a low flat ridge. Diameter 24 inches, depth 23.5 feet. Datum, about 27.6 feet below land surface.

Water level, in feet above datum, 1942

Jan. 23	8.76	May 30	10.10	Aug. 27	9.00	Nov. 10	8.39
Feb. 27	10.56	June 27	9.80	Sept.26	8.66	28	8.20
Mar. 28	11.22	July 31	9.35	Oct. 28	8.55	Dec. 24	8.70
Apr. 25	10.28	Aug. 21	9.10				

15 (*777, pp. 138-139; *817, pp. 218, 221; *840, pp. 308-315; 845, p. 340; 886, pp. 518, 521; 907, p. 79; 937, p. 82). C. C. Robbins. About 0.3 mile south of High Point corporation limits, 110 feet west of U. S. Highway 311. Low flat topography. Diameter 18 inches, depth 11 feet. Datum, about 14.3 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	(a)	Apr. 25	7.40	July 31	6.74	Sept.26	5.30
Feb. 27	9.10	May 30	9.48	Aug. 21	10.53	Nov. 11	5.32
Mar. 28	11.21	June 21	7.10				

Halifax County

1 (*777, p. 133; 817, p. 213; 840, p. 302; 845, p. 333; 886, p. 513; 907, p. 69; 937, p. 75). Freuler well. At Roanoke Rapids, 500 feet north of U. S. Highway 158 and 0.5 mile west of Seaboard Railway station. Dug well, depth 15 feet. Datum, 13.5 feet below land surface.

Water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.99	2.22	2.76	3.44	3.17	2.79	2.37	3.23	2.90	2.48	5.23	4.45
2	1.98	2.19	2.84	3.42	3.15	2.77	2.78	3.20	2.89	2.44	5.22	4.52
3	1.97	2.16	2.99	3.41	3.13	2.75	2.71	3.15	2.88	2.41	5.02	4.40
4	1.95	2.14	2.87	3.40	3.11	2.73	2.67	3.10	2.83	2.39	4.96	4.34
5	1.94	2.12	2.87	3.38	3.09	2.71	2.65	3.09	2.82	2.37	4.95	4.32
6	1.92	2.11	2.95	3.37	3.08	2.70	2.65	3.12	2.79	2.35	4.93	4.44
7	1.91	2.19	3.00	3.36	3.11	2.69	2.71	3.08	2.94	2.33	4.91	4.40
8	1.90	2.16	3.01	3.34	3.07	2.66	2.67	3.00	2.94	2.31	4.89	4.58
9	1.90	2.12	3.53	3.33	3.04	2.62	2.63	3.02	2.87	2.29	4.84	4.72
10	1.89	2.10	3.40	3.50	3.02	2.65	2.60	3.00	2.81	2.27	4.88	4.75
11	1.88	2.07	3.37	3.53	3.00	2.77	3.06	3.10	2.81	2.27	4.81	4.80
12	1.87	2.06	3.38	3.42	2.99	2.74	3.07	3.30	2.79	2.47	4.77	4.87
13	1.85	2.07	3.39	3.40	2.98	2.70	3.05	3.32	2.78	2.73	4.81	4.83
14	1.82	2.05	3.40	3.39	2.97	2.72	3.03	3.32	2.75	3.66	4.65	4.75
15	1.81	2.03	3.41	3.37	2.96	2.66	3.01	3.30	2.71	3.65	4.63	4.85
16	1.80	2.12	3.43	3.36	3.00	2.63	2.98	3.24	2.68	4.13	4.61	4.90
17	1.80	3.05	3.47	3.37	3.06	2.60	2.94	3.22	2.66	5.33	4.60	4.78
18	1.79	2.83	3.48	3.39	3.00	2.59	2.92	3.20	2.63	5.48	4.60	4.80
19	1.78	2.73	3.45	3.35	2.96	2.57	2.88	3.20	2.61	5.49	4.53	4.77
20	1.80	2.71	3.41	3.32	2.93	2.56	2.84	3.19	2.59	5.48	4.53	4.81
21	1.80	2.72	3.47	3.30	2.92	2.53	2.80	3.14	2.57	5.49	4.52	4.75
22	1.79	2.73	3.47	3.30	3.09	2.50	2.78	3.10	2.56	5.44	4.47	4.88
23	1.78	2.75	3.46	3.29	3.02	2.58	2.76	3.06	2.52	5.33	4.48	5.35

a Dry.

1 (*777, p. 133; 817, p. 213; 840, p. 302; 845, p. 333; 886, p. 513; 907, p. 69; 937, p. 75). At Roanoke Rapids--Continued.

Water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
24	1.76	2.76	3.42	3.27	2.99	2.53	2.96	3.13	2.47	5.29	4.68	5.39
25	1.74	2.76	3.39	3.26	2.94	2.49	3.60	3.09	2.45	5.29	4.60	5.40
26	1.73	2.76	3.40	3.24	2.91	2.47	3.57	3.03	2.45	5.43	4.54	5.36
27	1.75	2.76	3.40	3.21	2.90	2.47	3.51	3.00	2.47	5.35	4.44	5.39
28	2.34	2.77	3.46	3.20	2.88	2.46	3.47	2.99	2.65	5.23	4.40	5.49
29	2.27	....	3.50	3.20	2.84	2.40	3.41	2.97	2.57	5.21	4.44	5.51
30	2.19	....	3.47	3.19	2.82	2.38	3.37	2.94	2.52	5.22	4.44	5.90
31	2.19	....	3.46	....	2.80	....	3.29	2.90	....	5.24	....	5.88

Jones County

1. Geo. E. Weeks. At southeastern edge of Maysville, about 100 yards east of Atlantic Coast Line Railroad, and 0.5 mile north of Whiteoak River. Elevation about 40 feet. Dug well, depth 9 feet, 36-inch square wood curbing. Measuring point, top of 4-by 4-inch post in northwest corner of well, 2.7 feet above land surface. Datum, 2.0 feet below measuring point (0.7 foot above land surface).

Water level, in feet below datum, 1941-42

Date	Water level	Date	Water level	Date	Water level
Aug. 13, 1941	6.72	May 30, 1942	9.00	Sept. 16, 1942	4.30
Oct. 22	9.36	June 3	9.10	19	4.70
Feb. 14, 1942	2.77	6	9.70	22	6.40
18	2.55	10	9.15	26	6.80
20	2.92	13	8.70	30	6.40
25	2.60	17	8.15	Oct. 3	6.60
28	2.95	20	8.40	7	7.40
Mar. 4	2.44	24	8.30	10	7.50
7	1.70	27	8.50	14	1.40
11	2.30	July 1	8.50	17	2.10
14	2.50	4	8.60	21	2.70
18	2.60	8	8.70	24	2.90
21	2.50	11	8.85	28	2.75
25	2.60	15	9.00	30	2.90
28	2.70	18	9.45	Nov. 3	3.90
Apr. 1	3.00	22	9.65	6	4.50
4	3.25	25	9.60	10	4.10
8	3.70	29	9.55	13	5.80
11	4.20	Aug. 1	9.65	17	6.50
15	5.00	5	9.78	20	6.85
18	5.40	8	9.70	24	7.10
22	5.90	12	9.35	27	7.20
25	6.70	15	9.35	Dec. 1	7.60
29	6.90	19	7.40	4	6.90
May 2	7.70	22	6.45	8	2.40
6	7.80	26	6.50	11	2.60
9	8.00	28	6.70	15	2.70
13	8.10	Sept. 2	7.40	18	2.15
16	8.40	5	7.70	22	2.50
20	8.60	9	2.30	26	2.80
22	8.75	12	2.70	29	1.60
27	8.78				

Nash County

1 (*777,p.135; 817,p.216; 840,p.304; 845,p.336; 886,p.515; 907,p.72; 937,p.79). Alston well. About 0.5 mile north of Tar River, 100 yards east of State Highway 58, and 8 miles south of Nashville. Datum, about 21.4 feet below land surface.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 3	9.63	Apr. 4	16.21	July 4	11.08	Oct. 7	13.06
7	9.81	8	15.09	8	11.09	10	12.68
10	9.86	11	14.78	11	10.70	14	20.08
14	9.36	15	13.99	15	10.42	17	20.47
17	9.22	18	13.86	18	10.36	21	19.23
21	9.56	22	13.43	29	10.85	24	18.95
24	9.63	25	13.27	Aug. 1	10.81	28	18.63
28	9.42	29	12.94	5	11.04	31	18.15
31	9.48	May 2	12.72	8	10.95	Nov. 4	16.36
Feb. 4	9.62	6	13.54	12	12.36	7	15.98
7	10.50	9	14.305	14	14.79	11	14.53
11	9.96	13	14.38	15	14.76	14	14.22
14	10.35	16	14.43	19	15.84	18	14.36
18	14.00	20	14.83	22	18.32	21	14.50
21	14.37	23	15.055	26	16.73	25	14.56
25	13.12	27	14.46	29	15.82	28	14.27
28	12.99	30	13.98	Sept. 2	15.63	Dec. 2	14.23
Mar. 4	13.75	June 3	13.53	5	14.72	5	14.02
7	13.87	6	13.225	9	18.36	9	17.22
11	18.63	10	12.95	12	17.93	12	18.73
14	18.57	13	12.57	16	15.86	16	16.32
18	16.54	17	12.33	19	15.23	19	17.41
21	17.00	20	12.04	23	13.96	23	17.42
25	16.63	24	11.86	26	13.80	26	16.70
28	16.50	27	11.47	30	13.33	30	16.94
Apr. 1	16.35	July 1	11.23	Oct. 3	13.19		

Onslow County

1. New River well. Balus J. Holleman. At Jacksonville in front of Riverview Hotel, 40 feet south of U. S. Highway 17 and 400 feet east of New River. Drilled well, diameter 3 inches, depth about 200 feet. Well flowed for many years. Iron casing extends 1.15 feet above land surface. Measuring point 0.85 foot above top of casing and 2.0 feet above land surface.

Mean daily water level, in feet below measuring point, 1942

Day	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	....	....	6.08	3.75	....	2.70	1.50
2	....	....	....	5.94	3.87	....	2.84	1.80
3	....	....	....	5.86	3.72	....	2.85	1.94
4	....	....	....	6.13	3.76	....	a3.40	1.95
5	....	....	a2.55	6.12	3.74	....	3.27	....
6	....	....	2.45	6.10	....	....	3.15	1.80
7	a5.10	....	2.44	....	....	....	a3.40	1.74
8	4.95	....	2.46	....	....	....	a3.30	1.68
9	4.94	a5.00	2.48	....	....	....	3.04	1.65
10	4.81	4.57	a2.50	....	a3.75	....	2.95	1.76
11	4.80	a4.32	....	....	3.82	....	2.80	a1.60
12	4.91	....	....	....	3.88	....	2.71	....
13	4.94	....	a4.50	....	3.86	....	2.72	a1.60
14	4.96	....	....	....	3.80	....	2.73	1.61
15	5.12	....	....	....	4.26	....	2.62	1.72
16	5.00	....	....	....	4.06	....	2.45	1.54
17	4.68	....	....	....	a4.20	....	2.43	1.51
18	4.67	....	....	....	....	....	2.46	1.50
19	4.54	....	....	....	....	....	a2.50	1.54

a Estimated.

1. New River well. Balus J. Holleman. In front of Riverview Hotel--Continued.

Mean daily water level, in feet below measuring point, 1942

Day	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
20	4.52	....	....	....	....	....	2.43	a1.80
21	4.47	....	....	a6.00	....	....	2.44	1.73
22	4.26	....	....	5.54	....	....	2.24	1.62
23	4.50	a2.90	a5.40	5.42	....	....	2.05	1.62
24	4.31	2.98	5.44	5.41	....	....	1.87	2.08
25	a4.20	2.95	5.40	5.10	....	....	1.91	2.30
26	....	2.91	5.30	5.16	....	....	1.88	2.42
27	....	2.78	5.25	4.93	....	a3.20	a1.80	2.24
28	....	a2.80	5.52	5.00	....	3.00	1.87	....
29	....	....	5.74	a4.30	....	2.97	1.72	....
30	....	....	a5.85	4.06	....	2.76	1.50	....
31	....	....	5.75	3.78	....	2.82	....	1.90

Orange County

1 (*845,p.337; 886,pp.516-517; 907,p.73; 937,p.77). McCauley well. At Chapel Hill, on west side of Chi Psi Fraternity house on Cameron Street on low hill. Dug well, diameter 36 inches, depth 47.7 feet, lined with stone. Equipped with float-tape gage and Lietz weekly recorder. Datum, about 48 feet below land surface.

Water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.79	a1.57	1.47	1.58	1.51	1.43	1.28	a1.16	1.25	1.16	1.26	1.41
2	1.78	1.56	1.47	1.58	1.50	1.43	1.28	a1.15	1.25	1.14	1.26	1.41
3	1.78	1.55	1.51	1.57	1.50	1.43	1.28	1.14	1.24	1.13	1.27	1.41
4	1.77	1.55	1.53	1.57	1.50	1.42	1.27	a1.13	1.23	1.12	1.26	1.42
5	1.77	1.55	1.52	1.56	1.49	1.42	1.27	a1.12	1.21	1.12	1.26	1.43
6	1.76	a1.54	1.52	1.56	1.49	1.41	1.27	a1.11	1.20	1.11	1.26	1.46
7	1.76	a1.53	a1.51	1.56	1.49	1.41	1.26	a1.10	1.27	1.11	1.26	1.50
8	1.75	a1.53	a1.50	1.56	1.49	1.40	1.26	a1.09	1.34	1.10	1.25	1.56
9	1.74	1.52	1.58	1.55	1.48	a1.40	1.25	a1.08	1.33	1.10	1.25	1.60
10	1.73	1.52	1.62	1.68	1.47	1.40	1.25	a1.08	1.32	1.09	1.25	1.61
11	1.72	1.51	1.62	1.59	1.46	1.40	1.24	a1.07	1.31	1.08	1.25	1.61
12	1.71	1.50	a1.61	1.58	1.45	1.39	1.24	a1.06	1.30	1.09	1.26	1.62
13	1.70	1.50	a1.60	1.57	1.45	1.38	1.24	a1.05	1.29	1.10	1.26	1.63
14	1.70	1.49	a1.58	1.56	1.45	1.39	a1.23	a1.10	1.28	1.13	1.25	1.63
15	1.69	a1.48	a1.57	1.56	1.45	1.38	a1.23	a1.09	1.26	1.17	1.25	1.64
16	1.68	1.47	1.56	1.56	1.50	1.37	a1.22	a1.08	1.25	1.20	1.24	1.68
17	1.67	1.56	1.56	1.56	1.50	1.36	a1.21	a1.07	1.24	1.21	1.24	1.70
18	1.67	1.61	a1.55	1.56	1.50	1.36	a1.21	a1.06	1.22	1.21	1.24	1.71
19	1.66	1.60	a1.54	a1.55	1.50	1.35	a1.20	a1.25	1.21	1.20	1.23	1.73
20	1.66	1.57	a1.53	1.54	1.49	1.34	1.19	a1.37	1.20	1.19	1.23	1.74
21	1.65	1.55	a1.54	1.54	1.48	1.34	a1.19	a1.36	1.19	1.19	1.23	1.75
22	1.64	a1.54	a1.56	1.54	1.49	1.33	a1.19	a1.34	1.17	1.21	1.22	1.77
23	1.63	1.52	1.56	1.53	1.48	1.34	a1.19	a1.33	1.16	1.22	1.22	1.82
24	1.62	1.52	a1.56	1.53	1.47	1.33	a1.19	1.32	1.15	1.21	a1.33	1.87
25	1.61	1.50	a1.55	1.53	1.46	1.32	a1.20	1.31	1.13	1.21	1.40	1.89
26	1.61	1.49	a1.55	1.52	1.46	1.31	a1.20	1.30	1.13	1.22	1.40	1.91
27	1.61	1.48	a1.55	1.52	1.45	1.30	a1.20	1.29	1.16	a1.24	1.40	1.93
28	1.61	1.47	a1.54	1.52	1.45	1.29	a1.20	1.28	1.19	1.26	1.40	1.95
29	a1.60	....	a1.54	1.51	1.44	1.29	1.20	1.27	1.18	1.26	1.40	1.99
30	a1.59	....	1.58	1.51	1.44	1.29	a1.18	1.26	1.17	1.26	1.41	2.08
31	a1.58	....	1.59	....	1.43	....	a1.17	1.25	....	1.26	....	2.13

a Estimated.

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Pasquotank County

31T (*817,pp.226-227; 840,p.317; 845,p.344; 886,p.526; 907,p.85; 937, p. 87). 3 miles west of Elizabeth City and 1,000 feet north of city well fields. Diameter 18 inches, depth 8 feet, tile casing. Measuring point, about 1.5 feet above land surface.

Lowest daily water level, in feet below measuring point, 1942

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	9.05	a8.65	8.12	a5.68	7.40	8.12	8.52	8.75	7.43	8.29	5.52	a7.03
2	9.06	a8.55	8.12	a5.95	7.43	8.14	a8.54	8.75	7.53	8.30	5.73	6.94
3	9.07	a8.59	8.06	a6.08	7.47	8.15	a8.57	8.78	7.58	8.31	5.92	6.99
4	9.07	8.60	7.80	6.15	7.50	8.16	a8.61	8.82	7.63	8.35	6.07	7.02
5	9.08	8.62	7.61	a6.22	7.52	8.18	a8.64	8.85	7.67	8.36	6.15	7.05
6	9.08	a8.64	7.51	6.26	7.54	8.19	a8.68	8.45	7.68	8.37	6.23	7.05
7	9.09	a8.66	6.56	6.34	7.55	8.20	8.70	8.15	7.69	8.39	6.31	5.43
8	9.10	a8.69	6.00	6.40	7.56	8.22	8.71	8.21	7.70	8.44	6.38	5.00
9	9.10	8.71	5.78	6.47	7.60	8.23	8.72	8.22	7.71	8.48	6.48	a2.60
10	9.11	8.71	4.82	6.50	7.64	8.24	8.73	8.23	7.73	8.49	6.50	a2.40
11	9.11	8.71	5.14	6.50	7.67	8.26	8.74	8.25	7.75	8.50	6.57	a2.70
12	9.12	8.71	a5.46	6.64	7.69	8.27	8.74	8.26	7.85	8.51	6.58	a2.90
13	9.12	8.72	a5.52	6.80	7.71	8.28	8.75	8.26	a7.96	8.51	6.58	a3.00
14	9.13	8.72	a5.52	6.87	7.74	8.29	8.76	7.70	a7.98	8.46	6.59	a3.12
15	9.14	8.73	a5.40	6.94	7.76	8.30	8.77	6.90	a8.01	6.23	6.67	a3.08
16	9.14	8.73	a5.28	6.99	7.78	8.32	8.79	6.80	a8.05	a6.60	6.72	3.04
17	9.15	a8.73	5.21	7.02	7.79	8.33	8.81	6.77	a8.08	a6.75	6.76	3.11
18	9.15	8.10	5.30	7.04	7.80	8.34	8.82	6.98	a8.11	a6.90	6.78	3.00
19	9.16	7.89	5.46	7.07	7.82	8.36	8.84	6.99	a8.12	a7.00	6.84	3.06
20	9.17	7.98	5.68	7.11	7.85	8.37	8.86	6.92	a8.09	7.11	6.87	3.14
21	9.17	a8.04	5.78	7.14	7.87	8.38	8.88	6.91	a8.10	7.12	6.90	3.30
22	9.18	a8.08	5.78	7.16	7.88	8.39	a8.91	7.02	8.10	7.12	6.97	3.33
23	9.19	8.10	5.75	7.18	7.90	8.41	a8.91	7.10	8.11	4.72	7.00	3.03
24	9.20	8.10	5.69	7.21	7.92	8.43	a8.90	7.19	8.11	4.84	7.00	2.93
25	a9.20	8.10	a5.70	7.24	7.95	8.44	a8.87	7.26	8.20	4.95	7.00	3.09
26	a9.21	8.11	a5.74	7.26	8.00	8.45	a8.84	7.30	8.22	5.02	7.01	3.24
27	a9.21	8.11	a5.78	7.28	8.02	8.47	a8.82	7.32	8.22	5.02	7.04	3.30
28	a9.22	8.12	a5.80	7.30	8.04	8.48	8.81	7.32	8.25	5.09	a7.10	3.30
29	a8.85	....	a5.80	7.33	8.06	8.50	8.80	7.33	8.28	5.23	a7.12	3.33
30	a8.97	....	a4.92	7.36	8.08	8.51	8.77	7.36	8.28	5.33	a7.11	3.33
31	a8.99	....	a5.30	....	8.09	....	8.75	7.38	....	5.42	....	2.75

33T (*845,pp.344-345; 886,p.526; 907,p.86; 937,p.88). 3 miles west of Elizabeth City in city well field, about 20 feet west of pump house. Diameter 6 inches, depth 20 feet. Measuring point, about 1 foot above land surface.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	16.47	16.53	16.26	.....	16.42	16.73	16.86	.....	.....	.....a	17.46	17.05
2	16.47	16.53	16.23	.....	16.47	16.74	16.86	.....	.....	.....a	17.43	17.08
3	16.48	16.53	16.19	.....	16.52	16.74	16.85	.....	.....	.....a	17.41	17.11
4	16.48	16.52	16.16	.....	16.59	16.75	16.87	.....	.....	.....	17.40	17.21
5	16.48	16.52	16.14	.....	16.63	16.75	16.87	.....	.....	.....	17.38	17.26
6	16.49	16.52	16.13	16.60	16.65	16.75	16.88	.....	.....	.....	17.36	17.36
7	16.49	16.51	16.10	16.62	16.67	16.76	16.88	.....	.....	.....	17.35	17.38
8	16.50	16.51	16.13	16.63	16.68	16.76	16.88	.....	.....	.....	17.33	17.38
9	16.50	16.51	16.27	16.63	16.70	16.77	16.88	.....	.....	.....	17.31	17.39
10	16.51	16.51	16.29	16.63	16.70	16.77	16.89	.....	.....	.....	17.29	.....
11	16.51	16.52	16.32	16.64	16.70	16.78	16.89	.....	.....	.....	17.25	.....
12	16.52	16.52	16.36	16.65	16.70	16.78	16.89	.....	.....	.....	17.23	.....
13	16.53	16.52	16.39	16.66	16.70	16.79	16.90	.....	.....	.....	17.20	.....
14	16.53	16.52	16.41	16.66	16.70	16.79	16.91	.....	.....	.....	17.18	.....
15	16.54	16.52	16.41	16.66	16.70	16.80	16.96	.....	.....	.....	17.17	17.30
16	16.54	16.51	16.37	16.63	16.71	16.80	17.00	.....	.....	.....	17.16	17.28
17	16.55	16.51	16.39	16.53	16.71	16.80	(b)	.....	.....	.....	17.12	17.28
18	16.55	16.51	16.43	16.42	16.71	16.81	.....	.....	.....	.....	17.10	17.24
19	16.55	16.51	16.46	16.39	16.71	16.81	.....	.....	.....	.....	17.09	17.23
20	16.55	16.50	16.47	16.40	16.71	16.82	.....	.....	.....	.....	17.09	17.20

a Estimated.

b Dry from July 16, 1942, until well was deepened to 20 feet below the surface on Oct. 27, 1942.

