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WATER LEVELS AND ARTESIAN PRESSURE IN OBSERVATION WELLS IN THE UNITED STATES IN 1941

PART 1. NORTHEASTERN STATES

BY

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and others

Prepared in cooperation with the States of
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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, for irrigation, or for 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 may indicate depletion or replenishment of the artesian reservoirs.

The regular publication of records of water levels and artesian pressure in the United States was begun by the Geological Survey in 1935, and from that year through 1939 one volume containing these data was published each year. The volumes were issued as Water-Supply Papers 777, 817, 840, 845, and 886. The number of observation wells and the quantity of records on water levels and artesian pressure obtained from them have increased gradually from year to year. As a result the records for 1940 were published in six volumes, Water-Supply Papers 906-911, inclusive. Water-Supply Paper 906 contains the records for the northeastern States, 907 for the southeastern States, 908 for the north-central States, 909 for the south-central States, 910 for the northwestern States, and 911 for the southwestern States and Hawaii. Records for 1941 are being published in six volumes also, each volume covering a section of the United States corresponding to that covered by one of the volumes containing records for 1940. (See fig. 1). This series of reports is in a sense an inventory, year by year, of the ground-water supplies of those parts of the country that are covered.

This volume covers the northeastern section and gives records of water level or artesian pressure in about 720 observation wells of the Geological Survey and cooperating agencies in Connecticut, Indiana, Massachusetts, Michigan, New Jersey, New York, Ohio, and Pennsylvania. Of these wells 94 are equipped with automatic water-stage recorders. For some wells for which records had not heretofore been published complete records of water levels are given in this report, including those for years before 1941. For wells whose previous records have been published, however, this volume gives only current records. If complete descriptions of the wells were given in one of the previous reports, only the well numbers or the well numbers and brief identifying descriptions are given in this report. The report includes about 25,000 individual measurements of water level or artesian pressure.

The water levels in this report are given with reference to datum planes of different kinds. Some are given in depths below measuring point --that is, below the recognized reference mark, at or near the top of the well, from which the depth to water level is usually measured; and some are given in height above an assumed datum plane. As the measuring points on some of the wells were changed in 1941, the records may not be directly comparable with those in previous annual volumes, but changes in measuring points are recorded in this report. Water levels given in height above sea level or above assumed datum planes are generally comparable with those given in the previous volumes. Unless otherwise stated, the depth of wells is usually the measured depth below the measuring point.

Acknowledgments for effective services in the preparation of this report are due Misses Dorothy M. Ireland and Ruthmae Brundage, Mrs. Roxie Lou Davis, and Mrs. Margaret F. Monk, who typed the offset copy; and to Rodney Hart, who prepared the illustrations and gave other assistance in preparing the copy.

GENERAL SUMMARY OF CHANGES IN GROUND-WATER LEVELS IN 1941 IN THE NORTHEASTERN PART OF THE UNITED STATES

In 1941 the precipitation in all the northeastern States, except Michigan, was below normal, and in most parts of the region the water levels in wells declined. The fluctuations of the water levels 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 departures from normal precipitation.

The following statements are taken chiefly from the interpretative text of the several State sections in this volume. They summarize the changes in ground-water levels and artesian pressure that occurred in 1941 in the parts

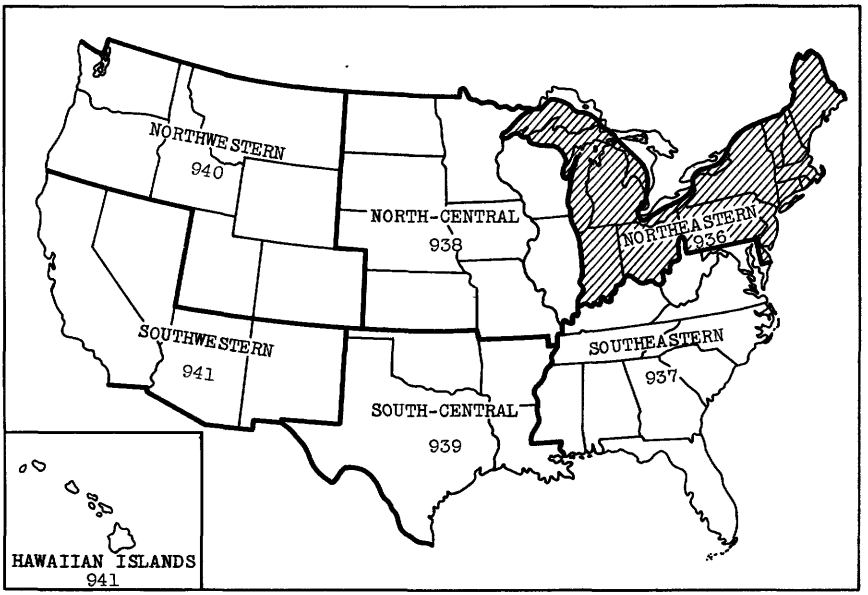

Figure 1.--Outline map of the United States, showing sections of the country covered by the six water-supply papers on water levels and artesian pressure in observation wells in 1941. The shaded section represents the part of the country covered by this volume.

of the underground reservoirs in the northeastern States that are tapped by the observation wells.

Connecticut.--Of 18 wells in New Haven County for which a year's record is available, 17 showed a net decline in 1941. The declines in water level ranged from about 0.5 foot to nearly 6 feet and averaged about 1.75 feet. The water level in the other well, which, however, is affected by the pumping of nearby wells, showed a small net rise.

Indiana.--In Indiana essentially complete water-level records were obtained in 1941 on 51 wells distributed over the State. Fourteen of the wells are in Marion County (Indianapolis). In the 37 wells situated outside of

Indianapolis the water levels rose an average of 0.36 foot during the year despite the fact that the precipitation for the State was about 7 inches below normal. This apparent anomaly was caused by the irregular distribution of the precipitation during the year. Precipitation was below normal in each month except June, when it was 1.77 inches above normal, and in October, when it was 4.03 inches above normal. The heavy October precipitation was sufficient to cause the water levels in the wells to rise appreciably from their low summer stages, and these rises were maintained throughout the rest of the year. The water levels in the 14 wells in Indianapolis showed a net decline of about 1.5 feet during the year caused chiefly by heavy withdrawals from the underground reservoir for industrial, air-conditioning, and municipal purposes.

Massachusetts.--All but 3 of the 30 observation wells in Massachusetts for which a complete record was obtained in 1941 showed net declines of water level during the year. The declines in individual wells ranged from less than 0.1 foot to more than 7 feet. The average of the water levels in all the wells declined about 2 feet. The low ground-water levels in 1941 are ascribed chiefly to the fact that the precipitation was about 6 inches less in 1941 than in 1940.

Michigan.--The water level in a typical well in Roscommon County fluctuated through a range of about 2.3 feet in 1941, but at the end of the year was at about the same stage as at the end of 1940. Similar fluctuations of water level occurred in other observation wells in the northern part of the Lower Peninsula.

New Jersey.--The fluctuations of water level in the Morrell well, near Old Bridge, N. J., are believed to be representative of changes in ground-water level where the water table is comparatively close to the land surface. Observations on this well have been carried on for about 18 years. During the early months of 1941 the water level in the well did not deviate much from the average for these months. From early April to the end of May, the water level declined, however, to stages as low or lower than any previously recorded for this period of the year. Precipitation during June and July was more than adequate to supply the needs of vegetation and some unseasonal recharge to the water table occurred. As a result, record high water levels were occasionally recorded, although the declines between

periods of heavy precipitation were rapid. On July 9 the water level was at a record high, but by the end of the month it had dropped to about normal. The decline continued through August and September and on August 20 the water level was the lowest of record for this date. Precipitation during November and December caused the water level to rise considerably, but it was not sufficient to bring the recovery above the lowest stages recorded for the corresponding time in previous years of record until the middle of December when the water level was again near a record low seasonal stage.

New low water levels were established by 22 wells tapping the No. 3 sand in and near the Perth Amboy well field near Runyon. Records of 14 of these wells date back to October 1932. Four have records dating back to 1924, and of these three were measured in 1923. The low levels were caused by a combination of drought and pumping of the water department wells.

Artesian water levels in wells in the Atlantic City area were slightly lower in 1941 than in 1940 owing to a higher rate of pumpage. In the Runyon area, however, artesian water levels in wells tapping the No. 1 sand reached new high stages for the period of record because of a reduction in pumpage from this aquifer.

New York.--With a few exceptions there was a considerable decline of water level in most of the observation wells on Long Island during 1941. This decline, in large part, was the result of deficient precipitation, which averaged about 7 inches below normal. The water level in only five of the wells showed a net rise; all these wells are affected by pumping.

Ohio.--Water levels in most observation wells, both deep and shallow, in Butler and Hamilton Counties, were, in general, lower at the end of 1941 than they were at the end of 1940, due, in part, to increased pumpage, and, in part, to deficient precipitation.

Pennsylvania.--During the first part of 1941 the water levels in 29 observation wells distributed over the State rose an average of about 2 feet above the 9-year mean. In October, November, and most of December, however, the average was considerably below the mean. The water levels did not fluctuate greatly during this period. In the latter part of December a pronounced rise occurred but nevertheless the water levels at the end of the year were still 3.2 feet below average.

CONNECTICUT

NEW HAVEN COUNTY

By John G. Ferris

The cooperative ground-water investigation in the New Haven area was continued in 1941 by the Federal Geological Survey and the Connecticut State Water Commission. At the end of the year one automatic water-stage recorder was in operation, and weekly water-level measurements were being made in 22 additional observation wells. A total of about 1,200 individual measurements of water level was made during the year.

The inventory of wells in the New Haven area, started in the summer of 1939, is now being tabulated and will be released as soon as completed. A monthly program of collecting samples of ground water for chloride determination was started in New Haven on July 30, 1941, with the collection of samples from 24 pumping plants. The determinations of the chloride content are made by the Connecticut Agricultural Experiment Station, at New Haven, under the direction of Dr. E. M. Bailey, chemist. In addition to the samples collected at the 24 plants, several samples are collected and analyzed by two plants in the industrial area, as a part of a systematic program of following the changes in salinity of their private water supplies. After sufficient record is available, the chloride data will be released.

In September 1941, a paper on the ground-water work in New Haven was presented at the annual meeting of the New England Water Works Association at Boston, Massachusetts.[1/] This report briefly describes the ground-water conditions in New Haven, shows the amount and distribution of the industrial withdrawal of ground water, and summarizes the changes in salinity of ground water that have taken place since 1919.

1/ Ferris, John G., Cooperative ground-water investigation in Connecticut: New England Water Works Assoc. Jour., vol. 56, No. 2, pp. 157-165, June 1942.

In the accompanying map, to conserve space, the prefix NHn, a part of the well number, has been omitted. On this map the city of New Haven has been divided into four areas based on the chief use of ground water in each area. These areas, although somewhat arbitrary, constitute a convenient division for the purpose of pumpage inventory, ground-water level

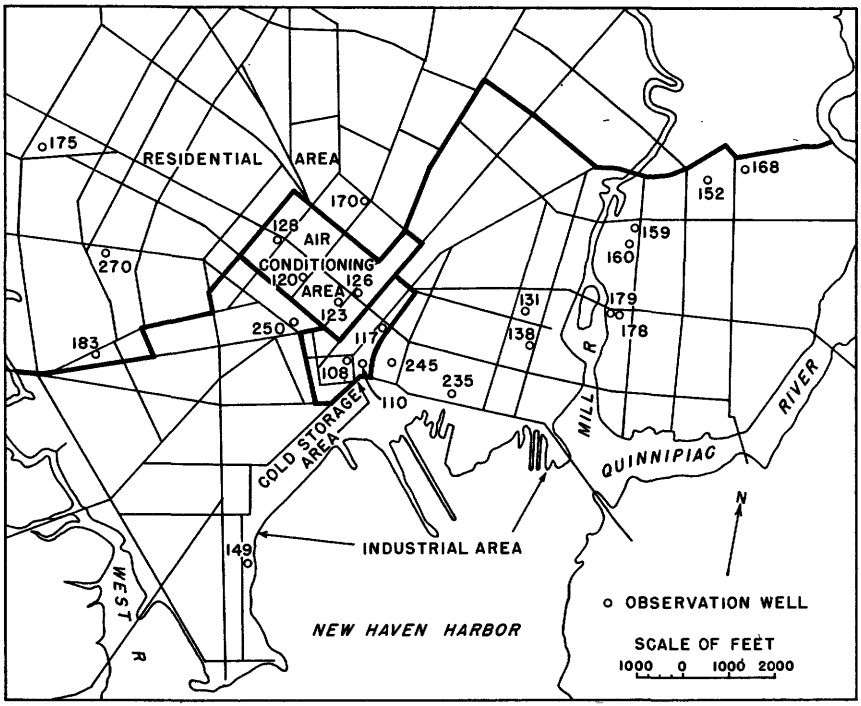

Figure 2.--Map of part of New Haven, Conn., showing location of observation wells.

observations, and chloride sampling. The "Residential area" comprises the north upland part of the town, where there are relatively few wells, most of which are of small capacity. However, at widely separated locations in this area, there are a few industrial plants that pump considerable water. The "Air-conditioning area" includes the business section, in which theaters, stores, and restaurants use ground water for air-conditioning.

The "Cold-storage area" extends along State Street from Columbus Avenue to Grand Avenue. In this area ground water is used chiefly for refrigeration in storing meat and dairy products. The "Industrial area" is in the vicinity of the West and Mill Rivers, where ground water is used chiefly for manufacturing purposes.

The following table gives a summary of ground-water levels in New Haven.

Summary of data on ground-water levels in New Haven, Conn.

Well No.	First measured	Lowest observed water level with reference to mean sea level		Highest observed water level with reference to mean sea level		Water level with reference to mean sea level Dec. 31, 1941 (feet)
		Water level (feet)	Date	Water level (feet)	Date	
Residential area						
NHn 170	June 23, 1939	+15.65	Dec. 31, 1941	+18.41	June 23, 1939	+15.65
NHn 175	June 23, 1939	+2.27	Dec. 17, 1941	+4.51	June 23, 1939	+2.29
NHn 183	Dec. 13, 1939	+2.67	Dec. 3, 1941	+5.88	June 12, 1940	+2.83
NHn 270	May 21, 1941	+3.78	Dec. 17, 1941	+4.87	May 21, 1941	+3.91
Air-conditioning area						
NHn 120	May 23, 1939	+2.98	Aug. 27, 1941	+9.24	May 23, 1939	+4.06
NHn 123	Feb. 26, 1941	-.89	Aug. 27, 1941	+2.15	May 14, 1941	+.61
NHn 126	Jan. 22, 1941	(a)	(a)	+2.63	Feb. 19, 1941	+1.15
NHn 128	May 31, 1939	+13.58	Aug. 27, 1941	+17.66	May 31, 1939	+13.63
Cold-Storage area						
NHn 108	May 12, 1939	-2.36	Sept.17, 1941	+1.26	May 8, 1940	-1.27
NHn 110	May 12, 1939	-2.16	Nov. 12, 1941	+.51	May 12, 1939	-1.99
NHn 117	May 31, 1939	-.98	Oct. 8, 1941	+1.94	Apr. 23, 1940	-.43
Industrial area						
NHn 131	June 1, 1939	-5.38	Dec. 10, 1941	-2.06	Feb. 19, 1941	-5.06
NHn 138	Feb. 28, 1940	-5.60	Dec. 10, 1941	-1.83	Jan. 2, 1941	-4.81
NHn 149	June 13, 1939	+1.08	Nov. 12, 1941	+3.25	June 30, 1939	+1.55
NHn 159	June 7, 1939	-15.16	Dec. 3, 1941	-4.11	June 12, 1939	-11.71
NHn 160	June 7, 1939	-13.72	Oct. 1, 1941	+4.15	Mar. 6, 1940	+2.60
NHn 178	July 21, 1939	-5.39	Dec. 24, 1941	+.04	June 12, 1940	-5.19
NHn 179	July 21, 1939	-4.85	Dec. 24, 1941	-.17	July 17, 1940	-4.71
NHn 235	Oct. 2, 1940	-1.46	Dec. 31, 1941	-.18	Feb. 12, 1941	-1.46
NHn 245	Oct. 2, 1940	-1.07	Oct. 8, 1941	+.57	Nov. 20, 1940	-.58
NHn 250	Oct. 9, 1940	+2.84	Oct. 10, 1941	+4.79	Oct. 9, 1940	+2.92

a Well pumped during air-conditioning season.

The table shows that the ground-water levels in all observation wells in New Haven declined to the lowest stage on record at some time in the latter part of 1941. The fluctuations of ground-water levels in the Residential area are chiefly the result of precipitation, although changes in water level may have resulted from the scattered pumpage in this area or the pumpage in nearby areas. Ground-water levels in all wells in this

area reached the lowest observed stage in December 1941. During the cooling season in June, July, and August of each year, ground-water levels in the Air-conditioning area are affected, in large part, by the pumping in this area. The lowest observed water levels in this area occurred on August 27, 1941, near the end of the air-conditioning pumping season. The fluctuations of ground-water levels in the Cold-storage area are, in part, the result of changes in rate of pumping in this area, and these, in turn, are determined chiefly by the air temperature. The lowest observed water levels in this area occurred in the fall, at about the end of the heavy pumping season. About this time relatively cool weather permitted a large reduction in the rate of pumping for refrigeration purposes, and consequently, there was some recovery in the water levels. The ground-water fluctuations in the Industrial area are affected, in large part, by changes in rate of industrial pumping in the area. The lowest observed water levels in this area occurred during the last three months of the year, when industrial pumping in New Haven usually reaches a maximum.

The following table shows the net change in water levels in wells in New Haven during 1941.

Net change in ground-water levels in New Haven, Conn., during 1941

Area	Well No.	Net change in water level during 1941 (feet)
Residential	NHn 170	-1.06
	NHn 175	-.73
	NHn 183	-1.45
Air-conditioning	NHn 120	-1.76
	NHn 128	-1.52
Cold-storage	NHn 108	-1.02
	NHn 110	-1.36
	NHn 117	-1.32
Industrial	NHn 131	-2.54
	NHn 138	-2.57
	NHn 149	-.54
	NHn 159	-5.71
	NHn 160	+.59
	NHn 178	-2.92
	NHn 179	-2.70
	NHn 235	-1.09
	NHn 245	-.89
	NHn 250	-.98

It will be noted from the table above that only one well had a net rise of water level during the year. This well is located at an industrial plant in the Mill River area, and the water level in it is affected by changes in rate of pumping from wells at this plant.

The precipitation at New Haven in 1941 was 36.74 inches, or about 12 inches less than in 1940 and about 10 inches below normal. June was the only month during 1941 with precipitation appreciably above normal. The 18-month period July 1940 to December 1941 was in general one of deficient precipitation. Furthermore, during the 7-month non-growing season, ending April 1941, the precipitation was more than six inches below normal. As a result of this deficiency, little or no ground-water recharge occurred in the non-growing season, the period most favorable for recharge during normal years. The deficiency and unfavorable distribution of precipitation are, in part, the cause of the low water levels in New Haven in 1941.

During the 3-year period 1939 to 1941, the average daily withdrawal of ground water in the Residential area, based on estimates by plant engineers, was about 200,000 gallons. In the Air-conditioning area the average withdrawal of ground water was about 180,000 gallons a day in 1939 and about 320,000 gallons a day in 1940. This increase resulted from the operation of new wells at one plant. Estimates and records of pumping in this area for the first half of 1941 indicate that the total annual withdrawal will exceed that of 1940. The average withdrawal of ground water in the Cold-storage area for the 3-year period 1939 to 1941 is estimated to be 620,000 gallons a day. In the Industrial area the average daily withdrawal of ground water was 2,720,000 gallons in 1939 and 2,570,000 gallons in 1940. The available records and estimates of pumpage for the first half of 1941 indicate that the annual withdrawal of ground water in this area may exceed that of 1940.

Except in the Residential area, relatively large withdrawals of ground water are made at a few individual plants. In the Air-conditioning area, about one-half of the total withdrawal is pumped at a single plant. In the Cold-storage area, more than two-thirds of the total withdrawal is pumped at a single plant. In the Industrial area, about two-thirds of the total withdrawal is pumped at five plants located along a narrow stretch of the Mill River less than a mile long.

The studies of changes in salinity of ground water based on monthly samples have not progressed far enough to warrant conclusions as to progressive changes that may be taking place. However, the records, which cover only the last half of 1941, show that seasonal changes are taking place. The relation of these changes to other hydrologic factors will not become apparent until records for at least a year or more are available. Most of the samples of water collected for chloride determination are taken from plants in the Cold-storage and Industrial areas, where salt water encroachment is taking place. About half of the plants sampled in the Cold-storage area use water having a chloride content of more than 100 parts per million. The records available for this area indicate that the chloride content ranges from about 40 parts per million to more than 1,600 parts per million. The records so far available for the Industrial area indicate a range in chloride content from about 25 parts per million to more than 3,000 parts per million.

In the following tables no descriptive headings are given for those observation wells for which the last published heading still applies.

NHn 101. Measurements discontinued May 14, 1941.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 22	-1.18	Feb. 12	-1.24	Mar. 26	-2.21	Apr. 9	-2.38
29	-1.97	Mar. 19	-2.16	Apr. 2	-2.26	May 14	-2.18
Feb. 5	-1.39						

NHn 108.

Water level, in feet, with reference to mean sea level, 1941

Jan. 2	-0.46	Apr. 9	-0.99	July 9	-1.59	Oct. 8	-2.31
8	-.26	16	-1.11	16	-1.66	15	-2.25
15	-.51	23	-1.25	23	-1.75	22	-2.19
22	-.34	May 2	-1.25	30	-1.53	29	-2.05
29	-.57	7	-1.30	Aug. 6	-1.87	Nov. 5	-1.76
Feb. 5	-.41	14	-1.19	13	-2.04	12	-1.64
12	-.24	21	-1.14	20	-2.12	19	-1.57
19	-.23	28	-1.23	27	-2.23	26	-1.58
26	+.03	June 4	-1.25	Sept. 3	-2.18	Dec. 3	-1.60
Mar. 5	-.47	11	-1.03	10	-2.30	10	-1.56
12	-.74	18	-.97	17	-2.36	17	-1.43
19	-.77	25	-1.12	24	-2.32	24	-1.35
26	-.84	July 2	-1.45	Oct. 1	-2.19	31	-1.27
Apr. 2	-.91						

NHn 110.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	-0.64	Apr. 9	-0.76	July 9	-1.35	Oct. 8	-2.06
8	-.62	16	-.81	16	-1.40	15	-2.11
15	-.64	23	-.87	23	-1.45	22	-2.14
22	-.63	May 2	-.93	30	-1.50	29	-2.15
29	-.64	7	-.97	Aug. 6	-1.55	Nov. 5	-2.15
Feb. 5	-.65	14	-1.03	13	-1.62	12	-2.16
12	-.64	21	-1.08	20	-1.67	19	-2.14
19	-.64	28	-1.12	27	-1.74	26	-2.14
26	-.61	June 4	-1.17	Sept. 3	-1.79	Dec. 3	-2.09
Mar. 5	-.60	11	-1.20	10	-1.87	10	-2.08
12	-.62	18	-1.21	17	-1.92	17	-2.07
19	-.65	25	-1.25	24	-1.98	24	-2.03
26	-.68	July 2	-1.30	Oct. 1	-2.03	31	-1.99
Apr. 2	-.72						

NHn 117. Measuring point raised 5.46 feet on Oct. 16, 1941. New measuring point, top of 2½-inch pipe, 6.7 feet above basement floor, flush with land surface and 18.08 feet above mean sea level. Water level Oct. 22, 1941, 18.96 feet below measuring point and 0.88 foot below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Date		Date		Date		Date	
Jan. 2	+0.98	Apr. 9	+0.54	July 9	-0.17	Oct. 8	-0.98
8	+.97	16	+.47	16	-.26	15	-.95
15	+.85	23	+.42	23	-.36	22	-.88
22	+.87	May 2	+.39	30	-.49	29	-.79
29	+.81	7	+.37	Aug. 6	-.56	Nov. 5	-.61
Feb. 5	+.75	14	+.37	13	-.58	12	-.55
12	+.98	21	+.32	20	-.76	19	-.58
19	+.90	28	+.23	27	-.82	26	-.57
26	+.87	June 4	+.15	Sept. 3	-.61	Dec. 3	-.57
Mar. 5	+.78	11	+.24	10	-.92	10	-.57
12	+.78	18	+.23	17	-.96	17	-.43
19	+.70	25	+.05	24	-.91	24	-.43
26	+.64	July 2	-.10	Oct. 1	-.95	31	-.43
Apr. 2	+.56						

NHn 120.

Water level, in feet above mean sea level, 1941

Date		Date		Date		Date	
Jan. 2	5.82	Apr. 9	5.46	July 9	4.26	Oct. 8	3.36
8	5.75	16	5.61	16	4.04	15	3.80
15	5.64	23	5.66	23	3.81	22	4.05
22	5.61	May 2	5.79	30	3.62	29	4.22
29	5.57	7	5.86	Aug. 6	3.52	Nov. 5	4.30
Feb. 5	5.56	14	5.92	13	3.37	12	4.33
12	5.55	21	5.83	20	3.76	19	4.36
19	5.57	28	5.41	27	2.98	26	4.36
26	5.49	June 4	4.98	Sept. 3	3.26	Dec. 3	4.30
Mar. 5	5.45	11	5.27	10	3.29	10	4.31
12	5.38	18	5.29	17	3.28	17	4.16
19	5.34	25	4.77	24	3.39	24	4.12
26	5.36	July 2	4.37	Oct. 1	3.55	31	4.06
Apr. 2	5.37						

NHn 123. New York Life Insurance Co. On west side of Church Street, about 135 feet south of Center Street. Unused industrial driven well, diameter 2 inches, measured depth 28.6 feet. Measuring point, top of pipe, 1.3 feet above basement floor, 7 feet below land surface, and 17.41 feet above mean sea level. Water level Feb. 26, 1941, 15.79 feet below measuring point and 1.62 feet above mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 26	+1.62	May 14	+2.15	July 30	-0.27	Oct. 15	+0.01
Mar. 5	+1.53	21	+1.74	Aug. 6	-.68	22	+.40
12	+1.47	28	+1.22	13	-.66	Nov. 5	+.81
19	+1.37	June 4	+1.07	20	-.60	12	+.80
26	+1.43	11	+1.14	27	-.89	19	+.87
Apr. 2	+1.51	18	+.98	Sept. 3	-.52	26	+.88
9	+1.61	25	+.55	10	-.84	Dec. 3	+.89
16	+1.76	July 2	+1.16	17	-.87	10	+.83
23	+1.83	9	+.10	24	-.51	17	+.66
May 2	+2.00	16	-.07	Oct. 1	-.24	24	+.68
7	+2.05	23	-.22	8	-.38	31	+.61

NHn 126. Liggett Drug Store. On east side of Church Street, about 100 feet north of Chapel Street. Industrial driven well, diameter 2 inches, measured depth 27.4 feet. Measuring point, top of pipe, 0.9 foot above basement floor, 6.5 feet below land surface, and 15.83 feet above mean sea level. Water level Jan. 22, 1941, 13.23 feet below measuring point and 2.60 feet above mean sea level. Well is pumped during the Air-conditioning season.

Water level, in feet above mean sea level, 1941

Jan. 22	2.60	Mar. 12	2.44	May 2	2.35	Nov. 26	1.18
29	2.57	19	2.41	Oct. 15	.44	Dec. 3	1.14
Feb. 5	2.52	26	2.37	22	.73	10	1.19
12	2.60	Apr. 2	2.35	29	.89	17	1.14
19	2.63	9	2.39	Nov. 5	1.05	24	1.10
26	2.52	16	2.41	12	1.11	31	1.15
Mar. 5	2.48	23	2.36	19	1.12		

NHn 128.

Water level, in feet above mean sea level, 1941

Jan. 2	15.12	Apr. 9	14.86	July 9	14.01	Oct. 8	13.70
8	15.08	16	14.54	16	14.03	15	13.69
15	15.04	23	14.80	23	13.92	22	13.63
22	15.02	May 2	14.76	30	13.85	29	13.65
29	15.01	7	14.50	Aug. 6	13.81	Nov. 5	13.67
Feb. 5	14.98	14	14.67	13	13.97	12	13.67
12	15.08	21	14.41	20	13.68	19	13.66
19	15.13	28	14.39	27	13.58	26	13.65
26	15.09	June 4	14.40	Sept. 3	13.82	Dec. 3	13.62
Mar. 5	15.03	11	14.52	10	13.66	10	13.62
12	14.95	18	14.25	17	13.62	17	13.66
19	14.96	25	14.40	24	13.73	24	13.66
26	14.92	July 2	14.08	Oct. 1	13.69	31	13.63
Apr. 2	14.90						

NHn 131.

Water level, in feet, with reference to mean sea level, 1941

Jan. 2	-2.06	Feb. 19	-2.06	Apr. 9	-2.54	May 28	-2.68
8	-2.20	26	-2.20	16	-2.31	June 4	-2.45
15	-2.26	Mar. 5	-2.34	23	-2.43	11	-2.57
22	-2.25	12	-2.43	May 2	-2.54	18	-2.58
29	-2.37	19	-2.39	7	-2.55	25	-2.62
Feb. 5	-2.34	26	-2.39	14	-2.57	July 2	-2.48
12	-2.20	Apr. 2	-2.49	21	-2.65	9	-2.45

NHn 131.--Continued.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 16	-3.01	Sept. 3	-3.91	Oct. 22	-4.58	Dec. 3	-5.26
23	-3.56	10	-3.97	29	-4.87	10	-5.38
30	-3.94	17	-4.06	Nov. 5	-4.94	17	-5.09
Aug. 6	-4.17	24	-4.41	12	-5.07	24	-5.33
13	-4.33	Oct. 1	-4.53	19	-5.12	31	-5.06
20	-4.44	8	-4.47	26	-5.16		
27	-4.28	15	-4.70	Dec. 3	-5.26		

NHn 138.

Water level, in feet, with reference to mean sea level, 1941

Jan. 2	-1.83	Apr. 9	-2.19	July 9	-2.37	Oct. 8	-4.60
8	-1.94	16	-1.96	16	-3.41	15	-4.96
15	-2.14	23	-2.16	23	-3.58	22	-4.76
22	-1.94	May 2	-2.17	30	-4.47	29	-4.79
29	-2.03	7	-2.22	Aug. 6	-4.73	Nov. 5	-4.84
Feb. 5	-2.02	14	-2.24	13	-4.66	12	-4.84
12	-1.91	21	-2.27	20	-4.98	19	-4.92
19	-1.89	28	-2.31	27	-4.96	26	-5.31
26	-1.97	June 4	-2.03	Sept. 3	-4.34	Dec. 3	-5.46
Mar. 5	-2.04	11	-2.21	10	-4.60	10	-5.60
12	-2.14	18	-2.17	17	-4.68	17	-4.96
19	-2.08	25	-2.39	24	-4.95	24	-5.37
26	-2.05	July 2	-2.20	Oct. 1	-4.76	31	-4.81
Apr. 2	-2.16						

NHn 149.

Water level, in feet above mean level, 1941

Jan. 2	2.30	Apr. 9	2.09	July 9	2.14	Oct. 8	1.72
8	2.12	16	2.13	16	2.07	15	1.59
15	2.02	23	2.04	23	1.95	22	2.02
22	2.04	May 2	2.00	30	1.98	29	1.27
29	2.18	7	2.01	Aug. 6	2.15	Nov. 5	1.22
Feb. 5	2.01	14	2.14	13	1.88	12	1.08
12	2.18	21	1.96	20	1.76	19	1.16
19	2.16	28	1.87	27	1.80	26	1.15
26	2.09	June 4	1.86	Sept. 3	1.77	Dec. 3	1.17
Mar. 5	2.04	11	2.14	10	1.75	10	1.23
12	2.10	18	2.12	17	1.58	17	1.50
19	2.02	25	2.07	24	1.68	24	1.52
26	2.03	July 2	2.21	Oct. 1	1.70	31	1.55
Apr. 2	1.96						

NHn 152.

Water level, in feet above mean sea level, 1941

Jan. 2	14.34	Apr. 9	13.71	July 9	12.35	Oct. 8	10.60
8	14.20	16	13.46	16	12.14	15	10.39
15	14.01	23	13.48	23	12.03	22	10.16
22	13.88	May 2	13.19	30	11.91	29	9.92
29	13.76	7	13.01	Aug. 6	11.73	Nov. 5	10.70
Feb. 5	13.53	14	12.83	13	11.62	12	11.10
12	13.68	21	12.74	20	11.37	19	10.90
19	13.68	28	12.45	27	11.18	26	10.45
26	13.54	June 4	12.28	Sept. 3	11.22	Dec. 3	10.06
Mar. 5	13.29	11	13.14	10	11.33	10	9.88
12	13.33	18	12.44	17	11.11	17	10.77
19	14.07	25	12.93	24	10.90	24	11.30
26	13.76	July 2	12.68	Oct. 1	10.67	31	10.83
Apr. 2	14.14						

NHn 159.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	-10.81	Apr. 9	-8.79	July 9	-11.65	Oct. 8	-12.09
8	-11.47	16	-11.53	16	-12.25	15	-11.09
15	-11.80	23	-9.32	23	-12.88	22	-13.88
22	-11.43	May 2	-12.96	30	-12.83	29	-13.81
29	-11.83	7	-13.23	Aug. 6	-12.81	Nov. 5	-14.01
Feb. 5	-8.42	14	-13.19	13	-13.10	12	-13.15
12	-11.40	21	-12.24	20	-13.17	19	-14.90
19	-11.52	28	-12.25	27	-12.74	26	-11.00
26	-11.29	June 4	-11.33	Sept. 3	-12.47	Dec. 3	-15.16
Mar. 5	-11.32	11	-12.32	10	-12.62	10	-14.39
12	-11.64	18	-10.10	17	-13.39	17	-14.39
19	-8.71	25	-12.73	24	-13.49	24	-14.93
26	-11.61	July 2	-10.25	Oct. 1	-13.69	31	-11.71
Apr. 2	-11.46						

NHn 160.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	+2.30	Apr. 9	+2.50	July 9	+1.33	Oct. 8	+1.19
8	+2.26	16	+2.07	16	+1.10	15	+1.53
15	+2.02	23	+1.77	23	-12.80	22	+1.20
22	+2.51	May 2	+1.50	30	-11.89	29	+1.06
29	+2.55	7	+1.35	Aug. 6	-5.09	Nov. 5	+1.67
Feb. 5	+2.69	14	+1.24	13	-12.11	12	+1.93
12	+3.13	21	+1.02	20	-2.40	19	+1.77
19	+2.87	28	+1.04	27	-.29	26	+1.94
26	+2.74	June 4	+1.26	Sept. 3	+1.40	Dec. 3	+1.84
Mar. 5	+2.68	11	+1.82	10	+1.15	10	+2.32
12	+2.87	18	+1.63	17	-12.64	17	+2.66
19	+2.93	25	+1.33	24	-13.46	24	+3.12
26	+2.71	July 2	+1.11	Oct. 1	-13.72	31	+2.60
Apr. 2	+2.61						

NHn 168.

Water level, in feet above mean sea level, 1941

Date		Date		Date		Date	
Jan. 2	7.48	Apr. 9	7.26	July 9	6.78	Oct. 8	6.23
8	7.44	16	7.12	16	6.78	15	6.08
15	7.26	23	6.98	23	6.65	22	6.00
22	7.39	May 2	7.02	30	6.73	29	5.84
29	7.47	7	7.03	Aug. 6	6.61	Nov. 5	6.03
Feb. 5	7.35	14	7.01	13	6.57	12	6.04
12	7.53	21	6.86	20	6.43	19	5.90
19	7.47	28	6.67	27	6.49	26	5.88
26	7.28	June 4	6.79	Sept. 3	6.34	Dec. 3	5.73
Mar. 5	7.28	11	6.91	10	6.41	10	5.60
12	7.29	18	7.02	17	6.27	17	5.87
19	7.19	25	6.82	24	6.26	24	6.09
26	7.19	July 2	7.37	Oct. 1	6.26	31	5.92
Apr. 2	7.15						

NHn 170.

Water level, in feet above mean sea level, 1941

Date		Date		Date		Date	
Jan. 2	16.68	Feb. 19	16.84	Apr. 9	16.66	May 28	16.48
8	16.68	26	16.83	16	16.63	June 4	16.45
15	16.64	Mar. 5	16.79	23	16.60	11	16.43
22	16.69	12	16.74	May 2	16.57	18	16.41
29	16.69	19	16.71	7	16.56	25	16.40
Feb. 5	16.67	26	16.70	14	16.53	July 2	16.37
12	16.80	Apr. 2	16.69	21	16.50	9	16.33

NHn 170.--Continued.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 16	16.29	Sept. 3	16.04	Oct. 15	15.86	Nov. 26	15.70
23	16.25	10	16.00	22	15.82	Dec. 3	15.68
30	16.23	17	15.98	29	15.79	10	15.67
Aug. 6	16.18	24	15.94	Nov. 5	15.78	17	15.78
13	16.15	Oct. 1	15.91	12	15.73	24	15.66
20	16.10	8	15.89	19	15.72	31	15.65
27	16.07						

NHn 175.

Water level, in feet above mean sea level, 1941

Jan. 2	3.02	Apr. 9	3.08	July 9	2.83	Oct. 8	2.46
8	3.03	16	3.08	16	2.79	15	2.43
15	3.03	23	3.06	23	2.78	22	2.39
22	3.02	May 2	3.02	30	2.73	29	2.35
29	3.02	7	3.00	Aug. 6	2.72	Nov. 5	2.34
Feb. 5	3.00	14	2.98	13	2.69	12	2.35
12	3.09	21	2.97	20	2.67	19	2.34
19	3.17	28	2.96	27	2.63	26	2.32
26	3.17	June 4	2.95	Sept. 3	2.61	Dec. 3	2.28
Mar. 5	3.16	11	2.94	10	2.59	10	2.28
12	3.14	18	2.92	17	2.57	17	2.27
19	3.12	25	2.90	24	2.52	24	2.28
26	3.10	July 2	2.88	Oct. 1	2.50	31	2.29
Apr. 2	3.10						

NHn 178.

Water level, in feet, with reference to mean sea level, 1941

Jan. 2	-2.12	Apr. 9	-3.37	July 9	-3.66	Oct. 8	-4.87
8	-2.52	16	-3.15	16	-4.00	15	-4.88
15	-2.65	23	-3.49	23	-4.02	22	-4.91
22	-2.84	May 2	-3.64	30	-4.17	29	-4.97
29	-2.82	7	-3.79	Aug. 6	-4.21	Nov. 5	-5.00
Feb. 5	-3.00	14	-3.85	13	-4.40	12	-4.93
12	-2.75	21	-3.92	20	-4.39	19	-5.07
19	-2.94	28	-3.92	27	-4.50	26	-4.95
26	-2.79	June 4	-3.79	Sept. 3	-4.30	Dec. 3	-5.08
Mar. 5	-2.93	11	-3.70	10	-4.50	10	-5.30
12	-2.99	18	-3.93	17	-4.58	17	-5.09
19	-3.14	25	-3.95	24	-4.58	24	-5.39
26	-3.02	July 2	-4.07	Oct. 1	-4.81	31	-5.19
Apr. 2	-3.17						

NHn 179.

Water level, in feet, with reference to mean sea level, 1941

Jan. 2	-1.84	Apr. 9	-2.83	July 9	-3.25	Oct. 8	-4.36
8	-2.09	16	-2.71	16	-3.46	15	-4.39
15	-2.30	23	-2.99	23	-3.54	22	-4.45
22	-2.38	May 2	-3.15	30	-3.63	29	-4.47
29	-2.43	7	-3.21	Aug. 6	-3.74	Nov. 5	-4.54
Feb. 5	-2.56	14	-3.30	13	-3.87	12	-4.49
12	-2.41	21	-3.37	20	-3.92	19	-4.58
19	-2.49	28	-3.43	27	-4.01	26	-4.48
26	-2.44	June 4	-3.28	Sept. 3	-3.89	Dec. 3	-4.61
Mar. 5	-2.53	11	-3.27	10	-4.00	10	-4.80
12	-2.60	18	-3.38	17	-4.09	17	-4.64
19	-2.72	25	-3.44	24	-4.13	24	-4.85
26	-2.53	July 2	-3.54	Oct. 1	-4.26	31	-4.71
Apr. 2	-2.70						

NHn 183.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	4.28	Apr. 9	4.17	July 9	3.39	Oct. 8	2.82
8	4.31	16	4.14	16	3.38	15	2.78
15	4.31	23	4.09	23	3.33	22	2.76
22	4.27	May 2	4.02	30	3.28	29	2.75
29	4.28	7	3.99	Aug. 6	3.22	Nov. 5	2.76
Feb. 5	4.26	14	3.93	13	3.15	12	2.76
12	4.50	21	3.85	20	3.12	19	2.73
19	4.56	28	3.76	27	3.05	26	2.70
26	4.47	June 4	3.66	Sept. 3	3.02	Dec. 3	2.67
Mar. 5	4.39	11	3.64	10	2.98	10	2.68
12	4.32	18	3.58	17	2.93	17	2.75
19	4.31	25	3.50	24	2.90	24	2.88
26	4.29	July 2	3.46	Oct. 1	2.86	31	2.83
Apr. 2	4.23						

NHn 202. Measurements discontinued May 2, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	7.58	Feb. 5	7.61	Mar. 12	7.51	Apr. 9	7.37
8	7.57	12	7.74	19	7.46	16	7.30
15	7.50	19	7.66	26	7.40	23	7.32
22	7.75	26	7.58	Apr. 2	7.33	May 2	7.31
29	7.69	Mar. 5	7.51				

NHn 205. Measurements discontinued Feb. 26, 1941.

Water level, in feet, with reference to mean sea level, 1941

Jan. 2	-0.25	Jan. 22	-1.19	Feb. 5	-0.94	Feb. 19	-1.41
8	-.77	29	-.02	12	-.33	26	-.68
15	-.50						

NHn 222. Water level affected by inflow of surface water. Measurements discontinued Dec. 26, 1940.

NHn 224. Well placed in service. Measurements discontinued Feb. 26, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	3.59	Jan. 22	3.68	Feb. 5	3.65	Feb. 19	3.79
8	3.61	29	3.71	12	3.90	26	3.67
15	3.57						

NHn 235.

Water level, in feet, with reference to mean sea level, 1941

Jan. 2	-0.33	Apr. 2	-0.39	July 9	-0.38	Oct. 8	-1.18
8	-.32	9	-.40	16	-.51	15	-1.23
15	-.33	16	-.45	23	-.60	22	-1.27
22	-.29	23	-.44	30	-.70	29	-1.30
29	-.25	May 2	-.44	Aug. 6	-.73	Nov. 5	-1.18
Feb. 5	-.36	7	-.47	13	-.80	12	-1.21
12	-.18	14	-.50	20	-.87	19	-1.24
19	-.25	21	-.56	27	-.97	26	-1.32
26	-.31	28	-.59	Sept. 3	-.90	Dec. 3	-1.30
Mar. 5	-.35	June 11	-.40	10	-1.00	10	-1.28
12	-.35	18	-.41	17	-1.16	17	-1.20
19	-.38	25	-.43	24	-1.10	24	-1.39
26	-.37	July 2	-.48	Oct. 1	-1.15	31	-1.46

NHn 245.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	+0.37	Apr. 9	+0.04	July 9	-0.40	Oct. 8	-1.07
8	+.40	16	-.03	16	-.46	15	-1.03
15	+.30	23	-.11	23	-.54	22	-1.03
22	+.36	May 2	-.16	30	-.61	29	-.94
29	+.29	7	-.20	Aug. 6	-.67	Nov. 5	-.74
Feb. 5	+.22	14	-.22	13	-.77	12	-.66
12	+.49	21	-.26	20	-.82	19	-.73
19	+.39	28	-.32	27	-.89	26	-.76
26	+.33	June 4	-.36	Sept. 3	-.75	Dec. 3	-.78
Mar. 5	+.26	11	-.12	10	-.92	10	-.75
12	+.21	18	-.13	17	-.99	17	-.54
19	+.21	25	-.27	24	-1.00	24	-.57
26	+.12	July 2	-.37	Oct. 1	-1.04	31	-.58
Apr. 2	+.06						

NHn 250.

Lowest daily water level, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.03	....	3.39	3.56	a3.87	4.07	3.58	3.22	3.21	2.90	3.11	3.23
2	4.01	....	3.46	3.50	a3.87	3.98	3.51	3.20	3.20	2.85	3.21	3.23
3	3.87	....	3.57	3.47	3.93	3.88	3.47	3.27	3.09	2.87	3.19	3.18
4	3.86	....	3.54	3.46	4.09	3.83	3.52	3.27	3.05	2.92	3.20	3.11
5	3.90	a3.51	3.47	3.52	4.09	3.83	3.53	3.16	3.06	2.96	3.17	3.05
6	3.91	3.49	3.44	3.62	4.00	3.83	3.62	3.13	3.04	2.95	3.13	3.09
7	3.84	3.47	3.40	3.63	3.95	3.84	3.58	3.11	3.08	2.88	3.16	3.24
8	3.81	3.55	3.42	3.50	3.94	3.92	3.48	3.12	3.07	2.86	3.23	3.16
9	3.78	3.64	3.47	3.51	3.92	3.97	3.42	3.16	2.97	2.84	3.34	3.07
10	3.71	3.77	3.51	3.50	3.97	3.90	3.39	3.21	2.92	2.84	3.25	3.05
11	3.75	3.63	3.43	3.55	4.09	3.86	3.35	3.19	2.95	2.85	3.20	3.03
12	3.85	3.63	3.38	3.71	4.08	3.79	3.37	3.11	2.93	2.95	3.18	3.03
13	3.87	3.63	3.35	3.79	4.03	3.77	3.44	3.09	2.97	2.95	3.15	3.05
14	3.79	3.62	3.36	3.78	4.05	3.80	3.58	3.05	3.01	2.93	3.14	3.14
15	3.68	3.55	3.39	3.73	4.05	3.91	3.43	3.05	3.04	2.92	3.17	3.17
16	3.70	3.62	3.46	3.71	4.02	4.00	3.44	3.08	2.98	2.94	3.30	3.05
17	3.69	3.67	3.56	3.72	4.08	3.93	3.52	3.14	2.91	2.95	3.22	3.02
18	3.71	3.63	3.50	3.72	4.19	3.89	3.54	3.17	2.88	2.98	3.15	2.98
19	3.78	3.52	3.56	3.78	4.15	3.83	3.50	3.12	2.88	3.08	3.15	2.97
20	3.78	3.53	3.59	3.88	4.06	3.81	3.56	3.03	2.91	3.05	3.19	3.00
21	3.66	3.46	3.61	3.82	4.06	3.83	3.48	3.00	3.00	3.03	3.23	3.10
22	3.63	3.46	3.64	3.77	3.98	3.91	3.37	2.98	2.93	3.06	3.24	3.05
23	3.62	3.53	3.69	3.76	3.93	3.90	3.33	3.02	2.88	3.06	3.29	2.95
24	3.60	3.61	3.74	3.76	3.99	3.82	3.28	3.09	2.86	3.04	3.26	2.93
25	3.56	3.53	3.71	3.75	4.05	3.83	3.26	3.08	2.85	3.07	3.18	2.98
26	3.65	3.45	3.67	3.80	4.05	3.79	3.30	3.01	2.86	3.16	3.13	3.03
27	3.68	3.41	3.70	3.93	3.92	3.79	3.37	2.94	2.89	3.13	3.11	3.04
28	3.62	3.43	3.69	3.90	3.83	3.78	3.29	2.92	2.95	3.12	3.12	3.12
29	3.55	....	3.72	3.86	3.82	3.82	3.23	2.95	2.95	3.14	3.24	2.97
30	....	....	3.78	3.88	3.85	3.67	3.18	2.98	2.90	3.12	3.31	2.90
31	....	....	3.75	....	4.01	....	3.22	3.06	....	3.09	....	2.92

a Estimated.

NHn 270. Carl E. Altmann. On east side of Auburn Street, 190 feet south of Legion Avenue. Unused domestic dug well, diameter 33 inches, measured depth 36.6 feet. Measuring point, top of 2 by 3-inch cross header nailed to frame well-house uprights, 2 feet above land surface and 40.18 feet above mean sea level. Water level May 21, 1941, 35.31 feet below measuring point and 4.87 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 21	4.87	July 16	4.70	Sept. 3	4.45	Oct. 22	4.04
28	4.86	23	4.67	10	4.43	29	4.04
June 4	4.83	30	4.64	17	4.38	Dec. 3	3.95
11	4.81	Aug. 6	4.61	24	4.33	10	3.87
18	4.76	13	4.57	Oct. 1	4.30	17	3.78
25	4.79	20	4.54	8	4.16	24	3.85
July 2	4.76	27	4.49	15	4.03	31	3.91
9	4.74						

INDIANA

By C. L. McGuinness

The program of water-level measurements in observation wells in Indiana was continued in 1941 in cooperation between the Federal Geological Survey and the Division of Geology of the Indiana State Department of Conservation. Work was also continued on the detailed investigation of the ground-water resources of the Indianapolis area, begun in 1938.

In 1941 water-level measurements were begun or resumed in several wells in the State, but measurements were discontinued in a larger number, owing principally to curtailment of the activities of the Civilian Conservation Corps. Measurements were made at least once in 71 wells. At the end of the year periodic measurements were being made in about 50 wells. Measurements are made through the cooperation of the State Department of Conservation, the Civilian Conservation Corps, and municipal water departments. Measurements were made twice a month in most of the wells, once a month or once a week in a few wells, and daily in one well in Indianapolis. About 1,500 individual measurements were made in 1941. Two float-type automatic water-stage recorders were in operation on wells in Indianapolis during the year.

Essentially complete records of water levels were obtained for 51 wells in 1941, including 14 wells in Marion County, in which Indianapolis is situated. The observation wells in Marion County are affected by heavy pumping from wells in the Indianapolis area for industrial, air conditioning, and municipal purposes. The following wells are also affected by pumping, either from nearby wells or from the wells themselves: No. 1 in DeKalb County, No. 2 in Hamilton County, No. 1 in Henry County, No. 1 in Howard County, No. 1 in Madison County, No. 1 in Porter County, No. 1 in St. Joseph County, Nos. 1, 2, and 3 in Starke County, and No. 1 in White County. However, the effects of pumping are not as apparent in these wells as in the wells in Marion County, and the major trends in the fluctuations are largely related to variations in precipitation. The water level in

well 1, Clay County, has been affected by lowering of the water level in a nearby artificial lake, which was partially drained to permit work on the dam. The water level in well 3 in Fulton County is affected by the position of the water level in a raceway only a few feet away. In the remaining wells the fluctuations in water levels are largely or wholly related to changes in natural conditions, principally to variations in the amount and distribution of precipitation.

In the 37 wells in counties other than Marion County the water levels averaged 0.36 foot higher on January 1, 1942, than on January 1, 1941, about 0.7 foot higher than on January 1, 1940, about 0.7 foot lower than on January 1, 1939, and about 1.4 feet lower than on January 1, 1938.

The average precipitation in the State during 1941 was 32.66 inches, which was 7.02 inches below normal. The precipitation was below normal in each month except in June, when it was 1.77 inches above normal, and in October, when it was 4.03 inches above normal. The average precipitation during 1941 in the different parts of the State was as follows: Northern part, 31.69 inches, or 4.06 inches below normal; central part, 32.86 inches, or 7.00 inches below normal; southern part, 33.43 inches, or 9.99 inches below normal.

Because of the deficient and irregularly distributed precipitation during the spring of 1941, the hydrographs of many of the wells that ordinarily show pronounced seasonal fluctuations in water level had only low and irregular spring peaks, and the high stages in individual wells occurred as early as January and as late as June. The high stages of 1941 in the 37 wells outside Marion County averaged 1.38 feet lower than in 1940 and about 3.5 feet lower than in 1939. Following the high stages there were pronounced declines in water level in most of the wells. The low stages in individual wells were reached from late in August to December, but in many wells they occurred late in September or in October. On the whole, the low stages were better defined than the high stages. In a few wells the water levels were still declining at the end of the year, but in most wells the water levels had recovered considerably before the end of the year.

In 17 of the 37 wells outside Marion County the lowest water levels for the period of record were reached during the fall of 1941. In the 37 wells the fall low stages averaged about 0.1 foot lower than in 1940 and about 0.83 foot lower than in 1939.

The severe drought of the summer of 1941 was broken by heavy rains in October. A large part of the rain water entered the ground, which was very dry, and the direct surface runoff was relatively small. Previous to the rains the soil had become so dry that most of the rain that entered the soil was retained by it. However, there was a small amount of ground-water recharge in most if not all parts of the State, and this was principally responsible for the average net rise in ground-water levels between January 1, 1941, and January 1, 1942. However, owing to the considerable average net declines in water level during the calendar years 1938 and 1939, the water levels on January 1, 1942, were still somewhat below the recorded average for this date, and abundant precipitation during the spring of 1942 would be necessary to restore them to normal.

The water levels in the observation wells in Marion County are affected not only by variations in precipitation but also by the heavy and increasing pumpage from wells in the Indianapolis area. The increase in pumpage during the last few years has been large. The average pumpage in the area during 1938 was probably between 30 and 35 million gallons a day; in 1941 it was more than 50 million gallons a day. The effects of the increase in pumpage are apparent in all the wells, and are especially apparent in wells 2 and 3, which are situated in areas of heavy pumping.

The average net declines in water level in the observation wells in Marion County during the calendar years 1938 and 1939 were roughly comparable to the average net declines in the wells in other parts of the State--that is, about 0.7 foot in 1938 and about 1.5 feet in 1939. During the calendar years 1940 and 1941, however, while the wells in other parts of the State were showing successive average net rises of 0.32 foot and 0.36 foot, the wells in Marion County showed successive average net declines of 2.12 and 1.47 feet. In 1941 the lowest stages of record were reached in 11 of the 14 wells in Marion County for which essentially complete records were obtained. Regular measurements in well 6 were discontinued in June 1941, but the water level was at the lowest stage of record at the time of the last regular measurement.

The records for several of the wells in Marion County extend back only to 1938 or 1939. The 3 wells in which the lowest stages of record were not reached in 1941, wells 13, 14, and 15, are situated at the Indianapolis Sanitation Plant, and are measured by personnel of the plant. Measurements were begun in 1928 in well 13 and in 1929 in wells 14 and 15. The lowest stage of record occurred in 1928 in well 13, and in 1930 in well 14. In well 15 the lowest stage was reached in 1929 and equaled in 1930.

In the following pages the wells are listed by counties. Descriptions are given for only those wells whose descriptions do not appear in Water-Supply Papers 817, 840, 845, 886, or 906. The references in parentheses following the well numbers are to the previous water-supply papers containing descriptive material on the wells. Names of the observers are given for each well or group of wells, except for wells in which all measurements during 1941 were made by the writer.

Boone County

Boone 1. (Water-Supply Paper 817, pp. 43-44). Metropolitan Life Insurance Co. NW¼NW¼ sec. 23, T. 18 N., R. 1 W. About 3 miles south of Lebanon along State Highway 39.

Boone 2. (Water-Supply Paper 817, pp. 43-44). R. W. Gorrell. SE¼SE¼ sec. 4, T. 18 N., R. 1 E. At east end of abandoned school house on south side of State Highway 32, about 3 miles east of Lebanon.

Measurements made by C. R. Brown, technical foreman, CCC camp SCS-22, Lebanon. Regular measurements discontinued after Nov. 1.

Water levels in wells 1 and 2, in feet below measuring points, 1941

Date	Boone 1	Boone 2	Date	Boone 1	Boone 2	Date	Boone 1	Boone 2
Jan. 4	10.2	5.4	May 5	4.4	6.2	Aug. 16	8.18	9.00
Feb. 17	7.65	5.1	15	4.38	5.8	Sept.16	9.05	....
Mar. 3	6.75	5.8	31	5.2	6.75	Oct. 7	10.8	10.4
17	6.38	4.48	June 30	5.6	6.2	16	9.7	10.0
Apr. 1	5.05	4.35	July 15	6.35	7.22	Nov. 1	9.7	9.6
17	3.88	5.00	Aug. 1	7.25	8.11			

Brown County

Brown 2. (Water-Supply Paper 840, p. 73). Brown County State Park. Near head of valley northwest of Blockhouse.

Brown 3. (Water-Supply Paper 840, p. 74). Brown County State Park. In front of Hoosier's Nest cabin, near tower at entrance to Brown County State Game Preserve.

Measurements made by Paul Voland, Brown County State Park, A. E. Weddle, custodian.

Water levels in wells 2 and 3, in feet below measuring points, 1941

Date	Brown 2	Brown 3	Date	Brown 2	Brown 3	Date	Brown 2	Brown 3
Jan. 8	5.85	10.75	June 16	3.44	9.46	Oct. 30	12.54	11.10
Feb. 12	3.5	10.3	July 30	8.25	11.0	Nov. 17	3.94	8.17
Mar. 3	3.55	9.65	Aug. 30	9.56	11.0	30	3.36	8.04
27	3.7	9.8	Sept.30	11.73	a11.6	Dec. 15	3.39	8.51
Apr. 15	3.44	9.38	Oct. 13	11.90	10.90	30	3.39	5.34
May 20	3.4	10.2	15	12.04	11.06			

a Lowest water level of record.

Clark County

Clark 1. (Water-Supply Paper 840, p. 74). Clark County State Forest. Sec. 36, T. 2 N., R. 6 E. Schlamm well, west side of trail 9, about 1/8 mile north of trail 10.

Clark 2. (Water-Supply Paper 840, p. 74). Clark County State Forest. At Purdue camp site.

Measurements made by Alfred Fowler, K. W. Vernon, Forrest Miller, and George N. Heller, CCC camp S-51-A, Dewey N. Hickman, project superintendent.

Water levels in wells 1 and 2, in feet below measuring points, 1941

Date	Clark 1	Clark 2	Date	Clark 1	Clark 2	Date	Clark 1	Clark 2
Jan. 3	23.8	13.1	Apr. 3	25.3	13.7	Oct. 3	25.6	13.8
17	24.2	13.0	18	15.4	13.35	13	25.72	13.87
Feb. 5	24.3	13.0	July 15	23.65	12.75	Nov. 1	25.9	13.8
15	24.3	13.2	Aug. 4	24.5	12.9	17	25.95	13.8
Mar. 5	24.6	13.7	Sept. 4	25.2	13.5	Dec. 1	26.15	13.7
25	24.7	13.5	15	25.3	13.6	15	a26.25	a13.95

Clay County

Clay 1. (Water-Supply Paper 840, p. 74; Water-Supply Paper 906, p. 22). Shakamak State Park. In pump house at headquarters of CCC camp SP-3. Measurements made by V. E. Coleman, CCC camp SP-3. Regular measurements discontinued after Feb. 25. Water levels, in feet below measuring point, 1941: Jan. 21, 33.56; Jan. 31, 33.58; Feb. 25, 33.83.

De Kalb County

De Kalb 1. (Water-Supply Paper 817, p. 44). Auburn Water Department. Well 3 at Auburn waterworks. Measurements made by Auburn Water Department, Ted Haynes, superintendent.

Water level, in feet below measuring point, 1941

Date	Static level	Pumping level	Date	Static level	Pumping level	Date	Static level	Pumping level
Jan. 10	11.5	19.5	May 10	10.5	18.5	Sept. 25	10.5	18.5
24	10.5	17.5	26	9.5	17.5	Oct. 10	10.5	18.5
Feb. 10	9.5	17.5	June 25	8.5	18.5	27	9.5	17.5
25	11.5	18.5	July 10	10.5	18.5	Nov. 10	7.5	16.5
Mar. 10	11.5	17.5	28	10.5	19.5	25	9.5	18.0
26	9.5	18.5	Aug. 11	11.5	19.5	Dec. 10	8.5	17.5
Apr. 10	10.5	17.5	25	9.5	18.5	29	8.5	17.5
28	10.5	17.5	Sept. 10	10.5	18.5			

Dubois County

Dubois 2. (Water-Supply Paper 840, p. 75). Ferdinand State Forest. North side of road near foot of hill at entrance to Forest. Water level, Oct. 14, 1941, 14.45 feet below measuring point.

Elkhart County

The average daily pumpage in the well field during the period October 15, 1935, to January 15, 1936, was about 3.2 million gallons; during the period October 1 to December 31, 1941, it was about 3.9 million gallons. The water level in well 1 stood higher during the period covered by the 1941 measurements than during the 1935-36 period, although the pumpage was higher in 1941, and although the precipitation was probably slightly below

a Lowest water level of record.

Elkhart County--Continued.

normal in 1941 and above normal in 1935, according to records of nearby stations. This apparent anomaly may be due to persistence into 1935 of the effects of the severe drought of 1934.

Elkhart 1. Elkhart City Waterworks. "Bucklen" well at city water plant, east side of North Main Street, north side of Christiana Creek. Pumped occasionally for public supply. Dug well, diameter about 20 feet, depth 28 feet. Penetrates outwash sand and gravel. Measuring point, steel rim of manhole in top of concrete well house, flush with land surface. Water level affected by discharge from similar wells to the west, the nearest of which is about 100 yards distant. Measurements made by Warren Swartz, general foreman, and Charles Stone, Elkhart City Waterworks.

Water level, in feet below measuring point, 1935-36, 1941

Date	Water level	Date	Water level	Date	Water level
Oct. 15, 1935	11.4	Jan. 1, 1936	11.4	Nov. 1, 1941	8.5
Nov. 1	11.4	15	11.4	15	8.5
15	11.4	Sept.29, 1941	8.76	Dec. 1	8.35
Dec. 1	11.4	Oct. 16	9.1	16	8.3
15	11.4				

Franklin County

Franklin 1. (Water-Supply Paper 840, p. 75). No measurements made in 1941.

Fulton County

Fulton 3. (Water-Supply Paper 817, p. 45; Water-Supply Paper 886, p. 99). City of Rochester. At Federal Fish Hatchery east of Rochester. Measurements made by C. H. Walker, foreman, and K. W. Morrison, Federal Fish Hatchery, Rochester.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	12.41	Apr. 9	8.34	Aug. 4	9.6	Sept.29	11.23
Feb. 12	12.3	May 3	7.50	Sept. 2	10.39	Nov. 3	11.72
Mar. 12	12.33	June 3	8.45				

Hamilton County

Hamilton 2. (Water-Supply Paper 817, p. 45). Public Service Co. of Indiana. At water plant, Noblesville. Measurements made by A. L. Wann, engineer, Noblesville water plant, Public Service Co. of Indiana.

Water level, in feet below measuring point, 1941

Jan. 5	25.37	May 1	25.94	Aug. 1	27.06	Oct. 16	27.02
Feb. 1	25.69	16	26.46	16	27.11	Nov. 5	26.93
Mar. 15	25.77	June 16	25.56	Sept.15	a 27.33	Dec. 2	26.20
Apr. 15	25.78						

a Lowest water level of record.

Harrison County

Harrison 1. (Water-Supply Paper 840, p. 77). Harrison County State Forest. NE¼NE¼ sec. 23, T. 4 S., R. 2 E., on south side of road near Lowe Pond.

Harrison 2. (Water-Supply Paper 840, p. 77). Harrison County State Forest. NW¼NW¼ sec. 2, T. 4 S., R. 2 E., on north side of truck trail 1. Water level, Oct. 14, 1941, 12.30 feet below measuring point.

Harrison 3. (Water-Supply Paper 845, p. 73). Harrison County State Forest. SE¼NW¼ sec. 2, T. 4 S., R. 2 E., on south side of truck trail 1.

Measurements made by Dewey N. Hickman and Lafe Cline, successive forest superintendents, and A. V. Whitaker, Harrison County State Forest.

Water levels in wells 1 and 3, in feet below measuring points, 1941

Date	Harrison 1	Harrison 3	Date	Harrison 1	Harrison 3
Jan. 1	1.55	7.3	June 30	4.05	6.2
15	1.55	7.3	July 15	4.0	6.5
Feb. 1	2.3	4.4	31	4.5	6.6
15	.41	3.2	Aug. 15	4.7	7.1
Mar. 1	2.39	4.05	Sept. 1	4.9	7.3
16	2.33	4.26	15	5.2	7.5
Apr. 1	2.33	4.25	30	5.6	a 7.8
16	2.21	2.78	Oct. 14	5.60	7.76
May 1	2.97	3.95	31	5.6	7.7
15	2.75	4.9	Nov. 15	a 5.65	7.45
June 2	3.6	5.7	Dec. 1	3.28	7.74
16	2.43	5.79	16	2.8	7.7

Henry County

Since 1935 periodic measurements of water level have been made in a well, designated as well 1, at the New Castle water works. The approximate average daily municipal pumpage at New Castle is shown below, in millions of gallons:

1935, last quarter	1.3
1936	1.45
1937	no record
1938	1.25
1939	1.4
1940	1.4
1941	1.5

The water level in well 1 has trended downward since 1938, when the highest stages of record were reached. The lowest previous stages of record occurred in 1936, but in 1941 the water level generally stood at lower stages than at equivalent times in 1936, although the stage reached in July 1936 is still the lowest single stage of record. The downward trend is probably due in part to increases in pumpage and in part to lessened ground-water recharge during the years following 1938.

a Lowest water level of record.

Henry County--Continued.

Henry 1. (Water-Supply Paper 817, p. 46). City of New Castle, at waterworks. Measurements made by H. A. Hall, superintendent, and Nelson Howard, engineer, New Castle Water and Light Department.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	25.0	Apr. 1	27.0	July 4	22.0	Sept. 1	27.0
Feb. 2	28.0	May 2	29.0	Aug. 5	27.0	Oct. 1	33.0
Mar. 1	29.0	June 1	27.0				

Howard County

Since 1935 periodic measurements of water level have been made in a well, designated as well 1, at the Kokomo Water Works Co. The approximate average daily pumpage at the Kokomo water plant is shown below, in millions of gallons:

1935, last quarter	1.75
1936	2±
1937	1.85
1938	1.85
1939	2.05
1940	2.25
1941	2.2

The water level in well 1 was at the highest stages of record during the springs of 1938 and 1939. It was several feet lower during the springs of 1940 and 1941, and declined during the falls of those years to stages about as low as that of the fall of 1936, the previous lowest stage of record. These declines are probably due in part to increased pumpage and in part to lessened recharge during 1940 and 1941.

Howard 1. (Water-Supply Paper 817, p. 46; Water-Supply Paper 840, p. 78). Kokomo Water Works Co. On north side of creek, about 0.1 mile west of pumping station of Kokomo waterworks. Measurements made by M. A. Stearns, manager, and W. O. Thompson, engineer, Kokomo Water Works Co. Measurements discontinued after Aug. 4, when well was purchased from the Pittsburg Plate Glass Co. by the Kokomo Water Works Co. and equipped with a pump for use as a part of the public water supply system.

Water level, in feet below measuring point, 1941

Jan. 3	17.6	Mar. 3	16.2	May 13	17.2	June 30	15.2
Feb. 5	17.15	Apr. 5	16.2	June 9	15.4	Aug. 4	a 20.4

Jackson County

Jackson 1. (Water-Supply Paper 840, p. 78; Water-Supply Paper 906, p. 24). Jackson County State Forest. Near northeast corner of office of CCC Camp S-55. Measurements made by F. W. Crozier and G. P. Coverdill, CCC Camp S-55, Jackson County State Forest, A. C. Foley, project superintendent.

a Equals lowest previous water level of record, reached July 25, 1940.

Jackson County--Continued.

Jackson 1.--Continued.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	8.4	Apr. 15	7.6	July 15	7.35	Oct. 13	9.95
15	8.15	May 1	7.65	Aug. 1	8.85	14	a 11.4
Feb. 1	7.6	15	7.75	15	8.65	Nov. 1	9.4
15	7.65	June 1	8.1	Sept. 3	8.65	15	9.65
Mar. 1	7.6	15	6.35	15	9.15	Dec. 1	9.5
15	7.85	July 1	7.25	Oct. 1	10.6	15	9.5
Apr. 1	7.9						

Jefferson County

Jefferson 2. (Water-Supply Paper 840, p. 79). Clifty Falls State Park, at custodian's house. Water level, Oct. 16, 1941, 30.34 feet below measuring point.

Jennings County

Jennings 1. (Water-Supply Paper 840, p. 79). Muscatatuck State Park. SE¼NE¼ sec. 3, T. 6 N., R. 8 E. In northwest corner of park, near North Vernon. Measurements made by Charles Vogel, E. C. Bundy, and C. J. Bernhart, Muscatatuck State Park.

Water level, in feet below measuring point, 1941

Jan. 1	15.79	June 15	3.86	Sept. 1	14.93	Nov. 1	15.96
Apr. 15	14.35	July 1	9.69	15	14.97	15	14.93
May 1	13.44	15	11.92	Oct. 1	15.93	Dec. 1	13.96
15	13.49	Aug. 1	12.94	15	15.96	15	14.94
June 1	14.09	15	13.94	16	15.47		

Kosciusko County

Kosciusko 1. (Water-Supply Paper 840, p. 79). Well destroyed.

Kosciusko 2. (Water-Supply Paper 845, p. 74). Wawasee State Fish Hatchery, flowing well at sunken garden. Water level, Nov. 5, 1941, 2.6+ feet above measuring point.

Madison County

Madison 1. (Water-Supply Paper 817, p. 47). Mounds State Park. Measurements made by personnel of Mounds State Park, Mrs. Anne Norton, custodian.

Water level, in feet below measuring point, 1941

Jan. 1	9.1	Apr. 1	9.26	July 1	10.28	Oct. 1	10.75
15	9.8	15	9.08	15	10.2	15	10.51
Feb. 1	9.15	May 1	10.43	Aug. 2	10.2	Nov. 1	10.42
15	9.07	17	10.38	15	10.9	15	10.75
Mar. 1	9.08	June 2	10.41	Sept. 1	a 11.1	Dec. 1	10.6
15	9.14	15	10.22	15	10.9		

Madison 2. (Water-Supply Paper 817, p. 47). Anderson Water Department. Well 2 of Anderson Water Department. New measuring point, edge of small hole in steel plate bolted to concrete pump base, at same elevation as old measuring point. Measurements made by B. E. Burrows, chief engineer, Anderson Water Department, W. J. Norton, superintendent.

a Lowest water level of record.

Madison County--Continued.

Madison 2.--Continued.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	17.14	Apr. 15	17.68	July 16	17.28	Oct. 16	17.86
15	17.27	May 1	17.58	Aug. 1	17.40	28	18.03
Feb. 1	17.36	16	17.78	16	17.61	Nov. 5	17.99
Mar. 1	17.46	June 2	17.81	Sept. 5	17.77	15	17.89
15	17.46	17	17.23	17	17.92	Dec. 2	17.92
Apr. 1	17.69	July 1	17.25	Oct. 2	a 18.04		

Madison 3. (Water-Supply Paper 817, p. 47). Albert Closser. About 2 blocks east of CCC camp SCS-21, Frankton. Water level below obstruction in casing from Jan. 1 to June 30, when regular measurements were discontinued, and on Oct. 28. The obstruction was 25.62 feet below the measuring point on Oct. 28.

Madison 4. (Water-Supply Paper 817, p. 47). Walter McCoy. About 3 blocks south of CCC camp SCS-21, Frankton.

Measurements in wells 3 and 4 made by R. C. Crowell, CCC camp SCS-21, H. C. List, project superintendent. Camp abandoned and regular measurements discontinued June 30.

Water level in well 4, in feet below measuring point, 1941

Feb. 1	11.78	Mar. 18	10.25	Apr. 30	8.85	June 16	4.12
15	11.07	31	10.09	May 16	8.75	Oct. 28	9.37
Mar. 1	10.42	Apr. 16	9.25	June 4	3.98		

Marion County

Since 1935 periodic measurements of water level have been made in a well, designated as well 1, of the Indianapolis Water Co. The water level in well 1, which penetrates limestone, is affected by pumping from nearby wells penetrating limestone in the Riverside field of the Indianapolis Water Co., referred to below as "rock wells". These are subdivided into "motor wells" and "air wells", depending upon their pumping equipment. The distances of these wells from well 1 range from about 400 to about 4,500 feet. The water level in well 1 is also affected by pumping from three wells penetrating gravel at the White River Filtration Plant of the Indianapolis Water Co., referred to below as "gravel wells". These wells are from about 3,500 to about 4,000 feet east of well 1. Three similar gravel wells were drilled near the older gravel wells in 1941, but these were pumped only a few times during the year.

The water level in well 1 is affected most strongly by pumping from the motor wells, which are nearest, next most strongly by the air wells, which are more distant, and least strongly by the gravel wells.

a Lowest water level of record.

Marion County--Continued.

Pumping the three older gravel wells generally causes a decline in water level in well 1 of about 2 feet. During 1941 there were several short periods when the new gravel wells were pumped with the three older gravel wells, causing a decline in water level in well 1 of about 4 feet.

Pumping the air wells alone causes a decline in water level in well 1 of about 4 to 6 feet. When the motor wells are pumped with the air wells the decline in water level in well 1 is in the neighborhood of 15 to 18 feet. When both air and motor wells are pumping the additional decline in water level in well 1 caused by pumping the three older gravel wells is difficult to detect because of changes in the pumping regime of the rock wells, but it is apparently still in the neighborhood of 2 feet.

During 1941 a total of 627,210,000 gallons was pumped from the rock wells in the Riverside field, as compared with 431,280,000 and 101,760,000 gallons in 1940 and 1939, respectively. During 1941 a total of 440,610,000 gallons was pumped from the gravel wells at the White River Filtration Plant, as compared with 989,000,000 and 228,330,000 gallons in 1940 and 1939, respectively.

Inasmuch as the pumping of the gravel wells affects the water level in well 1, which penetrates limestone, and in the light of other available information concerning the geologic conditions in the area, it is believed that in the area of the Riverside well field and the White River Filtration Plant the gravels and limestone constitute essentially a single ground-water reservoir. Thus, it may be said that the total quantity of water pumped from the reservoir through wells of the Indianapolis Water Co. increased from 330,090,000 gallons in 1939 to 1,420,280,000 gallons in 1940, then decreased to 1,067,820,000 gallons in 1941. Nevertheless, the water level in well 1 trended somewhat lower in 1941 than in 1940. This is due in part to the general increase in industrial pumpage of ground water in the Indianapolis area from 1940 to 1941, and to the low ground-water recharge during the spring of 1941. It is also possibly due in part to the fact that in 1941 more of the pumpage of the Indianapolis Water Co. was derived from the rock wells and less from the gravel wells than in 1940.