33T(*845,pp. 344-345; 886,p.526; 907,p.86; 937,p.83).--Continued.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
21	16.55	16.49	16.48	16.43	16.71	16.82	.....	.....	.....	.....	17.09	17.19
22	16.56	16.48	16.48	16.48	16.72	16.82	.....	.....	.....	.....	17.08	17.17
23	16.56	16.45	16.47	16.51	16.72	16.83	.....	.....	.....	.....	17.06	17.15
24	16.56	16.41	16.48	16.56	16.72	16.83	.....	.....	.....	.....	17.05	17.15
25	16.55	16.35	.....	16.59	16.72	16.83	.....	.....	.....	.....	17.05	17.12
26	16.55	16.33	.....	16.59	16.72	16.84	.....	.....	.....	.....	17.05	17.12
27	16.55	16.30	.....	16.57	16.72	16.84	.....	.....	.....	.....	17.05	17.12
28	16.55	16.28	.....	16.53	16.72	16.84	.....	.....	.....	17.53	17.05	17.09
29	16.54	.....	.....	16.48	16.72	16.85	.....	.....	.....	a17.52	17.05	17.07
30	16.54	.....	.....	16.43	16.73	16.85	.....	.....	.....	a17.50	17.05	17.10
31	16.53	.....	.....	.....	16.73	.....	.....	.....	.....	a17.48	.....	17.10

Randolph County

9 (*817,pp.218-221; *840,pp.308-311; 845,p.339; 886,p.520; 907,p.79, 80; 937,p.82). W. C. Warner. On a hill about 2 miles southwest of Climax. Diameter 20 inches, depth 22 feet. Datum, about 19.6 feet below land surface.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	(b)	Apr. 25	2.54	July 31	b-2.16	Sept.26	(b)
Feb. 27	(b)	May 27	1.04	Aug. 21	(b)	Nov. 11	-1.4+
Mar. 28	3.74	June 31	-.66				

9B (*817,pp.218-222; *840,pp.308,312; 845,pp.339, 340; 886,p.520; 907, p.80; 937,p.82). W. C. Warner. Location same as well 9. Diameter 20 inches, depth 32 feet. Datum, about 29 feet below land surface.

Water level, in feet above datum, 1941 c/

Jan. 25	13.16	Apr. 26	13.28	July 27	8.73	Oct. 25	2.56
Feb. 22	12.83	May 31	10.55	Aug. 29	6.28	Nov. 28	4.05
Mar. 29	12.36	June 28	8.52	Sept.28	4.27	Dec. 24	.73

Water level, in feet above datum, 1942

Jan. 31	0.23	Apr. 25	10.27	July 31	3.87	Sept.26	5.43
Feb. 27	.93	May 30	8.62	Aug. 21	2.25	Nov. 11	6.28
Mar. 28	9.93	June 27	8.96				

10 (*777,pp.138, 139; *817,pp.218-222; *840,pp.309-314; 845,pp.339,340; 886,p.520; 907,p.80; 937,p.83). W. F. Beason. Near Cedar Square Church on hill, 6 miles northwest of Randleman. Diameter 18 inches, depth 29 feet. Datum, about 35.5 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	(b)	Apr. 25	9.10	July 31	b7.00	Sept.26	(b)
Feb. 27	(b)	May 30	9.05	Aug. 21	(b)	Nov. 11	(b)
Mar. 28	9.00	June 27	7.06				

11 (*817,pp.218-222; *840,pp.309,312; 845,pp.339,340; 886,p.520; 907, p.80; 937,p.83). Emery Taylor. Near Coletranes Mill, on a broad ridge, about 7 miles northwest of Randleman. Diameter 22 inches, depth 20 feet. Datum, about 23.4 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	(b)	Apr. 25	3.48	July 31	3.46	Sept.26	(b)
Feb. 27	(b)	May 30	4.72	Aug. 21	3.81	Nov. 11	(b)
Mar. 28	6.82	June 27	3.42				

20 (*777,pp.138,139; *817,pp.218-224; *840,pp.310,313; 845, pp.340-341; 886,p.521; 907,p.80; 937,p.83). Dr. Bush. At Archdale on low ridge, 100 feet east of paved road to High Point, and 480 feet north of State Highway 62. Diameter 30 inches, depth 26 feet. Datum, about 33 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	8.00	May 30	9.20	Aug. 27	8.34	Nov. 11	7.50
Feb. 27	8.56	June 27	9.15	Sept.26	7.91	Nov. 28	7.45
Mar. 28	8.80	July 31	8.69	Oct. 28	7.54	Dec. 24	7.70
Apr. 25	9.20	Aug. 21	8.35				

a Estimated.
b Well dry.
c Incorrectly given in Water-Supply Paper 937.

1 (*845, p. 337; 886, p. 517; 907, p. 73). A. D. Terrell--Continued.

Mean daily water level, in feet above datum, 1941
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
14	....	1.98	1.88	1.75	1.67	1.56	1.54	1.43	1.35	1.18	1.16	1.21
15	....	1.98	1.88	1.76	1.66	1.55	1.54	1.43	1.34	1.18	1.16	1.19
16	....	1.97	1.87	1.75	1.66	1.54	1.54	1.42	1.33	1.17	1.16	1.17
17	....	1.97	1.86	1.75	1.66	1.53	1.57	1.42	1.32	1.17	1.16	1.17
18	2.07	1.96	1.85	1.74	1.65	1.52	1.57	1.41	1.31	1.17	1.16	1.16
19	2.06	1.96	1.85	1.74	1.64	1.51	1.56	1.41	1.30	1.17	1.16	1.16
20	2.05	1.96	1.84	1.73	1.63	1.50	1.56	1.40	1.29	1.17	1.16	1.16
21	2.05	1.96	1.84	1.72	1.63	1.50	1.56	1.39	1.28	1.17	1.16	1.16
22	2.04	1.96	1.83	1.72	1.62	1.50	1.55	1.39	1.27	1.17	1.16	1.16
23	2.04	1.96	1.83	1.73	1.62	1.49	1.53	1.39	1.26	1.16	1.16	1.18
24	2.04	1.95	1.82	1.74	1.62	1.48	1.52	1.39	1.26	1.16	1.16	1.19
25	2.04	1.94	1.81	1.75	1.62	1.48	1.52	1.39	1.25	1.16	1.16	1.17
26	2.04	1.93	1.80	1.74	1.61	1.47	1.52	1.37	1.25	1.17	1.16	1.17
27	2.04	1.92	1.80	1.73	1.61	1.53	1.52	1.36	1.25	1.21	1.16	1.17
28	2.03	1.91	1.80	1.72	1.60	1.51	1.52	1.36	1.24	1.25	1.16	1.17
29	2.02	....	1.81	1.72	1.59	1.51	1.51	1.36	1.24	1.23	1.16	1.17
30	2.02	....	1.81	1.72	1.58	1.52	1.50	1.36	1.23	1.21	1.16	1.17
31	2.01	....	1.80	....	1.59	....	1.49	1.35	....	1.20	....	1.17

Mean daily water level, in feet above datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	a1.17	1.12	1.12	1.15	1.16	1.23	1.16	....	....	2.23	....	....
2	1.18	1.12	1.12	1.15	1.16	1.18	1.25	....	....	....	2.38	....
3	1.18	1.12	1.12	1.15	1.16	1.23	1.23	....	....	....	....	....
4	1.17	1.12	1.12	1.15	1.16	1.20	1.20	....	....	....	....	....
5	1.17	1.12	1.12	1.14	1.16	1.18	1.18	....	1.63	2.23	....	....
6	1.17	1.12	1.12	1.14	1.16	1.18	1.15	....	....	....	....	....
7	1.16	1.13	1.12	1.14	1.16	1.17	1.15	....	....	....	2.39	....
8	1.16	1.12	1.13	1.14	1.16	1.17	1.16	....	....	....	....	....
9	1.16	1.12	1.17	1.14	1.16	1.17	1.17	....	....	....	....	....
10	1.16	1.12	1.13	1.14	1.16	1.23	1.16	....	....	....	....	....
11	1.15	1.12	1.13	1.14	1.16	1.26	1.15	....	....	....	....	2.49
12	1.15	1.12	1.13	1.15	1.16	1.22	1.15	1.28	2.30	....	....	....
13	1.15	1.12	1.13	1.15	1.16	1.18	1.15	....	....	2.23	....	2.49
14	1.14	1.12	1.13	1.15	1.16	1.17	1.15	....	....	....	2.41	....
15	1.14	1.12	1.13	1.15	1.16	1.17	1.15	....	....	....	....	....
16	1.14	1.12	1.13	1.15	1.16	1.17	1.15	....	....	....	....	....
17	1.13	1.46	1.13	1.15	1.16	1.17	1.15	1.42	....	2.33	....	....
18	1.13	1.43	1.13	1.15	1.16	1.17	1.15	....	....	....	....	....
19	1.15	1.39	1.13	1.16	1.16	1.17	1.15	....	2.22	....	....	....
20	1.14	1.36	1.13	1.16	1.16	1.17	1.15	....	....	....	....	....
21	1.13	1.31	1.13	1.16	1.19	1.17	1.15	....	....	....	2.43	....
22	1.13	1.25	1.13	1.16	1.62	1.17	1.15	1.45	....	....	....	....
23	1.13	1.21	1.13	1.16	1.58	1.17	1.15	....	....	....	....	....
24	1.13	1.17	1.13	1.16	1.59	1.17	1.15	....	....	....	....	2.49
25	1.13	1.14	1.14	1.16	1.54	1.16	1.15	....	....	....	....	....
26	1.13	1.12	1.14	1.16	1.50	1.16	1.14	....	....	2.35	....	....
27	1.13	1.12	1.14	1.16	1.46	1.18	1.15	....	....	....	....	....
28	1.13	1.12	1.15	1.16	1.41	1.17	b1.16	....	....	....	2.45	....
29	1.13	....	1.15	1.16	1.37	1.15	....	1.52	....	....	....	2.64
30	1.13	....	1.15	1.16	1.33	1.15	....	....	....	....	....	....
31	1.13	....	1.15	....	1.28	....	....	....	....	....	....	....

a Well probably dry, except for a few short periods from Oct. 1, 1941, to August 1942.

b Recorder removed July 28, 1942; subsequent readings from float-tape gage.

21 (*777,pp.138,139; *817,pp.218-224; *840,pp.310-315; 845,pp.340,341; 886,p.552; 907,p.81; 937,p.37). J. W. Young. On a low hill, about 2 miles west of Randleman and 1 mile north of U. S. Highway 311. Diameter 24 inches, depth 31 feet. Datum, about 35 feet below land surface.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	7.35	Apr. 25	10.32	July 31	7.34	Sept.26	(a)
Feb. 27	7.73	May 30	8.90	Aug. 21	6.64	Nov. 11	6.09
Mar. 28	12.07	June 27	8.25				

23 (*777,pp.138,139; *817,pp.219-224; *840,pp. 310, 313; 845,pp.340, 341; 886.p.522; 907,p.81; 937,p.83). Mrs. Lonnie Pugh. At New Salem, on a flat topped ridge, 40 feet north of road. Diameter 30 inches, depth 48.5 feet. Datum, 54.3 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	7.33	Apr. 25	7.61	July 31	6.90	Sept.26	7.52
Feb. 27	7.73	May 30	7.72	Aug. 21	7.38	Nov. 11	6.23
Mar. 28	8.18	June 27	7.50				

25 (*777,pp.138-139; *817,pp.219-224; *840,pp.310, 313; 845,pp.340,341; 886,p.522; 907,p.81; 937,p.83). J. S. White. On low, flat hill, 1 mile southwest of Trinity and 120 feet southeast of State Highway 62. Diameter 30 inches, depth 36 feet. Datum, about 36.3 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	6.00	May 30	7.65	Aug. 27	7.62	Nov. 10	7.42
Feb. 27	6.20	June 27	7.89	Sept.26	7.70	28	7.25
Mar. 28	7.42	July 31	7.54	Oct. 28	7.38	Dec. 24	7.74
Apr. 25	7.65	Aug. 21	7.51				

27 (*777,pp.138,139; *817,pp.219-224; *840,pp.310,313; 845,pp.340,341; 886,p.522; 907,p.81; 937,p.83). Walter Lambeth. About 3 miles southwest of Trinity, 650 feet north of State Highway 62, on edge of steep hill. Diameter 18 inches, depth 27 feet. Datum, about 34 feet below land surface.

Water level, in feet above datum, 1942

Jan. 31	(a)	May 30	11.50	Aug. 21	12.29	Nov. 10	(a)
Feb. 27	(a)	June 27	14.40	Sept.26	13.68	28	(a)
Mar. 28	13.60	30	12.50	Oct. 28	(a)	Dec. 24	9.40
Apr. 25	11.40	July 31	10.54				

Surry County

1 (*845,p. 337; 886,p.517; 907,p.73). A. D. Terrell. 4 miles south of Dodson, 1.8 miles east of Fairview, and about 0.5 mile north of State Highway 268, and 50 feet west of county road. Dug well, diameter 5 feet, depth 55 feet. Datum, about 56 feet below land surface.

Mean daily water level, in feet above datum, 1941
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.04	2.01	1.91	1.79	1.71	1.59	1.53	1.49	1.34	b1.22	1.20	1.16
2	2.03	2.01	1.90	1.79	1.70	1.59	1.55	1.49	1.34	1.21	1.19	1.16
3	2.04	2.01	1.89	1.79	1.70	1.59	1.57	1.49	1.33	1.20	1.18	1.16
4	2.06	2.00	1.89	1.79	1.68	1.58	1.57	1.49	1.38	1.21	1.17	1.27
5	2.06	2.00	1.88	1.79	1.68	1.58	1.57	1.49	1.43	1.22	1.17	1.32
6	2.06	2.00	1.88	1.79	1.69	1.58	1.57	1.48	1.43	1.21	1.17	1.29
7	2.06	1.99	1.89	1.78	1.69	1.58	1.58	1.47	1.42	1.20	1.18	1.28
8	2.05	1.98	1.91	1.77	1.69	1.58	1.58	1.47	1.41	1.19	1.18	1.26
9	2.05	1.98	1.90	1.77	1.68	1.57	1.57	1.46	1.40	1.19	1.17	1.23
10	2.05	1.98	1.90	1.77	1.67	1.56	1.56	1.46	1.39	1.19	1.17	1.22
11	2.06	1.97	1.89	1.77	1.67	1.56	1.55	1.45	1.38	1.19	1.16	1.18
12	2.05	1.96	1.89	1.77	1.67	1.56	1.54	1.44	1.37	1.18	1.16	1.17
13	2.05	1.96	1.88	1.76	1.67	1.56	1.54	1.44	1.36	1.18	1.16	1.21

a Well dry.
b Well probably dry, except for few short periods from Oct. 1, 1941, to August 1942.

Transylvania County

1 (*777,p.136; 817,p.215; 840,p.304; 845,p.335; 886,p.515; 907,p.71; 937,p.77). Baldwin well. Near Blantyre, about 200 yards west of depot. Dug well, diameter 5 feet, depth 41 feet. Datum, about 40 feet below land surface.

Mean daily water level, in feet above datum, 1942

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Sept.	Oct.	Oct.	Nov.	Dec.
1	2.57	3.63	4.89	6.23	7.38	8.11	8.55	8.26	8.48	8.99	8.92	....
2	2.55	3.69	4.88	6.27	7.42	8.12	8.56	8.25	8.50	9.00	8.84	....
3	2.61	3.73	4.94	6.30	7.46	8.13	8.56	8.24	8.53	9.01	8.85	....
4	2.63	3.78	5.04	6.34	7.48	8.14	8.56	8.23	8.55	9.01	8.82	....
5	2.65	3.83	5.08	6.38	7.50	8.17	8.56	8.22	8.57	9.01	8.81	....
6	2.68	3.82	5.13	6.42	7.53	8.18	8.56	8.21	8.59	9.02	8.78	....
7	2.72	3.90	5.12	6.46	7.56	8.20	8.56	8.20	8.65	9.03	8.78	....
8	2.73	3.92	5.24	6.51	7.59	8.21	8.55	8.20	8.66	9.04	8.79	....
9	2.69	3.98	5.39	6.55	7.62	8.22	8.55	8.19	8.67	9.05	8.75	....
10	2.74	4.03	5.53	6.60	7.64	8.24	8.55	8.19	8.69	9.06	8.73	....
11	2.82	4.00	5.51	6.64	7.65	8.26	8.53	8.19	8.71	9.06	8.69	....
12	2.83	4.06	5.51	6.68	7.68	8.28	8.52	8.19	8.73	9.07	8.69	....
13	2.91	4.07	5.52	6.72	7.70	8.30	8.51	8.24	8.74	9.07	8.67	....
14	2.85	4.49	5.54	6.76	7.72	8.32	8.50	8.23	8.75	9.07	8.58	....
15	2.36	4.18	5.55	6.78	7.75	8.33	8.50	8.23	8.76	9.07	8.43	....
16	2.93	4.39	5.58	6.83	7.77	8.34	8.48	8.23	8.78	9.07	8.42	....
17	3.00	4.80	5.61	6.87	7.77	8.36	8.45	8.24	8.79	9.07	8.35	....
18	3.09	4.85	5.66	6.92	7.77	8.37	8.43	8.25	8.80	9.07	8.35	....
19	3.19	4.68	5.69	6.96	7.79	8.39	8.43	8.25	8.83	9.07	8.34	....
20	3.22	4.63	5.76	6.99	8.23	8.41	8.43	8.26	8.85	9.05	8.32	....
21	3.23	4.62	5.83	7.03	8.45	8.43	8.41	8.27	8.86	9.02	....	....
22	3.29	4.64	5.86	7.07	8.32	8.44	8.40	8.27	8.89	9.00	....	....
23	3.31	4.67	5.89	7.10	8.32	8.46	8.38	8.29	8.92	8.98	....	....
24	3.35	4.70	5.92	7.13	8.15	8.46	8.35	8.31	8.95	8.96	....	....
25	3.40	4.78	5.97	7.17	8.11	8.47	8.34	8.32	8.92	8.96	....	....
26	3.43	4.80	6.00	7.20	8.08	8.47	8.36	8.33	8.90	8.97	....	....
27	3.40	4.83	6.03	7.24	8.08	8.48	8.36	8.34	8.90	8.99	....	....
28	3.45	4.89	6.09	7.28	8.06	8.49	8.32	8.36	8.92	8.95	....	....
29	3.48	....	6.13	7.31	8.06	8.50	8.30	8.39	8.94	8.93	7.83	....
30	3.51	....	6.16	7.33	8.06	8.51	8.28	8.40	8.94	8.91	7.82	....
31	3.69	....	6.20	....	8.06	....	8.26	8.44	....	8.91	....	....

Wake County

1 (*777,p.134; 817,p.215; 840,p.304; 845,p.335; 886,p.515; 907,p.71; 937 p.79). Fishdam well. 1 mile downstream from bridge across Neuse River on U. S. Highway 15 and about 2 miles west of Northside, on left bank of river. Dug well, diameter 4 feet, depth 25 feet. Datum, about 15 feet below land surface.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	-1.09	Apr. 3	4.24	June 29	3.68	Sept. 13	3.22
18	-1.24	12	4.10	July 12	1.81	22	2.54
25	-1.16	21	3.72	20	2.84	28	2.37
Feb. 8	-1.03	29	3.18	29	2.45	Oct. 11	1.00
22	.18	May 5	2.85	Aug. 11	2.21	Nov. 1	5.34
Mar. 1	1.34	18	6.00	19	1.62	15	3.95
8	2.63	24	5.60	26	2.34	29	4.67
17	3.00	June 3	4.02	Sept. 6	1.87	Dec. 13	6.42
24	3.80	14	3.98				

Washington County

1.R. H. Lucas. On low hill, about 1.5 miles west of Plymouth and 50 yards south of U. S. Highway 64, on farm of R. H. Lucas. Unused drilled gravel-packed well, diameter 16 inches, depth 42 feet, 8-inch casing. Measuring point, top of 8-inch iron casing, 0.55 foot above surrounding concrete base which is about same elevation as land surface.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	18.00	Mar. 31	16.31	June 19	17.30	Sept. 26	18.18
9	18.00	Apr. 3	16.31	30	17.94	29	18.19
13	18.02	7	16.33	July 4	18.00	Oct. 2	18.20
16	18.04	10	16.41	7	17.76	6	18.20
20	18.07	15	16.50	11	17.80	9	18.18
23	18.10	18	16.95	15	17.97	13	17.11
27	18.10	21	16.60	18	17.98	16	16.94
30	18.12	24	16.66	21	18.17	20	16.61
Feb. 4	17.80	28	16.72	25	18.10	24	16.38
6	17.81	May 1	16.77	28	17.97	27	16.44
10	17.88	5	16.93	31	18.02	30	16.46
13	17.90	9	16.99	Aug. 4	18.14	Nov. 3	16.55
17	17.68	12	17.17	7	17.80	6	16.65
20	17.60	16	17.20	11	17.78	17	16.77
24	17.62	19	17.29	15	17.57	20	16.74
27	17.63	23	17.23	18	17.54	Dec. 1	16.50
Mar. 3	17.53	26	17.31	22	17.57	4	16.48
6	17.44	30	17.33	25	17.61	8	16.43
9	16.79	June 2	17.47	29	17.63	11	15.76
13	16.64	5	17.54	Sept. 1	17.61	15	16.06
17	16.69	9	17.60	15	18.00	18	15.74
21	16.64	12	17.08	19	18.06	21	15.69
24	16.33	16	17.27	22	18.27	26	15.28
27	16.27						

Wayne County

1 (*777,p.135; 817,p.215; 840,p.303; 845,p.335; 886,p.514; 907,p.70; 937,p.79). Borden Brick & Tile Co. Brick Pit well. About 3.5 miles south of Goldsboro, 200 feet east of U. S. Highway 117 and Neuse River. Open, abandoned borrow pit.

Water level, in feet above datum, 1942

Jan. 3	1.78	Apr. 4	3.58	July 4	2.46	Oct. 3	2.80
10	1.74	11	3.70	11	2.40	10	2.72
17	1.70	18	3.64	18	2.26	17	4.62
24	1.64	25	3.50	25	2.30	24	6.66
31	1.68	May 2	3.38	Aug. 1	2.28	31	6.44
Feb. 7	1.72	9	3.26	8	2.24	Nov. 7	6.10
14	1.76	16	3.20	15	2.34	14	5.82
21	1.86	23	3.08	22	2.56	22	5.56
28	1.92	30	2.96	29	2.82	28	5.38
Mar. 7	2.10	June 6	2.80	Sept. 5	2.96	Dec. 5	5.20
14	2.64	13	2.86	12	3.06	12	5.08
21	2.98	20	2.74	19	3.04	19	4.98
28	3.38	27	2.58	26	2.92	26	4.88

SOUTH CAROLINA

BEAUFORT AND JASPER COUNTIES

By M. A. Warren

An observation-well program was begun in 1939 in Beaufort and Jasper Counties, S. C., in connection with an investigation, begun a year earlier, of ground-water conditions in the heavily pumped artesian area centering in Savannah, Ga. Parts of Beaufort and Jasper Counties are in this area. The investigation is being made by the Geological Survey, United States Department of the Interior, in cooperation with the Division of Mines, Mining, and Geology of the Georgia State Division of Conservation. At the end of 1942 the program in the South Carolina part of the area included 10 wells--9 in Beaufort County and 1 in Jasper County. During the year 14 measurements of water level were made; 32 measurements had been made prior to 1942. The observations made indicate that the pumpage of artesian water in the Savannah area affects the artesian water level in the southern part of Jasper County and in Beaufort County west of Port Royal Sound.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Each observation well in the South Carolina part of the Savannah area is listed by number under the county in which it is situated. A complete description is given for each well. The water level is expressed in feet below a fixed measuring point. The clock time of the records is eastern standard time prior to 2 a.m., February 9, 1942, and eastern war time thereafter. To convert war time to standard time, subtract 1 hour.

Beaufort County

1. E. C. Gale. At Red Bluff, 7 miles south of Pritchardville, about 200 feet east of New River. Used drilled domestic well, diameter 4 inches, reported depth 420 feet. Measuring point, top of 4-inch casing, 0.44 foot above concrete floor of pump pit, 5.7 feet below land surface and about 6 feet above mean sea level. Water level affected by tide. Water levels, in feet below measuring point: July 21, 1939, 3:45 p.m., 6.25; Jan. 30, 1941, 12:10 p.m., 7.56; Aug. 19, 1942, 1:05 p.m., 10.73.

4. G. O. Rentz. At Hardeeville, on north side of Bluffton road, 0.35 mile southeast of U. S. Highway 17. Used drilled domestic well, diameter 3 inches, depth about 225 feet. Cased 79 feet. Measuring point, top of thread protector on 3-inch casing, 0.9 foot above land surface and 25.2 feet above mean sea level. Water levels, in feet below measuring point: Jan. 10, 1940, 13.68; Feb. 12, 1941, 15.48; Aug. 20, 1942, 17.34.

9. Sim Ullman. At Bluffton, about 0.1 mile south of State Highway 46, about 100 feet west of main street. Used drilled domestic well, diameter 2 inches, depth 100+ feet. Measuring point, top of west side of 2-inch casing, 0.4 foot above land surface and 21.6 feet above mean sea level. Water level affected by tide.

Water level, in feet below measuring point, 1941-42

Date	Hour	Water level	Date	Hour	Water level
Feb. 12, 1941	5:20 p.m.	19.24	Aug. 19, 1942	8:30 p.m.	20.51
Mar. 12	10:25 a.m.	19.33	20	3:05 p.m.	20.19
Aug. 19, 1942	3:45 p.m.	19.82			

10. A. H. Crosby. At Bluffton, on north side State Highway 46, about 300 feet west of T-junction of main street in Bluffton with State Highway 46. Used drilled domestic well, diameter 3 inches, depth 130 feet. Cased 58 feet. Measuring point, top of 3-inch casing, 0.65 foot above land surface and 23.6 feet above mean sea level. Water level affected by tide. Water levels, in feet below measuring point: Feb. 12, 1941, 5:30 p.m., 21.21; Mar. 12, 1941, 10:15 a.m., 21.28; Aug. 19, 1942, 4:00 p.m., 21.86.

13. R. B. Crosby. About 4.5 miles southeast of Hardeeville, about 300 feet southeast of junction of State Highways 46 and 170, in front of residence of R. B. Crosby. Used drilled domestic well, diameter 3 inches, depth 236 feet. Cased 40 feet. Reported to flow more than 3 feet above surface in 1928. Measuring point, top of 3-inch casing, level with land surface and about 8 feet above mean sea level. Water levels, in feet below measuring point: Feb. 13, 1941, 9:25 a.m., 4.33; Aug. 19, 1942, 2:00 p.m., 6.80.

15. Mrs. F. P. Heyward. At Hardeeville, on south side of Bluffton road, 0.35 mile southeast of U. S. Highway 17. Used drilled domestic well, diameter 4 inches, depth about 230 feet. Cased 60 feet. Water reported to rise 6 or 8 feet above surface in 1900. Measuring point, top of 4-inch casing, 2.2 feet above land surface and 25.8 feet above mean sea level. Water levels, in feet below measuring point: Feb. 12, 1941, 15.96; Aug. 20, 1942, 17.83.

20. Harry Hector. 4 miles east of Bluffton, 0.2 mile southwest of Buckingham Ferry, near bluff. Used drilled domestic well, diameter 2 inches, depth 76 feet. Measuring point, top 1$\frac{1}{2}$-by 1$\frac{1}{4}$-inch coupling over 2-inch casing, 0.5 foot above land surface and about 12 feet above mean sea level. Water level affected by tide. Water levels, in feet below measuring point: Mar. 12, 1941, 12:15 p.m., 9.93; Aug. 19, 1942, 5:15 p.m., 9.02.

63. Honey Horn Plantation. On Hilton Head Island, near garage and shop of Honey Horn Plantation, about 2.5 miles east of Jenkins Island dock. Used drilled domestic well, diameter 4 inches, depth 129 feet. Cased about 60 feet. Measuring point, top of 2-inch bushing in 2-inch tee on suction line to pump, 1.25 feet above land surface and about 12 feet above mean sea level. Water level affected by tide. Water levels, in feet below measuring point: Aug. 21, 1941, 9:30 a.m., 10.08; Aug. 20, 1942, 9:15 a.m., 10.78.

66. U. S. Marine Corps. At Camp McDougal, on Hilton Head Island, about 300 feet west of old lighthouse, in pump house. Used drilled well, diameter 8 inches, depth 148 feet. Measuring point, top of hole in pump base plate, 0.55 foot above concrete floor of pump house. Water level affected by tide. Water levels, in feet below measuring point: Aug. 21, 1941, 1:00 p.m., 9.62; Aug. 20, 1942, 10:45 a.m., 9.51.

Jasper County

1. Fish and Wildlife Service, U. S. Dept. of Interior. About 300 feet north of U. S. Highway 17, 0.9 mile east of Georgia-South Carolina State line, at headquarters of Fish and Wildlife Service. Used drilled domestic well, diameter 8 inches, depth 503 feet. Cased 204 feet. Measuring point, top of 8-inch casing, level with concrete base for pump, 0.7 foot above land surface and 10.8 feet above mean sea level. Water level affected by tide. Measurements prior to Oct. 31, 1938, furnished by Fish and Wildlife Service.

1. Fish and Wildlife Service, U. S. Dept. of Interior--Continued.
Water level, in feet below measuring point, 1936-42

Date	Water level	Date	Water level	Date	Water level
March 1936	5.1	Oct. 31, 1938	17.28	Feb. 12, 1941	22.62
July 15	6.83	July 21, 1939	17.57	Mar. 12	23.08
Oct. 22	8.42	Jan. 10, 1940	17.02	June 12	26.20
Dec. 23	7.08	Feb. 24	18.75	Dec. 16	25.67
Apr. 15, 1937	6.67	Aug. 16	22.68	May 18, 1942	26.12
Sept. 3	12.5	Dec. 4	23.75	Aug. 19	28.40
Mar. 16, 1938	14.25	Jan. 30, 1941	23.09	Sept. 22	27.30
Apr. 15	14.0				

GREENVILLE AND SPARTANBURG COUNTIES

By D. M. Ireland

The observation-well program in the Tiger River area, S. C., which was begun in the spring of 1934, was continued in 1942 by the Geological Survey, United States Department of the Interior, in cooperation with the Soil Conservation Service of the United States Department of Agriculture. The wells were last measured on July 2, 1942, after which the program was discontinued for an indefinite period. It had been carried on more or less continuously from its beginning.

In the summer of 1937 the water levels in the wells of the Tiger River area began to decline progressively, owing to deficient precipitation, and this decline continued through 1941. All but three of the wells were dry during this 4½-year period of drought and the records of only these three (wells 6, 12, and 18) can be used readily for interpretation. The water levels in these wells continued to decline during the period of their measurement in 1942, and on July 2, when they were last measured, they were lower than they were on July 2 of 1941.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Each observation well in Greenville and Spartanburg Counties is listed by number under the county in which it is situated. The numbers in parentheses immediately following a well number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in the paper whose number is so marked. The water level is expressed in feet above datum.

Greenville County

15 (*777, p. 172; 817, pp. 304, 305; 840, pp. 368-369, 371; 845, pp. 434-435; 886, p. 639; 907, p. 89; 937, p. 90). A. W. Neves. 6 miles north, 46° west of Greer. Well dry throughout year.

16 (*777, p. 172; 817, pp. 304, 305; 840, pp. 368-369, 370; 845, pp. 434-435; 886, p. 639; 907, p. 90; 937, p. 90). J. T. Bridwell. 7.25 miles north, 60° west of Greer. Well dry throughout year.

18 (*817, pp. 304, 305; 840, pp. 368-369; 845, pp. 434-435; 907, p. 90; 937, p. 90). Mrs. Hamit. 1 mile north of Tigerville.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	9.51	Mar. 9	9.96	Apr. 16	10.61	June 19	10.91
20	9.89	18	10.13	May 18	11.19	July 2	11.36
Feb. 3	9.74	Apr. 1	10.19	June 8	11.34		
18	9.81						

19 (*817, pp. 304, 305; 840, pp. 368-369; 845, pp. 434-435; 937, p. 90). H. P. Jones. 0.5 mile northwest of Mountain View school.

Water level, in feet above datum, 1942

Jan. 7	8.56	Mar. 9	9.25	Apr. 16	9.07	June 8	8.85
20	8.34	18	9.16	May 1	8.60	19	8.73
Feb. 3	8.46	Apr. 1	9.33	18	8.90	July 2	8.52
18	9.13						

40 (*840, p. 369; 845, p. 435; 886, p. 639; 907, p. 90; 937, p. 90). Will Neely. 2.25 miles north, 30° east of O'Neal. Well filled in.

Spartanburg County

1 (*777, p. 171; 817, pp. 303, 304; 840, pp. 367-368, 370, 371; 845, p. 434; 886, p. 639; 907, p. 90; 937, p. 90). C. O. Fowler. 4.75 miles north, 56° east of Woodruff. No measurements made in 1942.

2 (*777, p. 171; 817, pp. 303, 304; 840, pp. 367-368, 370; 845, p. 434; 886, p. 639; 907, p. 90; 937, p. 90). C. O. Fowler. 2.5 miles north, 73° east of Woodruff.

Water level, in feet above datum, 1942

Jan. 7	8.04	Mar. 9	8.41	Apr. 16	10.51	June 8	13.07
20	8.01	18	8.93	May 1	9.40	19	13.23
Feb. 3	8.08	Apr. 1	10.14	18	12.78	July 2	13.36
18	8.03						

3 (*777, p. 171; 817, pp. 303, 304; 840, pp. 367-368; 845, p. 434; 937, p. 90). C. D. Turner. 0.25 mile south, 45° east of Switzer.

Water level, in feet above datum, 1942

Jan. 7	7.16	Mar. 9	9.93	Apr. 16	8.89	June 8	9.63
20	7.23	18	8.22	May 1	9.21	19	9.57
Feb. 3	7.33	Apr. 1	8.51	18	9.46	July 2	8.59
18	8.68						

6 (*777, p. 172; 817, pp. 303, 304; 840, pp. 367-368, 370; 845, p. 434; 886, p. 639; 908, p. 90; 937, p. 90). J. D. Darby. 3.5 miles south, 35° east of Reidville.

Water level, in feet above datum, 1942

Jan. 7	8.20	Mar. 9	8.35	Apr. 16	9.14	June 8	10.27
20	8.17	18	8.46	May 1	9.49	19	10.45
Feb. 3	8.17	Apr. 1	8.79	18	9.93	July 2	10.53
18	8.19						

7 (*777, p. 172; 817, pp. 303, 305; 840, pp. 367-368; 845, p. 434; 937, p. 91). T. O. Fowler. 2.75 miles south, 21° east of Reidville.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	(a)	Mar. 9	11.97	Apr. 16	13.02	June 8	12.19
20	(a)	18	12.15	May 1	12.86	19	10.52
Feb. 3	(a)	Apr. 1	12.86	18	12.04	July 2	10.79
18	(a)						

8 (*777, p. 172; 817, pp. 303, 305; 840, pp. 367-368, 370; 845, p. 434). C. S. Vaughn. 3.5 miles north, 82° east of Reidville. Water levels, in feet above datum, 1942: June 19, 9.38; July 2, 9.56.

9 (*777, p. 172; 817, pp. 303, 305; 840, pp. 367-368, 371; 845, p. 434; 937, p. 91). Mrs. Ila L. Wilson. 1 mile north, 26° west of Reidville.

Water level, in feet above datum, 1942

Jan. 7	(a)	Mar. 9	(a)	Apr. 16	11.28	June 8	11.81
20	(a)	18	9.24	May 1	11.87	19	12.17
Feb. 3	(a)	Apr. 1	10.33	18	12.24	July 2	11.95
18	(a)						

10 (*777, p. 172; 817, pp. 303, 305; 840, pp. 368-369, 370; 845, p. 435; 937, p. 91). J. E. Raven. 1.75 miles south, 45° east of Duncan.

Water level, in feet above datum, 1942

Jan. 7	(a)	Mar. 9	(a)	Apr. 16	9.56	June 8	10.48
20	(a)	18	(a)	May 1	10.17	19	9.01
Feb. 3	(a)	Apr. 1	8.71	18	10.48	July 2	9.27
18	9.03						

12 (*777, p. 172; 817, pp. 303, 305; 840, pp. 368-369, 371; 845, p. 435; 886, p. 639; 907, p. 90; 937, p. 91). J. G. R. Armstrong. 2 miles north, 50° west of Duncan.

Water level, in feet above datum, 1942

Jan. 7	9.91	Mar. 9	9.85	Apr. 16	10.01	June 8	11.43
20	9.88	18	9.83	May 1	10.67	19	11.37
Feb. 3	9.85	Apr. 1	9.87	18	11.29	July 2	11.35
18	10.15						

31 (*817, pp. 304, 305; 840, p. 369; 845, p. 435; 937, p. 91). B. L. Bane. 1 mile south, 5° east of Walnut Grove.

Water level, in feet above datum, 1942

Jan. 7	(a)	Mar. 9	(a)	Apr. 16	(a)	June 8	10.88
20	(a)	18	(a)	May 1	10.49	19	10.95
Feb. 3	(a)	Apr. 1	(a)	18	10.79	July 2	10.79
18	(a)						

32 (*817, pp. 304, 305; 840, p. 369; 845, p. 435; 937, p. 91). John Wingo. 2.5 miles south, 84° east of Switzer.

Water level, in feet above datum, 1942

Jan. 7	(a)	Mar. 9	(a)	Apr. 16	9.85	June 8	9.26
20	(a)	18	7.38	May 1	8.61	19	9.30
Feb. 3	(a)	Apr. 1	7.77	18	8.92	July 2	9.62
18	(a)						

33 (*817, pp. 304, 305; 840, pp. 369-370; 845, p. 435; 886, p. 639; 907, p. 90; 937, p. 91). J. L. Foster. 0.5 mile south, 45° east of Roebuck. Well dry throughout year.

35 (*817, pp. 304, 305; 840, pp. 369-370; 845, p. 435; 907, p. 91; 937, p. 91). A. B. Grouse. 0.5 mile north, 80° east of Duncan.

Water level, in feet above datum, 1942

Jan. 7	(a)	Mar. 9	(a)	Apr. 16	(a)	June 8	10.40
20	(a)	18	(a)	May 1	9.21	19	10.53
Feb. 3	(a)	Apr. 1	(a)	18	9.91	July 2	10.48
18	(a)						

a Dry.

36 (*817, pp. 304, 305; 840, pp. 369, 371; 845, p. 435; 937, p. 92). E. E. Brown. 1.5 miles south, 10° west of Fairforest.

Water level, in feet above datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	8.72	Mar. 9	10.20	Apr. 16	10.56	June 8	9.97
20	8.54	18	10.54	May 1	10.36	19	9.95
Feb. 3	8.77	Apr. 1	10.25	18	10.14	July 2	9.96
18	9.62						

37 (*817, pp. 304, 306; 840, pp. 369, 370; 845, p. 435; 886, p. 639; 907, p. 91; 937, p. 92). C. P. Cleveland. 6 miles north, 10° west of Duncan.

Water level, in feet above datum, 1942

Jan. 7	(a)	Mar. 9	(a)	Apr. 16	(a)	June 8	12.19
20	(a)	18	(a)	May 1	12.86	19	8.29
Feb. 3	(a)	Apr. 1	(a)	18	12.04	July 2	8.40
18	(a)						

38 (*817, pp. 304, 306; 840, pp. 369, 371; 845, p. 435; 886, p. 639; 907, p. 91; 937, p. 92). A. B. Grouse. 5.5 miles north, 40° west of Duncan. Well dry throughout year.

a Dry.

TENNESSEE

MEMPHIS AREA

By R. G. Kazmann

INTRODUCTION

The investigation of the ground-water resources of the Memphis area, in connection with which periodic measurements of water level in several wells are made, was continued during 1942 by the Geological Survey, United States Department of the Interior, in cooperation with the Memphis Board of Light, Gas, and Water Commissioners. Automatic water-stage recorders, which furnish daily records of water level, were maintained on six wells. About 2,054 individual determinations of water level in these wells were made for the year, all of which are given in this report.

During 1942 water levels continued to decline throughout the Memphis area, although the rates and magnitudes of their decline differed widely from place to place. For example, the lowest water level recorded at the Sycamore Avenue well in 1942 was about 1.4 feet lower than the lowest recorded in 1941 at well 17; the lowest level in 1942 showed a decline of about 2.4 feet from the lowest of 1941; and at the Central Avenue well, the decline in level during the same period was slightly more than 3 feet. Of the wells outside the city limits drilled by the Memphis Division of Light, Gas and Water for observation, the lowest water level in well T-1 declined about 1 foot; that in well T-2 declined about 2 feet; and that in T-3 declined about 0.8 foot. The following table gives the lowest water level reached in each of several years in each of the six observation wells.

Lowest yearly water level, in feet below measuring point, 1939-42

Well name or No.	1939	1940	1941	1942	Average annual decline
Central Avenue	82.1	88.0	92.3	95.4	4.4
Sycamore Avenue	41.5	44.2	51.9	53.3	3.9
No. 17	....	81.0	91.8	94.2	6.6
T-1	....	22.4	28.6	29.6	3.6
T-2	....	....	78.5	80.4	1.9
T-3	....	77.0	78.4	79.2	1.1

Inasmuch as pumpage and declines in water level are known to be related, late in 1940 an effort was made to obtain monthly reports on the quantity of water pumped from about 25 of the largest industrial water users. Owing to the lack of metering devices and for other reasons, such records were not then available at about half the plants visited. However, fine cooperation has been received from twelve industrial plants that together probably pump 50 to 60 per cent of the water obtained from the "500-foot" sand in the Memphis area. These industries have furnished to the Geological Survey confidential monthly reports on their pumpage. It is hoped that this cooperation may continue in the future.

It is believed that increases in the rate of water-level decline are caused principally by increases in municipal and industrial pumpage. This belief is substantiated to some extent by a study of the pumpage records that have been obtained from the Memphis Division of Light, Gas,and Water and from the industries in the area.

Figure 10 shows qualitatively how pumpage in the area and the changes in water level in well T-1 are related. The graph showing the trend of pumpage in the Memphis area is based on records furnished by the Memphis Division of Light, Gas, and Water and cooperating industries. The lowest monthly water level was obtained from charts made by the automatic water-stage recorder operated on well T-1. There appers to be a lag of about one or two months between a change in pumpage trend and the resultant change in water-level trend. It is possible that the reason that the correlation between the two trends is not better is because the graph of pumpage does not clearly reflect the larger pumpage in summer for air conditioning in the downtown area. It does, however, reflect the increased domestic and industrial use of the pumped water.

May 1941 has been arbitrarily selected as the standard month on which to base pumpage comparisons. May was chosen because it is neither a winter nor a summer month: only during part of May is it usually necessary to use large quantities of water for cooling and refrigeration; and May of 1941 is also representative of the period immediately before the entry of the United States into the war, when the conversion of industry from peace- to war-time needs was taking place but before the major expansion of production for war had occurred. The use of water has increased greatly

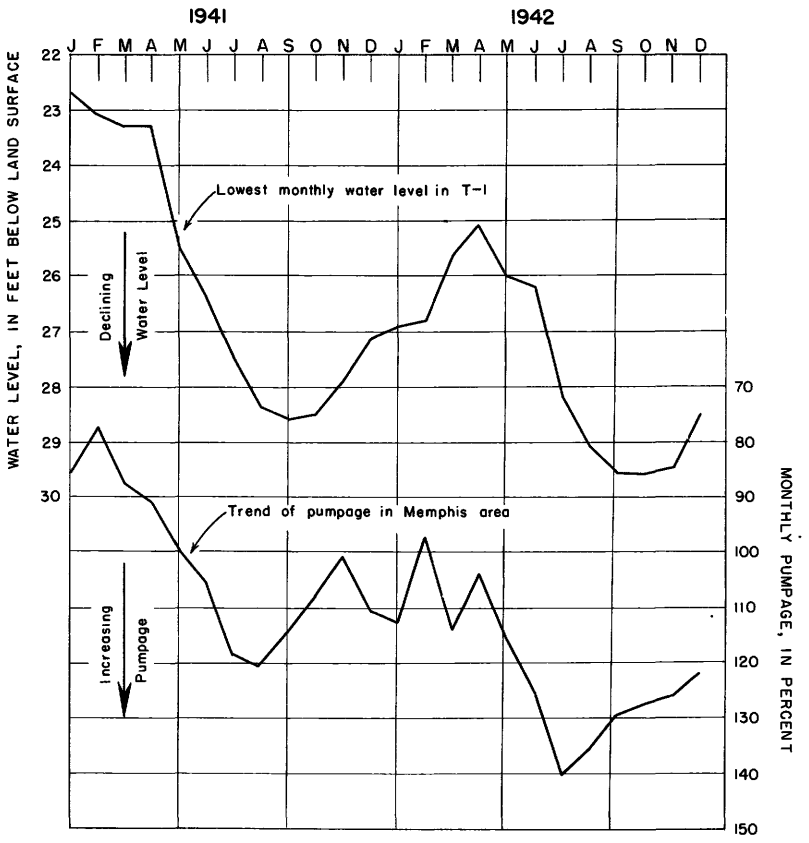

Figure 10.--Graphs showing the relation between pumpage and fluctuation of water levels in well T-1 in the Memphis area, Tenn.

since that time as figure 10 clearly shows. As production and the concomitant use of industrial and domestic water increase, an increase in the rate of water-level decline is to be expected.