Marion County--Continued.

In the following table references are made to days when the various wells of the Indianapolis Water Co. were being pumped. On some of the days for which pumping is shown it is obvious from the position of the water level in well 1 that the wells were not being pumped when the measurement was made, but on most days for which pumping is shown the wells were being pumped at the time of the measurement, and this is reflected in the water level in well 1.

Marion 1. (Water-Supply Paper 817, p. 48; Water-Supply Paper 886, p. 102). Indianapolis Water Co. "Motor well 15", at intersection of 18th and Harding Streets, in Riverside well field, Indianapolis. Corrected altitude of measuring point, 685.28 feet above mean sea level, 683.00 feet above city of Indianapolis datum. Measurements made by personnel of Indianapolis Water Co., W. C. Mabee, chief engineer. Measurements generally made at 10 a.m.

Water level, in feet below measuring point, 1941

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.42	....	(c)	....	(a)	3.48	a8.46	b18.40	3.80	(d)	....	2.64
2	2.64	....	(c)	(a)	(a)	....	(a)	b19.76	4.04	c7.12	3.10	2.86
3	2.54	....	c4.54	a7.94	(a)	a5.30	(a)	b17.42	(a)	c7.40	(a)	2.76
4	2.42	....	c4.88	a8.40	3.08	d8.44	....	b19.08	....	4.42	....	2.80
5	....	....	c4.94	(a)	a7.52	c4.62	....ef21.46	....	3.98	....	....	....
6	....	2.36	c4.96	a8.30	a8.72	c4.54	3.14	e20.40	....	a3.98	....	2.86
7	....	....	c4.98	(a)	a7.90	(c)	a3.76	e18.96	3.84	a6.66	3.17	....
8	....	(c)	(c)	(a)	a8.50	....	a8.46	e18.75	4.00	4.38	3.16	2.70
9	....	....	(c)	....	a7.34	3.14	a8.78	e 7.82	a5.50	a5.12	3.15	2.84
10	....	c2.62	c5.00	3.34	a5.24	3.14	(a)	c 5.18	a6.15	....	a2.98	2.84
11	....	2.44	c5.42	(a)	a3.95	....	a7.22	e10.02	a6.62	3.80	a8.20	2.80
12	....	2.54	(c)	(a)	a7.74	....	a4.52	e 8.00	a4.82	....	a8.84	2.74
13	....	2.46	c5.14	a7.56	(a)	....	a7.34	c 5.34	4.04	(a)	....	....
14	....	2.56	....	(a)	a4.56	....	(a)	d 5.78	4.84	d3.90	3.24	2.46
15	....	2.32	....	a7.60	a4.60	2.42	b21.02	c 5.30	a3.89	(a)	3.10	2.58
16	2.56	2.16	....	a7.80	a5.20	2.52	b19.86	c 5.12	a5.68	a3.66	3.08	2.72
17	....	....	....	a3.78	a5.16	2.62	b15.58	4.24	c4.22	....	3.08	2.80
18	....	2.47	....	a3.92	3.46	2.58	b9.56	c 4.34	c4.80	(c)	3.14	....
19	....	....	....	(a)	3.90	....	a5.06	c 4.94	c4.38	(c)	3.10	....
20	2.34	c2.38	....	a3.94	a7.86	a4.03	a5.54	a 5.24	(c)	d6.70	2.92	2.68
21	2.44	(c)	....	a3.12	(a)	3.16	(a)	4.32	....	c7.06	....	....
22	2.54	(c)	....	3.84	(b)	2.74	a8.88	4.22	(c)	d7.98	3.00	....
23	2.60	(c)	2.58	3.20	....	2.78	(a)	a 5.79	c5.96	c7.26	....	2.72
24	2.56	(c)	2.54	a4.26	....	a7.50	a8.94	a 5.04	(c)	....	....	2.68
25	....	(c)	2.84	3.20	a4.86	a8.05	(a)	a 4.40	c7.90	3.74	2.94	....
26	2.06	(c)	2.90	a3.00	b8.72	(a)	a8.64	a 5.10	(c)	3.31	2.98	2.46
27	(c)	c4.50	2.86	4.02	b17.42	a7.88	(b)	a 4.24	(c)	3.48	....	2.48
28	c4.04	(c)	....	3.00	b18.36	a4.76	b20.98	a 5.12	(c)	3.60	....	2.30
29	(c)	....	....	a3.08	b19.16	3.16	b20.62	(a)	c4.40	a3.46	2.86	2.46
30	2.60	....	....	(a)	(b)	a4.72	b19.72	4.26	c5.48	a3.22	....	2.50
31	....	....	....	....	3.68	....	b18.22	4.04	....	(a)	....	2.45

a Air wells pumping.
b Air and motor wells pumping.
c Gravel wells pumping.
d Air and gravel wells pumping.
e Air, motor, and gravel wells pumping.
f Lowest water level of record.

Marion County--Continued.

Marion 2. (Water-Supply Paper 817, p. 48; Water-Supply Paper 886, p. 102). Security Trust Bank Building, 130 East Washington Street, Indianapolis. Equipped with automatic water-stage recorder. Corrected altitude of measuring point, 690.37 feet above mean sea level, 688.27 feet above city of Indianapolis datum.

Water level, in feet below measuring point, 1941
(from recorder charts)

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	31.32	June 10	38.84	Aug. 16	45.93	Sept.30	44.93
15	30.89	14	39.40	17	46.02	Oct. 7	b 44.85
23	30.64	16	39.10	19	45.72	15	42.81
28	30.76	17	38.94	24	45.97	18	42.15
Feb. 11	30.04	22	40.26	25	45.86	20	42.36
18	29.89	23	40.17	29	46.09	21	42.21
25	29.77	30	41.34	31	46.20	23	42.54
Mar. 4	29.89	July 6	42.05	Sept. 2	46.08	29	40.95
18	29.86	7	41.88	4	46.14	Nov. 4	39.77
26	29.92	13	42.84	7	46.44	10	38.77
Apr. 3	29.87	14	42.72	9	46.42	17	37.68
9	29.95	20	43.52	10	46.50	24	36.83
18	30.83	21	43.29	13	46.35	Dec. 1	36.12
25	31.45	28	43.99	16	45.73	8	35.61
May 10	32.97	Aug. 3	44.77	21	a 46.55	15	34.84
26	36.90	4	44.73	23	46.44	22	34.02
June 2	39.13	10	45.44	25	46.53	29	33.38
3	37.51	11	45.38				

Marion 3. (Water-Supply Paper 817, p. 48; Water-Supply Paper 886, p. 102). Emmerich Manual Training High School. In north room of school building, South Meridian and Henry Streets, Indianapolis.

Marion 4. (Water-Supply Paper 840, p. 80; Water-Supply Paper 845, p. 76; Water-Supply Paper 886, p. 103). Layne-Northern Co., Inc. In valley of Lick Creek, about 100 feet north of creek, about 700 feet west of South Meridian Street (4200 block), and about 350 feet south of Edwards Avenue, Indianapolis. Corrected altitude of measuring point, 700.3 feet above mean sea level, 698.2 feet above city of Indianapolis datum.

Marion 6. (Water-Supply Paper 845, p. 77; Water-Supply Paper 886, p. 103). Polar Ice and Fuel Co. At Artificial Plant, west of building near railroad track, 317 West Ohio Street, Indianapolis. Corrected altitude of measuring point, 709.89 feet above mean sea level, 707.79 feet above city of Indianapolis datum. Pump installed and regular measurements discontinued after June 24.

Marion 7. (Water-Supply Paper 845, p. 77; Water-Supply Paper 886, p. 103). Pennsylvania Railroad. In old railroad yards (Beville Street) east of Willard Park, 275 feet south of East Washington Street and just east of Willard Park fence. Corrected altitude of measuring point, 757.98 feet above mean sea level, 755.88 feet above city of Indianapolis datum. Regular measurements discontinued after July 8.

Marion 8. (Water-Supply Paper 845, p. 77; Water-Supply Paper 886, p. 103; Water-Supply Paper 906, p. 27). Pennsylvania Railroad. About 225 feet south of well 7. Corrected altitude of measuring point, 755.99 feet above mean sea level, 753.89 feet above city of Indianapolis datum.

Marion 9. (Water-Supply Paper 886, p. 103). At former American Brewery, West Ohio Street at Indianapolis Water Co. canal, and about 250 feet south of well 6, Indianapolis. Corrected altitude of measuring point, 710.55 feet above mean sea level, 708.45 feet above city of Indianapolis datum.

Marion 10. (Water-Supply Paper 886, p. 103). U. S. Federal Building. In basement of building, Indianapolis.

a Lowest water level of record.

b Oct. 1-7, highest water level 44.60 feet; lowest water level 45.04 feet.

Marion County--Continued.

Marion 16. (Water-Supply Paper 906, p. 30). At former American Hominy Co. Plant B, Madison Avenue and Palmer Street, Indianapolis. At south end of main building, near base of steel smokestack. Corrected altitude of measuring point, 724.12 feet above mean sea level, 722.02 feet above city of Indianapolis datum.

Measurements in wells 2, 3, 4, 6, 7, 8, 9, 10, and 16 made by G. F. Fix and R. G. Reno, successive Assistant State Geologists, and J. R. Harris and W. S. Smith, assistant geologists, Division of Geology, Indiana State Department of Conservation.

Water levels in wells 3,4, 6, 7, 8, 9, 10, and 16, in feet below measuring points, 1941

Date	Marion 3	Marion 4	Marion 6	Marion 7	Marion 8	Marion 9	Marion 10	Marion 16
Jan. 7	57.95	.....	.....	62.00	60.05	47.35	46.90	59.96
21	57.23	10.25	46.02	60.74	58.74	46.95	46.46	57.43
28	57.00	10.17	45.80	60.48	58.54	45.83	46.24	56.90
Feb. 11	56.29	10.27	45.62	60.49	58.58	46.55	45.80	56.95
18	56.29	.....	.....	.....	.....	.....	46.03	.....
25	56.31	10.38	45.35	60.68	58.72	46.25	46.37	57.47
Mar. 4	56.92	10.40	45.15	60.43	58.56	45.95	46.75	63.20
18	.....	.....	.....	61.10	59.19	.....	46.64	62.75
26	58.81	10.37	42.90	60.99	59.08	43.88	46.28	62.25
Apr. 3	58.36	10.21	47.42	61.33	59.39	48.07	46.40	63.09
9	60.04	10.25	47.80	61.60	59.64	48.43	46.53	64.47
21	60.24	10.64	48.58	61.44	59.45	49.23	47.95	68.67
May 27	64.66	a21.22	50.74	63.52	61.51	51.43	52.43	94.63
June 6	65.45	11.08	51.32	62.10	60.14	51.98	54.44	100.37
10	65.19	10.49	51.59	61.72	59.76	52.29	54.92	105.67
20	65.64	10.98	51.83	62.21	60.23	52.64	55.32	107.30
24	66.96	13.20	b52.12	62.20	60.17	52.80	56.31	107.45
July 8	64.53	13.52	.....	61.97	60.01	53.99	57.62	105.64
15	64.43	18.19	.....	.....	61.29	54.11	58.23	95.95
22	65.83	15.00	.....	.....	62.70	53.75	58.87	107.62
Aug. 1	69.25	17.70	.....	.....	62.69	54.18	59.72	109.09
5	69.50	17.65	.....	.....	63.24	54.12	60.07	108.96
12	70.17	18.89	.....	64.77	62.77	54.26	60.75	a109.72
19	69.52	12.82	.....	65.29	63.32	54.61	60.60	108.52
25	.....	12.69	.....	.....	.....	.....	.....	.....
29	69.80	13.13	c54.3	.....	a64.39	55.07	a60.78	108.40
Sept. 4	70.20	12.30	.....	.....	63.17	a55.31	60.63	108.34
10	69.82	12.00	.....	65.27	63.31	54.40	60.32	108.45
16	69.49	17.20	.....	.....	62.51	54.65	60.73	108.31
Oct. 7	a70.26	12.05	.....	.....	62.91	53.76	57.82	103.87
16	69.57	11.68	.....	65.44	63.45	53.02	55.37	70.56
24	69.00	11.55	.....	.....	63.67	53.61	55.82	70.07
29	.....	.....	.....	.....	.....	.....	52.85	.....
30	65.21	11.43	.....	a65.87	63.87	52.04	.....	69.12
Nov. 4	64.61	11.28	.....	65.19	63.21	51.49	51.70	103.80
10	63.52	11.19	.....	64.58	62.60	51.14	51.19	103.02
21	62.61	11.07	.....	.....	62.64	49.44	50.67	104.39
28	63.56	11.10	.....	.....	64.11	48.66	50.09	105.89
Dec. 5	63.47	11.07	.....	.....	64.05	48.46	49.96	105.15
12	63.25	11.00	.....	.....	64.13	48.31	49.43	103.20
19	62.22	10.93	.....	.....	64.14	48.06	49.05	104.31
26	61.02	10.83	.....	.....	62.40	47.79	48.19	66.18

Marion 11. (Water-Supply Paper 886, p. 105). Indianapolis Sanitation Plant. Owner's well 3. In dehydration building, about 500 feet west of power house. Equipped with automatic water-stage recorder.

a Lowest water level of record.
b Lowest static water level of record.
c Well pumping about 60 gallons a minute during measurement.

Marion County--Continued.

Marion 12. (Water-Supply Paper 886, p. 106). Indianapolis Sanitation Plant. Owner's well 11 (?). About 300 feet southeast of power house and about 50 feet north of resettler tank.

Measurements in wells 11 and 12 made by George Bremen, P. W. Richards, and C. Larsh, Indianapolis Sanitation Plant, Don. E. Bloodgood, superintendent.

Water levels in wells 11 and 12, in feet below measuring points, 1941

Date	Marion 11	Marion 12	Date	Marion 11	Marion 12
Jan. 4	26.41	25.26	July 11	26.15	24.80
11	26.52	25.30	18	26.10	24.93
18	26.53	25.26	25	26.54	25.08
24	26.32	25.14	Aug. 1	26.73	25.21
31	26.42	25.08	8	26.89	25.35
Feb. 7	26.21	25.06	15	26.76	.....
14	26.38	25.10	23	26.86	.....
21	26.16	24.84	29	26.92	25.43
28	26.33	24.96	Sept. 5	26.85	25.46
Mar. 7	26.25	25.06	12	26.91	25.38
14	26.47	25.09	19	26.98	25.48
21	26.35	25.09	26	27.08	25.59
28	26.36	25.13	29	a 27.20	.....
Apr. 4	26.19	25.05	Oct. 3	26.99	25.59
10	26.18	24.79	10	26.47	24.94
18	26.02	24.72	17	26.49	24.94
25	26.30	.....	24	26.69	25.21
May 2	26.29	25.06	31	26.63	25.28
9	26.57	25.07	Nov. 7	26.35	24.95
16	26.40	25.09	14	26.23	24.70
23	26.63	25.17	21	26.41	24.95
29	26.79	25.29	28	26.39	24.77
June 6	26.08	24.58	Dec. 5	26.13	24.76
13	25.50	24.17	12	26.46	24.97
20	25.23	23.60	19	26.46	25.02
27	25.74	24.25	26	26.16	24.39
July 3	26.10	24.60			

Marion 13. (Water-Supply Paper 886, p. 106). Indianapolis Sanitation Plant. "East" observation well, about 500 feet east of power house.

Marion 14. (Water-Supply Paper 886, p. 106). Indianapolis Sanitation Plant. "Resettler" observation well, about 400 feet southeast of power house, at southeast edge of resettler tank.

Marion 15. (Water-Supply Paper 886, p. 106). Indianapolis Sanitation Plant. "No. 2 driven well", about 550 feet north of power house and 64 feet northeast of supply well 6. New measuring point after Sept. 3, top of 2-inch pipe, about 1 foot above land surface and 688.09 feet above mean sea level.

Measurements in wells 13, 14, and 15 made by personnel of Indianapolis Sanitation Plant, under supervision of D. O. Bender.

Water levels in wells 13, 14, and 15, in feet below measuring points, 1941

Date	Marion 13	Marion 14	Marion 15	Date	Marion 13	Marion 14	Marion 15
Jan. 9	9.30	21.25	26.03	Aug. 14	9.08	21.59	(b)
Feb. 7	10.80	21.33	25.84	23	9.54	21.66	27.83
Mar. 7	9.06	21.25	25.73	Sept. 3	9.34	21.65	(b)
Apr. 5	9.00	21.35	25.79	Oct. 18	9.13	21.23	(c)
May 9	9.09	21.32	25.66	Nov. 4	9.15	21.42	(d)
June 13	8.05	20.34	25.08	Dec. 8	8.95	21.14	(d)
July 12	8.80	21.05	25.20				

a Lowest water level of record.
b Obstructed.
c Obstructed at 23.94 feet below new measuring point.
d Obstructed at 23.75 feet.

Monroe County

Monroe 1. (Water-Supply Paper 840, p. 82; Water-Supply Paper 886, p. 107). Morgan-Monroe State Forest. At old camp site, north of Bean Blossom Road, near head of shallow draw. Northwesternmost of three dug wells. Measurements made by H. A. Stahl, engineer, CCC Camp S-52, Charles E. Martin, forest superintendent, and Herman Griffith, Morgan-Monroe State Forest.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 28	1.25	May 6	1.55	Aug. 15	2.81	Oct. 31	1.74
Mar. 10	1.62	June 7	1.21	29	3.14	Nov. 15	1.58
Apr. 3	1.65	30	1.55	Oct. 13	2.40	29	1.55
16	2.00	July 29	2.16	15	2.06	Dec. 31	1.28

Montgomery County

Montgomery 1. (Water-Supply Paper 817, p. 49). W. H. Moore, Waveland. NW¼NW¼ sec. 36, T. 17 N., R. 6 W. At site of burned house.

Montgomery 2. (Water-Supply Paper 817, p. 49). Vandalia Railroad. In old railroad stock pen, north side of railroad track, Waveland.

Montgomery 3. (Water-Supply Paper 817, p. 49). Charles Lamson. At residence, about 0.4 mile north of Waveland.

Montgomery 4. (Water-Supply Paper 817, p. 49). Mrs. W. L. Glenn. At residence, about 2 miles north of Waveland.

Measurements made by L. W. Trueblood, engineer, Raymond Perkinson, and Ray Alsip, CCC Camp SCS-3, near Waveland, and Hubert C. Loudermill, clerk, town board, Waveland. Regular measurements in wells 3 and 4 discontinued after June 29.

Water levels in wells 1, 2, 3, and 4, in feet below measuring points, 1941

Date	Well 1	Well 2	Well 3	Well 4	Date	Well 1	Well 2	Well 3	Well 4
Jan. 15	14.43	3.67	12.98	11.23	June 15	10.13	3.21	8.63	9.82
31	13.95	3.47	12.33	10.86	29	9.96	3.05	8.63	10.01
Feb. 14	13.25	3.12	11.55	10.72	Oct. 3	15.74	3.49	13.91	13.71
28	13.20	3.62	12.09	10.89	16	14.80	4.21	.....	.....
Mar. 13	13.52	3.43	11.55	10.57	Nov. 4	13.08	3.47	.....	.....
31	12.97	3.70	11.55	10.48	24	9.55	3.09	.....	.....
Apr. 15	10.13	3.32	9.15	9.90	Dec. 9	11.25	3.80	.....	.....
28	11.47	3.62	10.20	9.95	18	11.80	4.00	.....	.....
May 14	11.36	3.63	10.30	10.27					

Morgan County

Morgan 1. (Water-Supply Paper 840, p. 82). Morgan-Monroe State Forest. SW¼SW¼ sec. 27, T. 11 N., R. 1 E. South of trail 3, in front of Shady Rest cabin. Measurements made by H. A. Stahl, engineer, CCC Camp S-52, Charles E. Martin, forest superintendent, and Herman Griffith, Morgan-Monroe State Forest.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 28	7.75	May 6	7.66	Aug. 15	10.00	Nov. 15	7.42
Mar. 10	7.50	June 7	8.58	Sept. 3	10.41	29	7.31
Apr. 3	6.82	30	9.04	Oct. 15	8.00	Dec. 18	7.22
16	7.35	July 29	9.83	31	7.47	31	7.21

Noble County

Noble 1. (Water-Supply Paper 840, p. 83). Measurements discontinued.

Noble 2. (Water-Supply Paper 840, p. 83). Lawrence Ott. SW¼SE¼ sec. 35, T. 33 N., R. 9 E. About 0.8 mile east of State Highway 9 and about 0.2 mile west of State Highway 102, about 300 feet north of county-line road.

Noble 3. (Water-Supply Paper 840, p. 83). Della May Kitt. Across road from residence, about 1.1 miles southwest of Merriam.

Measurements in wells 2 and 3 made by James Bodley, superintendent, Tri-Lakes Fish Hatchery, Columbia City.

Water levels in wells 2 and 3, in feet below measuring points, 1941

Date	Noble 2	Noble 3	Date	Noble 2	Noble 3	Date	Noble 2	Noble 3
Jan. 15	25.2	23.01	May 15	21.6	24.0	Sept.15	24.35	24.8
31	25.2	23.01	June 2	20.9	23.6	30	24.6	24.9
Feb. 15	25.2	24.9	14	20.6	23.6	Oct. 16	24.0	25.1
Mar. 1	24.8	24.8	July 1	20.9	24.3	Nov. 5	25.95	25.92
15	25.6	24.7	15	21.4	23.8	15	24.1	25.3
Apr. 1	24.2	24.3	31	21.9	24.1	30	25.1	25.1
15	24.2	24.3	Aug. 15	22.6	24.2	Dec. 15	25.3	22.9
May 2	22.4	18.6	Sept. 2	23.4	23.5			

Pike County

Pike 1. (Water-Supply Paper 840, p. 83). A. J. Heuring. In front of residence, Lafayette and Main Streets, Winslow. Measurements made by Harry A. Thomas, forest superintendent, Pike County State Forest, and Heber Jones, superintendent, city waterworks, Winslow.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	13.11	Jan. 31	13.13	May 2	12.33	Oct. 15	13.60
21	13.16	Feb. 21	12.99	Oct. 14	a 13.61	Nov. 28	12.5

Porter County

The wells at the Valparaiso pumping station are pumped only when the water supply in Flint Lake is low. The total annual pumpage is shown below, in millions of gallons, with notes indicating when the principal pumpage occurred.

Year	Pumpage	Remarks
1935	.....	No pumping for service, only brief "workouts".
1936	67.1	More than 99 percent during period June 21-Aug. 27.
1937	17.2	About 93 percent during period Sept.15-Oct. 15.
1938	11.0	All during period Oct. 15-Nov. 16.
1939	2.5	All during period Jan. 1-16.

a Lowest water level of record.

Porter County--Continued.

Year	Pumpage	Remarks
1940	7.5	Four million gallons during period Feb. 1-Mar. 1; 3.5 million gallons during period Dec. 15, 1940-Jan. 2, 1941.
1941	140.8	All during period Jan. 1-Oct. 16. Pumpage fairly evenly distributed, lightest during period May 16-July 16.

Except for marked troughs during periods of pumping in 1936, 1937, and 1941, the hydrograph of well 1 shows little fluctuation. If fluctuations during periods of pumping are disregarded, the total range of fluctuation during the period of record is only about 2 feet. The trend was generally downward from the beginning of the record in 1935 to the beginning of 1938, upward from the beginning of 1938 to the beginning of 1940, and downward from the beginning of 1940 to the end of 1941.

Porter 1. (Water-Supply Paper 817, p. 50). Valparaiso Water Department. Test well at well 1 pump house at Flint Lake, about 3 miles north of Valparaiso along State Highway 49. Measurements made by J. F. Bradley, engineer, Valparaiso Water Department.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	52.69	Mar. 31	55.93	July 16	54.20	Oct. 16	55.50
16	53.14	Apr. 16	56.47	Aug. 1	55.32	Nov. 1	55.28
Feb. 2	54.21	May 1	55.85	15	55.52	15	53.94
15	54.76	16	56.40	Sept. 1	55.58	Dec. 2	53.62
Mar. 2	54.96	June 15	55.72	16	56.34	15	53.55
16	54.82	July 1	54.39	Oct. 2	56.80		

Porter 2. (Water-Supply Paper 817, p. 50). Indiana Dunes State Park. At Waverly Beach. Water levels, in feet below measuring point, 1941: Jan. 24, 14.3; Mar. 3, 14.6; Sept. 30, 14.56.

Porter 3. (Water-Supply Paper 817, p. 50). Indiana Dunes State Park. Near grocery store on picnic ground. New measuring point after May 4, 1940, top of 1¼-inch coupling, 0.05 foot above concrete pump base, 1.88 feet below old measuring point. Subtract 1.88 feet from measurements made on or before May 4, 1940, to obtain depth below new measuring point. Water levels, in feet below new measuring point, 1941: Jan. 24, 17.1; Mar. 3, 16.9; Sept. 30, 16.80; Oct. 2, 16.80.

Measurements in wells 2 and 3 made by Ben Wiseman, Indiana Dunes State Park.

Porter 4. (Water-Supply Paper 817, p. 50). No measurements made in 1941.

Porter 5. (Water-Supply Paper 817, p. 50). A. A. Hanrahan. At residence, NW¼NW¼ sec. 36, T. 36 N., R. 6 W. Measurements made by W. J. Taylor, CCC Camp SCS-20, Valparaiso, Sam Wearley, project superintendent.

Water level, in feet below measuring point, 1941

Jan. 3	44.20	Apr. 16	44.31	July 17	44.27	Oct. 1	44.42
Feb. 3	44.12	May 15	44.25	Aug. 6	44.39	Nov. 3	44.17
15	44.34	June 4	44.14	16	44.40	18	44.11
Mar. 3	44.40	16	44.12	Sept. 4	44.41	Dec. 2	44.08
18	44.34	July 3	44.20	17	44.52	16	44.04
Apr. 1	44.38						

Pulaski County

Pulaski 1. (Water-Supply Paper 817, p. 51). Jasper-Pulaski State Game Preserve. In basement of custodian's residence. New measuring point after Aug. 16, top of iron rim of 18-inch manhole above well, about 0.05 foot above concrete platform, which is flush with land surface, and 4.83 feet above old measuring point.

Pulaski 3. (Water-Supply Paper 817, p. 51). Jasper-Pulaski State Game Preserve. SW¼NE¼ sec. 6, T. 31 N., R. 4 W. Near north boundary line of preserve.

Pulaski 4. (Water-Supply Paper 817, p. 51; Water-Supply Paper 840, p. 84). On Charles Alberding farm, about 50 feet south of road and Starke County line.

Measurements made by C. E. Paul and H. A. Stahl, engineers, CCC Camp S-67, Jasper-Pulaski State Game Preserve.

Water levels in wells 1, 3, and 4, in feet below measuring points, 1941

Date	Pulaski 1	Pulaski 3	Pulaski 4	Date	Pulaski 1	Pulaski 3	Pulaski 4
Jan. 2	3.36	8.92	6.04	July 25	3.71	9.50	6.60
15	3.26	8.94	5.83	Aug. 6	4.06	9.80	7.00
Feb. 1	4.26	8.98	5.90	16	4.46	9.90	7.16
15	4.30	9.10	5.64	Oct. 3	9.99	10.04	7.63
28	3.24	9.13	5.89	16	9.68	a 10.30	7.44
Mar. 15	2.94	8.66	5.10	Nov. 4	9.07	9.88	6.78
Apr. 15	2.85	8.75	5.60	15	8.29	9.45	6.19
May 1	2.80	8.67	5.55	29	8.28	9.72	6.15
19	4.05	8.67	5.48	Dec. 16	8.14	9.39	6.05

St. Joseph County

The approximate average daily pumpage at the Mishawaka waterworks is shown below, in millions of gallons:

1935, last quarter	1.9
1936	2.2
1937	2.0
1938	2.0±
1939	2.25
1940	2.4
1941	2.9

The hydrograph of well 1 shows definite peaks in the spring and troughs in the fall, but the annual range of fluctuation is generally only about 4 feet, and there have been no large annual changes in water level during the period of record. There has been a slight downward trend since 1939, and the stages during 1941 were as a whole the lowest of record. This trend is probably due in part to the increases in pumpage and in part to lessened recharge during 1940 and 1941.

St. Joseph 1. (Water-Supply Paper 817, p. 52). Mishawaka Water and Light Department. At pumping plant, Mishawaka. Measurements made by A. R. Klein, superintendent, Mishawaka Water and Light Department.

a Lowest water level of record.

St. Joseph County--Continued.

St. Joseph 1.--Continued.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	10.07	Apr. 1	9.41	July 1	13.42	Oct. 1	11.83
16	10.16	15	10.34	15	13.56	16	11.02
Feb. 1	9.84	May 1	9.67	Aug. 1	a 13.84	Nov. 1	9.52
15	11.24	16	11.75	16	13.59	16	9.02
Mar. 1	11.42	June 2	12.15	Sept. 2	12.65	Dec. 1	8.65
17	9.25	16	12.35	15	12.01	16	9.76

St. Joseph 3. (Water-Supply Paper 845, p. 82). John Hensler. SW¼SE¼ sec. 33, T. 36 N., R. 3 E. At old farm house on north side of Quinn Road about 1 mile west of State Highway 331. Measurements made by J. F. Scott, engineer, and Lester A. House, CCC Camp SCS-24, South Bend, J. M. McCoid, project superintendent.

Water level, in feet below measuring point, 1941

Jan. 15	9.42	Apr. 15	3.82	July 17	6.43	Oct. 15	9.35
31	8.81	30	2.83	Aug. 1	7.1	Nov. 3	8.65
Feb. 15	8.38	May 15	3.69	15	7.75	17	5.0
Mar. 1	7.91	31	4.4	Sept. 4	9.0	Dec. 1	3.25
15	7.37	June 15	4.6	19	9.4	16	3.35
29	6.68	July 1	5.77	29	a 10.24		

Spencer County

Spencer 1. (Water-Supply Paper 840, p. 86). Nancy Hanks Lincoln Memorial Park. About 300 yards northwest of ranger's cabin and north of Buckhorn Lake.

Spencer 2. (Water-Supply Paper 840, p. 86). Nancy Hanks Lincoln Memorial Park. About 15 feet southwest of well 1.

Spencer 3. (Water-Supply Paper 840, p. 86). Nancy Hanks Lincoln Memorial Park. About 250 yards southeast of ranger's cabin.

Measurements made by J. R. Ritchie, Nancy Hanks Lincoln Memorial Park, W. R. Ritchie, custodian, and by Henry H. Morgan, project superintendent, CCC Camp SP-15, Lincoln City.

Water levels in wells 1, 2, and 3, in feet below measuring points, 1941

Date	Spencer 1	Spencer 2	Spencer 3	Date	Spencer 1	Spencer 2	Spencer 3
June 6	1.6	3.7	2.8	Nov. 15	2.14	1.30	b 2.0
Oct. 14	5.68	4.94	...	29	1.90	1.30	b 1.75
16	4.30	4.36	b 2.95	Dec. 15	1.65	1.23	b 1.7
Nov. 1	1.60	1.28	b 1.8	31	1.58	1.15	b 1.8

Starke County

Starke 1. (Water-Supply Paper 817, p. 53; Water-Supply Paper 845, p. 83). Joe Tomassi. At Bass Lake Fish Hatchery, about 200 feet north of superintendent's house. Water level occasionally affected after Apr. 16 by pumping from a new well at the hatchery.

Starke 2. (Water-Supply Paper 817, p. 53; Water-Supply Paper 845, p. 83). S. A. Craigmile. At mint still about 0.25 mile northeast of owner's residence, near junction of State Highways 10 and 29. Six-inch well.

Starke 3. (Water-Supply Paper 817, p. 53; Water-Supply Paper 845, p. 83). S. A. Craigmile. About 1 foot from well 2. Two-inch well.

a Lowest water level of record. b Measurement approximate.

Starke County--Continued.

Measurements in wells 1, 2, and 3 were made by Richard Good, Bass Lake Fish Hatchery, P. J. Lavery, superintendent.

Water levels in wells 1, 2, and 3, in feet below measuring points, 1941

Date	Starke 1	Starke 2	Starke 3	Date	Starke 1	Starke 2	Starke 3
Jan. 2	14.77	4.02	5.75	July 1	14.38	4.42	6.16
31	14.48	4.46	6.19	15	14.63	4.83	6.54
Feb. 17	14.44	4.10	5.82	Aug. 2	15.14	5.28	7.03
Mar. 1	14.44	4.48	6.22	17	15.59	5.77	7.50
15	14.41	4.07	5.80	Sept.15	a 15.94	a 6.19	a 7.95
Apr. 1	14.35	4.08	5.81	Oct. 7	15.65	5.57	7.30
16	14.36	4.24	6.00	18	15.72	5.46	7.18
30	15.13	4.04	5.77	Nov. 1	15.47	4.80	6.48
May 15	14.28	4.20	5.93	15	14.95	4.30	6.03
June 2	14.40	4.43	6.14	Dec. 1	14.76	4.37	6.10
17	14.22	4.01	5.76	15	14.68	4.53	6.24

Starke 5. Kankakee State Game Preserve. SE¼ sec. 10, T. 33 N., R. 3 W. About 350 feet north and 90 feet west of northwest corner of custodian's house, 20 feet north of barn, north side of State Highway 8 and east side of Kankakee River Ditch. Unused driven well, diameter 1¼ inches, depth 16.4 feet. Penetrates outwash sand. Measuring point, top of 1¼-inch pipe, 2.95 feet above land surface. Measurements made by John Geiselman, custodian, Kankakee State Game Preserve.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept.30	10.82	Oct. 31	8.47	Nov. 30	7.66	Dec. 31	7.74
Oct. 15	9.30	Nov. 15	6.81	Dec. 15	8.12		

Steuben County

Steuben 1. (Water-Supply Paper 817, p. 53). Pokagon State Park. Near custodian's house, on south side of area formerly used for buffalo pen.

Steuben 2. (Water-Supply Paper 817, p. 53). Pokagon State Park. On north side of area formerly used for buffalo pen.

Measurements made by A. B. Sheckler, project superintendent, CCC Camp SP-7, Pokagon State Park.

Water levels in wells 1 and 2, in feet below measuring points, 1941

Date	Steuben 1	Steuben 2	Date	Steuben 1	Steuben 2	Date	Steuben 1	Steuben 2
Jan. 15	3.2	5.5	Apr. 30	3.5	...	Sept.15	4.5	7.2
Feb. 1	3.7	5.5	May 26	2.3	6.3	30	4.9	6.4
15	3.3	5.4	June 30	2.0	3.2	Nov. 6	5.85	8.91
28	3.7	6.0	July 15	5.0	7.4	14	4.2	7.1
Mar. 15	3.2	5.4	Aug. 1	5.3	...	Dec. 1	5.4	a 9.2
31	3.0	5.3	Sept. 3	1.5	3.3	31	6.2	7.6
Apr. 15	3.3	5.7						

a Lowest water level of record.

Tippecanoe County

Tippecanoe 1. (Water-Supply Paper 840, p. 87). Tippecanoe Township School. In basement of school building at Battle Ground.

Tippecanoe 3. (Water-Supply Paper 817, p. 53). Lafayette Loan and Trust Co. NW¼NW¼ sec. 17, T. 24 N., R. 4 W. At residence of Hershell Byers.

Measurements made by personnel of CCC Camp SCS-2, La Fayette, J. W. Slater, project superintendent. Regular measurements discontinued after Oct. 31.

Water levels in wells 1 and 3, in feet below measuring points, 1941

Date	Tippecanoe 1	Tippecanoe 3	Date	Tippecanoe 1	Tippecanoe 3	Date	Tippecanoe 1	Tippecanoe 3
Jan. 15	36.15	12.77	May 1	36.52	12.95	Aug. 15	36.60	11.40
Feb. 1	36.52	12.51	15	36.52	8.25	29	37.00	12.00
15	36.3	12.6	June 2	36.50	9.66	Sept.15	37.55	12.50
28	36.44	12.42	16	36.51	9.53	30	37.85	12.92
Mar. 18	36.51	12.41	July 1	36.50	10.10	Oct. 16	38.10	13.05
Apr. 1	36.52	12.25	16	36.51	10.30	31	a38.25	13.15
16	36.52	12.20	31	36.51	10.90			

Wabash County

Wabash 1. (Water-Supply Paper 840, p. 88; Water-Supply Paper 886, p. 112). Measurements discontinued.

Warrick County

Warrick 1. (Water-Supply Paper 840, p. 88). Sunlight Stripper Co. On east side of railroad track, about 0.7 mile north of Boonville along Folsomville road and about 0.1 mile east of road, north of Scales Lake State Forest. Water level, Oct. 14, 1941, 23.40 feet below measuring point.

White County

The average daily municipal pumpage at Monon during the last quarter of 1941 was 60,000 gallons. This is somewhat less than the pumpage during the last part of 1935 and first part of 1936. However, the water level was generally lower during the period of record in 1941 than in 1935 and 1936, and this is probably due in large part to lessened ground-water recharge during 1940 and 1941.

White 1. (Water-Supply Paper 817, p. 54; Water-Supply Paper 840, p. 88). Town on Monon. In basement of municipal building. Measurements made by John M. Winkley, superintendent, Monon Water Works.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level
Oct. 3	12.34	Nov. 1	10.37	Dec. 1	7.63
15	11.34	15	9.07	15	8.56

a Lowest water level of record.

MASSACHUSETTS

By M. L. Brashears, Jr.

The investigation of the ground-water resources of Massachusetts was continued in 1941 by the Federal Geological Survey in cooperation with the Massachusetts Department of Public Works. Periodic observations of ground-water levels were made in wells in Middlesex and Worcester Counties during the entire year. Regular weekly water-level measurements were made at 34 wells in the vicinity of Lowell and in the Aberjona Valley. During the year, measurements of water level were discontinued at two wells that had been measured in 1940. During 1941, three automatic water-stage recorders were operated continuously at Leominster, Lowell, and Winchendon. A total of about 1,800 individual water-level measurements was made during the year.

A descriptive heading was given for each observation well in Water-Supply Papers 886 and 906. In the present report, descriptive data are given only for those observation wells at which some change was made in 1941.

During September, a paper on the Massachusetts ground-water project was presented at the annual meeting of the New England Water Works Association at Boston, Mass.[1/] This paper briefly describes the nature of the ground-water work being carried on, the progress made since the start of the cooperative investigation in 1938, and the ground-water conditions in the Lowell and Aberjona Valley areas.

The following table summarizes data pertaining to ground-water levels in Massachusetts.

1/ Brashears, M. L., Jr., Cooperative ground-water investigation in Massachusetts: New England W. W. Jour., vol. 56, No. 2, pp. 152-156, June 1942.

Summary of data relating to ground-water levels in Massachusetts

Well No.	First measured	Lowest observed water level above mean sea level		Highest observed water level above mean sea level		Water level above mean sea level on last date of record in 1941 (feet)
		Water level (feet)	Date	Water level (feet)	Date	
Chelmsford 68	July 27, 1939	90.25	Oct. 4, 1941	95.14	Apr. 23, 1940	91.84
Chelmsford 69	Aug. 22, 1939	97.57	Aug. 23, 1941	102.33	Feb. 15, 1941	100.37
Leominster 11	July 13, 1939	353.97	Oct. 31, 1939	362.36	Apr. 21, 1940 Apr. 24, 1940	357.72
Lowell 4	May 26, 1939	90.08	Oct. 5, 1941	94.70	May 7, 1940	92.02
Lowell 9	May 29, 1939	156.20	Oct. 11, 1941	166.14	Apr. 23, 1940	159.02
Lowell 14	May 29, 1939	135.32	Nov. 7, 1939	148.11	May 7, 1940	139.30
Lowell 18	May 29, 1939	117.26	Mar. 12, 1940	119.28	May 24, 1941	117.75
Lowell 22	Sept. 7, 1939	108.02	Oct. 24, 1939	112.05	Apr. 30, 1940	109.12
Lowell 26	Aug. 9, 1939	89.61	Oct. 18, 1941	100.29	Apr. 2, 1940	90.97
Lowell 33	May 29, 1939	90.50	Oct. 4, 1941	95.41	May 7, 1940 Feb. 8, 1941	92.86
Lowell 41	Aug. 22, 1939	93.28	Oct. 18, 1941	100.97	Feb. 15, 1941	95.75
Lowell 43	May 28, 1940	85.13	Aug. 9, 1941	90.44	June 4, 1940	87.02
Reading 1	Aug. 25, 1939	85.22	Aug. 25, 1939 Sept.27, 1941	94.21	Apr. 30, 1940	(a)
Reading 3	June 20, 1940	153.65	Nov. 1, 1941	157.99	Feb. 8, 1941	156.18
Wilmington 10	July 18, 1940	(b)	Dec. 13, 1941	112.62	Feb. 8, 1941	107.80
Wilmington 29	July 24, 1940	88.29	Sept.27, 1941	90.33	Feb. 15, 1941	89.23
Wilmington 44	July 26, 1940	80.09	Oct. 11, 1941	86.02	Feb. 8, 1941	82.89
Wilmington 58	July 27, 1940	96.45	Nov. 1, 1941	103.71	Feb. 15, 1941	99.41
Winchendon 13	July 18, 1939	1196.61	Nov. 27, 1939	1206.63	May 5, 1940	1197.90
Winchester 4	Aug. 22, 1939	(c)	Dec. 26, 1941	36.52	May 7, 1940	(c)
Winchester 14	June 13, 1940	101.30	Dec. 14, 1941	107.79	Feb. 15, 1941	102.25
Woburn 1	Aug. 14, 1939	81.92	Aug. 14, 1939	86.50	Feb. 8, 1941	84.13
Woburn 2	Aug. 18, 1939	34.20	Oct. 27, 1939	52.24	Feb. 8, 1941	.....
Woburn 3	Aug. 18, 1939	70.17	Aug. 16, 1941	73.10	Apr. 23, 1940	71.65
Woburn 4	Sept.12, 1939	65.63	Sept.26, 1939	67.97	Apr. 23, 1940 Apr. 23, 1940	66.65
Woburn 5	Sept.12, 1939	58.61	Sept.19, 1939	59.78	Dec. 14, 1941	59.24
Woburn 17	July 15, 1940	(d)	Dec. 26, 1941	176.35	Feb. 8, 1941	(d)
Woburn 19	June 20, 1940	23.80	Oct. 18, 1941	31.95	Feb. 8, 1941	25.99
Woburn 21	June 21, 1940	109.09	Oct. 25, 1941	112.28	Feb. 15, 1941	109.78
Woburn 23	July 15, 1940	92.67	Sept.27, 1941	95.16	Feb. 8, 1941	94.04
Woburn 36	June 28, 1940	40.35	Nov. 2, 1941	42.11	May 10, 1941	40.71
Woburn 38	June 28, 1940	33.51	Dec. 14, 1941	43.18	Feb. 15, 1941	33.99
Woburn 49	July 10, 1940	59.00	Dec. 5, 1941	64.84	Feb. 8, 1941	59.73
Woburn 53	July 13, 1940	95.27	Sept.27, 1941	98.02	Feb. 8, 1941	96.67

The above table shows that, in general, ground-water levels reached the lowest stage on record during 1941. The following table shows the net change of water levels in observation wells in Massachusetts during 1941.

a Well dry. Water level lower than 85.42 feet above mean sea level.
b Well dry. Water level lower than 104.6 feet above mean sea level.
c Well dry. Water level lower than 21.4 feet above mean sea level.
d Well dry. Water level lower than 168.8 feet above mean sea level.

Net change of ground-water levels in Massachusetts during 1941

Well No.	Net change in water level during 1941 (feet)	Well No.	Net change in water level during 1941 (feet)
Chelmsford 68	-0.79	Wilmington 44	-0.59
Chelmsford 69	-1.01	Wilmington 58	-3.10
Leominster 11	-2.31	Winchendon 13	-7.68
Lowell 4	-.69	Winchester 14	-4.75
Lowell 9	-3.04	Woburn 1	+.01
Lowell 14	-4.17	Woburn 3	-.47
Lowell 18	-.06	Woburn 4	+.08
Lowell 22	-1.18	Woburn 5	+.03
Lowell 26	-2.06	Woburn 19	-3.93
Lowell 33	-1.43	Woburn 21	-1.34
Lowell 41	-3.25	Woburn 23	-.49
Lowell 43	-.10	Woburn 36	-.78
Reading 3	-.80	Woburn 38	-7.65
Wilmington 10	-3.97	Woburn 49	-4.36
Wilmington 29	-.47	Woburn 53	-.44

As shown in the above table, most of the observation wells in Massachusetts showed a net decline of water level during 1941. In general, the net decline during the year was greatest in wells located relatively distant from areas of considerable pumping. It will be noted that although three of the wells showed a net rise during the year, the amount of rise was quite small. A study of the records indicates that this net rise was chiefly the result of recharge from rain that fell about the last half of December 1941.

The low stage of ground-water levels during 1941 is to a considerable extent the result of deficient precipitation. The precipitation in the area has been considerably below normal during each year since water-level measurements were first made in 1939. In 1941, the precipitation was about 6 inches less than in 1940.

Middlesex County

Chelmsford 68.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	93.12	Mar. 8	92.58	May 10	92.23	July 12	91.05
11	92.88	15	92.38	17	92.31	19	91.06
18	92.53	22	92.33	24	91.90	26	90.90
25	92.26	29	92.87	31	91.73	Aug. 2	90.94
Feb. 1	92.14	Apr. 5	92.78	June 7	91.69	9	90.74
8	92.43	12	92.89	14	91.54	16	90.46
15	93.20	19	92.86	21	91.44	23	90.54
22	93.12	26	92.57	28	91.33	30	90.51
Mar. 1	92.81	May 3	92.28	July 5	91.15	Sept. 6	90.87

Middlesex County--Continued

Chelmsford 68.--Continued.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 13	90.87	Oct. 11	90.35	Nov. 8	91.13	Dec. 6	91.38
20	90.73	18	90.57	15	91.23	13	91.42
27	90.60	25	90.70	22	91.18	20	91.73
Oct. 4	90.25	Nov. 1	90.77	29	91.28	27	91.84

Chelmsford 69.

Water level, in feet above mean sea level, 1941

Jan. 4	101.93	Apr. 5	101.59	July 5	98.50	Oct. 4	98.01
11	101.00	12	101.56	12	98.12	11	98.29
18	100.79	19	101.55	19	98.00	18	98.29
25	101.02	26	101.17	26	97.80	25	98.34
Feb. 1	101.28	May 3	101.34	Aug. 2	98.25	Nov. 1	99.13
8	101.96	10	101.34	9	98.03	8	99.60
15	102.33	17	100.99	16	97.90	15	99.51
22	101.91	24	100.33	23	97.57	22	99.24
Mar. 1	101.47	31	99.79	30	97.62	29	99.26
8	101.29	June 7	100.33	Sept. 6	98.68	Dec. 6	99.49
15	101.26	14	100.14	13	98.45	13	99.23
22	101.65	21	99.95	20	98.38	20	100.18
29	101.90	28	99.25	27	97.97	27	100.37

Lowell 4.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	93.01	91.83	92.72	92.49	92.09	91.84	91.47	90.93	90.52	90.29	90.87	91.28
2	93.13	91.87	92.72	92.49	92.04	91.96	91.34	90.89	91.04	90.21	90.95	91.40
3	93.19	91.94	92.70	92.44	92.04	91.86	91.22	90.89	91.21	90.14	91.20	91.45
4	93.22	91.92	92.58	92.43	92.10	91.72	91.16	91.04	91.27	90.10	91.33	91.41
5	93.17	91.86	92.50	92.43	92.24	91.59	91.15	91.09	91.32	90.08	91.38	91.33
6	93.06	91.82	92.46	92.50	92.28	91.52	91.20	90.94	91.33	90.09	91.31	91.28
7	92.99	91.82	92.43	92.57	92.24	91.51	91.33	90.81	91.34	90.16	91.22	91.28
8	92.91	92.22	92.43	92.60	.....	91.54	91.26	90.69	91.40	90.26	91.09	91.38
9	92.81	93.14	92.48	92.64	.....	91.71	91.15	90.59	91.40	90.33	91.09	91.50
10	92.72	93.22	92.36	92.66	a92.01	91.78	91.15	90.55	91.30	90.39	91.26	91.52
11	92.71	93.29	92.30	92.68	92.14	91.66	91.10	90.53	91.18	90.41	91.38	91.46
12	92.71	93.34	92.21	92.69	92.32	91.46	a91.02	90.49	91.04	90.42	91.40	91.33
13	92.63	93.36	92.19	92.73	92.39	91.31	.....	90.43	90.94	90.54	91.29	91.24
14	92.52	93.37	92.17	92.78	92.44	91.20	.....	90.35	90.94	90.70	91.19	91.24
15	92.42	93.39	92.17	92.78	92.38	91.16	.....	90.29	91.01	90.76	91.10	91.72
16	92.31	93.46	92.31	92.78	92.20	91.17	.....	90.26	91.12	90.68	91.10	91.79
17	92.21	93.48	92.47	92.80	92.02	91.22	.....	90.26	91.11	90.62	91.21	91.78
18	92.19	93.39	92.46	92.82	92.02	91.37	.....	90.34	91.02	90.62	91.31	91.79
19	92.20	93.34	92.29	92.81	92.12	91.49	a91.04	90.46	90.92	90.64	91.18	91.86
20	92.21	93.28	92.17	92.82	91.98	91.52	a91.10	90.52	90.87	90.78	91.10	91.80
21	92.11	93.22	92.17	92.76	91.86	81.53	a91.17	90.59	90.87	90.90	91.09	91.79
22	92.07	93.21	92.26	92.67	91.74	91.57	a91.23	90.67	90.87	90.90	91.07	91.80
23	92.01	93.18	92.36	92.59	91.60	91.69	91.15	90.71	90.86	90.84	91.07	91.73
24	91.97	93.06	92.47	92.46	91.52	91.63	90.99	90.73	90.78	90.78	91.24	91.68
25	91.92	92.98	92.49	92.34	91.52	91.50	90.90	90.79	90.69	90.66	91.35	91.68
26	91.94	92.89	92.54	92.34	91.67	91.39	90.86	90.85	90.57	90.64	91.41	91.78
27	92.03	92.82	92.48	92.36	91.73	91.30	90.86	90.76	90.47	90.69	91.31	91.95
28	92.97	92.77	92.46	92.34	91.71	91.26	90.95	90.64	90.41	90.80	91.21	92.05
29	91.90	.....	92.46	92.26	91.63	91.26	91.04	90.54	90.39	90.83	91.16	92.15
30	91.88	.....	92.49	92.14	91.61	91.39	91.02	90.48	90.35	90.85	91.16	92.10
31	a91.84	.....	92.51	.....	91.72	.....	90.99	90.47	.....	90.87	.....	92.02

a Estimated.

Middlesex County--Continued

Lowell 9. Measured depth of well 29.70 feet below measuring point, Jan. 10, 1942.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	162.67	Apr. 5	162.57	July 5	159.68	Oct. 4	156.36
11	162.61	12	162.70	12	159.30	11	156.20
18	162.39	19	162.68	19	158.98	18	156.23
25	162.06	26	162.50	26	158.59	25	156.29
Feb. 1	161.82	May 3	162.27	Aug. 2	158.46	Nov. 1	156.33
8	161.71	10	162.06	9	158.18	8	156.97
15	163.32	17	161.94	16	157.77	15	157.60
22	163.37	24	161.56	23	157.38	22	157.83
Mar. 1	162.99	31	161.26	30	157.08	29	157.74
8	162.57	June 7	161.19	Sept. 6	157.12	Dec. 6	157.74
15	162.29	14	160.75	13	157.11	13	157.78
22	162.16	21	160.43	20	156.90	20	158.58
29	162.43	28	160.09	27	156.62	27	159.02

Lowell 14.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	143.87	Apr. 5	147.00	July 5	143.70	Oct. 4	140.56
11	144.33	12	147.05	12	143.48	11	140.05
18	144.68	19	146.98	19	143.23	18	139.82
25	144.76	26	146.75	26	142.96	25	139.63
Feb. 1	144.82	May 3	146.55	Aug. 2	142.72	Nov. 1	139.46
8	145.05	10	146.39	9	142.49	8	139.35
15	145.81	17	146.20	16	142.21	15	139.35
22	146.20	24	145.82	23	141.90	22	139.31
Mar. 1	146.23	31	145.38	30	141.58	29	139.24
8	146.12	June 7	144.97	Sept. 6	141.35	Dec. 6	139.16
15	146.15	14	144.64	13	141.04	13	139.07
22	146.49	21	144.32	20	140.76	20	139.13
29	146.87	28	144.02	27	140.49	27	139.30

Lowell 18.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	117.82	Mar. 22	118.16	May 31	118.56	Oct. 25	118.04
11	117.86	29	118.14	June 7	118.35	Nov. 1	117.98
18	117.90	Apr. 5	118.12	14	118.28	8	117.95
25	117.92	12	118.11	21	118.23	15	117.91
Feb. 1	117.92	19	118.12	28	118.17	22	117.87
8	117.93	26	118.13	July 5	118.10	29	117.85
15	117.94	May 3	118.14	12	117.61	Dec. 6	117.80
22	118.03	10	118.16	Oct. 4	118.32	13	117.76
Mar. 1	118.13	17	118.16	11	118.21	20	117.74
8	118.17	24	119.28	18	118.11	27	117.75
15	118.17						

Lowell 22.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	110.74	Apr. 5	109.96	July 5	109.02	Oct. 4	108.18
11	110.60	12	109.89	12	108.98	11	108.14
18	110.40	19	109.91	19	108.82	18	108.04
25	109.76	26	109.77	26	108.74	25	108.12
Feb. 1	109.56	May 3	109.75	Aug. 2	108.63	Nov. 1	108.07
8	110.09	10	109.69	9	108.62	8	108.44
15	111.43	17	109.82	16	108.45	15	108.61
22	110.46	24	109.63	23	108.39	22	108.56
Mar. 1	110.19	31	109.54	30	108.23	29	108.44
8	109.94	June 7	109.39	Sept. 6	108.75	Dec. 6	108.41
15	111.52	14	109.41	13	108.49	13	108.19
22	110.24	21	109.29	20	108.34	20	109.00
29	109.89	28	109.24	27	108.16	27	109.12

Middlesex County--Continued

Lowell 26.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	93.54	Apr. 5	95.35	July 5	91.69	Oct. 4	89.75
11	93.36	12	95.05	12	91.44	11	89.66
18	93.06	19	94.71	19	91.23	18	89.61
25	92.78	26	94.32	26	91.03	25	89.65
Feb. 1	92.57	May 3	93.89	Aug. 2	90.85	Nov. 1	89.66
8	95.94	10	93.63	9	90.67	8	89.87
15	94.97	17	93.60	16	90.48	15	90.10
22	94.33	24	93.24	23	90.29	22	90.25
Mar. 1	94.05	31	92.91	30	90.14	29	90.32
8	93.98	June 7	92.69	Sept. 6	90.15	Dec. 6	90.35
15	93.52	14	92.47	13	90.06	13	90.37
22	93.78	21	92.19	20	89.94	20	90.73
29	95.62	28	91.96	27	89.84	27	90.97

Lowell 33.

Water level, in feet above mean sea level, 1941

Jan. 4	94.44	Apr. 5	94.58	July 5	92.04	Oct. 4	90.50
11	94.33	12	94.41	12	91.77	11	90.51
18	94.26	19	94.25	19	91.68	18	90.69
25	94.42	26	94.07	26	91.51	25	90.84
Feb. 1	94.30	May 3	94.01	Aug. 2	91.68	Nov. 1	90.90
8	95.41	10	94.01	9	91.31	8	91.54
15	95.23	17	93.71	16	91.07	15	91.76
22	94.74	24	93.47	23	90.90	22	91.81
Mar. 1	94.49	31	93.20	30	90.76	29	91.90
8	94.43	June 7	93.27	Sept. 6	91.11	Dec. 6	92.00
15	94.45	14	92.93	13	91.05	13	92.01
22	94.59	21	92.74	20	90.80	20	92.58
29	94.83	28	92.44	27	90.63	27	92.86

Lowell 41.

Water level, in feet above mean sea level, 1941

Jan. 11	98.51	Apr. 12	99.77	July 12	94.70	Oct. 11	93.36
18	98.16	19	99.59	19	94.43	18	93.28
25	98.39	26	99.12	26	94.41	25	93.38
Feb. 1	98.79	May 3	99.04	Aug. 2	94.56	Nov. 1	95.05
8	100.46	10	99.23	9	94.73	8	95.21
15	100.97	17	98.56	16	94.15	15	95.04
22	100.20	24	98.89	23	93.77	22	94.58
Mar. 1	99.68	31	96.94	30	93.36	29	94.45
8	98.97	June 7	97.35	Sept. 6	94.03	Dec. 6	94.30
15	98.93	14	97.11	13	93.96	13	93.72
22	99.50	21	96.90	20	93.83	20	95.29
29	100.14	28	96.18	27	93.69	27	95.75
Apr. 5	99.89	July 5	95.23	Oct. 4	93.30		

Lowell 43.

Water level, in feet above mean sea level, 1941

Jan. 4	88.18	Mar. 1	86.41	Apr. 26	86.04	June 21	87.16
11	87.17	8	86.23	May 3	85.93	28	86.76
18	86.17	15	85.95	10	86.47	July 5	86.66
25	86.31	22	85.56	17	85.74	12	85.94
Feb. 1	86.25	29	85.70	24	85.16	19	86.04
8	86.94	Apr. 5	86.13	31	87.51	26	86.31
15	87.63	12	86.60	June 7	86.06	Aug. 2	86.62
22	87.02	19	86.96	14	85.21	9	85.13

Middlesex County--Continued

Lowell 43.--Continued.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 16	85.51	Sept. 20	86.43	Oct. 25	85.93	Nov. 29	85.79
23	87.04	27	85.71	Nov. 1	86.17	Dec. 6	86.16
30	85.94	Oct. 4	85.50	8	85.58	13	86.02
Sept. 6	86.96	11	86.65	15	85.83	20	86.43
13	85.97	18	86.52	22	85.97	27	87.02

Reading 1. Measured depth to water level, 22.52 feet below measuring point, Jan. 12, 1942.

Water level, in feet above mean sea level, 1941

Jan. 4	88.44	Apr. 12	90.07	July 12	87.55	Oct. 11	85.77
11	88.89	19	89.92	19	87.36	18	85.67
18	89.00	26	89.62	26	87.17	25	(a)
Feb. 1	89.07	May 3	89.43	Aug. 2	86.98	Nov. 1	(a)
8	89.05	10	89.29	9	86.83	8	(a)
15	90.74	17	89.18	16	86.67	15	(a)
22	90.78	24	89.01	23	86.52	22	(a)
Mar. 1	90.35	31	88.81	30	86.33	29	(a)
8	89.76	June 7	88.59	Sept. 6	86.26	Dec. 5	(a)
15	89.38	14	88.41	13	86.13	13	(a)
22	89.13	21	88.18	20	86.06	19	(a)
29	89.75	28	87.97	27	85.95	26	(a)
Apr. 5	90.18	July 5	87.75	Oct. 4	85.85		

Reading 3.

Water level, in feet above mean sea level, 1941

Jan. 4	157.43	Apr. 19	157.31	July 19	155.51	Oct. 11	153.98
18	157.43	26	157.31	26	155.35	18	153.68
Feb. 1	157.19	May 3	157.34	Aug. 2	156.03	25	153.69
8	157.99	10	157.64	9	154.79	Nov. 1	153.65
15	157.69	17	157.05	16	154.37	8	155.01
22	157.36	24	156.99	23	154.20	15	154.55
Mar. 1	157.26	31	156.77	30	154.30	22	154.26
8	157.28	June 7	157.06	Sept. 6	154.83	29	154.21
15	157.33	14	156.59	13	154.27	Dec. 5	154.25
22	157.41	21	156.27	20	153.88	13	154.03
29	157.58	28	155.81	27	153.65	19	155.79
Apr. 5	157.49	July 5	155.68	Oct. 4	153.82	26	156.18
12	157.37	12	155.25				

Stoneham 2. During 1941 it was observed that waste water was being dicharged intermittently into this well. Publication of records has, therefore, been discontinued.

Wilmington 10.

Water level, in feet above mean sea level, 1941

Jan. 4	112.11	Apr. 12	111.57	July 12	107.36	Oct. 11	(a)
11	111.43	19	111.38	19	107.19	18	(a)
18	111.95	26	111.25	26	106.91	25	(a)
Feb. 1	111.12	May 3	111.23	Aug. 2	107.05	Nov. 1	(a)
8	112.62	10	111.90	9	106.74	8	(a)
15	112.57	17	110.48	16	106.44	15	(a)
22	111.65	24	110.17	23	106.16	22	(a)
Mar. 1	111.18	31	109.62	30	105.92	29	(a)
8	111.27	June 7	109.76	Sept. 6	105.99	Dec. 5	(a)
15	111.34	14	109.00	13	(a)	13	(a)
22	111.61	21	108.62	20	(a)	20	107.03
29	112.32	28	108.15	27	(a)	27	107.80
Apr. 5	111.96	July 5	107.71	Oct. 4	(a)		

a Dry.

Middlesex County--Continued

Wilmington 29.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	89.89	Apr. 12	89.89	July 12	88.87	Oct. 11	88.52
11	89.83	19	89.81	19	88.80	18	88.49
18	89.89	26	89.74	26	88.81	25	88.52
Feb. 1	89.76	May 3	89.72	Aug. 2	89.03	Nov. 1	88.57
8	90.31	10	89.73	9	88.76	8	88.84
15	90.33	17	89.59	16	88.56	15	88.84
22	90.08	24	89.54	23	88.46	22	88.77
Mar. 1	89.93	31	89.44	30	88.46	29	88.78
8	89.86	June 7	89.45	Sept. 6	88.71	Dec. 5	88.82
15	89.77	14	89.32	13	88.59	13	88.73
22	89.77	21	89.21	20	88.40	20	89.17
29	90.16	28	89.09	27	88.29	27	89.23
Apr. 5	89.98	July 5	89.00	Oct. 4	88.39		

Wilmington 44.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	84.14	Apr. 12	83.69	July 12	81.24	Oct. 11	80.09
11	83.74	19	83.44	19	81.14	18	80.13
18	83.87	26	83.37	26	81.01	25	80.17
Feb. 1	83.48	May 3	83.35	Aug. 2	81.81	Nov. 1	80.18
8	86.02	10	83.18	9	81.28	8	80.92
15	84.69	17	83.09	16	80.85	15	81.18
22	83.81	24	82.82	23	80.62	22	81.07
Mar. 1	83.48	31	82.63	30	80.53	29	81.08
8	83.45	June 7	82.61	Sept. 6	81.11	Dec. 5	81.11
15	83.38	14	82.32	13	80.68	13	81.16
22	83.66	21	82.12	20	80.39	20	82.74
29	84.59	28	81.82	27	80.21	27	82.89
Apr. 5	83.97	July 5	81.53	Oct. 4	80.10		

Wilmington 58.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	103.31	Apr. 12	102.45	July 12	98.59	Oct. 11	96.55
11	102.63	19	102.02	19	98.37	18	96.50
18	102.30	26	101.67	26	98.16	25	96.46
Feb. 1	101.80	May 3	101.47	Aug. 2	98.30	Nov. 1	96.45
8	102.95	10	101.27	9	98.04	8	96.80
15	103.71	17	101.14	16	97.75	15	97.03
22	102.72	24	100.78	23	97.47	22	97.15
Mar. 1	102.06	31	100.45	30	97.26	29	97.23
8	101.70	June 7	100.26	Sept. 6	97.52	Dec. 5	97.29
15	101.35	14	99.97	13	97.28	13	97.38
22	101.52	21	99.68	20	97.06	20	98.80
29	102.76	28	99.30	27	96.83	27	99.41
Apr. 5	102.66	July 5	98.96	Oct. 4	96.64		

Winchester 4.

Water level, in feet above mean sea level, 1941

Jan. 4	34.93	Mar. 8	34.44	May 3	34.16	June 28	32.84
11	34.71	15	34.14	10	34.06	July 5	31.87
18	34.51	22	34.14	17	34.19	12	28.25
Feb. 1	34.21	29	34.97	24	34.19	19	27.92
8	35.79	Apr. 5	34.82	31	34.16	26	26.58
15	35.67	12	34.69	June 7	33.96	Aug. 2	26.57
22	35.23	19	34.49	14	33.66	9	25.47
Mar. 1	34.73	26	34.22	21	33.36	16	24.80

a Dry.

Middlesex County--Continued

Winchester 4.-- Continued.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 23	24.85	Sept. 27	(a)	Nov. 2	(a)	Dec. 5	(a)
30	24.34	Oct. 4	(a)	8	(a)	14	(a)
Sept. 6	23.78	11	(a)	15	(a)	20	(a)
13	22.98	18	(a)	22	(a)	27	(a)
20	22.29	25	(a)	29	(a)		

Winchester 14.

Water level, in feet above mean sea level, 1941

Jan. 4	107.65	Apr. 12	106.48	July 12	103.77	Oct. 11	101.87
11	107.28	19	106.42	19	103.54	18	101.74
18	106.79	26	106.12	26	103.34	25	101.63
Feb. 1	106.57	May 3	106.05	Aug. 2	103.14	Nov. 1	101.51
8	106.35	10	105.91	9	102.97	8	101.43
15	107.79	17	105.86	16	102.81	15	101.35
22	107.09	24	105.51	23	102.66	22	101.34
Mar. 1	106.35	31	105.11	30	102.52	29	101.32
8	105.80	June 7	104.80	Sept. 6	102.41	Dec. 5	101.32
15	105.46	14	104.64	13	102.30	14	101.30
22	105.65	21	104.43	20	102.19	19	101.64
29	106.22	28	104.23	27	102.09	26	102.25
Apr. 5	106.45	July 5	104.00	Oct. 4	101.98		

Woburn 1.

Water level, in feet above mean sea level, 1941

Jan. 4	84.53	Apr. 12	84.20	July 12	82.43	Oct. 11	82.75
11	84.36	19	83.92	19	82.38	18	82.72
18	84.42	26	83.82	26	82.57	25	82.81
Feb. 1	83.94	May 3	83.76	Aug. 2	82.86	Nov. 2	83.61
8	86.50	10	83.90	9	82.59	8	83.67
15	85.23	17	83.58	16	82.46	15	83.59
22	84.40	24	83.28	23	82.40	22	83.26
Mar. 1	83.95	31	83.39	30	82.36	29	83.29
8	83.90	June 7	83.55	Sept. 6	83.06	Dec. 5	82.23
15	83.93	14	83.22	13	82.78	14	84.90
22	84.58	21	82.98	20	82.73	19	84.10
29	84.83	28	82.79	27	82.65	26	84.13
Apr. 5	84.41	July 5	82.57	Oct. 4	82.75		

Woburn 2. Measurements discontinued Sept. 27, 1941.

Water level, in feet above mean sea level, 1941

Jan. 4	51.35	Mar. 22	51.29	May 24	51.80	July 26	43.37
11	51.15	29	51.50	31	50.57	Aug. 2	44.35
18	51.53	Apr. 5	51.54	June 7	51.72	9	47.74
Feb. 1	51.71	12	51.81	14	51.49	16	41.62
8	52.24	19	51.80	21	46.29	23	40.49
15	51.29	26	51.88	28	46.09	30	39.64
22	51.33	May 3	51.90	July 5	49.94	Sept. 13	40.45
Mar. 1	51.24	10	51.71	12	45.43	20	39.63
8	51.22	17	52.01	19	44.94	27	38.52
15	51.40						

Woburn 3.

Water level, in feet above mean sea level, 1941

Jan. 4	72.27	Feb. 8	72.74	Mar. 8	72.23	Apr. 5	72.37
11	72.24	15	72.64	15	72.11	12	72.30
18	72.25	22	72.46	22	72.21	19	72.25
Feb. 1	72.19	Mar. 1	72.32	29	72.46	26	72.17

a Dry.

Middlesex County--Continued

Woburn 3.--Continued.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 3	71.13	July 5	71.60	Sept. 6	71.28	Nov. 8	71.00
10	72.17	12	71.40	13	70.89	15	70.92
17	72.08	19	70.37	20	70.76	22	70.80
24	71.10	26	70.30	27	70.39	29	70.76
31	71.04	Aug. 2	71.50	Oct. 4	70.53	Dec. 5	70.77
June 7	70.99	9	71.36	11	70.88	14	71.41
14	70.80	16	70.17	18	70.75	19	71.49
21	71.78	23	71.10	25	70.77	26	71.65
28	71.65	30	71.09	Nov. 1	70.99		

Woburn 4.

Water level, in feet above mean sea level, 1941

Jan. 4	66.82	Apr. 19	66.55	July 19	66.01	Oct. 11	66.16
11	66.63	26	66.57	26	66.11	18	66.00
18	66.89	May 3	66.60	Aug. 2	66.22	25	66.07
Feb. 1	66.62	10	66.72	9	65.99	Nov. 1	66.30
15	67.10	17	66.49	16	65.74	8	66.49
22	66.67	24	66.48	23	65.70	15	66.30
Mar. 1	66.54	31	66.36	30	65.86	22	66.19
8	66.52	June 7	66.52	Sept. 6	66.18	29	66.20
15	66.53	14	66.27	13	66.00	Dec. 5	66.27
22	66.67	21	66.13	20	65.87	14	67.23
29	66.86	28	65.97	27	65.83	19	66.60
Apr. 5	66.73	July 5	66.00	Oct. 4	66.06	26	66.65
12	66.62	12	65.82				

Woburn 5.

Water level, in feet above mean sea level, 1941

Jan. 4	59.33	May 17	59.07	Aug. 2	59.05	Oct. 18	58.96
11	59.27	24	59.07	9	58.89	25	58.97
18	59.39	31	59.03	16	58.84	Nov. 1	59.11
Feb. 8	59.67	June 7	59.11	23	58.77	8	59.21
15	59.49	14	59.02	30	58.92	15	59.13
Mar. 29	59.31	21	58.87	Sept. 6	59.07	22	59.04
Apr. 5	59.22	28	58.81	13	58.96	29	59.08
12	59.14	July 5	58.88	20	58.89	Dec. 5	59.08
19	59.13	12	58.78	27	58.88	14	59.78
26	59.15	19	58.94	Oct. 4	59.05	19	59.22
May 3	59.15	26	59.04	11	59.07	26	59.24
10	59.29						

Woburn 17.

Water level, in feet above mean sea level, 1941

Jan. 4	175.83	Apr. 12	174.90	July 12	172.81	Oct. 11	170.63
11	175.57	19	174.49	19	172.60	18	170.41
18	175.69	26	174.28	26	172.41	25	170.21
Feb. 1	175.23	May 3	174.11	Aug. 2	172.29	Nov. 1	169.99
8	176.35	10	173.90	9	172.12	8	169.82
15	176.11	17	173.85	16	171.95	15	169.62
22	175.74	24	173.84	23	171.78	22	(a)
Mar. 1	175.19	31	173.81	30	171.65	29	(a)
8	174.82	June 7	173.80	Sept. 6	171.54	Dec. 5	(a)
15	174.60	14	173.71	13	171.39	13	(a)
22	175.07	21	173.55	20	171.21	19	(a)
29	175.94	28	173.33	27	171.04	26	(a)
Apr. 5	175.49	July 5	173.06	Oct. 4	170.85		

a Dry.

Middlesex County--Continued

Woburn 19.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	30.65	Apr. 12	30.17	July 12	26.97	Oct. 11	23.82
11	30.04	19	29.80	19	26.34	18	23.80
18	30.33	26	29.44	26	25.86	25	24.01
Feb. 1	29.97	May 3	29.41	Aug. 2	25.64	Nov. 1	23.90
8	31.95	10	28.74	9	25.10	8	24.51
15	31.01	17	28.57	16	24.69	15	24.45
22	30.37	24	28.14	23	24.39	22	24.62
Mar. 1	29.91	31	27.83	30	24.53	29	24.37
8	29.86	June 7	27.91	Sept. 6	25.08	Dec. 5	24.73
15	29.65	14	27.42	13	25.70	13	25.47
22	29.88	21	27.15	20	24.68	19	24.72
29	30.81	28	27.22	27	24.26	26	25.99
Apr. 5	30.27	July 5	28.75	Oct. 4	23.97		

Woburn 21.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	111.41	Apr. 12	112.00	July 12	110.49	Oct. 11	109.25
11	111.48	19	111.88	19	110.43	18	109.16
18	111.52	26	111.75	26	110.33	25	109.09
Feb. 1	111.50	May 3	111.68	Aug. 2	110.34	Nov. 1	109.11
8	112.01	10	111.62	9	110.14	8	109.31
15	112.28	17	111.49	16	110.00	15	109.30
22	112.11	24	111.43	23	109.85	22	109.23
Mar. 1	111.92	31	111.30	30	109.76	29	109.18
8	111.80	June 7	111.28	Sept. 6	109.89	Dec. 5	109.14
15	111.65	14	111.12	13	109.69	13	109.10
22	111.64	21	110.96	20	109.55	20	109.65
29	112.15	28	110.82	27	109.41	27	109.78
Apr. 5	112.11	July 5	110.66	Oct. 4	109.32		

Woburn 23.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 11	94.56	Apr. 26	94.22	July 19	93.11	Oct. 11	93.17
18	94.64	May 3	94.22	26	93.54	18	92.93
Feb. 8	95.16	10	94.53	Aug. 2	93.53	25	92.94
15	94.93	17	93.76	9	92.93	Nov. 1	93.11
22	94.52	24	93.93	16	92.90	8	93.74
Mar. 1	94.37	31	93.78	23	92.69	15	93.53
8	94.42	June 7	94.02	30	92.86	22	93.26
15	94.46	14	93.77	Sept. 6	93.22	29	93.34
29	94.66	21	93.47	13	92.97	Dec. 5	93.51
Apr. 5	94.51	28	93.14	20	92.73	13	93.25
12	94.26	July 5	93.15	27	92.67	27	94.04
19	94.19	12	93.05	Oct. 4	93.06		

Woburn 36.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 11	41.62	Apr. 19	42.07	July 19	41.56	Oct. 11	40.39
18	41.67	26	42.08	26	41.45	18	40.37
Feb. 1	41.76	May 3	42.10	Aug. 2	41.40	25	40.37
8	41.80	10	42.11	9	41.29	Nov. 2	40.35
15	41.87	17	42.09	16	41.11	8	40.42
22	41.91	24	42.03	23	40.94	15	40.47
Mar. 1	41.93	31	41.98	30	40.82	22	40.49
8	41.96	June 7	41.95	Sept. 6	40.75	29	40.49
15	41.97	14	41.90	13	40.69	Dec. 5	40.52
22	41.98	21	41.87	20	40.60	14	40.55
29	42.02	28	41.85	27	40.50	20	40.62
Apr. 5	42.04	July 5	41.79	Oct. 4	40.42	27	40.71
12	42.06	12	41.66				

Middlesex County--Continued

Woburn 38.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 11	41.91	Apr. 26	41.41	July 19	38.89	Oct. 11	35.30
18	41.88	May 3	41.37	26	38.53	18	35.19
Feb. 1	41.71	10	41.37	Aug. 2	38.35	25	35.01
15	43.18	17	41.18	9	38.07	Nov. 2	34.79
22	42.52	24	40.63	16	37.53	8	34.85
Mar. 1	42.09	31	40.42	23	37.29	15	34.75
8	41.79	June 7	40.90	30	37.18	22	34.47
15	41.57	14	40.86	Sept. 6	37.16	29	34.17
22	41.58	21	40.72	13	36.79	Dec. 5	34.02
29	42.55	28	40.12	20	36.33	14	33.51
Apr. 5	42.14	July 5	39.50	27	35.85	20	33.96
12	41.88	12	38.98	Oct. 4	35.47	27	33.99
19	41.67						

Woburn 49.