WATER-LEVEL RECORDS

The six observation wells in the Memphis area are listed either by name or number. The numbers in parentheses immediately following the well name or number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in the paper whose number is so marked.

T-1 (*907, p. 100; 937, p. 96). Memphis Division of Light, Gas, and Water. On O. K. Robertson Road, Shelby County.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	26.23	26.83	.....	23.84	23.94	25.00	25.79	27.90	29.02	.....	29.32	28.24
2	26.25	26.83	.....	23.87	24.14	24.99	25.74	27.99	29.02	.....	29.36	28.18
3	26.22	26.82	25.30	23.97	24.35	25.00	25.72	28.08	29.02	.....	29.45	28.17
4	26.34	26.75	25.29	24.09	24.56	25.04	25.73	28.18	29.06	.....	29.36	28.21
5	26.33	26.60	25.35	24.17	24.62	25.13	25.74	28.24	29.13	29.37	29.29	28.21
6	26.28	26.51	25.42	24.17	24.74	25.26	25.73	28.34	29.20	29.40	29.28	28.18
7	.....	26.55	25.51	24.19	24.84	25.40	25.69	28.37	29.25	29.38	29.26	28.18
8	.....	26.58	25.48	24.19	24.93	25.56	25.65	28.37	29.35	29.39	29.14	28.21
9	.....	26.58	25.59	24.01	25.01	25.65	25.66	28.42	29.38	29.40	29.01	28.23
10	.....	26.57	25.57	23.86	25.05	25.75	25.74	28.40	29.43	29.38	29.06	28.18
11	.....	26.54	25.61	23.47	25.06	25.88	25.82	28.40	29.46	29.37	29.06	28.11
12	.....	26.43	25.64	.....	25.00	25.95	25.92	28.42	29.47	29.37	29.01	28.05
13	26.31	26.28	25.62	.....	24.98	26.08	25.96	28.44	29.49	29.41	28.94	28.12
14	26.43	26.20	25.53	23.93	25.00	26.16	25.99	28.45	29.49	29.43	28.96	28.12
15	26.50	25.99	25.46	23.74	25.07	26.15	26.02	28.46	29.46	29.41	28.91	28.00
16	26.59	25.73	25.32	23.52	25.12	26.11	26.16	28.45	29.41	29.44	28.85	27.94
17	26.65	25.64	25.34	23.29	25.14	26.12	26.26	28.45	29.37	29.50	28.83	27.92
18	26.73	25.63	25.29	23.12	25.16	26.11	26.34	28.45	29.39	29.52	28.84	28.04
19	26.82	.....	25.11	23.06	25.15	26.06	26.44	28.45	29.44	29.47	28.83	28.06
20	26.88	.....	25.01	23.08	25.13	26.07	26.60	28.50	29.52	29.46	28.84	28.14
21	26.91	.....	24.82	23.08	25.13	26.08	26.65	28.58	29.54	29.44	28.82	28.14
22	26.93	.....	24.80	23.08	25.07	26.06	26.70	28.66	29.52	29.44	28.81	.....
23	26.94	.....	.....	23.14	25.02	26.07	26.84	28.78	29.52	.....	28.76	.....
24	26.93	.....	24.18	23.25	25.02	26.08	27.00	28.90	29.59	.....	28.73	.....
25	26.95	.....	24.10	23.35	25.00	26.07	27.18	28.93	29.59	.....	28.69	.....
26	26.95	.....	23.93	23.41	24.96	26.05	27.32	28.93	29.59	29.57	28.76	.....
27	26.81	.....	23.83	23.46	24.82	26.06	27.46	28.95	29.49	29.52	28.79	.....
28	26.86	.....	23.83	23.54	24.83	26.02	27.51	28.94	29.65	29.48	28.67	.....
29	26.85	.....	23.81	23.64	24.88	25.96	27.58	28.96	.....	29.48	28.50	.....
30	26.80	.....	23.80	23.80	24.93	25.88	27.70	28.99	.....	29.45	28.49	.....
31	26.84	.....	23.82	.....	24.97	.....	27.82	29.02	.....	29.32	.....	.....

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T-2 (*907, pp. 100-101; 937, p. 97). Memphis Division of Light, Gas, and Water. On Schiebler Road, Shelby County.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	75.75	76.02	75.61	75.13	74.70	75.35	76.35	77.32	78.16	78.58	78.45	78.09
2	75.69	76.07	75.54	75.07	74.70	75.35	76.35	77.36	78.20	78.56	78.50	78.14
3	75.68	76.07	75.50	75.00	74.74	75.36	76.36	77.41	78.20	78.56	78.57	78.15
4	75.82	76.03	75.49	74.96	74.84	75.39	76.42	77.45	78.22	78.56	78.53	78.21
5	75.87	75.84	75.48	74.98	74.84	75.42	76.44	77.45	78.27	78.55	78.49	78.20
6	75.87	75.79	75.48	74.94	74.86	75.48	76.47	77.51	78.30	78.60	78.50	78.12
7	75.89	75.85	75.45	74.90	74.91	75.54	76.46	77.52	78.32	78.60	78.50	78.12
8	75.88	75.87	75.40	74.87	74.96	75.59	76.38	77.52	78.37	78.62	78.43	78.14
9	75.86	75.87	75.42	74.69	75.00	75.64	76.37	77.57	78.38	78.62	78.32	78.14
10	75.91	75.92	75.42	74.60	75.02	75.62	76.36	77.58	78.40	78.62	78.42	78.11
11	75.91	75.91	75.32	74.49	75.02	75.67	76.38	77.62	78.42	.....	78.44	78.07
12	75.89	75.90	75.35	74.41	75.00	75.72	76.41	77.67	78.41	78.57	78.40	78.06
13	75.92	75.93	75.33	74.59	75.03	75.81	76.44	77.73	78.41	78.60	78.36	78.16
14	75.96	75.93	75.28	74.66	75.07	75.88	76.44	77.77	78.40	78.62	78.41	78.16
15	75.96	75.83	75.22	74.76	75.14	75.87	76.44	77.78	78.40	78.60	78.38	78.05
16	75.96	75.66	75.17	74.82	75.18	75.90	76.45	77.78	78.44	78.62	78.32	78.01
17	75.96	75.71	75.30	74.81	75.21	75.96	76.55	77.75	78.42	78.67	78.33	78.00
18	75.96	75.77	75.31	74.75	75.25	75.98	76.62	77.76	78.44	78.68	78.34	78.03
19	75.95	75.78	75.34	74.81	75.28	76.00	76.65	77.78	78.47	78.60	78.33	78.02
20	75.95	75.75	75.30	74.84	75.35	76.06	76.73	77.81	78.51	78.58	78.32	78.05
21	75.95	75.77	75.35	74.82	75.35	76.10	76.77	77.86	78.52	78.56	78.31	78.05
22	75.97	75.76	75.36	74.80	75.34	76.15	76.76	77.89	78.48	78.50	78.26	77.90
23	75.98	75.65	75.36	74.75	75.36	76.21	76.84	77.90	78.48	78.60	78.22	77.88
24	75.96	75.59	75.36	74.76	75.35	76.25	76.81	77.99	78.57	78.64	78.22	77.87
25	75.96	75.59	75.32	74.76	75.40	76.28	77.02	78.01	78.58	78.63	78.15	77.82
26	75.96	75.53	75.25	74.72	75.39	76.30	77.09	78.04	78.50	78.70	78.30	77.86
27	75.92	75.60	75.21	74.70	75.29	76.36	77.16	78.06	78.60	78.66	78.32	77.83
28	75.96	75.62	75.21	74.68	75.31	76.37	77.16	78.07	78.68	78.63	78.27	77.70
29	76.00	.....	75.20	74.70	75.35	76.36	77.20	78.10	78.66	78.62	78.20	77.68
30	75.97	.....	75.18	74.69	75.36	76.36	77.23	78.12	78.62	78.60	78.20	77.69
31	75.96	.....	75.18	.....	75.36	.....	77.31	78.16	.....	78.45	.....	77.70

T-3 (*907, p. 101; 937, pp. 97-98). Memphis Division of Light, Gas, and Water. On Macon Road, Shelby County.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	78.08	78.14	77.63	77.45	77.29	77.82	78.11	78.58	78.80	79.01	79.07	79.05
2	78.18	78.17	77.48	77.39	77.29	77.82	78.13	78.57	78.82	79.00	79.09	79.14
3	78.18	78.14	77.44	77.34	77.31	77.82	78.14	78.59	78.82	79.02	79.27	79.15
4	78.25	78.07	77.44	77.35	77.46	77.83	78.21	78.61	78.83	79.03	79.22	79.22
5	78.32	77.92	77.43	77.40	77.39	77.82	78.23	78.59	78.86	79.08	79.12	79.22
6	78.28	77.83	77.47	77.38	77.36	77.81	78.23	78.59	78.86	79.14	79.14	79.15
7	78.19	78.00	77.46	77.38	77.40	77.84	78.24	78.60	78.87	79.13	79.14	79.14
8	78.21	78.04	77.40	77.38	77.42	77.89	78.24	78.58	78.91	79.14	79.10	79.14
9	78.09	78.03	77.55	77.22	77.45	77.94	78.26	78.58	78.92	79.14	79.06	79.16
10	78.20	77.98	77.54	77.10	77.44	77.88	78.26	78.61	78.93	79.10	79.18	79.10
11	78.15	77.98	77.48	77.03	77.40	77.90	78.31	78.62	78.92	79.06	79.22	79.04
12	78.09	77.93	77.42	77.05	77.37	77.92	78.34	78.66	78.89	79.04	79.16	79.00
13	78.13	77.96	77.37	77.03	77.40	77.97	78.38	78.66	78.88	79.10	79.12	79.15
14	78.16	77.96	77.28	77.04	77.45	78.04	78.35	78.67	78.89	79.12	79.16	79.17
15	78.17	77.84	77.24	77.05	77.51	78.00	78.32	78.66	78.90	79.08	79.12	79.05
16	78.13	77.68	77.20	77.10	77.57	77.97	78.32	78.61	78.92	79.11	79.08	79.03
17	78.12	77.98	77.28	77.06	77.58	78.00	78.40	78.65	78.91	79.15	79.13	79.03
18	78.08	77.96	77.31	76.98	77.60	77.99	78.44	78.67	78.92	79.14	79.16	79.11
19	78.15	77.97	77.32	77.14	77.62	77.94	78.43	78.68	78.92	79.08	79.16	79.10
20	78.16	77.86	77.24	77.18	77.64	77.97	78.41	78.67	79.00	79.06	79.16	79.11
21	78.15	77.85	77.31	77.20	77.64	77.99	78.44	78.70	78.97	79.06	79.14	79.12
22	78.12	77.81	77.34	77.18	77.66	78.01	78.40	78.72	78.92	79.03	79.12	78.93
23	78.13	77.66	77.29	77.18	77.66	78.07	78.43	78.68	78.92	79.19	79.07	78.97

T-3. Memphis Division of Light, Gas, and Water--Continued.
Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
24	78.08	77.68	77.25	77.24	77.70	78.11	78.44	78.78	79.02	79.22	79.08	78.96
25	78.07	77.72	77.23	77.27	77.75	78.12	78.47	78.78	79.02	79.18	79.02	78.91
26	78.08	77.67	77.22	77.23	77.69	78.13	78.54	78.78	78.86	79.26	79.18	78.97
27	78.05	77.67	77.36	77.25	77.66	78.16	78.56	78.80	79.08	79.20	79.25	78.92
28	78.18	77.67	77.38	77.26	77.73	78.15	78.54	78.78	79.16	79.18	79.20	78.82
29	78.18	.....	77.40	77.30	77.80	78.15	78.52	78.78	79.12	79.17	79.01	78.82
30	78.09	.....	77.43	77.29	77.82	78.15	78.54	78.78	79.07	79.14	79.09	78.83
31	78.05	.....	77.45	.....	77.81	.....	78.58	78.80	.....	79.06	.....	78.83

17 (*907, p. 99; 937, p. 98). Memphis Division of Light, Gas, and Water. On North Parkway at end of North Garland Street, Memphis.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	77.90	76.25	80.25	78.75	80.05	84.87	86.91	.....	89.30	86.30	82.50	82.90
2	77.70	75.60	79.50	77.82	82.32	87.03	87.62	.....	89.82	87.94	81.25	83.30
3	78.16	76.05	79.99	76.42	81.35	89.02	88.32	.....	90.58	89.10	82.25	83.47
4	78.18	.....	80.50	77.00	79.15	89.02	86.95	.....	90.68	89.10	82.83	84.70
5	.....	.....	80.68	76.62	81.55	.....	83.10	89.30	90.29	89.05	83.39	86.65
6	76.18	76.10	79.21	76.45	82.10	.....	83.63	89.75	88.48	86.57	83.39	84.60
7	76.70	76.11	78.99	77.55	81.02	.....	84.73	89.30	86.92	86.98	82.62	81.40
8	.....	75.98	78.75	77.65	79.60	.....	85.02	88.79	91.02	86.69	80.93	81.30
9	.....	74.57	76.82	78.12	78.22	.....	85.78	87.70	92.00	86.90	83.57	82.40
10	.....	76.78	76.15	78.34	76.82	.....	86.78	87.48	91.00	87.70	83.68	83.38
11	.....	72.07	77.16	76.38	78.77	.....	88.51	88.60	91.25	87.70	.....	83.53
12	.....	74.00	77.34	75.11	80.78	87.38	87.00	88.55	91.20	87.92	.....	81.88
13	.....	74.98	76.20	75.52	81.31	88.62	86.58	.....	88.60	86.70	.....	89.09
14	77.69	75.15	76.20	74.90	81.58	87.51	90.10	.....	86.47	86.42	.....	79.30
15	78.12	74.15	75.78	75.48	79.42	85.19	92.42	.....	89.13	86.82	.....	81.00
16	77.31	73.13	74.08	75.02	77.28	85.81	92.99	.....	90.12	86.82	.....	83.20
17	77.08	77.83	76.00	74.60	75.65	86.51	.....	90.05	89.90	87.18	.....	84.00
18	77.73	78.29	76.60	76.55	76.25	86.57	.....	92.09	89.48	87.16	.....	83.20
19	.....	79.40	76.90	75.45	77.91	86.57	.....	93.60	90.19	83.51	.....	81.37
20	76.15	79.82	76.93	75.08	78.39	86.53	87.80	94.24	87.20	82.99	.....	81.15
21	76.67	80.51	76.75	75.48	78.72	83.07	.....	93.00	86.17	83.52	.....	83.72
22	77.98	80.51	76.79	76.50	79.35	85.64	.....	93.02	87.50	83.90	.....	83.77
23	78.32	79.91	76.74	76.52	79.08	84.55	.....	91.50	86.12	83.99	81.60	82.70
24	78.05	80.05	77.33	77.73	77.15	84.84	.....	88.35	85.64	84.33	83.90	84.29
25	77.20	80.41	76.18	77.87	77.87	86.00	.....	88.33	86.12	83.51	84.10	84.35
26	76.32	80.09	77.25	76.62	77.23	86.22	.....	87.93	87.88	.....	83.00	83.31
27	78.80	80.02	77.46	76.35	79.30	.....	.....	88.03	86.85	.....	83.42	82.38
28	79.49	80.25	77.38	76.95	82.08	.....	.....	89.18	85.73	.....	83.00	82.09
29	79.72	.....	77.35	79.10	82.72	83.92	.....	89.61	85.83	81.60	82.60	83.69
30	79.23	.....	77.32	79.85	83.41	85.72	.....	87.55	85.50	82.73	82.00	83.81
31	77.62	.....	77.98	.....	82.19	.....	.....	87.78	.....	82.58	.....	83.40

Central Avenue well (*817, pp. 317-319; 840, p. 374; 845, p. 438; 886, p. 648; 907, pp. 96-97; 937, pp. 94-95). Memphis Division of Light, Gas, and Water. On Central Avenue, Memphis.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	88.67	89.43	89.22	88.70	89.00	90.45	92.65	94.77	94.40	94.20	93.20	92.56
2	88.64	89.23	88.93	88.69	89.00	90.85	92.80	94.63	94.68	94.15	93.28	92.74
3	88.53	89.27	89.00	88.60	89.04	91.30	93.02	94.69	94.77	94.20	93.43	92.84
4	88.60	89.20	89.19	88.37	89.23	91.60	93.00	94.88	95.28	94.20	93.45	93.00
5	88.83	89.17	89.36	88.21	89.25	91.90	92.65	94.90	95.44	94.05	93.42	93.00
6	88.94	89.32	89.34	88.12	89.40	91.80	91.20	94.90	95.38	94.04	93.31	92.93
7	89.24	89.32	89.30	88.10	89.53	91.80	91.45	95.05	94.90	94.15	93.10	92.67
8	89.35	89.20	89.09	88.10	89.47	91.50	91.90	94.95	94.80	94.34	92.79	92.68

Central Avenue well--Continued.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
9	89.39	89.01	88.91	88.20	89.43	.....	92.25	94.22	99.73	94.34	92.65	92.65
10	89.41	88.98	88.74	88.37	89.26	.....	92.45	94.57	94.90	94.24	92.97	92.55
11	89.26	88.99	88.68	88.37	89.02	.....	92.45	94.55	95.00	94.20	93.13	92.55
12	89.22	88.82	88.72	88.35	89.23	.....	92.40	94.60	95.05	94.20	93.13	92.50
13	89.32	88.70	88.72	87.94	89.42	.....	92.70	94.63	95.05	94.40	93.07	92.27
14	89.51	88.68	88.68	88.06	89.65	.....	93.05	94.70	94.60	94.40	93.00	92.12
15	89.67	88.52	88.58	88.16	89.70	.....	93.35	94.66	94.56	94.37	92.86	.....
16	89.75	88.15	88.37	88.20	89.70	.....	.....	94.44	94.70	94.37	92.90	.....
17	89.75	88.44	88.46	88.20	89.53	.....	.....	94.60	94.85	94.27	93.07	.....
18	89.47	88.74	88.70	88.10	89.61	.....	.....	94.82	94.95	94.06	93.10	.....
19	89.49	89.02	88.83	87.99	89.58	.....	.....	95.00	95.00	93.93	93.14	.....
20	89.57	89.34	88.87	88.15	89.86	.....	94.21	95.18	95.00	93.91	93.20	.....
21	89.65	89.38	88.94	88.32	90.00	.....	94.42	95.43	94.75	93.85	93.20	92.20
22	89.75	89.29	88.94	88.37	90.00	.....	94.48	95.40	94.61	93.98	93.00	92.27
23	89.87	89.03	88.85	88.45	88.94	.....	94.49	95.15	94.65	95.15	92.70	92.39
24	89.87	88.89	88.80	88.65	89.90	.....	94.60	94.69	94.60	95.15	92.79	92.43
25	89.76	89.42	88.75	88.65	89.42	.....	94.60	94.65	94.60	93.83	92.97	92.43
26	89.54	89.42	88.72	88.52	89.35	92.12	94.50	94.75	94.48	93.75	93.02	92.14
27	89.57	89.38	88.70	88.17	89.35	92.20	94.30	94.76	94.82	93.73	93.11	91.95
28	89.77	89.38	88.70	88.36	89.80	92.05	94.30	94.83	94.80	93.65	93.05	91.80
29	89.77	.....	88.60	88.67	90.10	92.20	94.42	94.80	94.41	93.58	92.80	.....
30	89.75	.....	88.46	88.86	90.15	92.45	94.67	94.62	94.35	93.47	92.48	.....
31	89.50	.....	88.65	.....	90.15	.....	94.79	94.40	.....	93.35	.....	.....

Sycamore Avenue well (*817, pp. 316-317; 840, p. 375; *845, pp. 438-439; 886, p. 648; 907, pp. 97-98; 937, pp. 95-96). Memphis Division of Light, Gas, and Water. At Sycamore and Fifth Street, Memphis.

Lowest daily water level, in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	41.04	42.51	41.07	40.18	.....	44.64	47.08	53.15	50.98	47.62	46.68	43.90
2	41.06	42.12	40.85	40.33	.....	45.24	47.09	53.15	51.29	48.05	46.15	44.02
3	41.02	41.94	40.48	40.35	.....	46.16	47.40	52.80	51.61	48.75	45.62	44.08
4	41.06	42.09	40.63	40.40	43.71	46.59	47.43	53.08	52.04	48.33	45.45	44.30
5	40.94	42.22	41.03	40.40	43.68	47.19	47.11	53.12	52.22	48.58	45.31	44.42
6	40.68	42.42	41.13	39.88	43.75	47.43	46.20	53.21	52.20	48.69	45.39	44.42
7	41.00	42.51	41.12	39.30	43.98	47.39	46.14	53.21	51.38	48.83	45.39	44.05
8	41.09	42.50	41.00	39.28	44.02	47.13	46.55	53.02	50.85	48.82	45.35	43.63
9	41.20	42.18	40.70	39.25	44.03	47.61	47.04	52.75	51.12	48.94	45.25	43.50
10	41.57	41.77	40.30	39.10	43.85	47.94	47.80	51.88	51.12	49.15	44.82	43.40
11	41.58	41.46	40.23	39.08	43.46	47.98	48.34	51.55	51.17	49.15	44.98	43.35
12	41.44	40.98	40.34	38.94	43.19	48.22	48.36	51.71	51.60	48.73	45.02	43.33
13	41.57	40.63	40.39	38.40	43.43	48.42	47.85	51.75	51.81	48.61	45.14	43.30
14	41.73	40.34	40.40	37.74	43.72	48.42	48.20	51.92	51.81	48.56	45.27	43.05
15	41.93	40.08	40.40	37.44	43.74	47.60	49.04	52.03	50.64	48.65	45.28	43.50
16	42.08	39.69	40.05	37.48	43.62	46.86	49.66	52.03	51.08	48.97	45.13	42.63
17	42.19	39.43	39.85	37.59	43.04	46.87	49.84	51.40	51.28	49.21	45.15	42.92
18	42.32	39.57	40.04	38.13	42.38	46.87	.....	51.84	51.43	49.21	45.25	43.50
19	42.45	39.94	40.25	38.44	42.13	47.17	.....	52.22	51.63	48.40	45.45	43.90
20	42.55	40.43	40.31	38.32	42.34	47.35	50.37	52.57	51.63	48.32	45.85	44.05
21	42.63	40.74	40.25	38.02	42.34	47.36	50.84	52.71	51.00	48.21	46.20	44.00
22	42.79	40.84	40.07	38.23	42.65	46.83	50.84	52.70	50.06	48.00	46.20	44.00
23	43.15	40.70	39.68	39.47	42.68	46.89	50.74	52.55	49.54	47.68	45.50	44.27
24	43.33	40.36	39.30	39.12	42.64	47.13	51.15	51.48	49.47	47.45	45.25	44.40
25	43.34	40.43	39.42	39.80	42.08	47.16	51.25	51.47	49.43	47.25	44.98	44.39
26	43.13	40.68	39.64	39.87	41.66	47.44	51.24	51.58	48.97	47.05	44.93	44.05
27	42.75	40.94	39.78	39.56	42.12	47.45	50.74	51.62	48.66	46.81	44.85	43.40
28	42.79	41.06	39.79	40.56	43.25	47.38	51.01	51.73	48.22	46.78	44.63	42.56
29	42.80	.....	39.75	.....	44.10	47.84	51.77	51.70	48.05	46.77	44.58	42.49
30	42.77	.....	39.53	.....	44.67	46.75	52.16	51.60	47.88	46.74	44.45	42.55
31	42.58	.....	39.83	.....	44.70	.....	52.85	50.72	.....	56.74	.....	42.55

VIRGINIA

Two well-measurement programs in which the Geological Survey, United States Department of the Interior, has participated have been in progress in Virginia for several years. The wells included in one of these programs are in the northern part of the State, and the wells included in the other are in the southeastern part. The two programs are discussed separately in this report.

NORTHERN VIRGINIA

By L. K. Wenzel and D. M. Ireland

The observation-well program in northern Virginia was continued by the Federal Geological Survey in 1942. Most of the wells are in Fairfax County, in the general vicinity of Washington, D. C. Automatic water-stage recorders were maintained during the year on four wells--the Bacon, Ross, Swart 5, and Swart 162 wells. The recorder on one well--the Swart Stream well--was removed, but weekly measurements were made in this well until August 31, after which observations were discontinued. At the end of the year measurements were being made in 16 wells; 1,183 determinations of water level have been made for the year, and all are given in this report.

FLUCTUATIONS OF WATER LEVEL

The table following this paragraph shows that the precipitation at Washington, D. C., was nearly 10 inches above normal in 1942, in contrast to a deficiency of about 13 inches in 1941. Most of the excess in 1942 occurred in March, June, August, and October. The water levels in most of the wells were at low stages at the beginning of the year. Some recharge occurred during the spring months, however, and also, owing to the heavy rains, in August and October. As a result, the water levels were much higher at the end of the year than at the beginning. There were the following rises during 1942: Ross well, about 3.2 feet; Bacon well, about 6.2 feet; Bell well, about 10 feet; Jefferson School well, about 5.5 feet; and Halls Hill School well, about 5 feet. The water level in the Carne well, a deep, drilled well in the town of Fairfax, rose 4.7 feet from May 3 to December 27.

Precipitation and departure from normal precipitation, in inches, at Washington, D. C., in 1942

Month	Recorded precipitation	Normal precipitation	Departure from normal	Accumulated departure from normal
January	2.47	3.55	-1.08	-1.08
February	2.03	3.27	-1.24	-2.32
March	5.96	3.75	+2.21	-.11
April	.54	3.27	-2.73	-2.84
May	3.93	3.70	+.23	-2.61
June	5.35	4.13	+1.22	-1.39
July	5.40	4.71	+.69	-.70
August	9.49	4.01	+5.48	+4.78
September	2.60	3.24	-.64	+4.14
October	8.33	2.84	+5.49	+9.63
November	2.10	2.37	-.27	+9.36
December	3.83	3.32	+.51	+9.87
Year	52.03	42.16	+9.87	+9.87

WATER-LEVEL MEASUREMENTS

Observation wells in northern Virginia are listed by name or by name and number under counties. The numbers in parentheses immediately following a well name or number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in the paper whose number is so marked. A more detailed description than has previously been given for the Carne well is included in the present report. The water level in each well is expressed in feet below a fixed measuring point or in feet above an assumed datum.

Arlington County

Halls Hill School well (*777, pp. 250, 253-258; 817, pp.482-483; 840, p. 623; 845, p. 679; 886, p. 906; 907, p. 107; 937, p. 101). At Langston School.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	31.27	Apr. 13	28.85	July 13	28.78	Oct. 12	28.10
12	28.42	20	28.80	20	28.72	19	26.80
19	29.20	27	28.69	27	28.80	26	25.10
26	30.02	May 4	28.74	Aug. 3	28.75	Nov. 2	24.80
Feb. 2	30.00	11	28.70	10	29.37	9	26.37
9	30.20	18	28.70	17	28.10	16	26.30
16	30.20	25	29.58	24	28.95	23	26.12
Mar. 2	29.95	June 1	28.60	31	27.72	30	26.00
9	30.00	8	28.67	Sept.14	27.70	Dec. 7	26.15
16	29.97	15	28.80	21	27.20	14	26.00
23	29.80	22	28.80	28	26.97	21	25.79
30	28.80	29	28.79	Oct. 5	27.70	28	24.64
Apr. 6	28.90	July 6	28.70				

Ross well (*777, pp. 250, 254-258; 817, pp. 480, 482-483; 840, p. 623; 845, p. 678; 886, pp. 906-907; 907, p. 107; 937, pp. 101-102). At 1918 North Wayne Street, Rosslyn.

Ross well--Continued.

Daily water level at 2:00 a.m., in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	27.06	27.07	26.67	25.69	25.80	25.90	.....	24.51	25.07	23.49	.....
2	a27.40	26.98	27.00	26.55	25.69	25.80	25.87	.....	24.51	25.06	23.59	.....
3	.....	27.07	27.09	26.36	25.70	25.80	25.85	a26.00	24.51	25.14	23.60	.....
4	.....	27.15	27.19	26.19	25.70	25.79	25.87	.....	24.53	25.15	23.71	.....
5	a27.43	27.24	27.28	26.09	25.71	25.79	25.87	.....	24.60	25.10	23.71	.....
6	.....	27.32	27.34	25.98	25.73	25.79	25.85	.....	24.66	25.10	23.62	.....
7	.....	27.39	27.43	25.95	25.72	25.80	25.85	.....	24.70	25.22	23.64	a24.20
8	.....	27.47	27.52	25.91	25.69	25.80	25.87	.....	24.68	25.26	23.60	.....
9	.....	27.52	27.60	25.91	25.72	25.84	25.88	.....	24.70	25.30	23.66	.....
10	.....	27.48	27.56	25.85	25.72	25.84	25.92	a25.69	24.72	25.31	.....	.....
11	.....	27.43	27.47	25.83	25.75	25.85	25.91	25.53	24.72	25.32	.....	.....
12	a27.42	27.40	27.37	25.83	25.74	25.85	25.92	25.32	24.76	25.35	.....	.....
13	27.45	27.37	27.31	25.84	25.73	25.85	25.95	25.20	24.75	25.37	.....	.....
14	27.46	27.35	27.23	25.84	25.74	25.85	25.95	25.03	24.80	25.35	.....	a24.25
15	27.47	27.32	27.16	25.81	25.76	25.85	25.94	24.83	24.81	25.20	.....	23.91
16	27.49	27.30	27.09	25.80	25.76	25.86	25.96	24.67	24.83	25.15	a23.82	23.58
17	27.52	27.31	27.03	25.77	25.76	25.86	25.98	24.60	24.86	24.92	.....	23.51
18	27.53	27.34	27.00	25.72	25.80	25.87	25.98	24.59	24.88	24.51	.....	24.28
19	27.54	27.37	26.98	25.72	25.80	25.88	25.98	24.58	24.88	24.15	.....	23.15
20	27.54	27.40	26.96	25.70	25.81	25.88	25.98	24.58	24.87	24.11	.....	22.95
21	27.53	27.43	26.95	25.70	25.81	25.90	.....	24.58	24.97	24.00	.....	22.70
22	27.53	27.46	26.93	25.70	25.81	25.91	.....	24.59	24.96	24.00	.....	.....
23	27.53	27.49	26.90	25.71	25.79	.....	.....	24.58	24.98	24.03	a23.92	.....
24	27.53	27.42	26.89	25.71	25.79	.....	.....	24.60	25.00	24.19	.....	.....
25	27.53	27.35	26.87	25.70	a25.80	.....	.....	24.60	25.07	24.18	.....	.....
26	27.53	27.28	26.85	25.69	25.80	.....	.....	24.60	25.10	24.10	.....	.....
27	27.46	27.21	26.83	25.70	25.79	.....	a26.00	24.60	25.00	24.09	.....	.....
28	27.38	27.14	26.80	25.70	25.79	.....	.....	24.52	25.10	23.96	.....	a24.20
29	27.29	.....	26.78	25.70	25.81	a25.95	.....	24.47	25.11	23.84	.....	.....
30	27.22	.....	26.76	25.69	25.82	25.94	.....	24.50	25.12	23.71	a24.03	.....
31	27.14	.....	26.73	.....	25.81	.....	.....	24.50	.....	23.58	.....	.....

Fairfax County

Bacon well (*777, pp. 251, 254-258; 817, pp. 480, 482-483; 840, p. 621; 845, p. 678; 886, p. 907; 907, p. 108; 937, p. 102). About 2 miles from Fairfax on U. S. Highway 50.

Daily water level at 2:00 a.m., in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	21.47	21.35	20.65	.....	18.26	a18.60	.....	.....	17.03	.....	13.75	14.64
2	21.47	21.30	20.65	.....	18.27	18.61	.....	.....	17.02	.....	13.90	14.48
3	21.47	21.30	.....	.....	18.28	18.61	a19.16	a19.30	17.02	.....	13.94	14.64
4	21.48	21.29	.....	.....	18.30	18.62	.....	.....	17.01	.....	14.05	14.72
5	21.48	21.29	.....	.....	18.30	18.62	.....	.....	17.01	a16.90	14.09	14.78
6	21.49	21.26	.....	a18.22	18.33	18.64	a19.21	.....	17.01	.....	14.08	14.79
7	21.49	21.24	.....	18.22	18.35	18.66	19.27	.....	17.00	.....	14.11	14.85
8	21.49	21.18	.....	18.22	18.33	18.68	19.28	.....	.....	.....	14.12	14.87
9	.....	21.08	a20.10	18.24	18.34	18.74	19.28	.....	.....	.....	a14.18	14.89
10	.....	21.06	20.09	18.24	18.37	18.74	19.29	a17.95	.....	.....	14.15	14.93
11	.....	21.02	20.07	18.23	18.39	18.74	19.29	.....	.....	.....	14.16	14.93
12	a21.42	20.98	20.03	18.22	18.43	18.74	19.29	.....	.....	a17.05	14.20	14.91
13	21.42	20.96	19.99	18.24	18.44	18.75	19.30	.....	.....	17.09	14.16	14.93
14	21.47	20.94	19.95	.....	18.45	18.77	19.33	.....	a16.92	17.11	14.26	15.09
15	21.44	20.92	19.91	.....	18.46	18.80	19.34	a17.34	.....	15.30	14.36	.....
16	21.43	20.89	19.88	.....	18.46	.....	19.35	.....	.....	14.65	a14.36	.....
17	21.44	20.87	19.87	.....	18.46	.....	19.36	a17.30	.....	12.60	14.38	.....
18	21.44	20.84	19.82	.....	18.46	.....	19.37	.....	.....	12.55	14.38	.....
19	21.45	20.82	19.78	.....	.....	.....	19.37	.....	.....	13.08	14.43	.....
20	21.45	20.79	19.75	a18.20	.....	.....	19.37	.....	.....	13.45	14.44	.....
21	21.44	20.76	19.73	.....	.....	.....	.....	.....	a17.00	13.70	14.42	a15.30

a Tape measurement.

Bacon well--Continued.

Daily water level at 2:00 a.m., in feet below measuring point, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
22	21.42	20.73	19.69	.....	.....a	18.99	.....	.....	.....	13.80	14.48	.....
23	21.41	20.70	19.64	.....	.....	19.01	.....	.....	.....	13.93	14.54	.....
24	21.41	20.69	19.50	.....	.....	19.04	.....a	17.15	.....	14.11	14.47	.....
25	21.40	20.69	19.46	.....a	18.50	19.06	.....	.....ab	17.09	14.23	14.40	.....
26	21.40	20.68	19.44	.....	.....	19.07	.....	.....	.....	14.24	14.51	.....
27	21.40	20.68	19.42a	18.20	.....	19.08a	19.45	.....	.....ac	13.70	14.57	.....
28	21.39	20.66	19.41	18.21	.....	19.10	.....	.....a	16.98	13.65	14.65a	15.30
29	21.38	.....	19.40	18.23	.....	19.11	.....	.....	.....	13.71	14.69	.....
30	21.38	.....	19.39	18.24	.....	.....	.....	.....ab	17.10	13.75	14.61	.....
31	21.37	.....	19.38	.....	.....	.....	.....a	17.03	.....	13.77	.....	.....

Bell well (*777, pp. 250, 254-258; 817, pp. 482-483; 840, p. 722; 845, p. 678; 886, p. 907; 907, p. 108; 937, p. 103). At Ash Grove, about 1 mile northwest of Tysons Crossing, on road leading from Falls Church to Leesburg.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	12.46	Apr. 6	4.15	July 6	7.83	Oct. 5	5.48
12	12.46	13	4.69	13	6.70	12	6.15
19	11.98	20	5.54	20	8.34	19	2.88
26	11.15	27	6.08	27	3.23	26	2.18
Feb. 2	10.20	May 4	6.40	Aug. 3	6.65	Nov. 2	2.75
9	8.90	11	6.70	10	2.97	9	2.90
16	9.25	18	6.70	17	4.24	16	3.09
23	8.00	25	6.80	24	3.00	23	3.12
Mar. 2	9.15	June 1	7.20	31	4.60	30	3.05
9	8.95	8	7.42	Sept. 7	5.02	Dec. 7	3.00
16	6.75	15	8.00	14	5.60	14	2.42
23	6.30	22	8.34	21	6.37	21	3.50
30	5.68	29	6.46	28	3.30	28	2.60

Jefferson School well (*845, pp. 676, 680; 886, p. 908; 907, p. 108; 937, p. 103). Near the southeast corner of Jefferson School, in Falls Church.

Water level, in feet below measuring point, 1942

Jan. 5	(d)	Apr. 6	27.27	July 6	26.80	Sept.28	25.95
12	(d)	13	24.90	13	26.99	Oct. 5	25.90
19	(d)	20	25.35	20	27.14	12	26.15
26	(d)	27	25.30	27	27.39	26	23.30
Feb. 2	(d)	May 4	24.85	Aug. 3	27.35	Nov. 2	23.90
9	(d)	11	25.10	10	26.35	9	22.80
16	(d)	18	25.44	17	25.30	16	22.85
23	(d)	25	25.50	24	25.03	23	22.90
Mar. 2	(d)	June 1	25.80	31	25.00	30	23.00
9	27.95	8	25.97	Sept. 7	25.10	Dec. 7	22.95
16	27.85	15	26.60	14	25.32	21	23.80
23	27.70	22	26.95	21	25.65	28	22.95
30	25.23	29	26.78				

Swart Stream well (*777, pp. 251, 254-258; 817, pp. 484-485; 840, p. 624; 845, p. 681; 886, p. 908; 907, p. 109; 937, p. 103). Near Difficult Run, about 1.5 miles from Fairfax on U. S. Highway 50. Measurements discontinued Aug. 31, 1942.

Water level, in feet above assumed datum, 1942

Jan. 5	1.64	Mar. 9	1.79	May 11	1.49	July 13	1.55
12	1.79	16	1.59	18	1.51	20	1.49
19	1.99	23	1.76	25	1.64	27	1.55
26	1.54	30	1.84	June 1	1.44	Aug. 3	1.65
Feb. 2	1.59	Apr. 6	1.68	8	1.58	10	1.58
9	1.64	13	1.65	15	1.43	17	(d)
16	2.36	20	1.64	22	1.54	24	1.72
23	1.84	27	1.66	29	1.52	31	(d)
Mar. 2	1.64	May 4	1.64	July 6	1.42		

a Tape measurement.
b 2:30 p.m.
c 11:00 a.m.
d Dry.

Swart well 5 (*817, pp. 484-485; 840, p. 624; 845, p. 681; 886, pp.908-909; 907, pp. 109-110; 937, p. 104). On the Swart farm about 1.5 miles from Fairfax, on U. S. Highway 50, about 150 feet below the highway bridge.

Daily water level at 2:00 a.m., in feet above assumed datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.15	....	2.24	a2.75	2.08	a1.77	....	....	1.78	2.16	....	....
2	2.23	a2.72	2.26	a2.66	2.10	....	....	....	1.76	2.08	a1.63	....
3	2.29	....	2.59	a2.58	2.14	....	....	a2.37	1.72	2.02	....	....
4	2.33	....	2.41	....	2.17	....	....	....	1.67	1.98	....	....
5	2.59	....	2.44	....	2.30	....	....	....	1.69	1.97	....	....
6	....	....	2.56	a2.48	2.18	....	a1.91	....	1.79	1.97	....	....
7	....	....	2.71	2.40	2.09	....	....	....	1.77	1.92	....	a2.59
8	....	....	2.79	2.32	2.12	a1.89	....	....	....	1.87	....	2.62
9	....	a1.80	3.02	2.26	2.12	1.96	....	....	....	1.83	a1.43	2.62
10	....	1.74	2.89	2.37	2.03	1.98	....	a2.01	....	1.79	1.43	2.57
11	....	1.83	2.73	2.74	1.91	1.96	....	....	....	1.79	2.52	2.55
12	a1.97	1.95	2.63	2.55	1.85	1.91	....	....	....	1.78	2.53	2.54
13	....	2.04	2.44	2.65	1.76	1.77	a2.11	....	....	....	2.49	2.51
14	....	3.11	2.39	2.39	1.69	1.76	....	....	a1.95	....	2.39	2.42
15	a1.97	2.23	2.66	2.33	1.65	1.65	....	....	....	....	2.36	....
16	....	2.37	2.58	2.27	1.61	1.56	....	....	....	....	2.37	....
17	....	....	2.56	2.22	1.99	1.51	....	a2.33	....	....	2.39	....
18	....	....	2.51	2.21	2.01	1.45	....	....	....	....	2.47	....
19	a2.58	....	2.47	2.14	1.93	1.41	....	....	....	a2.80	2.48	....
20	....	....	....	2.11	1.88	1.40	a1.92	....	....	....	2.48	....
21	....	....	....	2.09	1.87	1.37	....	....	a1.57	....	2.49	a2.37
22	....	....	2.77	2.06	1.84	1.31	....	....	1.54	....	2.46	....
23	....	a2.27	2.77	2.04	1.47	....	....	....	1.50	....	2.49	....
24	....	2.28	2.61	2.01	1.46	....	....	a2.71	1.46	....	....	....
25	....	2.27	2.48	1.99	2.28	....	....	....	1.43	....	....	....
26	a2.37	2.24	2.41	1.96	....	....	....	....	1.40	a3.49	....	....
27	....	2.25	2.35	1.92	....	....	a2.32	....	1.58	....	....	....
28	....	2.26	2.31	1.96	....	....	....	....	2.32	....	....	a2.94
29	....	....	3.03	2.00	....	a1.92	....	....	2.30	....	....	....
30	....	....	3.07	2.04	....	....	....	....	2.23	....	a3.40	....
31	....	....	a2.84	....	....	....	....	a1.87	....	....	....	....

Swart 162 (*817, pp. 482, 484-485; 840, p. 626; 845, p. 683; 886, p. 910; 907, p. 111; 937, pp. 105-106). On the Swart farm, about 1.5 miles from Fairfax, on U. S. Highway 50.

Daily water level at 2:00 a.m., in feet above assumed datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.43	5.36	4.66	5.72	4.44	4.28	....	4.61	....	4.60	....	....
2	4.51	4.98	4.65	5.61	4.42	4.31	....	5.20	....	5.20	a5.07	....
3	4.56	....	....	5.46	4.41	4.47	a4.54	4.71	....	4.50	5.07	....
4	4.56	....	....	5.32	4.40	4.42	....	4.62	....	4.50	5.12	....
5	4.77	....	....	5.18	....	4.32	....	4.57	....	4.49	5.02	....
6	....	....	....	5.05	....	4.20	a4.36	....	....	4.59	4.97	....
7	....	....	....	....	....	4.11	....	....	a4.57	4.47	4.93	a4.91
8	....	....	....	....	....	4.94	....	....	....	4.40	4.90	4.93
9	....	a5.09	a5.34	....	....	....	....	....	....	4.36	4.85	4.90
10	....	....	5.14	....	....	....	....	a5.62	....	4.34	....	4.88
11	....	....	5.01	....	a4.62	....	....	....	....	4.34	....	4.89
12	a4.45	....	4.93	....	....	....	....	....	....	4.36	....	4.90
13	4.57	....	4.81	a5.16	....	....	a4.43	....	....	....	....	4.91
14	4.57	....	4.76	5.05	....	....	4.32	....	a4.53	....	....	4.84
15	4.58	....	5.14	4.94	....	a4.59	4.26	....	....	....	....	4.88
16	4.72	a4.79	5.00	4.85	....	....	4.18	....	....	....	a4.73	4.91
17	....	5.09	....	4.77	....	....	4.12	a5.02	....	....	....	4.88
18	....	5.13	....	4.74	a4.59	....	4.08	....	....	....	....	4.87
19	a5.31	5.02	....	4.66	....	....	4.04	....	....	a5.57	....	4.84
20	5.28	4.91	....	4.61	....	....	a4.01	....	....	....	....	4.83
21	5.19	4.80	....	4.58	a4.50	....	3.92	....	a4.44	....	....	a4.62
22	5.00	4.73	....	4.54	....	a3.99	3.92	....	....	....	....	....

a Tape measurement.

Swart 162--Continued.

Daily water level at 2:00 a.m., in feet above assumed datum, 1942
(From recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
23	4.92	4.70	a5.09	4.53	....	....	3.87	....	....	....	a4.74	....
24	4.83	4.71	5.11	4.49	....	....	3.83	a5.34	....	....	5.48	....
25	....	4.70	5.08	4.50	a4.59	....	3.89	5.00	....	....	5.27	....
26	a4.69	4.68	5.10	4.50	4.50	....	....	4.75	....	a5.72	5.09	....
27	4.68	4.68	5.15	4.49	4.43	....	a5.19	4.63	....	....	4.99	....
28	4.68	4.67	5.21	4.45	4.40	....	4.79	4.57	a4.99	....	4.87	a5.66
29	5.15	....	5.40	4.47	4.34	a4.59	4.56	4.52	4.86	....	4.80	5.64
30	4.96	....	5.44	4.47	4.30	....	4.45	4.59	4.67	....	4.89	5.95
31	4.86	....	5.70	....	4.27	....	4.39	4.54	....	....	....	5.79

Swart wells 10, 35, 60, 85, 110, and 135 (*817, pp. 482, 484-485; 840, p. 625; 845, pp. 682-683; 886, p. 909; 907, pp. 110-111; 937, pp. 104-105). On the Swart farm, about 1.5 miles from Fairfax, on U. S. Highway 50.