Water level, in feet above mean sea level, 1941

Jan. 11	64.10	Apr. 19	64.08	July 19	62.57	Oct. 11	59.74
18	64.18	26	64.09	26	62.49	18	59.48
Feb. 1	64.09	May 3	64.06	Aug. 2	62.23	25	59.28
8	64.84	10	64.14	9	61.90	Nov. 2	59.55
15	64.66	17	64.00	16	61.65	8	59.42
22	64.33	24	63.97	23	61.25	15	59.33
Mar. 1	64.21	31	63.98	30	60.93	22	59.19
8	64.19	June 7	63.90	Sept. 6	60.68	29	59.08
15	64.13	14	63.71	13	60.71	Dec. 5	59.00
22	64.24	21	63.52	20	60.66	14	59.09
29	64.31	28	63.30	27	60.16	20	59.41
Apr. 5	64.19	July 5	63.11	Oct. 4	59.91	27	59.73
12	64.12	12	62.97				

Woburn 53.

Water level, in feet above mean sea level, 1941

Jan. 11	97.17	Apr. 19	97.08	July 19	95.63	Oct. 11	95.50
18	97.28	26	97.06	26	95.61	18	95.50
Feb. 1	97.10	May 3	97.06	Aug. 2	95.88	25	95.56
8	98.02	10	97.07	9	95.60	Nov. 2	95.87
15	97.73	17	96.90	16	95.40	8	96.10
22	97.33	24	96.79	23	95.36	15	96.06
Mar. 1	97.14	31	96.74	30	95.46	22	95.97
8	97.10	June 7	96.82	Sept. 6	95.69	29	95.99
15	97.04	14	96.54	13	95.56	Dec. 5	96.04
22	97.11	21	96.39	20	95.37	13	95.94
29	97.42	28	96.08	27	95.27	20	96.56
Apr. 5	97.25	July 5	95.83	Oct. 4	95.38	27	96.57
12	97.16	12	95.61				

Worcester County

Leominster 11.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	.....	359.44	.....	360.60	358.61	357.65
2	.....	a359.45	.....	360.54	358.68	357.59
3	.....	359.43	a359.80	360.49	358.80	357.53
4	.....	359.43	359.76	360.42	358.89	357.46
5	.....	359.43	359.74	360.39	358.79	357.44

a Estimated.

Worcester County--Continued

Leominster 11.--Continued.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
6	360.22	359.46	359.67	360.39	358.69	357.55
7	a360.18	359.50	359.62	360.55	358.60	357.96
8	a360.15	361.73	359.62	360.38	358.55	357.99
9	a360.11	a361.59	a359.64	360.27	358.55	357.82
10	a360.08	a361.07	359.55	360.14	358.86	357.64
11	a360.05	360.60	359.54	360.01	359.52	357.46
12	a360.02	360.58	359.59	359.92	359.37	357.33
13	.....	360.58	359.58	359.86	359.23	357.25
14	.....	360.41	359.58	359.77	359.12	357.21
15	.....	359.98	359.69	359.68	359.01	357.17
16	a359.70	360.06	360.21	359.54	358.89	357.12
17	359.64	.....	360.37	359.48	358.83	357.08
18	359.62	.....	360.56	359.38	358.83	357.02
19	359.62	.....	360.56	359.37	358.73	356.95
20	359.56	.....	360.56	359.28	358.60	356.88
21	359.47	.....	360.54	359.13	358.50	356.80
22	359.45	.....	360.78	359.00	358.40	356.73
23	359.44	.....	360.82	358.94	358.30	356.69
24	359.50	.....	360.88	358.94	358.27	356.69
25	359.57	.....	360.88	358.98	358.22	356.72
26	359.51	.....	360.92	358.93	358.14	356.69
27	359.50	.....	360.85	358.89	358.03	356.62
28	359.51	.....	360.85	358.79	358.00	356.55
29	359.51	.....	360.88	358.73	357.90	356.48
30	359.51	.....	360.78	358.64	357.83	356.40
31	359.46	.....	360.65	.....	357.73	.....

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	356.34	355.63	354.78	354.31	354.05	355.21
2	356.26	355.70	354.77	354.29	354.07	355.21
3	356.20	355.74	354.77	354.29	354.07	355.20
4	356.14	355.76	354.77	354.27	354.10	355.20
5	356.07	355.73	354.79	354.26	354.16	355.20
6	356.01	355.66	354.81	354.25	254.24	355.20
7	355.96	355.59	354.80	354.24	354.32	355.20
8	355.94	355.53	354.78	354.22	354.39	355.20
9	355.91	355.48	354.75	354.21	354.48	355.21
10	355.87	355.43	354.74	354.20	354.57	355.22
11	355.84	355.39	354.72	354.19	354.67	355.21
12	355.84	355.36	354.70	354.18	354.78	355.20
13	355.84	355.31	354.67	354.17	354.87	355.20
14	a355.88	355.27	354.65	354.17	354.95	355.20
15	355.89	355.24	354.64	354.16	355.02	355.24
16	355.89	355.21	354.62	354.16	355.07	355.39
17	355.89	355.16	354.59	354.15	355.11	355.74
18	355.85	355.12	354.57	354.14	355.14	356.07
19	355.82	355.11	354.55	354.14	355.16	356.34
20	355.79	355.07	354.53	354.13	355.18	356.52
21	355.76	355.03	354.51	354.12	355.20	356.61
22	355.74	355.00	354.49	354.11	355.20	356.68
23	355.71	354.98	354.44	354.11	355.20	356.73
24	355.68	354.94	354.43	354.11	355.20	356.77
25	355.65	354.92	354.41	354.10	355.19	356.86
26	355.60	354.90	354.40	354.10	355.19	357.03
27	355.56	354.87	354.38	354.09	355.20	357.33
28	355.55	354.83	354.36	354.09	355.21	357.53
29	355.54	354.81	354.34	354.08	355.21	357.65
30	355.54	354.79	354.32	354.07	355.21	357.69
31	355.57	354.78	.....	354.06	.....	357.72

a Estimated.

Worcester County--Continued

Winchendon 13.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	1,205.58	a1,203.69	a1,204.17	1,205.90	1,204.27	1,202.88
2	1,205.54	1,203.67	a1,204.08	1,205.83	1,204.36	1,202.82
3	1,205.51	1,203.61	a1,203.98	1,205.76	1,204.43	1,202.71
4	1,205.50	1,203.58	a1,203.93	1,205.83	1,204.54	1,202.62
5	a1,205.35	1,203.54	1,203.90	1,205.88	1,204.42	1,202.59
6	a1,205.20	1,203.50	1,203.85	1,205.89	1,204.29	1,202.63
7	1,205.08	1,203.49	1,203.82	1,205.78	1,204.22	1,202.80
8	1,205.00	1,204.34	1,203.82	1,205.71	1,204.19	1,202.87
9	1,204.92	1,205.69	1,203.85	1,205.67	1,204.19	1,202.78
10	1,204.82	1,205.61	1,203.70	1,205.63	1,204.27	1,202.62
11	1,204.75	1,205.50	1,203.68	1,205.58	1,205.00	1,202.45
12	1,204.71	1,205.36	1,203.64	1,205.55	1,204.96	1,202.31
13	1,204.56	1,205.29	1,203.60	1,205.55	1,204.78	1,202.22
14	1,204.46	1,205.28	1,203.58	1,205.54	1,204.64	1,202.21
15	1,204.34	1,205.27	1,203.56	1,205.54	1,204.50	1,202.21
16	1,204.29	1,205.23	1,203.60	1,205.50	1,204.37	1,202.32
17	1,204.27	1,205.22	1,203.66	1,205.49	1,204.26	1,203.03
18	1,204.21	1,205.03	1,203.71	1,205.38	1,204.14	1,203.45
19	.....	1,204.92	1,203.71	1,205.37	1,204.02	1,204.24
20	.....	1,204.91	1,203.59	1,205.41	1,203.87	1,204.73
21	.....	1,204.89	1,203.56	1,205.21	1,203.76	1,204.50
22	.....	1,204.86	1,203.56	1,205.02	1,203.64	1,204.25
23	.....	a1,204.77	1,203.59	1,204.92	1,203.51	1,204.14
24	.....	a1,204.67	1,203.82	1,204.87	1,203.48	1,204.03
25	.....	a1,204.57	1,204.09	1,204.76	1,203.41	1,203.81
26	.....	a1,204.47	1,204.38	1,204.69	1,203.31	1,203.64
27	.....	a1,204.37	1,204.69	1,204.63	1,203.17	1,203.46
28	.....	a1,204.27	1,205.16	1,204.46	1,203.12	1,203.28
29	.....	.....	1,205.66	1,204.39	1,203.09	1,203.09
30	.....	.....	1,205.99	1,204.29	1,203.04	1,202.91
31	.....	.....	1,205.95	.....	1,202.95	.....

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,202.77	1,200.06	1,198.69	1,197.91	1,197.23	1,197.25
2	1,202.60	1,200.05	1,198.65	1,197.88	1,197.23	1,197.26
3	1,202.42	1,200.03	1,198.61	1,197.86	1,197.21	1,197.28
4	1,202.25	1,200.01	1,198.59	1,197.84	1,197.19	1,197.29
5	1,202.09	1,199.97	1,198.56	1,197.82	1,197.18	1,197.30
6	1,201.94	1,199.92	1,198.54	1,197.79	1,197.16	1,197.32
7	1,201.83	1,199.87	1,198.52	1,197.77	1,197.15	1,197.33
8	1,201.72	1,199.83	1,198.50	1,197.74	1,197.14	1,197.34
9	1,201.66	1,199.77	1,198.47	1,197.71	1,197.13	1,197.35
10	1,201.60	1,199.71	1,198.45	1,197.70	1,197.12	1,197.37
11	1,201.51	1,199.66	1,198.43	1,197.67	1,197.12	1,197.38
12	1,201.42	1,199.61	1,198.41	1,197.64	1,197.11	1,197.39
13	1,201.35	1,199.55	1,198.38	1,197.62	1,197.11	1,197.40
14	1,201.28	1,199.49	1,198.35	1,197.60	1,197.11	1,197.41
15	1,201.22	1,199.44	1,198.33	1,197.57	1,197.11	1,197.45
16	1,201.14	1,199.39	1,198.30	1,197.55	1,197.11	1,197.46
17	1,201.05	1,199.34	1,198.27	1,197.52	1,197.11	1,197.48
18	1,200.98	1,199.29	1,198.24	1,197.50	1,197.11	1,197.49
19	1,200.90	1,199.25	1,198.22	1,197.48	1,197.12	1,197.51
20	1,200.80	1,199.20	1,198.19	1,197.46	1,197.13	1,197.53
21	1,200.72	1,199.15	1,198.17	1,197.43	1,197.14	1,197.54
22	1,200.64	1,199.10	1,198.14	1,197.41	1,197.15	1,197.56
23	1,200.56	1,199.06	1,198.12	1,197.39	1,197.16	1,197.58

a Estimated.

Worcester County--Continued

Winchendon 13.--Continued.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
24	1,200.48	1,199.01	1,198.09	1,197.37	1,197.17	1,197.61
25	1,200.40	1,198.97	1,198.06	1,197.35	1,197.18	1,197.64
26	1,200.32	1,198.93	1,198.04	1,197.33	1,197.19	1,197.67
27	1,200.24	1,198.88	1,198.01	1,197.31	1,197.20	1,197.69
28	1,200.18	1,198.84	1,197.99	1,197.29	1,197.22	1,197.73
29	1,200.10	1,198.79	1,197.96	1,197.27	1,197.23	1,197.78
30	1,200.07	1,198.75	1,197.94	1,197.25	1,197.24	1,197.83
31	1,200.06	1,198.71	.....	1,197.23	.....	1,197.90

MICHIGAN

By C. L. McGuinness, Norman Billings, and O. F. Poindexter

The program of water-level measurements in observation wells in Michigan (see Water-Supply Papers 777, 817, 840, 845, 886, and 906), begun in 1932 in cooperation between the Geological Survey Division of the Michigan Department of Conservation and the Federal Geological Survey, was continued in 1941. Areas with observation wells are shown in figure 3, page 52, Water-Supply Paper 906. Measurements were made at least once in 100 wells in forested areas in the northern part of the Lower Peninsula. At the end of the year, monthly measurements of water levels were being made in 51 wells in these areas. Semimonthly measurements had been made in the 51 wells until the end of July. Measurements in wells in Montmorency, Presque Isle, and Cheboygan Counties were discontinued at the end of July. Only three measurements were made in these wells during the year. Measurements were made once during the year in 5 wells in Charlevoix County, in 15 wells in Grand Traverse County, and in 6 wells in Wexford County. Regular measurements in these wells were discontinued in 1938. A total of about 1,000 individual measurements of water level was made in the wells in the northern part of the Lower Peninsula during 1941. Most of the measurements were made by Norman Billings, junior geologist in the Michigan State Civilian Conservation Corps until October 1 and hydrogeologist of the Michigan Geological Survey Division after that date. Mr. Billings was in direct charge of the water-level measurements during the year, under the supervision of O. F. Poindexter, associate geologist in the Michigan Geological Survey Division.

At the end of 1941 the water levels in the 51 wells in the northern part of the Lower Peninsula stood at an average stage higher than at the end of any previous year during the period beginning in 1935. In December 1941 the average stage in the 51 wells was 0.36 foot higher than in December 1940, when the previous highest year-end average stage was reached, and 0.77 foot higher than the average December stage during the period beginning in 1935.

The float-type automatic water-stage recorder that was installed in November 1934 on a well at the Forest Fire Experiment Station at Roscommon was in operation throughout the year. Weekly water levels in this well in 1941, measured when the recorder charts were changed, are given in this report.

The water level in the Roscommon recorder well reached the lowest summer stage of 1940 on August 29, when it was about 7.6 feet below the measuring point. As the result of a heavy rain on that date the water level began to recover and by September 5 had reached a stage of about 7.1 feet below the measuring point. The water level then continued to rise slowly and irregularly during the remainder of the year and was at a stage of about 6.75 feet below the measuring point on December 31, 1940. The rise continued for a short time after the beginning of 1941, and on January 4, 1941, the water level reached a stage of 6.69 feet below the measuring point. The usual irregular but persistent late winter decline then began and continued until late in March, culminating on March 22 in a low stage of 7.20 feet below the measuring point. The water level then rose slowly as the result of daily thaws, reaching a stage of 7.13 feet below the measuring point on March 31. The water level then began to rise more rapidly and reached a stage of 5.94 feet below the measuring point on April 26, the highest stage of the year. The water level then began to decline, and continued to decline almost uninterruptedly until late in September, when the water level stayed at the lowest stage of the year, 8.27 feet below the measuring point, from September 24 to 30. There were two small rises due to rainfall before the lowest stage was reached, one from 8.20 to 8.05 feet below the measuring point during the period August 30-31, and one from 8.20 to 8.01 feet below the measuring point during the period September 8-13. From September 30 to October 13 the water level recovered slowly, reaching a stage of 8.08 feet below the measuring point on October 13. Heavy rains then resulted in a rapid rise from 8.08 to about 7.3 feet below the measuring point on October 14, and a slower rise to about 6.4 feet below the measuring point on November 26. The water level then declined slowly and irregularly, and at the end of the year was about 6.7 feet below the measuring point.

The high stage of April 1941 was the third highest stage of record, those of 1938 and 1937 ranking first and second, respectively. However, the high stage of 1941 lasted much longer than the high stage of 1937 (see Water-Supply Paper 886, p. 263). The low stage of September 1941 was the third lowest stage of record, those of 1935 and 1936 ranking lowest and next lowest, respectively. The range in fluctuation during 1941 was 2.33 feet, nearly as large as that of 1938, which was the largest annual range in fluctuation during the period of record.

The program of water-level measurements in observation wells in municipalities in the southern part of the Lower Peninsula was continued in 1941. About 1,150 individual measurements were made in these wells during the year, including daily measurements in well Washtenaw 1 and about 150 measurements each in wells Oakland 1, 2, and 3. Only selected measurements are included in this report for wells Washtenaw 1 and Oakland 1, 2, and 3.

Descriptions of most of the observation wells in the northern part of the Lower Peninsula are contained on pages 125 to 182 of Water-Supply Paper 840. Descriptions of well 50, T. 28 N., R. 4 W., and well 100, T. 27 N., R. 5 W., Crawford County; wells 17, 18, and 28, T. 31 N., R. 2 E., Montmorency County; wells 17 and 23, T. 33 N., R. 2 E., Presque Isle County; and well 75, T. 23 N., R. 3 W., Roscommon County, are contained on pages 155-158 of Water-Supply Paper 845. Descriptions of well 5, T. 33 N., R. 1 E., and wells 11 and 19, T. 34 N., R. 1 W., Cheboygan County; well 8, T. 25 N., R. 3 W., and well 51, T. 27 N., R. 4 W., Crawford County; well 100, T. 27 N., R. 5 W., Kalkaska County; and well 50, T. 21 N., R. 4 W., well 50, T. 23 N., R. 1 W., and well 1000, T. 24 N., R. 2 W., Roscommon County, are contained on pages 268-278 of Water-Supply Paper 886. References are given in parentheses following the numbers of the wells in the southern part of the Lower Peninsula to previous water-supply papers containing descriptive material on the wells.

Calhoun County

Calhoun 1. (Water-Supply Paper 886, p. 267.) City of Battle Creek. Well 22 at Verona Pumping Station of city waterworks. Measurements made by S. C. Einhardt, Sr., operator, Verona Pumping Station.

Calhoun County--Continued.

The average daily pumpage from wells at the Verona Pumping Station during 1941 was about 3.75 million gallons, about 1.2 million gallons a day more than in 1940. The rate of pumping varied widely, ranging from about 650,000 gallons a day in March, when the Goguac Pumping Station produced most of the water for the public supply of Battle Creek, to about 6.5 million gallons a day in August, when the Goguac station was shut down.

Although interpretation of the fluctuations in water level in well 1 is made difficult by the variable conditions of pumping from wells at the Verona station, the records show that the water level stood somewhat higher during most of 1941 than during equivalent periods in 1940, despite the fact that pumpage from wells at the station in 1941 averaged about 1.2 million gallons a day more than in 1940. During the fall of 1941 the water level stood from 1 to 2 feet lower than during the fall of 1940, but the pumpage during the fall of 1941 averaged about 2.25 million gallons a day more than in 1940. At Battle Creek there was an excess in precipitation of a little more than 6 inches during the two years, and it is probable that this is largely responsible for the recovery in water level in well 1. Differences in the distribution of pumpage in the well field may also account for some of the rise in water level.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	5.62	Apr. 14	4.73	July 6b/	5.77	Sept. 29	6.94
13	5.68	21	5.54	12b/	7.15	Oct. 13	6.28
20	5.46	28	4.49	18b/	7.09	20	5.74
27	5.85	May 5	7.45	24b/	6.65	27	7.25
Feb. 4	5.07	12	4.53	30b/	7.63	Nov. 3	5.61
11	5.94	19	4.95	Aug. 4	10.91	11	5.71
21	5.52	26	7.00	11	7.77	18	5.78
25	6.03	June 2	7.13	18	7.63	25	7.25
Mar. 10	4.76	13	5.73	Sept. 1	8.00	Dec. 8	5.59
13	5.41	18	5.31	8	6.70	15	5.97
20 a	2.53	23	4.77	15	7.78	22	6.46
28 a	2.43	30	5.88	22	6.67	29	5.67
Apr. 7	3.12						

Calhoun 2. (Water-Supply Paper 886, p. 267). City of Battle Creek. Armstrong test well 3 at Goguac Pumping Station of city waterworks. Measurements made by A. M. Stannard and C. A. Bunce, Goguac Pumping Station.

The average daily pumpage from wells at the Goguac Pumping Station during 1941 was about 1.15 million gallons, about 0.4 million gallons a day less than in 1940. Little water was pumped in June, July, and October, and none in August and September. Although it is difficult to interpret changes in water level in well 2 because of changes in pumping from wells at the station, the water level apparently stood slightly higher during the first part of 1941 than during the same period in 1940, although the total pumpage during the first 5 months of 1941 averaged about 0.4 million gallons a day more than during the same period in 1940. This rise was obscured later by the larger rise resulting from the great reduction in pumpage that began in June. At the end of the year the water level in well 2 stood lower than at the end of 1940, but this is probably due to the fact that some water was being pumped from supply well 3, which is only 85 feet from the observation well. Supply well 3 was not pumped during 1940 or the first part of 1941.

a All wells at station shut down.
b Date approximate.

Calhoun County--Continued.

Calhoun 2.--Continued.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 1	29.07	Mar. 19	33.93	June 4	29.24	Sept. 25	a 18.63
8	29.06	26	35.16	July 15	a 21.90	Oct. 2	a 19.68
15	29.03	Apr. 1	35.13	23	a 21.24	8	a 18.03
22	29.06	7	32.42	30	a 20.26	15	a 18.03
29	29.12	16	32.12	Aug. 6	a 19.88	22	25.98
Feb. 6	29.09	23	31.58	14	a 19.38	30	22.27
12	29.08	May 1	30.87	21	a 18.78	Nov. 7	a 20.72
19	29.14	7	29.44	27	a 18.68	14	a 20.53
26	29.14	14	30.07	Sept. 3	a 18.55	20	25.88
Mar. 5	29.12	21	29.64	10	a 17.87	27	31.15
12	32.41	28	29.12	17	a 19.81	Dec. 3	32.9

Charlevoix County

Regular measurements in all observation wells were discontinued in 1938. No measurements were made in 1941 in well 31, T. 32 N., R. 4 W.; well 15, T. 32 N., R. 5 W.; and well 4, T. 33 N., R. 5 W.

Water level, in feet below measuring point, 1941

Date	T. 32 N., R. 4 W.			T. 33 N., R. 4 W.	T. 33 N., R. 5 W.
	1	33	34	31	12
July 29	8.20	6.06	3.34	12.90	4.90

Cheboygan County

Water level, in feet below measuring point, 1941

Date	T. 33 N., R. 1 W.			T. 33 N., R. 1 E.				T. 34 N., R. 1 W.	
	2	4	11	7	8	17	5	11	33
Apr. 29	7.81	4.09	4.81	....	....	....	3.79	....	6.17
June 20	7.50	5.23	3.04	2.46	5.00	6.65	3.75	4.98	6.50
July 28	7.75	6.96	4.82	3.43	6.38	8.76	4.30	5.54	7.35

Crawford County

Water level, in feet below measuring point, 1941

Date	T.25N. R. 3W.	T.26N., R. 2W.		T. 26 N., R. 3 W.		Date	T.25N. R. 3W.	T.26N., R. 2W.		T. 26 N., R. 3 W.	
	8	9	26	28	30		8	9	26	28	30
Jan. 6	10.95	5.95	11.19	8.54	11.81	Mar. 12	11.22	5.98	11.67	8.89	12.08
27	10.99	5.97	11.37	8.60	11.89	24	11.27	5.95	11.70	8.94	12.16
Feb. 10	11.06	5.98	11.52	8.70	11.96	Apr. 3	11.17	5.86	11.56	8.99	12.21
27	11.15	5.97	11.59	8.80	11.99	22	10.58	5.82	10.37	7.87	12.23

a All wells at station shut down.

Crawford County--Continued.

Water level, in feet below measuring point, 1941

Date	T.25N. R. 3W.	T.26N. R. 2W.		T. 26 N., R. 3 W.		Date	T.25N. R. 3W.	T.26N. R. 2W.		T. 26 N., R. 3 W.	
	8	9	26	28	30		8	9	26	28	30
May 9	10.53	5.86	10.50	7.54	12.09	Aug. 26	11.10	6.17	12.10	8.70	12.43
21	10.60	5.96	10.70	7.74	12.00	Sept.16	11.06	6.05	12.12	8.83	.....
June 6	10.72	6.04	10.90	7.95	11.95	Oct. 15	10.68	5.83	11.71	8.90	.....
17	10.77	5.95	11.04	8.06	11.94	Nov. 13	10.41	5.84	10.86	8.33	.....
July 2	10.97	6.24	11.36	8.21	11.97	Dec. 17	10.51	5.88	11.07	8.17	12.71
22	11.07	6.17	11.69	8.41	12.09						

Water level, in feet below measuring point, 1941

Date	T. 25 N., R. 4 W.				Date	T. 26 N., R. 4 W.			
	9	10	12	18		9	10	12	18
Jan. 6	2.36	5.91	4.89	5.53	June 4	2.61	6.12	4.95	5.70
27	2.82	6.32	5.24	5.67	16	3.00	6.54	5.26	5.81
Feb. 10	2.99	6.49	5.40	5.74	July 1	3.65	7.23	5.87	6.08
27	3.01	6.44	5.41	5.65	23	4.11	7.99	6.51	6.10
Mar. 12	3.20	6.60	5.56	5.77	Aug. 26	4.75	8.53	7.17	6.29
24	3.30	6.69	5.65	5.78	Sept.16	4.88	8.21	7.25	6.17
Apr. 3	3.05	....	5.49	5.54	Oct. 15	3.37	6.51	6.06	5.53
22	1.24	5.05	3.73	4.94	Nov. 12	2.20	5.79	4.93	5.44
May 5	2.01	5.71	4.32	5.46	Dec. 17	2.45	6.12	5.05	5.61
19	2.26	5.91	4.61	5.63					

Water level, in feet below measuring point, 1941

Date	T. 27 N., R. 1 W.			T. 27 N., R. 4 W.			T. 28 N., R. 1 W.		T. 28 N., R. 4 W.
	8	22	27	20	42	51	6	18	50
Jan. 6	4.48	4.52	6.63	6.00	7.26	15.08	7.97	6.62	16.11
27	4.52	4.59	6.65	6.32	7.38	15.21	7.95	6.62	16.20
Feb. 10	4.69	4.80	6.72	6.49	7.32	15.34	8.08	6.77	16.25
27	4.70	4.90	6.79	6.65	7.59	15.42	8.26	6.87	16.34
Mar. 12	4.74	5.00	6.87	6.79	7.64	15.50	8.35	6.97	b16.4+
24	4.62	5.04	6.87	6.92	7.67	15.56	8.45	7.05	b16.4+
Apr. 3	4.63	4.80	6.60	6.91	7.52	15.53	8.51	7.03	b16.4+
22	3.78	3.26	5.36	5.10	6.46	14.36	6.30	5.37	15.48
May 9	4.14	3.36	5.46	5.43	6.68	14.40	6.36	5.34	15.43
21	4.25	3.59	5.71	5.65	6.85	14.50	6.58	5.61	15.63
June 6	4.53	3.79	5.92	5.94	7.01	14.61	6.77	5.90	15.84
17	4.38	3.84	6.04	6.16	7.10	14.68	6.87	6.08	15.94
July 2	4.58	4.26	6.30	6.54	7.30	14.85	7.09	6.36	16.08
22	4.68	4.59	6.52	7.07	7.46	15.09	7.35	6.73	16.25
Aug. 26	4.84	5.21	6.94	7.81	7.63	15.40	7.84	(a)	(c)
Sept.16	4.78	5.33	7.01	8.00	7.56	15.51	8.01	7.14	(c)
Oct. 15	4.50	5.04	6.76	7.26	7.07	15.71	7.86	7.16	(c)
Nov. 13	4.40	4.61	6.55	6.10	6.70	14.69	6.88	6.33	15.80
Dec. 17	4.50	4.50	6.50	6.12	6.66	14.72	6.85	6.16	.....

Grand Traverse County

Regular measurements in all observation wells were discontinued in 1938.

Water level, in feet below measuring point, 1941

Date	T. 25 N., R. 9 W.			T. 25 N., R. 10 W.		T. 26 N., R. 9 W.
	6	24	27	25	26	2
July 31	6.65	9.25	14.96	2.56	7.45	9.44

a Obstruction in well.
b Water level between 16.4 and 16.5 feet below measuring point; accurate measurement not possible.
c Dry at about 16.75 feet below measuring point.

Grand Traverse County--Continued.

Water level, in feet below measuring point, 1941

Date	T. 26 N., R. 11 W.				T. 27 N., R. 9 W.				
	2	4	7	14	1	6	15	18	25
July 31	3.97	4.39	3.34	4.11	15.60	6.43	18.84	6.36	18.48

Ingham County

Ingham 1. (Water-Supply Paper 886, p. 270.) City of Lansing. Well 2 at Cedar Street pumping station, near southeast corner of Cedar Street and Michigan Avenue, Lansing.

Ingham 2. (Water-Supply Paper 886, p. 270.) City of Lansing. Well 9 at Cedar Street pumping station, near northeast corner of Cedar and Kalamazoo Streets, Lansing.

Ingham 3. (Water-Supply Paper 886, p. 270.) City of Lansing. Well 5 in Pennsylvania Avenue well field, at northwest corner of Pennsylvania Avenue and Grand Trunk Railroad, Lansing.

Ingham 4. (Water-Supply Paper 886, p. 270.) City of Lansing. Well 9 in Pennsylvania Avenue well field, about 500 feet east of Pennsylvania Avenue and just north of Grand Trunk Railroad, Lansing.

Ingham 5. (Water-Supply Paper 886, p. 270.) No measurements made in 1941.

Ingham 6. (Water-Supply Paper 886, p. 270.) City of Lansing. Logan well, at Logan Street pumping station, Lapeer and Logan Streets, Lansing.

Ingham 7. (Water-Supply Paper 886, p. 270.) City of Lansing. Seymour well, at Seymour Avenue pumping station, on north side of Josephine Street about 500 feet east of Seymour (Grand River) Avenue, Lansing.

Ingham 8. (Water-Supply Paper 886, p. 270.) City of Lansing. Townsend well, at Townsend Street pumping station, on east side of Townsend Street opposite Olds Street, Lansing.

Measurements in wells 1, 2, 3, 4, 6, 7, and 8 were made by members of the Mechanical Engineering Department, Board of Water and Electric Light Commissioners, Lansing.

In 1941 the average daily pumpage from municipal wells in Lansing was about 10.8 million gallons, as compared with an average daily pumpage of about 9.4 million gallons in 1940. The average daily pumpage in July 1941, the month of heaviest pumping during the year, was about 14.2 million gallons, as compared with about 10.6 million gallons in July 1940.

The water levels in wells 3 and 4 trended from a foot to several feet higher during 1941 than during 1940, largely because less water was pumped in 1941 than in 1940 from wells of the P. A. and P. M. groups. Except for the wells in the Pennsylvania Avenue field itself, the P. A. and P. M. wells affect wells 3 and 4 most strongly.

The water levels in wells 6 and 7 showed considerable net declines from 1940 to 1941. These declines were largely due to the placing in service during the latter part of 1941 of 10 new wells in 2 groups, known as the C. and M. groups. The new wells are situated on a line running approximately east and west, cutting across a line between wells 6 and 7. The total net decline in well 6 was about 13 feet; that in well 7 was about 22 feet.

The water level in well 8 showed an average net decline of about 2 feet from 1940 to 1941. No water was pumped at the Townsend Street station during 1941. Well 8 is so situated that the water level is affected more by the general changes in the water-bearing formation and less by the pumping of individual groups of wells than are the other observation wells.

Ingham County--Continued.

Water level, in feet below measuring point, 1941

Date	1	2	3	4	6	7	8
Jan. 14	.....	.....	35.35	43.65	45.0	22.05	21.65
Feb. 25	.....	.....	32.5	42.2	44.6	20.4	22.7
Mar. 26	.....	.....	32.75	42.8	44.85	22.1	23.55
Apr. 22	.....	.....	33.15	43.7	47.4	22.8	22.8
May 20	.....	.....	33.25	44.85	47.0	22.35	24.2
June 24	.....	.....	33.65	45.1	52.65	31.4	25.3
July 24	.....	.....	.....	.....	57.1	37.45	26.55
Aug. 22	.....	.....	33.65	45.8	59.1	46.15	25.4
Sept.24	.....	.....	32.15	43.1	58.4	46.85	24.55
Oct. 24	.....	.....	31.4	41.35	58.05	45.2	25.15
Nov. 14	.....	.....	30.75	40.45	56.4	45.1	24.95
Dec. 29	67.65	57.83	21.15	31.05	56.55	45.2	25.1

Jackson County

Jackson 1. (Water-Supply Paper 886, p.273.) City of Jackson. Well 5½ (formerly well 19), between supply wells 5 and 6 and about 1,100 feet northeast of main building of pumping station of city waterworks. Measurements made by members of the city water department, D. J. Stellingworth, Superintendent of Water Supply. Measurements discontinued and well placed in service after May 26, 1941.

The average daily pumpage from municipal wells in Jackson during the first 5 months of 1941 was about 8.05 million gallons, an average of about 850,000 gallons a day more than in 1940. The water level in well 1 during this period trended 3 to 4 feet lower than in 1940. It is probable that most of this decline was due to the increase in pumping from municipal wells, but there was probably also an increase in pumping from private industrial wells in Jackson during the year.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	25.05	Feb. 4	31.67	Mar. 11	32.85	Apr. 21	31.0
4	28.35	6	35.9	14	34.9	25	42.64
7	34.28	8	30.25	18	36.6	28	35.3
9	34.35	11	36.45	20	41.7	May 1	41.35
11	28.75	13	30.85	22	30.5	7	36.27
14	31.1	17	27.60	25	35.8	9	38.08
16	34.3	21	34.1	27	38.56	12	34.86
18	27.35	27	35.46	Apr. 2	38.0	14	38.0
21	33.47	Mar. 1	32.25	7	39.2	17	31.1
25	30.7	4	33.5	9	39.03	22	39.0
30	34.6	6	35.84	14	37.79	26	38.78
Feb. 1	28.0	8	27.55	18	36.2		

Kalamazoo County

Kalamazoo 1. (Water-Supply Paper 886, p. 273; Water-Supply Paper 906, p. 61.) City of Kalamazoo. Well B at central (Burdick Street) pumping station of city waterworks.

Kalamazoo 2. (Water-Supply Paper 886, p. 273; Water-Supply Paper 906, p. 62.) City of Kalamazoo. Well C of city waterworks, about 1,100 feet southwest of central pumping station.

Kalamazoo County--Continued.

Kalamazoo 3. (Water-Supply Paper 886, p. 273; Water-Supply Paper 906, p. 62.) City of Kalamazoo. At Balch Street pumping station of city waterworks, between supply wells 1 and 2.

Measurements were made by Floyd Rothwell and Leon Simkins, engineers, pumping station, city waterworks, Leo Witters, superintendent.

The average daily pumpage from municipal wells in Kalamazoo during 1941 was about 6.2 million gallons, about 0.55 million gallons a day more than in 1940. The average daily pumpage during 1941 ranged from about 4.6 million gallons in March to about 8.5 million gallons in August.

The water levels in wells 1, 2, and 3 reached the lowest stages of record during July, August, and September 1941. The lowest recorded stages were on Aug. 3. The previous lowest stages of record had been reached in well 3, and probably also in wells 1 and 2, in 1931. In well 3 the lowest stage of 1941 was about 1.65 feet lower than the lowest stage of 1931 and about 2.75 feet lower than the lowest stage of 1940, which was the third lowest stage of record. However, at the end of 1941 the water levels in wells 1, 2, and 3 averaged nearly a foot higher than at the end of 1940, although the pumpage during the last three months of 1941 was about the same as during the last three months of 1940. The recovery in water levels was probably largely due to the heavy rainfall in October 1941.

The average daily pumpage from municipal wells in Kalamazoo in 1931 was about 4.85 million gallons, yet the water level in well 3 reached a lower stage during 1931 than during 1940, when the average daily pumpage was about 5.65 million gallons. This indicates that the low water level of 1931 was due largely to the effects of the extremely severe drought of 1930. The low water levels of 1940 and 1941 were probably largely due to the effects of increased pumping. The average daily pumpage during the period preceding the low stage of 1940 was about 6.5 million gallons, and during the equivalent period in 1941 it was about 7.75 million gallons. This increase could account in large part for the fact that the average low stage of 1941 in wells 1, 2, and 3 was some 3 feet lower than the average low stage of 1940.

Water level, in feet below measuring point, 1941

Date	Kalamazoo 1	Kalamazoo 2	Kalamazoo 3	Date	Kalamazoo 1	Kalamazoo 2	Kalamazoo 3
Jan. 5	14.00	12.52	11.22	May 25	15.50	14.98	14.90
19	14.31	12.77	11.06	June 8	15.80	15.20	14.65
Feb. 10	15.16	13.72	11.90	July 20	17.07	16.87	16.33
23	14.74	13.41	12.47	Aug. 3	a 19.44	a 19.12	a 17.92
Mar. 16	14.17	12.67	12.19	Sept.14	17.80	17.02	16.78
30	14.31	13.28	12.08	28	18.30	17.62	16.81
Apr. 13	15.20	14.33	13.67	Oct. 26	14.20	14.30	13.66
27	14.78	13.94	13.20	Nov. 24	12.78	12.66	12.86
May 11	14.78	14.22	13.92	Dec. 21	13.12	12.49	12.50

Kalkaska County

Water level in well 100 in T. 27 N., R. 5 W., in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	15.57	Mar. 24	15.95	June 4	14.91	Sept.15	15.73
27	15.57	Apr. 3	16.01	16	15.01	Oct. 15	15.75
Feb. 10	15.67	22	15.11	July 1	15.13	Nov. 13	15.09
27	15.80	May 5	14.75	23	15.33	Dec. 17	14.94
Mar. 12	15.88	19	14.80	Aug. 26	15.61		

a Lowest water level of record.

Missaukee County

Water level, in feet below measuring point, 1941

Date	T. 22 N., R. 5 W.	T. 23 N., R. 6 W.	T. 24 N., R. 6 W.	
	1	17	45	46
Jan. 7	1.81	2.81	7.31	1.85
Feb. 28	2.58	3.38	....	2.22
Mar. 25	2.68	....	....	....
Apr. 4	0.88	2.42	....	....
21	.93	1.58	5.92	1.01
May 5	1.79	2.30	6.00	1.69
19	1.99	2.55	5.93	1.83
June 4	2.70	....	6.01	2.15
16	3.20	3.06	6.05	2.25
July 1	4.08	3.55	6.11	2.60
23	....	3.97	6.07	2.58
Aug. 30	5.67	....	....	....
Sept.15	5.85	4.67	6.21	3.08
Oct. 14	4.98	4.31	6.00	2.20
Nov. 13	2.91	3.09	5.97	1.93
Dec. 16	....	....	....	....

Montmorency County

Measurements in well 18, T. 31 N., R. 2 E., were discontinued at the end of 1940.

Water level, in feet below measuring point, 1941

Date	T. 31 N., R. 2 E.			T. 31 N., R. 3 E.			T. 31 N., R. 4 E.	
	6	15	28	22	30	40	1	12
May 1	9.82	9.09	4.21	....	.....	1.69	3.67	3.91
June 19	10.86	9.71	4.67	5.77	15.41	1.73	4.29	4.06
July 30	11.71	10.39	5.08	6.40	15.73	2.10	a 4.05	3.94

Oakland County

Oakland 1. (Water-Supply Paper 886, p. 276). City of Pontiac. Well 6 at Walnut Street pumping station, about 200 feet west of supply well 1.

Oakland 2. (Water-Supply Paper 886, p. 276). City of Pontiac. Well 21 in Walnut Street well group, about 40 feet northwest of supply well 3.

Oakland 3. (Water-Supply Paper 886, p. 276). City of Pontiac. Just outside pump house of East Boulevard supply well, near intersection of East Boulevard and Mt. Clemens Street.

Measurements in wells 1, 2, and 3 were made by members of the Department of Water Supply, Pontiac, H. L. Monroe, superintendent, H. W. MacDuff, chief engineer.

The average daily pumpage from municipal wells in Pontiac during 1941 ranged from about 6.75 million gallons in March to about 9.4 million gallons in July and averaged about 7.7 million gallons. Of this, an average of about 3.3 million gallons a day was pumped from wells of the central or Walnut Street group, near which observation wells 1 and 2 are situated. A new supply well, No. 4, was added to the group during the year. An average of about 4.4 million gallons a day was pumped from wells at outlying stations.

The average daily pumpage from all municipal wells in 1940 was about 6.75 million gallons, of which an average of about 3.65 million gallons a day was pumped from wells of the Walnut Street group and an average of about 3.1 million gallons a day from outlying wells. Thus, although the average daily pumpage increased nearly 1 million gallons a day from 1940 to 1941, the pumpage from wells of the Walnut Street group decreased somewhat.

a Water level affected by impounding of water behind new dam on outlet of Avalon Lake, about 400 feet east of well.

Oakland County--Continued.

The pumpage from wells of the Walnut Street group was fairly evenly distributed throughout the year, ranging from about 2.9 million gallons a day in May to about 3.75 million gallons a day in October.

In 1941 no water was pumped at the East Boulevard station during the period January-March, inclusive, and during December. A total of 173,500,000 gallons was pumped during the period April-November, inclusive, and the average daily pumpage ranged from about 235,000 gallons in April to about 1,120,000 gallons in September. The total pumpage during the previous year was 101,100,000 gallons, all of which was pumped during the period April-December 1940, inclusive.

During 1941 the water levels in wells 1 and 2 trended on the average about 6 or 7 feet lower than during 1940, despite the fact that the pumpage from wells of the Walnut Street group averaged about 350,000 gallons a day less than in 1940. This is probably due partly to the increased pumpage from outlying wells, partly to deficiencies in precipitation during the spring of 1941, partly to the effect of the new well at the Walnut Street station, and possibly in part to increased pumpage from private industrial wells in Pontiac.

The water level in well 3 trended on the average 9 or 10 feet lower than in 1940. A considerable part of this decline is doubtless due to the increased pumpage from the East Boulevard supply well, but deficiencies in precipitation and the increased pumping in the area were probably also partly responsible.

Water level in well Oakland 1, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 3	78.3	Mar. 31	69.8	July 2	82.8	Oct. 6	86.0
6	71.6	Apr. 4	75.3	7	80.2	13	80.0
13	74.6	7	71.0	11	82.0	20	77.0
20	71.0	11	74.4	14	79.0	24	80.0
22	76.6	18	73.8	18	84.0	27	73.0
27	70.4	23	71.0	21	78.0	31	82.9
31	76.8	30	73.0	25	88.0	Nov. 3	77.0
Feb. 3	71.2	May 8	73.8	28	82.0	7	83.5
5	73.4	12	70.0	Aug. 4	81.0	10	76.2
12	70.3	14	74.8	8	84.0	17	79.0
14	74.0	19	73.0	11	79.6	21	75.5
17	69.0	23	75.0	18	78.0	26	82.0
21	76.3	26	71.0	22	81.0	Dec. 1	77.0
24	70.3	28	79.0	25	77.2	5	80.2
Mar. 3	72.0	June 4	72.0	29	81.0	8	75.5
5	71.0	9	71.0	Sept. 1	75.5	15	81.8
11	72.0	11	78.0	8	74.0	19	77.8
14	73.6	16	74.8	12	81.0	24	85.0
17	69.5	23	77.0	19	83.0	26	73.0
21	74.4	27	83.5	24	72.8	31	73.0
26	72.4	30	79.6	Oct. 1	81.5		

Water level in well Oakland 2, in feet below measuring point, 1941

Jan. 3	80.3	Mar. 3	80.5	May 5	82.5	July 18	92.5
8	81.9	11	81.6	12	83.5	21	88.7
15	80.7	17	79.9	19	82.7	25	94.3
22	83.0	19	82.7	26	80.7	29	91.3
27	81.0	24	79.7	28	88.2	Aug. 4	89.1
31	84.9	28	80.9	June 4	80.7	8	91.7
Feb. 3	79.1	Apr. 4	84.7	11	83.2	13	88.0
7	81.5	7	81.7	18	86.3	18	76.2
12	79.0	11	82.9	23	86.7	20	88.9
14	82.1	14	81.7	27	93.0	25	85.7
17	77.7	18	83.4	30	88.7	29	88.7
21	83.5	25	80.7	July 2	93.7	Sept. 1	83.4
24	79.2	28	80.3	9	89.2	8	86.2

Oakland County--Continued.

Water level in well Oakland 2, in feet below measuring point, 1941--Continued.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 15	89.7	Oct. 13	89.7	Nov. 12	82.7	Dec. 8	84.7
19	93.0	17	92.7	14	89.2	12	87.2
22	91.1	24	80.7	19	79.7	17	86.1
26	93.7	29	89.7	26	90.2	22	85.0
Oct. 1	89.8	Nov. 3	85.5	Dec. 1	83.7	26	81.2
8	85.7	7	92.3	5	88.4	31	82.7

Water level in well Oakland 3, in feet below measuring point, 1941

Jan. 3	27.0	Apr. 21	23.5	July 18	33.8	Oct. 22	35.2
10	25.0	25	27.2	25	37.0	27	34.8
17	23.0	30	24.0	30	38.5	29	34.0
20	34.0	May 5	23.0	Aug. 6	35.0	Nov. 5	35.5
22	26.6	12	27.0	11	35.9	7	33.0
29	27.0	19	26.5	18	32.8	12	35.0
Feb. 7	27.4	23	32.0	25	34.0	18	36.0
14	27.0	26	26.0	Sept. 1	33.2	24	32.0
21	24.5	28	33.0	8	39.0	Dec. 1	34.0
28	26.8	June 2	31.0	15	35.0	5	33.0
Mar. 3	28.9	9	33.0	17	38.0	12	33.5
7	27.5	16	31.0	24	35.9	15	32.0
14	27.0	23	31.5	26	37.2	19	33.3
21	24.0	27	37.0	Oct. 3	35.0	22	30.0
28	27.4	30	34.9	8	34.0	24	31.0
Apr. 4	27.9	July 2	39.4	10	37.0	29	29.0
9	25.0	7	36.0	17	35.5	31	30.8
18	27.7	14	36.0				

Otsego County

Water level, in feet below measuring point, 1941

Date	T. 29 N., R. 3 W.		Date	T. 29 N., R. 3 W.	
	105	106		105	106
Jan. 6	5.31	9.43	June 6	4.87	8.95
27	5.37	9.49	17	4.87	9.09
Feb. 10	5.42	9.54	July 2	5.24	9.28
27	5.46	9.65	22	5.66	9.65
Mar. 12	5.52	9.73	Aug. 26	6.19	10.10
24	5.56	9.80	Sept. 16	6.06	10.23
Apr. 3	5.32	9.84	Oct. 15	5.28	10.07
22	4.38	9.03	Nov. 13	4.84	9.28
May 9	4.50	8.61	Dec. 17	4.81	8.81
21	4.73	8.69			

Presque Isle County

Water level, in feet below measuring point, 1941

Date	T. 33 N., R. 2 E.					
	13	17	18	19	20	23
Apr. 29	9.48	....	3.46	8.33	3.81	3.83
June 20	10.00	5.77	3.15	8.88	4.16	4.88
July 28	10.54	5.90	3.77	9.94	4.80	5.53

Roscommon County

Water level, in feet below measuring point, 1941

Date	T. 21 N., R. 3 W.		T. 21 N., R. 4 W.		T. 22 N., R. 1 W.	T. 22 N., R. 2 W.			
	3	15	8	50	5	3	9	15	16
Jan. 7	(a)	12.57	(a)	3.36	3.85	8.12	5.49	4.05	4.72
28	(a)	12.57	(a)	4.32	3.96	8.27	5.76	4.33	4.93
Feb. 11	(a)	12.62	(a)	4.58	4.07	8.42	5.86	4.45	5.08
28	(a)	12.64	(a)	4.66	4.06	8.46	5.89	4.47	5.10
Mar. 11	(a)	12.66	(a)	4.73	4.13	8.51	5.90	4.50	5.16
25	(a)	12.66	(a)	4.73	4.17	8.51	5.91	4.54	5.18
Apr. 4	(a)	12.50	(a)	2.44	3.60	7.83	5.21	3.72	4.39
21	15.83	12.11	3.09	2.29	3.12	7.15	5.04	3.37	3.66
May 8	15.44	12.09	3.41	2.83	3.04	7.04	5.08	3.68	3.89
20	15.34	12.19	3.96	3.76	3.28	7.22	5.44	3.92	4.20
June 5	15.30	12.28	4.37	4.34	3.36	7.53	5.68	4.16	4.46
18	15.32	12.31	4.62	4.63	3.42	7.72	5.84	4.33	4.66
July 3	15.40	12.50	5.23	5.52	4.00	8.33	6.25	4.90	5.25
21	15.52	12.58	5.70	6.37	4.68	9.09	6.71	5.44	5.86
Aug. 27	15.88	12.81	6.71	7.28	5.52	10.35	7.70	6.40	6.91
Sept.17	16.14	12.79	6.42	7.20	5.62	10.65	7.75	6.37	6.92
Oct. 14	16.31	12.55	4.20 b	5.29	4.07	10.11	4.13	5.45	6.17
Nov. 12	15.88	12.28	3.97 c	4.52	3.69	9.00	5.82	4.35	4.94
Dec. 16	15.64	12.35	4.43 d	4.74	3.75	8.79	6.10	4.55	4.98

Water level, in feet below measuring point, 1941

Date	T. 22 N., R. 3 W.			T. 22 N., R. 4 W.	T. 23 N., R. 1 W.	T. 23 N., R. 3 W.
	7	20	26	4	50	5	75
Jan. 7	7.00	(a)	(a)	3.49	4.34	4.92	7.72
28	7.04	(a)	(a)	3.95	4.64	5.17	7.82
Feb. 11	7.13	(a)	(a)	4.11	4.87	5.28	7.89
28	7.15	(a)	(a)	4.15	4.98	5.29	7.89
Mar. 11	7.18	(a)	(a)	4.20	5.06	5.33	7.90
25	7.31	(a)	(a)	4.16	5.21	5.35	7.97
Apr. 4	6.75	(a)	(a)	3.15	4.72	4.73	7.69
21	5.67	6.72	5.67	2.84	3.47	4.39	7.20
May 8	5.40	6.95	5.24	3.22	3.35	4.70	7.17
20	5.47	7.14	5.17	3.63	3.70	5.01	7.23
June 5	5.74	7.41	5.30	3.97	4.05	5.37	7.31
18	5.83	7.50	5.38	4.16	4.31	5.48	7.39
July 3	6.38	8.07	5.72	4.61	4.71	6.14	7.58
21	6.90	8.43	6.08	5.00	5.24	6.53	7.85
Aug. 27	8.10	8.99	6.96	5.64	6.25	6.97	8.37
Sept.17	8.38	8.60	7.28	5.78	5.90	6.92	8.50
Oct. 14	7.83	7.81	7.10	b 4.29	4.92	6.06	8.12
Nov. 12	6.96	7.41	6.16	c 3.58	3.82	5.41	7.57
Dec. 16	6.67	7.48	5.73	d 3.90	4.04	5.40	7.58

Water level, in feet below measuring point, 1941

Date	T. 24 N., R. 1 W.	T. 24 N., R. 2 W.					T. 24 N., R. 3 W.	
	30	81	88	107	150	1000	1	7
Jan. 7	17.52	4.92	9.65	8.64	3.16	5.00	8.93	11.73
28	17.41	4.80	(a)	8.68	3.42	5.36	8.94	11.94
Feb. 11	17.46	4.74	(a)	8.85	3.57	5.54	9.01	12.15
28	17.56	4.80	(a)	8.96	3.61	....	9.12	12.21
Mar. 11	17.60	4.80	(a)	9.02	3.61	....	9.15	12.26
25	17.69	4.89	9.75	9.10	3.77	5.96	9.25	12.41
Apr. 4	17.67	4.93	9.70	9.01	2.64	5.24	9.15	12.08
21	16.66	4.22	8.57	7.76	2.34	....	7.82	10.70
May 8	16.45	3.81	8.24	7.93	2.40	4.30	7.63	10.75
20	16.43	3.71	8.33	8.18	2.85	4.71	7.78	11.06
June 5	16.51	3.68	8.58	8.47	3.22	5.14	8.03	11.47
18	16.66	3.72	8.82	8.69	3.36	5.44	8.27	11.85

a Observer unable to reach well. b Measured Oct. 15.
c Measured Nov. 13. d Measured Dec. 17.

Roscommon County--Continued.

Water level, in feet below measuring point, 1941

Date	T. 24 N., R. 1 W.	T. 24 N., R. 2 W.					T. 24 N., R. 3 W.	
	30	81	88	107	150	1000	1	7
July 3	16.84	3.86	9.22	8.95	4.25	5.98	8.60	12.45
21	17.09	4.00	9.69	9.20	4.67	6.61	9.00	13.02
Aug. 27	17.68	4.27	10.65	9.55	5.41	7.65	9.77	13.89
Sept.17	17.91	4.37	10.81	9.52	4.71	7.83	10.00	13.81
Oct. 14	18.00	4.44	10.73	9.21	2.78	7.34	10.02	13.42
Nov. 12	17.04	3.90	9.50	8.19	2.63	5.21	8.83	11.90
Dec. 16	16.85	3.57	9.18	8.42	2.75	5.15	8.54	11.92

Water level, in feet below measuring point, 1941

Date	T. 24 N., R. 3 W.		Date	T. 24 N., R. 3 W.	
	17	19		17	19
Jan. 6	14.77	7.80	June 6	14.40	7.38
27	14.78	7.74	17	14.48	7.34
Feb. 10	14.88	7.68	July 2	14.60	7.30
27	14.92	7.68	22	14.77	7.26
Mar. 12	14.97	7.65	Aug. 26	15.00	7.26
24	15.02	7.63	Sept.16	14.83	7.28
Apr. 3	14.99	7.64	Oct. 15	14.70	6.88
22	14.25	7.58	Nov. 13	14.01	6.90
May 9	14.21	7.50	Dec. 17	14.20	6.90
21	14.31	7.45			

Roscommon recorder well. (Water-Supply Paper 777, p. 72; Water-Supply Paper 817, p. 83; Water-Supply Paper 840, pp.123, 179; Water-Supply Paper 845, pp. 152, 160; Water-Supply Paper 886, pp. 261, 263, 267, 279; Water-Supply Paper 906, p. 67).

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	6.69	Mar. 29	7.15	June 28	7.01	Sept.27	8.27
11	6.70	Apr. 5	6.68	July 5	7.24	30	8.23
18	6.74	12	6.16	12	7.36	Oct. 7	8.21
25	6.79	19	6.12	19	7.50	14	7.37
31	6.84	26	5.94	26	7.62	22	6.95
Feb. 7	6.89	May 3	6.02	Aug. 3	7.78	29	6.80
14	6.95	10	6.10	11	7.93	Nov. 11	6.61
21	7.00	17	6.22	16	8.00	18	6.55
28	7.06	24	6.37	23	8.10	24	6.42
Mar. 7	7.12	31	6.49	30	8.20	Dec. 1	6.45
12	7.15	June 7	6.60	Sept. 6	8.17	8	6.48
19	7.18	14	6.72	13	8.01	15	6.61
22	7.20	21	6.86	23	8.26	27	6.67

St. Joseph County

St. Joseph 1. (Water-Supply Paper 886, p. 279.) City of Three Rivers, about 350 feet south of West Michigan Street on island at confluence of St. Joseph River and Rock River. Measurements made by A. C. Walls, pumping station operator, city waterworks, O. O. Johnson, city manager, city of Three Rivers.

The average daily pumpage from municipal wells in Three Rivers during 1941 was about 445,000 gallons, about 25,000 gallons a day less than in 1940. Despite the reduction in pumpage, the water level in well 1 trended an average of a few tenths of a foot lower during 1941 than during 1940. It is probable that deficiencies in precipitation during the spring of 1940 and the spring of 1941 are partly responsible for this decline, but there may also have been some increase in pumping from private wells in the city during 1941.

St. Joseph County--Continued.

Water level, in feet below measuring point, 1941

Date		Water level	Date		Water level	Date		Water level	Date		Water level
Jan. 6		3.54	Apr. 9	a	0.80	July 12		3.70	Oct. 2		5.77
15		3.50	18		2.65	21		3.40	11		5.35
24	a	.80	29	a	.74	31		3.86	18		5.05
31		3.49	May 5		3.33	Aug. 2		3.90	25	a	1.64
Feb. 8	a	1.20	10	a	.78	9		8.24	Nov. 8	a	2.17
21		3.50	17	a	.93	16	a	2.20	15		4.30
28		5.90	31		2.50	23		5.65	22	a	1.37
Mar. 11	a	.70	June 9	a	1.10	30		5.73	29		4.85
22	a	1.00	14	a	.88	Sept. 6		8.20	Dec. 6	a	1.16
25		3.20	21		3.24	13		5.66	13	a	1.45
31		3.20	28		6.03	19		5.40	22		4.69
Apr. 2	a	.84	July 5		3.35	27		5.73	31		4.65

Washtenaw County

Washtenaw 1. (Water-Supply Paper 906, p. 67). City of Ann Arbor, 200 feet south of main building of Steere Farm Pumping Station of city waterworks. Measurements made by members of Ann Arbor Water Department, H. H. Caswell, manager.

The average daily pumpage from wells at the Steere Farm Pumping Station in 1941 was 1.27 million gallons, which compares with 1.68 million gallons in 1940. The monthly pumpage during 1941 ranged from 330,000 gallons in February, when the station was operated for only a few hours, to 64.34 million gallons in August, an average of about 2.08 million gallons a day. The daily pumpage during 1940 ranged from about 1.26 million gallons in January to about 2.11 million gallons in August. The lowest water levels reached in well 1 in 1941 averaged about 1.1 feet higher than in the corresponding period in 1940. The lowest level reached in June 1941 was a few hundredths of a foot lower than the lowest level reached in June 1940. The lowest levels reached during the other months of 1941 were higher than the lowest levels reached in the corresponding months in 1940. It is probable that the recovery in water level in well 1 during 1941 was due almost entirely to the reduction in pumping from wells at the Steere Farm Pumping Station, since the precipitation at Ann Arbor during 1941 was 2.28 inches below normal and 4.06 inches less than in 1940.

Highest and lowest water level each month, in feet below measuring point, 1941

Date	Highest water level	Lowest water level	Date	Highest water level	Lowest water level
Jan. 5	....	3.37	July 7-13	(b)	....
30	1.29	....	29	....	4.78
Feb. 1	....	1.18	Aug. 11	....	5.37
27, 28	.15	....	24	2.14	....
Mar. 3-6	(b)	....	Sept. 2	2.00	....
23	....	3.27	24	....	5.45
Apr. 23-29	(b)	....	Oct. 5	3.06	....
30	....	.72	17	....	5.97
May	(c)	....	Nov. 6	....	5.95
29	....	1.19	11	2.16	....
June	(d)	....	Dec. 8	2.53	....
19	....	3.85	18	....	5.34

a No municipal wells pumping at time of measurement.
b Flowing.
c Flowing May 4, 7-12, 14, 16, 17, 19, 23-25, 31.
d Flowing June 1-5, 8, 10-19, 22-24, 26, 29.

Wexford County

Regular measurements in all observation wells were discontinued in 1938.

Water level, in feet below measuring point, 1941

Date	T. 24 N., R. 9 W.		T. 24 N., R. 10 W.			
	7	38	2	3	4	42
July 31	12.71	4.07	4.41	8.61	3.41	5.95

NEW JERSEY

By H. C. Barksdale and E. J. Schaefer

The investigation of the ground-water resources of New Jersey was continued during 1941 under a cooperative agreement between the Geological Survey, United States Department of the Interior, and the New Jersey State Water Policy Commission. Most of the measurements included in this report were obtained in connection with quantitative studies being made in selected areas within the State. An outline map showing these areas and giving the names of the counties was included in an earlier report. (See Water-Supply Paper 886.)

At the end of the year a total of 209 observation wells were being measured. Some were measured monthly, some biweekly, some weekly, and one at least twice a day. Continuous records of water levels in 49 wells were obtained by means of water-stage recorders. Of this number, 42 were the property of the State or Federal Government and 7 were owned by municipalities, water-supply companies, or industries. Continuous records of water levels in two or three wells in the State are believed to be available if studies should be extended to these areas. The water-stage recorders on these wells are owned by private water companies and are operated without any assistance or supervision from this office.

The records of wells contained in this report are arranged alphabetically by counties. For cross reference with the earlier reports in this series, wherein they were arranged by the names of the localities in which the studies were being made, this name is also given in the heading. A detailed description is given for each well that has not heretofore been published in one of the reports of this series. For wells that have already been published reference is made to the report in which the description was published. For these wells, only such descriptive data is included as is of immediate value in the interpretation of the record or represents new data or changed conditions at the well. Wherever a satisfactory determination of the altitude of the measuring point of a well has been made the water level is given with reference to mean sea level. Where this has not been done, the water level is given in depth below the measuring point.

For records of water levels obtained by tape measurements the date of measurement and the water level are given. For records obtained by means of water-level recorders a single daily water level is given. An attempt has been made, however, to give the most significant daily level for each well. For wells not having large fluctuations of water level, the water level at the end of the day is given. For wells having large daily fluctuations of water level due to nearby pumping or tidal effect, the lowest water level for each day is given. An exception is made in the case of well 36.23.1.9.6. (Longport well), Atlantic County, for which the average of the water levels corresponding to the two low and two high tides for each day is reported.

Most of the records included in this report are continuations of those given in previous reports of this series, but records of 60 wells are included in this report for the first time. All the additional wells are in two areas-- the Middlesex County or Runyon area and the Salem County area. In Middlesex County all the wells measured manually are now being reported, but a few wells on which water-stage recorders are maintained have not yet been included. In the Salem County area, where observations were begun in 1940, all except 2 wells are included in this report.

On the whole the year 1941 was rather dry in New Jersey. Deficiencies in precipitation occurred in January, February, March, April, May, September, and October. Precipitation, however, was above normal in June, July, and August, and thus most crops matured satisfactorily. September 1941 was the driest September of record for the State, with an average precipitation of only 0.28 inch. Only a little more than half the normal precipitation occurred in October, and although precipitation in November and December was on the whole somewhat above normal, the year ended with a deficiency of 8.49 inches.

The effect of the variation of precipitation during the year is well illustrated by the accompanying diagram, which shows the fluctuations of water level in the Morrell well during 1941 compared with the highest, lowest, and average levels during the previous years of record. The Morrell well is representative of conditions where the water table is relatively close to the surface and is believed to furnish a good index of the amount of water stored in the ground at any time, because the water level in it responds quickly to precipitation. During the winter months of 1941 much of

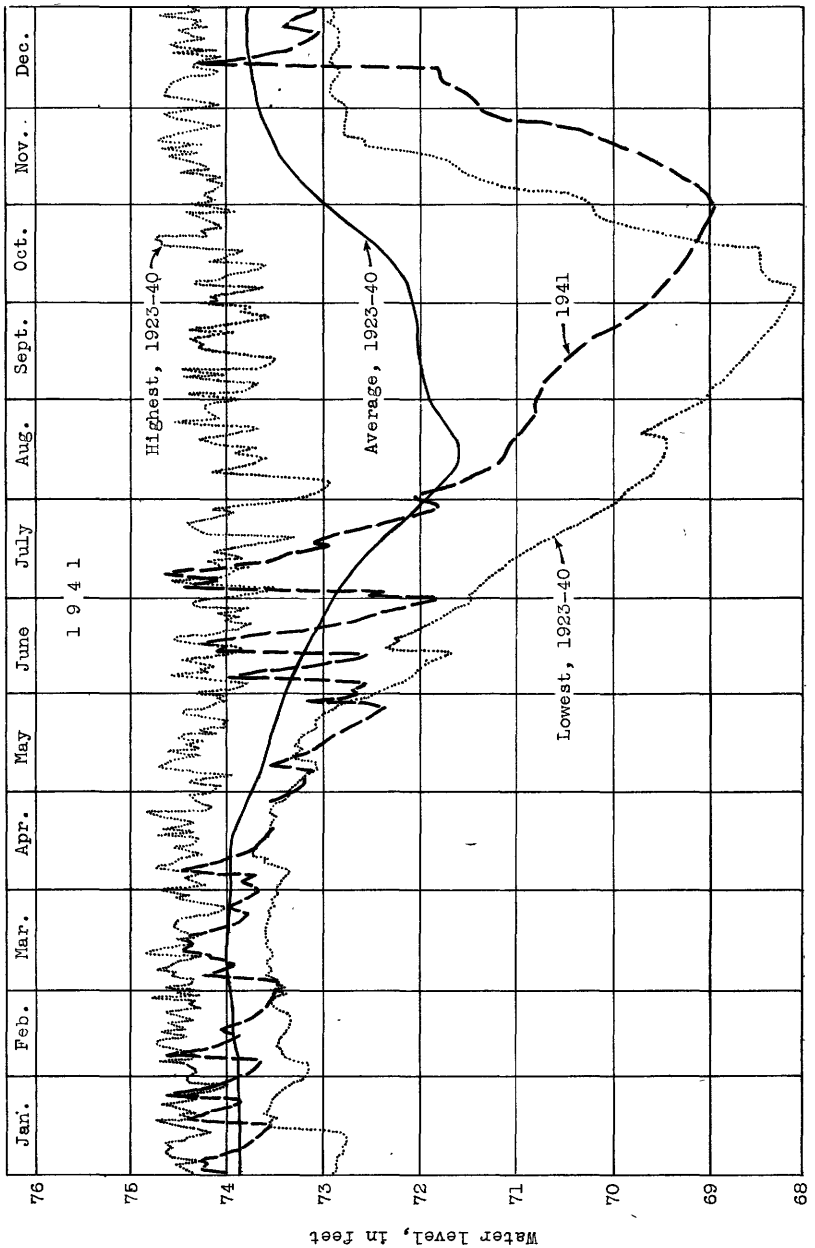

Figure 3.--Graph showing comparison of 1941 water levels in the Morrell well, Middlesex County, N. J., with water levels for previous years of record.

the precipitation was in the form of snow that melted slowly, and hence a considerable portion of it was available for ground-water recharge and the water level in the well did not deviate much from the average for those months of the year. However, from early April to the end of May, the water level either equaled or reached record low stages for this time of year. Precipitation during June and July was more than adequate to supply the needs of vegetation and some unseasonal recharge to the water table occurred. As a result record high water levels were occasionally recorded, although the declines between periods of heavy precipitation were rapid. On July 9 the water level was at a record high, but by the end of the month it had dropped to about normal. This decline continued throughout August and September and on October 20 the water level was the lowest of record for this date. Precipitation in November and December caused the water level to rise considerably above the low level at the end of October, but it was not sufficient to bring the level above the lows recorded during the previous years of record until the middle of December when the water level rose abruptly and was above normal for a few days. By the end of the year it was again near a record low level for that time of the year.

A group of shallow water-table wells in the Runyon area not affected by pumping for public and industrial purposes have been measured periodically since 1923 and averages of these measurements have been published in this series of reports for all the previous years of record. The lowest average for this group during 1941 was for the set of measurements obtained on October 16. This was the third lowest average for the period of record, the lowest being for the measurements made on September 24, 1932, and the second lowest for those made on December 8, 1923.

New low water levels were established by 22 wells tapping the No. 3 sand in or near the Perth Amboy Water Department well field near Runyon. Records of 14 of these wells go back beyond October 1932. Four have records dating back to 1924, and of these 3 were measured in 1923. The low levels were caused by a combination of drought and pumping of the Water Department wells.

All the No. 3 sand recorder-wells with continuous records for 1941 in the Duhernal well field near Spotswood reached new low stages for their period of record. Most of these records go back to 1938. These lows were due partly to the drought but particularly to increased pumping.

Records of water levels in observation wells in Salem County, near Penns Grove, are reported for the first time in this report. These wells were constructed late in 1940 and early in 1941, in order to study the effect of the withdrawal of approximately 5 million gallons a day from three large but relatively shallow wells constructed in the water-table aquifer existing in that area. It has been possible to observe by measurements of these observation wells the gradual extension of the cones of depression of the pumped wells in addition to the amount of lowering of the water table within the cones of depression. Observation wells outside the area of influence of the pumped wells furnish a comparison between fluctuations due to natural causes and those due to pumping. In a period of 15 to 18 months, the cone of depression of each of the pumped wells appears to have extended over a mile in some directions, but a smaller distance in other directions, presumably because of irregularities in the nature of the aquifer. The range of fluctuations of water levels of about 18 wells that are believed to be outside the area of influence averaged about 4.8 feet--approximately the same as the fluctuations of the Morrell well during the same period. The fluctuations in individual wells ranged from 1.5 feet to 9.1 feet. In general, the wells on higher ground showed the widest fluctuations and those on lower ground near the stream channels fluctuated within a smaller range.

As usual the fluctuations of water levels in the artesian aquifers under observation in the State were caused primarily by fluctuations of pumpage from these aquifers. The formations are of wide extent and their intake areas are quite distant from the areas being studied, so that the water levels are not much affected by variations in precipitation. In the Atlantic City area, for example, the water levels were slightly lower than in 1940, due to a higher rate of pumpage. There was, however, the usual seasonal fluctuation of 20 to 30 feet between the winter season, when the pumpage is low, and the summer season, when it is high.

In the Runyon area two of the recorder wells tapping the No. 1 sand where the water in this sand is under artesian pressure reached new high levels for the period of record, due to a reduction in pumping from wells in this aquifer. This reduction in pumping was made to retard the advance of salt water into this sand and was possible largely because of further development of the No. 3 sand near Spotswood.

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Atlantic County

Atlantic City area

36.13.2.9.1. Atlantic City Water Works 600-foot well. Description in Water-Supply Paper 845. Highest observed water level, 3.05 feet below mean sea level on Mar. 28, 1925; lowest observed water level, 25.47 feet below mean sea level Sept. 28 and 29, 1929.

Water level at the end of day, in feet below mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	19.41	18.53	17.93	17.70	17.52	18.32	19.27	20.58	.....	23.70	.....	22.20
2	19.26	18.50	17.98	17.76	17.53	18.43	19.34	20.70	.....	23.77	.....	.....
3	19.12	18.51	17.89	17.79	17.60	18.46	19.37	20.77	.....	23.72	.....	.....
4	19.19	18.53	18.02	17.72	17.58	18.26	19.41	20.87	.....	23.72	.....	22.09
5	19.28	18.52	18.08	.....	17.59	18.31	19.48	20.88	.....	23.73	.....	21.94
6	19.37	18.46	18.12	.....	17.63	18.42	19.50	20.97	.....	23.75	.....	21.95
7	19.36	18.26	.....	17.59	17.59	18.43	19.48	21.04	.....	23.68	.....	21.91
8	19.32	18.36	.....	17.58	17.57	18.44	19.50	21.09	23.02	23.76	23.27	21.80
9	19.24	18.46	.....	17.59	17.56	18.50	19.60	21.12	23.10	23.74	23.26	21.88
10	19.16	18.50	18.07	17.59	17.59	18.54	19.64	21.20	23.12	23.72	23.26	21.89
11	19.16	18.44	18.01	17.61	17.55	18.62	19.68	21.18	23.18	23.81	23.21	21.91
12	19.08	18.42	18.06	17.60	17.59	18.66	19.75	21.29	23.22	23.82	23.24	21.79
13	19.15	18.29	18.03	17.52	17.61	18.60	19.83	21.45	23.35	23.86	23.17	.....
14	19.17	18.16	18.02	17.49	17.64	18.64	19.88	21.57	23.37	23.80	23.11	.....
15	19.14	18.18	17.99	17.47	17.64	18.72	19.90	.....	23.40	23.78	23.05	.....
16	18.79	18.20	17.90	17.48	17.61	18.72	19.93	21.69	23.42	23.87	23.07	.....
17	18.84	18.08	18.01	17.47	17.68	18.77	20.09	21.83	23.41	23.87	23.09	.....
18	18.80	18.22	18.08	17.49	17.81	18.82	19.94	21.88	23.44	23.81	23.02	.....
19	18.88	18.25	18.11	17.56	17.85	18.88	20.06	.....	23.48	23.80	22.94	.....
20	18.96	18.24	18.12	17.52	17.93	18.91	20.13	.....	23.49	23.76	22.81	21.39
21	18.97	18.22	18.12	17.58	18.00	18.91	20.18	.....	23.50	23.66	22.85	21.40
22	18.85	18.22	18.14	17.67	17.96	18.92	20.24	.....	23.45	23.69	22.81	21.32
23	18.91	18.26	18.10	17.63	17.97	18.89	20.28	.....	23.45	23.69	22.65	21.00
24	18.72	18.26	17.99	17.61	.....	18.93	20.31	.....	23.46	23.63	22.73	20.90
25	18.81	18.21	17.98	17.61	.....	19.01	20.32	.....	23.46	23.69	22.64	20.95
26	18.77	18.24	17.97	17.55	.....	19.04	20.37	.....	23.57	23.66	22.60	20.90
27	18.59	18.15	17.93	17.51	18.19	19.08	20.43	.....	23.66	23.58	22.60	20.93
28	18.56	.....	17.85	17.56	18.27	19.10	20.14	.....	23.65	23.69	22.59	20.88
29	18.58	.....	17.83	17.60	18.30	19.14	20.46	.....	23.74	23.70	22.52	20.90
30	18.51	.....	17.88	17.55	18.34	19.19	20.44	.....	23.70	23.60	22.48	20.86
31	18.58	.....	17.87	.....	18.38	.....	20.50	.....	.....	23.49	.....	20.79

36.14.5.8.7. Citizens Ice Company well. Description in Water-Supply Paper 906. Highest observed water level, 38.72 feet below mean sea level Mar. 13, 1939; lowest observed water level, 78.72 feet below mean sea level Aug. 2, 1929. Daily fluctuations, due to tide and nearby pumping, as much as 3.5 feet. Seasonal fluctuations, due to regional pumping, as much as 26 feet.