Water levels, in feet above assumed datum, in Swart wells 10, 35, 60, 85, 110, and 135 and weekly precipitation, in inches, recorded at United States Weather Bureau station in Washington, D. C., in 1942

Date		10	35	60	85	110	135	Precipitation
Jan.	5	3.32	4.01	4.02	4.88	5.39	5.27	0.00
	12	2.61	3.39	2.82	4.78	4.61	5.18	.00
	19	3.67	4.63	4.90	5.00	5.21	5.33	.84
	26	3.02	3.53	3.55	4.49	5.19	5.37	T
Feb.	2	3.43	4.09	4.37	4.88	5.31	5.46	T
	9	3.36	4.03	4.28	4.78	5.36	5.51	.00
	16	5.01	4.98	5.20	5.43	5.51	5.58	.59
	23	3.27	3.38	3.31	4.73	5.56	5.73	.00
Mar.	2	2.91	3.37	3.26	4.14	5.26	5.63	.72
	9	3.76	4.72	4.80	4.78	5.56	5.63	.64
	16	3.46	3.93	4.04	4.60	5.46	5.64	.01
	23	3.59	4.38	4.50	5.63	5.56	5.83	.00
	30	3.61	4.83	3.76	6.18	5.68	5.69	T
Apr.	6	3.56	3.78	3.65	4.63	5.51	5.76	.00
	13	3.08	3.79	3.77	4.65	5.49	5.75	.00
	20	2.67	3.36	2.92	4.38	5.16	5.66	.00
	27	2.41	3.08	2.60	(b)	4.41	5.53	.00
May	4	2.53	(b)	(b)	(b)	4.66	5.43	.27
	11	2.54	3.03	(b)	(b)	4.79	5.47	.00
	18	2.65	3.33	(b)	4.28	5.06	5.46	.00
	25	2.89	3.48	3.91	4.38	5.16	5.54	.00
June	1	2.21	2.68	(b)	4.08	4.76	5.38	.02
	8	2.61	3.32	3.61	4.84	5.14	5.43	.10
	15	2.24	2.72	2.50	3.36	4.85	5.53	.00
	22	3.21	2.68	2.07	2.98	4.86	5.23	.45
	29	3.13	3.75	3.67	4.61	5.22	5.40	.00
July	6	.77	2.93	2.69	4.48	5.08	5.43	.02
	13	2.73	3.08	3.16	3.88	5.18	5.45	.00
	20	1.75	2.21	1.95	(b)	4.55	5.28	.77
	27	2.86	4.50	5.95	4.98	5.49	5.28	.03
Aug.	3	3.04	3.90	4.60	4.78	5.44	5.53	T
	10	3.61	4.55	4.76	5.01	5.79	5.77	.02
	17	2.93	3.54	3.58	5.02	5.84	6.08	.28
	24	3.36	4.30	4.47	4.96	5.66	5.85	.00
	31	2.39	2.90	2.62	4.06	5.32	5.71	.00
Sept.	7	2.26	2.86	2.62	4.08	5.39	5.65	.39
	14	2.42	2.98	2.81	4.04	5.26	5.66	.00
	21	2.31	2.59	2.33	3.66	5.21	5.53	.00
	28	3.01	3.93	4.25	4.81	5.56	5.85	.00
Oct.	5	3.26	3.18	4.20	3.78	5.46	5.55	.27
	12	1.27	2.78	2.58	3.88	5.26	5.53	.00
	19	3.30	4.20	4.40	5.09	5.90	5.96	.00
	26	4.16	5.20	4.90	5.09	6.16	5.93	1.37
Nov.	2	3.26	4.08	4.50	4.98	5.81	5.91	T

a Tape measurement.
b Dry.

Swert wells 10, 35, 60, 85, 110, and 135--Continued.
Water levels, in feet above assumed datum, in Swart wells 10, 35, 60, 85, 110, and 135 and weekly precipitation, in inches, recorded at United States Weather Bureau station in Washington, D. C., in 1942

Date	10	35	60	85	110	135	Precipitation
Nov. 9	2.99	3.62	3.60	4.74	5.66	5.87	0.00
16	2.88	3.43	3.40	4.44	5.40	4.79	.00
23	2.99	3.60	4.05	4.60	5.56	5.75	.57
30	3.16	3.86	4.17	4.86	5.72	5.87	.00
Dec. 7	3.17	3.87	3.90	4.86	5.71	5.75	.00
14	2.94	3.51	3.48	4.44	5.58	5.73	.00
21	2.79	3.68	3.34	4.35	4.31	4.48	.00
28	3.58	5.33	5.30	5.72	5.81	5.70	.19

Measurements made on well 1429 at Fairfax, in the early part of the year were inaccurately taken and therefore are not given. From Apr. 19 to Aug. 16 the water level in this well declined 1.68 feet, and on Aug. 16 it was 34.77 feet below the measuring point. From Aug. 16 to the end of the year the water level rose, and on Dec. 27 a gain of 5.07 feet was recorded. The stage of Dec. 27, 1942, was 29.70 feet below the measuring point, almost 11 feet higher than stages recorded in December 1941 when the depth to water was about 40.5 feet.

1429 (*937, p. 106). Carne well. At Fairfax, about 0.25 mile northeast of Fairfax courthouse. Well dug 20 feet and drilled to 90 feet. Water obtained from Wissahickon schist. Five and five-eights inch casing. Measuring point is V-slot in recorder platform, which is 0.25 foot above land surface.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar 19	34.09	June 20	34.40	Aug. 30	33.75	Nov. 1	30.0
26	34.70	28	34.80	Sept. 6	33.49	8	29.59
May 3	34.42	July 5	34.45	13	33.20	15	29.55
10	34.24	12	34.60	20	33.51	22	29.50
17	34.20	26	34.90	27	32.60	29	29.29
24	34.50	Aug. 2	35.40	Oct. 4	32.49	Dec. 6	29.41
31	33.92	9	35.70	11	32.88	13	29.37
June 7	34.15	16	34.77	18	31.55	20	29.66
13	34.22	23	34.15	25	31.10	27	29.70

Fauquier County

Glendale Farm well (*817, pp. 481, 483; 840, p. 622; 845, p. 679; 886, p. 910; 907, pp. 111-112; 937, p. 106). O. E. Meinzer. 1.5 miles northeast of Catlett, on Highway 233. Measurements discontinued after Dec. 31, 1941.

SOUTHEASTERN VIRGINIA

By D. J. Cederstrom

PROGRAM OF WORK

Periodic measurements of water levels in observation wells in southeastern Virginia were continued in 1942 by the Geological Survey, United States Department of the Interior, in cooperation with the Virginia Geological Survey, Arthur Bevan, State geologist. The observation-well program in this part of Virginia was begun in 1938 as part of a long-range systematic investigation of the ground-water resources of the State. At the beginning of 1942 the program included 10 wells, to which 5 were added during the year, making a total of 15 at the end of the year. Four of the wells were equipped with automatic water-stage recorders actuated by floats. Generally, the depth to water level is also measured once a week with a steel tape. In all, about 430 measurements were made in 1942.

Of the five observation wells added to the program during the year, three were established in the Franklin area and two at Camp Peary, a Naval Construction Battalion training camp near Williamsburg, on the lower part of the York-James peninsula. The three new observation wells in the Franklin area furnish information on the cone of depression centering about the heavily pumped wells of the Chesapeake-Camp Corporation. Of the two established at Camp Peary, where a water supply from wells has been developed, one was selected for periodic measurements of water level, and the other, which is a producing well centrally situated with respect to other producing wells, was selected for occasional observation.

The geology of the Camp Peary area is similar to that of the Fort Eustis area, also on the lower part of the York-James peninsula, whose ground waters were briefly discussed in an earlier report. (See Water-Supply Paper 937, p. 108). In both areas the ground waters, although potable, are brackish, but they are somewhat less brackish at Camp Peary than at Fort Eustis. The water-level program in both areas, however, is based on the possibility that a marked lowering of the water levels will be followed by an increase in the chloride content of well waters rather than on the possibility that it forecasts an immediate shortage of water.

The long-range investigation of ground-water resources of the State was interrupted during the year by many projects relating to the war. Technical advice was given to municipal, Navy, and Army officials, and the drilling and testing of wells in many areas in southeastern Virginia were supervised.

PRECIPITATION

The precipitation recorded for 1942 at the United States Weather Bureau station at Richmond was 2.16 inches above normal, but this does not go far toward making up the deficiency of 15.20 inches recorded for the year 1941. During the first quarter of 1942 the total precipitation was slightly above normal, but it was subnormal during the second and third quarters, so that an accumulated departure of -1.12 inches was recorded at the end of September. In October, 7.38 inches of rain fell, which resulted in an accumulated departure of +2.38 inches at the end of that month. In November and December the rainfall was again deficient, resulting in an accumulated departure for the year of +2.16 inches.

FLUCTUATIONS OF WATER LEVEL

The great increase in precipitation in 1942 over 1941 directly affected water-table wells in eastern Virginia, as shown in figure 11. It is not yet clear whether the drought that began in the spring of 1941 and lasted through the fall of 1942 affected the artesian head east of the Fall Zone, and declines of artesian head in observation wells in the Coastal Plain in general have been attributed to heavy pumping or to a regional decline. Records for several years more will be necessary, however, to show positively whether the declines of head in 1942 in certain wells are permanent or whether they are a result of the lack of recharge during the drought period.

Chesterfield County (Petersburg area)

In Chesterfield County, observations were continued in 1942 on well 36, known as the Pilcher well, which is situated about 3 miles north of Petersburg. (See fig. 11.) The water level declined slightly at the beginning of the year, and on January 14 the lowest stage thus far observed was recorded--21.79 feet below the measuring point. This stage is 5.29 feet below the highest recorded stage, which occurred August 23, 1940. From January 14 to March 11 the water level rose 0.41 foot in consequence of only slightly deficient rainfall and low transpiration. Greater-than-normal rainfall late in March resulted in a sharp rise, and by April 15

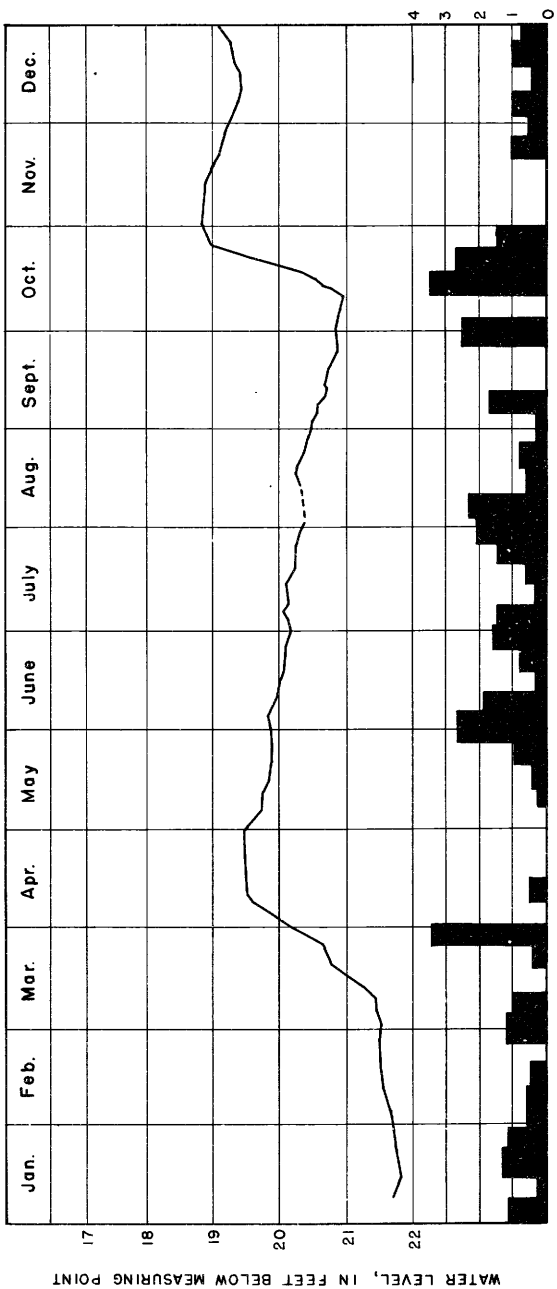

Figure 11.--Graph showing fluctuations of water level in 1942 in Chesterfield County well 36 (Pilcher well), near Petersburg, Va., and precipitation at Richmond.

the water level was 1.90 feet above the stage of March 11. During the remainder of April the water level remained essentially constant, but from April 29 to October 10, a period of deficient rainfall and high transpiration, it slowly declined. On October 10 it was 1.50 feet below the stage of April 29. Heavy rains during the last half of October caused the water level to rise, by October 31, to the highest stage of the year, which was 2.89 feet above the lowest stage, recorded on January 14. From October 31 to December 11 the rainfall was deficient, and the water level declined 0.58 foot. Although the rainfall was still slightly subnormal from December 11 to January 1, 1943, a gain of 0.40 foot in water level was made because of small transpiration losses. The net gain in 1942 was 2.62 feet.

Prince George County (Hopewell area)

In Prince George County three wells were under observation in 1942:

Well 2, the Federal Reformatory well, situated 3 miles west of Hopewell; well 13, the Old Dominion Water Co.'s abandoned well, at Hopewell; and well 15, the Tubize-Chatillon Co.'s abandoned well, also at Hopewell. (See fig.12).

The water level in well 2, which began to decline in the spring of 1941, continued to decline in 1942, and, except for a temporary recovery in April, remained persistently at low stages through July. It failed to recover during the period March to July to the same extent as the water level in the Pilcher well (Chesterfield County well 36), in the Fall Zone to the west, which indicates, perhaps, a general deficiency in recharge of Coastal Plain strata in spite of the apparent improvement in water levels in some places.

The water level in well 13 is affected chiefly by nearby wells operated by the Solvay Process Co. These industrial wells are pumped heavily in summer and recharged with surface water in winter. As was stated and shown by a hydrograph in Water-Supply Paper 937 (pp. 107,109), the water level in well 13, after the nearby industrial pumps are shut down, normally rises to about 40 feet below the measuring point. On January 17, 1942, the water level stood at about 39.4 feet below the measuring point. Hence it is concluded that the Solvay Process Co. began the artificial recharge of its wells on or about January 17, and this conclusion is borne out by the fact that the later stages of water level in well 13 reflect the addition of large quantities of surface water to the underground reservoir.

During the period January 17 to March 9, the water level was subject to violent fluctuation but nevertheless remained generally higher than 38.5 feet below the measuring point. On March 9 a decline began, and on March 21 the water level was 39.2 feet below the measuring point. It is thought, therefore, that March 9 marks the end of the period of artificial recharge begun on January 17.

During the period March 21 to May 23 the water level in well 13 declined only 0.16 foot, but on May 23 the usual heavy summer pumping began at the Solvay Process Co. wells, and in the following month the water level declined almost 10 feet. A slight further decline occurred late in June, and during the period July to October the water level was generally between 50 and 52 feet below the measuring point. During the three summer pumping seasons of the period 1939-41, it was between 48 and 50 feet below the measuring point. The lower stage of the water level characteristic of the 1942 pumping period may be due to deficient recharge along the Fall Zone, a few miles to the west, during the drought that prevailed until late in August.

Heavy pumping of the industrial wells ended on October 29, and by December 1 the water level in well 13 had risen 12.4 feet, or to a stage of 39.82 feet below the measuring point. On December 23 the Solvay Process Co. appears to have again started the artificial recharge of its wells, and for the remainder of the year the water level in well 13 was generally less than 39 feet below the measuring point.

Weekly measurements in well 15 were continued in 1942 as a check on well 13, as the two are only about half a mile apart. Although only part of the information revealed by the automatic recorder on well 15 is apparent from the weekly measurements, still they serve to duplicate the recorder record in a general fashion. It is of interest to note that the water level in well 15, like that in well 13, was about 2 feet lower during the summer of 1942 than during the summers of preceding years.

The figures of water level in 1941 for well 15 as published in Water-Supply Paper 937 are erroneous. The correct figures for 1941, as well as for 1942, are given in this report.

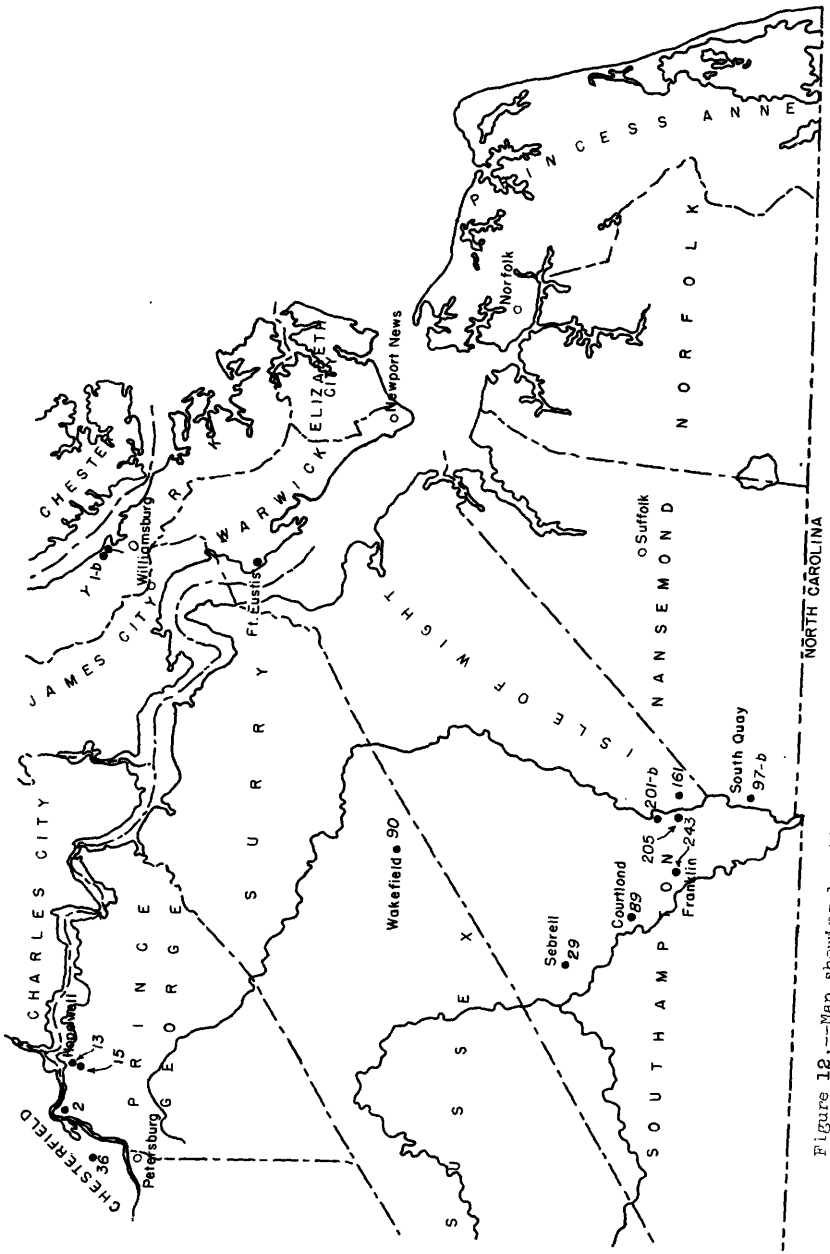

Figure 12.--Map showing location of observation wells in southeastern Virginia.

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Sussex County

This county is represented in the observation-well program by well 90, commonly known as the Jeb S. White well, at Wakefield, weekly measurements in which were continued in 1942. The water level in this well declined steadily during the period January 5 to August 24 except on a few days, and on August 24 a net decline of 2.25 feet was recorded. During the remainder of the year the water level was generally slightly above its stage of August 24, and on December 28 it was 0.05 foot above that stage, or 67.92 feet below the measuring point. The net decline for the year is not as great, however, as the record appears to indicate. If the records for 1941 and 1942 are considered together, and if the effects of temporary fluctuations early in 1942 are discounted, it is apparent that in the 2-year period there was a decline in water level of slightly less than 3 feet and that only about half of this took place in 1942.

The data at hand suggest that the net decline in water level for 1941-42 resulted from subnormal rainfall during the period extending from the spring of 1941 until late in August 1942. The failure of the water level to recover by the end of 1942 and return to its stages of early 1941, however, suggests that the decline may represent a regional loss of artesian head in response to the discharge of many flowing wells and to the pumping of wells for military and industrial use.

Isle of Wight, Nansemond, and Southampton Counties (Franklin area)

Observations were continued in 1942 in the Franklin area, where industrial pumping exerted a marked effect on artesian head for many miles around. The discharge of wells at Franklin increased from $3\frac{1}{2}$ million gallons a day at the end of 1941 to about 7 million gallons a day in May 1942, when the Chesapeake-Camp Corporation put a second well into operation. The first well pumped by this corporation was Isle of Wight County well 160; the second was Isle of Wight County well 162, which is 2,190 feet south of well 160. Construction of well 162 was completed on December 24, 1941, when it flowed at the rate of 200 gallons a minute.

Only one well of the Chesapeake-Camp Corporation is included in the observational-well program. This is Isle of Wight County well 161. (The description and measurements given in Water-Supply Paper 937, on p. 114, under the heading "Isle of Wight County", are erroneously ascribed to well 160. They apply correctly to well 161.)

Measurements made in this well in November and December 1941 and in each month of 1942 furnish detailed information on the decline of water levels in the Franklin area, due largely to industrial pumping at Franklin, and reflect short-time variations in pumping rates. The fluctuations of water level in well 161 to January 1, 1943, are graphically shown in figure 13.

From November 27, 1941, to January 12, 1942, the water level in this well declined 2.81 feet in response to the pumping of well 160, three-quarters of a mile to the northwest, at the Chesapeake-Camp Corporation mill. The flow of 200 gallons a minute from well 162, which began on December 24, 1941, may account for the continuance of the downward trend of the water level in well 161 to January 12, 1942. On January 12 kerosene was added to the well to prevent freezing, and in consequence the water level rose 1.61 feet. During the period January 12 to May 2 the water level declined 1.07 feet, or less than 0.3 foot a month, whereas during the earlier period mentioned--November 27 to January 12--it declined almost 2 feet a month. On May 2, when pumping began in well 162, the total amount of ground water pumped at the Chesapeake-Camp Corporation mill increased to about 7 million gallons a day. In the following 35-day period, that is, until June 6, the water level declined 12.59 feet, so that on June 6 it was 18.23 feet below the measuring point.

From June 6 to July 22 the water level in well 161 fluctuated widely, owing to intermittent shut-downs of pumped wells at the Chesapeake-Camp Corporation mill, but in that period a net decline of 0.78 foot was recorded. From July 22 to December 23 the fluctuations were more moderate; during this period a net decline in water level of 1.66 feet was recorded for this well. On December 23 the water level was 20.67 feet below the measuring point, which is 18.88 feet below its stage on November 27, 1941, when observations were begun in the well. Toward the end of the year, that is, after December 23, the water level again fluctuated widely, owing to the temporary shut-down of producing wells, and on January 2, 1943, it was 20.20 feet below the measuring point.

The record of well 161 for the second half of 1942, considered as a whole, shows that the decline in water level for the period was moderate, averaging about 0.33 foot a month. Conditions seem to indicate that a further gradual decline of water level will occur as pumping in the Franklin area continues.