Lowest daily water level, in feet below mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	46.5	42.1	....	42.0	43.6	52.4	55.1	....	66.3	62.2	56.5	49.2
2	45.6	42.1	43.9	....	43.5	52.4	55.4	....	66.2	62.2	55.9	48.4
3	44.4	41.9	43.6	....	43.3	52.0	55.4	63.0	65.9	62.2	55.9	48.3
4	43.9	41.7	43.4	41.9	43.7	51.6	55.4	63.1	65.6	61.6	55.7	48.4
5	44.5	41.7	43.1	41.2	43.6	51.1	56.3	63.7	65.6	61.4	55.5	....
6	44.0	41.5	43.0	41.7	43.6	51.0	56.4	63.9	65.1	61.3	55.0	....
7	43.7	41.1	43.0	41.7	43.9	51.3	56.6	64.2	65.3	60.9	54.6	....
8	43.9	41.9	42.4	42.2	44.6	51.1	....	64.9	65.1	61.4	53.8	....
9	43.5	42.3	42.2	42.1	45.0	50.8	....	65.7	65.1	61.2	53.0	47.9
10	43.5	42.3	42.5	42.3	45.9	50.9	56.1	66.0	64.5	60.6	52.9	48.3
11	42.7	42.0	42.5	43.0	46.0	50.7	....	66.1	64.2	61.0	52.7	47.7
12	42.7	42.0	42.3	44.0	46.7	50.4	....	65.5	64.1	60.7	52.0	47.4
13	42.8	41.9	42.1	44.7	47.2	50.0	56.6	65.9	64.4	60.6	51.4	46.8
14	43.0	41.7	42.5	44.8	47.4	50.4	56.7	66.2	64.4	60.8	51.0	....
15	43.1	42.7	42.2	....	47.7	50.2	56.7	66.1	64.3	60.6	50.8	46.8

Atlantic County--Continued.

36.14.5.8.7. Citizens Ice Company well.--Continued.

Lowest daily water level, in feet below mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
16	42.4	43.1	41.9	....	43.4	50.2	56.7	66.6	64.0	60.6	50.8	46.8
17	....	42.6	42.4	....	49.2	50.8	57.0	67.6	63.7	60.4	50.3	46.3
18	42.5	43.0	42.8	45.3	49.7	50.9	57.2	67.2	63.5	59.6	50.4	46.2
19	42.5	43.5	43.2	45.2	49.8	51.4	57.7	66.6	63.7	59.6	50.4	46.0
20	43.0	43.8	42.6	45.2	50.2	52.1	57.7	66.4	64.1	59.6	50.1	46.2
21	42.8	44.0	42.4	45.0	50.7	52.4	58.0	66.3	64.2	60.0	50.5	46.1
22	42.4	44.3	42.8	44.5	51.2	52.6	58.5	66.2	64.1	60.0	50.7	45.9
23	42.6	....	42.6	44.4	51.4	52.8	58.7	66.3	64.0	59.7	50.8	45.5
24	42.6	45.0	42.3	44.0	51.6	52.9	59.6	66.7	63.6	58.8	50.4	....
25	42.1	45.1	42.0	43.8	51.4	52.8	59.9	66.1	61.6	58.6	49.6	....
26	42.2	45.1	42.4	43.3	51.0	53.3	....	66.2	....	57.6	49.3	45.9
27	41.7	....	42.6	43.6	50.6	54.0	....	66.3	63.3	57.2	49.0	46.6
28	42.6	....	42.1	43.5	50.4	54.3	....	66.0	62.6	57.4	49.0	46.7
29	42.1	....	42.1	44.3	50.7	54.6	....	66.6	63.0	57.2	49.3	46.9
30	42.0	....	42.4	43.8	51.5	54.8	....	66.5	62.4	56.9	49.3	46.9
31	42.3	....	42.7	....	52.8	....	....	66.2	....	56.8	....	....

36.23.1.9.6. Longport 14th Avenue well. Description in Water-Supply Paper 817. Daily tidal fluctuations varied from 1.5 feet to 3.5 feet during 1941. Highest observed water level, about 19 feet above mean sea level when drilled in 1895; lowest observed water level, 54.5 feet below mean sea level Sept. 4, 1929.

Average daily water level, in feet below mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	32.3	30.8	28.8	29.5	32.0	39.3	43.0	45.9	50.1	46.7	39.3	36.1
2	31.9	31.0	29.9	29.1	31.9	38.4	43.7	45.7	51.2	46.5	39.7	36.3
3	31.5	30.6	30.2	29.5	32.1	38.1	43.5	46.4	51.1	45.7	39.9	36.0
4	31.3	30.7	30.5	29.5	32.3	37.6	42.7	47.1	50.7	45.5	39.6	35.9
5	32.6	30.7	30.2	29.2	32.5	36.5	42.2	47.6	49.8	44.9	39.4	35.5
6	32.7	30.9	30.4	29.1	32.5	35.1	42.7	47.2	49.5	45.0	38.8	35.4
7	31.9	30.1	30.3	29.4	32.9	36.4	42.6	47.6	50.4	44.7	38.8	35.6
8	32.1	30.2	29.2	29.9	32.4	37.2	42.4	48.1	50.7	45.1	38.7	35.5
9	31.8	31.1	29.7	29.4	32.7	37.9	42.1	48.6	50.8	45.0	38.7	36.2
10	31.6	30.8	29.9	30.0	32.8	38.2	42.5	49.1	50.7	44.4	39.1	35.7
11	30.5	30.7	....	30.1	33.1	38.7	42.7	49.5	50.5	44.7	39.1	35.7
12	30.6	30.5	30.2	30.3	33.5	38.9	43.2	49.7	50.2	44.3	39.1	35.3
13	31.3	30.1	29.7	30.5	33.7	38.2	43.3	50.0	50.5	43.9	38.8	34.2
14	31.9	29.7	29.9	30.6	34.3	37.7	43.4	50.2	50.7	43.8	38.5	34.7
15	31.6	29.8	29.9	30.5	34.1	37.3	43.6	50.5	50.8	43.7	38.3	35.3
16	30.7	30.8	29.6	30.7	34.3	37.6	43.9	49.9	50.4	43.5	37.7	34.6
17	30.9	30.4	30.1	30.9	34.3	38.1	43.0	50.0	50.1	43.1	37.1	34.7
18	31.4	30.5	31.3	30.9	35.1	38.5	43.5	50.3	49.6	42.6	36.8	34.5
19	31.4	30.9	31.2	31.2	35.5	38.8	43.4	50.4	48.9	42.7	37.8	34.4
20	32.1	31.1	30.5	31.5	36.2	39.7	43.9	49.6	48.4	42.5	37.4	34.6
21	31.9	30.7	29.8	31.6	36.7	40.3	44.0	49.3	48.4	42.3	37.1	34.3
22	31.5	29.7	29.9	32.3	37.0	40.9	44.4	49.3	48.3	42.1	37.2	34.3
23	31.4	30.0	29.7	32.4	37.1	40.9	44.7	49.6	47.8	42.1	37.1	34.3
24	30.7	30.3	29.8	32.1	37.5	40.4	45.3	50.0	47.4	42.0	37.1	33.3
25	30.2	30.2	29.5	31.8	37.7	40.9	45.5	50.0	47.2	41.5	37.1	33.8
26	30.7	30.3	29.8	31.3	38.1	41.4	45.9	49.6	47.6	41.4	36.9	33.6
27	30.4	29.8	29.7	31.2	38.0	41.7	46.7	49.7	47.4	41.3	37.1	33.7
28	30.4	29.2	29.1	31.5	38.5	42.0	47.6	49.4	47.3	41.2	36.7	33.8
29	30.7	....	29.1	32.1	38.7	42.7	46.5	50.0	47.3	40.9	36.3	33.5
30	30.9	....	29.5	32.2	39.1	42.5	46.3	50.2	46.5	40.7	36.7	33.1
31	31.1	....	30.0	....	39.7	....	45.7	50.5	....	40.3	....	33.2

Bergen County

East Paterson area

26.3.1.7.3. Garfield well 11. Description in Water-Supply Paper 817. Highest observed water level, 56.2 feet above mean sea level Mar. 8, 1926; lowest observed water level, 1.8 feet below mean sea level Nov. 5, 1932.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	9.2	13.0	16.4	14.9	14.6	13.1	9.4	....	....	7.8	5.8	4.5
2	9.4	13.1	16.4	14.8	14.6	12.9	9.5	....	....	7.7	5.8	4.5
3	9.6	13.2	16.3	....	14.4	12.4	9.4	....	....	7.7	5.9	4.4
4	9.7	13.2	19.7	....	14.4	11.8	9.4	....	....	7.4	5.6	4.3
5	9.7	13.2	15.8	....	14.5	12.3	9.5	....	....	7.4	5.4	4.3
6	9.8	13.3	15.4	....	14.4	11.6	9.7	....	....	9.0	5.4	4.3
7	9.8	13.4	15.3	....	14.1	11.0	10.1	....	....	8.7	5.4	4.3
8	10.0	13.0	15.3	....	13.9	10.6	9.8	....	....	8.5	5.2	4.4
9	10.2	12.8	14.9	14.6	13.8	10.3	9.6	....	....	8.0	5.2	4.2
10	10.4	12.8	14.5	14.5	13.6	10.3	9.6	....	....	7.6	5.3	4.1
11	10.5	13.1	14.5	14.6	13.6	10.1	10.0	....	....	7.3	5.2	4.1
12	10.5	13.5	14.4	14.6	13.6	10.1	10.0	....	....	7.3	5.0	5.0
13	10.7	14.1	14.1	14.7	13.3	9.8	11.5	....	9.3	7.7	4.9	4.8
14	10.7	14.9	14.0	15.2	13.4	9.8	11.6	....	10.0	7.1	4.8	4.4
15	10.8	15.5	14.0	16.4	13.8	9.8	11.5	....	10.9	6.8	4.8	4.4
16	11.5	15.5	14.0	17.1	13.4	9.8	11.2	....	10.3	6.6	4.9	4.4
17	11.6	15.7	14.8	16.0	13.1	10.2	11.2	....	9.8	6.6	4.8	4.8
18	11.6	16.0	14.6	15.9	13.1	10.0	11.3	....	9.4	6.6	4.8	4.8
19	11.6	16.0	14.4	15.9	13.7	10.0	11.3	....	9.4	6.6	5.0	4.8
20	11.6	16.1	14.3	15.7	12.9	9.5	11.0	....	9.1	6.6	5.0	4.7
21	11.7	16.1	14.2	15.2	12.8	9.5	10.8	....	10.4	6.5	5.3	4.7
22	11.9	16.0	14.3	15.1	12.8	9.8	10.8	....	10.1	6.3	5.0	4.8
23	12.4	16.2	14.3	15.1	12.9	9.4	10.7	....	9.6	6.1	5.0	5.0
24	12.6	16.3	14.4	15.0	12.9	9.1	10.6	....	8.9	6.0	5.1	5.1
25	13.0	16.6	14.6	15.1	13.9	8.9	....	....	8.6	5.8	5.1	5.1
26	13.0	16.6	14.6	15.8	14.4	8.8	....	....	8.6	5.8	5.0	5.3
27	13.5	16.7	14.6	15.4	13.1	8.6	....	....	8.3	5.8	4.8	5.5
28	13.8	16.7	14.8	14.9	13.0	8.6	....	....	8.3	6.1	4.7	5.6
29	13.6	....	14.8	14.8	12.7	8.6	....	....	8.4	6.1	4.6	5.6
30	13.5	....	14.8	14.6	13.6	9.2	....	....	8.1	6.2	4.5	5.6
31	13.2	....	14.8	....	13.8	....	....	....	....	5.9	....	5.6

Camden County

Camden area

31.2.2.5.2. Morris Station test well 3. Description in Water-Supply Papers 817 and 840. Highest observed water level, 0.3 foot below mean sea level Mar. 19, 1936; lowest observed water level, 35.84 feet below mean sea level June 14, 1926. Daily fluctuations range from less than 1 foot to about 6 feet.

Lowest daily water level, in feet below mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	....	7.85	....	9.00	9.20	....	....	8.75	7.50	10.00	7.45	9.15
2	....	....	....	8.95	9.45	....	....	7.20	8.10	10.65	7.05	9.15
3	....	....	....	9.20	8.30	....	....	7.40	8.70	10.35	8.50	9.25
4	....	8.25	8.75	9.50	8.10	....	....	8.55	8.70	7.55	7.90	9.00
5	8.05	8.30	8.95	8.95	9.05	....	....	8.35	8.70	7.40	8.05	9.00
6	8.35	8.30	8.65	8.50	10.00	....	....	8.30	10.35	10.80	8.00	8.10
7	8.45	8.20	9.30	....	10.15	....	....	8.25	7.45	8.75	7.75	8.25
8	8.85	7.90	8.20	8.50	9.95	....	....	8.15	8.70	9.45	7.20	9.15
9	8.15	8.10	7.85	9.15	9.85	a9.28	....	7.35	9.20	9.35	7.00	9.45
10	8.15	8.35	8.35	8.90	9.35	....	....	6.95	9.50	7.90	7.95	9.45

a Check measurement.

Camden County--Continued.

31.2.2.5.2. Morris Station test well 3.--Continued.

Lowest daily water level, in feet below mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
11	8.00	8.20	8.45	8.95	9.30	....	....	8.10	9.90	7.60	8.45	9.45
12	7.95	....	8.90	8.50	9.90	....	....	8.30	9.50	7.55	8.55	9.25
13	8.35	8.60	8.30	8.45	9.85	....	....	....	11.10	9.65	8.50	8.45
14	8.45	8.15	7.95	9.25	9.95	....	....	....	8.20	10.45	8.70	....
15	8.40	8.00	5.95	9.50	10.00	....	....	8.15	9.95	9.40	7.55	....
16	8.75	8.20	5.70	9.25	9.95	....	....	8.10	8.95	9.05	7.10	....
17	8.75	7.75	7.05	8.20	9.10	....	....	7.80	9.00	8.85	8.40	8.70
18	7.65	8.55	7.25	9.75	9.35	....	....	8.10	9.10	8.85	8.55	8.55
19	8.05	9.10	7.55	8.70	10.00	....	....	8.20	8.80	7.30	8.45	8.85
20	9.50	9.05	7.55	8.65	10.30	....	....	9.85	9.75	8.05	7.95	8.85
21	9.80	8.75	7.30	10.15	10.80	....	....	9.25	7.25	8.15	8.30	8.25
22	9.50	8.70	7.10	10.25	10.80	....	....	8.40	8.10	8.45	8.10	8.95
23	8.15	8.50	5.90	9.55	10.80	....	....	10.05	8.20	8.35	7.15	9.30
24	8.40	9.10	8.25	9.65	10.00	....	....	8.65	8.70	8.55	8.70	8.85
25	7.90	9.20	8.50	9.80	9.60	....	9.35	9.30	8.15	7.50	8.55	8.00
26	....	9.00	8.70	8.55	10.50	....	8.90	....	8.35	7.40	9.10	8.55
27	7.80	8.90	9.25	8.75	10.75	....	8.50	....	7.60	7.85	9.85	7.70
28	7.95	8.70	9.00	9.45	....	....	10.30	....	7.25	8.80	9.65	7.65
29	8.10	....	8.50	9.55	....	....	10.70	....	9.20	9.05	....	8.70
30	8.15	....	8.60	9.70	....	....	8.60	9.45	8.35	8.60	8.00	9.05
31	8.00	....	9.50	....	....	....	5.80	7.55	....	8.65	....	8.55

31.2.4.5.1. New Jersey Water Company well 10. Description in Water-Supply Paper 845. Highest observed water level, 1.26 feet above mean sea level Mar. 19, 1933; lowest observed water level, 19.3 feet below mean sea level July 2, 1941. Daily fluctuations ranged from about 1 foot to as much as 10 feet during 1941.

Lowest daily water level, in feet below mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	11.4	13.3	11.8	11.3	14.4	11.0	19.0	14.6	13.8	16.3	....	13.1
2	10.6	11.6	11.3	10.5	13.3	14.0	19.3	13.9	15.0	15.5	....	13.3
3	10.9	12.6	12.6	11.7	12.7	16.4	17.8	12.7	14.9	15.2	....	15.2
4	10.9	12.5	11.8	11.2	12.5	14.1	12.0	14.6	14.5	14.6	....	14.8
5	10.6	12.8	12.7	10.6	13.3	13.6	11.3	15.0	15.6	14.0	....	14.7
6	13.0	12.0	14.4	9.5	15.6	13.7	11.3	15.2	15.0	16.2	....	13.4
7	12.2	12.3	11.7	10.9	15.2	15.4	15.0	15.0	13.3	16.1	....	14.3
8	12.5	11.0	11.6	11.3	13.5	14.0	14.9	15.6	15.9	16.9	....	14.3
9	11.9	11.8	10.6	11.1	13.8	15.7	14.6	15.2	16.4	15.8	....	13.7
10	11.9	12.6	12.9	11.2	16.1	16.5	14.7	14.4	15.8	13.0	....	14.9
11	11.9	13.5	11.6	11.4	....	16.5	14.7	15.8	16.2	12.9	....	13.9
12	12.4	13.2	11.6	11.0	15.3	16.1	14.9	15.4	15.0	12.3	....	14.0
13	12.4	12.5	10.8	9.8	14.9	14.2	14.3	15.5	14.5	13.0	....	14.7
14	11.3	11.1	11.4	11.8	13.9	13.5	16.9	15.2	12.8	15.0	....	14.5
15	14.1	11.2	11.4	12.8	14.2	13.5	16.7	15.0	15.7	14.4	....	15.4
16	11.2	10.5	10.9	12.7	15.2	15.7	17.0	14.6	15.5	13.8	....	15.4
17	12.2	11.4	10.5	12.7	13.9	15.0	16.5	13.1	16.5	14.9	....	14.9
18	11.3	11.3	13.7	13.4	13.3	14.6	17.1	14.8	16.2	14.6	....	14.7
19	10.6	14.8	13.7	13.0	15.6	16.7	14.6	13.9	15.5	13.5	....	14.8
20	12.8	11.6	11.9	13.1	16.3	17.3	14.0	14.8	15.2	13.4	....	14.7
21	12.5	11.6	11.6	13.5	16.2	15.0	16.8	15.2	13.4	15.0	....	14.8
22	12.3	11.6	11.4	13.1	17.2	14.6	15.5	15.5	15.6	14.4	14.7	13.6
23	11.3	10.6	10.8	13.1	16.5	17.1	16.6	14.8	15.6	14.6	14.6	15.0
24	11.4	11.5	12.0	11.1	14.6	18.0	16.0	13.8	16.2	14.4	15.5	15.1
25	11.0	11.7	11.0	13.2	13.2	17.6	16.5	15.2	16.1	13.3	....	13.0
26	10.7	12.0	14.2	10.8	16.4	18.4	16.4	15.8	15.7	12.9	....	14.4
27	12.4	11.8	11.5	10.2	16.8	19.2	15.4	15.6	14.8	14.8	....	14.4
28	11.2	11.7	11.4	15.3	17.4	18.3	18.0	15.4	13.3	14.4	....	13.5
29	13.2	....	11.1	15.2	18.1	17.2	15.0	15.7	16.4	14.8	....	14.6
30	12.2	....	10.1	15.8	15.4	19.0	14.0	15.3	15.7	....	13.8	....
31	11.3	....	11.0	....	13.8	....	14.6	13.7	....	....	....	....

Cape May County

Atlantic City area

36.31.9.1.9. Sea Isle City Water Department well 1. Description in Water-Supply Paper 845. Highest observed water level, 12.00 feet below top of casing Apr. 7, 1930; lowest observed water level, 18.6 feet below top of casing Sept. 13, 1931. Daily tidal fluctuations during 1941 were as much as 0.8 foot.

Lowest daily water level, in feet below top of casing, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	....	14.1	13.7	....	....	14.1	14.2	....	15.2	15.4	15.1	15.1
2	....	14.0	13.8	....	....	14.0	14.3	....	15.3	15.4	15.1	15.0
3	....	14.0	13.8	....	....	14.0	14.4	....	15.3	15.4	15.1	15.0
4	....	14.1	13.9	....	....	13.8	14.3	....	15.3	15.4	15.1	15.0
5	....	14.0	13.9	....	....	13.7	14.3	....	15.3	15.4	15.0	14.9
6	....	14.1	14.0	....	....	13.7	14.4	....	15.2	15.4	15.0	14.8
7	....	13.9	14.0	....	....	13.8	14.4	14.8	15.2	15.4	14.9	14.9
8	....	14.0	13.6	....	....	13.9	14.3	14.8	15.3	15.3	14.9	14.8
9	....	14.2	13.8	....	....	13.9	14.3	14.8	15.3	15.3	15.0	15.0
10	....	14.2	14.0	....	....	13.9	14.4	14.8	15.3	15.2	15.0	15.0
11	....	14.2	14.0	....	....	13.9	14.4	14.8	15.3	15.3	15.0	15.1
12	....	14.2	14.0	....	....	13.9	14.3	14.8	15.2	15.3	15.1	15.0
13	....	14.2	14.0	....	....	13.9	14.4	14.9	15.3	15.3	15.1	14.9
14	....	14.0	....	....	....	13.8	14.4	14.9	15.3	15.3	....	14.9
15	14.3	14.0	....	....	....	13.8	14.3	15.0	15.4	15.3	....	15.0
16	14.3	14.1	....	....	....	13.8	14.3	14.9	15.5	15.4	....	15.0
17	14.0	14.0	....	....	....	13.8	....	15.0	15.5	15.4	....	15.0
18	14.1	14.1	....	....	13.7	13.8	....	15.0	15.5	15.4	....	14.9
19	14.2	14.2	....	....	13.8	13.9	....	15.0	15.4	15.4	....	14.9
20	14.4	14.3	....	....	13.8	13.9	....	15.0	15.4	15.4	15.2	14.9
21	14.4	14.2	....	....	13.9	14.0	....	15.0	15.5	15.4	15.1	15.0
22	14.3	14.1	....	....	13.9	14.1	....	15.0	15.5	15.3	15.2	14.9
23	14.4	14.2	....	....	13.9	14.1	....	15.0	15.4	15.3	15.1	14.8
24	14.3	14.2	....	....	13.9	14.0	....	15.1	15.4	15.3	15.1	14.5
25	14.2	14.2	....	....	14.0	14.1	....	15.1	15.3	15.3	15.1	14.7
26	14.2	14.2	....	....	14.0	14.1	....	15.0	15.4	15.3	15.1	14.6
27	14.2	14.1	....	....	14.0	14.1	....	15.1	15.4	15.2	15.1	14.7
28	14.0	14.0	....	....	14.0	14.2	....	15.1	15.4	15.2	15.1	14.7
29	14.0	....	....	....	14.0	14.2	....	15.2	15.5	15.3	15.1	14.7
30	14.1	....	....	....	14.1	14.2	....	15.2	15.4	15.2	15.1	14.7
31	14.1	....	....	....	14.1	....	....	15.3	....	15.2	....	14.7

Essex County

Canoe Brook area

25.15.7.5.4. Commonwealth Water Company well 30. Description in Water-Supply Paper 886. Highest observed water level, 16.3 feet below top of casing Aug. 25, 1931; lowest observed water level, 67.9 feet below top of casing Sept. 5, 1929. Daily water-level fluctuations during 1941 ranged from less than 1 foot to 13 feet.

Lowest daily water level, in feet below top of casing, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	44.05	39.75	40.40	42.40	45.05	46.35	46.50	.....	.....	.....	52.30	.....
2	43.50	39.55	41.45	42.70	46.95	45.50	45.85	.....	.....	.....	54.45	.....
3	42.75	41.95	42.25	51.50	47.30	46.25	45.20	.....	.....	.....	54.15	.....
4	43.30	40.75	41.75	55.25	47.25	.....	43.30	.....	.....	.....	54.65	.....
5	43.20	40.00	41.05	55.80	47.30	.....	.....	.....	.....	.....	54.20	.....
6	43.90	39.90	41.25	46.70	47.10	.....	.....	.....	.....	.....	48.15	55.95
7	43.70	39.75	41.75	44.30	47.70	.....	.....	.....	.....	.....	.....	54.70
8	43.55	.....	.....	44.10	47.50	46.35	.....	43.25	.....	.....	.....	55.30

Essex County--Continued.

25.15.7.5.4. Commonwealth Water Company well 30.--Continued.

Lowest daily water level, in feet below top of casing, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
9	42.30	.....	.....	42.90	46.50	45.75	.....	44.40	.....	.....	.....	54.75
10	40.65	39.10	40.75	41.05	47.00	45.85	.....	43.55	.....	.....	.....	54.70
11	40.00	39.00	39.75	40.80	46.50	46.50	.....	44.40	.....	.....	.....	55.00
12	39.65	38.90	40.45	41.60	46.40	46.50	.....	43.60	.....	.....	.....	.....
13	42.75	37.70	40.65	41.60	47.25	44.20	41.70	42.25	.....	.....	.....	55.30
14	42.45	36.40	40.75	41.75	47.75	43.35	42.70	41.80	43.75	.....	.....	54.30
15	40.60	37.15	41.00	42.10	47.90	43.10	43.25	42.90	44.40	.....	.....	55.20
16	39.95	37.15	40.80	42.30	47.80	44.50	42.05	.....	45.55	.....	53.35	55.00
17	39.30	38.00	40.80	.....	47.55	44.75	41.30	.....	46.20	.....	54.65	.....
18	38.70	38.05	40.85	.....	47.15	45.35	40.60	.....	46.95	.....	54.85	.....
19	39.35	36.10	41.30	40.15	46.85	46.00	.....	.....	47.05	.....	55.55	.....
20	42.30	36.90	41.65	41.75	47.45	46.25	.....	.....	47.05	.....	55.50	56.35
21	41.05	37.50	41.90	42.50	47.85	48.60	.....	.....	46.60	.....	54.55	55.05
22	39.85	36.65	43.10	42.95	48.00	47.90	.....	.....	.....	51.30	55.80	.....
23	39.60	36.45	43.20	43.00	48.20	46.35	.....	.....	46.45	49.90	50.35	55.00
24	39.65	38.65	43.25	42.90	48.80	46.40	.....	.....	47.05	47.30	.....	56.15
25	39.50	37.80	43.10	42.25	48.70	46.75	.....	.....	51.85	49.50	.....	54.75
26	39.50	38.20	.....	43.15	53.00	46.50	.....	.....	52.60	47.50	.....	55.25
27	41.10	38.25	.....	43.15	54.05	53.60	.....	.....	.....	49.00	.....	.....
28	40.00	39.35	.....	42.85	52.10	55.50	.....	.....	.....	48.40	.....	.....
29	39.65	.....	.....	43.05	47.55	.....	.....	.....	.....	49.00	.....	.....
30	39.50	.....	43.10	43.15	47.25	.....	.....	.....	.....	53.90	.....	57.90
31	39.50	.....	42.45	.....	47.05	.....	.....	.....	.....	54.40	.....	.....

26.21.1.5.6. Short Hills test well 10. Description in Water-Supply Papers 817 and 845. Highest observed water level, 3.90 feet below top of casing May 12, 1933; lowest observed water level, 29.28 feet below top of casing Oct. 31, 1941.

Water level, in feet below top of casing, 1941

Date	Water level	Date	Water level	Date	Water level
Jan. 22	18.40	Aug. 8	24.67	Oct. 31	29.28
Apr. 9	15.54	Sept.26	28.30		

26.21.1.5.8. Short Hills well 14. Description in Water-Supply Paper 817. Highest observed water level, 9.82 feet below top of casing Jan. 12, 1934; lowest observed water level, 28.82 feet below top of casing Jan. 19, 1932. Water levels, in feet below top of casing, 1941: Jan. 22, 22.06; Apr. 9, 19.40; Sept. 26, a/; Oct. 31, a/.

Middlesex and Monmouth Counties

Runyon area

Average of the water levels in water-table wells near Runyon, N. J., in feet above an assumed datum, 1941

Date	Wells less than 25 feet in depth		Wells more than 25 feet in depth	
	Number of wells	Water level	Number of wells	Water level
Jan. 17-18	19	12.63	5	8.37
Feb. 22-24	19	12.16	5	8.70
Mar. 22-23	19	12.57	5	9.00
Apr. 17-18	19	12.40	4	9.14
May 21-24	19	11.06	5	9.01
June 23	18	11.14	5	8.72
Oct. 23-27	18	7.67	5	7.53

a Obstruction in well 23.24 feet below top of casing.

Middlesex County

Runyon area

29.1.4.6.8. Browntown test well. Description in Water-Supply Paper 840. Highest observed water level, 28.14 feet above mean sea level Apr. 9 and 10, 1939; lowest observed water level, 21.83 feet above mean sea level Nov. 18, 1932.

Water level at end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	25.79	26.13	.....	26.50	26.50	26.11	25.81	25.78	25.23	.....	24.01	23.59
2	25.79	26.13	.....	26.50	26.50	26.09	25.80	25.77	25.21	24.59	23.99	23.58
3	25.81	26.12	.....	26.50	26.49	26.06	25.79	25.77	25.19	24.52	23.98	23.57
4	25.85	26.12	.....	26.50	26.49	26.05	25.78	25.76	25.17	24.50	23.96	23.55
5	25.85	26.11	26.25	26.49	26.49	26.03	25.77	25.75	25.16	24.49	23.95	23.53
6	25.85	26.11	26.25	26.49	26.48	26.02	25.77	25.74	25.14	24.47	23.94	23.53
7	25.85	26.20	26.25	26.50	26.48	26.00	25.77	25.73	25.12	24.45	23.93	23.52
8	25.85	26.32	.....	26.52	26.48	26.00	25.78	25.72	25.10	24.43	23.90	23.51
9	25.86	26.34	26.23	26.52	26.47	25.99	25.81	25.71	25.08	24.41	23.89	23.50
10	25.86	26.34	26.23	26.52	26.46	25.98	25.82	25.69	25.05	24.39	23.88	23.48
11	25.87	26.34	26.23	26.52	26.46	25.96	25.82	25.68	25.02	24.37	23.86	23.47
12	25.87	26.34	26.23	26.53	26.45	25.95	25.82	25.66	25.00	24.36	23.84	23.45
13	25.87	26.34	26.24	26.53	26.44	25.93	25.82	25.64	24.98	24.34	23.83	23.44
14	25.87	26.34	26.30	26.53	26.43	25.94	25.82	25.60	24.96	24.32	23.81	23.44
15	25.86	26.34	26.39	26.53	26.42	25.94	25.82	25.57	24.94	24.30	23.80	23.43
16	25.86	26.34	26.48	26.53	26.41	25.94	25.82	.....	24.91	24.28	23.79	23.43
17	25.86	26.34	26.52	26.53	26.40	25.93	25.82	.....	24.89	24.26	23.77	23.42
18	25.87	26.34	26.52	26.53	26.39	25.93	25.82	.....	24.87	24.24	23.76	23.42
19	25.86	26.34	26.52	26.53	26.37	25.92	25.82	.....	24.84	24.23	.....	23.41
20	25.86	26.33	26.52	26.53	26.35	25.92	25.82	.....	24.81	24.21	.....	23.40
21	25.86	26.33	26.52	26.53	26.33	25.91	25.82	.....	24.78	24.19	.....	23.40
22	25.86	26.31	26.51	26.53	26.31	25.91	25.82	.....	24.76	24.17	23.71	23.39
23	25.86	26.31	26.51	26.52	26.29	25.90	25.82	25.40	24.74	24.16	23.70	23.39
24	25.86	26.30	26.51	26.52	26.27	25.89	25.81	25.38	24.72	24.14	23.68	23.38
25	26.06	26.30	26.51	26.52	26.25	25.88	25.81	25.36	24.70	24.13	23.67	23.38
26	26.07	26.29	26.50	26.51	26.23	25.87	25.81	25.34	24.68	24.11	23.66	23.38
27	26.12	26.29	26.50	26.51	26.21	25.86	25.81	25.32	24.66	24.10	23.64	23.37
28	26.14	26.29	26.50	26.51	26.20	25.84	25.81	25.30	24.64	24.08	23.63	23.37
29	26.14	.....	26.51	26.50	26.17	25.83	25.80	25.28	24.62	24.06	.....	23.37
30	26.13	.....	26.51	26.50	26.15	25.82	25.80	25.26	.....	24.04	23.60	23.36
31	26.13	.....	26.50	.....	26.12	.....	25.79	25.25	.....	24.02	.....	23.36

28.5.4.8.1. Duhernal observation well 1. Description in Water-Supply Paper 845. Highest observed water level, 7.58 feet above mean sea level Apr. 18, 1939; lowest observed water level, 4.06 feet above mean sea level Dec. 12, 1941.

Water level at end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.92	6.17	6.29	6.27	6.25	5.68	5.37	5.45	5.07	4.67	4.42	4.16
2	5.95	6.16	6.25	6.25	6.23	5.67	5.32	5.44	5.07	4.66	4.42	4.16
3	5.99	6.15	6.23	6.24	6.22	5.66	5.32	5.43	5.01	4.65	4.40	4.15
4	6.00	6.14	6.17	6.21	6.19	5.66	5.35	5.41	5.01	4.64	4.39	4.14
5	5.94	6.14	6.14	6.26	6.17	5.67	5.40	5.41	5.01	4.64	4.38	4.15
6	5.89	6.13	6.11	6.27	6.15	5.70	5.42	a5.41	5.00	4.62	4.41	4.15
7	5.90	6.23	6.10	6.29	6.14	5.69	5.44	....	4.99	4.65	4.41	4.13
8	5.91	6.28	6.17	6.30	6.14	5.68	5.47	....	4.98	4.60	4.38	4.12
9	5.95	6.29	6.13	6.32	6.16	5.66	5.51	....	4.97	4.59	4.36	4.11
10	5.98	6.31	6.09	6.34	6.16	5.65	5.54	....	4.94	4.59	4.35	4.09
11	6.03	6.34	6.12	6.36	6.16	5.63	5.55	....	4.92	4.55	4.33	4.07
12	6.08	6.36	6.16	6.39	6.16	5.61	5.55	....	4.90	4.54	4.30	4.06
13	6.07	6.41	6.24	6.42	6.14	5.60	5.55	5.27	4.88	4.52	4.29	4.10
14	6.06	6.47	6.28	6.44	6.12	5.60	5.55	5.26	4.85	4.50	4.28	4.16
15	6.05	6.50	6.34	6.46	6.10	5.60	5.55	5.24	4.83	4.48	4.29	4.17
16	6.12	6.50	6.38	6.46	6.08	5.57	5.54	5.23	4.81	4.46	4.28	4.19

a Tape measurement at 9:40 a.m.

Middlesex County--Continued.

28.5.4.8.1. Duhernal observation well 1.--Continued.

Water level at end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
17	6.13	6.53	6.34	6.47	6.07	5.57	5.54	5.20	4.77	4.46	4.29	4.21
18	6.15	6.48	6.27	6.47	6.03	5.54	5.54	5.18	4.76	4.45	4.27	4.26
19	6.13	6.43	6.24	6.47	6.00	5.53	5.54	5.17	4.77	4.45	4.27	4.29
20	6.07	6.39	6.21	6.47	5.97	5.51	5.52	5.16	4.78	4.47	4.28	4.30
21	6.05	6.35	6.23	6.42	5.92	5.49	5.50	5.16	4.77	4.48	4.27	4.31
22	6.07	6.36	6.23	6.37	5.91	5.47	5.49	5.15	4.77	4.49	4.26	4.31
23	6.05	6.33	6.25	6.36	5.89	5.47	5.48	5.15	4.76	4.48	4.26	4.34
24	6.11	6.29	6.28	6.34	5.86	5.46	5.47	5.14	4.76	4.45	4.25	4.36
25	6.15	6.29	6.30	6.33	5.84	5.45	5.46	5.14	4.77	4.44	4.23	4.37
26	6.17	6.26	6.29	6.36	5.81	5.43	5.45	5.14	4.75	4.43	4.20	4.38
27	6.22	6.25	6.30	6.36	5.78	5.41	5.45	5.14	4.73	4.43	4.19	4.37
28	6.23	6.28	6.33	6.33	5.76	5.40	5.45	5.13	4.72	4.42	4.18	4.35
29	6.23	....	6.35	6.29	5.73	5.38	5.45	5.12	4.70	4.39	4.17	4.36
30	6.22	....	6.32	6.26	5.72	5.37	5.45	5.11	4.68	4.38	4.15	4.37
31	6.18	....	6.28	....	5.70	....	5.45	5.10	....	4.38	....	4.40

28.5.4.8.7. Duhernal observation well 2. Description in Water-Supply Paper 845. Highest observed water level, 15.65 feet above mean sea level Apr. 11, 1939; lowest observed water level, 8.84 feet above mean sea level Dec. 10, 1941.

Water level at end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	12.38	.....	.....	13.16	12.93	12.01	11.47	11.48	10.71	9.94	9.41	....
2	12.41	.....	.....	13.04	12.84	11.95	11.43	11.44	10.68	9.91	9.33	....
3	12.43	.....	.....	13.02	12.81	11.95	11.44	11.42	10.65	9.94	9.30	8.92
4	12.42	.....	.....	13.02	12.84	12.01	11.52	11.41	10.66	9.90	....	8.94
5	12.42	12.72	12.70	13.15	12.78	11.91	11.56	11.38	10.68	9.88	9.30	8.95
6	12.41	12.75	.....	13.11	12.74	11.89	11.63	11.32	10.62	9.83	9.36	....
7	.....	12.97	.....	13.23	12.76	11.92	11.70	11.31	10.56	9.83	9.27	....
8	.....	13.06	.....	13.32	12.73	11.88	11.78	11.31	10.52	9.78	....	....
9	.....	13.02	.....	13.35	12.70	11.87	11.80	11.29	10.50	9.78	....	....
10	.....	13.06	.....	13.36	12.62	11.83	11.84	11.22	10.48	9.76	....	a8.84
11	.....	13.10	.....	13.34	12.62	11.78	11.88	11.26	10.43	9.71	....	....
12	.....	13.15	12.89	13.36	12.56	11.76	11.88	11.24	10.41	9.70	9.18	....
13	.....	13.23	13.02	13.45	12.52	11.82	11.87	11.14	10.38	9.66	9.17	....
14	.....	13.27	13.12	13.42	12.51	11.84	11.88	11.13	10.38	9.69	....	....
15	12.45	13.24	13.23	13.41	12.51	11.84	11.91	11.15	10.37	9.64	....	....
16	12.60	.....	13.30	13.38	12.52	11.80	11.92	11.12	10.34	9.58	....	....
17	12.60	.....	13.30	13.37	12.44	11.79	11.90	11.05	10.29	9.58	....	b8.99
18	12.65	.....	.....	13.32	12.37	11.73	11.92	11.04	10.26	9.62	....	....
19	12.60	13.14	.....	13.31	12.35	11.71	11.86	11.04	10.23	9.54	9.11	....
20	.....	.....	.....	13.33	12.31	11.69	11.81	10.99	10.21	9.55	....	....
21	.....	.....	.....	13.18	12.30	11.70	11.80	10.96	10.20	9.54	....	....
22	12.70	.....	.....	13.10	12.28	11.68	11.79	10.96	10.21	9.52	....	....
23	12.57	.....	.....	13.14	12.26	11.66	11.73	10.92	10.17	9.48	....	....
24	12.72	.....	.....	13.08	12.17	11.61	11.71	10.90	10.13	9.50	....	c9.27
25	12.69	.....	.....	13.05	12.18	11.55	11.69	10.92	10.14	9.43	....	....
26	12.74	12.88	13.28	13.07	12.17	11.58	11.61	10.89	10.06	9.42	9.02	....
27	12.79	.....	13.28	13.06	12.12	11.55	11.60	10.80	10.03	9.46	9.00	....
28	12.82	.....	13.28	12.98	12.12	11.54	11.54	10.79	10.06	9.34	8.96	....
29	12.81	.....	13.22	12.97	12.05	11.52	11.55	10.77	9.98	9.33	9.02	....
30	.....	.....	13.14	12.98	12.04	11.50	11.55	10.78	10.01	9.38	8.95	....
31	.....	.....	13.15	.....	12.02	.....	11.52	10.78	.....	9.38	....	d9.20

a Tape measurement at 11:10 a.m.
b Tape measurement at 3:50 p.m.
c Tape measurement at 10:30 a.m.
d Tape measurement at 10:40 a.m.

Middlesex County--Continued.

28.5.4.7.7. Duhernal observation well 3. Description in Water-Supply Paper 845. Highest observed water level, above top of casing Sept. 22, 1938; lowest observed water level, 1.25 feet above mean sea level Jan. 31, Feb. 1 and 4, 1940. Water level Jan. 1, 1941, 2.25 feet above mean sea level. Measurements discontinued Jan. 2, 1941.

28.4.9.3.5. Duhernal observation well 4. Description in Water-Supply Paper 845. Highest observed water level, 11.75 feet above mean sea level Apr. 29, 1939; lowest observed water level, 0.20 foot below mean sea level Dec. 12, 1941.

Water level at end of day, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	+3.90	+3.30	+3.20	+5.50	+6.15	+5.20	+5.20	+3.75	+2.95	+1.10	+0.55	+0.00
2	+3.85	+3.30	+3.30	+5.50	+6.25	+5.15	+5.20	+3.70	+2.85	+1.05	+ .80	+ .00
3	+3.80	+3.30	+3.20	+5.50	+5.95	+5.05	+5.30	+3.65	+2.85	+1.00	+ .80	- .05
4	+3.80	+3.30	+3.20	+5.65	+6.30	+5.20	+6.05	+3.50	+2.75	+ .95	+ .75	- .10
5	+3.80	+3.25	+3.20	+5.75	+5.90	+5.30	+5.90	+3.50	+2.70	+ .95	+ .75	- .05
6	+3.70	+3.25	+3.20	+5.85	+5.80	+5.20	+5.80	+3.65	+2.65	+ .85	+ .70	- .05
7	+3.65	+3.40	+3.20	+5.85	+5.75	+5.20	+5.90	+3.65	+2.60	+ .80	+ .75	- .10
8	+3.75	+3.75	+3.20	+5.85	+5.75	+5.20	+6.15	+3.65	+2.60	+ .75	+ .80	- .05
9	+3.60	....	+3.20	+6.00	+5.60	+5.10	+6.25	+3.70	+2.55	+ .85	+ .75	....
10	+3.65	....	+3.30	+5.75	+5.60	+5.00	+6.25	+3.60	+2.25	+ .80	+ .70	- .10
11	+3.60	....	+3.65	+6.25	+5.85	+5.15	+6.15	+3.60	+2.15	+ .90	+ .60	- .15
12	+3.45	+3.65	+3.85	+6.45	+5.60	+4.65	+6.00	+3.55	+2.00	+ .65	+ .55	- .20
13	+3.50	+3.65	+4.05	+6.60	+5.65	+4.70	+6.10	+3.50	+2.05	+ .70	+ .40	- .15
14	+3.45	+3.60	+4.10	+6.25	+5.55	+4.85	+6.10	+3.45	+2.15	+ .70	+ .35	+ .25
15	+3.35	+3.65	+4.15	+5.70	+5.50	+5.05	+6.05	+3.45	+1.95	+ .85	+ .40	+ .25
16	+3.35	+3.55	+3.85	+5.45	+5.90	+4.85	+6.00	+3.45	+1.90	+ .90	+ .30	+ .20
17	+3.45	....	+4.20	+5.40	+6.05	+4.75	+5.95	+3.40	+1.80	+ .95	+ .25	+ .30
18	+3.55	....	+4.25	+5.30	+5.55	+4.70	+6.00	+3.35	+1.80	+ .90	+ .25	+ .25
19	+3.50	+3.50	+4.20	+5.45	+5.90	+4.70	+6.00	+3.35	+1.80	+ .80	+ .20	+ .20
20	+3.40	+3.45	+4.20	+5.60	+5.85	+4.65	+6.05	+3.25	+1.75	+ .75	+ .20	+ .20
21	+3.35	+3.45	+4.30	+5.50	+5.80	+4.60	+5.80	+3.20	+1.95	+ .75	+ .20	+ .20
22	+3.30	+3.40	+4.45	+5.55	+5.55	+4.60	+5.65	+3.20	+1.50	+ .70	+ .15	+ .10
23	+3.30	+3.40	+4.05	+5.80	+6.00	+4.60	+5.60	+3.15	+1.35	+ .65	+ .20	+ .05
24	+3.35	+3.40	+4.50	+6.10	+6.20	+4.70	+6.05	+3.10	+1.45	+ .55	+ .30	+1.20
25	+3.60	+3.30	+4.80	+5.90	+6.30	+4.65	+6.10	+3.00	+1.50	+ .60	+ .35	+2.40
26	+3.60	+3.25	+5.15	+6.40	+5.55	+4.75	+6.10	+3.10	+1.55	+ .90	+ .30	+2.40
27	.....	+3.30	+5.25	+6.10	+6.25	+4.85	+6.10	+3.20	+1.60	+ .60	+ .30	+1.05
28	....	+3.25	+5.45	+6.15	+5.45	+4.85	+4.65	+3.15	+1.60	+ .50	+ .25	+ .95
29	+3.45	....	+5.45	+6.00	+5.30	+4.90	+4.30	+3.05	+1.35	+ .55	+ .15	+ .85
30	+3.40	....	+5.40	+6.00	+5.20	+5.00	+4.05	+3.00	+1.25	+ .55	+ .00	+2.25
31	+3.35	....	+5.60	.....	+5.10	....	+3.90	+2.95	....	+ .45	....	+2.65

28.5.7.1.5. Duhernal observation well 5. Description in Water-Supply Paper 886. Highest observed water level, 14.94 feet above mean sea level Apr. 7 and 8, 1939; lowest observed water level, 7.07 feet above mean sea level Dec. 10, 1941.

Water level at the end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	11.79	11.74	11.41	11.97	11.89	11.02	10.79	10.78	9.46	8.47	7.76	7.25
2	11.78	11.68	11.38	11.95	11.85	10.99	10.82	10.74	9.40	8.44	7.75	7.23
3	11.82	11.63	11.36	11.93	11.82	10.96	10.91	10.69	9.37	8.42	7.75	7.20
4	11.94	11.58	11.39	11.90	11.82	11.01	11.46	10.63	9.34	8.38	7.74	7.18
5	11.80	11.54	11.37	12.00	11.77	11.07	11.51	10.57	9.31	8.34	7.73	7.18
6	11.84	11.50	11.32	12.42	11.74	11.10	11.50	10.50	9.27	8.30	7.74	7.16
7	11.79	11.90	11.30	12.54	11.70	11.10	11.59	10.46	9.23	8.27	7.74	7.15
8	11.73	12.32	11.30	12.58	11.70	11.10	11.80	10.41	9.20	8.23	7.73	7.12
9	11.68	12.38	11.30	12.59	11.65	11.06	11.95	10.35	9.16	8.21	7.70	7.10
10	11.64	12.36	11.32	12.54	11.61	11.01	11.95	10.29	9.16	8.20	7.67	7.07
11	11.60	12.32	11.54	12.52	11.60	10.97	11.95	10.25	9.12	8.17	7.64	....
12	11.56	12.26	11.74	12.50	11.55	10.90	11.88	10.20	9.13	8.14	7.62	....

Middlesex County--Continued.

28.5.7.1.5. Duhernal observation well 5.--Continued.

Water level at the end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
13	11.50	12.22	11.95	12.58	11.52	10.97	11.84	10.16	9.09	8.12	7.60	....
14	11.46	12.20	12.09	12.52	11.48	11.11	11.80	10.11	9.06	8.09	7.57	....
15	11.40	12.19	12.24	12.45	11.45	11.15	11.75	10.08	9.02	8.04	7.55	....
16	11.46	12.15	12.31	12.36	11.42	11.14	11.66	10.03	8.99	8.01	7.52	....
17	11.73	12.10	12.36	12.30	11.39	11.11	11.63	9.96	8.95	8.00	7.50	7.64
18	11.86	11.96	12.34	12.24	11.31	11.06	11.58	9.92	8.92	8.00	7.47	7.69
19	11.88	11.93	12.27	12.20	11.28	11.02	11.52	9.92	8.88	7.98	7.46	7.73
20	11.80	11.85	12.22	12.17	11.25	10.97	11.46	9.86	8.85	7.97	7.43	7.74
21	11.72	11.80	12.16	12.10	11.21	10.92	11.39	9.82	8.83	7.95	7.42	7.76
22	11.69	11.76	12.11	12.06	11.21	10.89	11.32	9.78	8.79	7.90	7.39	7.76
23	11.63	11.70	12.04	12.05	11.17	10.85	11.26	9.74	8.75	7.87	7.41	7.77
24	11.66	11.65	12.03	12.06	11.15	10.83	11.20	9.70	8.71	7.86	7.41	7.85
25	11.93	11.59	12.05	12.03	11.14	10.80	11.15	9.72	8.68	7.83	7.39	8.00
26	11.97	11.55	12.03	12.01	11.12	10.79	11.08	9.70	8.64	7.82	7.37	8.06
27	11.96	11.51	12.01	12.07	11.15	10.77	11.02	9.66	8.62	7.80	7.35	8.09
28	11.91	11.47	12.00	12.00	11.12	10.75	10.98	9.62	8.60	7.76	7.33	8.11
29	11.87	.....	12.01	11.96	11.08	10.73	10.92	9.58	8.56	7.75	7.30	8.12
30	11.84	.....	12.00	11.92	11.04	10.77	10.89	9.54	8.52	7.72	7.28	8.16
31	11.77	.....	12.00	.....	11.02	.....	10.84	9.50	....	7.70	....	8.17

28.4.9.5.1. Duhernal observation well 9. Description in Water-Supply Paper 886. Highest observed water level, 14.85 feet above mean sea level June 1, 1940; lowest observed water level, 9.90 feet above mean sea level Sept. 3, 1941.

Water level at the end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	13.90	13.85	13.25	12.65	12.40	11.40	11.50	.....	.....	.....	10.95	10.85
2	13.95	13.85	13.55	12.65	12.40	11.40	11.50	.....	.....	.....	11.35	10.80
3	13.95	13.85	13.20	12.65	12.40	11.30	11.55	.....	9.90	.....	11.10	10.70
4	13.95	.....	13.25	12.65	12.40	11.40	12.70	.....	.....	.....	11.00	10.70
5	13.95	13.70	13.30	12.85	12.40	11.65	12.80	.....	.....	.....	10.95	10.65
6	13.90	13.70	13.30	13.15	12.40	11.60	12.30	10.85	.....	.....	10.95	10.65
7	13.90	14.15	13.30	13.10	12.25	11.50	12.20	10.85	.....	.....	10.95	10.65
8	13.85	14.70	13.30	13.05	12.35	11.40	12.80	10.80	.....	.....	10.95	10.65
9	13.85	14.30	13.30	13.00	12.35	11.35	13.10	10.75	.....	.....	10.90	10.60
10	13.85	14.10	13.35	13.00	12.35	11.20	12.55	10.70	10.00	.....	10.85	10.50
11	13.85	14.00	13.50	12.90	12.30	11.10	12.25	10.70	10.00	.....	10.85	10.50
12	13.85	14.00	13.65	12.85	12.30	11.30	12.10	10.70	10.05	.....	10.75	10.50
13	13.85	14.00	13.80	12.85	12.25	11.80	12.05	10.65	10.05	.....	10.75	10.90
14	.....	14.00	13.65	12.80	12.15	12.05	11.90	10.60	10.10	.....	10.70	11.30
15	13.80	14.05	13.65	13.00	12.15	12.05	11.80	10.60	10.10	11.20	10.65	11.40
16	13.95	14.00	13.65	13.05	12.10	12.05	11.70	10.60	10.05	11.15	10.60	11.35
17	14.20	14.00	13.65	13.05	12.10	12.05	11.70	10.60	.....	11.15	10.60	11.35
18	14.20	13.95	13.65	13.05	12.35	12.10	11.60	10.55	.....	11.15	10.60	11.35
19	14.15	13.90	13.35	12.95	12.10	11.95	11.55	.....	.....	11.30	10.50	11.35
20	14.10	13.90	13.35	12.90	12.05	11.85	11.45	10.40	.....	11.20	10.80	11.35
21	.....	13.90	13.30	12.85	12.00	11.75	11.35	10.35	.....	11.15	10.75	11.35
22	13.75	13.90	13.30	12.85	12.00	11.70	11.30	10.30	.....	11.10	10.70	11.35
23	13.75	13.45	12.80	12.75	11.85	11.70	11.20	10.25	.....	11.10	10.75	11.05
24	13.90	13.45	13.10	12.75	11.80	11.55	11.15	10.30	10.40	11.00	10.80	11.05
25	14.15	13.30	.....	12.70	11.70	11.40	11.10	.....	10.40	10.95	10.80	11.00
26	14.10	13.30	12.90	12.65	11.60	11.30	11.00	.....	10.35	11.00	10.75	11.25
27	14.00	13.30	12.85	12.60	11.70	11.20	.....	10.50	10.25	10.95	10.75	11.15
28	.....	13.30	12.80	12.55	11.60	11.15	.....	10.50	10.25	10.90	10.70	11.15
29	13.85	.....	12.75	12.50	11.60	11.10	.....	10.25	10.30	10.80	10.70	11.15
30	13.85	.....	12.70	12.40	11.55	11.25	.....	.....	.....	10.85	10.85	10.90
31	13.85	.....	12.70	.....	11.40	.....	.....	.....	.....	10.80	.....	.....

Middlesex County--Continued.

28.4.9.8.2. Duhernal observation well 10. Description in Water-Supply Paper 845. Highest observed water level, 21.98 feet above mean sea level Feb. 8, 1941; lowest observed water level 18.34 feet above mean sea level Dec. 30 and 31, 1941.

Water level at the end of day, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	21.03	21.10	20.79	20.76	20.56	19.98	20.03	19.89	19.30	18.82	18.90	18.75
2	21.05	21.08	20.86	20.78	20.53	19.98	19.99	19.87	19.16	18.82	18.95	18.75
3	21.13	21.06	20.82	20.76	20.51	19.94	20.09	19.82	19.04	18.88	18.90	18.73
4	21.16	21.04	20.90	20.73	20.50	20.02	21.10	19.78	19.02	18.89	18.88	18.73
5	21.09	21.01	20.89	20.88	20.48	20.14	20.82	19.74	19.05	19.00	18.85	18.75
6	21.04	21.00	20.86	21.13	20.47	20.17	20.59	19.67	18.98	18.89	18.91	18.74
7	21.02	21.42	20.88	21.09	20.45	20.12	20.64	19.65	19.10	18.89	18.90	18.73
8	21.01	21.98	20.91	21.04	20.50	20.08	21.33	19.62	19.10	18.88	18.87	18.73
9	21.01	21.48	20.92	21.01	20.49	20.03	21.22	19.59	19.09	18.88	18.85	18.69
10	21.00	21.32	20.95	20.98	20.47	19.97	20.76	19.54	19.08	18.93	18.85	18.68
11	20.98	21.27	21.15	20.93	20.45	19.93	20.67	19.53	19.06	18.93	18.84	18.66
12	20.97	21.22	21.30	20.90	20.41	19.92	20.59	19.52	19.04	18.95	18.82	18.65
13	20.93	21.21	21.32	20.91	20.37	20.12	20.53	19.48	19.02	18.95	18.81	18.93
14	20.91	21.23	21.23	20.89	20.36	20.32	20.48	19.45	19.02	18.95	18.79	19.24
15	20.90	21.24	21.20	20.88	20.34	20.32	20.42	19.45	19.01	18.94	18.78	19.22
16	21.05	21.23	21.27	20.88	20.34	20.33	a20.40	19.45	18.98	18.92	18.76	19.22
17	21.28	21.21	21.19	20.88	20.33	20.31	.....	19.41	18.92	18.91	18.74	19.27
18	21.24	.....	21.11	20.86	20.36	20.29	.....	19.39	18.90	18.91	18.73	19.27
19	21.16	21.13	21.09	20.83	20.28	20.23	.....	19.40	18.88	18.91	18.73	19.27
20	21.08	21.11	21.05	20.81	20.23	20.17	.....	19.30	18.88	18.91	18.74	19.26
21	21.06	21.09	21.02	20.75	20.22	20.12	.....	19.20	18.88	18.90	18.75	19.26
22	21.05	21.08	21.00	20.73	20.21	20.08	.....	19.17	18.88	18.87	18.73	19.25
23	21.04	20.94	20.92	20.70	20.20	20.04	20.09	19.17	18.88	18.85	18.80	18.93
24	21.22	20.90	20.94	20.73	20.16	20.01	20.05	19.26	18.88	18.84	18.81	18.75
25	21.46	20.85	20.97	20.72	20.12	19.95	20.01	19.35	18.88	18.80	18.80	18.58
26	21.30	20.83	20.91	20.69	20.08	19.92	19.95	19.41	18.85	18.80	18.78	18.75
27	21.23	20.83	20.88	20.67	20.09	19.89	19.92	19.44	18.82	18.80	18.77	18.46
28	21.19	20.85	20.86	20.63	20.10	19.85	19.92	19.41	18.82	18.77	18.75	18.44
29	21.16	.....	20.82	20.60	20.05	19.83	19.91	19.21	18.79	18.78	18.74	18.39
30	21.15	.....	20.79	20.59	20.01	19.93	19.89	19.16	18.81	18.77	18.74	18.34
31	21.11	.....	20.77	.....	19.98	.....	19.89	19.29	.....	18.78	.....	18.34

28.4.9.3.1. Duhernal observation well 11. Description in Water-Supply Paper 886. Highest observed water level, 14.23 feet above mean sea level June 1, 1940; lowest observed water level, 9.70 feet above mean sea level Dec. 11, 1941.

Water level at end of day, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	13.15	13.17	13.14	13.41	13.11	12.81	12.92	12.62	12.15	11.05	10.30	9.85
2	13.16	13.18	13.14	13.40	13.17	12.87	12.91	12.68	11.75	11.00	10.40	9.85
3	13.23	13.16	13.17	13.37	13.16	12.81	12.92	12.66	12.00	11.00	10.50	9.80
4	13.24	13.14	13.17	13.35	13.17	12.91	13.25	12.63	11.80	11.00	10.35	9.80
5	13.20	13.13	13.18	13.44	13.16	12.98	13.34	12.56	11.65	11.20	10.30	9.85
6	13.16	13.13	13.15	13.51	13.16	12.96	13.19	12.53	11.55	10.95	10.30	9.85
7	13.15	13.30	13.14	13.53	13.12	12.93	13.15	12.53	11.55	10.90	10.35	9.85
8	13.11	13.57	13.21	13.49	13.17	12.90	13.34	12.50	11.55	10.80	10.30	9.80
9	13.12	13.50	13.20	13.47	13.13	12.89	13.48	.....	11.50	10.75	10.30	9.80
10	13.12	13.38	13.17	13.44	13.12	12.82	13.35	.....	11.45	10.85	10.25	9.75
11	13.12	13.36	13.26	13.43	13.12	12.81	13.24	.....	11.65	10.75	10.20	9.70
12	13.12	13.35	13.38	13.43	13.09	12.79	13.21	.....	11.45	10.65	10.15	9.80
13	13.08	13.36	13.46	13.46	13.03	12.88	13.15	.....	11.35	10.95	10.15	10.00
14	13.03	13.38	13.46	13.44	13.04	13.03	13.15	.....	11.70	10.60	10.10	10.05
15	13.02	13.40	13.46	13.40	13.03	13.03	13.09	12.41	11.40	10.50	10.10	10.05
16	13.09	13.40	13.48	13.36	13.04	13.00	13.09	12.46	11.50	10.55	10.05	10.00
17	13.21	13.40	13.47	13.36	13.04	12.96	13.07	12.42	11.30	10.45	10.05	10.20

a Tape measurement at 1:30 p.m.

Middlesex County--Continued.

28.4.9.3.1. Duhernal observation well 11.--Continued.

Water level at the end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
18	13.24	13.33	13.43	13.33	12.99	12.95	13.07	12.40	11.50	10.45	10.05	10.15
19	13.19	13.31	13.43	13.31	13.00	12.92	13.04	12.35	11.25	10.40	10.00	10.10
20	13.14	13.30	13.41	13.31	12.92	12.91	13.05	.....	11.45	10.45	10.10	10.10
21	13.12	13.28	13.40	13.21	12.94	12.87	13.01	12.15	11.60	10.40	10.10	10.05
22	13.13	13.28	13.40	13.17	12.97	12.87	12.98	12.20	11.25	10.35	10.00	10.00
23	13.12	13.25	13.38	13.15	12.95	12.78	12.82	12.10	11.15	10.35	10.10	10.00
24	13.16	13.22	13.43	13.22	12.97	12.79	12.80	11.95	11.15	10.25	10.15	10.05
25	13.29	13.22	13.46	13.26	12.95	12.76	12.80	11.65	11.40	10.20	10.05	10.10
26	13.31	13.17	13.46	13.26	12.88	12.76	12.75	12.00	11.15	10.25	10.00	10.05
27	13.27	13.18	13.45	13.31	12.92	12.76	12.74	11.90	11.15	10.25	9.95	10.05
28	13.25	13.18	13.47	13.27	12.92	12.72	12.72	11.90	11.10	10.25	9.95	10.00
29	13.22	.....	13.44	13.22	12.88	12.72	12.68	12.05	11.10	10.25	9.90	9.95
30	13.22	.....	13.43	13.17	12.87	12.75	12.67	11.90	11.30	10.25	9.85	10.10
31	13.20	.....	13.41	.....	12.80	.....	12.66	12.05	.....	10.20	.....	10.00

28.4.4.2.1. Fischer test well. Description in Water-Supply Papers 845 and 886. Highest observed water level, 12.58 feet below measuring point Apr. 26 and 27, 1939; lowest observed water level, 18.14 feet below measuring point Dec. 31, 1941.

Water level at the end of day, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	16.10	15.68	15.26	14.92	14.72	15.22	15.52	15.74	.....	16.75	17.31	17.81
2	16.07[a]	15.66	15.27	14.94	14.76	15.25	15.54	15.76	.....	16.78	17.33	17.82
3	.....	15.66	15.24	14.95	14.78	15.26	15.55	15.77	.....	16.78	17.38	17.84
4	.....	15.66	15.28	14.95	14.76	15.26	15.54	15.78	16.25	16.80	17.38	17.85
5	.....	15.64	15.30	14.90	14.78	15.29	15.56	15.78	16.25	16.82	17.40	.....
6	.....	15.63	15.31	14.92	14.80	15.31	15.56	15.80	16.28	16.84	17.40	.....
7	.....	15.53	15.29	14.93	14.80	15.32	15.57	15.82	16.30	16.86	17.42	.....
8	.....	15.45	15.24	14.90	14.80	15.33	15.56	15.82	16.32	16.88	17.44	.....
9	.....	15.48	15.27	14.89	14.82	15.36	15.58	15.83	16.34	16.90	17.46	.....
10	.....	15.48	15.31	14.88	14.86	15.37	15.59	15.86	16.36	16.92	17.48	.....
11	.....	15.46	15.24	14.86	14.87	15.39	15.60	15.86	16.38	16.94	17.49	.....
12	.....	15.44	15.20	14.84	14.90	15.42	15.61	15.88	16.40	16.96	17.51	17.99
13	.....	15.42	15.16	14.81	14.92	15.37	15.62	15.90	16.42	16.98	17.52	17.96
14	.....	15.39	15.11	14.78	14.94	15.39	15.63	15.91	16.43	17.00	17.54	17.96
15	.....	15.36	15.08	14.77	14.94	15.42	15.63	15.92	16.44	17.01	17.55	18.00
16	.....	15.36	15.05	14.76	14.94	15.44	15.64	15.93	16.46	17.04	17.57	18.02
17	.....	15.32	15.06	14.74	14.96	15.45	15.65	15.95	16.48	17.06	17.59	18.03
18	.....	15.33	15.06	14.74	15.00	15.46	15.63	15.97	16.50	17.07	17.60	18.04
19	.....	15.32	15.04	14.73	15.02	15.47	15.64	15.98	16.52	17.09	17.62	18.05
20	.....	15.30	15.04	14.71	15.04	15.48	15.66	16.00	16.54	17.11	17.62	18.06
21	.....	15.29	15.03	14.73	15.06	15.47	.....	.....	16.56	17.12	17.64	18.07
22	.....	15.28	15.02	14.74	15.07	15.47	.....	.....	16.57	17.14	17.66	18.08
23	.....	15.28	15.01	14.72	15.08	15.48	.....	.....	16.59	17.16	17.67	18.08
24	.....	15.28	14.98	14.73	15.11	15.48	.....	.....	16.61	17.18	17.69	18.08
25	.....	15.27	14.98	14.73	15.12	15.50	.....	.....	16.62	17.20	17.71	18.10
26	.....	15.28	14.96	14.72	15.13	15.49	.....	.....	16.65	17.22	17.72	18.10
27	.....	15.26	14.96	14.71	15.15	15.50	.....	.....	16.67	17.23	17.74	18.11
28	.....	15.25	14.94	14.73	15.16	15.50	15.70	.....	16.68	17.26	17.77	18.12
29	.....	.....	14.94	14.74	15.18	15.51	15.72	.....	16.71	17.28	17.78	18.12
30	15.69	.....	14.95	14.72	15.20	15.52	15.72	.....	16.73	17.30	17.79	18.13
31	15.69	.....	14.94	.....	15.21	.....	15.73	.....	.....	17.31	.....	18.14

29.11.1.2.3. Morrell well. Description in Water-Supply Papers 817, 845, and 908. Highest observed water level, 75.08 feet above mean sea level Mar. 28, 1932; lowest observed water level, 63.05 feet above mean sea level Oct. 6, 1932. Water level not affected by pumping. See accompanying figure for comparison of 1941 record with previous years of record.

a Tape measurement at 1:50 p.m.

Middlesex County--Continued.

29.11.1.2.3. Morrell well.--Continued.

Water level at the end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	73.99	73.82	73.45	73.72	73.27	72.72	72.52	72.03	70.80	69.62	68.97	71.39
2	74.21	73.77	73.46	73.87	73.23	72.64	72.37	71.91	70.78	69.59	68.99	71.44
3	74.17	73.72	73.77	73.78	73.19	72.56	74.43	71.77	70.77	69.55	69.02	71.46
4	74.25	73.69	74.22	73.71	73.17	73.08	74.37	71.66	70.75	69.51	69.06	71.51
5	74.09	73.65	74.09	74.52	73.19	73.99	74.09	71.57	70.73	69.48	69.09	71.59
6	73.97	73.63	73.99	74.39	73.14	73.71	74.09	71.50	70.70	69.45	69.14	71.67
7	73.87	74.64	73.92	74.18	73.10	73.45	74.66	71.42	70.67	69.41	69.19	71.72
8	73.80	74.35	73.98	74.08	73.56	73.18	74.46	71.35	70.63	69.38	69.25	71.78
9	73.75	74.19	74.15	73.98	73.43	72.97	74.03	71.27	70.60	69.35	69.31	71.78
10	73.72	74.11	74.16	73.89	73.33	72.77	73.75	71.18	70.55	69.32	69.38	71.79
11	73.68	74.00	74.45	73.81	73.23	72.60	73.58	71.13	70.51	69.30	69.45	71.79
12	73.64	73.92	74.44	73.74	73.14	72.51	73.45	71.12	70.47	69.27	69.53	71.81
13	73.59	73.88	74.34	73.70	73.09	74.09	73.40	71.10	70.43	69.24	69.60	74.30
14	73.55	74.01	74.39	73.66	73.03	73.97	73.23	71.09	70.39	69.22	69.68	73.89
15	73.51	74.07	74.40	73.61	72.98	74.24	73.07	71.07	70.34	69.20	69.76	73.65
16	74.49	73.96	74.38	73.57	72.96	74.07	72.96	71.05	70.29	69.17	69.83	73.51
17	74.33	73.90	74.19	73.54	72.94	73.83	73.08	71.03	70.24	69.15	69.90	73.36
18	74.23	73.80	74.13	73.51	72.88	73.60	72.99	71.00	70.19	69.12	69.97	73.28
19	74.12	73.73	73.98	.....	72.82	73.31	72.91	70.99	70.14	69.10	70.04	73.21
20	74.00	73.68	73.90	.....	72.73	73.05	72.77	70.96	70.06	69.08	70.12	73.12
21	73.90	73.63	73.86	.....	72.65	72.86	72.61	70.93	70.02	69.07	70.20	73.06
22	73.85	73.61	73.82	.....	72.56	72.68	72.46	70.91	69.97	69.05	70.26	73.02
23	73.90	73.58	73.79	.....	72.54	72.57	72.33	70.89	69.94	69.03	70.36	73.02
24	74.64	73.55	73.96	.....	72.47	72.48	72.22	70.86	69.90	69.02	70.60	73.44
25	74.32	73.54	74.00	.....	72.42	72.33	72.09	70.84	69.86	69.00	70.87	73.39
26	74.17	73.50	73.91	73.55	72.34	72.20	71.97	70.82	69.82	68.99	71.13	73.33
27	74.11	73.49	73.84	73.48	72.64	72.06	71.84	70.82	69.78	68.98	71.22	73.26
28	74.05	73.49	73.79	73.41	73.16	71.95	71.82	70.83	69.74	68.97	71.26	73.18
29	73.98	.....	73.74	73.34	72.97	71.86	71.87	70.83	69.70	68.95	71.34	73.12
30	73.93	.....	73.71	73.30	72.80	71.85	71.94	70.81	69.66	68.95	71.36	73.07
31	73.86	.....	73.68	.....	72.66	.....	72.04	70.81	.....	68.94	.....	73.05

28.4.3.1.5. National Fireproofing dug well. Description in Water-Supply Paper 845. Highest observed water level, 6.57 feet below measuring point Sept. 22, 1938; lowest observed water level, 11.54 feet below measuring point Oct. 18 and 19, 1937. Two water levels in 1940 were incorrectly reported. They should have been: Dec. 30, 9.96, and Dec. 31, 9.94.

Water level at end of day, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1	9.94	9.97	10.03	9.71	.....	10.31	10.42	10.45	10.80	11.21
2	9.93	10.01	10.04	9.73	.....	10.33	10.44	10.49	10.82	11.23
3	9.91	10.04	10.04	9.74	.....	10.35	10.44	10.51	10.84	11.23
4	9.91	10.07	10.03	9.76	.....	10.33	10.33	10.52	10.85	11.24
5	9.91	10.09	10.02	....	.....	10.31	10.29	10.53	10.86	11.25
6	9.96	10.11	10.04	....	.....	10.29	10.29	10.55	10.87	11.26
7	9.99	9.65	10.06	....	.....	10.28	10.28	10.57	10.89	11.26
8	10.01	9.39	10.00	....	.....	10.29	10.18	10.57	10.91	11.27
9	.....	9.36	9.98	....	.....	10.31	10.11	10.58	10.92	11.28
10	.....	9.39	9.81	....	.....	10.33	10.09	10.60	10.94	11.28
11	10.05	9.46	9.68	....	.....	10.35	10.10	10.62	10.96	11.30
12	10.06	9.52	9.56	....	.....	10.37	10.12	10.63	10.97	11.30
13	10.11	9.57	9.46	....	10.02	10.27	10.15	10.66	10.99	11.32
14	10.14	9.59	....	....	10.04	10.15	10.18	10.68	11.01	11.33
15	10.17	9.62	9.36	....	10.05	10.12	10.20	.....	11.03	11.33
16	.....	9.64	9.28	....	10.06	10.13	10.22	10.70	11.04	11.35
17	.....	9.64	9.26	....	10.08	10.15	10.23	10.72	11.06	11.36
18	10.06	9.70	9.31	....	10.10	10.17	10.24	10.73	11.07	11.36
19	10.05	9.75	9.38	....	10.12	10.20	10.27	10.74	11.09	11.37
20	10.06	9.79	9.45	....	10.14	10.22	10.30	10.76	11.11	11.38

Middlesex County--Continued.

28.4.3.1.5. National Fireproofing dug well.--Continued.

Water level at end of day, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
21	10.09	9.83	9.51	....	10.16	10.25	10.32	10.78	11.12	11.38
22	10.09	9.85	9.56	....	10.17	10.27	10.35	10.79	11.13	11.39
23	10.11	9.89	9.59	....	10.19	10.29	10.37	10.80	11.13	11.40
24	.....	9.92	9.60	....	10.20	10.31	10.39	10.82	11.15	11.40
25	9.97	9.95	9.61	....	10.22	10.34	10.40	10.74	11.15	.....
26	9.92	9.98	9.61	....	10.24	10.36	10.42	10.68	11.16	.....
27	9.90	10.00	9.63	....	10.25	10.37	10.45	10.65	11.17	.....
28	9.90	10.00	9.64	....	10.26	10.39	10.46	10.69	11.18	.....
29	9.90	.....	9.65	....	10.27	10.40	10.48	10.73	11.19	.....
30	9.91	.....	9.68	....	10.29	10.41	10.47	10.75	11.20	.....
31	....	.....	9.70	....	10.31	.....	10.44	10.78	.....	.....