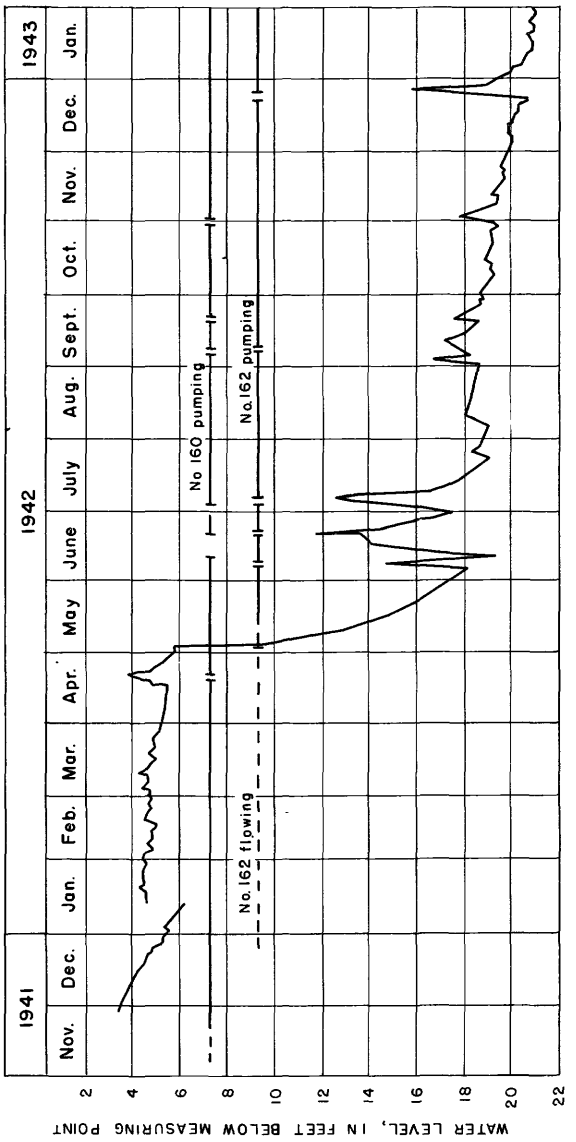

Figure 13.--Graphs showing fluctuations of water level in Isle of Wight County well 161, Franklin area, Va., during the period November 1941 to January 1943, and variations in discharge of nearby industrial wells.

Southampton County well 201b, which is owned by the Camp Manufacturing Co., has become plugged and therefore is no longer available for observation. It is reported, however, that on July 1, 1942, the water level in an adjacent well of the same depth was about 33 feet below the surface, or approximately 15 feet below the level recorded in well 201b on November 5, 1941. As this adjacent well is only about 1 mile north-northwest of the Chesapeake-Camp Corporation producing wells and therefore affected by them, its decline in water level during the period November 5, 1941, to July 1, 1942, may be compared with the declines during the same period in Southampton County well 205 and Isle of Wight County 161, the two observation wells also affected by the pumping of the industrial wells just mentioned. The declines in the three wells were as follows: Southampton County well 201b, 15 feet (reported); Southampton County well 205, about 15 feet (reported); Isle of Wight County well 161, 17.5 feet (recorded).

Beginning August 27, 1942, the city of Franklin made weekly measurements until the end of the year in Southampton County well 205, which is within the city limits. The water level in this well was within a few feet of the surface early in the year but declined rapidly as nearby industrial wells were put into operation. On June 25 it was 15 feet below the measuring point, and on December 19 it was 17.75 feet below, which was the lowest stage of the year. The decline in water level during the second half of the year was about the same as that recorded in Isle of Wight County well 161.

Observations on Southampton County well 243, the Webb School well, which is situated about 4 miles west-southwest of Franklin, were continued in 1942. Variations in the water level so small as to be insignificant were recorded in the early part of the year, but a decline of 1.63 feet occurred during the period May 4 to November 18, when the last observation of the year was made. On November 18 the water level was 8.60 feet below the measuring point, which is 2.05 feet below the highest stage recorded in 1942 (on March 9) and 2.10 feet below the highest stage recorded in 1941. It is of interest to note that no effect of pumping in the Franklin area was observed in Southampton County well 243 until the Chesapeake-Camp Corporation put its second 18-inch pumping well (Isle of Wight County well 162) into operation, after which the water level immediately began to decline.

However, no decrease in rate of decline after June 6 comparable to that recorded in Isle of Wight County well 161 (see fig. 13), which is also affected by the Chesapeake-Camp Corporation pumped wells (Isle of Wight County wells 160 and 162), is apparent in Southampton County well 243.

Measurements of water level were begun January 17, 1942, in Southampton County well 89, at Courtland. The water level was essentially constant during the period January 16 to March 6, when the well was measured weekly. On September 14 the water level was 0.47 foot below its stage on March 6. During the period September 14 to November 16 the decline was more rapid and a net loss of 0.53 foot was recorded. This decline is about the same as the regional decline recorded in Sussex County well 90, at Wakefield, during the same period, and like that, may represent a regional loss of artesian head. As the decline in both these wells is small, it is concluded that in the Franklin area the artesian head of water in strata above those developed by the large industrial wells is only slightly affected, if at all, by the pumping of these wells.

Intermittent measurements of water level were begun in 1942 in Southampton County well 29, at Sebrell. Besides the three measurements made in 1942, all available measurements made in previous years are listed in this report. In the period 1907-38 the water level in this well declined 6.25 feet, so that on July 28, 1938, it was 21.25 feet below the measuring point. This decline of about 0.20 foot a year during the 31-year period indicated is attributed largely to the formation of a cone of depression resulting from the combined discharge of many flowing wells at Franklin and Courtland, 13 and 6 miles, respectively, to the southeast. In the 3-year period July 28, 1938, to September 6, 1941, the decline was more rapid, averaging about 0.65 foot a year. The more rapid decline in the later, shorter period may be attributed to the installation of better constructed wells on very low ground in the flowing-well area and to the increase in the use of ground water by industries in the Franklin area and by the municipality of Franklin.

During the 9-month period September 26, 1941, to June 26, 1942, a more marked decline of water level was recorded in the well at Sebrell--2.13 feet--making the rate of decline for that period 2.8 feet a year. During the following 5-month period, June 27 to November 16, the water level

further declined 1.49 feet, or at the rate of 3.8 feet a year. The total decline of 5.62 feet in the 14 months preceding the last observation may be attributed to pumping at Franklin. These data appear to indicate that the deeper cone of depression forming about the large wells at Franklin is far from stabilized.

In well 97b, Nansemond County, which is the Jones Peanut Factory well at South Quay, four measurements were made during the year. On September 4, the date of the last observation, the water level was 7.06 feet below the measuring point, which is 0.26 foot lower than its highest stage of the year, reached on January 17. Effects of pumping at Franklin are not apparent in this well.

From the data presented it appears that still further declines of water level in the Franklin area may be expected, with consequent diminution of yield to pumped wells. Records of periodic measurements on the yield of pumped wells, however, are not available. The marked effect upon the water level in the nearest observation well (Isle of Wight County well 161) of doubling the amount of water pumped from the industrial wells at Franklin and the failure of wells in the surrounding territory to stabilize toward the end of the year indicates that the Franklin area may be somewhat over-pumped. If additional large-yield wells are constructed near Franklin, it seems likely that (1) the yield obtained from all producing wells in the area may be smaller, (2) water levels in a wide surrounding territory may be strongly affected, and (3) a gradual diminution of yield from all wells must be expected. If gradual decreases in yield of pumped wells are compensated for by lowering the pump columns in the wells, further declines of water levels in a wide surrounding area may occur.

Warwick and York Counties (York-James Peninsula)

Fort Eustis 1/

Measurements were continued in 1942 in Milstead No. 1 well, at Fort Eustis, Warwick County, a record of which to January 1, 1943, is shown graphically in figure 14 . During the period April 17 to December 31, 1941, the water level in this well declined 2 to 2⅛ feet, largely in response to the pumping of about 2¼ million gallons a day at Fort Eustis and the nearby Skiffs Creek Reservoir. The net decline in 1941 takes into account a partial recovery during the period October to December. At the end of 1941

1/ The designations of wells in the Fort Eustis and Camp Peary area as given in this report are those used locally.

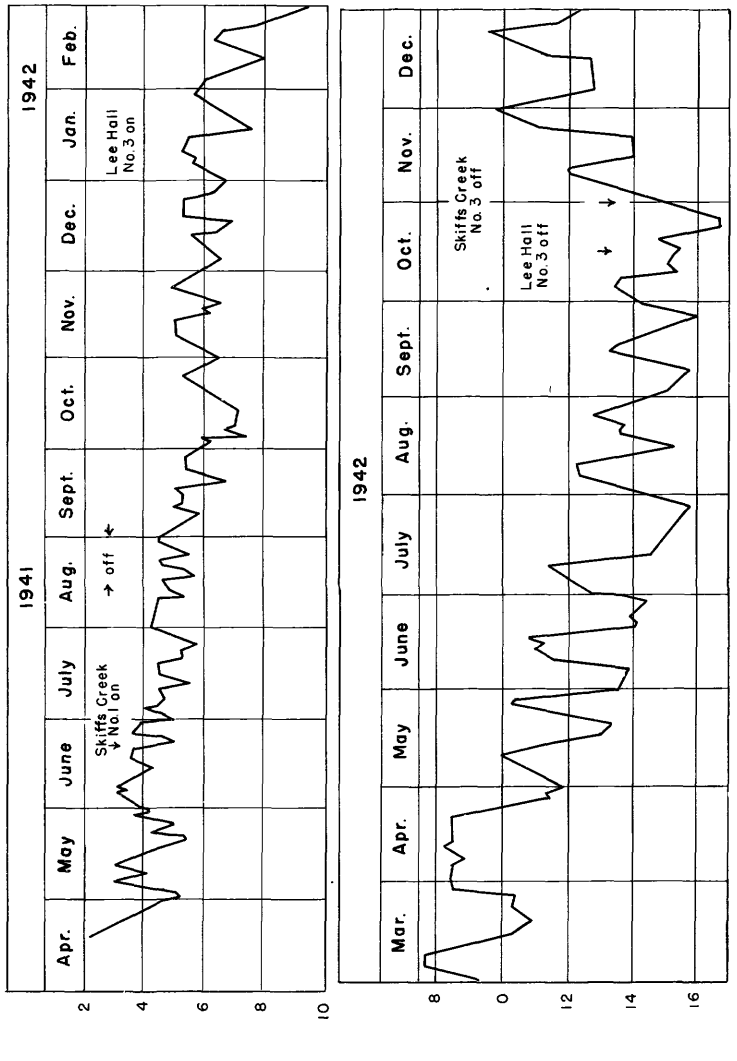

Figure 14.--Graphs showing fluctuations of water levels in observation wells at Fort Eustis, Va., during the period April 1941 to December 1942.

it did not seem likely that a further decline of water level would occur under the existing conditions of discharge.

The combined discharge of wells in the Fort Eustis area is estimated to have been about 3 million gallons a day at the beginning of 1942. Early in January, a well at Lee Hall (Lee Hall No. 3 well) was put into operation and yielded approximately 500 gallons a minute. The water level in Milstead No. 1 well began to decline immediately, and in January and February a net decline of about 1½ feet was recorded. Early in March the Newport News Water Co.'s Skiffs Creek No. 3 well began operation, (after Skiffs Creek No. 1 well had been shut off), and discharged at a rate of somewhat less than 1,300 gallons a minute. The total pumpage in the Fort Eustis area is estimated to have been more than 4 million gallons a day for several months thereafter. The decline that began in January continued, and by the middle of October a decline of 9 feet had taken place.

Owing to the replenishment of surface-water reservoirs by heavy rains, Lee Hall well 3 was shut off on October 16 and Skiffs Creek well 3 was shut off on October 31. A rise of water level in the Fort Eustis observation well (Milstead No. 1 well) was immediately apparent, and by the end of the year a recovery in water level of at least 5 feet had taken place.

The record indicates conclusively that the Fort Eustis area was overpumped during the greater part of the first 9 months of the year. Whether the decline in water level would have had serious consequences insofar as the quantity of water available is concerned is somewhat doubtful. On the other hand, that a continuing decline in water level would have serious consequences on the quality of the water is of little doubt, inasmuch as it forewarns of an increase in chloride content. In waters, such as these, in which the chloride content is already high, the possibility of a marked increase in this constituent is regarded as a grave danger. Small but definite increases in the chloride content of the Fort Eustis ground waters were noted late in the spring of 1942. The increases did not become larger or permanent, however, and as the amount of discharge has been curtailed, further increases are not likely, at least as long as the water level in the observation well continues to show that the wells are not being overpumped.

Camp Peary 1/

Camp Peary, which is in York County, was established by the United States Navy in the fall of 1942. It lies along York River near Williamsburg. Wells for water supply, sunk to Lower Cretaceous strata at a depth of about 375 feet below sea level, began to be put into production by November 3. At the end of the year 8 wells were in intermittent operation, discharging a total of 2 to 3 million gallons a day. Water levels declined markedly, and a net loss of 13.76 feet was recorded in the Seabee Sawmill well (Camp Peary observation well 1) by January 3, 1943. This loss was temporarily arrested early in January 1943, when the curtailment of excessive waste was effected by the installation of pump-control apparatus.

A net loss of 23.62 feet was recorded by January 10, 1943, in Camp Peary well B1, which is located centrally with respect to other discharging wells.

It is generally recognized by all concerned that the safe yield of the Camp Peary area is probably only about 2 or 3 million gallons of water a day. Nevertheless, it is planned to pump as much as 5 million gallons a day until a surface-water supply can be made available. The observation program consists of closely watching water-level declines and changes in the chloride content of well waters in order to forestall (1) contamination of supply by increases in the chloride content and (2) sudden or unexpected diminution of the quantity of water available in the intervening period.

WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Observation wells in southeastern Virginia are listed alphabetically by counties and numerically within each county. Complete descriptions are given only for newly added wells. The numbers in parentheses immediately following a well number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in that paper.

The water level is expressed in feet below a fixed measuring point.

1/ The designations of wells in the Fort Eustis and Camp Peary areas as given in this report are those used locally.

Chesterfield County

36 (*836,p.913; 907,p.119; 937,p.112). Pilcher well. 3 miles north of Petersburg.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 8	21.70	Apr. 8	19.59	July 5	20.12	Oct. 10	20.98
14	21.79	15	19.48	15	20.13	17	20.42
23	21.72	22	19.48	20	20.28	24	19.20
30	21.70	29	19.46	26	20.27	31	18.90
Feb. 4	21.66	May 7	19.76	Aug. 3	20.42	Nov. 7	18.91
11	21.54	13	19.79	18	20.27	13	18.94
18	21.51	20	19.90	26	20.46	20	19.12
24	21.49	27	19.94	Sept. 4	20.58	27	19.20
Mar. 5	21.46	June 5	19.88	11	20.76	Dec. 4	19.35
11	21.38	10	19.97	18	20.75	11	19.48
19	20.79	17	20.10	24	20.93	19	19.39
26	20.65	24	20.13	Oct. 3	20.89	27	19.29
Apr. 1	20.20	July 1	20.21				

Isle of Wight County

161. Chesapeake-Camp Corporation observation well, 3,900 feet southeast of well 160 (first 18-inch pumping well of Cheasapeake-Camp Corporation) and 1,700 feet east-southeast of well 162 (second 18-inch pumping well of Chesapeake-Camp Corporation). Well 162 is 2,190 feet south of well 160. Measuring point, 25.3 feet above sea level.

Water level, in feet below measuring point, 1942

Jan. 5	5.71	Apr. 6	5.27	July 6	15.28	Oct. 5	18.99
12	6.21	13	5.46	13	17.98	12	18.98
12	a4.60	20	4.03	20	18.89	19	19.00
19	4.27	27	5.52	27	18.62	26	19.14
26	4.39	May 4	9.85	Aug. 3	18.96	Nov. 2	17.85
Feb. 2	4.56	11	13.52	10	17.99	9	19.31
9	4.75	18	15.37	17	18.26	16	19.52
16	4.71	25	16.53	24	18.44	23	19.60
23	4.78	June 1	17.55	31	18.68	30	19.69
Mar. 2	4.71	8	17.13	Sept. 7	18.34	Dec. 7	19.92
9	4.36	15	14.11	14	18.12	14	20.09
16	4.95	22	14.75	21	17.70	21	20.49
23	4.84	29	17.49	28	18.76	28	17.79
30	5.15						

Nansemond County

105 (886,p.913; 907,p.119; 947,p.112). Measurements discontinued.

97b (*937,p.112, erroneously reported as 976). Jones Peanut Factory. In South Quay. Water levels, in feet below measuring point, 1942: Jan. 1, 6.90; Jan. 17, 6.80; June 20, 6.98; Sept. 4, 7.06.

Prince George County

2 (*886,p.913; 907,p.119; 937,p.113). Federal Reformatory. 3 miles west of Hopewell.

Water level, in feet below measuring point, 1942

Jan. 7	25.36	Mar. 5	25.83	Apr. 28	25.17	June 16	25.68
14	25.50	12	25.65	May 5	25.44	23	25.68
21	25.55	19	25.42	12	25.46	30	25.40
29	25.65	26	25.5	19	25.65	July 7	25.03
Feb. 6	25.66	Apr. 2	25.10	26	25.72	14	25.05
12	25.73	9	24.86	June 2	25.93	21	25.17
19	25.77	16	24.94	9	25.98	28	25.33
26	25.85	21	24.95				

a Kerosene added.

13 (*886,p.914; 907,p.119; 937,p.113). Old Dominion Water Co. In Hopewell.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	38.42	Apr. 4	39.30	July 4	49.72	Oct. 10	52.65
10	39.49	11	39.22	11	50.72	17	48.29
17	39.40	18	39.32	18	51.17	24	48.32
24	38.53	25	39.40	Aug. 1	51.54	31	51.08
31	38.28	May 2	39.32	8	51.54	Nov. 7	45.65
Feb. 7	35.34	9	39.42	15	51.42	14	42.95
14	36.91	16	39.37	22	51.59	21	41.62
21	37.89	23	39.36	29	52.01	28	40.88
28	38.11	31	44.48	Sept. 5	52.39	Dec. 5	40.44
Mar. 7	38.32	June 1	47.45	12	52.23	12	38.95
14	38.78	13	48.45	19	52.91	19	39.25
21	39.20	20	49.11	26	52.03	26	38.36
28	35.66	27	48.91	Oct. 3	52.28		

15(*886,p.914; 907,p.120; 937,p.113). Tubize-Chatillon Co. At Hopewell. (Measurements for 1941 as published in Water-Supply Paper 937, on p. 113, are in error. The correct measurements for 1941 are therefore included here.)

Water level, in feet below measuring point, 1941

Jan. 3	32.80	Apr. 19	33.90	July 25	39.5	Oct. 10	40.30
24	32.67	25	33.84	Aug. 1	39.41	17	40.17
31	32.92	May 16	37.17	8	39.34	24	39.84
Feb. 7	32.75	23	37.68	15	39.58	30	39.96
14	32.75	31	38.09	22	39.84	Nov. 10	35.38
21	32.75	June 6	38.05	29	40.20	14	39.30
28	32.73	14	38.50	Sept. 5	40.21	21	39.62
Mar. 7	32.78	20	38.75	12	40.72	28	36.15
21	33.00	27	39.17	19	40.37	Dec. 4	35.92
28	32.90	July 3	39.17	26	40.67	20	34.96
Apr. 4	32.98	11	39.66	Oct. 3	40.33	26	34.38
12	33.38	18	39.88				

Water level, in feet below measuring point, 1942

Jan. 3	33.17	Mar. 23	34.08	July 3	41.30	Oct. 2	42.75
9	33.25	30	34.05	10	41.30	9	42.92
16	33.50	Apr. 7	34.46	18	42.12	16	42.80
23	33.75	14	34.37	24	42.17	23	42.50
30	33.40	21	34.46	Aug. 1	32.30	30	42.30
Feb. 6	33.36	28	34.50	14	32.80	Nov. 13	36.55
14	32.75	May 5	34.83	Sept. 4	42.80	Dec. 4	36.15
21	33.13	June 12	40.05	11	42.84	11	35.00
Mar. 1	34.50	19	40.54	18	42.88	18	34.34
3	34.48	26	40.74	25	42.54	24	34.90

Southampton County

29. Virginian Railway. At Sebrell. 300 feet east of railroad station, between tracks. Drilled well, equipped with defunct deep-well pump. Diameter 10 inches, depth 344 feet. Measuring point, inside edge of flange at top of casing, 62 feet above sea level.

Water level, in feet below measuring point, 1907, 1938,1940-42

Date	Water level	Date	Water level	Date	Water level
1907	a15	Sept.26, 1941	23.31	Sept. 4, 1942	26.22
July 28, 1938	21.25	June 26, 1942	25.44	Nov. 16	26.93
Apr. 2, 1940	22.05				

89. Southampton County Courthouse. At Courtland, in front of jail near sidewalk, 0.25 mile south of railroad station. Jetted well, casing projects 1½ feet above surface; capped. Diameter 2 inches, depth 125 feet. Measuring point, top of casing, 29.8 feet above sea level.

a Sanford, S. T. The underground water resources of the Coastal Plain province of Virginia: Virginia Geol. Survey Bull. 5, p. 270, 1913.

89. Southampton County Courthouse--Continued.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 16	4.49	Feb. 6	4.26	Feb. 27	4.51	Sept. 4	4.98
23	4.48	13	4.50	Mar. 6	4.51	Nov. 16	5.51
30	4.38	20	4.32				

201b (907,p.120; 937,p.113). No measurements made in 1942.

205. City of Franklin. In Franklin, on southeast corner of Fifth Avenue and Middle Street , 1 block west of pumping station. Abandoned jetted well, diameter 4 inches, depth 354 feet, casing extends to 335 feet. Cook strainer to bottom. Measuring point, top of casing, 0.5 foot above surface, 21.74 feet above sea level. Measurements made by city of Franklin.

Water level, in feet below measuring point, 1942

June 25	15.0	Sept. 26	17.0	Oct. 31	17.33	Dec. 5	17.5
Aug. 27	17.0	Oct. 3	17.5	Nov. 7	17.5	12	17.75
Sept. 5	16.0	10	17.5	14	17.0	19	17.75
12	16.5	17	17.0	21	17.5	26	17.5
19	16.0	24	17.33	28	17.75		

243 (*937,p.114). Webb School well. 4 miles west-southwest of Franklin.

Water level, in feet below measuring point, 1942

Jan. 7	6.85	Mar. 23	6.70	June 16	7.44	Sept. 4	8.25
13	6.89	30	6.70	16	7.50	8	8.25
20	6.84	Apr. 6	6.80	23	7.55	16	8.20
27	6.90	13	6.82	July 1	7.97	23	8.40
Feb. 2	6.87	21	6.80	8	7.78	Oct. 7	8.50
9	6.89	28	6.93	15	7.80	15	8.30
16	6.88	May 4	6.97	29	7.40	22	8.35
25	6.76	11	7.03	Aug. 5	8.05	29	8.50
Mar. 2	6.82	18	7.00	12	7.80	Nov. 5	8.50
9	6.55	27	7.20	20	7.40	10	8.60
17	6.66	June 1	7.37	27	8.15	18	8.60

Sussex County

90 (*907,p.120; 937,p.114). Jeb S. White well. In Wakefield.