28.5.4.7.2. Old Bridge observation well. Description in Water-Supply Paper 845. Highest observed water level, above top of casing Sept. 22, 1938, and Apr. 21, 22, 23, 24, and 25, 1940; lowest observed water level, 1.8 feet below mean sea level Jan. 3, 4, 6, and 7, 1940.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-0.8	-0.8	+0.1	-1.1	-0.8	-0.8	-0.7	-0.6	-1.1	-1.3	....	-1.4
2	- .4	- .6	- .9	- .6	....	- .8	- .6	- .8	-1.3	-1.4	....	-1.1
3	+ .4	- .4	- .9	- .6	....	-1.2	- .5	....	-1.3	-1.2	....	....
4	.0	- .6	- .6	- .6	....	- .9	+ .4	....	-1.3	-1.3	....	....
5	- .7	- .6	- .3	+ .1	- .6	- .2	+1.3	....	-1.1	-1.2	....	....
6	- .9	- .8	- .6	+1.0	....	- .2	+ .1	....	-1.1	-1.2	....	....
7	- .5	- .4	- .6	+ .1	-1.1	....	- .3	....	-1.4	- .5	....	....
8	- .7	+ .8	+ .6	- .4	-1.0	-1.2	+ .2	....	-1.3	-1.1	- .8	....
9	- .6	+ .7	- .4	- .5	-1.0	-1.2	+1.7	-1.1	-1.1	-1.0	- .7	....
10	- .8	- .3	- .5	- .7	-1.1	-1.3	+ .6	-1.1	-1.1	- .8	-1.1	....
11	- .3	- .6	- .5	- .8	-1.2	-1.3	- .2	- .9	- .9	-1.4	-1.0	....
12	- .2	- .7	+ .1	- .8	-1.2	-1.2	- .4	- .8	- .7	....	-1.4	....
13	-1.0	- .7	+ .7	- .9	-1.1	-1.1	- .5	- .7	- .6	....	-1.3	.0
14	-1.2	....	+ .1	-1.0	-1.1	- .8	- .6	- .6	- .8	....	-1.3	+ .3
15	-1.2	....	- .2	- .9	-1.1	- .2	- .4	- .6	-1.5	....	-1.4	- .4
16	- .9	....	....	- .9	....	- .1	- .2	- .8	-1.4	....	-1.3	- .7
17	+ .2	....	....	- .8	....	- .4	- .2	- .9	-1.3	....	-1.5	- .8
18	+ .2	....	....	....	....	- .4	- .3	- .8	-1.4	....	-1.4	- .9
19	- .5	....	-1.0	....	-1.2	- .6	- .5	-1.0	-1.4	....	-1.5	-1.0
20	- .8	-1.2	-1.0	- .8	....	- .8	- .7	-1.0	-1.2	....	-1.4	-1.1
21	-1.0	-1.2	- .8	-1.2	....	- .8	- .8	-1.0	-1.5	....	-1.5	-1.2
22	- .8	-1.0	- .9	-1.3	....	- .9	-1.0	-1.2	-1.5	....	-1.5	-1.3
23	- .8	....	....	-1.3	-1.3	-1.0	-1.1	-1.2	-1.4	....	-1.1	-1.0
24	- .8	-1.1	....	-1.1	-1.4	- .6	-1.3	-1.3	-1.2	....	-1.0	- .2
25	+ .3	-1.0	....	- .9	-1.6	- .9	-1.3	-1.2	- .8	....	-1.0	- .9
26	+ .5	-1.1	....	- .8	-1.7	-1.2	-1.2	-1.1	-1.1	....	-1.4	- .6
27	+ .2	-1.1	- .9	- .8	-1.6	-1.3	-1.1	- .9	- .8	....	-1.4	-1.0
28	- .3	- .8	- .8	- .9	-1.3	-1.2	-1.3	- .9	-1.2	....	-1.5	-1.0
29	- .5	....	- .7	-1.0	-1.2	-1.3	-1.0	-1.1	-1.5	....	-1.3	-1.0
30	- .7	....	-1.0	-1.1	-1.3	-1.0	-1.0	-1.2	-1.2	....	-1.5	- .8
31	- .8	....	-1.1	....	-1.1	....	- .8	-1.2	....	....	....	- .8

28.5.4.3.9. Runyon old deep well 1. Description in Water-Supply Paper 845. Highest observed water level, 9.6 feet above mean sea level Mar. 31, 1941; lowest observed water level, 46.6 feet below mean sea level Oct. 25, 1935. Daily fluctuations ranged from less than 1 foot to as much as 22 feet during 1941.

Middlesex County--Continued.

28.5.4.3.9. Runyon old deep well 1.--Continued.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	+7.9	+5.8	+4.9	+9.2	....	-25.3	....	-3.1	....	....	-26.1	-25.2
2	+7.9	+5.9	+5.2	+9.2	....	-25.3	....	-3.4	....	....	-27.1	-24.9
3	+7.5	+6.0	+6.0	+9.2	....	-25.5	-28.7	-3.4	....	....	-27.1	-25.3
4	+7.5	+5.4	+5.0	+8.8	....	-25.6	-28.5	-22.5	....	....	-26.7	-25.7
5	+7.5	+5.3	+4.7	+8.3	....	-25.5	-6.6	-24.2	-31.0	....	-26.3	-26.0
6	+7.6	+5.3	+4.3	+8.5	....	-7.1	-4.0	-25.8	-31.6	....	-25.6	-26.3
7	+6.5	+5.3	+3.8	....	-20.9	-3.8	-3.4	-26.3	-31.7	....	-25.3	-26.3
8	+6.4	+5.6	+3.6	....	-22.4	-1.9	-3.4	-26.9	-31.3	....	-25.7	-25.8
9	+6.6	+5.8	+3.6	....	-23.0	- .4	-2.8	-28.1	-31.5	....	-25.4	-24.7
10	+6.4	+6.5	+2.8	+7.4	-23.5	+ .1	-2.2	-28.2	-32.4	-30.6	-24.9	-24.8
11	+6.4	+6.4	+2.8	+7.3	-23.5	- .1	-1.9	-27.7	-32.6	-29.7	-24.8	.....
12	+7.1	+6.1	+3.2	+7.2	-22.5	- .3	-2.8	-27.4	-32.0	-29.7	-24.4	.....
13	+7.6	+6.0	+3.9	+7.2	-23.2	- .3	-2.8	-27.4	-31.2	-29.3	-24.3	-24.3
14	+7.1	+6.0	+4.5	+7.7	-23.7	- .1	-2.2	-27.4	-30.6	-29.2	-24.0	-24.9
15	+6.9	+5.8	+4.8	+6.8	-24.4	+ .1	-1.9	-27.8	-29.8	-29.2	-25.4	-24.8
16	+6.7	+5.7	+5.3	+5.4	-24.7	+ .3	-1.6	-28.5	-29.8	-29.0	-23.7	-24.3
17	+6.2	+6.1	+5.7	+5.2	-25.2	- .2	-1.1	-28.7	-29.6	-29.0	.....	-24.2
18	+6.1	+6.0	+5.2	+4.5	-26.2	- .8	-1.7	-28.8	-29.6	-28.7	.....	-24.0
19	....	+5.9	+5.2	+4.1	-26.7	-1.0	-3.0	-29.4	-29.5	-30.2	.....	-24.2
20	+6.0	+5.9	+5.0	+3.5	-26.8	-1.7	-3.0	-29.8	-29.3	-28.8	.....	-24.5
21	+5.3	+5.8	+5.1	+3.1	-27.3	-2.2	-2.3	-29.9	-29.3	-28.7	.....	-24.5
22	+5.3	+5.8	+5.4	+2.9	-28.0	-2.3	-2.5	-29.9	-30.4	.....	.....	-23.9
23	+5.2	+6.2	+5.9	+ .7	-28.7	-1.7	-3.1	-30.0	-31.1	.....	.....	-24.6
24	+5.2	+6.2	+6.6	....	-28.7	-1.6	-3.1	-30.1	-31.1	.....	.....	-25.0
25	+5.5	+5.9	+6.7	....	-28.4	-1.9	-4.0	-29.8	-30.8	.....	.....	-25.0
26	+5.9	+5.3	+6.8	+4.3	-26.9	-21.1	-5.1	-30.4	-30.7	.....	.....	-24.7
27	+6.6	+5.2	+7.6	+4.5	-26.2	-23.5	-5.0	-30.4	-30.6	.....	.....	-25.4
28	+6.6	+4.9	+8.3	....	-26.8	-25.3	-4.3	-30.0	-30.6	-27.7	-24.7	-25.4
29	+6.5	....	+8.8	....	-26.5	.....	-4.2	-29.6	-30.4	-27.7	-24.8	-24.9
30	+6.5	....	+9.2	....	-26.2	.....	-3.8	-29.4	-30.5	-27.0	-25.0	-24.7
31	+6.0	....	+9.6	....	-25.4	.....	-3.1	.....	.....	-26.6	.....	-24.5

29.1.4.1.1. Runyon old deep well 8. Description in Water-Supply Paper 840. Highest observed water level, 8.8 feet above mean sea level Apr. 3, 1933; lowest observed water level, 40.6 feet below mean sea level Oct. 25, 1935. Daily fluctuations ranged from less than 1 foot to 6.6 feet during 1941.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	+4.8	+2.2	+1.2	+6.1	-0.7	-14.5	-17.5	-7.4	....	-19.3	-14.7	-13.2
2	+4.6	+2.6	+1.6	+6.1	- .3	-14.6	-18.8	-7.8	....	-19.3	-16.3	-13.2
3	+4.2	+2.6	+2.6	+6.1	- .8	-14.8	-19.1	-7.8	-19.8	-18.8	-16.3	-13.7
4	+4.1	+2.0	+1.4	+5.7	- .3	-15.0	-18.6	-11.7	-20.1	-19.8	-15.4	-14.2
5	+4.2	+1.9	+1.0	+5.7	.0	-15.0	-11.2	-13.5	-21.4	....	-14.9	-14.6
6	+4.2	+1.8	+1.0	+5.3	-6.8	-11.9	-8.0	-15.4	-22.0	....	-13.9	-14.9
7	+2.9	+1.6	....	+4.8	-10.2	-7.7	-8.0	-16.0	-22.1	....	-14.0	-14.9
8	+2.8	+2.0	....	+4.4	-11.8	-6.0	-7.9	-16.6	-21.5	....	-14.0	-14.3
9	+3.1	+2.3	....	+4.0	-12.3	-4.0	-7.3	-18.2	-21.7	....	-13.7	-13.9
10	+2.8	+3.2	-1.2	+4.0	-12.6	-3.7	-6.5	-18.2	-22.9	-20.3	-13.1	-13.9
11	+2.9	+2.9	-1.2	+3.9	-12.6	-4.0	-6.2	-17.5	-23.1	-19.2	-12.9	-13.4
12	+4.0	+2.4	- .6	....	-11.4	-4.4	-7.3	-17.0	-22.3	-19.1	-12.6	-13.4
13	+4.5	+2.4	+ .3	....	-12.3	-4.4	-7.3	-17.0	-21.1	-18.8	-12.4	-13.2
14	+3.9	+2.3	+ .9	....	-12.9	-4.3	-6.5	-17.1	-20.3	-18.6	-12.6	-13.4
15	+3.6	+2.3	+1.2	....	-13.7	-3.9	-6.1	-17.6	-19.5	-18.8	-12.7	-13.1
16	+3.2	+2.3	+1.8	....	-14.2	-3.7	-5.8	-18.6	-19.5	-18.4	-12.2	-12.8
17	+2.6	+2.8	+2.2	....	-14.6	-4.4	-5.4	-18.6	-19.4	-18.4	-11.4	-12.7
18	+2.6	+2.6	+1.6	....	-15.9	-5.1	-6.0	-18.7	-19.4	-18.1	-11.7	-12.5
19	+2.7	+2.5	+1.6	....	-16.7	-5.3	-7.7	-19.3	-19.2	-18.0	-11.7	-12.9
20	+2.5	+2.5	+1.4	- .4	-16.5	-6.2	-7.7	-20.0	-19.0	-17.9	-11.6	-13.2

Middlesex County--Continued.

29.1.4.1.1. Runyon old deep well 8.--Continued.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
21	+2.1	+2.4	+1.5	- .8	-16.9	-6.6	-6.6	-20.0	-19.0	-18.0	-11.2	-13.2
22	+1.6	+2.3	+1.9	-1.2	-18.0	-6.8	-7.0	-20.0	-18.5	-18.0	.....	....
23	+1.6	+2.8	+2.6	-1.1	-18.7	-6.0	-7.7	-20.0	-19.6	-17.6	....	....
24	+1.6	+2.8	+3.2	.0	-18.7	-5.9	-7.7	-20.0	-19.6	-17.4	....	....
25	+2.0	+2.5	+3.5	+ .7	-18.2	-6.3	-8.8	-19.8	-19.1	-17.4	....	....
26	....	+2.2	+3.7	+ .7	-16.2	-10.6	-9.8	-20.6	-18.9	-17.0	....	....
27	....	+1.5	+4.5	+1.0	-15.5	-13.2	-9.7	-20.7	-18.9	-16.4	....	....
28	....	+1.1	+5.3	+1.2	-16.4	-15.1	-8.9	-19.9	-18.7	-16.8	....	-14.1
29	....	....	+5.8	.0	-16.0	-15.2	-8.9	-19.3	-18.4	-16.7	....	-13.4
30	....	....	+6.4	- .4	-15.5	-16.2	-8.2	-19.3	-18.8	-15.8	....	-13.2
31	+2.5	....	+6.8	....	-14.7	.....	-7.5	-19.6	....	-15.3	....	-13.0

28.5.4.7.3. Runyon well 123. Description in Water-Supply Paper 845. Highest observed water level, 6.14 feet above mean sea level Sept. 22, 1938 (flooded); lowest observed water level, 0.53 foot above mean sea level Jan. 23, 1940.

Lowest daily water level, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.80	....	....	1.65	....	1.80	1.70	2.00	1.40	1.35	1.60	....
2	1.90	....	....	1.95	....	1.80	1.70	1.85	1.40	1.30	1.60	1.30
3	2.30	....	....	1.90	....	1.60	1.80	1.75	1.40	1.45	1.45	1.20
4	2.15	....	....	1.95	....	1.60	1.85	1.75	1.45	1.35	1.45	1.20
5	1.65	....	....	2.20	2.00	2.05	....	1.75	1.55	1.40	1.50	1.30
6	1.60	....	1.85	2.60	1.85	2.10	2.00	1.75	1.60	1.45	1.65	1.30
7	1.85	....	1.85	2.35	1.80	1.80	1.90	1.75	1.45	1.75	1.65	1.10
8	1.80	....	....	2.05	1.85	1.70	2.10	1.70	1.50	1.50	1.50	1.10
9	1.90	2.45	....	2.00	....	1.70	2.60	1.70	1.60	1.45	1.50	.90
10	1.80	2.00	1.85	1.90	....	1.65	2.25	1.70	1.55	1.55	1.35	.90
11	2.20	1.90	1.80	1.90	1.85	1.70	2.00	1.80	1.60	1.20	1.35	.90
12	2.15	1.85	2.10	....	1.85	1.80	1.95	1.80	1.65	1.40	1.05	1.00
13	1.80	1.90	2.35	....	1.90	1.80	1.90	1.75	1.65	1.45	1.15	1.45
14	1.65	2.15	2.15	....	1.90	2.00	1.90	1.75	1.50	1.30	1.05	1.65
15	1.60	2.15	2.10	....	1.90	2.05	1.95	1.65	1.20	1.25	1.15	1.30
16	1.75	1.95	2.10	....	1.80	2.05	2.05	1.60	1.20	1.15	1.10	1.30
17	2.30	1.90	1.95	....	1.95	1.95	2.05	1.55	1.30	1.20	1.05	1.25
18	2.30	1.75	1.65	....	1.70	1.95	2.00	1.60	1.35	1.15	1.10	1.30
19	1.90	1.65	1.50	....	1.70	1.80	1.95	1.55	1.35	1.20	1.10	1.30
20	1.65	1.55	1.40	1.95	1.70	1.75	1.75	1.50	1.50	1.25	1.15	1.25
21	1.65	1.50	1.65	1.75	1.65	1.75	1.70	1.55	1.40	1.30	1.10	1.20
22	1.75	1.55	1.60	1.65	1.65	1.65	1.70	1.50	1.35	1.30	1.05	1.15
23	1.75	1.75	1.65	1.65	1.65	1.60	1.60	1.55	1.40	1.35	1.25	1.35
24	1.70	1.65	1.65	1.70	1.50	1.85	1.55	1.55	1.50	1.20	1.10	1.70
25	2.35	1.70	1.80	1.80	1.40	1.70	1.55	1.55	1.80	1.25	1.15	1.35
26	2.35	1.65	1.70	....	1.35	1.60	1.65	1.60	1.65	1.45	.95	1.55
27	2.30	1.65	1.70	....	1.50	1.50	1.70	1.60	1.70	1.50	.85	....
28	2.25	1.85	1.80	....	1.60	1.55	1.65	1.60	1.55	1.20	1.00	....
29	2.05	....	1.90	....	1.60	1.50	1.75	1.50	1.35	1.35	....	....
30	1.90	....	1.80	....	1.60	1.60	1.75	1.45	1.40	1.35	....	....
31	....	....	1.65	....	1.65	....	1.90	1.40	....	1.35	....	....

28.5.4.6.3. (A-1). Perth Amboy Water Department, 0.45 mile southeast of Runyon Pond dam and 1.67 miles northeast of traffic circle at Old Bridge. Diameter 3 inches. Constructed in June 1932 to observe fluctuations of water level in the No. 3 sand. Originally 13 feet deep; deepened to 15 feet Oct. 13, 1932. Measuring point, top of casing, flush with land surface, 17.67 feet above mean sea level to Oct. 13, 1932, when ground was excavated; since then 15.95 feet above mean sea level. An obstruction in the casing at a depth of 7.3 feet below the measuring point (8.65 feet above mean sea level) was noted on June 18, 1939. Since that time measurements have not been possible when the water level is below that stage. First measured June 13, 1932. Highest observed water level, 12.64 feet above mean sea

Middlesex County--Continued.

28.5.4.6.3. (A-1).--Continued.

level Jan. 18, 1937; lowest observed water level, 2.67 feet above mean sea level Oct. 19, 1935. Times when the well is noted as dry occurred either before it was deepened or after the obstruction was lodged in the casing. Well now abandoned. Water levels affected by pumping at Perth Amboy Water Department well field.

Water level, in feet above mean sea level, 1932-41

Date	Water level	Date	Water level	Date	Water level
June 13, 1932	10.79	Aug. 29, 1935	3.67	Aug. 15, 1938	11.55
July 8	10.56	Sept.16	2.70	Sept.14	8.45
11	10.46	Oct. 19	2.67	Oct. 21	8.80
22	9.36	Nov. 20	4.40	Nov. 4	8.89
Aug. 17	7.43	Dec. 13	8.10	Dec. 20	9.76
26	6.87	Jan. 17, 1936	10.20	Feb. 14, 1939	11.75
Sept. 3	(a)	Feb. 28	5.77	Mar. 10	11.95
15	(a)	Mar. 27	10.97	Apr. 27	11.75
24	(a)	Apr. 22	10.31	May 5	11.35
30	(a)	May 20	9.56	June 18	(a)
Oct. 14	5.47	June 22	8.33	July 25	(a)
20	5.49	July 31	6.55	Aug. 26	(a)
Nov. 4	5.91	Aug. 11	6.23	Sept.22	(a)
29	11.25	Sept.11	4.15	Oct. 29	(a)
Jan. 4, 1933	11.97	Oct. 13	5.70	Nov. 29	(a)
Mar. 27	12.63	Nov. 6	6.95	Dec. 29	(a)
May 10	12.52	Dec. 26	10.12	Jan. 27, 1940	(a)
July 6	11.76	Jan. 18, 1937	12.64	Feb. 4	(a)
Oct. 16	10.54	Feb. 10	9.66	Mar. 30	11.71
Nov. 29	9.04	Mar. 26	9.77	Apr. 24	12.60
Jan. 26, 1934	11.60	Apr. 29	11.27	May 27	12.25
Apr. 5	12.31	May 22	10.09	June 23	11.00
May 9	12.35	June 12	9.33	July 22	9.97
Sept.20	12.31	July 3	7.65	Aug. 23	(a)
Oct. 27	12.15	Aug. 31	5.95	Sept.19	10.36
Nov. 17	11.92	Sept.30	6.25	Oct. 22	9.33
Dec. 16	11.06	Oct. 25	6.50	Nov. 23	10.93
Jan. 11, 1935	11.50	Nov. 8	7.55	Dec. 13	10.51
Mar. 3	11.85	Dec. 12	9.46	Jan. 18, 1941	11.43
15	11.63	Jan. 28, 1938	10.75	Feb. 24	10.97
Apr. 17	12.23	Feb. 22	11.25	Mar. 23	11.24
May 14	11.39	Mar. 19	10.05	Apr. 19	10.65
June 8	9.49	Apr. 13	10.35	May 24	(a)
July 8	7.22	May 23	10.55	June 24	(a)
15	6.57	June 29	12.55	Oct. 23	(a)
19	6.32	July 29	12.05	Nov. 7	(a)
Aug. 5	5.62				

28.5.4.6.3.A. (A-2). Perth Amboy Water Department. Half a mile southeast of Runyon Pond dam and 1.61 miles northeast of traffic circle at Old Bridge. Diameter 1¼ inches, depth 13 feet. Measuring point, top of casing, 1.2 feet above the land surface and 17.87 feet above mean sea level. Driven June 1932 to observe fluctuations of water level in No. 3 sand. First measured June 13, 1932. Highest observed water level, 13.65 feet above mean sea level May 27, 1940; lowest observed water level, 3.86 feet above mean sea level Oct. 23, 1941. Water levels affected by pumping at Perth Amboy Water Department well field.

Water level, in feet above mean sea level, 1932-41

June 13, 1932	11.32	Sept.15, 1932	7.19	Jan. 4, 1933	11.99
July 8	11.05	24	6.56	Mar. 27	12.73
11	10.99	30	7.17	May 10	13.19
22	11.36	Oct. 14	6.46	July 6	12.35
Aug. 17	9.42	20	6.31	Oct. 16	10.98
26	8.36	Nov. 4	6.76	Nov. 29	9.73
Sept. 3	7.69	29	11.77	Jan. 26, 1934	12.03

a Dry.

Middlesex County--Continued.

28.5.4.6.3.A. (A-2).--Continued.

Water level, in feet above mean sea level, 1932-41

Date	Water level	Date	Water level	Date	Water level
May 9, 1934	12.89	Nov. 6, 1936	7.59	Apr. 27, 1939	12.27
Sept.20	12.61	Dec. 26	11.09	May 5	12.17
Oct. 27	12.17	Jan. 18, 1937	13.11	June 18	9.17
Nov. 17	11.91	Feb. 10	10.68	July 25	7.66
Dec. 16	11.41	Mar. 26	10.87	Aug. 26	6.58
Jan. 11, 1935	12.17	Apr. 29	11.99	Sept.22	5.72
Mar. 3	12.34	May 22	11.07	Oct. 29	4.65
15	12.30	June 12	10.67	Nov. 29	5.65
Apr. 17	12.72	July 3	8.51	Dec. 29	4.10
May 14	10.88	Aug. 31	6.87	Jan. 27, 1940	4.65
June 8	10.37	Sept.30	6.97	Feb. 4	7.90
July 8, 1935	8.23	Oct. 25	6.92	Mar. 30	11.76
15	7.65	Nov. 8	8.22	Apr. 24	13.07
19	7.32	Dec. 12	10.37	May 27	13.65
Aug. 6	6.59	Jan. 28, 1938	11.09	June 23	11.40
29	5.22	Feb. 22	11.32	July 22	10.45
Sept.16	4.61	Mar. 29	11.17	Aug. 23	8.31
Nov. 20	5.75	Apr. 13	11.37	Sept.19	10.63
Dec. 13	8.97	May 23	11.17	Oct. 22	9.57
Jan. 17, 1936	11.23	June 29	13.12	Nov. 23	12.30
Feb. 28	7.32	July 29	12.91	Dec. 13	11.24
Mar. 27	12.39	Aug. 15	12.11	Jan. 18, 1941	11.96
Apr. 22	11.61	Sept.14	9.14	Feb. 24	11.49
May 20	10.39	Oct. 21	9.97	Mar. 23	11.90
June 22	9.37	Nov. 4	9.81	Apr. 19	11.57
July 31	7.57	Dec. 20	10.51	May 24	9.68
Aug. 11	7.17	Feb. 14, 1939	12.29	June 24	7.98
Sept.11	5.27	Mar. 10	12.37	Oct. 23	3.86
Oct. 13	6.77				

28.5.4.6.6. (A-3). Perth Amboy Water Department, 0.55 mile southeast of Runyon Pond dam and 1.58 miles northeast of traffic circle at Old Bridge. Diameter 1¼ inches, depth 18 feet. Measuring point, top of casing, 0.2 foot above land surface and 17.42 feet above mean sea level. Driven July 11, 1932, to observe fluctuations of water level in No. 3 sand. First measured July 22, 1932. Highest observed water level, 15.89 feet above mean sea level May 10, 1933; lowest observed water level, 5.80 feet above mean sea level Oct. 19, 1935. Water levels affected by pumping at Perth Amboy Water Department well field.

Water level, in feet above mean sea level, 1932-41

July 22, 1932	12.06	Jan. 11, 1935	14.12	Sept.11, 1936	8.82
Aug. 17	10.62	Mar. 3	14.82	Oct. 13	9.42
26	10.17	15	14.87	Nov. 6	10.42
Sept. 3	9.86	Apr. 17	15.08	Dec. 26	13.65
15	9.44	May 14	14.25	Jan. 18, 1937	15.19
24	9.13	June 8	13.45	Feb. 10	14.12
30	8.99	July 8	11.55	Mar. 26	14.22
Oct. 14	8.68	15	11.07	Apr. 29	14.68
20	8.62	19	10.79	May 22	14.42
Nov. 4	9.20	Aug. 6	9.96	June 12	13.82
29	13.74	29	9.06	July 3	11.62
Jan. 4, 1933	14.53	Sept.16	8.56	Aug. 31	10.02
May 10	15.89	Oct. 19	5.80	Sept.30	9.62
July 6	14.68	Nov. 20	9.02	Oct. 25	9.72
Oct. 16	12.77	Dec. 13	12.10	Nov. 8	10.42
Nov. 29	11.84	Jan. 17, 1936	14.09	Dec. 12	12.86
Jan. 26, 1934	14.10	Mar. 27	14.89	Jan. 27, 1938	13.42
Apr. 5	14.97	Apr. 22	14.94	Feb. 22	14.22
May 9	15.17	May 20	13.68	Mar. 29	13.75
Sept.20	14.46	June 22	12.76	Apr. 13	14.16
Nov. 17	9.92	July 31	10.56	May 23	13.62
Dec. 16	13.59	Aug. 11	10.12	June 29	14.82

Middlesex County--Continued.

28.5.4.6.6. (A-3).--Continued.

Water level, in feet above mean sea level, 1932-41

Date	Water level	Date	Water level	Date	Water level
July 29, 1938	15.22	Sept.22, 1939	8.67	Sept.19, 1940	12.73
Aug. 15	14.37	Oct. 29	6.32	Oct. 22	12.22
Sept.14	11.97	Nov. 29	9.32	Nov. 23	13.75
Oct. 21	13.07	Dec. 29	7.22	Dec. 13	13.69
Nov. 4	13.12	Jan. 27, 1940	7.77	Jan. 18, 1941	14.57
Dec. 20	13.71	Feb. 4	8.32	Feb. 24	14.40
Feb. 14, 1939	15.08	Mar. 30	13.81	Mar. 23	14.70
Mar. 10	14.32	Apr. 24	15.43	Apr. 19	14.44
Apr. 27	14.88	May 27	15.17	May 24	12.71
May 5	14.82	June 23	14.20	June 24	11.88
June 18	12.17	July 22	13.19	Oct. 23	7.44
July 25	10.12	Aug. 23	11.43	Nov. 14	6.93
Aug. 26	9.11				

28.5.4.6.6.A. (A-40). Perth Amboy Water Department, 0.65 mile southeast of Runyon Pond dam and 1.5 miles northeast of traffic circle at Old Bridge. Stovepipe well, diameter 8 inches, depth 10 feet. Measuring point, top of casing, 0.4 foot above land surface and 17.99 feet above mean sea level. Constructed November 1932 to observe fluctuations of water level in No. 3 sand. First measured Nov. 29, 1932. Highest observed water level, flowing Apr. 24, 1940; lowest observed water level, 8.89 feet above mean sea level Oct. 29, 1939. Water levels affected by pumping at Perth Amboy Water Department well field.

Water level, in feet above mean sea level, 1932-41

Nov. 11, 1932	16.67	Dec. 26, 1936	17.17	June 18, 1939	13.83
Jan. 4, 1933	17.17	Feb. 10, 1937	16.98	July 25	11.96
Nov. 29	12.75	Mar. 26	17.24	Aug. 26	10.69
Apr. 5, 1934	17.26	Apr. 29	17.24	Sept.22	9.96
Sept.20	17.18	May 22	17.04	Oct. 29	8.89
Apr. 17, 1935	17.21	June 12	13.54	Nov. 29	10.05
May 14	15.94	July 3	13.44	Dec. 29	12.39
June 8	17.15	Aug. 31	11.19	Jan. 27, 1940	9.24
July 8	13.61	Sept.30	10.99	Mar. 30	17.02
Aug. 6	12.91	Oct. 25	10.89	Apr. 24	(a)
29	11.04	Nov. 8	12.09	May 27	17.23
Sept.16	10.49	Feb. 22, 1938	17.14	June 23	15.28
Oct. 19	9.58	Mar. 29	16.69	July 22	14.32
Nov. 20	17.10	Apr. 13	17.19	Aug. 23	12.84
Dec. 13	15.87	May 23	15.89	Sept.19	13.09
Jan. 17, 1936	17.36	June 29	17.24	Oct. 22	14.12
Mar. 27	17.30	July 29	17.00	Nov. 23	16.96
Apr. 22	17.22	Aug. 15	15.39	Dec. 13	16.96
May 20	16.74	Sept.14	13.49	Jan. 18, 1941	17.31
June 22	15.09	Oct. 21	14.77	Feb. 24	16.81
July 31	12.22	Nov. 4	17.03	Mar. 23	17.14
Aug. 11	11.60	Feb. 14, 1939	17.23	Apr. 19	16.40
Sept.11	10.29	Mar. 10	17.21	May 24	14.10
Oct. 13	10.59	Apr. 27	14.17	June 24	14.49
Nov. 6	11.14	May 5	13.99	Oct. 23	9.24

28.5.4.3.8. (B-1). Perth Amboy Water Department, 0.14 mile south of the Runyon Pond dam and 1.53 miles northeast of the traffic circle at Old Bridge. Diameter 1¼ inches, depth 12 feet. Measuring point, top of casing, 2 feet above land surface and 10.17 feet above mean sea level. Driven August 1932 to observe fluctuations of water level in the No. 3 sand. First measured Aug. 26, 1932. Highest observed water level, 8.73 feet above mean sea level on May 10, 1933; lowest observed water level, 2.06 feet above mean sea level Oct. 19, 1935. Water levels affected by pumping at the Perth Amboy Water Department well field. This well destroyed in May 1936.

a Flowing.

Middlesex County--Continued.

28.5.4.3.8. (B-1).--Continued.

Water level, in feet above mean sea level, 1932-36

Date	Water level	Date	Water level	Date	Water level
Aug. 26, 1932	5.29	Nov. 29, 1933	6.62	July 8, 1935	5.07
Sept. 3	5.33	Jan. 26, 1934	7.96	15	4.81
15	4.65	Apr. 5	8.27	19	3.52
24	4.50	May 8	8.22	Aug. 6	3.90
30	4.60	Sept.20	8.13	29	2.75
Oct. 14	4.51	Nov. 17	8.09	Sept.16	2.98
20	4.33	Dec. 16	7.74	Oct. 19	2.06
Nov. 4	5.36	Jan. 11, 1935	7.86	Nov. 20	4.47
29	8.07	Mar. 3	8.16	Dec. 13	6.92
Jan. 4, 1933	8.26	15	7.99	Jan. 17, 1936	7.84
May 10	8.73	Apr. 16	8.11	Mar. 27	7.93
July 6	8.25	May 14	7.70	Apr. 22	7.34
Oct. 16	7.64	June 8	6.93		

28.5.4.6.2.A. (B-2). Description in Water-Supply Paper 845. Highest observed water level, 14.49 feet above mean sea level July 29, 1938; lowest observed water level, 1.08 feet above mean sea level Dec. 29, 1939.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 18	9.39	Mar. 23	9.12	May 24	7.67	Oct. 23	2.75
Feb. 24	8.90	Apr. 19	8.99	June 24	6.52	Nov. 7	2.46

28.5.4.6.2.B. (B-3). Description in Water-Supply Paper 845. Highest observed water level, 10.59 feet above mean sea level May 5, 1939; lowest observed water level, 2.11 feet above mean sea level Oct. 19, 1935.

Water level, in feet above mean sea level, 1941

Jan. 18	9.80	Mar. 23	9.82	May 24	8.28	Oct. 23	3.40
Feb. 24	9.57	Apr. 19	9.70	June 24	7.24		

28.5.4.6.5. (B-4). Description in Water-Supply Paper 845. Highest observed water level, 11.54 feet above mean sea level May 22, 1937; lowest observed water level, 5.08 feet above mean sea level Oct. 24, 1941.

Water level, in feet above mean sea level, 1941

Jan. 18	10.80	Mar. 23	11.09	May 24	9.73	Oct. 24	5.08
Feb. 24	10.82	Apr. 19	10.86	June 24	8.93		

28.5.4.5.9. (B-5). Perth Amboy Water Department, 0.77 mile from Runyon Pond dam and 0.92 mile from traffic circle at Old Bridge. Stovepipe well, diameter 6 inches, depth 5.5 feet. Measuring point, top of casing, 0.5 foot above land surface and 9.98 feet above mean sea level. Constructed in December 1932 to observe fluctuations of water level in No. 3 sand. First measured Jan. 4, 1933. Highest observed water level, 9.50 feet above mean sea level Apr. 29, 1937; lowest observed water level, 6.20 feet above mean sea level Oct. 27, 1941. Water levels affected by pumping at Perth Amboy Water Department well field.

Water level, in feet above mean sea level, 1933-41

Date	Water level	Date	Water level	Date	Water level
Jan. 4, 1933	8.98	Dec. 16, 1934	8.59	July 15, 1935	8.15
May 10	9.48	Jan. 11, 1935	8.83	19	7.88
Nov. 29	8.15	Mar. 3	9.30	Aug. 5	7.83
Jan. 26, 1934	8.83	15	9.22	29	7.03
Apr. 3	9.29	Apr. 16	9.27	Sept.16	7.59
May 8	9.28	May 14	8.91	Oct. 19	6.48
Oct. 27	9.08	June 7	8.71	Nov. 20	8.28
Nov. 17	8.76	July 8	8.15	Dec. 13	8.38

Middlesex County--Continued.

28.5.4.5.9. (B-5).--Continued.

Water level, in feet above mean sea level, 1933-41

Date	Water level	Date	Water level	Date	Water level
Jan. 17, 1936	8.99	Dec. 12, 1937	8.49	Sept.22, 1939	6.28
Feb. 25	8.36	Jan. 27, 1938	9.08	Oct. 29	6.39
Mar. 27	9.40	Feb. 22	9.16	Nov. 29	7.19
Apr. 22	9.26	Mar. 29	8.88	Dec. 29	6.68
May 20	8.63	Apr. 13	9.13	Jan. 27, 1940	6.83
June 20	8.86	May 23	8.88	Mar. 30	8.44
July 31	7.63	June 29	9.48	Apr. 24	9.38
Aug. 11	7.32	July 29	9.48	June 23, 1940	9.36
Sept.11	6.78	Aug. 15	9.19	July 22	8.66
Oct. 13	7.58	Sept.14	8.36	Aug. 23	8.53
Nov. 17	7.79	Oct. 21	9.12	Sept.19	8.63
Dec. 26	8.68	Nov. 4	9.09	Oct. 22	8.71
Feb. 10, 1937	9.26	Dec. 20	9.13	Nov. 23	9.02
Mar. 26	9.23	Jan. 28, 1939	8.88	Dec. 13	9.00
Apr. 29	9.50	Feb. 14	9.43	Jan. 18, 1941	9.41
May 22	9.23	Mar. 10	9.45	Feb. 24	9.32
June 12	8.68	Apr. 27	9.41	Mar. 23	9.39
July 3	8.23	May 5	9.33	Apr. 19	9.24
Aug. 31	7.96	June 18	8.70	May 24	8.72
Sept.30	7.56	July 25	7.72	June 24	7.98
Oct. 23	8.13	Aug. 26	7.06	Oct. 27	6.20
Nov. 8	8.10				

28.5.4.3.7. (C-1). Description in Water-Supply Paper 845. Highest observed water level, 7.30 feet above mean sea level Mar. 29, 1938; lowest observed water level, 2.43 feet above mean sea level Jan. 27, 1940.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 18	6.74	Mar. 23	6.30	May 24	5.19	Nov. 13	3.01
Feb. 24	6.09	Apr. 19	6.21	June 24	4.75		

28.5.4.3.7.A. (C-2). Description in Water-Supply Paper 845. Highest observed water level, 8.89 feet above mean sea level Nov. 23, 1940; lowest observed water level, 2.79 feet above mean sea level Jan. 27, 1940.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 18	6.25	Mar. 23	6.36	May 24	5.16	Nov. 13	3.16
Feb. 24	4.07	Apr. 19	6.23	June 24	4.77		

28.5.4.2.6. (C-3). New Jersey State Water Policy Commission. On southeast side of road from Old Bridge to South Amboy, 0.38 mile northwest of Runyon Pond dam and 1.44 miles northeast of intersection of Marlboro Road with road from Old Bridge to South Amboy. Stovepipe well, diameter 6 inches, depth 12 feet. Measuring point, top of casing, 0.8 foot above land surface and 13.12 feet above mean sea level. Constructed September 1932 to observe fluctuations of water level in No. 3 sand. First measured Sept. 30, 1932. Highest observed water level, 6.91 feet above mean sea level May 10, 1933; lowest observed water level, 3.67 feet above mean sea level Sept. 30, 1932. Water levels possibly affected by pumping at Perth Amboy Water Department well field. Well destroyed in September 1938.

Water level, in feet above mean sea level, 1932-38

Date	Water level	Date	Water level	Date	Water level
Sept.30, 1932	3.67	July 6, 1933	5.41	Oct. 27, 1934	5.42
Oct. 14	3.74	Oct. 16	4.85	Nov. 17	4.97
20	4.21	Nov. 29	4.82	Dec. 16	4.82
Nov. 4	4.47	Jan. 25, 1934	5.40	Jan. 11, 1935	5.09
Jan. 4, 1933	5.64	Apr. 4	5.79	Mar. 3	5.32
May 10	6.91	Sept.18	6.06	15	5.43

Middlesex County--Continued.

28.5.4.2.6. (C-3).--Continued.

Water level, in feet above mean sea level, 1932-38

Date	Water level	Date	Water level	Date	Water level
Apr. 16, 1935	5.67	May 20, 1936	6.07	July 3, 1937	4.67
May 14	5.02	June 20	5.09	Aug. 31	4.85
June 7	5.12	July 31	4.38	Sept.30	4.42
July 8	4.50	Aug. 11	4.02	Oct. 23	5.12
15	4.47	Sept.11	3.72	Nov. 8	4.90
19	4.42	Oct. 13	4.37	Dec. 12	5.22
Aug. 29	3.94	Nov. 17	4.22	Jan. 27, 1938	5.17
Sept.12	4.50	Dec. 23	5.45	Feb. 22	4.52
Oct. 19	3.72	Jan. 27, 1937	6.24	Mar. 29	5.02
Nov. 20	5.52	Feb. 10	5.71	Apr. 13	5.37
Dec. 13	5.11	Mar. 26	5.44	May 23	4.82
Jan. 17, 1936	5.66	Apr. 29	5.90	June 29	5.62
Feb. 25	4.82	May 22	5.60	July 29	6.37
Mar. 27	5.86	June 12	6.02	Aug. 15	5.27
Apr. 22	5.60				

28.5.4.2.4. (C-4). New Jersey State Water Policy Commission. About 0.78 mile northwest of Runyon Pond dam and 1.32 miles northeast of intersection of Marlboro Road with road from Old Bridge to South Amboy. Stovepipe well, diameter 6 inches, depth 12 feet. Measuring point, top of casing, 1.0 foot above the land surface and 7.70 feet above mean sea level. Constructed in October 1932 to observe fluctuations of water level in No. 3 sand. First measured Jan. 4, 1933. Highest observed water level, 6.59 feet above mean sea level Feb. 10, 1937; lowest observed water level, 0.98 foot above mean sea level Jan. 17, 1936. Water levels possibly affected by pumping at Perth Amboy Water Department well field. Well destroyed late in 1940.

Water level, in feet above mean sea level, 1933-40

Jan. 4, 1933	4.36	Jan. 17, 1936	5.56	Mar. 29, 1938	4.70
May 10	4.55	Mar. 27	4.70	Apr. 13	4.70
July 6	4.05	Apr. 22	4.78	May 23	4.55
Oct. 16	3.98	May 20	4.62	June 29	4.70
Nov. 29	3.72	June 20	4.33	July 29	4.75
Jan. 26, 1934	4.28	July 31	3.58	Aug. 15	4.36
Sept.18	4.57	Aug. 11	3.40	Sept.14	3.70
Oct. 27	4.30	Sept.11	3.20	Oct. 21	4.40
Nov. 17	2.14	Oct. 13	4.00	Nov. 4	4.44
Dec. 16	3.04	Nov. 17	3.88	Dec. 20	4.51
Jan. 11, 1935	4.30	Dec. 26	4.55	Feb. 14, 1939	4.68
Mar. 3	4.48	Jan. 27, 1937	4.75	Apr. 27	4.80
15	3.45	Feb. 10	6.59	May 5	4.64
Apr. 16	4.95	Mar. 26	4.52	June 18	4.20
May 14	4.20	Apr. 29	4.75	July 25	4.53
June 7	4.25	May 22	4.58	Sept.22	4.34
July 8	3.47	June 12	5.33	Oct. 29	3.24
15	3.61	July 3	3.94	Nov. 29	3.79
19	3.70	Aug. 31	4.35	Dec. 29	3.45
Aug. 6	3.29	Sept.30	3.80	Jan. 27, 1940	3.60
29	3.04	Oct. 23	4.40	Apr. 24	4.94
Sept.12	4.30	Nov. 8	4.45	May 27	4.01
Oct. 19	1.40	Dec. 12	5.08	June 23	4.50
Nov. 20	4.60	Jan. 27, 1938	4.70	July 22	4.17
Dec. 13	4.40	Feb. 22	4.80	Aug. 23	4.11

28.5.4.3.6. (D-1). Description in Water-Supply Paper 845. Measurement reported for Jan. 27, 1938, in Water-Supply Paper 845 was in error and should be eliminated from the record. Highest observed water level, 12.29 feet above mean sea level July 29, 1938; lowest observed water level, 5.19 feet above mean sea level Nov. 13, 1941.

Middlesex County--Continued.

28.5.4.3.6. (D-1).--Continued.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 18	9.07	Mar. 23	9.33	May 24	7.24	Oct. 27	5.67
Feb. 24	9.04	Apr. 19	10.57	June 24	8.88	Nov. 13	5.19

28.5.4.3.2. (D-2). Description in Water-Supply Paper 845. Highest observed water level, 14.34 feet above mean sea level July 29, 1938; lowest observed water level, 7.91 feet above mean sea level Nov. 13, 1941.

Water level, in feet above mean sea level, 1941

Jan. 18	11.40	Apr. 19	11.72	June 24	10.49	Nov. 7	8.04
Feb. 24	11.48	May 24	10.48	Oct. 27	8.25	13	7.91
Mar. 23	11.81						

28.5.4.3.2.A. (D-3). New Jersey State Water Policy Commission, 0.47 mile north of Runyon Pond dam and 0.2 mile northeast of intersection of Jornee Mill Road and road from Old Bridge to South Amboy. Stovepipe well, diameter 6 inches; depth 12 feet. Measuring point, top of casing, 0.5 foot above the land surface and 19.94 feet above mean sea level. Constructed Sept. 30, 1932, to observe fluctuations of water level in No. 3 sand. First measured Sept. 30, 1932. Highest observed water level, 16.44 feet above mean sea level May 10, 1933; lowest observed water level, 11.86 feet above mean sea level Oct. 14, 1932. Water levels affected by pumping at Perth Amboy Water Department well field. Well destroyed in 1934.

Water level, in feet above mean sea level, 1932-33

Date	Water level	Date	Water level	Date	Water level
Sept.30, 1932	11.97	Jan. 4, 1933	15.15	Oct. 16, 1933	14.42
Oct. 14	11.86	May 10	16.44	Nov. 29	13.70
20	12.52	July 6	15.86		

28.5.1.9.7. (D-4). New Jersey Water Policy Commission, 0.58 mile northwest of Runyon Pond dam and 0.3 mile northeast of intersection of Jornee Mill Road and road from Old Bridge to South Amboy. Stovepipe well, diameter 6 inches, original depth 11 feet. Filled with debris to 9.7 feet below the measuring point (14.8 feet above mean sea level) in December 1939. Measuring point, top of casing, 0.4 foot above the land surface and 24.46 feet above mean sea level. Constructed in October 1932 to observe fluctuations of water level in No. 3 sand. First measured Jan. 4, 1933. Highest observed water level, 19.46 feet above mean sea level Feb. 14, 1939; lowest observed water level, dry (below 13.5 feet above mean sea level) on several dates. Water levels possibly affected by pumping at Perth Amboy Water Department well field. Well destroyed late in November 1941.

Water level, in feet above mean sea level, 1933-41

Jan. 4, 1933	16.48	July 31, 1936	16.46	Feb. 22, 1938	16.06
May 10	18.13	Aug. 11	(a)	Mar. 29	17.03
July 6	18.01	Sept.11	(a)	Apr. 13	16.55
Nov. 29	16.02	Nov. 17	14.76	May 23	16.86
Jan. 26, 1934	15.38	Dec. 26	16.16	June 29	17.21
July 8, 1935	16.01	Jan. 27, 1937	17.26	July 29	18.14
15	15.84	Feb. 10	17.27	Aug. 15	17.94
19	15.81	Mar. 26	17.36	Sept.14	17.16
Aug. 6	15.34	Apr. 29	17.75	Oct. 21	17.65
29	15.16	May 22	17.86	Nov. 4	17.22
Sept.12	15.16	June 12	18.26	Dec. 20	17.41
Oct. 19	(a)	July 3	16.76	Jan. 12, 1939	17.46
Nov. 20	13.96	Aug. 31	16.66	Feb. 14	19.46
Dec. 13	(a)	Sept.30	17.26	Mar. 10	18.21
Mar. 27, 1936	17.37	Oct. 23	15.66	Apr. 27	18.86
Apr. 22	18.58	Nov. 8	15.66	May 5	18.66
May 20	17.30	Dec. 12	17.46	June 18	17.66
June 20	17.05	Jan. 27, 1938	15.66	July 25	16.88

a Dry.

Middlesex County--Continued.

28.5.1.9.7. (D-4).--Continued.

Water level, in feet above mean sea level, 1933-41

Date	Water level	Date	Water level	Date	Water level
Aug. 26, 1939	16.16	Dec. 29, 1939	(a)	Apr. 24, 1940	15.75
Sept. 22	15.56	Jan. 27, 1940	(a)	June 23	16.90
Oct. 29	16.06	Mar. 30	15.51	Nov. 14, 1941	(a)
Nov. 29	16.76				

29.1.4.5.1. (F-1). Description in Water-Supply Paper 845. Highest observed water level, 19.5 feet above mean sea level Mar. 27, 1936; lowest observed water level, 13.52 feet above mean sea level Oct. 14, 1932. Well destroyed October 1941.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 17	18.74	Mar. 22	18.41	Apr. 19	18.38	June 23	17.27
Feb. 22	17.74	23	18.38	May 21	16.43	24	17.27
24	17.73	Apr. 18	18.33	24	16.46		

29.1.4.5.2. (F-2). Description in Water-Supply Paper 845. Highest observed water level, 22.9 feet above mean sea level Mar. 27, 1936; lowest observed water level, 14.59 feet above mean sea level Sept. 24, 1932, and Oct. 27, 1941.

Water level, in feet above mean sea level, 1941

Jan. 17	20.90	Mar. 22	21.27	Apr. 19	21.24	June 23	20.03
Feb. 22	20.68	23	21.16	May 21	19.66	24	20.03
24	20.66	Apr. 18	21.21	24	19.66	Oct. 27	14.59

29.1.4.3.9. (F-3). Description in Water-Supply Papers 817 and 845. Highest observed water level, 31.91 feet above mean sea level June 17, 1939; lowest observed water level, 24.14 feet above mean sea level Mar. 11, 1932.

Water level, in feet above mean sea level, 1941

Jan. 17	28.07	Mar. 22	28.21	May 21	28.26	Oct. 27	27.65
Feb. 22	28.18	Apr. 18	28.66	June 23	28.91		

29.1.5.1.4. (F-4). Description in Water-Supply Paper 845. Highest observed water level, 29.47 feet above mean sea level July 12, 1939; lowest observed water level, 22.89 feet above mean sea level Mar. 11, 1932.

Water level, in feet above mean sea level, 1941

Jan. 17	26.26	Mar. 22	26.21	May 21	26.77	Oct. 27	25.88
Feb. 22	25.77	Apr. 18	26.13	June 23	26.27		

29.1.5.1.9. (F-5). Description in Water-Supply Paper 845. Highest observed water level, 105.73 feet above mean sea level Jan. 24, 1934; lowest observed water level, 97.69 feet above mean sea level Sept. 24, 1932.

Water level, in feet above mean sea level, 1941

Jan. 17	102.88	Mar. 22	103.08	May 21	101.26	Oct. 27	97.94
Feb. 22	102.71	Apr. 18	102.84	June 23	101.69		

29.1.5.6.3. (F-9). Description in Water-Supply Paper 845. Highest observed water level, 106.79 feet above mean sea level Apr. 15, 1932; lowest observed water level, 98.43 feet above mean sea level Oct. 27, 1941.

Water level, in feet above mean sea level, 1941

Jan. 17	106.47	Mar. 22	105.24	May 21	103.44	Oct. 27	98.43
Feb. 22	104.83	Apr. 18	105.49	June 23	100.46		

a Dry.

Middlesex County--Continued.

29.1.5.6.3.A. (F-10). Description in Water-Supply Paper 845. Highest observed water level, 126.71 feet above mean sea level Mar. 27, 1936; lowest observed water level, 119.12 feet above mean sea level Oct. 27, 1941.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 17	126.15	Mar. 22	125.47	May 21	122.53	Oct. 27	119.12
Feb. 22	124.96	Apr. 18	124.96	June 23	125.96		

29.1.5.4.6. (F-11). Description in Water-Supply Paper 845. Highest observed water level, 33.94 feet above mean sea level Apr. 18, 1941; lowest observed water level, 22.75 feet above mean sea level Mar. 11, 1932.

Water level, in feet above mean sea level, 1941

Jan. 17	27.31	Mar. 22	28.73	May 21	28.62	Oct. 27	26.14
Feb. 22	28.37	Apr. 18	33.94	June 23	26.92		

29.1.5.4.8. (F-12). Description in Water-Supply Paper 845. Highest observed water level, 34.98 feet above mean sea level May 4, 1939; lowest observed water level, dry on several dates in 1932.

Water level, in feet above mean sea level, 1941

Jan. 17	29.63	Mar. 22	30.38	May 21	30.61	Oct. 27	28.60
Feb. 22	30.04	Apr. 18	30.67	June 23	30.11		

29.1.5.4.8.A. (F-13). No measurements made in 1941.

29.1.5.7.2. (F-14). Description in Water-Supply Papers 817 and 845. Highest observed water level, 38.94 feet above mean sea level July 27, 1938; lowest observed water level, dry Oct. 21, 1925, and Nov. 13, 1931.

Water level, in feet above mean sea level, 1941

Jan. 17	35.82	Mar. 22	36.61	May 21	35.52	Oct. 27	29.67
Feb. 22	36.02	Apr. 18	36.68	June 23	34.78		

29.1.5.7.5.A. (F-16). Description in Water-Supply Paper 845. Highest observed water level, 89.34 feet above mean sea level Mar. 17, 1939; lowest observed water level, 82.92 feet above mean sea level Aug. 10, 1936.

Water level, in feet above mean sea level, 1941

Jan. 17	88.22	Mar. 22	88.42	May 21	86.52	Oct. 27	86.13
Feb. 22	88.16	Apr. 18	87.81	June 23	87.18		

29.1.4.7.6. (F-20). Description in Water-Supply Paper 845. Highest observed water level, 36.62 feet above mean sea level Apr. 11, 1939; lowest observed water level, 28.54 feet above mean sea level Sept. 24, 1932.

Water level, in feet above mean sea level, 1941

Jan. 17	33.55	Mar. 22	34.41	May 21	33.21	Oct. 27	30.04
Feb. 22	34.06	Apr. 18	34.46	June 23	32.62		

29.1.4.9.8. (F-21). Description in Water-Supply Paper 845. Highest observed water level, 66.47 feet above mean sea level Sept. 17, 1934; lowest observed water level, 59.78 feet above mean sea level July 19, 1935.

Water level, in feet above mean sea level, 1941

Jan. 17	64.35	Mar. 22	64.26	May 21	62.75	Oct. 27	61.81
Feb. 22	64.21	Apr. 18	63.66	June 23	63.37		

29.1.7.3.5. (F-22). Description in Water-Supply Paper 845. Highest observed water level, 88.76 feet above mean sea level Sept. 17, 1934; lowest observed water level, 76.19 feet above mean sea level Oct. 20, 1932.

Water level, in feet above mean sea level, 1941

Jan. 17	86.62	Mar. 22	86.26	May 21	84.65	Oct. 27	78.92
Feb. 22	85.90	Apr. 18	86.05	June 23	84.59		

Middlesex County--Continued.

29.11.1.2.5. (F-26). Description in Water-Supply Paper 845. Highest observed water level, 88.10 feet above mean sea level Apr. 11, 1939; lowest observed water level, 82.51 feet above mean sea level Sept. 18, 1925.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 17	86.72	Mar. 22	87.28	May 21	86.37	Oct. 27	84.91
Feb. 22	86.99	Apr. 18	86.99	June 23	86.47		

29.11.1.2.5.A. (F-27). Description in Water-Supply Paper 845. Highest observed water level, 88.38 feet above mean sea level Aug. 5, 1939; lowest observed water level, 82.33 feet above mean sea level Aug. 11, 1925.

Water level, in feet above mean sea level, 1941

Jan. 17	86.67	Mar. 22	87.08	May 21	86.24	Oct. 27	84.50
Feb. 22	86.87	Apr. 18	86.95	June 23	86.27		

29.1.1.7.8. (G-1). Description in Water-Supply Paper 845. Highest observed water level, 23.79 feet above mean sea level May 10, 1933; lowest observed water level, 17.43 feet above mean sea level Oct. 27, 1941.

Water level, in feet above mean sea level, 1941

Jan. 18	21.28	Mar. 23	21.18	May 24	19.71	Oct. 27	17.43
Feb. 24	20.80	Apr. 19	21.09	June 24	19.62		

29.1.1.7.8.A. (G-2). Description in Water-Supply Paper 845. Highest observed water level, 25.45 feet above mean sea level Nov. 17, 1934; lowest observed water level, 20.84 feet above mean sea level Oct. 27, 1941.

Water level, in feet above mean sea level, 1941

Jan. 18	24.47	Mar. 23	24.36	May 24	23.23	Oct. 27	20.84
Feb. 24	24.12	Apr. 19	24.30	June 24	23.07		

29.1.1.7.9. (G-3). Description in Water-Supply Paper 845. Highest observed water level, 28.43 feet above mean sea level June 12, 1937; lowest observed water level, 24.53 feet above mean sea level Oct. 27, 1941.

Water level, in feet above mean sea level, 1941

Jan. 18	27.54	Mar. 23	27.50	May 24	26.95	Oct. 27	24.53
Feb. 24	27.28	Apr. 19	27.47	June 24	26.70		

29.1.1.8.4. (G-4). Description in Water-Supply Paper 845. Highest observed water level, 31.91 feet above mean sea level May 23, 1938; lowest observed water level, 27.46 feet above mean sea level Oct. 27, 1941.

Water level, in feet above mean sea level, 1941

Jan. 18	29.87	Mar. 23	30.34	May 24	29.93	Oct. 27	27.46
Feb. 24	30.06	Apr. 19	30.40	June 24	29.97		

29.1.1.7.9.A. (G-20). New Jersey State Water Policy Commission. On cranberry dike, 550 feet south of the center line of road leading from Perth Amboy Water Works at Runyon and 1 mile northeast of Runyon Pond dam. Diameter 1¼ inches, depth 18 feet. Measuring point, top of casing, 0.4 foot above land surface and 27.94 feet above mean sea level. Driven September 1935 to observe fluctuations of water level in No.3 sand. First measured Sept. 12, 1935. Highest observed water level, 25.94 feet above mean sea level Dec. 20, 1938, and Feb. 14, 1939; lowest observed water level, 20.58 feet above mean sea level Oct. 27, 1941. Water levels possibly affected by pumping at Perth Amboy Water Works well field.

Middlesex County--Continued.

29.1.1.7.9.A. (G-20).--Continued.

Water level, in feet above mean sea level, 1935-41

Date	Water level	Date	Water level	Date	Water level
Sept.12, 1935	23.24	June 12, 1937	23.95	Feb. 14, 1939	25.94
Oct. 19	22.14	July 3	23.72	Mar. 10	24.39
Nov. 20	24.74	Aug. 31	23.69	Apr. 27	24.69
Dec. 13	23.62	Sept.30	22.94	May 5	24.14
Jan. 17, 1936	23.99	Oct. 23	23.84	June 18	24.54
Mar. 27	24.24	Nov. 8	23.70	July 25	23.02
Apr. 22	24.09	Dec. 12	23.94	Aug. 26	23.01
May 20	24.02	Jan. 27, 1938	24.06	Sept.22	22.44
June 20	24.04	Feb. 22	23.34	Oct. 29	22.54
July 31	22.85	Mar. 29	23.76	Nov. 29	22.94
Aug. 11	22.35	Apr. 13	24.04	Dec. 29	23.69
Sept.11	22.22	May 23	23.94	Jan. 27, 1940	22.04
Oct. 13	23.19	June 29	24.19	Dec. 13	23.70
Nov. 17	23.28	July 29	24.14	Jan. 18, 1941	24.16
Dec. 23	24.00	Aug. 15	23.64	Feb. 24	23.99
Jan. 18, 1937	24.19	Sept.14	23.29	Mar. 23	24.08
Feb. 10	24.44	Oct. 21	24.34	Apr. 19	24.08
Mar. 26	24.24	Nov. 4	24.94	May 24	23.42
Apr. 29	24.24	Dec. 20	25.94	June 24	23.23
May 22	24.37	Jan. 12, 1939	24.22	Oct. 27	20.58

29.1.4.2.4. (H-1). New Jersey State Water Policy Commission. One mile east of Runyon Pond dam and 0.8 mile southeast of underpass at intersection of Old Bridge-South Amboy Road with Pennsylvania Railroad. Diameter 1¼ inches, depth 19 feet. Measuring point, top of casing, 1.8 feet above land surface and 34.04 feet above mean sea level. Driven December 1932 to observe fluctuations of water level in No. 3 sand. First measured Nov. 29, 1932. Highest observed water level, 23.45 feet above mean sea level Apr. 19, 1941; lowest observed water level, 17.75 feet above mean sea level Aug. 6, 1935. Water levels possibly affected by pumping at Perth Amboy Water Works well field.

Water level, in feet above mean sea level, 1932-33, 1935-41

Nov. 29, 1932	21.24	July 3, 1937	21.24	Aug. 26, 1939	19.70
Jan. 4, 1933	21.56	Aug. 31	20.84	Sept.22	19.41
Mar. 7	21.47	Sept.30	21.14	Oct. 29	19.13
July 8, 1935	20.56	Oct. 23	20.74	Nov. 29	19.96
July 15	20.42	Nov. 8	21.04	Dec. 29	19.14
19	20.29	Dec. 12	23.17	Jan. 27, 1940	18.94
Aug. 6	17.75	Jan. 27, 1938	22.04	Feb. 24	20.37
29	19.14	Feb. 22	21.94	Mar. 30	21.20
Sept.12	19.38	Mar. 29	22.14	Apr. 24	22.32
Oct. 11	18.86	Apr. 13	22.14	May 27	22.44
Nov. 20	21.32	May 23	21.94	June 23	21.79
Dec. 13	21.16	July 29	23.25	July 22	21.30
Jan. 17, 1936	21.74	Aug. 15	22.26	Aug. 23	20.23
Mar. 27	22.63	Sept.14	20.61	Sept.19	21.00
Apr. 22	22.72	Oct. 21	21.84	Oct. 22	21.02
May 20	22.12	Nov. 4	21.81	Nov. 23	21.64
June 20	21.94	Dec. 20	22.14	Dec. 13	21.38
July 31	20.04	Jan. 12, 1939	22.34	Jan. 18, 1941	22.23
Sept.11	19.16	Feb. 14	23.19	Feb. 24	22.19
Oct. 13	20.89	Mar. 10	23.19	Mar. 23	22.62
Nov. 17	20.04	Apr. 27	23.27	Apr. 19	23.45
Jan. 18, 1937	22.39	May 5	23.09	May 24	21.34
Mar. 26	22.36	June 18	21.47	June 24	21.45
May 22	22.34	July 25	20.24	Oct. 27	18.44

29.1.4.1.4. (J-1). Description in Water-Supply Paper 845. Highest observed water level, 15.61 feet above mean sea level Oct. 16, 1933; lowest observed water level, 9.10 feet above mean sea level Oct. 24, 1941.

Middlesex County--Continued.

29.1.4.1.4. (J-1).--Continued.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 18	13.66	Mar. 23	14.01	May 24	12.05	Oct. 24	9.10
Feb. 24	13.67	Apr. 17	13.81	June 23	12.27		

29.1.4.1.6. (J-2). Description in Water-Supply Paper 845. Highest observed water level, 16.52 feet above mean sea level Jan. 27, 1937, and July 29, 1938; lowest observed water level, 11.49 feet above mean sea level Jan. 11, 1935.

Water level, in feet above mean sea level, 1941

Jan. 18	15.64	Mar. 23	15.80	May 24	14.56	Oct. 24	12.10
Feb. 24	15.49	Apr. 17	15.60	June 23	14.60		

29.1.4.2.7. (J-3). Description in Water-Supply Paper 845. Highest observed water level, 17.69 feet above mean sea level July 29, 1938; lowest observed water level, 13.23 feet above mean sea level Sept. 24, 1932.

Water level, in feet above mean sea level, 1941

Jan. 18	17.02	Mar. 23	17.12	May 24	15.86	Oct. 27	13.49
Feb. 24	16.74	Apr. 17	16.86	June 23	16.06		

29.1.4.2.7.A (J-4). Description in Water-Supply Paper 845. Highest observed water level, 18.35 feet above mean sea level Sept. 18, 1934; lowest observed water level, 13.76 feet above mean sea level Oct. 24, 1941.

Water level, in feet above mean sea level, 1941

Jan. 18	17.61	Mar. 23	17.99	May 24	16.12	Oct. 24	13.76
Feb. 24	17.23	Apr. 17	17.37	June 23	16.26		

29.1.4.5.2.A. (J-5). Description in Water-Supply Paper 845. Highest observed water level, 23.60 feet above mean sea level Feb. 22, 1938; lowest observed water level, 15.42 feet above mean sea level Oct. 14, 1932.

Water level, in feet above mean sea level, 1941

Jan. 18	18.33	Mar. 23	18.98	May 24	17.76	Oct. 27	15.57
Feb. 24	17.67	Apr. 17	18.86	June 23	17.78		

29.1.4.4.6. (K-1). Perth Amboy Water Department, 0.85 mile southeast of Runyon Pond dam and 2 miles northeast of traffic circle at Old Bridge. Stovepipe well, diameter 6 inches, depth 5 feet. Measuring point, top of casing, 1 foot above the land surface. Constructed in October 1932 to observe fluctuations of water level in No. 3 sand. First measured Oct. 14, 1932. Highest observed water level, 1.45 feet below top of casing May 10, 1933; lowest observed water level, 4.73 feet below top of casing Oct. 14, 1932. Water levels affected by pumping at Perth Amboy Water Department well field. No measurements of water level have been made since Nov. 29, 1933.

Water level, in feet below top of casing, 1932-33

Date	Water level	Date	Water level	Date	Water level
Oct. 14, 1932	4.73	Nov. 4, 1932	3.40	May 10, 1933	1.45
20	3.64	Jan. 4, 1933	2.04	Nov. 29	2.67

28.5.4.5.6. (L-1). Description in Water-Supply Paper 845. Highest observed water level, 7.56 feet above mean sea level Apr. 16, 1935; lowest observed water level, 2.86 feet above mean sea level, May 27, 1940. Water levels, in feet above mean sea level, 1941: Oct. 24, 3.42; Nov. 7, 4.03; Nov. 13, 3.81.

28.5.4.6.7.A. (L-2). Description in Water-Supply Paper 845. Highest observed water level, 9.06 feet above mean sea level July 29, 1938; lowest observed water level, 4.82 feet above mean sea level Oct. 24, 1941. Water level, in feet above mean sea level, 1941: Oct. 24, 4.82; Nov. 13, 4.97.

Middlesex County--Continued.

28.5.4.6.7.B. (L-3). Description in Water-Supply Paper 845. No measurements made in 1941.

28.5.4.5.1.A. (M-1). Perth Amboy Water Department, 0.15 mile south of intersection of Deep Run with road running from Old Bridge to South Amboy and 0.78 mile from traffic circle at Old Bridge. Driven in October 1932 to observe fluctuations of water level in No. 3 sand. Diameter 1¼ inches, depth about 7 feet. Measuring point, top of casing, 0.4 foot above the land surface. Highest observed water level, 0.78 foot below top of casing Jan. 26, 1934; lowest observed water level, 1.60 feet below top of casing Nov. 29, 1933. Water levels possibly affected by pumping at Perth Amboy Water Department well field. No measurements made since Jan. 26, 1934.

Water level, in feet below top of casing, 1932-34

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1932	1.03	Jan. 4, 1933	0.98	Nov. 29, 1933	1.60
28	1.11	Oct. 16	1.39	Jan. 26, 1934	.78

28.5.4.5.1.B. (M-2). Perth Amboy Water Department, 0.1 mile southwest of intersection of Deep Run with road running from Old Bridge to South Amboy and 0.8 mile northeast of traffic circle at Old Bridge. Driven in October 1932 to observe fluctuations of water level in No. 3 sand. Diameter 1¼ inches, depth about 7 feet. Measuring point, top of casing, 0.4 foot above the land surface. Highest observed water level, 0.20 foot below top of casing May 10, 1933; lowest observed water level, 1.24 feet below top of casing Nov. 29, 1933. Water levels, possibly affected by pumping at the Perth Amboy Water Department well field. No measurements made since Nov. 29, 1933.

Water level, in feet below top of casing, 1932-33

Oct. 20, 1932	0.42	May 10, 1933	0.20	Oct. 16, 1933	1.11
28	.35	July 6	.43	Nov. 29	1.24

28.5.4.4.9.A. (N-1). New Jersey State Water Policy Commission. At edge of swamp 0.57 mile southeast of intersection of the Marlboro Road with road from Old Bridge to South Amboy and 0.3 mile northeast of traffic circle at Old Bridge. Stovepipe well, diameter 6 inches, depth about 5 feet. Measuring point, top of casing, 1 foot above land surface and 4.87 feet above mean sea level. Constructed in October 1932 to observe fluctuations of water level in No. 3 sand. First measured Oct. 20, 1932. Highest observed water level, flowing June 23, 1940 and Jan. 18, 1941; lowest observed water level, 2.87 feet above mean sea level Jan. 27, 1940. Water levels probably not affected by pumping at the Perth Amboy Water Works well field.

Water level, in feet above mean sea level, 1932-41

Oct. 20, 1932	3.45	Sept.11, 1936	3.77	Apr. 13, 1938	4.48
28	3.20	Oct. 13	4.00	May 23	4.32
Nov. 4	3.23	Nov. 17	3.87	June 29	4.67
May 10, 1933	4.56	Dec. 23	4.51	July 29	4.87
July 6	4.58	Jan. 27, 1937	4.86	Aug. 15	4.87
Oct. 16	3.99	Feb. 10	4.81	Sept.14	4.65
Nov. 29	3.06	Mar. 26	4.50	Oct. 21	4.78
May 8, 1934	4.39	Apr. 29	4.62	Nov. 4	4.64
Aug. 29, 1935	3.77	May 22	4.81	Dec. 20	4.85
Sept.16	4.24	June 12	4.67	Jan. 28, 1939	4.33
Nov. 20	4.21	July 3	4.47	Feb. 18	4.87
Dec. 13	4.76	Aug. 31	4.13	Mar. 10	4.87
Jan. 17, 1936	4.33	Sept.30	3.97	Apr. 27	4.87
Mar. 27	4.82	Oct. 25	4.19	May 5	4.87
Apr. 22	4.84	Nov. 8	3.83	June 18	4.47
May 20	4.62	Dec. 12	4.20	July 25	3.97
June 20	4.49	Jan. 27, 1938	4.27	Aug. 26	3.93
July 31	4.17	Feb. 22	4.49	Sept.22	3.68
Aug. 11	4.03	Mar. 29	4.55	Oct. 29	3.77

Middlesex County--Continued.

28.5.4.4.9.A. (N-1).--Continued.

Water level, in feet above mean sea level, 1932-41

Date	Water level	Date	Water level	Date	Water level
Nov. 29, 1939	4.03	July 22, 1940	4.42	Feb. 24, 1941	4.61
Jan. 27, 1940	2.87	Aug. 23	4.17	Mar. 23	4.52
Feb. 24	4.15	Sept.19	4.64	Apr. 17	4.69
Mar. 30	4.15	Oct. 22	4.22	May 24	4.29
Apr. 24	4.87	Nov. 23	4.29	June 23	3.93
May 27	4.75	Dec. 13	4.38	Oct. 27	3.40
June 23	(a)	Jan. 18, 1941	(a)		

28.5.4.4.9.B. (N-2). New Jersey State Water Policy Commission, 0.59 mile southeast of intersection of Marlboro Road with road from Old Bridge to South Amboy and 0.3 mile northeast of traffic circle at Old Bridge. Diameter 1¼ inches, depth 30 feet. Driven Aug. 27, 1935, to observe fluctuations of water level in No. 3 sand. Measuring point, top of casing, 0.3 foot above land surface and 18.91 feet above mean sea level. First measured Aug. 29, 1935. Highest observed water level, 6.48 feet above mean sea level June 12, 1937; lowest observed water level, 3.65 feet above mean sea level Nov. 13, 1941. Probably not affected by pumping.

Water level, in feet above mean sea level, 1935-41

Aug. 29, 1935	4.03	Nov. 8, 1937	4.33	Nov. 29, 1939	4.67
Sept.16	4.46	Dec. 12	5.61	Dec. 29	4.31
Nov. 20	4.35	Jan. 27, 1938	4.56	Jan. 27, 1940	3.86
Dec. 13	4.83	Feb. 22	4.51	Feb. 24	4.11
Jan. 17, 1936	4.73	Mar. 29	5.01	Mar. 30	4.57
Mar. 31	5.45	Apr. 13	4.89	Apr. 24	5.70
Apr. 22	5.39	May 23	4.73	May 27	5.47
May 20	5.13	June 29	5.51	June 23	5.43
June 20	4.88	July 29	6.03	July 22	4.92
July 31	4.43	Aug. 15	5.61	Aug. 23	4.65
Aug. 11	4.17	Sept.14	5.00	Sept.19	5.18
Sept.11	4.11	Oct. 21	5.30	Oct. 22	4.79
Oct. 13	4.21	Nov. 4, 1938	4.96	Nov. 23	4.74
Nov. 17	4.01	Dec. 20	5.21	Dec. 13	4.74
Dec. 23	4.61	Feb. 14, 1939	5.81	Jan. 18, 1941	5.16
Jan. 27, 1937	5.21	Mar. 10	5.86	Feb. 24	5.01
May 22	5.71	May 5	5.73	Mar. 23	5.06
June 12	6.48	June 18	4.86	Apr. 17	5.26
July 3	5.20	July 25	4.51	May 21	4.72
Aug. 31	4.66	Aug. 26	4.21	June 23	4.85
Sept.30	4.41	Sept.22	4.21	Oct. 27	3.72
Oct. 25	4.11	Oct. 29	3.86	Nov. 13	3.65

28.5.4.8.1.A. (N-3). New Jersey State Water Policy Commission, 0.62 mile southeast of intersection of Marlboro Road with road from Old Bridge to South Amboy and 0.3 mile northeast of traffic circle at Old Bridge. Diameter 1¼ inches, depth 22 feet. Driven in May 1933 to observe fluctuations of water level in No. 3 sand. First measured May 10, 1933. Highest observed water level, 11.18 feet above mean sea level May 10, 1933; lowest observed water level, 4.66 feet above mean sea level Nov. 13, 1941. Probably not affected by pumping. Water levels, in feet above mean sea level: May 10, 1933, 11.18; Nov. 29, 1933, 7.78; Nov. 13, 1941, 4.66.

29.1.1.7.5.A. (P-1). New Jersey State Water Policy Commission. On southeast side of Old Bridge-South Amboy Road at edge of road embankment, 0.18 mile southwest of underpass beneath Pennsylvania Railroad and 0.9 mile northeast from intersection of Old Bridge-South Amboy Road with Jornee Mill Road. Diameter 1¼ inches, depth about 18 feet. Measuring point, top of casing, 0.2 foot above land surface and 27.95 feet above mean sea level. Driven July 1935, to observe fluctuations of water level in No. 3 sand. First measured July 8, 1935. Highest observed water level, 25.15 feet above mean sea level Mar. 27, 1936; lowest observed water level, 21.03 feet above mean sea level Nov. 13, 1941. Water levels affected by pumping at Perth Amboy Water Works well field.

a Flowing.

Middlesex County--Continued.

29.1.1.7.5.A. (P-1).--Continued.

Water level, in feet above mean sea level, 1935-38, 1941

Date	Water level	Date	Water level	Date	Water level
July 8, 1935	23.68	June 20, 1936	24.65	July 3, 1937	24.20
15	23.63	July 31	23.31	Aug. 31	23.80
19	23.70	Aug. 11	22.95	Sept.30	23.15
Aug. 6	23.55	Sept.11	22.75	Oct. 25	23.75
29	22.83	Oct. 13	23.60	Nov. 8	24.03
Sept.12	23.55	Nov. 17	23.65	Dec. 12	24.23
Oct. 19	21.50	Dec. 23	24.66	Jan. 27, 1938	24.60
Nov. 20	23.65	Jan. 27, 1937	24.99	Feb. 22	24.41
Dec. 13	24.00	Feb. 10	24.75	Mar. 29	24.27
Jan. 17,1936	24.48	Mar. 26	24.65	Apr. 13	24.45
Mar. 27	25.15	Apr. 29	24.97	May 23	24.40
Apr. 22	23.83	May 22	24.75	Nov. 13, 1941	21.03
May 20	24.70	June 12	24.35		

29.1.1.7.5.B. (P-2). New Jersey State Water Policy Commission. On northwest side of Old Bridge-South Amboy Road, 0.93 mile northeast of intersection of Jornee Mill Road with Old Bridge-South Amboy Road and 0.16 mile southwest of underpass beneath Pennsylvania Railroad. Diameter 1¼ inches, depth 18.5 feet. Measuring point, top of casing, 0.4 foot above land surface and 32.42 feet above mean sea level. Driven July 1935, to observe fluctuations of water level in No. 3 sand. First measured July 8, 1935. Highest observed water level, 28.72 feet above mean sea level Apr. 27, 1939; lowest observed water level, 24.40 feet above mean sea level Nov. 13, 1941. Water levels affected by pumping at Perth Amboy Water Works well field.

Water level, in feet above mean sea level, 1935-41

July 8, 1935	27.03	July 3, 1937	27.82	Aug. 26, 1939	26.72
19	27.07	Aug. 31	27.12	Sept.22	26.30
Aug. 6	26.82	Sept.30	26.57	Oct. 29	26.07
29	26.97	Oct. 25	27.67	Nov. 29	27.12
Sept.12	26.77	Nov. 8	27.02	Dec. 29	25.98
Oct. 19	27.09	Dec. 12	28.32	Jan. 27, 1940	25.92
Nov. 20	26.88	Jan. 27, 1938	26.82	Mar. 30	27.00
Dec. 13	26.92	Feb. 22	26.92	Apr. 24	27.82
Jan. 17, 1936	27.56	Mar. 29	27.42	May 27	27.76
Mar. 27	28.32	Apr. 13	27.52	June 23	27.49
Apr. 22	28.12	May 23	27.32	July 22	27.20
May 20	27.98	June 29	27.82	Aug. 23	26.75
June 20	27.91	July 29	28.12	Sept.19	26.76
July 31	26.84	Aug. 15	27.67	Oct. 22	26.64
Aug. 11	26.51	Sept.14	26.89	Nov. 23	27.12
Sept.11	26.12	Oct. 21	27.72	Dec. 13	26.97
Oct. 13	26.72	Nov. 4	27.52	Jan. 18, 1941	27.62
Nov. 17	26.66	Dec. 20	27.62	Feb. 24	27.53
Dec. 23	27.62	Feb. 14, 1939	28.38	Mar. 23	27.84
Jan. 27, 1937	28.12	Mar. 10	28.54	Apr. 17	27.80
Feb. 10	26.94	Apr. 27	28.72	May 24	27.09
Mar. 26	27.92	May 5	28.62	June 23	25.71
Apr. 29	28.42	June 18	27.92	Oct. 27	24.52
May 22	28.12	July 25	27.12	Nov. 13	24.40
June 12	27.72				

29.1.4.1.8. (R-1). Perth Amboy Water Department. Near Runyon Pond, 0.55 mile southeast of Runyon Pond dam and 1.98 miles northeast of traffic circle at Old Bridge. Diameter 1¼ inches, depth 26 feet. Measuring point, top of casing, 1.5 feet above land surface and 17.22 feet above mean sea level. Driven August 1935, to observe fluctuations of water level in No. 3 sand. First measured Aug. 23, 1935. Highest observed water level, 12.41 feet above mean sea level Apr. 24, 1940; lowest observed water level, 7.22 feet above mean sea level Oct. 13, 1936. Water levels affected by pumping at Perth Amboy Water Works well field.

Middlesex County--Continued.

29.1.4.1.8. (R-1).--Continued.

Water level, in feet above mean sea level, 1935-41

Date	Water level	Date	Water level	Date	Water level
Aug. 23, 1935	8.04	July 3, 1937	10.42	Aug. 26, 1939	9.22
29	9.09	Aug. 31	9.42	Sept.22	8.22
Sept.16	8.99	Sept.30	8.82	Dec. 29	8.35
Oct. 19	8.34	Oct. 25	9.62	Jan. 27, 1940	8.57
Nov. 20	11.50	Nov. 8	10.32	Feb. 24	10.92
Dec. 13	11.17	Dec. 12	11.22	Mar. 30	11.64
Jan. 17, 1936	11.50	Jan. 28, 1938	11.62	Apr. 24	12.41
Feb. 28	10.80	Feb. 22	12.12	May 27	12.00
Mar. 29	10.61	Mar. 29	11.22	July 22	10.24
Apr. 22	12.10	Apr. 13	11.62	Aug. 23	9.92
July 31	11.12	May 23	11.61	Sept.19	10.56
Aug. 11	9.95	June 29	12.17	Oct. 22	10.06
Sept.11	8.04	July 29	11.92	Nov. 23	11.30
Oct. 13	7.22	Aug. 15	12.12	Dec. 13	10.95
Nov. 17	9.36	Sept.14	9.11	Jan. 18, 1941	11.63
Dec. 23	11.54	Oct. 21	9.20	Feb. 24	11.12
Jan. 26, 1937	11.96	Nov. 4	9.62	Mar. 23	11.43
Feb. 10	11.11	Dec. 20	9.75	Apr. 17	11.06
Mar. 26	11.17	Mar. 10, 1939	11.14	May 24	10.34
Apr. 29	11.36	Apr. 27	11.20	June 23	10.23
May 22	11.72	May 5	11.12	Nov. 14	8.25
June 12	11.67	July 25	10.02		

29.1.4.4.2.A. (R-2). Perth Amboy Water Department, 0.58 mile southeast of Runyon Pond dam and 1.95 miles northeast of traffic circle at Old Bridge. Diameter 1¼ inches, depth 28 feet. Measuring point, top of casing, 2.3 feet above land surface and 18.38 feet above mean sea level. Driven August 1935, to observe fluctuations of water level in No. 3 sand. First measured Aug. 23, 1935. Highest observed water level, 12.16 feet above mean sea level Aug. 15, 1938; lowest observed water level, 6.39 feet above mean sea level Dec. 29, 1939. Water levels affected by pumping at Perth Amboy Water Works well field.

Water level, in feet above mean sea level, 1935-41

Aug. 23, 1935	7.22	July 3, 1937	10.02	Aug. 26, 1939	7.36
29	7.23	Aug. 31	6.78	Sept.22	7.03
Sept.16	7.79	Sept.30	7.58	Oct. 29	6.98
Oct. 19	7.96	Oct. 25	8.18	Nov. 29	8.93
Nov. 20	9.27	Nov. 8	9.10	Dec. 29	6.39
Dec. 13	10.73	Dec. 12	10.48	Jan. 27, 1940	7.13
Jan. 17, 1936	10.90	Jan. 28, 1938	9.88	Feb. 24	9.03
Feb. 28	9.06	Feb. 22	11.92	Mar. 30	10.39
Mar. 29	8.76	Mar. 29	10.18	Apr. 24	11.57
Apr. 22	10.71	Apr. 13	10.18	May 27	10.91
May 20	10.08	May 23	10.06	June 23	9.78
June 22	10.13	June 29	10.93	July 22	8.93
July 31	10.38	July 29	10.68	Aug. 23	8.56
Aug. 11	10.31	Aug. 15	12.16	Sept.19	9.34
Sept.11	7.18	Sept.14	7.60	Oct. 22	8.60
Oct. 13	8.08	Oct. 21	9.16	Nov. 23	9.79
Nov. 17	8.03	Nov. 4	8.18	Dec. 13	9.26
Dec. 23	10.18	Dec. 20	8.24	Jan. 18, 1941	9.75
Jan. 26, 1937	10.69	Feb. 14, 1939	8.93	Feb. 24	9.47
Feb. 10	9.34	Mar. 10	9.15	Mar. 23	9.80
Mar. 26	9.36	Apr. 27	9.58	Apr. 17	9.43
Apr. 29	9.68	May 5	9.08	May 24	9.66
May 22	9.93	June 18	7.58	June 23	8.89
June 12	11.48	July 25	9.28	Nov. 14	7.70

Middlesex County--Continued

29.1.4.4.1.A. (S-1). Description in Water-Supply Papers 817 and 845. Highest observed water level, 11.46 feet above mean sea level Apr. 15, 1935; lowest observed water level, 2.80 feet above mean sea level Oct. 23, 1941.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level
Jan. 18	10.07	Mar. 23	10.00	May 24	8.45
Feb. 24	9.57	Apr. 17	9.72	Oct. 23	2.80

28.5.1.8.4. Sayreville Borough test well 4. Description in Water-Supply Paper 836. Highest observed water level, 7.10 feet above mean sea level Mar. 31, 1941; lowest observed water level, 32.9 feet below mean sea level Oct. 25, 1935.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	.....	+6.75	-0.35	-8.25	-12.25	-6.65	-14.40	-13.10	-7.45	-6.65
2	.....	.....	+6.75	- .00	-8.10	-13.70	-7.30	-14.15	-12.90	-9.70	-6.60
3	.....	.....	+6.85	- .25	-8.50	-13.45	-6.95	.....	-12.50	-9.70	-7.15
4	.....	.....	+6.60	+ .60	-8.35	-12.60	-6.30	-13.90	-14.00	-8.65	-7.45
5	.....	.....	.....	+ .40	-7.90	- 7.30	-7.90	-15.10	-14.60	-7.60	-7.95
6	.....	.....	.....	-2.65	-7.45	- 6.00	-9.45	-15.90	-15.85	-6.95	-8.10
7	.....	.....	.....	-5.15	-5.25	- 6.45	-10.00	-15.95	-15.80	-7.25	-8.15
8	.....	.....	.....	-6.60	-3.85	- 6.50	-10.75	-15.60	-15.00	-7.40	-7.00
9	.....	.....	.....	-7.15	-1.80	- 5.60	-12.45	-15.50	-14.40	-6.80	-7.55
10	.....	.....	+4.50	-7.60	-1.95	- 4.90	-12.20	-17.25	-13.60	-6.20	-6.70
11	.....	-1.45	+4.45	-7.40	-2.60	- 4.90	-10.90	-16.95	-12.70	-5.95	-6.75
12	.....	- .20	+4.30	-5.70	-2.95	- 6.70	-10.90	-15.85	-12.50	-5.95	.....
13	.....	+ .95	+4.20	.....	-2.95	- 6.00	-10.15	-14.60	-12.55	-5.90	.....
14	.....	+2.05	+5.25	-7.05	-2.70	- 4.95	-10.40	-13.90	-12.15	.....	.....
15	.....	+2.10	+3.70	-8.05	-2.55	- 4.55	-11.00	-13.40	-12.10	-6.25	.....
16	.....	+2.90	+1.80	-8.55	-2.50	- 4.05	-12.05	-13.25	-11.80	-5.85	.....
17	.....	+2.95	+1.55	-9.00	-3.25	- 3.90	-12.10	-13.35	-11.55	-5.05	.....
18	.....	+2.20	+ .65	-10.55	-4.15	- 5.05	-12.00	-13.15	-11.50	-5.15	.....
19	.....	+2.30	+ .30	-6.40	-4.40	.....	-12.70	-12.75	-11.40	-5.25	.....
20	+3.35	+2.10	- .45	-11.45	-5.40	.....	-13.30	-12.80	-11.50	-5.15	.....
21	+2.15	+2.20	- .55	-11.80	.....	-5.60	-13.30	-12.75	-11.65	-4.60	.....
22	+2.00	+2.60	- .75	-12.85	.....	-6.05	-13.25	-12.00	-11.35	-5.15	.....
23	.....	+3.50	- .50	-13.50	-5.50	-7.15	-13.55	-12.95	-10.95	-4.75	.....
24	.....	+4.10	+ .55	-13.50	-5.50	-6.85	-13.55	-12.80	-10.95	-4.65	.....
25	.....	+4.25	+1.40	-12.55	-6.00	-8.15	-13.25	-11.95	-10.60	.....	-7.35
26	.....	+4.65	+1.40	- 9.95	-5.80	-9.80	-14.60	-12.50	-10.40	.....	-7.10
27	.....	+5.80	+1.55	-10.15	-7.80	-8.65	-13.90	-12.05	-10.20	-5.35	-7.85
28	.....	+6.60	+1.80	-10.15	-10.10	-8.50	-13.25	-11.75	-10.10	-5.80	-7.70
29	.....	+6.90	+ .30	- 9.65	-9.90	-7.55	-12.80	-11.90	- 9.90	-6.10	-6.80
30	.....	+6.95	- .30	- 9.10	-11.25	-6.90	-12.80	-12.25	- 8.85	-6.20	.....
31	.....	+7.10	.....	- 8.60	.....	-6.60	-13.35	.....	- 8.15	.....	.....

26.41.5.9.5. South Amboy water works old deep well 3. Description in Water-Supply Paper 845. Highest observed water level, 20.6 feet below measuring point at some time between July 23 and Aug. 2, 1938; lowest observed water level, 48.7 feet below measuring point Aug. 22, 1937.

Water level at the end of day, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	25.56	26.13	25.92	24.24	26.80	30.35	32.52	34.10	38.20	35.80	33.84	31.12
2	25.32	25.94	26.53	24.11	26.71	30.25	33.87	34.46	38.26	35.50	34.62	31.53
3	24.80	26.03	26.80	24.34	26.75	30.53	34.49	34.30	38.33	35.32	34.17	31.91
4	25.36	26.31	26.70	24.59	28.13	30.33	34.37	33.61	38.41	35.34	33.72	32.66
5	26.13	26.84	26.75	24.14	27.30	30.43	33.65	33.21	37.95	34.96	.....	32.99
6	26.01	26.47	26.82	24.13	26.12	30.71	32.83	33.36	37.73	35.30	.....	32.98

Middlesex County--Continued

26,41.5.9.5.--Continued

Water level at the end of day, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	25.68	26.32	26.78	24.21	25.20	30.67	32.61	33.47	37.78	35.75	33.43	32.79
8	25.98	26.67	25.96	24.29	25.49	30.16	32.75	33.27	37.88	36.37	33.76	32.14
9	25.77	25.87	26.17	23.88	26.02	30.01	33.00	33.20	38.01	36.02	33.46	32.56
10	25.55	25.81	26.47	24.16	26.60	29.69	33.22	33.15	37.77	36.20	33.93	32.22
11	25.29	25.89	25.94	24.68	26.79	29.02	33.13	33.59	38.04	35.97	33.45	32.17
12	24.89	26.24	26.20	24.69	26.85	29.60	33.25	35.31	37.27	35.83	.....	31.76
13	25.38	26.07	26.38	24.20	28.12	29.73	33.64	36.22	37.23	36.09	.....	31.16
14	26.52	26.08	26.67	23.97	28.64	29.56	34.00	36.87	37.17	36.36	.....	31.60
15	27.40	26.29	26.67	24.08	28.76	29.27	34.06	37.44	37.33	36.25	.....	32.44
16	27.14	25.92	26.35	24.53	28.75	29.04	.....	38.10	37.24	35.97	.....	32.76
17	26.92	25.29	26.31	25.43	28.98	29.12	.....	38.35	37.53	35.79	.....	32.82
18	26.53	25.75	26.87	26.11	29.09	29.28	.....	38.04	37.61	34.90	.....	32.76
19	26.23	26.38	26.91	26.52	28.88	29.68	.....	37.92	36.94	34.82	.....	32.46
20	26.16	26.58	24.21	26.58	28.22	29.86	.....	37.98	35.72	34.60	.....	32.38
21	25.77	26.43	23.70	26.89	27.95	29.90	.....	37.77	35.12	34.65	.....	32.72
22	25.54	25.88	24.07	27.16	27.81	29.86	.....	37.80	34.64	34.43	.....	32.18
23	25.72	25.88	24.60	27.14	27.76	29.83	.....	37.80	34.31	34.72	.....	31.60
24	25.24	25.85	24.53	26.91	27.98	29.85	35.04	37.35	34.43	35.00	.....	31.01
25	26.47	25.85	24.63	26.84	28.30	29.95	34.73	37.32	34.06	34.28	.....	31.31
26	26.72	26.45	25.03	26.72	29.11	30.09	33.63	37.61	34.22	33.91	.....	30.55
27	26.22	26.25	25.10	26.62	29.65	30.15	33.24	.....	34.93	33.80	.....	31.28
28	25.85	26.10	24.79	26.46	30.49	30.49	33.22	.....	35.28	34.49	32.27	31.50
29	25.90	.....	24.64	26.62	30.72	31.21	33.20	.....	35.38	34.47	32.32	31.32
30	25.60	.....	24.58	26.78	30.87	31.79	33.54	.....	35.70	34.50	31.75	30.90
31	26.13	.....	24.38	.....	30.56	.....	33.62	.....	.....	34.22	.....	31.04

Monmouth County

Asbury Park area

29.24.7.1.6. Avon well 1. Description in Water-Supply Papers 817 and 845. Highest observed water level, 4.46 feet below mean sea level Apr. 12, 1937; lowest observed water level, 132 feet below mean sea level Aug. 4, 1925(while well was being pumped). Water levels in feet below mean sea level, 1941: Apr. 15, 11.70; Sept. 18, 28.59.

29.24.4.8.4. Bradley Beach 650-foot well. Description in Water-Supply Papers 817 and 845. Highest observed water level, 5.17 feet below mean sea level Apr. 17, 1935; lowest observed water level, 136.88 feet below mean sea level Aug. 27, 1925. Water level, in feet below mean sea level, 1941: Apr. 15, 16.68; May 22, 18.74; Sept. 18, 37.34.

Runyon area

29.11.2.1.1. (F-30). Description in Water-Supply Paper 845. Highest observed water level, 75.85 feet above mean sea level Dec. 14, 1940; lowest observed water level, 59.93 feet above mean sea level June 28, 1929.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 17	65.67	Mar. 22	65.98	May 21	63.38	Oct. 27	60.71
Feb. 22	64.62	Apr. 18	65.52	June 23	74.47		

Monmouth County--Continued

29.1.8.9.4. (F-31). Description in Water-Supply Paper 845. Highest observed water level, 85.48 feet above mean sea level Apr. 16, 1935; lowest observed water level, 80.02 feet above mean sea level Oct. 21, 1925.

Water level, in feet above mean sea level, 1941.

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 17	82.51	Mar. 22	83.05	May 21	82.58	Oct. 27	80.83
Feb. 22	82.76	Apr. 18	83.21	June 23	82.24		

29.11.1.2.9. Hulsart well. Description in Water-Supply Paper 817. Highest observed water level, 100.40 feet above mean sea level Apr. 19, 193[illegible] lowest observed water level, 95.47 feet above mean sea level Feb. 18, 1940.

Water level at the end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	97.53	97.95	98.43	98.71	.....	98.01	97.75	98.25	97.40	96.72	.....	95.87
2	97.56	97.97	98.43	98.68	.....	97.99	97.72	98.23	97.37	96.70	.....	95.86
3	97.59	97.97	98.46	98.67	.....	97.98	97.75	98.20	97.35	96.69	.....	95.85
4	97.59	97.98	98.42	98.66	.....	97.98	97.94	98.17	97.34	96.66	.....	95.84
5	97.60	97.98	98.45	98.72	.....	97.95	98.07	98.14	97.32	96.64	.....	95.83
6	97.59	97.99	.....	98.70	.....	97.94	98.21	98.10	97.29	96.61	.....	95.82
7	97.60	98.04	.....	98.75	98.50	97.95	98.34	98.07	97.26	96.60	96.11	95.80
8	97.62	98.13	.....	98.76	98.49	97.94	98.45	98.05	97.23	96.57	.....	95.80
9	97.64	98.20	.....	98.76	98.47	97.93	98.53	98.01	97.21	96.55	.....	95.79
10	97.64	98.26	.....	98.76	98.44	97.90	98.60	97.96	97.19	96.54	.....	95.78
11	97.65	98.30	.....	98.75	98.43	97.88	98.65	97.95	97.16	96.52	.....	95.77
12	97.66	98.32	.....	98.75	98.40	97.86	98.69	97.90	97.13	.....	.....	.....
13	97.64	98.35	.....	98.78	98.37	97.88	98.70	97.85	97.11	.....	.....	.....
14	97.64	98.38	.....	98.78	98.35	97.91	98.71	97.83	97.09	.....	96.05	.....
15	97.65	98.38	.....	98.79	98.34	97.95	98.71	97.81	97.07	.....	96.05	.....
16	97.70	98.40	.....	98.76	98.34	97.95	98.70	97.78	97.05	.....	96.04	.....
17	97.68	98.44	.....	98.77	98.30	97.97	98.68	97.74	97.02	96.41	96.03	.....
18	97.69	98.40	.....	.....	98.27	97.96	98.67	97.72	97.00	.....	96.02	.....
19	97.70	98.42	.....	.....	98.25	97.95	98.61	97.69	96.98	.....	96.01	.....
20	97.71	98.43	.....	.....	98.22	97.94	98.57	97.66	.....	.....	96.00	.....
21	97.72	98.43	98.68	.....	98.21	97.92	98.54	97.64	96.94	.....	95.98	.....
22	97.76	98.44	98.68	.....	98.20	97.90	98.52	97.61	96.93	.....	95.97	.....
23	97.75	98.43	98.70	.....	98.18	97.88	98.48	97.58	96.90	.....	95.92	.....
24	97.81	98.43	98.71	.....	98.15	97.86	98.45	97.56	96.87	.....	95.94	.....
25	97.78	98.44	98.71	.....	98.14	97.84	98.43	97.55	96.86	.....	95.93	.....
26	97.82	98.43	98.71	.....	98.12	97.83	98.38	97.53	96.83	.....	95.92	96.07
27	97.86	98.45	98.72	.....	98.10	97.81	98.36	97.50	96.81	.....	95.91	96.07
28	97.89	98.46	98.73	.....	98.09	97.80	98.35	97.48	96.80	.....	95.90	96.06
29	97.91	.....	98.71	.....	98.05	97.78	98.32	97.46	96.76	.....	95.89	96.06
30	97.94	.....	98.69	.....	98.04	97.77	98.30	97.45	96.75	.....	95.88	96.06
31	97.94	.....	98.70	.....	98.03	.....	98.28	97.44	.....	.....	.....	96.04

Salem County

Penns Grove area

30.23.1.8.5. Penns Grove observation well 6. New Jersey State Water Policy Commission. About 4 miles northeast of intersection of Main and Broa Streets in Penns Grove, 17 feet northeast of the center line of Pedricktown-Nortonville Road and 0.37 mile southeast of intersection of Pedricktown-Nortonville Road with U. S. Highway 130. Driven well, diameter 1¼ inches, depth 31.5 feet. Completed Nov. 29, 1940. Measuring point, top of casing, 0.3 foot above land surface. First measured Dec. 12, 1940. Highest observed water level, 4.22 feet below the measuring point Mar. 13, 1941; lowest observed water level, 6.46 feet below measuring point Sept. 27, 1941. Not affected by pumping.

Salem County--Continued

30.23.1.8.5.--Continued

Water level, in feet below measuring point, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 12, 1940	4.71	May 10, 1941	5.07	Sept. 13, 1941	6.07
17	4.40	25	5.52	27	6.46
Jan. 7, 1941	4.65	June 8	4.84	Oct. 11	6.05
23	4.50	21	5.07	25	6.10
Feb. 6	4.64	July 5	5.22	Nov. 9	5.20
Mar. 13	4.22	19	4.60	22	5.41
29	4.78	Aug. 2	5.47	Dec. 6	4.82
Apr. 12	4.67	16	5.58	20	4.77
26	4.82	30	5.46		

30.23.4.1.9. Penns Grove observation well 7. New Jersey State Water Policy Commission. At Oldman, 3 miles northeast of the intersection of Main and Broad Streets in Penns Grove, on property of William F. Ferrell, 25 feet north of center line of Penns Grove-Pedricktown Road, 0.35 mile east of Oldman Station of Pennsylvania, Reading, Seashore Lines Railroad. Driven well, diameter 1-1/4 inches, depth 12.3 feet. Completed Nov. 29, 1940. Measuring point, top of casing, 0.2 foot above land surface. First measured Nov. 29, 1940. Highest observed water level, 3.89 feet below measuring point Mar. 13, 1941; lowest observed water level, 7.28 feet below measuring point Nov. 22, 1941. Not affected by pumping.

Water level, in feet below measuring point, 1940-41

Nov. 29, 1940	4.17	Apr. 26, 1941	4.35	Aug. 30, 1941	5.40
Dec. 11	4.35	May 10	4.72	Sept. 13	5.96
17	4.22	25	5.14	27	6.33
Jan. 7, 1941	4.20	June 8	4.78	Oct. 11	6.63
23	4.19	21	4.63	25	6.88
Feb. 6	4.18	July 5	5.19	Nov. 9	6.90
Mar. 13	3.89	19	4.40	22	7.28
29	4.26	Aug. 2	5.00	Dec. 6	6.64
Apr. 12	4.19	16	5.57	20	5.15

30.22.6.6.7. Penns Grove observation well 9. New Jersey State Water Policy Commission, 1.8 miles northeast of the intersection of Main and Broad Streets in Penns Grove, 15 feet northeast of center line of Perkintown Road and 327 feet southeast of its intersection with the Pennsylvania, Reading, Seashore Lines Railroad. Driven well, diameter 1-1/4 inches, depth 11.0 feet. Completed Nov. 29, 1940. Measuring point, top of casing, 0.6 foot above land surface. First measured Nov. 29, 1940. Highest observed water level, 3.24 feet below measuring point Mar. 13, 1941; lowest observed water level, 7.30 feet below measuring point Oct. 25, 1941. Not affected by pumping.

Water level, in feet below measuring point, 1940-41

Nov. 29, 1940	3.92	Apr. 26, 1941	4.34	Aug. 30, 1941	5.25
Dec. 11	4.24	May 10	4.89	Sept. 13	6.13
17	3.90	25	5.41	27	6.70
Jan. 7, 1941	4.10	June 8	4.75	Oct. 11	6.96
23	3.96	21	4.70	25	7.30
Feb. 6	3.94	July 5	5.41	Nov. 9	6.75
Mar. 13	3.24	19	4.54	22	7.00
29	4.07	Aug. 2	5.19	Dec. 6	6.00
Apr. 12	3.98	16	5.78	20	4.79

30.22.6.9.3. Penns Grove observation well 10. New Jersey State Water Policy Commission, 2-1/8 miles northeast of Penns Grove, 15 feet southwest of center line of Perkintown Road and 0.6 mile southeast of its intersection with the Pennsylvania, Reading, Seashore Lines Railroad. Driven well, diameter 1-1/4 inches, depth 12.2 feet. Completed Nov. 11, 1940. Measuring point, top of well, 0.2 foot above land surface. First measured Nov. 29, 1940. Highest observed water level, 1.83 feet below measuring point Mar. 13, 1941; lowest observed water level, 6.90 feet below measuring point Oct. 25, 1941. Not affected by pumping.

Salem County--Continued

30.22.6.9.3.--Continued

Water level, in feet below measuring point, 1940-41

Date	Water level	Date	Water level	Date	Water level
Nov. 29, 1940	2.68	Apr. 26, 1941	3.23	Aug. 30, 1941	4.71
Dec. 11	2.98	May 10	3.87	Sept. 13	5.60
17	2.49	25	4.47	27	6.18
Jan. 7, 1941	2.78	June 8	3.85	Oct. 11	6.60
23	2.78	21	3.80	25	6.90
Feb. 6	2.78	July 5	4.84	Nov. 9	6.82
Mar. 13	1.83	19	4.05	22	6.78
29	3.00	Aug. 2	4.56	Dec. 6	6.30
Apr. 12	2.84	16	5.40	20	4.30

30.23.4.7.8. Penns Grove observation well 11. New Jersey State Water Policy Commission. At Perkintown, about 75 feet south of intersection of Forked Hickory-Pedricktown Road and Perkintown Road, and about 17 feet southeast of center line of Forked Hickory-Pedricktown Road. Driven well, diameter 1-1/4 inches, depth 20.2 feet. Completed Nov. 11, 1940. Measuring point, top of casing, 0.6 foot above land surface. First measured Dec. 11, 1940. Highest observed water level, 5.80 feet below measuring point Dec. 11, 1940; lowest observed water level, 11.17 feet below measuring point Dec. 20, 1941. Not affected by pumping.

Water level, in feet below measuring point, 1940-41

Dec. 11, 1940	5.80	May 10, 1941	7.67	Sept. 13, 1941	9.31
17	6.58	25	8.15	27	9.51
Jan. 7, 1941	7.62	June 8	8.42	Oct. 11	9.76
23	7.95	21	8.55	25	10.07
Feb. 6	8.05	July 5	8.70	Nov. 9	10.39
Mar. 13	7.92	19	8.76	22	10.66
29	7.58	Aug. 2	8.85	Dec. 6	10.94
Apr. 12	7.58	16	9.00	20	11.17
26	7.66	30	9.15		

30.22.8.3.5. Penns Grove observation well 12. New Jersey State Water Policy Commission. In Penns Grove, 110 feet southeast of center line of Naylor Ave., and 1,000 feet southwest of center line of West Main Street near elevated tank owned by Penns Grove Water Supply Company. Driven well, diameter 1-1/4 inches, depth 20.2 feet. Measuring point, top of well, 1.5 feet above land surface. Completed Dec. 9, 1940. First measured Dec. 12, 1940. Highest observed water level, 1.16 feet below measuring point Mar. 13, 1941; lowest observed water level, 3.82 feet below measuring point Oct. 11, 1941. Not affected by pumping.

Water level, in feet below measuring point, 1940-41

Dec. 12, 1940	1.80	May 10, 1941	2.13	Sept. 13, 1941	3.78
18	1.81	25	2.45	27	3.78
Jan. 6, 1941	1.76	June 8	2.88	Oct. 11	3.82
23	1.57	21	2.88	25	3.49
Feb. 6	1.48	July 5	3.48	Nov. 8	3.20
Mar. 13	1.16	19	3.00	22	3.34
29	1.48	Aug. 2	3.42	Dec. 6	3.01
Apr. 12	1.45	16	3.69	20	2.52
26	1.82	30	3.60		

30.22.9.2.1. Penns Grove observation well 13. New Jersey State Water Policy Commission. On south side of Penns Grove-Auburn Road, 0.91 mile northwest of its intersection with Forked Hickory-Pedricktown Road and 0.87 mile east of intersection of Main and Broad Streets in Penns Grove. Driven well, diameter 1-1/4 inches, depth 15.6 feet. Completed Dec. 3, 1940. Measuring point, top of well, 1.0 foot above land surface. First measured Dec. 11, 1940. Highest observed water level, 1.83 feet below measuring point Mar. 13, 1941; lowest observed water level, 7.90 feet below measuring point Nov. 22, 1941. Possibly affected by pumping of large diameter well 1-1/8 miles south.

Salem County--Continued

30.22.9.2.1.--Continued

Water level, in feet below measuring point, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 11, 1940	3.46	May 10,1941	4.70	Sept. 13, 1941	6.58
17	2.73	25	5.31	27	7.01
Jan. 7, 1941	3.24	June 8	4.70	Oct. 11	7.33
23	2.82	21	4.39	25	7.60
Feb. 6	2.80	July 5	5.34	Nov. 9	7.75
Mar. 13	1.83	19	4.61	22	7.90
29	3.14	Aug. 2	5.45	Dec. 6	7.82
Apr. 12	3.06	16	6.12	20	6.09
26	3.80	30	6.02		

30.22.9.6.2. Penns Grove observation well 14. New Jersey State Water Policy Commission, 1.7 miles southeast of intersection of Main and Broad Streets in Penns Grove, on southeast side of Forked Hickory-Pedricktown Road, about 100 feet southwest of the intersection of the Forked Hickory-Pedricktown Road with Penns Grove-Auburn Road. Driven well, diameter 1-1/4 inches, depth 17.5 feet. Completed Nov. 19, 1940. Measuring point, top of casing, 0.3 foot above land surface and 25.68 feet above mean sea level. First measured Nov. 29, 1940. Highest observed water level, 22.51 feet above mean sea level Mar. 13, 1941; lowest observed water level, 16.94 feet above mean sea level Oct. 25, 1941. Possibly affected by pumping of two large diameter wells 1-1/8 miles and 1-5/8 miles distant, respectively, to the southwest.

Water level, in feet above mean sea level, 1940-41

Nov. 29, 1940	21.43	Apr. 26, 1941	20.35	Aug. 30, 1941	18.38
Dec. 11	20.77	May 10	19.71	Sept.13	17.93
17	21.52	25	19.21	27	17.54
Jan. 7, 1941	21.03	June 8	19.89	Oct. 11	17.19
23	21.04	21	20.28	25	16.94
Feb. 6	21.17	July 5	19.23	Nov. 9	17.12
Mar. 13	22.51	19	19.75	22	16.95
29	21.03	Aug. 2	19.01	Dec. 6	17.38
Apr. 12	21.10	16	18.43	20	19.13

30.22.9.5.8. Penns Grove observation well 15. New Jersey State Water Policy Commission, 1.59 miles southeast of intersection of Main and Broad Streets in Penns Grove, 24 feet northeast of center line of Horace Harding Highway and 21 feet southeast of center line of Forked Hickory-Pedricktown Road. Driven well, diameter 1-1/4 inches, depth 26.7 feet. Completed Dec. 20, 1940. Measuring point, top of casing, 0.2 foot above the land surface and 23.98 feet above mean sea level. First measured Jan. 6, 1941. Highest observed water level, 9.43 feet above mean sea level Mar. 29, 1941; lowest observed water level, 3.59 feet above mean sea level Dec. 20, 1941. Affected by pumping from large diameter well about 1/2 mile west and by another large diameter well about 7/8 mile southwest.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	6.96	Apr. 26	8.81	July 19	6.79	Oct. 11	4.85
23	7.05	May 10	8.39	Aug. 2	6.50	25	4.55
Feb. 6	7.52	25	7.83	16	6.02	Nov. 8	4.27
Mar. 13	8.59	June 8	7.28	30	5.80	22	4.01
29	9.43	21	7.06	Sept.13	5.48	Dec. 6	3.76
Apr. 12	9.18	July 5	6.75	27	5.18	20	3.59

30.22.9.5.5. Penns Grove observation well 21. New Jersey State Water Policy Commission, 1.3 miles southeast of intersection of Main and Broad Streets in Penns Grove and 0.2 mile northeast of center line of Horace Harding Highway. Driven well, diameter 1-1/4 inches, depth 16.4 feet. Completed Dec. 13, 1940. Measuring point, top of casing, 0.3 foot above land surface and 20.29 feet above mean sea level. First measured Dec. 17, 1940.

Salem County--Continued

30.22.9.5.5.--Continued.

Highest observed water level, 14.37 feet above mean sea level Mar. 13, 1941; lowest observed water level, 8.56 feet above mean sea level Dec. 6, 1941. Affected by pumping from large diameter well 0.45 mile southwest.

Water level, in feet above mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 17, 1940	11.95	May 25, 1941	12.44	Sept. 13, 1941	10.29
Jan. 6, 1941	12.49	June 8	12.06	27	9.97
23	12.50	21	12.32	Oct. 11	9.63
Feb. 6	13.05	July 5	11.84	25	9.29
Mar. 13	14.37	19	11.99	Nov. 8	9.03
29	14.45	Aug. 2	11.49	22	8.78
Apr. 12	14.43	16	10.96	Dec. 6	8.56
26	13.68	30	10.59	20	8.89
May 10	13.05				

30.22.9.4.9. Penns Grove observation well 22. Penns Grove Water Company, 1.3 miles southeast of intersection of Broad and Main Streets in Penns Grove, 0.4 mile west of intersection of Harding Highway and Forked Hickory-Pedricktown Road, about 120 feet southeast of large diameter well owned by Penns Grove Water Company. Drilled well, diameter 4 inches, depth about 20 feet. Drilled for test purposes early in 1939. Measuring point, top of casing, about 6 feet above land surface and 20.38 feet above mean sea level. Highest observed water level, 14.42 feet above mean sea level Aug. 18, 1939; lowest observed water level, 0.60 foot above mean sea level Dec. 23 to 26, 1941. Affected by pumpage from nearby large diameter well.

Lowest daily water level, in feet above mean sea level, 1939
(from recorder charts)

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 12	12.47	Sept. 29	7.86	Oct. 15	10.45	Dec. 16	9.10
13	11.74	30	8.25	22	10.68	17	9.65
14	11.71	Oct. 1	8.48	23	10.65	18	9.95
15	11.74	2	8.72	24	10.64	19	10.15
16	12.16	3	9.03	25	10.70	20	10.30
17	11.81	4	9.23	26	10.76	21	10.35
Aug. 18	6.37	5	9.41	27	10.77	22	10.40
Sept. 19	6.87	6	9.58	28	10.65	23	10.50
20	5.79	7	9.72	Dec. 8	9.30	24	10.55
21	5.22	8	9.84	9	9.70	25	10.65
22	4.87	9	9.95	10	10.00	26	10.70
23	4.56	10	10.06	11	7.35	27	10.80
24	4.36	11	10.19	12	9.20	28	10.80
25	4.17	12	10.27	13	6.80	29	10.80
26	4.09	13	10.34	14	6.15	30	8.90
27	6.01	14	10.42	15	7.55	31	10.90
28	7.05						

Lowest daily water level, in feet above mean sea level, 1940
(from recorder charts).

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	10.90	3.30	3.25	5.65	7.80	7.25	4.60	1.50	....	1.80	1.45	1.95
2	.....	3.30	3.35	5.60	7.70	7.45	4.10	1.35	....	1.80	1.30	1.95
3	.....	3.25	3.45	5.70	7.65	7.05	4.10	1.30	2.00	1.75	1.35	1.95
4	5.50	3.35	3.65	5.55	7.65	7.00	4.50	1.30	1.90	1.80	1.65	1.80
5	5.50	2.80	3.70	5.60	7.65	7.00	4.55	1.25	1.75	1.65	1.65	1.50
6	5.65	2.80	3.75	5.55	7.35	6.75	4.35	1.20	1.65	1.65	1.75	1.45
7	5.70	3.05	3.85	5.85	7.00	6.65	4.35	1.20	1.65	1.35	1.75	1.40
8	5.60	3.05	3.85	5.95	7.05	6.45	3.70	1.30	1.65	1.90	1.80	1.40
9	5.65	3.05	3.95	6.05	6.85	6.80	3.35	1.30	1.75	....	1.45	1.25
10	....	3.25	4.30	6.10	6.95	6.90	3.00	1.30	1.75	....	1.50	1.35
11	....	3.50	4.25	6.20	7.00	6.65	2.55	1.45	1.70	....	1.50	1.15

Salem County--Continued

30.22.9.4.9.--Continued.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
12	....	3.15	4.20	6.50	7.20	6.40	2.55	1.35	1.60	....	1.55	1.30
13	....	3.15	4.35	6.60	6.85	5.95	2.95	1.25	1.60	....	1.65	1.30
14	....	3.00	4.45	6.90	6.30	5.60	3.20	1.25	1.45	....	1.65	1.25
15	....	2.75	4.60	7.05	6.20	5.60	2.50	1.50	1.50	1.65	2.35	1.30
16	....	2.80	4.80	7.20	6.40	5.60	2.25	1.65	1.30	1.65	1.90	1.60
17	....	2.30	4.95	7.10	6.60	5.40	2.20	2.10	1.20	1.55	1.80	1.80
18	....	2.80	5.05	7.20	6.70	5.40	2.60	2.10	1.10	1.55	1.80	1.70
19	....	2.80	5.15	7.25	6.95	5.25	2.30	2.00	1.10	1.50	1.75	1.60
20	....	2.90	5.25	7.50	6.75	5.05	2.20	2.00	1.10	1.55	1.85	1.70
21	....	2.90	5.40	8.20	6.85	5.05	2.00	1.75	1.20	1.70	....	1.50
22	....	2.95	5.45	8.30	6.80	4.95	1.95	1.75	1.30	1.60	2.00	1.50
23	....	2.95	5.65	8.20	7.00	4.95	1.95	1.45	1.60	1.65	1.80	1.70
24	....	2.90	5.80	8.25	6.95	5.35	1.90	1.50	1.65	1.70	1.85	1.70
25	....	3.25	5.70	8.20	7.00	5.15	1.95	1.70	1.65	1.70	1.85	1.80
26	....	3.05	5.60	8.15	7.05	5.20	1.90	2.35	1.65	1.65	1.75	1.85
27	....	3.15	5.60	8.10	6.75	4.90	1.75	2.40	1.70	1.65	1.85	1.95
28	3.60	3.20	5.65	8.20	6.65	4.40	1.70	....	1.75	1.55	2.05	1.90
29	3.45	3.10	5.70	8.00	6.70	4.50	1.60	....	1.75	1.55	2.00	2.25
30	3.35	....	5.70	7.80	6.80	4.85	1.45	....	1.75	1.65	1.95	2.20
31	3.30	....	5.90	....	7.15	....	1.50	....	....	1.45	....	2.00

Lowest daily water level, in feet above mean sea level, 1941 (from recorder charts).

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.95	5.05	7.05	8.60	7.45	5.80	1.70	....	3.60	2.25	1.75	1.10
2	2.00	5.50	7.15	8.35	7.40	5.80	1.60	....	3.45	2.25	1.70	1.05
3	2.15	5.35	7.25	8.45	7.50	5.75	2.20	....	3.45	2.25	1.65	1.00
4	1.95	5.30	7.30	8.45	6.60	5.75	3.10	....	3.30	2.20	1.65	1.00
5	1.95	5.55	6.95	8.70	6.40	6.25	3.90	....	3.20	2.20	1.60	.95
6	1.95	5.60	7.15	8.30	5.80	5.40	4.35	....	3.15	2.25	1.60	.90
7	1.90	5.75	7.10	7.70	5.80	5.10	4.65	3.55	3.10	2.10	1.60	.90
8	1.90	5.90	7.30	7.30	6.65	4.85	4.85	3.55	3.10	2.05	1.60	.90
9	2.00	6.45	7.45	7.25	7.00	4.45	4.65	3.30	3.05	2.05	1.55	.90
10	2.05	6.10	7.05	7.05	7.40	4.30	4.80	3.20	2.85	2.05	1.55	.80
11	1.90	6.20	7.50	7.05	7.70	4.20	4.75	3.25	2.80	2.05	1.50	.80
12	1.95	6.40	7.20	7.00	7.00	4.10	4.75	3.30	2.80	2.05	1.50	.75
13	2.05	6.50	7.50	6.75	6.80	4.35	4.75	3.30	2.80	2.05	1.50	.75
14	2.05	6.65	7.70	6.85	6.65	4.10	4.90	3.30	2.80	2.05	1.45	.75
15	2.05	6.65	7.70	6.40	6.70	4.00	4.65	3.30	3.00	2.00	1.45	.70
16	2.15	7.00	8.10	6.25	6.90	3.95	4.50	3.30	2.75	2.00	1.40	.70
17	3.00	7.00	8.10	6.25	7.05	3.95	4.45	3.30	2.60	2.00	1.40	.70
18	2.60	6.90	8.00	6.30	7.35	3.95	4.40	3.30	....	2.00	1.40	.65
19	2.40	6.95	7.95	6.85	7.15	4.00	4.35	3.30	....	1.95	1.35	.65
20	2.20	7.00	7.85	7.50	6.55	3.75	4.25	3.25	....	1.95	1.30	.65
21	2.05	7.10	8.00	6.65	6.25	3.75	4.20	3.25	....	1.95	1.30	.65
22	2.10	7.15	8.05	6.90	5.95	3.20	4.20	3.25	....	1.90	1.30	.65
23	3.00	7.30	8.65	7.40	5.65	3.00	4.15	3.35	....	1.90	1.25	.60
24	3.50	7.25	8.45	7.70	4.90	3.55	4.10	3.35	....	1.90	1.25	.60
25	4.00	7.35	8.25	7.75	4.75	3.40	4.10	3.80	....	1.85	1.25	.60
26	4.55	7.35	8.40	7.95	4.40	3.15	4.05	3.50	....	1.85	1.15	.60
27	4.45	7.20	8.25	8.15	4.45	2.30	3.95	3.50	....	1.80	1.15	....
28	4.50	7.40	8.40	7.90	3.90	1.70	3.25	....	....	1.80	1.10	....
29	4.55	....	8.20	7.60	3.85	1.65	3.25	....	....	1.75	1.10	....
30	4.70	....	8.50	7.60	4.10	1.85	....	3.40	....	1.75	1.10	....
31	4.90	....	8.20	....	5.25	....	....	3.30	....	1.75	....	....

30.22.9.7.3.- Penns Grove observation well 24. New Jersey State Water Policy Commission, 1.5 miles southeast of intersection of Broad and Main Streets in Penns Grove, 0.1 mile north of Georgetown Road, 0.2 mile northwest of its intersection with Forked Hickory-Pedricktown Road, on the property of Mr. Edward Wright. Drilled well, diameter 6 inches; depth 51 feet. Drilled for observation purposes in Mar. 1941. Measuring point, top of

Salem County--Continued

30.22.9.7.3.--Continued

casing, 1.7 feet above land surface and 19.84 feet above mean sea level. First measured Apr. 4, 1941. Highest observed water level, 0.04 foot below mean sea level Apr. 10-16, 1941; lowest observed water level, 5.01 feet below mean sea level Dec. 31, 1941. Affected by pumping from large diameter well about 0.4 mile southeast and large diameter well 0.3 mile northwest.

Water level at the end of day, in feet below mean sea level, 1941 (from recorder charts)

Day	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	....	0.30	1.12	1.71	2.19	2.97	3.56	4.13	4.60
2	....	.32	1.14	1.73	2.22	2.99	3.58	4.15	4.62
3	....	.33	1.17	1.75	2.25	3.01	3.59	4.16	4.63
4	.08	.35	1.21	1.77	2.27	3.03	3.61	4.17	4.65
5	.08	.37	1.23	1.79	2.30	3.06	3.64	4.18	4.67
6	.08	.38	1.26	1.80	2.32	3.08	3.66	4.20	4.69
7	.07	.39	1.28	1.85	2.35	3.10	3.67	4.21	4.70
8	.07	.40	....	1.78	2.37	3.12	3.69	4.23	4.71
9	.05	.41	1.32	1.74	2.40	3.14	3.70	4.25	4.74
10	.04	.45	1.35	1.73	2.42	3.16	3.72	4.26	4.75
11	.04	.47	1.37	1.74	2.45	3.18	3.74	4.28	4.77
12	.04	.48	1.38	1.76	2.47	3.20	3.77	4.29	4.79
13	.04	.51	1.40	1.78	2.50	3.22	3.79	4.30	4.80
14	.04	.54	1.43	1.81	2.52	3.24	3.81	4.32	4.82
15	.04	.57	1.46	1.82	2.54	3.26	3.83	4.33	4.83
16	.04	.59	1.48	1.84	2.57	3.28	3.85	4.35	4.83
17	...	.62	1.50	1.86	2.61	3.30	3.86	4.37	4.85
18	.06	.65	1.52	1.88	2.63	3.33	3.88	4.38	4.86
19	.08	.67	1.49	1.90	2.65	3.35	3.90	4.39	4.87
20	.11	.70	1.50	1.92	2.68	3.37	3.92	4.41	4.89
21	.14	.73	1.51	1.95	2.70	3.38	3.94	4.43	4.91
22	.17	.76	1.51	1.98	2.72	3.40	3.95	4.44	4.91
23	.20	.79	1.53	2.00	2.75	3.42	3.97	4.47	4.92
24	.21	.83	1.56	2.01	2.73	3.44	3.99	4.48	4.94
25	.22	.86	1.58	2.04	2.80	3.46	4.01	4.49	4.96
26	.23	.89	1.61	2.06	2.83	3.48	4.03	4.51	4.97
27	.23	.93	1.63	2.08	2.85	3.49	4.04	4.52	4.98
28	.25	.99	1.65	2.10	2.88	3.51	4.06	4.54	4.99
29	.26	1.03	1.67	2.12	2.90	3.53	4.08	4.55	4.99
30	.29	1.07	1.69	2.15	2.93	3.54	4.09	4.58	5.00
31	....	1.09	....	2.17	2.94	....	4.11	....	5.01

30.32.2.2.3. Penns Grove observation well 31. New Jersey State Water Policy Commission, 1.27 miles northeast of Shell Road bridge over Salem canal at Deepwater, on property of Joseph Clemente, 255 feet southeast of the center line of Shell Road. Driven well, diameter 1¼ inches, depth 21.6 feet. Completed Dec. 18, 1940. Measuring point, top of casing, 0.4 foot above land surface and 5.60 feet above mean sea level. First measured Dec. 20, 1940. Highest observed water level, 0.26 foot above mean sea level on Mar. 13, 1941; lowest observed water level, 4.23 feet below mean sea level Nov. 22, 1941. Possibly affected by pumping from two large diameter wells, each 1.1 miles distant, one to the northeast and the other to the southwest. Possibly affected also by pumping from several nearby wells of various depths at dye works of E. I. du Pont Co.

Water level, in feet, with reference to mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 20, 1940	-0.89	May 25, 1941	-1.89	Sept.27, 1941	-3.54
Jan. 7, 1941	- .81	June 8	-1.66	Oct. 11	-3.82
23	- .69	21	-1.58	25	-4.00
Feb. 6	- .57	July 5	-2.14	Nov. 8	-3.98
Mar. 13	+ .26	19	-1.83	22	-4.23
29	- .52	Aug. 2	-2.34	Dec. 6	-4.12
Apr. 12	- .38	16	-2.63	20	-3.65
26	- .92	30	-2.86		
May 10	-1.44	Sept.13	-3.23		

Salem County--Continued

30.22.8.9.5. Penns Grove observation well 32. New Jersey State Water Policy Commission. On northeast side of Township road forming easterly boundary of du Pont Country Club golf course, at its intersection with the Shell Road, 0.1 mile south of the most southerly boundary of the village of Carneys Point. Driven well, diameter 1¼ inches, depth 12 feet. Completed early in Dec. 1940. Measuring point, top of casing, 0.5 foot above land surface and 4.38 feet above mean sea level. First measured Dec. 12, 1940. Highest observed water level, 1.65 feet above mean sea level Mar. 13, 1941; lowest observed water level, 1.06 feet below mean sea level Nov. 22, 1941. Possibly affected by pumping from large diameter well 0.6 mile southeast.

Water level, in feet, with reference to mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 12, 1940	+0.82	May 10, 1941	+0.39	Sept.13, 1941	-0.62
18	+ .09	25	+ .22	27	- .80
Jan. 7, 1941	+1.03	June 8	+ .34	Oct. 11	- .92
23	+ .95	21	+ .36	25	-1.04
Feb. 6	+1.06	July 5	- .02	Nov. 8	- .87
Mar. 13	+1.65	19	+ .15	22	-1.06
29	+1.00	Aug. 2	- .15	Dec. 6	- .81
Apr. 12	+ .99	16	- .32	20	- .41
26	+ .72	30	- .42		

30.22.9.8.6. Penns Grove observation well 35. New Jersey State Water Policy Commission. Two miles southeast of intersection of Main and Broad Streets in Penns Grove and 15 feet northeast of center line of Horace Harding Highway. Driven well, diameter 1¼ inches, depth 31.3 feet. Completed Nov. 19, 1940. Measuring point, top of casing, 0.9 foot above land surface and 21.51 feet above mean sea level. First measured Nov. 29, 1940. Highest observed water level, 18.66 feet above mean sea level Nov. 29, 1940; lowest observed water level, 0.54 foot above mean sea level Dec. 6, 1941. Affected by pumping from large diameter well 0.8 mile southwest.

Water level, in feet above mean sea level, 1940-41

Nov. 29, 1940	18.66	Apr. 26, 1941	10.47	Aug. 30, 1941	2.18
Dec. 2	18.23	May 10	8.75	Sept.13	1.84
11	17.36	25	7.38	27	1.48
17	16.88	June 8	6.41	Oct. 11	1.18
Jan. 6, 1941	15.61	21	5.69	25	.88
23	14.73	July 5	5.05	Nov. 8	.72
Feb. 6	14.08	19	4.59	22	.55
Mar. 13	12.74	24	4.43	Dec. 6	.54
29	12.03	Aug. 2	2.83	20	.96
Apr. 12	11.41	16	2.47		

30.22.9.8.4. Penns Grove observation well 36. New Jersey State Water Policy Commission. Two miles southeast of intersection of Main and Broad Streets in Penns Grove, 0.55 mile southwest of intersection of Horace Harding Highway with the Forked Hickory-Pedricktown Road and about 12 feet northeast of the center line of Georgetown road. Driven well, diameter 1¼ inches, depth 42.5 feet. Completed Dec. 1940. Measuring point, top of casing, 0.7 foot above land surface and 27.11 feet above mean sea level. First measured Dec. 17, 1940. Highest observed water level, 0.76 foot below mean sea level Dec. 17, 1940; lowest observed water level, 8.65 feet below mean sea level Dec. 20, 1941. Affected by pumping from large diameter well 0.38 mile southwest.

Water level, in feet below mean sea level, 1940-41

Dec. 17, 1940	0.76	June 21, 1941	5.44	Sept.27, 1941	7.28
Jan. 6, 1941	4.83	July 5	5.78	Oct. 11	7.56
23	5.09	19	6.05	25	7.73
Feb. 6	5.14	Aug. 2	6.36	Nov. 8	7.95
Mar. 13	4.95	16	6.66	22	8.17
May 10	4.45	30	6.91	Dec. 6	8.37
25	4.73	Sept.13	7.13	20	8.65
June 8	5.09				

Salem County--Continued

30.32.2.3.3. Penns Grove observation well 41. New Jersey State Water Policy Commission, 2.35 miles southeast of intersection of Broad and Main Streets in Penns Grove, on du Pont Country Club golf course, 20 feet north of center line of township road on south side of golf course and about 0.1 mile northwest of its junction with Forked Hickory-Pedricktown Road. Drilled well, diameter 6 inches, depth 25 feet. Drilled for observation purposes in Mar. 1941. Measuring point, top of casing, 21 feet above land surface and 12.37 feet above mean sea level. First measured Apr. 7, 1941. Highest observed water level, 10.4 feet above mean sea level Apr. 7 and 8, 1941; lowest observed water level, 4.9 feet above mean sea level on several dates in Oct., Nov., and Dec., 1941. About 0.7 mile southwest of large diameter well and 1.3 mile northeast of another large diameter well, but water level does not appear to be affected by pumping.

Water level at the end of day, in feet above mean sea level, 1941 (from recorder charts)

Day	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	....	9.1	7.8	8.1	7.7	6.7	5.5	5.0	4.9
2	....	9.1	7.8	8.0	7.6	6.6	5.4	5.0	4.9
3	....	9.0	7.7	8.1	7.6	6.6	5.4	5.1	4.9
4	....	9.0	8.3	8.1	7.5	6.6	5.4	5.1	4.9
5	....	8.9	8.8	8.0	7.7	...	5.4	5.1	5.1
6	....	8.9	8.9	8.0	7.6	...	5.3	5.1	5.2
7	10.4	8.8	8.9	8.7	7.5	...	5.3	5.1	5.2
8	10.4	8.9	8.8	9.0	7.5	...	5.3	5.1	5.2
9	10.3	8.8	8.8	9.0	7.4	...	5.2	5.1	5.2
10	10.2	8.7	8.7	8.9	7.3	...	5.3	5.1	5.2
11	10.1	8.7	8.5	8.9	7.3	...	5.3	5.1	5.2
12	10.1	8.6	8.5	8.8	7.3	...	5.2	5.0	5.2
13	10.0	8.5	8.9	8.7	7.2	...	5.2	5.0	5.8
14	9.9	8.4	8.9	8.6	7.1	...	5.2	5.0	6.2
15	9.9	8.4	9.1	8.5	7.2	...	5.2	5.0	6.4
16	9.8	8.4	9.1	8.5	7.2	6.0	5.1	5.0	6.5
17	9.7	8.7	9.2	8.6	7.1	5.9	5.1	4.9	6.5
18	9.7	8.7	9.2	8.5	7.0	5.9	5.1	4.9	6.6
19	9.6	8.7	9.2	...	7.3	5.9	5.1	4.9	6.7
20	9.6	8.5	9.1	...	7.4	5.8	5.1	4.9	6.7
21	9.5	8.5	9.0	...	7.3	5.8	5.0	4.9	6.7
22	9.4	8.4	8.9	...	7.2	5.8	5.0	...	...
23	9.4	8.4	8.8	...	7.1	5.7	5.0	...	...
24	9.6	8.3	8.8	8.2	7.1	5.7	5.0	...	...
25	9.5	8.2	8.6	8.1	7.1	5.7	5.0	...	...
26	9.5	8.2	8.5	8.0	7.0	5.6	5.0	...	...
27	9.4	8.1	8.4	7.9	6.9	5.6	5.0	5.0	...
28	9.3	8.0	8.3	8.0	6.9	5.6	4.9	5.0	...
29	9.2	7.9	8.2	7.9	6.8	5.5	5.0	5.0	...
30	9.2	7.9	8.2	7.9	6.8	5.5	4.9	5.0	...
31	...	7.8	...	7.8	6.8	...	4.9	...	...

30.32.2.3.9. Penns Grove observation well 51. New Jersey State Water Policy Commission, 1.4 miles northeast of Shell Road bridge over Salem Canal in Deepwater and 0.2 mile southeast of the most southerly corner of the du Pont Country Club golf course. Driven well, diameter 1¼ inches, depth 26 feet. Completed Nov. 28, 1940. Measuring point, top of casing, 1.0 foot above land surface and 13.71 feet above mean sea level. First measured Dec. 2, 1940. Highest observed water level, 10.99 feet above mean sea level Mar. 13, 1941; lowest observed water level, 4.60 feet above mean sea level Oct. 25, 1941.

Water level, in feet above mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 2, 1940	10.13	Dec. 17, 1940	10.60	Feb. 6, 1941	10.39
3	10.06	Jan. 7, 1941	10.24	Mar. 13	10.99
11	10.10	23	10.35	29	10.04

Salem County--Continued

30.32.2.3.9.--Continued

Water level, in feet above mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Apr. 12, 1941	10.11	July 19, 1941	8.41	Oct. 11, 1941	5.12
26	9.69	Aug. 2	7.60	25	4.60
May 10	9.82	16	6.95	Nov. 8	4.74
25	8.35	30	6.65	22	4.64
June 8	9.34	Sept.13	6.06	Dec. 6	4.90
21	9.52	27	5.53	20	6.91
July 5	7.99				

30.32.2.5.1. Penns Grove observation well 52. New Jersey State Water Policy Commission, 0.48 mile northeast of Shell Road bridge over Salem Canal at Deepwater, 45 feet southeast of center line of Shell Road. Driven well, diameter 1¼ inches, depth 31 feet. Completed Dec. 13, 1940. Measuring point, top of casing, 1.0 foot above land surface and 8.16 feet above mean sea level. First measured Dec. 18, 1940. Highest observed water level, 8.91 feet below mean sea level Mar. 29, 1941; lowest observed water level, 13.57 feet below mean sea level Dec. 20, 1941. Affected by pumping from large diameter well 0.32 mile south and possibly by pumping from several nearby wells of various depths at dye works of E. I. du Pont Co.

Water level, in feet below mean sea level, 1940-41

Dec. 18, 1940	11.12	May 25, 1941	10.60	Sept.13, 1941	11.97
Jan. 7, 1941	10.98	June 8	10.97	27	12.29
23	10.82	21	11.04	Oct. 11	12.62
Feb. 6	10.58	July 5	11.16	25	12.88
Mar. 13	10.31	19	11.01	Nov. 8	13.08
29	8.91	Aug. 2	11.30	22	13.29
Apr. 12	9.63	16	11.50	Dec. 6	13.51
26	9.29	30	11.75	20	13.57
May 10	9.63				

30.32.2.6.5. Penns Grove observation well 54. New Jersey State Water Policy Commission, 1.1 miles east of Shell Road bridge over Salem Canal at Deepwater, 0.45 mile west of Wiley Road bridge over Game Creek and about 50 feet south of center line of Wiley Road. Driven well, diameter 1¼ inches, depth 11.7 feet. Completed Nov. 26, 1940. Measuring point, top of casing, 0.9 foot above land surface and 13.69 feet above mean sea level. First measured Dec. 2, 1940. Highest observed water level, flowing Mar. 13, 1941; lowest observed water level, 7.99 feet above mean sea level Nov. 22, 1941.

Water level, in feet above mean sea level, 1940-41

Dec. 2, 1940	11.82	Apr. 26, 1941	12.46	Aug. 30, 1941	10.09
11	12.43	May 10	11.61	Sept.13	9.47
17	12.77	25	11.12	27	8.91
Jan. 7, 1941	12.81	June 8	11.82	Oct. 11	8.47
23	12.92	21	11.99	25	8.12
Feb. 6	13.09	July 5	11.06	Nov. 8	8.11
Mar. 13	(a)	19	11.47	22	7.99
29	12.96	Aug. 2	10.72	Dec. 6	8.27
Apr. 12	13.03	16	10.36	20	9.99

30.32.3.5.5. Penns Grove observation well 55. New Jersey State Water Policy Commission, 2.23 miles east of Shell Road bridge over Salem Canal at Deepwater, on south side of Wiley Road, 0.1 mile west of its intersection with Game Creek Road. Driven well, diameter 1¼ inches, depth 12.4 feet. Completed Nov. 25, 1940. Measuring point, top of casing, 0.1 foot above land surface and 8.32 feet above mean sea level. First measured Dec. 2, 1940. Highest observed water level, 7.22 feet above mean sea level Dec. 2, 1940; lowest observed water level, 2.70 feet above mean sea level Oct. 25, 1941. Not affected by pumping.

a Flowing.

Salem County--Continued

30.32.3.5.5.--Continued

Water level, in feet above mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 2, 1940	7.22	Apr. 26, 1941	5.92	Aug. 30, 1941	4.27
11	6.28	May 10	5.26	Sept.13	3.73
17	6.81	25	4.89	27	3.24
Jan. 7, 1941	6.26	June 8	5.84	Oct. 11	2.94
23	6.55	21	5.68	25	2.70
Feb. 6	6.48	July 5	4.76	Nov. 8	3.12
Mar. 13	7.14	19	5.34	22	3.16
Mar. 29	6.17	Aug. 2	4.85	Dec. 6	3.79
Apr. 12	6.24	16	4.48	20	5.47

30.32.2.5.8. Penns Grove observation well 62. New Jersey State Water Policy Commission, 0.43 mile east of Shell Road Bridge over Salem Canal at Deepwater, 15 feet south of center line of Plant Street, 0.4 mile southeast of its intersection with Shell Road. Driven well, diameter 1¼ inches, depth 30 feet. Completed Dec. 19, 1940. Measuring point, top of casing, 1.1 feet above land surface. First measured Dec. 20, 1940. Highest observed water level, 18.94 feet below top of casing Apr. 26, 1941; lowest observed water level, 20.09 feet below top of casing Aug. 2, 1941. No measurements made since Aug. 2, 1941. Water levels affected by pumping from large diameter well 0.25 mile northwest.

Water level, in feet below top of casing, 1940-41

Dec. 20, 1940	19.93	Mar. 29, 1941	19.25	June 8, 1941	19.78
Jan. 7, 1941	19.96	Apr. 12	19.15	21	19.90
23	19.95	26	18.94	July 5	20.00
Feb. 6	19.66	May 10	19.21	19	20.03
Mar. 13	19.50	25	19.60	Aug. 2	20.09

30.32.2.9.1. Penns Grove observation well 63. New Jersey State Water Policy Commission, 0.9 mile southeast of Shell Road bridge over Salem Canal at Deepwater, 17 feet northeast of center line of Deepwater-Slapes Corner road, 0.5 mile northwest of Hawks Bridge. Driven well, diameter 1¼ inches, depth 17 feet. Completed Dec. 19, 1940. Measuring point, top of casing, 0.6 foot above land surface and 18.41 feet above mean sea level. First measured Jan. 7, 1941. Highest observed water level, 15.10 feet above mean sea level Mar. 13, 1941; lowest observed water level, 8.70 feet above mean sea level Nov. 22, 1941. Possibly affected by pumping from large diameter well 0.75 mile northwest.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	13.93	Apr. 26	13.35	July 19	11.86	Oct. 11	9.33
23	14.03	May 10	12.47	Aug. 2	11.15	25	9.02
Feb. 6	14.24	25	11.80	16	11.00	Nov. 8	8.86
Mar. 13	15.10	June 8	12.38	30	10.71	22	8.70
29	13.88	21	12.58	Sept.13	10.21	Dec. 6	8.77
Apr. 12	14.08	July 5	11.51	27	9.71	20	10.14

30.32.2.9.5. Penns Grove observation well 64. New Jersey State Water Policy Commission, 1.2 miles southeast of Shell Road bridge over Salem Canal at Deepwater, 20 feet northeast of center line of Deepwater-Slapes Corner road, 0.2 mile northwest of Hawks Bridge and about 45 feet northeast of right bank of Salem Creek. Driven well, diameter 1¼ inches, depth 17 feet. Completed Dec. 18, 1940. Measuring point, top of casing, 0.4 foot above land surface and 5.42 feet above mean sea level. First measured Jan. 7, 1940. Highest observed water level, 2.00 feet above mean sea level Mar. 13, 1941; lowest observed water level, 0.34 feet below mean sea level Oct. 25, 1942. Not affected by pumping.

Salem County--Continued

30.32.2.9.5.--Continued

Water Level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	+1.20	Apr. 26	+ .68	July 19	+ .78	Oct. 11	- .20
23	+1.00	May 10	+ .82	Aug. 2	+ .78	25	- .34
Feb. 6	+1.27	25	+ .35	16	+ .69	Nov. 8	+ .59
Mar. 13	+2.00	June 8	+ .71	30	+ .68	22	+ .13
29	+ .73	21	+1.00	Sept.13	+ .38	Dec. 6	+ .35
Apr. 12	+ .76	July 5	+ .81	27	- .17	20	+1.08

30.32.6.1.6. Penns Grove observation well 65. New Jersey State Water Policy Commission, 2.3 miles southeast of Shell Road Bridge over Salem Canal at Deepwater, 21 feet southwest of center line of Deepwater-Slapes Corner road, 0.95 mile southeast of Hawks Bridge. Driven well, diameter 1¼ inches, depth 11.5 feet. Completed Nov. 26, 1940. Measuring point, top of casing, 0.5 foot above land surface and 11.35 feet above mean sea level. First measured Dec. 3, 1940. Highest observed water level, 8.63 feet above mean sea level Mar. 13, 1941; lowest observed water level, 2.45 feet above mean sea level Nov. 22, 1941. Not affected by pumping.

Water level, in feet above mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 3, 1940	6.66	Apr. 26, 1941	7.18	Aug. 30, 1941	4.31
11	6.66	May 10	6.37	Sept.13	3.75
17	6.99	25	5.70	27	3.24
Jan. 7, 1941	7.28	June 8	6.24	Oct. 11	2.81
23	7.45	21	6.40	25	2.52
Feb. 6	7.60	July 5	5.25	Nov. 8	2.50
Mar. 13	8.63	19	5.38	22	2.45
29	7.59	Aug. 2	4.85	Dec. 6	2.63
Apr. 12	7.75	16	4.58	20	3.97

30.32.1.9.5. Penns Grove observation well 71. New Jersey State Water Policy Commission. At Churchtown, 1 mile southwest of Shell Road bridge over Salem Creek at Deepwater, 60 feet northwest of center line of Shell Road and 154 feet southwest of center line of the road to Church's Landing. Driven well, diameter 1¼ inches, depth 16 feet. Completed Nov. 28, 1940. Measuring point, top of casing, 0.7 foot above land surface. First measured Dec. 12, 1940. Highest observed water level, 6.67 feet below top of casing Mar. 13, 1941; lowest observed water level, 11.57 feet below top of casing Dec. 6, 1941.

Water level, in feet below top of casing, 1940-41

Dec. 12, 1940	8.15	May 10, 1941	7.60	Sept.13, 1941	10.02
20	7.94	25	8.13	27	10.41
Jan. 7, 1941	7.59	June 8	8.22	Oct. 11	10.78
23	7.46	21	8.05	25	11.08
Feb. 6	7.13	July 5	8.55	Nov. 8	11.29
Mar. 13	6.67	19	8.35	22	11.48
29	6.88	Aug. 2	8.84	Dec. 6	11.57
Apr. 12	6.76	16	9.25	20	11.06
26	7.17	30	9.60		

30.32.5.1.3. Penns Grove observation well 72. New Jersey State Water Policy Commission, 1.25 miles south of Shell road bridge over Salem Canal at Deepwater, about 150 feet east of center line of Hook Road, 1.05 miles south of its intersection with Pennsville-Auburn Road. Driven well, diameter 1¼ inches, depth 16.5 feet. Completed Nov. 27, 1940. Measuring point, top of casing, 0.5 foot above land surface. First measured Nov. 28, 1940. Highest observed water level, 4.02 feet below top of casing Mar. 13, 1941; lowest observed water level, 9.41 feet below top of casing Nov. 22, 1941, Probably not affected by pumping.

Salem County--Continued

30.32.5.1.3.--Continued

Water level, in feet below top of casing, 1940-41

Date	Water level	Date	Water level	Date	Water level
Nov. 28, 1940	5.10	Apr. 26, 1941	5.55	Aug. 30, 1941	7.82
Dec. 11	5.49	May 10	6.27	Sept.13	8.21
17	5.03	25	6.87	27	8.48
Jan. 7, 1941	4.85	June 8	6.48	Oct. 11	8.85
23	4.94	21	6.19	25	9.09
Feb. 6	4.73	July 5	6.99	Nov. 8	9.19
Mar. 13	4.02	19	6.74	22	9.41
29	4.94	Aug. 2	7.26	Dec. 6	9.36
Apr. 12	4.82	16	7.49	20	8.48

30.32.4.6.4. Penns Grove observation well 73. New Jersey State Water Policy Commission, 0.82 mile southeast of intersection of Broadway and Pittsfield Streets in Pennsville, 21 feet northeast of center line of East Pittsfield Road. Driven well, diameter 1¼ inches, depth 11.8 feet. Completed Nov. 28, 1940. Measuring point, top of casing, 0.7 foot above land surface. First measured Nov. 28, 1940. Highest observed water level, 1.91 feet below top of casing Mar. 13, 1941; lowest observed water level, 5.92 feet below top of casing Oct. 25, 1941. Not affected by pumping.

Water level, in feet below top of casing, 1940-41

Nov. 28, 1940	2.13	Apr. 26, 1941	2.57	Aug. 30, 1941	4.45
Dec. 3	2.41	May 10	3.12	Sept.13	5.08
11	2.46	25	3.69	27	5.57
17	2.10	June 8	2.86	Oct. 11	5.65
Jan. 7, 1941	2.34	21	2.80	25	5.92
23	2.24	July 5	3.43	Nov. 8	4.97
Feb. 6	2.25	19	3.10	22	4.99
Mar. 13	1.91	Aug. 2	3.81	Dec. 6	4.10
29	2.44	16	4.22	20	3.14
Apr. 12	2.36				

30.32.5.4.6. Penns Grove observation well 74. New Jersey State Water Policy Commission, 1.55 miles east of intersection of Broadway and Pittsfield Streets in Pennsville, 33 feet southeast of center line of Hook Road, 0.52 mile northeast of its intersection with East Pittsfield Road. Driven well, diameter 1¼ inches, depth 16 feet. Completed Dec. 2, 1940. Measuring point, top of casing, 1.1 feet above land surface. First measured Dec. 3, 1940. Highest observed water level, 2.27 feet below top of casing on Dec. 3 1940; lowest observed water level, 8.70 feet below top of casing Dec. 6, 1941. Not affected by pumping.

Water level, in feet below top of casing, 1940-41

Dec. 3, 1940	2.27	Apr. 26, 1941	5.90	Aug. 30, 1941	7.65
11	2.69	May 10	6.14	Sept.13	7.87
17	2.91	25	6.43	27	8.08
Jan. 7, 1941	3.61	June 8	6.72	Oct. 11	8.28
23	4.27	21	6.86	25	8.47
Feb. 6	4.64	July 5	7.02	Nov. 8	8.58
Mar. 13	5.36	19	7.13	22	8.67
29	5.56	Aug. 2	7.28	Dec. 6	8.70
Apr. 12	5.71	16	7.47	20	8.63

30.32.4.8.7. Penns Grove observation well 81. New Jersey State Water Policy Commission, 1.43 miles south of intersection of Broadway and Pittsfield Streets in Pennsville, 23 feet southeast of center line of Fort Mott Road, 0.4 mile southwest of its intersection with Broadway Street. Driven well, diameter 1¼ inches, depth 15.6 feet. Completed Dec. 12, 1940. Measuring point, top of casing, 1.2 feet above land surface. First measured Dec. 12, 1940. Highest observed water level, 5.94 feet below top of casing Mar. 13, 1941; lowest observed water level, 13.56 feet below measuring point Dec. 6, 1941. Not affected by pumping.

Salem County--Continued

30.32.4.3.7.--Continued

Water level, in feet below top of casing, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 12, 1940	8.14	May 10, 1941	9.75	Sept.13, 1941	12.25
20	7.50	25	10.62	27	12.55
Jan. 7	7.44	June 8	10.30	Oct. 11	12.85
23	7.53	21	9.09	25	13.10
Feb. 6	7.31	July 5	10.32	Nov. 8	13.30
Mar. 13	5.94	19	9.84	22	13.45
29	7.80	Aug. 2	10.67	Dec. 6	13.56
Apr. 12	7.58	16	11.41	20	13.15
26	8.75	30	11.87		

30.32.5.7.7. Penns Grove observation well 84. New Jersey State Water Policy Commission, 1.85 miles southeast of intersection of Broadway and Pittsfield Streets in Pennsville, 22 feet east of center line of Hook Road, 90 feet south of its intersection with Mahoney Road. Driven well, diameter 1¼ inches, depth 11.5 feet. Completed Dec. 2, 1940. Measuring point, top of casing, 0.5 foot above land surface. First measured Dec. 3, 1940. Highest observed water level, 0.56 foot below top of casing on Dec. 17, 1940; lowest observed water level, 7.08 feet below top of casing on Nov. 22, 1941. Not affected by pumping.