Water level, in feet below measuring point, 1942

Jan. 5	65.84	Apr. 20	66.22	July 13	66.99	Oct. 5	68.06
19	65.72	27	66.45	21	67.21	12	67.63
26	65.99	May 4	66.61	27	67.46	26	67.42
Feb. 2	65.20	11	66.97	Aug. 3	67.44	Nov. 1	67.36
9	65.89	18	66.48	10	67.34	9	67.59
16	66.17	25	66.89	17	67.06	16	67.97
23	66.36	June 1	66.97	24	67.97	23	67.49
Mar. 3	65.76	8	66.84	31	67.35	30	67.60
9	65.86	16	66.82	Sept. 7	67.22	Dec. 7	67.67
16	66.06	22	67.14	14	67.72	14	67.60
23	65.91	30	66.94	21	67.73	22	67.40
30	66.00	July 7	67.04	28	67.60	28	67.92
Apr. 6	66.05						

Warwick County

Milstead No. 1 well (*937,p.114). At Fort Eustis.

Water level, in feet below measuring point, 1942

Jan. 5	5.08	Feb. 26	7.70	Apr. 23	10.23	June 16	10.69
12	5.15	Mar. 5	8.09	30	11.42	23	13.34
15	5.23	12	8.84	May 7	9.95	30	12.60
22	7.06	19	10.55	14	14.33	July 7	11.55
29	5.09	26	10.10	21	13.30	14	14.33
Feb. 5	6.38	Apr. 2	8.15	28	10.20	21	15.03
12	6.90	9	8.27	June 2	13.01	28	14.65
19	5.83	16	8.19	9	11.23	Aug. 4	13.24

Milstead No. 1 well, Fort Eustis--Continued.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 11	12.12	Sept. 22	14.89	Oct. 27	15.87	Dec. 1	9.60
18	15.00	29	15.06	Nov. 3	13.80	8	12.00
25	12.15	Oct. 6	13.22	10	11.80	15	12.82
Sept. 1	14.28	13	15.11	17	13.60	22	9.23
8	15.32	20	14.79	24	10.43	29	12.04
15	13.20						

York County

Camp Peary well 1. U. S. Navy. At Seabee Sawmill on north bank of Queen Creek, 1.6 miles west of York River, in stream bottom east of brick dwelling. Jetted well, diameter 3 inches, depth 1,400 feet. Measuring point, top of casing at ground surface, 9.31 feet above sea level. Water level, in feet below measuring point, 1942: Oct. 1, 2.0; Oct. 31, 3.15; Dec. 14, 10.64; Dec. 31, 14.45.

Camp Peary well B1. U. S. Navy. 1.1 miles east of Magruder. Drilled well. Diameter 10 inches, depth 354 feet. Strainer extends from 392 to 422 feet. Measuring point, top of 1-inch pipe welded into casing which is 0.3 foot above concrete base around pump, 41.33 feet above sea level.

Water level, in feet below measuring point, 1942

Date	Water level	Date	Water level	Date	Water level
Nov. 2	a34.03	Nov. 14	37.02	Nov. 21	39.95
12	b36.35	17	37.36	Dec. 5	44.98

a Well D1 not operating.
b Wells B3 and D1 in operation.

WEST VIRGINIA

By R. M. Jeffords

INTRODUCTION

The periodic measurement of water levels in selected wells in West Virginia, begun in July 1941, was continued in 1942 by the Geological Survey, United States Department of the Interior, in cooperation with the West Virginia Geological and Economic Survey, Paul H. Price, State Geologist. The observation-well program forms part of a State-wide investigation of ground-water resources.

In most of West Virginia the surface is underlain by thick deposits of sedimentary rocks of Paleozoic age. Many of the shallow sandstones, limestones, and fractured shales yield potable water to springs and drilled wells. The quantity and quality of this ground water in many areas has been adversely affected by coal mining and the migration of brines from deeper formations. Superimposed on the consolidated sedimentary rocks there is commonly a thin veneer of soil containing sufficient ground water to supply small dug wells. In many valleys there is a relatively thick deposit of water-bearing alluvium, and terraces of unconsolidated sediments occur at several elevations above and along the larger streams.

A brief report on the progress made in 1942 in the general investigation of ground-water conditions in the State was published during the year, [1] and a preliminary report on the ground-water resources of Harrison County was released in typwritten form in March. [2] During the latter part of the year a reconnaissance of ground-water conditions in the Ohio and Kanawaha River Valleys was begun.

1/ Price, P. H. and Nace, R. L., Ground-water investigations in West Virginia: West Virginia Engineer, vol. 4, pp. 8, 9, 23, 24, 1942.

2/ Nace, R. L., Ground-water resources of Harrison County, West Virginia, 1942 (typewritten report).

Water-level measurements were made in 28 observation wells during 1942. At the end of the year, measurements were being made weekly in nine wells, monthly in four wells, and at irregular intervals in nine wells. Six wells in Preston County were measured at regular intervals until June and at irregular intervals during the remainder of the year. In all,304 individual measurements of water level were made in the 28 observation wells during the year, and single measurements were made in about 250 other wells. All measurements were by the wetted-tape method; no automatic water-level recorders were in operation. Of the 28 observation wells, 12 obtain water from alluvium, 15 from Pennsylvanian rocks, and 1 from Mississippian rocks.

FLUCTUATIONS OF WATER LEVEL

The records of water level for many of the observation wells extend over periods too brief to justify conclusions as to ground-water trends. Available measurements indicate, however, that ground-water levels in the State, in general, were rising during the latter part of 1942.

The water level in well 40-5-14, in the Charleston business district, showed a net rise of 0.93 foot in 1942. In the latter part of September it was about 3.8 feet above its stage in the latter part of September 1941. In Charleston, ground water is used extensively during the summer for air conditioning; hence the water level declines throughout that season. In the fall, however, when pumping decreases, the water level gradually rises and continues to rise until it reaches its maximum stage in the early spring. The record of well 9-6-27, at Morgantown, also shows a considerable decline in water level during the summer and a gradual rise in the fall, winter, and early spring. Comparison of the measurements made in this well during the fall of 1941 with those made during the fall of 1942 indicates a decline of about 5 feet in water level during 1942.

The precipitation in West Virginia in 1942, as recorded by the United States Weather Bureau, was 48.42 inches, which is 5.79 inches above normal and 12.45 inches greater than in 1941, although the cumulative precipitation for the first 7 months of the year was below normal. In each of the last 5 months, however, the precipitation was above normal, and in August it was the greatest since 1898 in that month. The rise of the water

level in many of the observation wells during the latter part of 1942 seems to be due to this increase in precipitation as well as to the decrease in pumping in the late fall and early winter.

The following table summarizes the fluctuations of water level in observation wells for which records are available for most of 1942.

Net changes in water level in 1942 and for the period of record in 6 wells in West Virginia

Well	Date of first measurement	Difference between highest and lowest water levels, in feet	Net rise (+) or net decline (-) in feet, in 1942	Net rise (+) or net decline (-) in feet, for period of record
9-6-27	Sept.22, 1941	21.90	-6.76	-4.42
9-6-45	20	4.93	+4.93	+1.78
11-3-3	Aug. 29	a1.83	+.18	+.54
12-3-41	Jan. 16, 1942	a1.61	+1.42	+1.42
38-3-3	June 25	9.99	-9.99	-9.99
40-5-14	Sept.26, 1941	9.35	+.93	b-7.64

Highest and lowest recorded water levels for the period of record in 6 wells in West Virginia

Well	Highest recorded water level, in feet below land surface	Date	Lowest recorded water level, in feet below land surface	Date
9-6-27	131.15	Feb. 6, 1942	153.05	Aug. 6, 1942
9-6-45	11.26	Nov. 28	16.19	Mar. 13
11-3-3	3.78	25, 1941 Mar. 10, 1942	a5.61	Oct. 21, 1941
12-3-41	.45	Oct. 23	a2.06	Sept.18, 1942
38-3-3	48.60	June 25	58.59	Dec. 30
40-5-14	33.15	Mar. 30	42.50	Aug. 20

WELL-NUMBERING SYSTEM

Observation wells in West Virginia have been assigned segmented numbers that indicate their location by county, magisterial district, and geographic position within a district. To accomplish this, the counties are numbered consecutively in a general southward direction, beginning with Hancock County, which is at the northern tip of the State; the districts within each county are numbered according to the same plan, beginning with the northernmost district; and the individual wells are first designated by simple numbers that also run consecutively, roughly according to their geographic location relative to other wells in the same district. Thus, in the segmented number 9-6-27, assigned to a well in Morgantown, 9 represents Monongalia County, 6 represents Morgan district, and 27 represents the individual well.

a Measurements of lowest water levels that are due to the pumping of nearby wells are omitted.

b The first measurement was made during summer, when low water levels prevail.

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WELL DESCRIPTIONS AND WATER-LEVEL MEASUREMENTS

Observation wells in West Virginia are listed alphabetically by counties and numerically within each county. Complete descriptions are given only for newly added wells. The numbers in parentheses immediately following a well number indicate the water-supply papers in which earlier records of that well are given and the pages on which they appear. An asterisk indicates that a description of the well is given in the paper whose number is so marked. Unless otherwise indicated, the water level in each well is expressed in feet below land-surface datum, which is a precise plane of reference that coincides with the average level of the land surface at that well. In the descriptive text that precedes the water levels given for each well, the position of that reference plane is defined with reference to the current measuring point at the well.

Fayette County

42-4-1. Baldwin Supply Co. At Montgomery, Kanawaha district. In southwest corner of store at 407 Fourth Avenue. Abandoned drilled well, diameter 5-5/8 inches, depth 95 feet. Measuring point, top of cement floor, 2 feet above land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 27	23.40	Nov. 17	23.99	Dec. 8	23.40	Dec. 23	24.18
Nov. 3	24.35	24	23.77	15	23.27	29	22.84
10	24.32	Dec. 1	23.48				

42-4-2. Virginian Railway Co. At Deepwater, Kanawaha district. On valley terrace, 50 feet north of State Highway 61 and about 200 feet west of railroad overpass. Abandoned dug well, diameter 2.65 feet, depth 14 feet. Measuring point, top metal elbow, 1 foot above land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level
Oct. 26	0.89	Nov. 9	0.97	Dec. 14	1.89
Nov. 22	1.35	Dec. 6	.84	28	1.92

Harrison County

12-2-26. City of Lumberport. At Lumberport, Eagle district. In valley of Jones Creek, 0.5 mile northwest of State Highway 20. Unused drilled well, diameter 6 inches, reported depth 140 feet. Measuring point, top edge of clamp holding outlet pipe, 2.1 feet above land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 16	4.20	Mar. 6	4.40	May 1	4.40	June 27	4.60
23	4.30	20	4.40	8	4.60	July 3	4.30
30	4.30	26	4.10	15	4.50	10	4.20
Feb. 6	4.30	Apr. 3	4.30	21	4.40	25	4.50
13	4.10	10	4.50	June 5	4.40	30	4.30
20	4.40	19	4.50	13	4.60	Aug. 6	4.50
27	4.60	25	4.20	19	4.40		

12-3-41. Hope Natural Gas Co. In valley of Thomas Fork behind cottages at Bridgeport compressor station, 6 miles north of Bridgeport, Clay district. Drilled well, diameter 6 inches, reported depth 124 feet. Measuring point, top of casing, 2 feet above land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 16	1.87	Feb. 27	1.37	May 1	1.60	Aug. 28	0.51
23	1.55	Mar. 6	1.34	15	1.11	Sept.11	a23.45
Feb. 6	1.26	13	1.05	July 3	.80	18	2.06
13	1.49	27	1.24	24	1.11	Oct. 23	.45
20	1.37	Apr. 3	1.21				

Jackson County

30-2-1. City of Ravenswood. At Ravenswood, Ravenswood district. In northwest corner of old municipal pumping station, 500 feet west of railroad station. Abandoned drilled well, diameter 12 inches, depth 79 feet. Measuring point, top of casing, 4 feet above land surface. Water levels, in feet below land surface datum, 1942: Oct. 7, 39.80; Dec. 11, 39.42.

Kanawaha County

40-3-1. L. T. Smith. At Nitro, Union District. In valley of Armour Creek, along 40th Street 0.45 mile west of its junction with U. S. Highway 35. Slightly used dug well, diameter 2 feet, depth 17 feet. Measuring point, east side of top edge of well box, 3.5 feet above land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level
Oct. 9	11.30	Oct. 30	11.39	Nov. 18	10.70
18	11.16	Nov. 6	10.28	27	9.90
24	11.38	13	10.03	Dec. 5	9.75

40-5-14 (*937, p. 117). Coyle & Richardson Department Store. At Charleston, Charleston district.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 8	34.42	Mar. 30	33.15	July 16	41.29	Sept.24	37.26
20	34.19	Apr. 14	33.22	24	42.05	Oct. 1	36.18
29	34.19	16	33.20	30	42.35	8	37.70
Feb. 5	33.97	30	34.33	Apr. 6	40.75	22	35.35
18	33.97	May 7	33.89	13	42.19	Nov. 5	34.81
24	33.60	14	36.44	20	42.50	27	34.07
Mar. 5	33.41	28	36.30	27	39.27	Dec. 8	34.00
12	33.17	June 22	38.55	Sept. 4	41.72	24	33.49
19	33.28	July 9	40.02	11	42.18		

40-5-15. Valley Bell Dairy. At Charleston, Charleston district. Along west side of Delaware Avenue, 600 feet north of its intersection with Roane Street, about 15 feet from sidewalk. Drilled well, diameter 8 inches, reported depth 168 feet. Measuring point, top of casing, 1 foot above land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level
Oct. 29	41.55	Oct. 31	40.96	Nov. 4	41.70
30	41.36	Nov. 3	41.74	6	41.38

40-10-1. G. W. Gibson. At Shrewsbury, Cabin Creek district. On side of embankment for U. S. Highway 60, 0.7 mile west of Watson Branch. Abandoned dug well, diameter 3 feet, depth 20 feet. Measuring point, west side top of wooden flooring, 2 feet below land surface. Water level, in feet below land surface datum, 1942: Oct. 28, 7.83.

a Two nearby wells pumped at about 75 gallons a minute Sept. 1-12.

Marion County

10-3-20 (*937, p. 117). Bethlehem Mines Corportaion. At Barrackville, Fairmont district. Water levels, in feet below land surface, 1942: Aug. 6, 53.25; Sept. 11, 53.45.

Mason County

38-3-3. West Virginia Industrial School for Colored Boys. At Lakin, Robinson district. Beside rear drive, between transformer station and gasoline pump house, about 1,000 feet from State Highway 62. Unused drilled well, diameter 6 inches, depth 91 feet. Measuring point, top of casing, 2 feet above land surface datum and 593.40 feet above sea level.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
June 25	48.60	Nov. 23	57.63	Dec. 14	55.53	Dec. 23	57.50
26	50.16	24	57.80	15	55.55	24	57.61
Oct. 7	52.92	25	57.88	16	55.79	25	57.77
18	51.00	26	57.85	17	55.99	26	58.08
Nov. 5	55.33	Dec. 7	55.93	18	56.34	27	58.18
6	55.65	9	55.77	19	56.50	28	58.38
7	55.90	10	55.56	21	57.04	29	58.45
20	57.59	11	55.54	22	57.18	30	58.59
21	57.54	12	55.41				

38-3-4. V. K. Smith. At Kaylong, Robinson district. Inrear of pump house, about 600 feet east of State Highway 62, 1 mile south of post office. Abandoned dug well, diameter 30 inches, depth 67 feet. Measuring point, upper surface of east side of cement curbing, 1 foot above land surface, and 618.32 feet above sea level.

Water level, in feet below land surface datum, 1942

Nov. 24	55.21	Dec. 15	55.46	Dec. 22	55.56	Dec. 27	55.64
26	55.24	16	55.49	23	55.60	28	55.63
Dec. 8	55.35	17	55.48	24	55.61	29	55.64
11	55.42	18	55.54	26	55.65	30	55.66
14	55.47	19	55.55				

38-3-5. Homer Smith. At Kaylong, Robinson district. Beneath windmill, 800 feet west of State Highway 62 and 1.2 miles south of Lakin State Hospital. Rarely used dug well, diameter 30 inches, depth 67 feet. Measuring point, base of bevel on inside of cement curbing, 0.5 foot above land surface and 603.51 feet above sea level.

Water level, in feet below land surface datum, 1942

Nov. 23	55.06	Dec. 15	54.60	Dec. 21	54.73	Dec. 26	54.78
26	54.52	16	54.64	22	54.70	27	54.76
Dec. 8	54.60	17	54.69	23	54.71	28	54.70
11	54.64	18	54.74	24	54.74	29	54.69
14	54.67	19	54.74				

38-3-6. West Virginia Ordnance Works. On valley terrace 2.25 miles south-southwest of Kaylong post office, in Robinson district. Abandoned drilled well, diameter 6 inches, depth 134 feet. Measuring point, top of casing, 0.5 foot below land surface and 637.88 feet above sea level.

Water level, in feet below land surface datum, 1942

Nov. 25	55.05	Dec. 18	55.19	Dec. 22	55.20	Dec. 28	55.14
Dec. 15	55.16	19	55.25	23	55.13	29	55.06
16	55.16	21	55.25	24	55.15	30	55.04
17	55.16						

38-3-7. Federal Public Housing Authority. At York station, Robinson district. About 2,000 feet west of State Highway 62, under shed between two large barns at rear of housing project. Abandoned drilled well, diameter 5-5/8 inches, reported depth 80 feet. Measuring point, top of casing, 0.5 foot above land surface, and 591.60 feet above sea level.

38-3-7. Federal Public Housing Authority--Continued.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Nov. 23	48.95	Dec. 14	49.55	De. 18	49.70	Dec. 23	49.81
26	48.93	15	49.57	19	49.69	26	49.82
Dec. 9	49.41	16	49.60	21	49.77	29	49.73
11	49.46	17	49.64	22	49.79		

38-4-3. City of Point Pleasant. At Point Pleasant, Lewis district. At city waterworks, 300 feet east of Ohio River and 40 feet east of Baltimore & Ohio Railroad. Unused drilled well, diameter 8 inches, depth 133 feet. Measuring point, top surface of steel floor beams, 0.5 foot below land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level
June 26	46.43	Oct. 7	43.43	Nov. 20	45.48
Aug. 13	43.88	Nov. 6	45.35	Dec. 9	44.56

Monongalia County

9-2-1 (*937, p. 117). D. C. Johnson. At Blacksville. [3] No measurements made during 1942.

9-2-2 (*937, p. 117). Miller sawmill. At Blacksville. [3] Measurements discontinued.

9-2-3 (*937, p. 117). Eli Huss. At Blacksville. [3] No measurements made during 1942.

9-6-1 (*937, p.117). Baltimore & Ohio Railroad. At Sabraton, Morgan district. Measurement of rate of flow, in gallons a minute, 1942: Jan. 27, 29; Sept. 21, 27; Oct. 19, 27.

9-6-6 (*937, p. 118). A. J. W. Headlee. At Star City, Morgan district.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level
Mar. 10	5.75	Apr. 26	6.42	July 25	8.29
16	5.17	May 4	7.96		

9-6-27 (*937, p. 118). T. J. Johnson. At Morgantown, Morgan district.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 9	134.07	Feb. 13	133.48	Mar. 13	131.61	Oct. 6	147.25
16	133.01	19	131.56	20	132.21	19	143.97
23	134.51	27	131.55	July 25	148.75	Nov. 18	140.74
28	132.07	Mar. 6	134.56	Aug. 6	153.05	Dec. 7	140.83
Feb. 6	131.15						

9-6-36 (*937, p. 118). Bethlehem Mines Corporation. At Richard, Morgan district. No measurements made during 1942.

9-6-45 (*937, p. 118). Deckers Creek Sand Co. At Greer, Morgan district.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level
Mar. 13	16.19	Sept.21	a11.54	Nov. 18	11.53
Aug. 5	12.67	Oct. 19	11.27	28	11.26

[3] The town of Blacksville is partly in Clay district, Monongalia County, W. Va., and partly in Wayne township, Greene County, Pa. This well is actually in Pennsylvania, a few feet north of the West Virginia boundary. It is listed in this report with West Virginia wells because Blacksville post office is in West Virginia.

a Nearby well pumping.

Preston County

11-3-3 (*937, p. 118). Preston Co. Coal and Coke Co. At Cascade, Valley district.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	4.62	Feb. 10	4.42	Mar. 10	3.78	Apr. 13	4.93
27	4.97	24	5.04	24	4.97	Nov. 28	4.44

11-3-4 (*937, p. 118). Masontown well 4. At Oak Park, Valley district. On Feb. 3, 1942, measuring point was changed to top of casing, 4.13 feet below land surface.

Water level, in feet below land surface datum, 1942

Jan. 6	18.74	Feb. 10	18.26	Mar. 17	18.81	Apr. 13	18.82
13	19.06	17	17.63	24	18.96	June 24	18.88
27	18.95	24	19.09	Apr. 6	18.78	25	19.07
Feb. 3	18.17	Mar. 10	17.36				

11-3-5 (*937, p. 118). Masontown city well 3. At Oak Park, Valley district. Water levels, in feet below land surface datum, 1942: June 24, 12.57; June 25, 12.68.

11-3-8 (*937, p. 119). G. E. Lemmons. At Masontown, Valley district.

Water level, in feet below land surface datum, 1942

Jan. 6	14.47	Feb. 3	14.83	Feb. 24	14.62	Mar. 24	15.45
13	15.71	10	13.16	Mar. 10	12.73	Apr. 6	13.31
27	15.01	17	12.61	17	13.33	13	13.32

11-3-9 (*937, p. 119). Martin L. Massie. At Masontown, Valley district.

Water level, in feet below land surface datum, 1942

Jan. 6	12.75	Feb. 10	10.20	Mar. 10	9.42	Apr. 13	11.07
27	14.94	24	12.52	24	13.68		

11-3-14 (*937, p. 119). National Youth Administration. At Reedsville, Valley district. Well pumped regularly. Water levels, in feet above land surface datum, 1942: Jan. 6, 0.40; Feb. 17, 0.24; Mar. 24, 0.03.

11-3-51 (*937, p. 119). Elmer Smith. At Sutherland, Valley district. Water levels, in feet below land surface datum, 1942: Jan. 6, 20.93; Feb. 17, 34.39; Mar. 24, 35.83.

Wayne County

50-1-5. Ashland Oil & Refining Co. In Kenova, Ceredo district. At Kenova Terminal, 40 feet west of entrance gate. Drilled well, diameter 6 inches, reported depth 73 feet. Measuring point, top of casing, at land surface.

Water level, in feet below land surface datum, 1942

Date	Water level	Date	Water level	Date	Water level
Nov. 19	46.55	Dec. 3	46.15	Dec. 19	45.47
26	46.63	10	45.58	25	45.45