Water level, in feet below top of casing, 1940-41

Dec. 3, 1940	1.36	Apr. 26, 1941	2.34	Aug. 30, 1941	5.37
11	1.19	May 10	3.34	Sept.13	5.82
17	.56	25	4.12	27	6.18
Jan. 7, 1941	1.59	June 8	3.08	Oct. 11	6.50
23	1.14	21	2.54	25	6.76
Feb. 6	1.12	July 5	3.85	Nov. 8	6.90
Mar. 13	.62	19	3.52	22	7.08
29	1.72	Aug. 2	4.23	Dec. 6	7.00
Apr. 12	1.63	16	5.00	20	6.05

30.31.9.6.6. Penns Grove observation well 91. New Jersey State Water Policy Commission, 2.3 miles northwest of intersection of Lighthouse Road and Penns Grove-Salem Road at Harrisonville, 16 feet southeast of center line of Fort Mott Road, 410 feet southwest of its intersection with the Lighthouse Road. Driven well, diameter 1¼ inches, depth 15.6 feet. Completed Dec. 12, 1940. Measuring point, top of casing, 1.3 feet above land surface. First measured Dec. 12, 1940. Highest observed water level, 4.28 feet below top of casing Mar. 13, 1941; lowest observed water level, 8.79 feet below top of casing Oct. 11, 1941. Not affected by pumping.

Water level, in feet below top of casing, 1940-41

Dec. 12, 1940	5.67	May 25, 1941	7.04	Sept.13, 1941	8.43
17	5.17	June 8	6.21	27	8.59
Jan. 7, 1941	5.26	21	5.86	Oct. 11	8.79
23	5.35	July 5	6.75	25	8.68
Mar. 13	4.28	19	6.55	Nov. 8	8.26
29	5.60	Aug. 2	7.09	22	8.17
Apr. 12	5.44	16	7.77	Dec. 6	7.66
26	6.09	30	8.05	20	6.59
May 10	6.61				

30.32.7.6.9. Penns Grove observation well 92. New Jersey State Water Policy Commission, 0.9 mile northwest of intersection of Penns Grove-Salem Road with Lighthouse Road at Harrisonville, 15 feet southeast of center line of Hook Road, 400 feet northeast of its intersection with Penns Grove-Salem Road. Driven well, diameter 1¼ inches, depth 16 feet. Completed Dec. 9, 1940. Measuring point, 0.6 foot above land surface. First measured Dec. 11 1940. Highest observed water level, 3.40 feet below top of casing Mar. 13, 1941; lowest observed water level, 12.47 feet below top of casing Dec. 6, 1941. Not affected by pumping.

Salem County--Continued

30.32.7.6.9.--Continued

Water level, in feet below top of casing, 1940-41

Date	Water level	Date	Water level	Date	Water level
Dec. 11, 1940	7.16	May 10, 1941	8.32	Sept.13, 1941	11.17
17	6.87	25	9.17	27	11.49
Jan. 7, 1941	5.68	June 8	9.16	Oct. 11	11.76
23	5.95	21	8.52	25	12.00
Feb. 6	5.26	July 5	9.29	Nov. 8	12.18
Mar. 13	3.40	19	9.16	22	12.35
29	5.57	Aug. 2	9.75	Dec. 6	12.47
Apr. 12	5.63	16	10.30	20	12.45
26	7.23	30	10.77		

30.22.9.4.3. Penns Grove observation well E14. In boiler room of Logwood Inn at intersection of East Barber Road and Broad Street extended, 1 mile southeast of intersection of Broad and Main Streets in Penns Grove. Driven well, diameter 1¼ inches, depth 20 feet. Used until May 1940 to supply water to Logwood Inn. Used since only as observation well. Measuring point, top of casing, 0.8 foot above the boiler room floor, 2 feet below the land surface and 19.14 feet above mean sea level. First measured May 9, 1940. Highest observed water level, 16.69 feet above mean sea level May 24, 1940; lowest observed water level 9.82 feet above mean sea level Dec. 6, 1941. Affected by pumping of large diameter well 3/8 mile south.

Water level, in feet above mean sea level, 1940-41

May 9, 1940	16.26	Oct. 16, 1940	12.13	June 21, 1941	13.74
17	16.57	31	11.86	July 5	12.86
24	16.69	Nov. 13	12.19	19	13.14
June 8	16.16	27	13.54	Aug. 2	12.54
July 11	13.60	Dec. 17	13.69	16	12.00
23	13.01	Jan. 6, 1941	14.10	30	11.64
Aug. 16	12.05	23	14.13	Sept.13	11.31
21	11.82	Feb. 6	14.65	27	10.97
28	11.89	Mar. 13	16.45	Oct. 11	10.47
Sept. 5	12.92	29	15.58	25	10.41
10	12.95	Apr. 12	15.68	Nov. 8	10.16
18	13.09	26	14.92	22	9.97
25	12.35	May 10	14.05	Dec. 6	9.82
Oct. 3	12.32	26	13.35	20	10.19
9	12.26				

30.22.9.5.4. Penns Grove observation well E15, 1.2 miles southeast of intersection of Broad and Main Streets in Penns Grove and 60 feet northeast of center line of Horace Harding Highway, on property of George Schmid. Driven well, diameter 1¼ inches, depth 18.4 feet. Pumped for domestice purposes until April, 1940. Used only for observation purposes since that time. Measuring point, top of casing, 3.3 feet above land surface and 23.21 feet above mean sea level. First measured Apr. 23, 1940. Highest observed water level, 15.12 feet above mean sea level Apr. 23, 1940; lowest observed water level, 6.40 feet above mean sea level Dec. 20, 1941. Affected by pumping from large diameter well about 1,300 feet southwest.

Water level, in feet above mean sea level, 1940-41

Apr. 23, 1940	15.12	Sept.10, 1940	9.16	Jan. 23, 1941	9.75
May 2	14.52	18	8.97	Feb. 6	10.90
9	13.95	25	8.81	Mar. 13	12.93
17	13.65	Oct. 3	8.71	29	13.03
24	13.91	9	8.65	Apr. 12	12.72
June 8	13.69	16	8.58	26	12.17
July 11	10.88	23	8.48	May 10	11.49
23	10.03	31	8.34	25	10.75
Aug. 16	8.97	Nov. 14	8.36	June 8	10.31
21	8.86	27	9.09	21	10.16
28	8.72	Dec. 17	9.17	July 5	9.44
Sept. 5	9.03	Jan. 6, 1941	9.67	19	9.84

Salem County--Continued

30.22.9.5.4.--Continued

Water level, in feet above mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Aug. 2, 1941	9.33	Sept.27, 1941	7.89	Nov. 22, 1941	6.71
16	8.86	Oct. 11	7.55	Dec. 6	6.49
30	8.54	25	7.23	20	6.40
Sept.13	8.21	Nov. 8	6.94		

30.32.2.6.4. Penns Grove observation well E16, 0.9 mile northeast of Shell Road bridge over Salem Canal at Deepwater and 0.1 mile northeast of intersection of Pennsville-Auburn Road with Wiley Road. Dug well, curbed with brick, diameter 2 feet, depth 6 feet. Measuring point, point of arrow chiseled on top of brick curbing, 0.2 foot above land surface and 15.25 feet above mean sea level. First measured May 24, 1940. Highest observed water level, 14.78 feet above mean sea level Mar. 13, 1941; lowest observed water level, 10.31 feet above mean sea level Nov. 22, 1941. Not affected by pumping.

Water level, in feet above mean sea level, 1940-41

May 24, 1940	14.73	Oct. 31, 1940	12.70	June 21, 1941	13.85
June 8	14.35	Nov. 13	13.58	July 5	13.00
July 11	12.41	27	14.65	19	13.15
23	11.91	Dec. 11	14.39	Aug. 2	12.53
Aug. 16	11.13	17	14.77	16	12.25
21	10.82	Jan. 7, 1941	14.46	30	12.01
28	12.19	23	14.76	Sept.13	11.57
Sept. 5	13.06	Feb. 6	14.73	27	11.10
10	13.00	Mar. 13	14.78	Oct. 11	10.46
18	12.51	29	14.23	25	10.49
25	12.15	Apr. 12	14.45	Nov. 8	10.52
Oct. 3	12.79	26	13.95	22	10.31
9	12.83	May 10	13.11	Dec. 6	10.69
16	12.59	25	12.97	20	11.83
23	12.38	June 8	13.73		

30.22.9.9.8. Penns Grove test well R5. Penns Grove Water Supply Company, 2.45 miles southeast of intersection of Main and Broad Streets in Penns Grove and about 50 feet north of intersection of Horace Harding Highway with Pennsville-Auburn Road. Original well, 50 feet deep and cased with 6-inch pipe, constructed by the cable tool-percussion method early in 1939. Present well used for observation purposes, 50 feet of 3-inch pipe left in hole when 6-inch pipe was removed. Measuring point to July 19, 1941, top of casing, 1.9 feet above land surface and 11.69 feet above mean sea level; measuring point since July 19, 1941, top of casing, 0.1 foot above land surface and 9.94 feet above mean sea level. Highest observed water level, 10.30 feet above mean sea level Apr. 24, 1940; lowest observed water level, 4.41 feet above mean sea level Oct. 25, 1941. Possibly affected by pumping from a large diameter well 1.05 miles west.

Water level, in feet above mean sea level, 1940-41

Apr. 24, 1940	10.30	Oct. 16, 1940	7.47	June 3, 1941	7.37
May 2	9.95	23	7.35	21	7.47
9	9.65	31	7.45	July 5	6.69
17	9.75	Nov. 13	7.72	19	6.89
24	9.68	27	8.34	Aug. 2	6.38
June 8	9.41	Dec. 11	8.06	16	5.96
July 11	7.90	17	8.28	30	5.71
23	7.66	Jan. 6, 1941	8.21	Sept.13	5.30
Aug. 16	6.74	23	8.21	27	4.92
21	6.96	Feb. 6	8.30	Oct. 11	4.68
28	7.50	Mar. 13	8.88	15	4.58
Sept. 5	8.29	29	8.38	25	4.41
10	8.18	Apr. 12	8.32	Nov. 8	4.61
18	8.26	26	7.99	22	4.46
25	7.50	May 10	7.46	Dec. 6	4.88
Oct. 3	7.81	25	6.99	20	6.17
9	7.76				

Salem County--Continued

30.23.7.1.4. Penns Grove test well R7. Penns Grove Water Supply Company, 1.9 miles east of intersection of Broad and Main Streets in Penns Grove, about 30 feet southeast of center line of Forked Hickory-Pedricktown Road, 0.45 mile northeast of its intersection with Penns Grove-Auburn Road. Drilled well originally 50 feet deep and cased with 6-inch pipe, constructed by cable-tool percussion method early in 1939. Present well, used for observation purposes, 2-inch pipe 21 feet long left in hole when casing was removed from original well. Measuring point, top of 2-inch casing, 1.9 feet above land surface and 26.45 feet above mean sea level. First measured Apr. 23, 1940. Highest observed water level, 23.90 feet above mean sea level Apr. 23, 1940; lowest observed water level, 18.85 feet above mean sea level Nov. 22, 1941. Not affected by pumping.

Water level, in feet above mean sea level, 1940-41

Date	Water level	Date	Water level	Date	Water level
Apr. 23, 1940	23.90	Oct. 9, 1940	21.94	May 25, 1941	22.06
24	23.87	16	21.85	June 8	21.99
May 2	23.71	23	21.72	21	22.06
9	23.52	31	21.59	July 5	21.18
17	23.31	Nov. 14	22.12	19	21.74
24	23.22	27	23.00	Aug. 2	20.91
June 8	23.16	Dec. 12	22.80	16	20.34
July 11	22.21	17	22.73	30	20.45
23	21.84	Jan. 7, 1941	22.81	Sept. 13	19.82
Aug. 16	20.99	23	22.81	27	19.42
21	20.89	Feb. 6	23.12	Oct. 11	19.12
28	20.76	Mar. 13	23.63	25	19.15
Sept. 5	22.39	29	23.05	Nov. 9	19.11
10	22.19	Apr. 12	22.96	22	18.85
18	22.10	26	22.70	Dec. 6	19.33
26	22.03	May 10	22.35	20	20.88
Oct. 3	21.96				

30.32.3.6.5. Penns Grove observation well R8. Penns Grove Water Supply Company, 2.78 miles east of Shell Road bridge over Salem Canal at Deepwater, on south side of Wiley Road 0.42 mile east of its intersection with Game Creek Road. Drilled well, diameter 4 inches, depth 55 feet. Completed early in 1939. Measuring point, top of casing, 1.8 feet above land surface and 10.93 feet above mean sea level. First measured May 2, 1940. Highest observed water level, 5.96 feet above mean sea level May 2, 1940; lowest observed water level, 2.46 feet above mean sea level Oct. 25, 1941. Not affected by pumping.

Water level, in feet above mean sea level, 1940-41

May 2, 1940	5.96	Oct. 16, 1940	4.56	June 8, 1941	4.56
9	5.72	23	4.46	21	4.63
17	5.69	31	4.52	July 5	4.19
24	5.82	Nov. 13	4.73	19	4.48
June 8	5.83	27	5.20	Aug. 2	4.19
July 11	4.44	Dec. 11	5.09	16	3.80
23	3.99	17	5.17	30	3.67
Aug. 16	3.44	Jan. 7, 1941	5.24	Sept. 13	3.28
21	3.77	23	5.21	27	2.90
28	3.91	Feb. 6	5.33	Oct. 11	2.63
Sept. 5	5.10	Mar. 13	5.65	25	2.46
10	5.13	29	5.32	Nov. 8	2.68
18	4.75	Apr. 12	5.29	22	2.71
25	4.49	26	5.01	Dec. 6	3.02
Oct. 3	4.74	May 10	4.68	20	3.89
9	4.72	25	4.28		

NEW YORK

CENTRAL NEW YORK

By G. D. Freeman

Records of ground-water level in four wells in central New York were continued in 1941 by the Federal Geological Survey in cooperation with the New York State Department of Conservation in connection with a study which is being made to determine the effects of reforestation on stream flow. Previous records have been published in Water-Supply Papers 777, 817, 840, 845, 886, and 906. In Water-Supply Paper 886 was included a brief description of the geological character of the areas in which these wells are located. It may be noted that none of these wells is affected by pumpage or other acts of man.

Of the four records included in this report, that of Shackham Brook ell 1 best reflects the effect of climatological variations. The year was generally characterized by rainfall deficiencies and warm temperatures, and these conditions brought about the dominant feature in the 1941 records, that of a long steady recession, beginning in the early part of April and lasting until the latter part of October, broken only by excessive rainfall in the latter part of July. By the early part of November levels were returned to approximately the same as in May, and the end of December found levels only slightly lower than at the beginning of the year, all wells showing small net losses.

Generally speaking, the levels during the summer averaged lower than in 1940, but did not reach as low stages as in the drought year of 1939, even though in July they were decidedly lower than in July 1939.

In addition to the four recording ground-water level gages, there are three wells read weekly, two being in the Shackham Brook area and one in the Sage Brook area.

All recorder wells are inspected weekly by local observers and at frequent intermediate times by an engineer of the Geological Survey. The records published herein are limited to the measurements made in the recorder wells at the times of these weekly inspections.

Shackham Brook Well 1. Latitude 42°46'00", longitude 76°01'10". On side of hill about 300 feet upstream from stream-gaging station, 500 feet to left of Shackham Brook, and about 5 miles north of Truxton, Cortland County, at approximate elevation of 1,600 feet above mean sea level. Dug well lined with 8-foot length of 18-inch corrugated galvanized iron pipe. Timber instrument shelter attached to top of pipe. Readings made by means of tape and weight measuring device with reference point set to original datum by spirit leveling from reference bench mark in a nearby tree. Read weekly Aug. 26, 1933, to June 6, 1935. Stevens water-stage recorder installed June 6, 1935, inspected weekly. Highest level, 0.31, Apr. 6; lowest level, 4.95, Oct. 23; calendar year loss, 0.37 - 0.51 = 0.14 foot; level at well bottom, 6.1; level at land surface, 0.3.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	0.53	Apr. 6	0.32	July 5	3.63	Oct. 4	4.64
11	.91	12	.42	12	3.96	11	4.81
18	.90	19	.80	19	4.23	18	4.93
25	1.04	26	1.18	26	4.51	25	4.23
Feb. 1	1.36	May 3	1.66	Aug. 2	1.58	Nov. 1	2.69
9	1.10	10	1.43	9	2.28	8	1.41
16	.53	17	1.91	16	2.78	15	1.60
23	.95	24	2.52	23	3.20	23	1.74
Mar. 2	1.35	31	2.71	30	3.46	29	1.48
8	.76	June 7	2.85	Sept. 6	3.76	Dec. 6	1.52
15	.99	14	3.11	13	3.98	14	1.49
22	.99	21	3.09	20	4.16	21	1.08
30	.41	28	3.20	27	4.36	28	.41

Sage Brook Well 2. Latitude 42°31'55", longitude 75°25'30". About 50 feet upstream from stream-gaging station, 100 feet to left of Sage Brook, and about 2.5 miles west of South New Berlin, Chenango County, and at approximate elevation of 1,450 feet above mean sea level. Dug well lined with concrete tile 21 inches in diameter, 7.5 feet deep. Timber instrument shelter attached to casing. Readings made by measuring distance from measuring point on well casing to water surface until Oct. 27, 1941, after which readings made by means of tape and weight measuring device with reference point set to original datum by spirit leveling from reference bench marks in nearby trees. Read weekly Oct. 27, 1934, to July 20, 1935. Gurley water-stage recorder installed July 20, 1935, replaced by Stevens water-stage recorder Aug. 8, 1939, inspected weekly. Highest level, 1.16, Dec. 24; lowest level, 5.53, Oct. 28; calendar year loss, 1.61 - 1.73 = 0.12; level at well bottom, 8.5±; level at land surface, 1.0.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	1.71	Apr. 7	1.53	July 7	2.87	Oct. 6	5.22
13	1.75	14	1.59	14	3.10	13	5.37
20	1.71	21	1.75	21	3.91	20	5.43
27	1.76	28	1.79	28	4.67	27	5.52
Feb. 3	1.82	May 5	1.57	Aug. 4	2.45	Nov. 3	1.69
10	1.91	12	1.75	11	3.80	10	1.71
17	1.87	19	1.80	18	4.49	17	1.85
24	1.89	26	1.95	25	4.88	24	1.70
Mar. 3	2.00	June 2	1.90	Sept. 1	4.93	Dec. 1	1.81
10	2.02	9	2.12	8	5.06	8	1.84
17	1.95	16	2.03	15	5.10	15	1.78
24	1.98	23	2.32	22	5.18	22	1.84
31	1.86	30	2.52	29	5.25	29	1.72

Cold Spring Brook Well 1. Latitude 42°09'35", longitude 75°23'35". On side of hill, about 150 feet to the left of stream-gaging station on Cold Spring Brook, about 1 mile above China and 2 miles west of Upper Barbourville, Delaware County, and at approximate elevation of 1,540 feet above mean sea level. Dug well 12 feet deep lined with 18-inch corrugated galvanized iron pipe. Timber instrument shelter bolted to top of casing. Readings made by tape and weight measuring device with reference point set to original datum by spirit leveling from reference bench mark in nearby tree. Gurley water-stage recorder installed Oct. 24, 1934, replaced by Stevens water-stage recorder June 20, 1939, inspected weekly. Highest level, 2.75, Apr. 6; lowest level, 10.68, Nov. 1; calendar year loss, 2.98 - 3.98 = 1.00 foot; level at well bottom, 12.0; level at land surface, 2.0.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	3.51	Apr. 5	2.88	July 5	8.58	Oct. 4	10.21
11	5.17	12	3.90	12	8.73	11	10.22
18	6.33	19	4.59	19	8.60	18	10.40
25	6.35	26	5.12	26	8.88	25	10.54
Feb. 1	6.99	May 3	6.45	Aug. 2	7.82	Nov. 1	10.58
8	5.02	10	3.47	9	8.63	8	4.23
15	3.99	17	5.37	16	8.99	15	5.39
22	4.52	24	6.66	23	9.03	22	5.82
Mar. 1	5.91	31	7.37	30	9.26	29	5.19
8	3.84	June 7	7.26	Sept. 6	9.52	Dec. 6	5.22
15	5.09	14	7.78	13	9.55	13	5.99
22	4.74	21	8.17	20	9.82	20	3.94
29	3.01	28	8.44	27	10.07	27	3.23

East Homer Creek Well 1. Latitude 42°43'05", longitude 76°06'50". On side of hill, about 70 feet to right of creek, and about 2.5 miles above gaging station in East Homer, Cortland County, and at approximate elevation of 1,460 feet above mean sea level. Dug well lined with 9-foot length of 18-inch corrugated galvanized iron pipe. Timber instrument shelter attached to casing. Readings made by means of tape and weight measuring device with reference point set to original datum by spirit leveling from reference bench mark in nearby embedded boulder. (Note: prior to Jan. 1, 1940, readings were distances in feet above an assumed datum. Subsequent to Jan. 1, 1940, readings are distances in feet below measuring point, which is 11.00 feet above the original datum. To put readings prior to 1940 on same basis as those for 1940 and subsequent years, subtract the figures from 11.00 feet). Highest level, 2.68, Jan. 4; lowest level, 6.52, Oct. 4; calendar year loss, 2.77 - 3.15 = 0.38 foot; level at well bottom, 11.0; level at land surface, 2.3.

Water level, in feet below measuring point, 1941

Jan. 4	2.68	Apr. 5	3.77	July 5	5.78	Oct. 4	6.52
11	2.87	12	3.43	12	6.03	11	6.28
18	3.65	19	3.36	19	6.18	18	5.89
25	3.76	26	3.64	26	6.33	25	4.59
Feb. 1	3.99	May 3	4.83	Aug. 2	5.28	Nov. 1	3.81
8	4.12	10	4.66	9	5.43	7	3.50
15	3.42	17	4.98	16	5.71	15	3.91
22	3.14	24	5.25	23	5.73	23	4.46
Mar. 2	4.08	31	5.19	30	5.85	29	4.42
8	3.98	June 7	5.38	Sept. 6	5.85	Dec. 6	4.41
15	4.06	14	5.58	13	5.94	13	4.53
22	4.03	21	5.41	20	6.07	21	3.33
29	3.99	28	5.55	27	6.27	28	3.27

LONG ISLAND

by R. M. Leggette

Ground-water studies on Long Island were continued during 1941 by the Federal Geological Survey in cooperation with the New York State Water Power and Control Commission and with Nassau and Suffolk Counties. A part of these studies consisted of the regular and systematic observations of ground-water levels in the western half of the island. At the end of the year, automatic water-stage recorders were in operation on 18 observation wells. During the year, water-level measurements were made weekly in about 115 observation wells and monthly in about 55 observation wells. A total of about 7,000 individual measurements of ground-water level were made during 1941.

The following table gives summary data pertaining to ground-water levels on Long Island.

Summary of data on ground-water levels on Long Island, N. Y.

Well number	Date of first measurement	Lowest observed water level, with reference to mean sea level		Highest observed water level, with reference to mean sea level		Water level on last date of record in 1941 (feet)
		Water level (feet)	Date	Water level (feet)	Date	
K 10	Nov. 8, 1937	-17.85	Sept. 6, 1941	-11.52	Mar. 26, 1938	-16.25
K 19	Sept.10, 1940	-26.80	Sept.26, 1941	a-24.87	July 28, 1941	-26.27
K 30	June 14, 1935	-29.75	Nov. 8, 1941	a-24.34	June 14, 1935	-29.40
K 65	Nov. 8, 1937	-28.34	Aug. 25, 1939	-24.01	Apr. 9, 1938	-26.75
K 67	Nov. 8, 1937	-20.75	Oct. 11, 1941	-18.49	Mar. 26, 1938	-20.61
K 87	Nov. 8, 1937	-9.41	May 31, 1941	-7.33	July 7, 1939	-
K 92	Dec. 11, 1937	-29.69	Dec. 11, 1937	-21.29	May 3, 1941	-22.85
K 104	Aug. 27, 1940	-26.87	Nov. 15, 1941	-25.49	Mar. 15, 1941	-26.72
K 502	Oct. 18, 1941	-9.93	Oct. 25, 1941	-9.60	Dec. 27, 1941	-9.60
K 532	May 29, 1935	-1.72	Oct. 25, 1941	-.17	Oct. 7, 1938	-
K 533	Sept. 8, 1932	-23.52	Dec. 12, 1941	a-12.73	Dec. 20, 1932	-23.47
K 535	Nov. 5, 1936	+1.25	Apr. 9, 1938	+2.81	Sept.30, 1938	+1.65
K 537	Feb. 1, 1936	-7.91	Dec. 13, 1941	-4.77	Sept.30, 1938	-7.82
K 539	Oct. 28, 1939	-7.88	Dec. 27, 1941	-3.56	Mar. 15, 1941	-7.88
K 921	Feb. 12, 1938	-27.23	Dec. 16, 1938	-22.77	Oct. 14, 1938	-26.23
K 1057	Mar. 29, 1939	+.89	Feb. 13, 1940	a+9.73	Mar. 9, 1941	+8.96
K 1139	Oct. 28, 1939	-7.78	Dec. 28, 1941	a-1.74	Mar. 15, 1941	-7.71
K 1194	Nov. 2, 1940	-8.03	Dec. 27, 1941	-2.86	Mar. 15, 1941	-8.03
K 1198	Nov. 2, 1940	-7.92	Dec. 27, 1941	-5.49	Mar. 29, 1941	-7.92
K 1199	Nov. 16, 1940	-16.31	Nov. 15, 1941	-15.28	May 10, 1941	-16.28
K 1235	Jan. 25, 1941	-9.99	Dec. 27, 1941	-8.84	Apr. 26, 1941	-9.99
K 1236	Jan. 25, 1941	-19.42	Oct. 4, 1941	-17.41	May 3, 1941	-18.62

a Based on instrumental records of lowest daily water level.

Summary of data on ground-water levels on Long Island, N. Y.--Continued

Well number	Date of first measurement	Lowest observed water level, with reference to mean sea level		Highest observed water level, with reference to mean sea level		Water level on last date of record in 1941 (feet)
		Water level (feet)	Date	Water level (feet)	Date	
K 1237	Jan. 18, 1941	-34.55	Dec. 6, 1941	-31.56	Apr. 12, 1941	-34.26
K 1263	Apr. 21, 1933	-11.97	July 21, 1936	-7.58	Nov. 2, 1933	-11.38
K 1264	Apr. 21, 1933	-15.01	Nov. 29, 1941	-9.42	June 28, 1933	-14.90
K 1265	Apr. 21, 1933	-10.81	Sept.13, 1941	-6.34	Apr. 21, 1933	-10.78
K 1266	Apr. 21, 1933	-6.85	Dec. 6, 1941	-2.02	Apr. 21, 1933	-6.84
K 1296	Sept. 6, 1941	-6.27	Dec. 27, 1941	-4.38	Sept. 6, 1941	-6.27
N 7	July 24, 1936	+6.16	Aug. 15, 1937	a+12.75	Mar. 9, 1941	+11.20
N 9	July 3, 1936	+20.99	Sept.11, 1936	+23.57	Sept.23, 1938	+21.31
N 53	Jan. 21, 1934	+12.05	Feb. 17, 1940	+16.49	Apr. 15, 1939	+12.69
N 67	Mar. 16, 1932	+13.48	Aug. 15, 1937	a+18.89	Mar. 9, 1941	+17.59
N 157	Sept.22, 1932	+75.71	May 5, 1933	a+88.84	Oct. 31, 1939	+83.73
N 844	June 27, 1938	+79.50	Dec. 31, 1941	a+85.48	Aug. 5, 1939	+79.50
N 1101	Apr. 21, 1939	+42.93	Sept.29, 1941	+45.64	Apr. 28, 1939	+42.98
N 1102	Apr. 21, 1939	+54.68	Dec. 1, 1941	+58.64	July 28, 1939	+54.68
N 1103	Apr. 21, 1939	+55.96	Dec. 1, 1941	+60.46	June 30, 1939	+55.96
N 1104	Apr. 21, 1939	+55.79	Dec. 1, 1941	+61.15	June 2, 1939	+55.79
N 1105	Apr. 21, 1939	+53.22	Dec. 1, 1941	+58.85	June 2, 1939	+53.22
N 1106	Jan. 6, 1939	+48.95	Dec. 27, 1941	+54.82	May 20, 1939	+48.95
N 1107	Apr. 21, 1939	+42.18	Dec. 1, 1941	+48.21	Apr. 28, 1939	+42.18
N 1108	Apr. 21, 1939	+37.45	Dec. 1, 1941	+43.62	Apr. 28, 1939	+37.45
N 1109	Apr. 21, 1939	+25.38	Dec. 1, 1941	+30.04	Apr. 21, 1939	+25.38
N 1110	Apr. 21, 1939	+18.68	Dec. 1, 1941	+21.05	Apr. 21, 1939	+18.68
N 1111	Apr. 21, 1939	+11.95	Nov. 3, 1939	+14.04	Sept.27, 1940	+12.69
N 1112	Jan. 6, 1939	+6.84	Dec. 13, 1941	+10.17	Apr. 8, 1939	+7.51
N 1113	Apr. 21, 1939	+3.91	Oct. 31, 1941	+6.76	Apr. 21, 1939	+4.65
N 1114	Apr. 21, 1939	+7.97	Dec. 1, 1941	+11.87	Apr. 21, 1939	+7.97
N 1115	Apr. 21, 1939	+8.57	Dec. 1, 1941	+12.93	Apr. 21, 1939	+8.57
N 1126	Mar. 12, 1938	+55.57	Dec. 13, 1941	+62.21	Apr. 29, 1939	+55.58
N 1132	Apr. 2, 1938	+6.06	Feb. 24, 1940	+9.77	Sept.23, 1938	+6.93
N 1140	Jan. 7, 1939	+58.57	Dec. 27, 1941	+66.09	Apr. 29, 1939	+58.57
N 1147	Jan. 6, 1939	+16.62	Dec. 13, 1941	+19.72	Apr. 8, 1939	+17.15
N 1160	Jan. 7, 1939	+63.38	Dec. 13, 1941	+70.90	Apr. 15, 1939	+63.74
N 1167	Mar. 12, 1938	+9.63	Dec. 13, 1941	+12.92	Apr. 15, 1939	+10.09
N 1174	Nov. 1, 1940	+71.69	Dec. 1, 1941	+73.89	Nov. 1, 1940	+71.69
N 1175	Nov. 1, 1940	+79.60	Dec. 1, 1941	+82.02	Nov. 1, 1940	+79.60
N 1176	Nov. 1, 1940	+82.61	Sept.29, 1941	+85.15	Nov. 29, 1940	+82.67
N 1177	Sept.27, 1940	+83.54	Dec. 1, 1941	+86.17	Sept.27, 1940	+83.54
N 1179	Apr. 29, 1940	+72.81	Dec. 1, 1941	+76.30	May 31, 1940	+72.81
N 1180	Mar. 5, 1938	+65.62	Dec. 13, 1941	+71.55	Apr. 15, 1939	+65.84
N 1181	Apr. 29, 1940	+56.43	Dec. 1, 1941	+58.85	May 31, 1940	+56.43
N 1182	Mar. 5, 1938	+49.06	Dec. 1, 1941	+53.15	Sept.30, 1938	+49.06
N 1183	Apr. 29, 1940	+35.10	Dec. 1, 1941	+37.73	Apr. 29, 1940	+35.10
N 1184	Apr. 29, 1940	+20.69	Oct. 31, 1941	+23.30	Apr. 29, 1940	+20.80
N 1185	Apr. 2, 1938	+10.50	Dec. 13, 1941	+15.39	Apr. 8, 1939	+11.24
N 1186	Apr. 29, 1940	+3.65	Oct. 31, 1941	+5.59	Mar. 28, 1941	+3.79
N 1198	Jan. 6, 1939	+63.69	Dec. 27, 1941	+70.49	May 6, 1939	+63.69
N 1204	Jan. 6, 1939	+5.58	Feb. 17, 1940	+12.26	Apr. 8, 1939	+7.30
N 1216	Jan. 7, 1939	+62.71	Dec. 27, 1941	+69.16	May 20, 1939	+62.71
N 1222	Jan. 6, 1939	+1.28	Dec. 13, 1941	+9.67	Apr. 8, 1939	+1.47
N 1234	Jan. 7, 1939	+59.50	Dec. 27, 1941	+66.64	May 6, 1939	+59.50
N 1240	Jan. 6, 1939	-1.06	Dec. 13, 1941	+11.29	Apr. 8, 1939	-.86
N 1242	Apr. 21, 1939	+26.61	Dec. 1, 1941	+27.77	Sept. 1, 1939	+26.61
N 1243	Nov. 3, 1939	+55.96	Dec. 1, 1941	+58.22	Dec. 1, 1939	+55.96
N 1244	May 31, 1940	+73.49	Dec. 1, 1941	+76.50	May 31, 1940	+73.49
N 1245	Feb. 2, 1940	+78.19	Dec. 1, 1941	+82.88	Feb. 2, 1940	+78.19
N 1246	May 31, 1940	+78.80	Dec. 1, 1941	+82.12	May 31, 1940	+78.80
N 1247	Apr. 21, 1939	+71.65	Dec. 1, 1941	+76.98	July 28, 1939	+71.65
N 1248	Jan. 7, 1939	+57.72	Dec. 27, 1941	+65.51	Apr. 15, 1939	+57.72
N 1249	Apr. 21, 1939	+50.72	Dec. 1, 1941	+58.18	Apr. 21, 1939	+50.72

a Based on instrumental records of lowest daily water level.

Summary of data on ground-water levels on Long Island, N. Y.--Continued

Well number	Date of first measurement	Lowest observed water level, with reference to mean sea level		Highest observed water level, with reference to mean sea level		Water level on last date of record in 1941 (feet)
		Water level (feet)	Date	Water level (feet)	Date	
N 1250	Apr. 21, 1939	+43.45	Dec. 1, 1941	+49.64	Apr. 21, 1939	+43.45
N 1251	Apr. 21, 1939	+35.61	Dec. 1, 1941	+40.18	Apr. 21, 1939	+35.61
N 1252	Apr. 21, 1939	+22.57	Dec. 1, 1941	+26.19	Apr. 21, 1939	+22.57
N 1253	Jan. 6, 1939	+11.32	Dec. 13, 1941	+16.89	Apr. 8, 1939	+11.64
N 1254	Apr. 21, 1939	+2.55	Feb. 2, 1940	+4.08	Apr. 28, 1939	+2.60
N 1255	May 12, 1913	+58.57	Nov. 11, 1918	+65.59	Apr. 15, 1939	+59.05
N 1256	May 12, 1913	+70.30	Feb. 27, 1933	+80.97	May 20, 1939	+75.08
N 1257	Aug. 17, 1932	+5.83	Dec. 13, 1941	+10.17	Apr. 8, 1939	+6.65
N 1258	Oct. 8, 1931	+33.68	Dec. 28, 1931	+39.58	Apr. 8, 1939	+35.09
N 1259	Feb. 5, 1909	+47.83	Jan. 24, 1933	+56.43	Apr. 29, 1939	+49.87
N 1260	June 6, 1903	+16.52	Dec. 20, 1916	+23.68	Apr. 8, 1939	+17.66
N 1262	Oct. 5, 1931	+32.66	Oct. 5, 1932	+36.20	Apr. 8, 1939	+33.70
N 1263	Nov. 3, 1911	+46.22	Oct. 31, 1932	+54.98	Apr. 22, 1939	+48.10
N 1264	Mar. 7, 1932	+2.70	Feb. 17, 1940	+9.41	Apr. 8, 1939	+4.60
N 1265	Mar. 9, 1939	+2.43	Dec. 1, 1941	+4.23	Nov. 1, 1939	+2.43
N 1266	Mar. 9, 1939	+3.72	Dec. 1, 1941	+5.84	Mar. 14, 1939	+3.72
N 1269	Mar. 9, 1939	+4.12	Dec. 1, 1941	+9.57	Mar. 14, 1939	+4.12
N 1270	Mar. 9, 1939	+4.24	Dec. 1, 1941	+9.82	Mar. 14, 1939	+5.18
N 1271	Mar. 9, 1939	+1.21	Sept.30, 1941	+3.49	Mar. 14, 1939	+1.73
N 1273	Nov. 1, 1939	+4.34	Jan. 2, 1940	+6.96	Mar. 31, 1941	+4.92
N 1274	Nov. 1, 1939	+4.38	Jan. 2, 1940	+7.20	Mar. 3, 1941	+5.14
N 1275	Nov. 1, 1939	+1.89	Oct. 31, 1941	+3.35	May 1, 1940	+2.07
N 1276	Nov. 1, 1939	+1.92	Sept.30, 1941	+3.35	May 1, 1940	+2.08
N 1278	Nov. 3, 1939	+4.88	Dec. 1, 1941	+6.68	Mar. 31, 1941	+4.88
N 1279	Nov. 3, 1939	+4.89	Oct. 31, 1941	+6.69	Mar. 31, 1941	+4.90
N 1280	Jan. 2, 1940	+2.68	Feb. 29, 1940	+9.72	Mar. 31, 1941	+2.74
N 1281	Nov. 3, 1939	+2.68	Dec. 1, 1941	+9.69	Mar. 31, 1941	+2.68
N 1282	Nov. 1, 1939	+.34	Apr. 1, 1940	+2.33	Oct. 31, 1940	+1.34
N 1283	Nov. 1, 1939	+.35	Apr. 1, 1940	+2.33	Oct. 1, 1940	+1.34
N 1285	Nov. 1, 1939	+2.12	Jan. 31, 1940	+3.29	May 31, 1940	+2.38
N 1286	Nov. 1, 1939	+2.13	Jan. 31, 1940	+3.29	May 31, 1940	+2.41
N 1288	Nov. 1, 1939	+2.21	Jan. 2, 1940	+3.74	May 1, 1940	+2.24
N 1289	Nov. 1, 1939	+2.26	Dec. 1, 1941	+3.77	May 1, 1940	+2.26
N 1290	Nov. 1, 1939	+2.60	Nov. 1, 1939	+4.94	Dec. 1, 1939	+3.72
N 1613	July 3, 1936	+21.73	Dec. 6, 1941	+24.38	Apr. 15, 1939	+22.01
N 1614	Apr. 2, 1913	+61.90	Feb. 27, 1933	+71.03	May 1, 1914	+66.97
N 1615	Mar. 17, 1913	+41.49	Oct. 27, 1932	+47.17	Mar. 28, 1939	+42.29
N 1616	Mar. 17, 1913	+74.05	Feb. 27, 1933	+85.42	June 1, 1939	+79.63
N 1617	Nov. 26, 1903	+2.32	Dec. 21, 1912	+4.80	Nov. 5, 1906	+2.69
N 1672	Oct. 4, 1940	+55.42	Dec. 6, 1941	+58.40	Feb. 8, 1941	+55.92
N 1682	Nov. 30, 1940	+41.70	Dec. 27, 1941	+43.21	June 28, 1941	+41.70
N 1683	Dec. 3, 1940	+53.70	Dec. 27, 1941	+55.57	Feb. 8, 1941	+53.70
N 1684	Nov. 30, 1940	+55.60	Dec. 27, 1941	+58.22	Nov. 30, 1940	+55.60
N 1685	Mar. 19, 1932	+3.63	Oct. 16, 1937	+11.04	Feb. 17, 1933	+9.62
Q 268	Apr. 21, 1933	+12.80	Aug. 21, 1933	a+17.53	Apr. 11, 1939	+15.58
Q 273	Mar. 15, 1935	+4.02	Dec. 22, 1941	a+8.47	Apr. 20, 1939	+4.04
Q 287	Apr. 13, 1939	+.35	Feb. 13, 1940	a+9.65	Mar. 8, 1941	+7.81
Q 350	Mar. 17, 1937	-2.00	Oct. 31, 1941	+3.51	Apr. 29, 1939	-1.62
Q 470	Sept.21, 1933	-12.75	July 15, 1937	a+6.78	Jan. 8, 1938	+4.42
Q 471	Mar. 31, 1939	+13.69	Mar. 31, 1939	+16.47	June 15, 1940	+15.61
Q 503	Feb. 1, 1936	+7.79	Dec. 13, 1941	a+12.61	Apr. 30, 1939	+7.80
Q 543	May 17, 1932	-28.36	Feb. 13, 1940	a+10.48	Mar. 12, 1939	+8.85
Q 1078	July 24, 1939	+4.26	Feb. 17, 1940	a+5.97	June 24, 1940	+5.00
Q 1089	Oct. 10, 1911	-.42	Oct. 17, 1932	+4.04	Sept.23, 1938	+.87
Q 1090	Oct. 10, 1911	+1.19	Oct. 17, 1932	+8.29	May 12, 1913	+2.66
Q 1092	Apr. 8, 1939	+7.32	Feb. 17, 1940	+8.61	Apr. 8, 1939	-
Q 1222	Apr. 1, 1940	+1.34	Apr. 8, 1940	+3.52	Feb. 8, 1941	+2.58
Q 1223	Jan. 28, 1933	+5.78	Dec. 12, 1935	+10.23	Apr. 4, 1939	+6.74
Q 1224	Apr. 20, 1933	+6.95	Dec. 13, 1941	+12.41	May 29, 1939	+7.15

a Based on instrumental records of lowest daily water level.

Summary of data on ground-water levels on Long Island, N. Y.--Continued

Well number	Date of first measurement	Lowest observed water level, with reference to mean sea level		Highest observed water level, with reference to mean sea level		Water level on last date of record in 1941 (feet)
		Water level (feet)	Date	Water level (feet)	Date	
Q 1225	Apr. 20, 1933	+26.86	Dec. 13, 1941	+32.19	Apr. 4, 1939	+26.94
Q 1237	Feb. 10, 1939	-4.76	Dec. 10, 1941	a+5.03	May 4, 1939	-4.29
Q 1248	Oct. 12, 1940	+34.76	Dec. 27, 1941	+36.26	May 17, 1941	+34.76
Q 1249	Oct. 19, 1940	+30.65	Dec. 13, 1941	+32.26	Apr. 26, 1941	+30.66
Q 1250	Oct. 19, 1940	+19.62	Dec. 13, 1941	+21.68	Mar. 29, 1941	+19.73
Q 1251	Oct. 19, 1940	+10.36	Dec. 27, 1941	+13.02	Oct. 19, 1940	+10.36
Q 1252	Oct. 26, 1940	+11.88	Dec. 6, 1941	+13.70	Feb. 15, 1941	+11.89
Q 1253	Nov. 2, 1940	+2.75	Dec. 27, 1941	+4.58	Apr. 26, 1941	+2.75
Q 1254	Oct. 26, 1940	-1.71	Dec. 27, 1941	+.29	Apr. 12, 1941	-1.71
Q 1255	Oct. 12, 1911	-5.46	Dec. 27, 1941	+12.03	May 12, 1914	-5.46
Q 1256	Oct. 26, 1940	-6.64	Dec. 27, 1941	-2.55	Mar. 1, 1941	-6.64
Q 1281	Oct. 11, 1911	-3.37	Dec. 13, 1941	+8.59	June 4, 1913	-3.32
Q 1282	Jan. 31, 1933	+.17	Jan. 31, 1933	+2.49	May 10, 1941	+.59
Q 1283	Oct. 12, 1911	+2.12	Mar. 3, 1933	+13.33	Nov. 10, 1911	+3.33
Q 1284	Oct. 12, 1911	+5.01	Jan. 28, 1933	+11.55	June 2, 1913	+5.62
Q 1285	Apr. 20, 1933	+5.98	Dec. 27, 1941	+8.05	May 31, 1941	+5.98
Q 1286	Apr. 20, 1933	+9.56	Jan. 9, 1934	+11.29	Apr. 26, 1941	+9.60
Q 1287	Apr. 20, 1933	+11.53	Dec. 13, 1941	+15.80	Oct. 5, 1934	+12.27
Q 1288	Apr. 20, 1933	+16.29	Dec. 13, 1941	+22.06	Oct. 5, 1934	+16.51
Q 1289	Apr. 20, 1933	+30.27	Dec. 20, 1941	+34.56	Nov. 8, 1934	+30.34
Q 1290	Apr. 20, 1933	+15.43	Dec. 13, 1941	+19.48	Oct. 5, 1934	+15.72
Q 1292	May 10, 1941	+26.62	Dec. 20, 1941	+28.01	May 17, 1941	+26.68
S 28	Nov. 28, 1936	+92.32	Dec. 27, 1941	a+97.71	May 20, 1939	+92.32
S 201	Apr. 16, 1937	+26.41	July 18, 1938	a+31.35	Apr. 23, 1939	-
S 202	Nov. 25, 1936	+36.93	Feb. 1, 1939	+47.17	Apr. 10, 1937	+38.75
S 203	Feb. 14, 1937	+70.94	Feb. 17, 1937	a+77.13	Oct. 31, 1939	+73.70
S 1803	Oct. 18, 1912	+14.93	Oct. 25, 1941	+18.19	Apr. 22, 1913	+15.75
S 1804	Oct. 16, 1912	+10.10	Oct. 29, 1935	+11.47	Sept.23, 1938	+10.30
S 1805	Oct. 16, 1912	+37.90	Oct. 27, 1932	+47.01	Apr. 8, 1939	+39.52
S 1806	Oct. 18, 1912	+50.61	Jan. 5, 1933	+61.69	Apr. 22, 1939	+53.61
S 1807	Oct. 19, 1912	+20.59	Sept.12, 1932	+23.48	Oct. 14, 1938	+21.20
S 1808	Oct. 21, 1912	+9.45	Sept.12, 1932	+12.94	Sept.23, 1938	+10.73
S 1809	Oct. 21, 1912	+25.00	Nov. 2, 1932	+32.56	Apr. 15, 1939	+26.38
S 1810	Oct. 21, 1912	+45.24	Feb. 23, 1933	+56.19	Apr. 29, 1939	+49.54
S 1811	Feb. 28, 1937	+51.41	Aug. 28, 1937	a+55.56	Apr. 20, 1940	+53.34
S 1812	Apr. 17, 1937	+45.37	Feb. 12, 1938	+51.09	May 27, 1939	+45.68
S 1813	Nov. 4, 1939	+37.35	Dec. 27, 1941	+39.64	June 15, 1940	+37.35
S 1814	Nov. 4, 1939	+35.39	Dec. 27, 1941	+38.28	June 29, 1940	+35.39
S 1815	Dec. 2, 1939	+44.65	Dec. 27, 1941	+47.81	June 29, 1940	+44.65
S 1816	Dec. 2, 1939	+55.64	Dec. 27, 1941	+59.93	June 1, 1940	+55.64
S 1817	Dec. 2, 1939	+50.25	Dec. 13, 1941	+53.95	June 1, 1940	+50.72
S 2020	Apr. 21, 1940	+8.95	Mar. 19, 1941	a+10.60	Mar. 9, 1941	-
S 2454	Sept.21, 1940	+6.70	Oct. 4, 1941	+8.24	Feb. 8, 1941	+7.24
S 2455	June 23, 1933	+19.98	Nov. 6, 1937	a+24.85	Sept.23, 1938	+20.75
S 2543	Mar. 23, 1907	+33.21	Dec. 3, 1909	+36.20	May 30, 1908	+33.59
S 3112	Aug. 30, 1941	+51.97	Dec. 27, 1941	+54.21	Aug. 30, 1941	+51.97

During 1941 ground-water levels continued to decline progressively in Kings County, at the western end of Long Island, where excessive pumping has lowered the water level below sea level in an area of more than 45 square miles. The above table shows that since the start of record the lowest observed water level in most of the observation wells in Kings County occurred in the latter part of 1941. Further evidence of a

a Based on instrumental records of lowest daily water level.

progressive decline of water levels in this area is given in the table, which shows that the highest observed water level in most of the observation wells in the county occurred near the start of record.

In the other three Long Island counties, particularly in Nassau and Suffolk Counties, the major fluctuations of ground-water level in most areas are chiefly the result of differences in amount and distribution of precipitation. The above table indicates that the lowest observed water level in most wells that have been measured for a period of about 10 years or more occurred late in 1932 or early in 1933. However, the water level in many of the wells in Queens County reached the lowest recorded stage in December 1941. The lowest observed water level in most of the wells with shorter periods of record occurred in the latter part of 1941, although the lowest observed stages in many wells occurred during the first part of 1940. The highest observed water level in most wells in the three eastern Long Island counties occurred in the spring of 1939.

The following table shows the net change in water level during 1941 in each of the observation wells that were measured throughout the year:

Net change in water level in wells on Long Island, N. Y., 1941

Well number	Net change (feet)	Well number	Net change (feet)	Well number	Net change (feet)	Well number	Net change (feet)
K 10	-2.11	N 1108	-0.98	N 1234	-1.80	N 1276	-0.56
K 19	- .87	N 1109	- .96	N 1240	-9.58	N 1278	-1.17
K 30	- .42	N 1110	- .76	N 1242	- .47	N 1279	-1.17
K 65	- .62	N 1111	- .14	N 1243	-1.27	N 1280	-6.10
K 67	- .33	N 1112	-1.63	N 1244	-1.79	N 1281	-6.14
K 92	- .53	N 1113	- .55	N 1245	-2.14	N 1282	+ .70
K 104	- .98	N 1114	- .84	N 1246	-2.08	N 1283	+ .68
K 533	- .45	N 1115	- .66	N 1247	-1.92	N 1285	- .35
K 535	- .13	N 1126	-1.14	N 1248	-1.72	N 1286	- .36
K 537	- .72	N 1132	- .90	N 1249	-1.54	N 1288	- .66
K 539	-3.70	N 1140	-1.21	N 1250	-1.45	N 1289	- .68
K 921	- .96	N 1147	- .14	N 1251	-1.43	N 1290	- .08
K 1057	+ .78	N 1160	-1.03	N 1252	-1.58	N 1613	- .99
K 1139	-5.11	N 1167	- .78	N 1253	-3.38	N 1614	- .74
K 1194	-4.80	N 1174	-2.15	N 1254	- .60	N 1615	- .79
K 1198	-1.69	N 1175	-2.27	N 1255	-1.03	N 1616	-1.93
K 1199	- .60	N 1176	-2.16	N 1256	-1.74	N 1617	- .55
N 7	- .95	N 1177	-2.23	N 1257	- .59	N 1672	- .85
N 9	- .54	N 1179	-1.79	N 1258	-1.34	N 1682	- .97
N 53	- .24	N 1180	-1.18	N 1259	-1.33	N 1683	-1.17
N 67	- .62	N 1181	- .99	N 1260	-2.70	N 1684	-1.33
N 157	-2.02	N 1182	- .73	N 1262	- .72	N 1685	- .44
N 844	-2.29	N 1183	- .65	N 1263	-1.37	Q 268	- .18
N 1101	-1.31	N 1184	- .73	N 1264	-2.55	Q 273	-1.46
N 1102	-1.46	N 1185	-1.46	N 1265	- .48	Q 287	+ .06
N 1103	-1.39	N 1186	- .99	N 1266	- .86	Q 350	-1.52
N 1104	-1.43	N 1198	-1.58	N 1269	-3.01	Q 470	-1.14
N 1105	-1.32	N 1204	-2.51	N 1271	- .52	Q 471	- .43
N 1106	-1.07	N 1216	-1.53	N 1273	-1.45	Q 503	-1.59
N 1107	-1.02	N 1222	-7.09	N 1275	- .54	Q 543	+ .74

Net change in water level in wells on Long Island, N. Y., 1941--Continued

Well number	Net change (feet)	Well number	Net change (feet)	Well number	Net change (feet)	Well number	Net change (feet)
Q 1078	-0.43	Q 1251	-1.52	S 1803	-0.33	S 1812	-1.85
Q 1222	- .56	Q 1252	-1.51	S 1804	- .47	S 1813	-1.11
Q 1223	- .46	Q 1253	-1.38	S 1806	-1.97	S 1814	-1.40
Q 1224	-1.31	Q 1254	-1.54	S 1807	- .51	S 1815	-1.48
Q 1225	-1.29	Q 1256	-3.63	S 1808	- .21	S 1816	-1.88
Q 1237	-7.69	S 28	-1.23	S 1809	-1.37	S 1817	-1.28
Q 1248	- .91	S 202	- .75	S 1810	-1.64	S 2454	- .23
Q 1249	-1.11	S 203	-1.91	S 1811	-1.65	S 2455	-1.05
Q 1250	-1.38						

It is evident from the above table that there was a considerable decline of water level in most of the observation wells during 1941. This decline, in large part, was the result of the deficient precipitation during 1941, about seven inches below average. The water level in only five of the wells showed a net rise during 1941. All these wells are known to be affected by nearby pumping.

The accompanying diagram shows the relation between average ground-water level and precipitation on Long Island. The method used for determining the average ground-water level each month is described in the Long Island section in Geological Survey Water-Supply Paper 886. The average ground-water level at the end of 1941 is based on measurements in 124 wells: 80 in Nassau County, 26 in Queens County, and 18 in Suffolk County.

A comparison of the two graphs in the diagram shows a close relation between the major swings of precipitation and the resulting changes in ground-water level. This relation indicates that precipitation and the ground-water recharge resulting therefrom is a most important factor in determining changes in ground-water storage. It will be noted that the average ground-water level generally has an annual fluctuation that is not related to precipitation. For example, during the last half of both 1936 and 1937, ground-water levels declined in spite of more or less normal precipitation. This decline of ground-water levels during the summer and fall of each year is related to the growing season, when the use of water by plants is at a maximum. However, if the amount and distribution of rainfall during the growing season is sufficient to overcome the soil moisture deficiency resulting from plant growth, ground water recharge will take place and the water table will rise. These conditions existed during

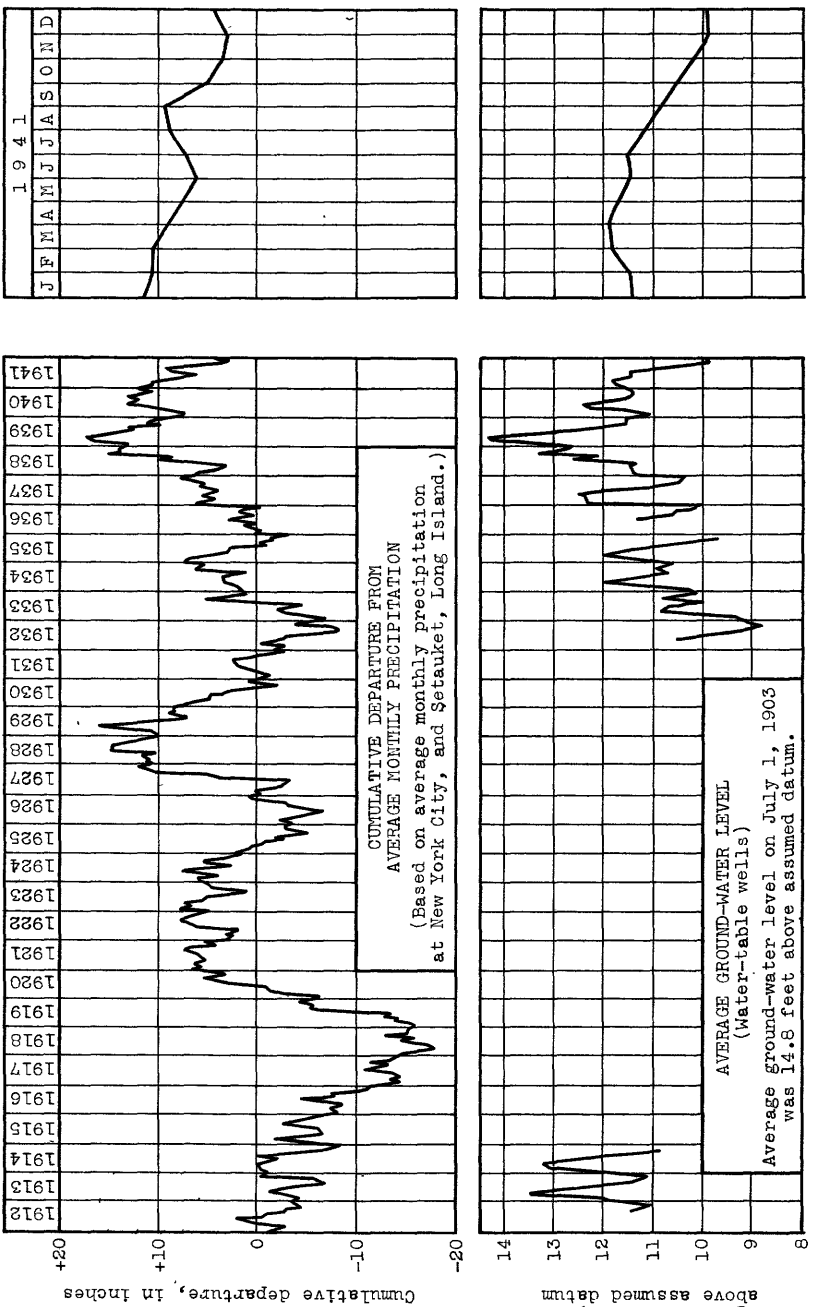

Figure 4.--Graphs showing cumulative departure from 10-year progressive average monthly precipitation and average ground-water level on Long Island, N. Y.

1938, as shown by the diagram. In general, the fluctuation of the water table is primarily a function of the amount and intensity of precipitation and the time of its occurrence with reference to the growing season.

It will be noted that the rainfall during the summer of 1941 was above average in June, July, and August. The amount of rainfall during each of these months (average at New York City and Setauket) was between 4½ and 5 inches. However, the water table rose only during June. The rate of decline during July and August was about constant. Although the amount of rainfall during each of the three months was about the same, the distribution within each month was different. The total rainfall in June occurred almost entirely during two storms, one near the beginning of the month and the other near the middle of the month. These storms were sufficiently intense to produce ground-water recharge. In contrast, the rains during July and August were more or less scattered throughout the two months, with the result that little or no ground-water recharge took place. This difference in relation between rainfall and change in stage of the water table affords an example of the importance of considering differences in distribution or intensity of rainfall in addition to differences in amount of rainfall.

The rate of decline of the water table was almost constant during the five-month period, July to November. It should be noted that although September 1941 was one of the driest months on record, the water table declined only about the same amount in September as in the preceding two months when the rainfall was above average.

The records of the water levels in the observation wells in previous years are given in Water-Supply Papers 777, 817, 845, 886, and 906. In the present report each well is designated by an official number based on a well numbering system that is in general use on Long Island. Descriptive data are given only for those observation wells in which some change has been made in 1941, or for wells whose records were not given in Water-Supply Paper 906.

Kings County

K 10.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	-14.28	Apr. 5	-15.14	July 5	-16.70	Oct. 4	-17.32
11	-14.56	12	-15.46	12	-16.35	11	-17.08
18	-14.73	19	-15.45	19	-16.93	18	-16.83
25	-15.04	26	-15.86	26	-17.17	25	-16.82
Feb. 1	-14.43	May 3	-16.43	Aug. 2	-17.05	Nov. 1	-16.95
8	-13.98	10	-16.38	9	-16.85	8	-16.80
15	-13.98	17	-15.69	16	-17.04	15	-16.66
22	-14.25	24	-16.17	23	-17.13	22	-15.77
Mar. 1	-14.18	31	-15.77	30	-16.93	29	-17.26
8	-14.35	June 7	-16.42	Sept. 6	-17.85	Dec. 6	-17.01
15	-15.63	14	-16.15	13	-17.50	13	-16.19
22	-15.41	21	-16.71	20	-17.69	20	-16.63
29	-15.00	28	-16.35	27	-17.09	27	-16.25

K 19.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	-25.39	-25.29	-25.17	-25.12	-25.42	-25.43
2	-25.29	-25.15	-25.11	-25.17	-25.46	-25.50
3	-25.32	-25.20	-25.07	-25.18	-25.45	-25.55
4	-25.32	-25.25	-25.20	-25.22	-25.36	-25.55
5	-25.30	-25.25	-25.20	-25.20	-25.40	-25.63
6	-25.36	-25.23	-25.21	-25.08	-25.43	-25.67
7	-25.37	-25.19	-25.21	-25.15	-25.44	-25.66
8	-25.38	-25.16	-25.18	-25.19	-25.46	.....
9	-25.36	-25.12	-25.06	-25.22	-25.47	-25.59
10	-25.37	-25.13	-25.15	-25.24	-25.46	-25.65
11	-25.36	-25.14	-25.18	-25.27	-25.39	-25.68
12	-25.27	-25.13	-25.25	-25.26	-25.41	-25.68
13	-25.33	-25.12	-25.26	-25.15	-25.44	-25.65
14	-25.36	-25.13	-25.24	-25.13	-25.46	-25.62
15	-25.36	-25.13	-25.25	-25.20	-25.46	-25.61
16	-25.35	-25.07	-25.13	-25.23	-25.46	-25.66
17	-25.36	-25.04	-25.16	-25.22	-25.45	-25.71
18	-25.34	-25.13	-25.23	-25.27	-25.39	-25.76
19	-25.23	-25.18	-25.23	-25.26	-25.41	-25.80
20	-25.30	-25.19	-25.25	-25.17	-25.49	-25.84
21	-25.33	-25.21	-25.25	-25.26	-25.51	-25.82
22	-25.33	-25.21	-25.25	-25.29	-25.55	a-25.74
23	-25.38	-25.09	-25.16	-25.29	-25.56	a-25.77
24	-25.38	-25.12	-25.11	-25.31	-25.56	a-25.81
25	-25.30	-25.15	-25.16	-25.35	-25.47	a-25.87
26	-25.25	-25.20	-25.18	-25.33	-25.49	a-25.86
27	-25.21	-25.21	-25.18	-25.28	-25.55	a-25.87
28	-25.24	-25.18	-25.17	-25.34	-25.55	a-25.87
29	-25.29	.....	-25.15	-25.37	-25.57	a-25.81
30	-25.29	.....	-25.08	-25.42	-25.57	-25.85
31	-25.29	.....	-25.09	.....	-25.50	.....

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	-25.00	-26.06	-26.72	-26.74	-26.47
2	.....	a-24.99	-26.08	-26.74	-26.64	-26.52
3	.....	.....	-26.19	-26.74	-26.67	-26.55

a Estimated.

Kings County--Continued

K 19.--Continued

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
4	.....	-25.76	-26.23	-26.74	-26.70	-26.56
5	a-25.78	-26.03	-26.24	-26.73	-26.70	-26.52
6	-25.76	-26.14	-26.24	-26.72	-26.68	-26.51
7	-25.81	-26.19	-26.21	-26.72	-26.71	-26.48
8	-25.88	-26.18	-26.28	-26.77	-26.71	-26.39
9	-25.88	-26.02	-26.36	-26.77	-26.65	-26.50
10	-25.16	-25.95	-26.61	-26.75	-26.60	-26.51
11	-25.09	-25.94	-26.63	-26.75	-26.63	-26.53
12	-25.09	-26.07	-26.65	-26.73	-26.66	-26.52
13	-25.01	-26.09	-26.65	-26.68	-26.66	a-26.47
14	-25.04	-26.10	-26.55	-26.68	-26.67	.....
15	-25.06	-26.09	-26.57	-26.71	-26.67	.....
16	-25.11	-26.04	-26.70	-26.76	-26.56	.....
17	-25.15	-25.96	-26.76	-26.77	-26.55	.....
18	-25.15	-25.94	-26.77	-26.75	-26.51	.....
19	-25.13	-25.98	-26.77	-26.65	-26.52	.....
20	-25.05	-26.01	-26.76	-26.65	-26.52	a-26.43
21	-24.99	-26.06	-26.60	-26.71	-26.46	-26.42
22	-24.91	-26.14	-26.64	-26.73	-26.46	-26.35
23	-24.92	-26.13	-26.73	-26.75	-26.43	-26.35
24	-24.95	-25.94	-26.76	-26.78	-26.41	-26.32
25	-24.95	-26.03	-26.77	-26.75	-26.41	-26.30
26	-24.92	-26.13	-26.80	-26.73	-26.51	-26.26
27	-24.87	-26.10	-26.79	-26.65	-26.54	-26.28
28	-24.87	-26.13	-26.66	-26.78	-26.56	-26.28
29	-24.89	-26.10	-26.67	-26.79	-26.56	-26.26
30	-24.91	-26.10	-26.72	-26.77	-26.47	-26.27
31	-24.92	-25.99	.....	-26.75	.....	-26.27

K 30.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	-28.98	-28.93	-28.77	-28.69	-28.84	-29.00
2	-28.96	-28.90	-28.77	-28.74	-28.88	-28.98
3	-28.92	-28.88	-28.73	-28.77	-28.88	-28.98
4	-28.94	-28.85	-28.74	-28.79	-28.87	-29.01
5	-28.94	-28.89	-28.75	-28.79	-28.84	-29.05
6	-28.92	-28.91	-28.77	-28.76	-28.84	-29.06
7	-28.93	-28.93	-28.78	-28.74	-28.87	-29.06
8	-28.95	-28.94	-28.76	-28.72	-28.90	-29.05
9	-28.97	-28.93	-28.74	-28.75	-28.91	-29.01
10	-28.98	-28.90	-28.72	-28.78	-28.92	-29.01
11	-28.99	-28.87	-28.71	-28.81	-28.91	-29.06
12	-28.96	-28.90	-28.74	-28.81	-28.87	-29.07
13	-28.91	-28.90	-28.75	-28.79	-28.89	-29.07
14	-28.92	-28.90	-28.76	-28.71	-28.92	-29.08
15	-28.95	-28.92	-28.76	-28.71	-28.94	-29.08
16	-28.96	-28.90	-28.75	-28.74	-28.96	-29.02
17	-28.99	-28.85	-28.69	-28.78	-28.97	-29.05
18	-29.00	-28.84	-28.70	-28.80	-28.97	-29.09
19	-29.00	-28.85	-28.73	-28.82	-28.92	-29.11
20	-28.96	-28.86	-28.77	-28.79	-28.95	-29.12
21	-28.92	-28.87	-28.78	-28.73	-28.97	-29.12
22	-28.93	-28.87	-28.78	-28.74	-29.01	-29.11
23	-28.97	-28.85	-28.77	-28.77	a-29.02	-29.06
24	-28.97	-28.82	-28.72	-28.80	.....	-29.08
	-28.98	-28.78	-28.70	-28.82	.....	-29.13

a Estimated.

Kings County--Continued

K 30.--Continued

Lowest daily water level, in feet, with reference to mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
26	-28.95	-28.78	-28.73	-28.82	.....	-29.14
27	-28.90	-28.78	-28.75	-28.81	.....	-29.16
28	-28.87	-28.78	-28.77	-28.77	.....	-29.16
29	-28.90	.....	-28.78	-28.77	a-29.03	-29.16
30	-28.91	.....	-28.75	-28.82	-29.03	-29.13
31	-28.93	.....	-28.71	.....	-29.02	.....

K 30.--Continued

Lowest daily water level, in feet, with reference to mean sea level, 1941
(from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-29.14	-29.36	-29.48	-29.64	-29.73	-29.63
2	-29.17	-29.37	-29.44	a-29.64	-29.70	-29.61
3	-29.19	-29.37	-29.45	a-29.65	-29.66	-29.64
4	-29.19	-29.33	-29.50	a-29.65	-29.65	-29.65
5	-29.19	-29.36	-29.52	a-29.65	-29.69	-29.66
6	-29.18	-29.38	-29.53	a-29.62	-29.72	-29.67
7	-29.16	-29.39	-29.52	-29.60	-29.75	-29.65
8	-29.19	-29.40	-29.48	-29.67	-29.75	-29.58
9	-29.21	-29.41	-29.53	-29.67	-29.73	-29.59
10	-29.22	-29.41	-29.57	-29.69	-29.69	-29.61
11	-29.24	-29.37	-29.58	-29.69	-29.64	-29.62
12	-29.26	-29.40	-29.59	-29.68	-29.65	-29.62
13	-29.26	-29.42	-29.59	-29.63	-29.68	-29.60
14	-29.22	-29.43	-29.59	-29.61	-29.71	-29.57
15	-29.22	-29.44	-29.54	-29.66	-29.72	-29.53
16	-29.25	-29.45	-29.57	-29.69	-29.70	-29.51
17	-29.28	-29.45	-29.59	-29.70	-29.66	-29.53
18	-29.28	-29.41	-29.60	-29.70	-29.64	-29.53
19	-29.27	-29.42	-29.61	-29.69	-29.67	-29.54
20	-29.25	-29.45	-29.61	-29.66	-29.67	-29.55
21	-29.20	-29.46	-29.61	-29.65	-29.66	-29.53
22	-29.22	-29.47	-29.57	-29.70	-29.65	-29.48
23	-29.26	-29.48	-29.57	-29.73	-29.65	-29.45
24	-29.28	-29.48	-29.61	-29.72	-29.62	-29.48
25	-29.30	-29.44	-29.62	-29.72	-29.61	-29.50
26	-29.32	-29.48	-29.65	-29.71	-29.66	-29.47
27	-29.32	-29.49	-29.65	-29.65	-29.69	-29.44
28	-29.27	-29.49	-29.64	-29.67	-29.72	-29.44
29	-29.31	-29.50	-29.57	-29.71	-29.72	-29.41
30	-29.33	-29.51	-29.57	-29.72	-29.68	-29.40
31	-29.35	-29.51	.....	-29.73	.....	-29.40

K 65.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	-26.03	Mar. 8	-25.99	May 10	-26.45	July 12	-26.61
11	-26.20	15	-26.26	17	-26.41	19	-26.60
18	-26.25	22	-26.31	24	-26.47	26	-26.65
25	-26.22	29	-26.25	31	-26.46	Aug. 2	-26.74
Feb. 1	-26.29	Apr. 5	-26.24	June 7	-26.58	9	-26.66
8	-26.17	12	-26.37	14	-26.45	16	-26.72
15	-26.15	19	-26.36	21	-26.58	23	-26.80
22	-26.21	26	-26.37	28	-26.59	30	-26.85
Mar. 1	-26.16	May 3	-26.46	July 5	-26.60	Sept. 6	-26.80

a Estimated.

Kings County--Continued

K 65.--Continued

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 13	-26.95	Oct. 11	-27.04	Nov. 8	-27.11	Dec. 6	-26.97
20	-26.95	18	-27.03	15	-27.04	13	-26.85
27	-26.99	25	-27.03	22	-26.97	20	-26.90
Oct. 4	-26.89	Nov. 1	-26.98	29	-27.04	27	-26.75

K 67.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-20.28	Apr. 5	-20.37	July 5	-20.58	Oct. 4	-20.74
11	-20.28	12	-20.38	12	-20.60	11	-20.75
18	-20.29	19	-20.41	19	-20.62	18	-20.74
25	-20.30	26	-20.41	26	-20.64	25	-20.74
Feb. 1	-20.30	May 3	-20.45	Aug. 2	-20.67	Nov. 1	-20.74
8	-20.35	10	-20.45	9	-20.67	8	-20.74
15	-20.32	17	-20.45	16	-20.69	15	-20.74
22	-20.31	24	-20.48	23	-20.69	22	-20.74
Mar. 1	-20.31	31	-20.49	30	-20.71	29	-20.71
8	-20.31	June 7	-20.50	Sept. 6	-20.73	Dec. 6	-20.69
15	-20.33	14	-20.52	13	-20.73	13	-20.66
22	-20.35	21	-20.54	20	-20.73	20	-20.63
29	-20.35	28	-20.56	27	-20.74	27	-20.61

K 87. Measurements discontinued May 31, 1941. Well dry thereafter.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-9.26	Feb. 15	-9.22	Mar. 29	-9.25	May 10	-9.36
11	-9.24	22	-9.22	Apr. 5	-9.25	17	-9.36
18	-9.24	Mar. 1	-9.22	12	-9.27	24	-9.39
25	-9.23	8	-9.22	19	-9.27	31	-9.41
Feb. 1	-9.23	15	-9.24	26	-9.30		
8	-9.22	22	-9.24	May 3	-9.32		

K 92.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-22.22	Apr. 5	-21.41	July 5	-22.73	Oct. 4	-24.08
11	-22.15	12	-21.38	12	-22.86	11	-24.00
18	-22.07	19	-21.34	19	-23.02	18	-23.85
25	-22.01	26	-21.31	26	-23.15	25	-23.72
Feb. 1	-21.93	May 3	-21.29	Aug. 2	-23.29	Nov. 1	-23.59
8	-21.88	10	-21.45	9	-23.41	8	-23.48
15	-21.80	17	-21.61	16	-23.52	15	-23.36
22	-21.73	24	-21.76	23	-23.62	22	-23.27
Mar. 1	-21.68	31	-21.89	30	-23.72	29	-23.17
8	-21.61	June 7	-22.03	Sept. 6	-23.80	Dec. 6	-23.08
15	-21.56	14	-22.17	13	-23.90	13	-22.99
22	-21.50	21	-22.35	20	-23.97	20	-22.93
29	-21.45	28	-22.54	27	-24.04	27	-22.85

K 104.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-25.69	Mar. 1	-25.56	Apr. 26	-25.56	June 21	-25.85
11	-25.65	8	-25.51	May 3	-25.60	28	-25.92
18	-25.62	15	-25.49	10	-25.63	July 5	-26.01
25	-25.60	22	-25.50	17	-25.66	12	-26.05
Feb. 1	-25.58	29	-25.51	24	-25.68	19	-26.07
8	-25.56	Apr. 5	-25.52	31	-25.72	26	-26.10
15	-25.56	12	-25.51	June 7	-25.75	Aug. 2	-26.13
22	-25.58	19	-25.53	14	-25.80	9	-26.16

Kings County--Continued

K 104.--Continued

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 16	-26.22	Sept. 27	-26.62	Nov. 1	-26.87	Dec. 6	-26.80
23	-26.30	Oct. 4	-26.68	8	-26.87	13	-26.78
30	-26.35	11	-26.74	15	-26.87	20	-26.76
Sept. 6	-26.40	18	-26.80	22	-26.84	27	-26.72
13	-26.45	25	-26.84	29	-26.81		

K 502. New York Water Service Corporation well F 2, about 250 feet north of Foster Avenue and 90 feet west of East 31st Street, Brooklyn. Diameter 26 inches, depth 101 feet. Measuring point, south edge of hole in concrete base of pump, about 5 feet below land surface, and 10.90 feet above mean sea level. Water level Oct. 18, 1941, 20.72 feet below measuring point and 9.82 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Oct. 18	-9.82	Nov. 8	-9.78	Nov. 29	-9.75	Dec. 20	-9.61
25	-9.93	15	-9.80	Dec. 6	-9.86	27	-9.60
Nov. 1	-9.82	22	-9.82	13	-9.71		

K 532. Measurements discontinued Nov. 8, 1941.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-1.21	Mar. 22	-0.92	May 31	-1.14	Aug. 9	-1.42
11	-1.22	29	-.92	June 7	-1.19	16	-1.46
18	-1.18	Apr. 5	-.94	14	-1.22	23	-1.48
25	-1.14	12	-.97	21	-1.25	30	-1.47
Feb. 1	-1.12	19	-.95	28	-1.29	Sept. 6	-1.49
8	-1.08	26	-.97	July 5	-1.33	13	-1.60
15	-.97	May 3	-1.00	12	-1.33	Oct. 18	-1.48
22	-.91	10	-1.02	19	-1.33	25	-1.72
Mar. 1	-.92	17	-1.03	26	-1.35	Nov. 1	-1.66
8	-.89	24	-1.09	Aug. 2	-1.39	8	-1.59
15	-.92						

K 533.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	-22.99	-22.96	-22.87	-22.83	-22.96	-22.98
2	-22.95	-22.92	-22.88	-22.85	-22.94	-23.00
3	-22.91	-22.93	-22.87	-22.87	-22.94	-23.01
4	-22.90	-22.95	-22.88	-22.88	-22.92	-23.00
5	-22.95	-22.94	-22.91	-22.88	-22.89	-22.98
6	-23.04	-22.95	-22.94	-22.85	-22.91	-23.06
7	-23.04	-22.93	-22.94	-22.88	-22.90	-23.06
8	-23.04	-22.88	-22.89	-22.87	-22.88	-23.05
9	-23.01	-22.94	-22.81	-22.89	-22.88	-23.03
10	-22.96	-22.98	-22.91	-22.92	-22.89	-23.03
11	-22.96	-22.98	-22.91	-22.94	-22.88	-23.07
12	-22.96	-22.96	-22.89	-22.95	-22.91	-23.07
13	-23.00	-22.96	-22.88	-22.91	-22.91	-23.03
14	-23.02	-22.90	-22.89	-22.85	-22.92	-23.02
15	-23.02	-22.86	-22.88	-22.89	-22.91	-22.99
16	-23.02	-22.89	-22.85	-22.91	-22.88	-23.02
17	-22.94	-22.85	-22.85	-22.91	-22.90	-23.05
18	-22.94	-22.87	-22.87	-22.89	-22.92	-23.04
19	-22.97	-22.88	-22.88	-22.87	-22.94	-23.10
20	-23.02	-22.88	-22.91	-22.84	-23.00	-23.15
21	-23.03	-22.88	-22.92	-22.88	-22.99	-23.10

Kings County--Continued

K 533.--Continued

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
22	-23.03	-22.87	-22.92	-22.95	-23.01	-23.10
23	-23.02	-22.88	-22.91	-22.95	-23.00	-23.09
24	-23.02	-22.91	-22.85	-22.95	-23.01	-23.08
25	-23.01	-22.91	-22.84	-22.97	-23.00	-23.12
26	-23.03	-22.93	-22.86	-22.97	-23.00	-23.11
27	-23.01	-22.93	-22.86	-22.93	-23.04	-23.12
28	-22.98	-22.88	-22.85	-22.98	-23.03	-23.09
29	-22.97	.....	-22.81	-23.00	-23.05	-23.08
30	-22.97	.....	-22.84	-22.97	-23.05	-23.09
31	-22.96	.....	-22.83	.....	-23.02	.....

K 533.--Continued

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-23.11	-23.02	-23.10	-23.31	-23.33	.....
2	-23.14	-23.00	-23.15	-23.33	-23.32	a-23.44
3	-23.13	-23.00	-23.17	-23.33	-23.38	-23.47
4	-23.08	-23.12	-23.17	-23.33	-23.36	-23.47
5	-23.07	-23.15	-23.12	-23.32	-23.36	-23.43
6	-23.06	-23.19	-23.13	-23.36	-23.35	-23.42
7	-23.04	-23.19	-23.15	-23.36	-23.31	-23.42
8	-23.05	-23.18	-23.20	-23.30	-23.37	-23.41
9	-23.06	-23.16	-23.23	-23.32	-23.38	-23.41
10	-23.03	-23.15	-23.24	-23.31	-23.39	-23.44
11	-23.02	-23.15	-23.25	-23.34	-23.39	-23.52
12	-23.04	-23.15	-23.24	-23.34	-23.40	-23.52
13	-23.07	-23.20	-23.29	-23.35	-23.42	-23.49
14	-23.10	-23.18	-23.29	-23.35	-23.42	-23.36
15	-23.10	-23.16	-23.29	-23.30	-23.42	-23.43
16	-23.05	-23.11	-23.30	-23.38	-23.39	-23.43
17	-23.06	-23.13	-23.32	-23.38	-23.46	-23.42
18	-23.05	-23.15	-23.33	-23.37	-23.46	-23.42
19	-23.07	-23.14	-23.33	-23.34	-23.45	-23.39
20	-23.09	-23.16	-23.32	-23.34	-23.43	-23.44
21	-23.08	-23.17	-23.34	-23.33	-23.43	-23.47
22	-23.05	-23.16	-23.30	-23.34	-23.45	-23.46
23	-23.05	-23.14	-23.31	-23.33	-23.45	-23.45
24	-23.04	-23.16	-23.32	-23.33	-23.45	-23.38
25	-23.03	-23.12	-23.32	-23.34	-23.45	-23.38
26	-23.04	-23.15	-23.30	-23.38	-23.44	-23.39
27	-23.04	-23.17	-23.33	-23.31	-23.45	-23.39
28	-23.01	-23.18	-23.34	-23.40	-23.49	-23.39
29	-23.00	-23.18	-23.32	-23.43	a-23.50	-23.42
30	-23.00	-23.16	-23.32	-23.43	.....	-23.44
31	-22.99	-23.10	.....	-23.37	.....	-23.47

K 535.

Water level, in feet, above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	1.85	Feb. 15	2.13	Mar. 29	1.98	May 10	1.97
11	1.83	22	2.08	Apr. 5	1.91	17	1.96
18	1.90	Mar. 1	2.01	12	1.98	24	1.89
25	1.91	8	1.97	19	2.03	31	1.84
Feb. 1	1.96	15	2.07	26	1.97	June 7	1.83
8	2.04	22	2.04	May 3	1.96	14	1.85

a Estimated.

Kings County--Continued

K 535.--Continued

Water level, in feet, above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
June 21	1.86	Aug. 9	1.73	Sept.27	1.66	Nov. 15	1.61
28	1.79	16	1.71	Oct. 4	1.64	22	1.56
July 5	1.79	23	1.68	11	1.63	29	1.53
12	1.81	30	1.74	18	1.61	Dec. 6	1.49
19	1.84	Sept. 6	1.70	25	1.58	13	1.47
26	1.76	13	1.68	Nov. 1	1.61	20	1.68
Aug. 2	1.74	20	1.65	8	1.64	27	1.65

K 537. Measuring point raised 5.08 feet Aug. 9, 1941. New measuring point, top of 4½-inch coupling, about 8 feet below land surface and 13.21 feet above mean sea level. Water level Aug. 16, 1941, 20.63 feet below measuring point and 7.42 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Date		Date		Date		Date	
Jan. 4	-7.09	Apr. 5	-6.77	July 5	-7.22	Oct. 11	-7.62
11	-7.09	12	-6.76	12	-7.25	18	-7.63
18	-7.06	19	-6.78	19	-7.28	25	-7.72
25	-7.01	26	-6.82	26	-7.31	Nov. 1	-7.32
Feb. 1	-6.98	May 3	-6.87	Aug. 2	-7.26	8	-7.77
8	-6.81	10	-6.93	16	-7.42	15	-7.82
15	-6.65	17	-6.97	23	-7.42	22	-7.86
22	-6.59	24	-7.01	30	-7.35	29	-7.86
Mar. 1	-6.64	31	-7.05	Sept. 6	-7.42	Dec. 6	-7.89
8	-6.69	June 7	-7.10	13	-7.45	13	-7.91
15	-6.72	14	-7.10	20	-7.49	20	-7.79
22	-6.68	21	-7.14	27	-7.52	27	-7.82
29	-6.72	28	-7.17	Oct. 4	-7.55		

K 539.

Water level, in feet, with reference to mean sea level, 1941

Date		Date		Date		Date	
Jan. 4	-4.12	Apr. 5	-4.09	July 12	-6.35	Oct. 11	-7.10
11	-4.04	12	-4.34	19	-6.46	18	-7.21
18	-3.95	19	-4.51	26	-6.57	25	-7.28
25	-3.97	May 3	-4.96	Aug. 2	-6.65	Nov. 1	-7.36
Feb. 1	-3.98	10	-5.14	9	-6.78	8	-7.41
8	-3.90	17	-5.29	16	-6.83	15	-7.46
15	-3.84	24	-5.46	23	-6.93	22	-7.53
22	-3.77	31	-5.56	30	-6.85	29	-7.59
Mar. 1	-3.71	June 7	-5.76	Sept. 6	-6.78	Dec. 6	-7.69
8	-3.61	14	-5.70	13	-6.80	13	-7.78
15	-3.56	21	-6.05	20	-6.87	20	-7.83
22	-3.71	28	-6.11	27	-6.97	27	-7.88
29	-3.88	July 5	-6.20	Oct. 4	-6.92		

K 921. Measuring point lowered 0.55 foot Feb. 22, 1941. New measuring point, top of 6-inch pipe, about 2 feet above land surface, and 117.88 feet above mean sea level. Water level, Mar. 1, 1941, 143.12 feet below measuring point and 25.24 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Date		Date		Date		Date	
Jan. 4	-25.23	Mar. 22	-25.33	May 31	-25.52	Aug. 9	-25.48
11	-25.46	29	-25.22	June 7	-25.69	16	-25.50
18	-25.41	Apr. 5	-25.21	14	-25.62	23	-25.69
25	-25.38	12	-25.39	21	-25.78	Sept. 6	-25.78
Feb. 1	-25.35	19	-25.36	28	-25.73	13	-26.34
8	-25.32	26	-25.51	July 5	-25.43	20	-26.38
15	-25.22	May 3	-25.55	12	-24.25	27	-26.38
Mar. 1	-25.24	10	-25.58	19	-24.23	Oct. 4	-26.47
8	-25.13	17	-25.48	26	-23.86	11	-26.54
15	-25.36	24	-25.60	Aug. 2	-23.89	18	-26.51

Kings County--Continued

K 921.--Continued

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 25	-26.59	Nov. 15	-26.54	Dec. 6	-26.50	Dec. 20	-26.38
Nov. 1	-26.41	22	-26.43	13	-26.30	27	-26.23
8	-26.55	29	-26.39				

K 1057. Measuring point raised 0.05 foot July 1, 1941. New measuring point, top of steel plate on instrument shelf, 0.22 foot above 6-inch pipe, about 5 feet above land surface and 13.13 feet above mean sea level. Water level July 15, 1941, 4.30 feet below measuring point and 8.83 feet above mean sea level.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	8.22	....	....	9.18	a9.25	9.10	....	a8.20	7.57	7.50	8.23	8.32
2	8.62	a9.08	....	9.58	a9.45	9.07	....	a8.00	7.22	7.45	8.55	8.58
3	9.15	a9.35	....	9.50	9.50	8.93	....	....	6.99	7.47	8.30	8.34
4	a9.63	....	....	9.32	9.29	8.97	....	....	6.82	7.63	8.24	8.34
5	....	a9.20	....	a9.50	9.55	9.23	....	....	....	7.64	8.29	8.49
6	....	....	....	....	9.28	9.05	....	....	a7.60	7.82	8.43	8.76
7	....	9.53	....	....	9.22	8.56	....	....	7.49	7.98	a8.80	8.48
8	....	9.10	....	....	a9.19	a8.45	....	....	7.34	7.85	a8.44	8.68
9	....	a8.76	a9.73	....	a8.95	8.63	....	a7.88	7.06	7.63	8.39	8.20
10	....	....	8.88	....	a9.06	8.66	....	a7.84	6.84	7.95	8.23	8.25
11	a9.12	a8.83	8.88	....	9.15	8.69	....	a7.80	....	a7.51	8.33	8.14
12	a9.25	a8.75	a8.78	a8.69	a9.00	8.59	....	....	....	....	8.04	8.21
13	a9.10	8.80	a8.95	8.71	a9.00	8.57	....	....	a7.49	....	8.09	8.85
14	....	9.27	8.85	9.01	a8.85	8.82	....	....	7.43	a7.75	7.99	8.29
15	....	9.27	8.78	9.17	a9.05	8.89	a8.83	....	7.37	7.75	8.10	8.02
16	....	8.79	a9.09	9.19	9.23	a9.25	a8.78	a7.82	7.35	7.42	8.08	7.88
17	a9.00	a9.54	....	9.21	a9.35	a8.98	a8.68	7.68	7.40	7.43	8.01	8.23
18	a8.95	a8.95	....	9.22	a9.00	8.90	a8.53	7.68	7.29	7.39	7.97	8.30
19	a9.10	....	....	9.22	9.06	8.72	a8.84	7.70	a7.35	7.46	7.80	8.19
20	....	....	a9.05	a9.25	9.07	8.59	....	....	7.28	7.47	7.93	8.26
21	....	a9.14	9.04	9.14	a9.05	8.58	....	....	7.22	7.63	8.09	8.17
22	a8.83	9.10	8.92	8.84	a9.10	8.62	....	....	7.23	7.59	7.96	8.25
23	a8.65	9.22	8.93	8.83	9.11	a8.73	....	a7.49	7.53	7.75	8.38	8.63
24	a8.55	8.99	a9.15	9.03	9.04	8.89	....	7.43	7.69	7.37	8.08	9.25
25	8.99	a8.95	....	8.92	8.77	a9.10	....	7.53	7.93	7.73	8.22	8.68
26	8.78	a8.90	....	9.03	8.75	a8.90	a8.15	a7.68	7.75	7.85	8.23	8.73
27	8.83	a9.00	....	a9.25	9.02	a9.10	a8.05	7.60	7.64	8.20	8.06	8.67
28	....	a9.15	....	9.32	8.98	a8.63	a8.15	7.40	7.72	7.81	8.15	8.65
29	a9.15	....	a9.57	9.08	8.90	8.50	a8.25	7.09	7.44	7.85	a8.22	8.89
30	....	....	9.28	a8.80	8.82	8.72	a8.25	7.22	7.57	7.93	8.27	8.88
31	a9.00	....	a8.90	....	8.82	....	a8.25	7.30	....	8.07	....	8.96

K 1139. Well cleaned out on May 26, 1941. Measured depth 154.7 feet below measuring point.

Lowest daily water level, in feet, with reference to mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-2.60	a-2.34	-1.80	-3.21	b-5.10	-5.53	....	-6.58	-6.27	-6.65	-7.05	-7.51
2	-2.59	-2.34	-1.80	-3.29	b-4.82	-5.56	....	-6.58	b-6.51	-6.68	-7.06	-7.54
3	-2.54	-2.35	-1.80	-3.36	-4.67	b-6.34	....	-6.59	b-6.29	-6.69	-7.07	-7.56
4	-2.50	-2.34	-1.82	-3.41	-4.69	a-5.62	....	-6.59	b-6.22	-6.71	-7.05	-7.57
5	-2.51	-2.34	-1.82	-3.42	-4.72	a-5.64	....	-6.59	b-6.20	-6.73	-7.04	-7.58
6	-2.55	-2.33	-1.84	-3.45	b-5.50	....	....	-6.60	-6.13	-6.74	-7.04	-7.61

a Estimated.
b Water level drawn down by test pumping of nearby wells.

Kings County--Continued

K 1139.--Continued

Lowest daily water level, with reference to mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	-2.55	-2.32	-1.84b	-4.07b	-5.14	....	....	-6.61	-6.13	-6.74	-7.06	-7.62
8	-2.53	-2.21	-1.82b	-3.75b	-5.00	....a	-6.29	-6.61	-6.13	-6.74	-7.07	-7.63
9	-2.51	-2.12	-1.84	-3.58b	-4.91	....	-6.30	-6.61	-6.18	-6.75	-7.10	-7.67
10	-2.49	-2.12	-1.85	-3.63	-4.82	....	-6.32	-6.64b	-6.26	-6.75	-7.11	-7.69
11	-2.46	-2.11	-1.85	-3.68	-4.84	....	-6.34	-6.64b	-6.32	-6.78	-7.13	-7.71
12	-2.45	-2.07	-1.80	-3.73	-4.87	....	-6.35	-6.70b	-6.39	-6.78	-7.16	-7.72
13	-2.45	-2.04	-1.80	-3.76b	-5.91	....	-6.34b	-6.77b	-6.45	-6.80	-7.17	-7.72
14	-2.45	-2.00	-1.76b	-3.88b	-5.81	....	-6.34b	-6.77	-6.46	-6.80	-7.19	-7.66
15	-2.45	-1.93	-1.74	-3.88b	-5.68	....	-6.36b	-6.75	-6.49	-6.81	-7.19b	-7.66
16	-2.44	-1.89	-1.81b	-4.57	-5.00	....	-6.38	-6.76	-6.52	-6.83	-7.23	-7.67
17	-2.36	-1.89	-1.98b	-4.54	-5.05	....	-6.39	-6.78	-6.54	-6.84	-7.24	-7.69
18	-2.35	-1.87	-2.11	-4.05	-5.10	....	-6.41b	-6.82	-6.56	-6.84	-7.25b	-7.74
19	-2.38	-1.89	-2.22	-4.10b	-5.70	....	-6.41	-6.82	-6.58	-6.86	-7.25b	-7.70
20	-2.44	-1.88	-2.34	-4.15b	-5.84	....	-6.41b	-6.85	-6.59	-6.86	-7.26b	-7.66
21	-2.46	-1.86	-2.43	....b	-5.77	....	-6.43	-6.85	-6.59	-6.86	-7.29b	-7.65
22	-2.46	-1.85	-2.53	....b	-5.83	....	-6.44b	-6.84	-6.60	-6.89	-7.33b	-7.66
23	a-2.51	-1.85	-2.60	-4.32	-5.23	....	-6.45	-6.79	-6.63	-6.92	-7.34	-7.60
24	a-2.50	-1.86	-2.66	....a	-5.25	....	-6.47	-6.80	-6.65	-6.92	-7.37b	-7.71
25	a-2.50	-1.86	-2.76	....	....	....	-6.49	-6.80	-6.65	-6.95	-7.40b	-7.68
26	....	-1.86	-2.85	-4.43	a-5.33	....	-6.52b	-6.73	-6.64	-6.96	-7.41b	-7.76
27	....	-1.86	-2.92	-4.46b	-5.92	....	-6.53	-6.56	-6.65	-6.96	-7.44b	-7.72
28	....	-1.83	-2.96b	-4.93b	-6.18	....	-6.53b	-6.67	-6.65	-7.01	-7.46b	-7.78
29	....	....	-3.02b	-5.09b	-5.88	....	-6.55b	-6.39	-6.66	-7.03	-7.47b	-7.70
30	....	....	-3.11b	-5.17	-5.48	....	-6.56	-6.35	-6.66	-7.03	-7.50b	-7.75
31	a-2.38	....	-3.16	....	-5.51	....	-6.57	-6.32	....	-7.05	....	-7.71

K 1194. Measuring point raised 0.03 foot May 17, 1941. New measuring point, top of coupling, about level with land surface and 31.84 feet above mean sea level. Water level May 24, 1941, 37.07 feet below measuring point and 5.23 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	-3.16	Mar. 29	-3.32	July 19	-6.55	Oct. 11	-7.30
11	-3.12	Apr. 5	-3.56	26	-6.65	18	-7.37
18	-3.05	12	-3.76	Aug. 2	-6.75	25	-7.43
25	-3.06	19	-4.01	9	-6.84	Nov. 1	-7.52
Feb. 1	-3.12	May 24	-5.23	16	-6.92	8	-7.57
8	-2.96	31	-5.41	23	-7.02	15	-7.65
15	-2.99	June 7	-5.62	30	-7.03	22	-7.72
22	-2.97	14	-5.82	Sept. 6	-6.97	29	-7.80
Mar. 1	-2.93	21	-6.00	13	-6.98	Dec. 6	-7.86
8	-2.86	28	-6.16	20	-7.07	13	-7.93
15	-2.86	July 5	-6.27	27	-7.15	20	-7.96
22	-3.09	12	-6.43	Oct. 4	-7.22	27	-8.03

K 1198. Measuring point raised 0.13 foot Apr. 15, 1941. New measuring point, top of coupling, about level with land surface and 36.90 feet above mean sea level. Water level April 19, 1941, 42.58 feet below measuring point and 5.68 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-6.16	Feb. 8	-5.83	Mar. 15	-5.53	Apr. 19	-5.68
11	-6.10	15	-5.77	22	-5.51	26	-5.79
18	-6.00	22	-5.70	29	-5.49	May 3	-5.86
25	-5.96	Mar. 1	-5.64	Apr. 5	-5.53	10	-5.93
Feb. 1	-5.89	8	-5.58	12	-5.63	17	-6.03

a Estimated.
b Water level drawn down by test pumping of nearby wells.

Kings County--Continued

K 1198.--Continued

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 24	-6.14	July 19	-6.78	Sept.13	-7.16	Nov. 8	-7.55
31	-6.21	26	-6.86	20	-7.20	15	-7.60
June 7	-6.31	Aug. 2	-6.93	27	-7.25	22	-7.66
14	-6.40	9	-6.99	Oct. 4	-7.30	29	-7.72
21	-6.49	16	-7.04	11	-7.35	Dec. 6	-7.75
28	-6.57	23	-7.11	18	-7.40	13	-7.81
July 5	-6.65	30	-7.06	25	-7.44	20	-7.86
12	-6.72	Sept. 6	-7.13	Nov. 1	-7.49	27	-7.92

K 1199. Measuring point raised 0.13 foot Apr. 15, 1941. New measuring point, top of coupling, about level with land surface and 48.62 feet above mean sea level. Water level April 19, 1941, 63.94 feet below measuring point and 15.32 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-15.63	Apr. 5	-15.31	July 5	-15.59	Oct. 4	-16.18
11	-15.61	12	-15.29	12	-15.64	11	-16.18
18	-15.60	19	-15.32	19	-15.68	18	-16.25
25	-15.56	26	-15.34	26	-15.72	25	-16.27
Feb. 1	-15.56	May 3	-15.33	Aug. 2	-15.75	Nov. 1	-16.25
8	-15.54	10	-15.28	9	-15.83	8	-16.23
15	-15.49	17	-15.33	16	-15.89	15	-16.31
22	-15.47	24	-15.33	23	-15.90	22	-16.28
Mar. 1	-15.40	31	-15.39	30	-15.95	29	-16.30
8	-15.43	June 7	-15.46	Sept. 6	-15.97	Dec. 6	-16.30
15	-15.38	14	-15.52	13	-15.98	20	-16.26
22	-15.37	21	-15.52	20	-16.04	27	-16.28
29	-15.38	28	-15.56	27	-16.06		

K 1235. New York City Department of Water Supply, Gas, & Electricity. At northwest corner of Fulton Street and Pennsylvania Avenue, Brooklyn. Diameter 1½ inches, measured depth 79.4 feet below measuring point. Measuring point, top of coupling, 0.4 foot below land surface, and 60.47 feet above mean sea level. Water level Jan. 25, 1941, 69.74 feet below measuring point and 9.27 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Jan. 25	-9.27	Apr. 26	-8.84	July 19	-9.35	Oct. 11	-9.65
Feb. 1	-9.22	May 3	-8.89	26	-9.38	18	-9.68
8	-9.19	10	-8.95	Aug. 2	-9.42	25	-9.74
15	-9.17	17	-9.01	9	-9.45	Nov. 1	-9.80
22	-9.15	24	-9.06	16	-9.50	8	-9.80
Mar. 1	-9.12	31	-9.06	23	-9.56	15	-9.86
8	-9.07	June 7	-9.13	30	-9.60	22	-9.87
15	-9.03	14	-9.14	Sept. 6	-9.60	29	-9.88
22	-8.98	21	-9.18	13	-9.63	Dec. 6	-9.91
29	-8.91	28	-9.24	20	-9.65	13	-9.90
Apr. 5	-8.87	July 5	-9.27	27	-9.65	20	-9.96
12	-8.89	12	-9.33	Oct. 4	-9.63	27	-9.99
19	-8.84						

K 1236. New York City Department of Water Supply, Gas, & Electricity. At southeast corner of Lexington Avenue and Patchen Avenue, Brooklyn. Diameter 1½ inches, measured depth 81.7 feet below measuring point. Measuring point, top of coupling, about level with land surface and 50.94 feet above mean sea level. Water level Jan. 25, 1941, 68.82 feet below measuring point and 17.88 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Jan. 25	-17.88	Feb. 22	-17.71	Mar. 22	-17.56	Apr. 19	-17.46
Feb. 1	-17.82	Mar. 1	-17.67	29	-17.54	26	-17.42
8	-17.80	8	-17.64	Apr. 5	-17.47	May 3	-17.41
15	-17.75	15	-17.60	12	-17.43	10	-17.56

Kings County--Continued

K 1236.--Continued

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 17	-17.69	Aug. 2	-18.75	Sept.20	-19.12	Nov. 15	-18.65
June 21	-18.17	9	-18.79	27	-19.24	22	-18.85
28	-18.27	16	-18.81	Oct. 4	-19.42	29	-18.81
July 5	-18.41	23	-18.92	11	-19.18	Dec. 6	-18.76
12	-18.51	30	-19.06	18	-19.06	13	-18.80
19	-18.48	Sept. 6	-19.19	25	-19.17	20	-18.66
26	-18.44	13	-19.02	Nov. 8	-18.76	27	-18.62

K 1237. New York City Department of Water Supply, Gas, & Electricity. At east corner of Delmonico Place and Hopkins Street, Brooklyn. Diameter 1½ inches, measured depth 63.2 feet below measuring point. Measuring point, top of coupling, about level with land surface and 18.02 feet above mean sea level. Water level Jan. 18, 1941, 50.92 feet below measuring point and 32.90 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Jan. 18	-32.90	Apr. 26	-32.83	July 19	-33.28	Oct. 11	-33.98
25	-32.44	May 3	-32.64	26	-33.19	18	-33.81
Feb. 1	-32.29	10	-32.87	Aug. 2	-33.25	25	-34.17
8	-32.81	17	-33.01	9	-33.15	Nov. 1	-34.30
15	-32.10	24	-32.81	16	-33.40	8	-34.20
22	-32.41	31	-32.71	23	-33.50	15	-34.31
Mar. 1	-32.46	June 7	-32.90	30	-33.27	22	-34.17
8	-32.64	14	-33.08	Sept. 6	-33.65	29	-34.36
15	-32.24	21	-32.72	13	-33.66	Dec. 6	-34.55
22	-32.67	28	-33.15	20	-33.78	13	-34.29
29	-32.67	July 5	-33.08	27	-33.79	20	-34.27
Apr. 12	-31.56	12	-33.13	Oct. 4	-34.06	27	-34.26
19	-32.68						

K 1263. New York City Department of Water Supply, Gas, & Electricity. On west side of East 16th Street, 95 feet north of Cortelyou Road, Brooklyn. Diameter 1½ inches, measured depth 49.7 feet below measuring point. Measuring point, top of coupling, about level with land surface and 35.87 feet above mean sea level. Water level Apr. 21, 1933, 43.93 feet below measuring point and 8.06 feet below mean sea level. Measurements from beginning of record on Apr. 21, 1933, to July 21, 1936, inclusive, by New York City, measurements thereafter by U. S. Geological Survey.

Water level, in feet, with reference to mean sea level, 1933-36, 1941

Date	Water level	Date	Water level	Date	Water level
Apr. 21, 1933	-8.06	Dec. 7; 1934	-7.75	June 7, 1941	-10.64
May 15	-7.95	Jan. 2, 1935	-8.49	14	-10.67
June 28	-7.93	Mar. 4	-8.72	21	-10.71
July 26	-8.18	Apr. 1	-8.71	28	-10.79
Aug. 9	-8.36	May 28	-9.62	July 5	-10.84
30	-8.27	July 1	-7.94	12	-10.86
Sept.27	-7.82	Sept.13	-10.80	19	-10.90
Nov. 2	-7.58	Oct. 24	-11.01	26	-10.92
22	-7.79	Dec. 11	-11.23	Aug. 2	-10.97
Jan. 9, 1934	-7.73	Mar. 16, 1936	-10.34	9	-11.02
Mar. 22	-7.90	Apr. 20	-10.50	16	-11.01
Apr. 11	-8.10	June 11	-11.90	23	-11.06
June 13	-8.35	July 21	-11.97	30	-11.08
July 9	-8.20	Apr. 26, 1941	-10.53	Sept. 6	-11.12
Aug. 1	-8.60	May 3	-10.53	13	-11.20
21	-8.78	10	-10.53	20	-11.25
Sept.20	-8.44	17	-10.53	27	-11.29
Oct. 18	-8.40	24	-10.57	Oct. 4	-11.29
Nov. 9	-8.00	31	-10.60	11	-11.35

Kings County--Continued

K 1263.--Continued

Water level, in feet, with reference to mean sea level, 1933-36, 1941

Date	Water level	Date	Water level	Date	Water level
Oct. 18, 1941	-11.39	Nov. 15, 1941	-11.52	Dec. 13, 1941	-11.72
25	-11.41	22	-11.55	20	-11.42
Nov. 1	-11.65	29	-11.54	27	-11.38
8	-11.49	Dec. 6	-11.53		

K 1264. New York City Department of Water Supply, Gas, & Electricity. At southeast corner of Snyder Avenue and East 37th Street, Brooklyn. Diameter 1¼ inches, measured depth 66.6 feet below measuring point. Measuring point, top of coupling, about level with land surface and 43.89 feet above mean sea level. Water level Apr. 21, 1933, 53.54 feet below measuring point and 9.65 feet below mean sea level. Measurements from beginning of record on Apr. 21, 1933, to Oct. 24, 1935, inclusive, by New York City, measurements thereafter by U. S. Geological Survey.

Water level, in feet, with reference to mean sea level, 1933-35, 1941

Apr. 21, 1933	-9.65	Mar. 4, 1935	-9.82	Aug. 16, 1941	-14.39
June 28	-9.42	Apr. 1	-9.83	23	-14.34
July 26	-9.48	May 28	-9.83	30	-14.71
Aug. 9	-9.57	July 1	-9.81	Sept. 6	-14.39
30	-10.24	Oct. 24	-9.80	13	-14.46
Sept. 28	-9.51	May 3, 1941	-13.94	20	-14.52
Nov. 2	-9.61	10	-13.95	27	-14.59
22	-9.76	17	-13.96	Oct. 4	-14.64
Dec. 11	-9.78	24	-13.97	11	-14.67
Jan. 9, 1934	-9.91	31	-14.03	18	-14.71
Mar. 22	-10.15	June 7	-14.05	25	-14.75
Apr. 11	-10.21	14	-14.08	Nov. 1	-14.80
June 13	-10.55	21	-14.12	8	-14.81
July 9	-10.75	28	-14.20	15	-14.85
Aug. 1	-10.65	July 5	-14.22	22	-14.99
21	-10.88	12	-14.23	29	-15.01
Sept. 20	-9.80	19	-14.26	Dec. 6	-14.95
Oct. 18	-9.92	26	-14.22	13	-14.95
Nov. 9	-9.88	Aug. 2	-14.21	20	-14.92
Dec. 7	-9.73	9	-14.23	27	-14.90

K 1265. New York City Department of Water Supply, Gas, & Electricity. At southwest corner of Riverdale Avenue and Thatford Street, Brooklyn. Diameter 1⅛ inches, measured depth 43.8 feet below measuring point. Measuring point, top of coupling, about level with land surface and 23.22 feet above mean sea level. Water level Apr. 21, 1933, 29.56 feet below measuring point and 6.34 feet below mean sea level. Measurements from beginning of record on Apr. 21, 1933, to Sept. 13, 1935, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet, with reference to mean sea level, 1933-35, 1941

Apr. 21, 1933	-6.34	Sept. 20, 1934	-7.80	June 7, 1941	-10.39
May 29	-6.75	Oct. 18	-7.63	14	-10.45
June 28	-6.64	Nov. 9	-7.56	21	-10.33
July 25	-7.02	Dec. 7	-7.50	28	-10.52
Aug. 29	-7.14	Jan. 2, 1935	-7.49	July 5	-10.56
Sept. 28	-6.83	Mar. 4	-7.44	12	-10.59
Nov. 2	-6.98	Apr. 1	-7.64	19	-10.61
22	-6.96	May 28	-8.26	26	-10.66
Dec. 11	-6.99	July 1	-8.48	Aug. 2	-10.69
Jan. 9, 1934	-7.07	Sept. 13	-9.11	9	-10.72
Mar. 22	-7.01	Apr. 26, 1941	-10.37	16	-10.76
Apr. 11	-7.07	May 3	-10.30	23	-10.79
June 13	-7.72	10	-10.29	30	-10.79
July 9	-7.97	17	-10.27	Sept. 6	-10.79
Aug. 1	-8.02	24	-10.27	13	-10.81
21	-8.22	31	-10.28	20	-10.78

Kings County--Continued

K 1265.--Continued

Water level, in feet, with reference to mean sea level, 1933-35, 1941

Date	Water level	Date	Water level	Date	Water level
Sept.27, 1941	-10.71	Oct. 25, 1941	-10.66	Nov. 29, 1941	-10.80
Oct. 4	-10.68	Nov. 8	-10.70	Dec. 6	-10.80
11	-10.67	15	-10.69	20	-10.79
18	-10.66	22	-10.73	27	-10.78

K 1266. New York City Department of Water Supply, Gas, & Electricity. At southeast corner of Vermont Street and Livonia Avenue, Brooklyn. Diameter 1¼ inches, measured depth 41.4 feet below measuring point. Measuring point, top of coupling, about level with land surface and 27.68 feet above mean sea level. Water level Apr. 21, 1933, 29.70 feet below measuring point and 2.02 feet below mean sea level. Measurements from beginning of record on Apr. 21, 1933, to June 15, 1937, inclusive, by New York City, measurements thereafter by U. S. Geological Survey.

Water level, in feet, with reference to mean sea level, 1933-37, 1941

Apr. 21, 1933	-2.02	July 1, 1935	-3.73	July 12, 1941	-6.10
May 29	-2.44	Sept.13	-4.42	19	-6.10
June 28	-2.43	Oct. 24	-4.37	26	-6.17
July 25	-2.60	Dec. 11	-4.31	Aug. 2	-6.19
Aug. 29	-2.85	Mar. 16, 1936	-3.75	9	-6.29
Sept.28	-2.45	Apr. 20	-3.68	16	-6.40
Nov. 2	-2.37	June 11	-4.04	23	-6.28
22	-2.73	July 21	-4.14	30	-6.28
Dec. 11	-2.67	Sept.24	-4.70	Sept. 6	-6.43
Jan. 9, 1934	-2.90	Dec. 29	-3.70	13	-6.22
Mar. 22	-2.41	Feb. 2, 1937	-3.97	20	-6.49
Apr. 11	-2.82	Mar. 23	-3.77	27	-6.54
June 13	-3.32	June 15	-4.28	Oct. 4	-6.58
July 9	-3.32	Apr. 26, 1941	-5.41	11	-6.58
Aug. 1	-3.32	May 3	-5.68	18	-6.55
21	-3.47	10	-5.19	25	-6.65
Sept.20	-3.05	17	-5.73	Nov. 8	-6.48
Oct. 18	-2.85	24	-5.70	15	-6.11
Nov. 9	-2.58	31	-5.76	22	-6.71
Dec. 7	-3.07	June 7	-5.82	29	-6.74
Jan. 2, 1935	-3.14	14	-5.92	Dec. 6	-6.85
Mar. 4	-2.99	21	-5.86	20	-6.57
Apr. 1	-2.99	28	-6.01	27	-6.84
May 28	-3.51	July 5	-6.02		

K 1296. New York City Department of Water Supply, Gas, & Electricity. About 40 feet north of Blake Avenue extended and 165 feet west of Crystal Street extended, Brooklyn. Diameter 2 inches, measured depth 33.9 feet below measuring point. Measuring point, top of coupling, 1.2 feet above land surface and 8.50 feet above mean sea level. Water level Sept. 6, 1941, 12.88 feet below measuring point and 4.38 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 6	-4.38	Oct. 11	-4.52	Nov. 8	-5.10	Dec. 6	-5.97
13	-4.49	18	-4.42	15	-5.32	13	-6.14
20	-4.43	25	-4.66	22	-5.59	20	-6.11
27	-4.49	Nov. 1	-4.74	29	-5.80	27	-6.27
Oct. 4	-4.47						

Nassau County

N 7. Measuring point lowered 0.57 foot June 18, 1941. New measuring point, top of 10-inch pipe that overlaps 6-inch casing, about 6 feet above land surface, and 26.08 feet above mean sea level. Water level June 21, 1941, 14.41 feet below measuring point and 11.67 feet above mean sea level.

Lowest daily water level, in feet above mean sea level, 1941
(Record from Jan. 1 through May 23, 1941, based on recorder charts; record after May 23 taken from tape measurements)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	12.09	12.51	12.58	12.42	12.14	.....	....	....	....	.....	10.51	.....
2	12.09	12.55	12.55	12.41	12.08	.....	....	9.10	....	.....	.....	.....
3	12.21	12.55	12.55	12.34	12.01	.....	....	....	....	.....	.....	.....
4	12.40	12.48	12.56	12.30	12.01	.....	....	....	....	8.90	.....	.....
5	12.33	12.47	12.38	12.32	12.05	.....	9.64	....	....	.....	.....	.....
6	a12.09	12.43	12.28	12.46	11.98	.....	....	....	8.60	.....	.....	11.20
7	.....	12.45	12.24	12.43	11.98	.....	....	....	....	.....	.....	.....
8	.....	12.71	12.29	12.44	12.06	.....	....	....	....	.....	10.79	.....
9	a12.09	12.46	12.75	12.43	12.14	.....	....	8.93	....	.....	.....	.....
10	12.19	12.25	12.51	12.40	12.11	.....	....	....	....	.....	.....	.....
11	12.24	12.25	12.45	12.30	12.10	.....	....	....	....	9.28	.....	.....
12	12.30	12.27	12.55	12.25	12.10	.....	9.65	....	....	.....	.....	.....
13	12.32	12.26	12.42	12.27	12.02	.....	....	....	8.48	.....	.....	10.89
14	12.21	12.34	12.45	12.39	11.98	.....	....	....	....	.....	.....	.....
15	12.16	12.57	12.47	12.43	11.98	.....	....	....	....	.....	10.75	.....
16	12.16	12.54	12.51	12.36	12.00	.....	....	8.50	....	.....	.....	.....
17	12.43	12.54	12.58	12.35	12.05	.....	....	....	....	.....	.....	.....
18	12.50	12.60	12.52	12.30	11.84	.....	....	....	....	9.44	.....	.....
19	12.43	12.52	12.42	12.28	11.77	.....	9.58	....	....	.....	.....	.....
20	12.26	12.50	12.27	12.28	11.64	.....	....	....	8.40	.....	.....	11.21
21	12.16	12.50	12.26	12.24	11.59	11.67	....	....	....	.....	.....	.....
22	12.16	12.50	12.20	a12.08	11.61	.....	....	....	....	.....	10.82	.....
23	12.22	12.43	12.18	a12.08	11.58	.....	....	8.41	....	.....	.....	.....
24	12.19	12.37	12.23	a12.08	.....	.....	....	....	....	.....	.....	.....
25	12.29	12.37	12.37	a12.08	.....	.....	....	....	....	10.11	.....	.....
26	12.25	12.33	12.37	a12.00	.....	.....	9.40	....	....	.....	.....	.....
27	12.25	12.33	12.34	12.03	.....	.....	....	....	8.56	.....	.....	11.20
28	12.35	12.44	12.37	12.10	.....	10.20	....	....	....	.....	.....	.....
29	12.47	.....	12.48	11.98	.....	.....	....	....	....	.....	10.85	.....
30	12.53	.....	12.42	12.02	.....	.....	....	8.23	....	.....	.....	.....
31	12.52	.....	12.40	.....	.....	.....	....	....	....	.....	.....	.....

N 9.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	21.88	Apr. 5	22.11	July 5	22.23	Oct. 4	21.31
11	21.70	12	22.08	12	22.28	11	21.17
18	21.90	19	22.06	19	22.12	18	21.16
25	21.90	26	22.03	26	21.93	25	21.11
Feb. 1	21.78	May 3	21.98	Aug. 2	21.92	Nov. 1	21.32
8	22.36	10	21.99	9	21.67	8	21.26
15	22.20	17	21.90	16	21.64	15	21.13
22	22.04	24	21.82	23	21.56	22	21.06
Mar. 1	21.97	31	21.77	30	21.66	29	21.08
8	21.95	June 7	21.91	Sept. 6	21.50	Dec. 6	21.07
15	22.04	14	22.19	13	21.40	13	21.01
22	22.15	21	22.19	20	21.31	20	21.38
29	22.09	28	22.12	27	21.25	27	21.31

a Estimated.

Nassau County--Continued

N 53.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	12.97	Apr. 5	14.32	July 5	14.09	Oct. 4	12.75
11	13.02	12	14.38	12	14.16	11	12.67
18	13.17	19	14.41	19	13.99	18	12.58
25	13.30	26	14.36	26	13.86	25	12.51
Feb. 1	13.41	May 3	14.28	Aug. 2	13.73	Nov. 1	12.46
8	13.83	10	14.15	9	13.62	8	12.46
15	14.02	17	14.06	16	13.48	15	12.38
22	14.06	24	13.93	23	13.36	22	12.30
Mar. 1	13.95	31	13.80	30	13.36	29	12.26
8	13.88	June 7	13.75	Sept. 6	13.22	Dec. 6	12.22
15	14.07	14	14.07	13	13.09	13	12.20
22	14.24	21	14.24	20	12.96	20	12.67
29	14.32	28	14.12	27	12.85	27	12.69

N 66. Measurements discontinued Mar. 29, 1941. Observations in well N 1685, ending in the same formation about 40 feet distant, indicate that there are only minor differences between the fluctuations of water level in the two wells.

Water level, in feet above mean sea level, 1941

Jan. 4	10.19	Feb. 1	10.25	Feb. 22	9.49	Mar. 15	10.29
11	10.28	8	10.61	Mar. 1	10.51	22	10.27
18	9.74	15	10.39	8	10.07	29	10.00
25	10.25						

N 67.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	18.16	18.51	18.82	18.59	18.40	17.52	16.76	15.87	15.16	15.54	16.77	17.29
2	18.16	18.57	18.68	18.65	18.40	17.44	16.62	15.85	15.05	15.43	17.08	17.36
3	18.39	18.59	18.68	18.57	18.35	17.42	16.50	15.77	14.97	15.43	16.99	17.41
4	18.60	18.51	18.59	18.50	18.37	17.47	16.53	15.73	15.04	15.71	16.98	17.39
5	18.32	18.51	18.47	18.52	18.40	17.64	16.41	15.76	15.19	15.71	17.01	17.51
6	18.05	18.47	18.35	18.71	18.33	17.50	16.31	15.70	15.39	15.73	17.07	17.66
7	18.05	18.51	18.30	18.67	18.35	17.43	16.37	15.59	15.33	15.72	17.31	17.60
8	18.06	18.82	18.40	18.65	18.46	17.54	16.48	15.62	15.21	15.83	17.18	17.60
9	18.12	18.47	18.89	18.62	18.54	17.45	16.45	15.64	15.16	15.78	17.15	17.54
10	18.30	18.34	18.55	18.63	18.46	17.47	16.37	15.48	15.16	15.90	17.09	17.43
11	18.37	18.32	18.50	18.55	18.46	17.32	16.38	15.41	15.17	15.86	17.10	17.27
12	18.49	18.40	18.59	18.43	18.43	17.16	16.33	15.49	15.13	15.86	17.06	17.22
13	18.38	18.36	18.57	18.46	18.33	17.17	16.23	15.28	15.06	15.80	17.02	17.30
14	18.27	18.54	18.59	18.65	18.30	17.42	16.17	15.21	15.02	15.86	17.06	17.80
15	18.21	18.74	18.58	18.65	18.28	17.46	16.18	15.22	15.10	16.07	17.11	17.56
16	18.21	18.58	18.67	18.57	18.35	17.47	16.21	15.36	15.12	15.97	17.22	17.55
17	18.64	18.59	18.68	18.59	18.42	17.41	16.25	15.21	15.20	15.93	17.05	17.62
18	18.60	18.57	18.52	18.54	18.20	17.38	16.19	15.14	15.18	15.98	17.04	17.60
19	18.45	18.48	18.42	18.51	18.13	17.31	16.22	15.24	15.14	16.17	17.10	17.68
20	18.22	18.44	18.33	18.53	18.02	17.23	16.10	15.22	15.13	16.15	17.20	17.54
21	18.15	18.43	18.35	18.48	18.00	17.18	.....	15.15	15.18	16.31	17.27	17.45
22	18.16	18.48	18.33	18.26	18.04	17.19	.....	15.19	15.24	16.42	17.17	17.42
23	18.26	18.48	18.29	18.19	18.05	17.13	15.99	15.26	15.42	16.47	17.19	17.52
24	18.22	18.41	18.38	18.30	17.90	17.17	15.96	15.19	15.42a	16.44	17.16	17.82
25	18.42	18.41	18.59	18.20	17.79	17.00	15.97	15.22	15.48	16.54	17.11	17.75
26	18.35	18.39	18.57	18.24	17.78	16.94	15.95	15.36	15.47	16.42	17.27	17.74
27	18.34	18.37	18.52	18.36	17.75	16.94	15.89	15.19	15.36	16.55	17.25	17.69
28	18.51	18.53	18.57	18.36	17.67	16.91	15.90	15.07	15.38	16.54	17.15	17.68
29	18.59	.....	18.74	18.20	17.62	16.89	15.84	14.98	15.38	16.43	17.12	17.60
30	a18.56	.....	18.62	18.32	17.55	16.82	15.88	15.00	15.33	16.44	17.32	17.59
31	a18.55	.....	18.54	.....	17.50	.....	15.89	15.08	.....	16.64	.....	17.59

a Estimated.

Nassau County--Continued

N 157.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	85.77	85.65	85.41	85.27	.....	85.13	84.95	84.79	84.66	84.40	84.36	83.82
2	a85.90	85.77	85.33	a85.11	.....	85.02	84.88	84.76	84.53	84.23	84.25	83.94
3	86.18	85.73	85.37	85.10	a85.04	85.02	84.77	84.73	84.46	84.26	84.13	83.87
4	86.23	85.66	85.25	85.10	85.12	85.11	84.89	84.77	84.56	84.49	84.11	83.87
5	85.92	85.65	85.19	85.19	85.18	85.02	84.83	84.83	84.73	84.49	84.15	84.03
6	85.67	85.66	85.21	a85.14	85.08	84.85	84.83	84.68	84.71	84.29	84.20	83.92
7	85.67	85.67	85.21	a85.14	85.15	84.85	84.96	84.66	84.56	84.29	84.11	83.85
8	85.86	85.80	85.41	a85.14	85.29	a85.16	85.04	84.76	84.43	84.26	84.04	83.90
9	85.98	85.43	85.54	85.24	85.26	85.00	84.89	84.86	84.46	84.21	84.03	83.73
10	86.03	85.28	85.11	85.25	85.08	85.05	84.85	84.66	84.51	84.40	84.04	83.72
11	86.08	85.41	85.10	85.12	85.08	84.89	84.88	84.66	84.50	84.17	84.11	83.64
12	86.08	a85.61	85.21	85.10	85.08	84.83	84.87	84.78	84.46	84.17	84.06	83.66
13	85.72	85.61	85.17	85.18	85.04	84.88	84.77	84.58	84.41	84.15	84.01	83.83
14	85.62	85.72	85.30	85.46	a85.05	85.15	84.75	84.58	84.45	84.23	84.07	83.88
15	85.76	85.74	85.34	85.39	a85.11	85.16	84.82	84.69	84.60	a84.45	84.15	83.66
16	85.80	85.61	85.46	85.23	a85.24	85.00	84.90	84.88	84.61	a84.11	83.99	83.66
17	86.04	85.61	85.33	85.26	a85.32	84.95	84.91	84.64	84.57	a84.11	83.80	83.70
18	a85.97	.....	85.30	85.21	.....	84.95	84.86	84.63	84.45	a84.20	83.86	83.70
19	.....	.....	85.29	85.20	.....	84.89	84.83	84.75	84.38	84.23	84.08	83.77
20	.....	.....	85.17	85.27	.....	84.89	84.73	84.65	84.38	84.20	84.17	83.50
21	.....	a85.46	85.17	84.95	.....	84.91	84.73	84.61	84.45	a84.40	84.00	83.49
22	.....	85.54	85.18	84.95	.....	85.01	84.81	84.65	84.55	a84.26	83.86	83.62
23	.....	85.38	85.16	85.00	.....	84.95	84.89	84.72	84.58	a84.25	83.92	83.81
24	.....	85.38	85.31	85.16	a84.96	84.97	84.87	84.63	84.42	84.18	83.79	84.09
25	.....	85.38	85.39	85.10	.....	84.79	84.90	84.69	84.45	84.19	83.79	83.65
26	.....	85.33	85.25	a85.13	.....	84.80	84.80	84.77	84.31	84.03	84.09	83.65
27	a85.77	85.35	85.21	.....	.....	84.97	84.76	84.50	84.25	84.21	83.96	a83.73
28	85.77	85.59	85.28	.....	.....	84.97	84.85	84.46	84.34	83.96	83.80	.....
29	.....	.....	85.34	.....	.....	85.02	84.76	84.51	84.25	83.88	83.81	.....
30	.....	.....	85.18	a85.10	.....	84.96	84.82	84.65	84.26	84.02	83.95	.....
31	a85.70	.....	85.17	.....	a85.04	.....	84.86	84.78	.....	84.34	.....	.....

N 844.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	81.78	81.47	81.66	81.64	81.56	81.34	81.19	80.97	80.71	80.39	80.10	79.76
2	81.78	81.49	81.64	81.63	81.52	81.32	81.18	80.96	80.68	80.38	80.08	79.77
3	81.79	81.47	81.64	81.60	81.52	81.32	81.17	80.97	80.68	80.38	80.07	79.74
4	81.80	81.46	81.64	81.59	81.52	81.32	81.16	80.96	80.67	80.38	80.05	79.74
5	81.76	81.45	81.61	81.61	81.52	81.30	81.15	80.95	80.68	80.37	80.05	79.75
6	81.72	81.45	81.60	81.63	81.49	81.28	81.15	80.95	80.66	80.35	80.06	79.72
7	81.71	81.46	81.59	81.63	81.50	81.28	81.15	80.94	80.67	80.35	80.03	79.73
8	81.70	81.50	81.64	81.63	81.50	81.30	81.15	80.94	80.64	80.33	80.03	79.72
9	81.70	81.54	81.67	81.63	81.50	81.27	81.13	80.93	80.63	80.33	80.01	a79.72
10	81.69	81.55	81.60	81.63	81.47	81.28	81.12	80.91	80.63	80.32	80.00	.....
11	81.68	81.58	81.60	81.61	81.47	81.26	81.12	80.91	80.62	80.30	79.99	.....
12	81.68	81.63	81.60	81.60	81.46	81.24	81.12	80.89	80.61	80.30	79.95	.....
13	81.64	81.64	81.59	81.62	81.44	81.25	81.11	80.87	80.59	80.28	79.96	a79.74
14	81.63	81.68	81.59	81.67	81.44	81.27	81.10	80.84	80.58	80.28	79.94	79.66
15	81.62	81.71	81.59	81.66	81.44	81.28	81.10	80.83	80.58	80.27	79.97	79.63
16	81.62	81.70	81.61	81.63	81.45	81.26	81.09	80.83	80.57	80.23	79.94	79.63
17	81.64	81.71	81.62	81.63	81.45	81.24	81.09	a80.81	80.56	80.23	79.90	79.61
18	81.62	81.70	81.62	81.61	81.42	81.24	a81.09	a80.80	80.54	80.24	79.91	a79.62
19	81.60	81.69	81.62	81.61	81.42	81.24	a81.06	80.81	80.52	80.21	79.90	.....
20	81.57	81.70	81.60	81.62	81.40	81.23	81.04	80.79	80.51	a80.21	79.91	a79.57
21	81.56	81.71	81.60	81.59	81.40	81.23	81.03	80.78	80.51	80.20	79.87	79.58
22	81.56	81.72	81.60	81.55	81.41	81.25	81.04	80.77	80.51	80.19	79.86	79.56
23	81.53	81.70	81.59	81.55	81.41	81.24	81.04	80.77	80.50	80.16	79.87	79.57

a Estimated.

Nassau County--Continued

N 844.--Continued

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
24	81.52	81.67	81.62	81.55	81.37	81.24	81.02	80.76	80.48	80.16	79.82	79.60
25	81.50	81.68	81.66	81.54	81.37	81.22	81.02	80.77	80.48	80.15	79.84	79.56
26	81.49	81.65	81.64	81.54	81.37	81.22	81.01	80.75	80.45a	80.15	79.82	79.55
27	81.49	81.65	81.64	81.58	81.36	81.21	81.00	80.73	80.44a	80.15	79.81	79.54
28	81.50	81.68	81.65	81.56	81.35	81.21	81.01	80.72	80.44	80.10	79.78	79.54
29	81.49	.....	81.68	81.53	81.34	81.21	80.98	80.71	80.41	80.08	79.81	79.50
30	81.48	.....	81.65	81.56	81.34	81.20	80.99	80.72	80.41	80.09	79.79	79.51
31	81.47	.....	81.63	.....	81.33	.....	80.98	80.73	.....	80.08	.....	79.50

N 1101.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	44.28	May 5	44.19	Aug. 1	43.38	Oct. 31	42.97
Feb. 28	44.32	June 2	43.76	29	43.47	Dec. 1	42.98
Mar. 28	44.44	30	43.56	Sept.29	42.93		

N 1102.

Water level, in feet above mean sea level, 1941

Jan. 31	56.05	May 5	56.06	Aug. 1	55.51	Oct. 31	55.04
Feb. 28	56.12	June 2	55.78	29	55.28	Dec. 1	54.68
Mar. 28	56.07	30	55.69	Sept.29	55.04		

N 1103.

Water level, in feet above mean sea level, 1941

Jan. 31	57.17	May 5	57.15	Aug. 1	56.70	Oct. 31	56.15
Feb. 28	57.24	June 2	56.98	29	56.52	Dec. 1	55.96
Mar. 28	57.20	30	56.81	Sept.29	56.33		

N 1104.

Water level, in feet above mean sea level, 1941

Jan. 31	56.77	May 5	56.91	Aug. 1	56.54	Oct. 31	55.96
Feb. 28	57.02	June 2	56.70	29	56.35	Dec. 1	55.79
Mar. 28	57.18	30	56.62	Sept.29	56.16		

N 1105.

Water level, in feet above mean sea level, 1941

Jan. 31	54.11	May 5	54.26	Aug. 1	54.03	Oct. 31	53.39
Feb. 28	54.50	June 2	54.03	29	53.87	Dec. 1	53.22
Mar. 28	54.66	30	54.07	Sept.29	53.59		

N 1106.

Water level, in feet above mean sea level, 1941

Jan. 4	50.00	Mar. 15	50.32	May 24	50.22	Aug. 2	50.28
11	49.94	22	50.33	31	50.20	9	50.24
18	49.90	29	50.32	June 7	50.28	16	50.15
25	49.90	Apr. 5	50.31	14	50.28	23	50.10
Feb. 1	49.82	12	50.35	21	50.43	30	50.15
8	49.87	19	50.33	28	50.45	Sept. 6	50.13
15	50.15	26	50.32	July 5	50.41	13	50.03
22	50.27	May 3	50.29	12	50.47	20	49.96
Mar. 1	50.33	10	50.30	19	50.43	27	49.88
8	50.32	17	50.31	26	50.39	Oct. 4	49.80

a Estimated.

Nassau County--Continued

N 1106.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 11	49.73	Nov. 1	49.46	Nov. 22	49.25	Dec. 13	49.00
18	49.62	8	49.41	29	49.18	20	49.02
25	49.54	15	49.34	Dec. 6	49.08	27	48.95

N 1107.

Water level, in feet above mean sea level, 1941

Jan. 31	42.83	May 5	43.72	Aug. 1	43.34	Oct. 31	42.43
Feb. 28	43.51	June 2	43.44	29	43.21	Dec. 1	42.18
Mar. 28	43.57	30	43.52	Sept.29	42.85		

N 1108.

Water level, in feet above mean sea level, 1941

Jan. 31	38.13	May 5	39.19	Aug. 1	38.62	Oct. 31	37.66
Feb. 28	39.03	June 2	38.83	29	38.45	Dec. 1	37.45
Mar. 28	39.04	30	38.78	Sept.29	38.09		

N 1109.

Water level, in feet above mean sea level, 1941

Jan. 31	26.65	May 5	27.18	Aug. 1	26.72	Oct. 31	25.62
Feb. 28	27.37	June 2	26.82	29	26.43	Dec. 1	25.38
Mar. 28	27.46	30	26.98	Sept.29	25.98		

N 1110.

Water level, in feet above mean sea level, 1941

Jan. 31	19.96	May 5	20.02	Aug. 1	19.72	Oct. 31	18.71
Feb. 28	20.15	June 2	19.75	29	19.51	Dec. 1	18.68
Mar. 28	20.29	30	19.94	Sept.29	18.97		

N 1111.

Water level, in feet above mean sea level, 1941

Jan. 31	13.32	May 5	12.96	Aug. 1	13.93	Oct. 31	12.32
Feb. 28	13.34	June 2	13.71	29	13.99	Dec. 1	12.69
Mar. 28	13.18	30	13.97	Sept.29	12.12		

N 1112.

Water level, in feet above mean sea level, 1941

Jan. 4	9.31	Apr. 5	9.43	July 5	8.96	Oct. 4	7.79
11	9.17	12	9.53	12	9.16	11	7.76
18	9.38	19	9.34	19	9.06	18	7.56
25	9.38	26	8.94	26	8.80	25	7.40
Feb. 1	9.24	May 3	9.14	Aug. 2	8.68	Nov. 1	7.23
8	9.92	10	9.14	9	8.48	8	7.39
15	9.63	17	9.04	16	8.36	15	7.18
22	9.42	24	8.80	23	8.33	22	7.01
Mar. 1	9.26	31	8.58	30	8.62	29	7.03
8	9.26	June 7	8.82	Sept. 6	8.40	Dec. 6	6.93
15	9.67	14	9.03	13	8.15	13	6.84
22	9.58	21	9.14	20	7.93	20	7.59
29	9.49	28	8.71	27	7.76	27	7.51

N 1113.

Water level, in feet above mean sea level, 1941

Jan. 31	6.05	May 5	5.51	Aug. 1	5.14	Oct. 31	3.91
Feb. 28	5.92	June 2	5.06	29	4.77	Dec. 1	4.65
Mar. 28	6.30	30	5.41	Sept.29	4.01		

Nassau County--Continued

N 1114.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	9.33	May 5	10.13	Aug. 1	9.55	Oct. 31	8.11
Feb. 28	9.90	June 2	9.76	29	9.08	Dec. 1	7.97
Mar. 28	10.12	30	9.67	Sept.29	8.61		

N 1115.

Water level, in feet above mean sea level, 1941

Jan. 31	10.18	May 5	10.91	Aug. 1	10.37	Oct. 31	8.74
Feb. 28	10.73	June 2	10.43	29	10.03	Dec. 1	8.57
Mar. 28	11.08	30	10.60	Sept.29	9.37		

N 1126.

Water level, in feet above mean sea level, 1941

Jan. 4	56.82	Apr. 5	57.45	July 5	57.22	Oct. 4	56.50
11	56.65	12	57.41	12	57.29	11	56.42
18	56.76	19	57.39	19	57.26	18	56.32
25	56.78	26	57.37	26	57.18	25	56.21
Feb. 1	56.75	May 3	57.36	Aug. 2	57.11	Nov. 1	56.13
8	57.02	10	57.34	9	57.05	8	56.06
15	57.40	17	57.26	16	56.98	15	55.97
22	57.46	24	57.20	23	56.89	22	55.84
Mar. 1	57.51	31	57.16	30	57.01	29	55.78
8	57.44	June 7	57.18	Sept. 6	56.91	Dec. 6	55.67
15	57.40	14	57.17	13	56.79	13	55.57
22	57.49	21	57.29	20	56.68	20	55.66
29	57.49	28	57.19	27	56.59	27	55.58

N 1132.

Water level, in feet above mean sea level, 1941

Jan. 4	7.89	Apr. 19	8.30	July 19	7.87	Oct. 11	6.99
11	7.86	26	8.01	26	7.65	18	6.77
18	7.97	May 3	7.85	Aug. 2	7.50	25	6.59
25	7.99	10	7.92	9	7.21	Nov. 1	6.57
Feb. 1	8.06	17	7.81	16	7.14	8	6.65
8	8.24	24	7.62	23	7.14	15	6.64
15	8.47	31	7.50	30	7.23	22	6.56
22	8.26	June 7	7.67	Sept. 6	7.17	29	6.63
Mar. 1	8.16	14	7.49	13	7.26	Dec. 6	6.62
8	8.09	21	8.14	20	7.15	13	6.41
15	8.29	28	7.87	27	7.19	20	6.94
22	8.39	July 5	7.86	Oct. 4	7.09	27	6.93
Apr. 12	8.44	12	8.06				

N 1140.

Water level, in feet above mean sea level, 1941

Jan. 4	59.75	Apr. 5	60.86	July 5	59.87	Oct. 4	59.13
11	59.72	12	60.92	12	59.93	11	58.96
18	59.71	19	60.93	19	60.00	18	58.91
25	59.81	26	60.86	26	60.00	25	58.87
Feb. 1	59.84	May 3	60.79	Aug. 2	59.97	Nov. 1	58.80
8	59.87	10	60.69	9	59.95	8	58.82
15	60.18	17	60.61	16	59.84	15	58.79
22	60.39	24	60.50	23	59.76	22	58.76
Mar. 1	60.51	31	60.38	30	59.73	29	58.73
8	60.58	June 7	60.25	Sept. 6	59.73	Dec. 6	58.68
15	60.63	14	60.18	13	59.66	13	58.63
22	60.73	21	60.12	20	59.54	20	58.61
29	60.79	28	59.98	27	59.34	27	58.57

Nassau County--Continued

N 1147.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	17.35	Apr. 5	18.03	July 5	17.89	Oct. 4	16.87
11	17.39	12	18.10	12	17.93	11	16.86
18	17.33	19	18.09	19	17.80	18	16.78
25	17.48	26	18.02	26	17.68	25	16.74
Feb. 1	17.54	May 3	17.92	Aug. 2	17.61	Nov. 1	16.69
8	17.91	10	17.87	9	17.50	8	16.80
15	18.04	17	17.81	16	17.39	15	16.73
22	17.91	24	17.71	23	17.31	22	16.68
Mar. 1	17.80	31	17.63	30	17.32	29	16.69
8	17.77	June 7	17.66	Sept. 6	17.22	Dec. 6	16.65
15	17.96	14	17.78	13	17.12	13	16.62
22	18.13	21	18.02	20	17.02	20	17.13
29	18.13	28	17.89	27	16.93	27	17.15

N 1160.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	64.76	Apr. 5	65.69	July 5	65.14	Oct. 4	64.21
11	64.70	12	65.67	12	65.14	11	64.13
18	64.89	19	65.65	19	65.08	18	64.01
25	65.00	26	65.54	26	65.01	25	63.92
Feb. 1	64.92	May 3	65.46	Aug. 2	64.93	Nov. 1	63.84
8	65.23	10	65.40	9	64.85	8	63.81
15	65.71	17	65.33	16	64.75	15	63.71
22	65.75	24	65.19	23	64.66	22	63.60
Mar. 1	65.59	31	65.15	30	64.78	29	63.55
8	65.56	June 7	65.16	Sept. 6	64.65	Dec. 6	63.47
15	65.54	14	65.11	13	64.54	13	63.38
22	65.82	21	65.36	20	64.42	20	63.73
29	65.79	28	65.28	27	64.31	27	63.74

N 1167.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	10.94	Apr. 5	11.53	July 5	10.92	Oct. 4	9.99
11	10.97	12	11.63	12	10.98	11	9.97
18	11.05	19	11.62	19	10.89	18	9.89
25	11.11	26	11.53	26	10.78	25	9.84
Feb. 1	11.23	May 3	11.41	Aug. 2	10.68	Nov. 1	9.77
8	11.38	10	11.36	9	10.57	8	9.82
15	11.61	17	11.26	16	10.47	15	9.76
22	11.53	24	11.10	23	10.39	22	9.71
Mar. 1	11.38	31	10.95	30	10.42	29	9.71
8	11.32	June 7	10.92	Sept. 6	10.32	Dec. 6	9.67
15	11.52	14	10.94	13	10.24	13	9.63
22	11.66	21	11.04	20	10.13	20	10.04
29	11.65	28	10.91	27	10.05	27	10.09

N 1174. Nassau County Department of Public Works. On south side of Chicken Valley Road about 0.8 mile west of Hegemans Lane, Old Brookville. Diameter $2\frac{1}{2}$ inches, measured depth 60.1 feet below measuring point. Measuring point, top of pipe, 0.3 foot above land surface and 112.92 feet above mean sea level. Water level Nov. 1, 1940, 39.03 feet below measuring point and 73.89 feet above mean sea level.

Water level, in feet above mean sea level, 1940-1941

Date	Water level	Date	Water level	Date	Water level
Nov. 1, 1940	73.89	Mar. 28, 1941	73.29	Aug. 29, 1941	72.56
29	73.76	May 5	73.20	Sept.29	72.29
Dec. 27	73.49	June 2	73.06	Oct. 31	72.02
Jan. 31, 1941	73.18	30	72.96	Dec. 1	71.69
Feb. 28	73.34	Aug. 1	72.77		

Nassau County--Continued

N 1175. Nassau County Department of Public Works. About 0.8 mile southwest of Cedar Swamp Road and about 0.4 mile southeast of North Hempstead Turnpike, Old Westbury. Diameter 4 inches, measured depth 158.3 feet below measuring point. Measuring point, top of coupling, 0.7 foot above land surface and 176.99 feet above mean sea level. Water level Nov. 1, 1940, 94.97 feet below measuring point and 82.02 feet above mean sea level.

Water level, in feet above mean sea level, 1940-1941

Date	Water level	Date	Water level	Date	Water level
Nov. 1, 1940	82.02	Mar. 28, 1941	81.15	Aug. 29, 1941	80.39
29	81.99	May 5	80.96	Sept.29	80.07
Dec. 27	81.66	June 2	80.77	Oct. 31	79.97
Jan. 31, 1941	81.24	30	80.72	Dec. 1	79.60
Feb. 28	81.36	Aug. 1	80.56		

N 1176. Nassau County Department of Public Works. On northeast side of Post Avenue at intersection of Old Westbury-Wheatley Road, Old Westbury. Diameter 4 inches, measured depth 197.6 feet below measuring point. Measuring point, top of coupling, 0.9 foot above land surface and 194.61 feet above mean sea level. Water level Nov. 1, 1940, 109.50 feet below measuring point and 85.11 feet above mean sea level.

Water level, in feet above mean sea level, 1940-1941

Nov. 1, 1940	85.11	Mar. 28, 1941	84.44	Aug. 29, 1941	83.04
29	85.15	May 5	84.13	Sept.29	82.61
Dec. 27	85.03	June 2	83.82	Oct. 31	83.15
Jan. 31, 1941	84.64	30	83.62	Dec. 1	82.67
Feb. 28	84.75	Aug. 1	83.40		

N 1177.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	85.13	May 5	84.81	Aug. 1	84.37	Oct. 31	83.92
Feb. 28	85.26	June 2	84.59	29	84.20	Dec. 1	83.54
Mar. 28	85.02	30	84.52	Sept.29	83.90		

N 1179.

Water level, in feet above mean sea level, 1941

Jan. 31	74.27	May 5	74.86	Aug. 1	74.06	Oct. 31	73.16
Feb. 28	75.17	June 2	74.59	29	73.80	Dec. 1	72.81
Mar. 28	75.11	30	74.32	Sept.29	73.52		

N 1180.

Water level, in feet above mean sea level, 1941

Jan. 4	66.99	Apr. 5	67.73	July 5	67.00	Oct. 4	66.26
11	66.94	12	67.68	12	66.98	11	66.22
18	67.38	19	67.62	19	66.92	18	66.12
25	67.25	26	67.53	26	66.86	25	66.04
Feb. 1	67.17	May 3	67.45	Aug. 2	66.84	Nov. 1	66.04
8	67.67	10	67.42	9	66.75	8	65.96
15	67.70	17	67.33	16	66.69	15	65.88
22	67.71	24	67.23	23	66.61	22	65.80
Mar. 1	67.60	31	67.15	30	66.68	29	65.76
8	67.62	June 7	67.11	Sept. 6	66.57	Dec. 6	65.68
15	67.80	14	67.18	13	66.48	13	65.62
22	67.91	21	67.14	20	66.41	20	65.94
29	67.82	28	67.02	27	66.31	27	65.84

Nassau County--Continued

N 1181.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	57.61	May 5	58.13	Aug. 1	57.44	Oct. 31	56.64
Feb. 28	58.32	June 2	57.81	29	57.26	Dec. 1	56.43
Mar. 28	58.38	30	57.63	Sept.29	56.94		

N 1182.

Water level, in feet above mean sea level, 1941

Jan. 31	50.13	May 5	50.86	Aug. 1	50.14	Oct. 31	49.22
Feb. 28	50.88	June 2	50.47	29	49.86	Dec. 1	49.06
Mar. 28	51.01	30	50.36	Sept.29	49.51		

N 1183.

Water level, in feet above mean sea level, 1941

Jan. 31	36.37	May 5	36.82	Aug. 1	36.16	Oct. 31	35.17
Feb. 28	36.89	June 2	36.40	29	35.82	Dec. 1	35.10
Mar. 28	37.10	30	36.58	Sept.29	35.38		

N 1184.

Water level, in feet above mean sea level, 1941

Jan. 31	22.27	May 5	22.18	Aug. 1	21.53	Oct. 31	20.69
Feb. 28	22.49	June 2	21.75	29	21.24	Dec. 1	20.80
Mar. 28	22.65	30	21.86	Sept.29	20.84		

N 1185.

Water level, in feet above mean sea level, 1941

Jan. 4	12.87	Apr. 5	13.27	July 5	12.37	Oct. 4	11.05
11	12.82	12	13.56	12	12.44	11	11.01
18	12.94	19	13.33	19	12.27	18	10.88
25	13.03	26	13.15	26	12.12	25	10.76
Feb. 1	13.11	May 3	12.98	Aug. 2	12.01	Nov. 1	10.67
8	13.66	10	12.92	9	11.83	8	10.82
15	13.70	17	12.75	16	11.64	15	10.69
22	13.43	24	12.39	23	11.53	22	10.60
Mar. 1	14.19	31	12.10	30	11.67	29	10.64
8	13.12	June 7	12.32	Sept. 6	11.48	Dec. 6	10.55
15	13.53	14	12.50	13	11.36	13	10.50
22	13.59	21	12.68	20	11.20	20	11.35
29	13.42	28	12.37	27	11.05	27	11.24

N 1186.

Water level, in feet above mean sea level, 1941

Jan. 31	5.57	May 5	4.93	Aug. 1	4.51	Oct. 31	3.65
Feb. 28	5.28	June 2	4.66	29	4.43	Dec. 1	3.79
Mar. 28	5.59	30	4.67	Sept.29	3.80		

N 1198.

Water level, in feet above mean sea level, 1941

Jan. 4	65.23	Mar. 15	65.97	May 24	65.81	Aug. 2	65.24
11	65.17	22	66.13	31	65.75	9	65.19
18	65.14	29	66.18	June 7	65.70	16	65.14
25	65.19	Apr. 5	66.15	14	65.60	23	65.06
Feb. 1	65.16	12	66.10	21	65.55	30	64.99
8	66.99	19	66.06	28	65.49	Sept. 6	64.94
15	66.51	26	65.97	July 5	65.46	13	64.84
22	66.30	May 3	65.93	12	65.40	20	64.79
Mar. 1	66.06	10	65.91	19	65.35	27	64.74
8	66.01	17	65.85	26	65.29	Oct. 4	64.68

Nassau County--Continued

N 1198.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 11	64.61	Nov. 1	64.32	Nov. 29	64.01	Dec. 20	63.77
18	64.50	8	64.25	Dec. 6	63.92	27	63.69
25	64.41	22	64.09	13	63.86		

N 1204.

Water level, in feet above mean sea level, 1941

Jan. 4	11.16	Apr. 5	11.20	July 5	11.07	Oct. 4	10.19
11	11.30	12	11.39	12	10.96	11	9.37
18	11.63	19	11.30	19	10.91	18	8.74
25	11.55	26	11.24	26	10.78	25	8.37
Feb. 1	11.28	May 3	10.95	Aug. 2	10.69	Nov. 1	8.07
8	11.77	10	11.27	9	10.64	8	7.91
15	9.93	17	11.20	16	10.45	15	7.72
22	10.32	24	11.00	23	10.29	22	7.60
Mar. 1	10.88	31	10.76	30	10.44	29	7.53
8	11.03	June 7	10.94	Sept. 6	10.21	Dec. 6	7.34
15	11.30	14	11.13	13	10.10	13	7.17
22	11.38	21	11.06	20	10.04	20	7.50
29	11.27	28	10.97	27	10.10	27	7.30

N 1216.

Water level, in feet above mean sea level, 1941

Jan. 4	64.20	Apr. 12	64.93	July 12	64.53	Oct. 11	63.79
11	64.12	19	64.92	19	64.52	18	63.67
18	64.14	26	64.74	26	64.44	25	63.59
Feb. 1	64.01	May 3	64.81	Aug. 2	64.43	Nov. 1	63.61
8	64.24	10	64.83	9	64.39	8	63.39
15	64.68	17	64.80	16	64.35	15	63.26
22	64.79	24	64.73	23	64.30	22	63.17
Mar. 1	64.79	31	64.65	30	64.26	29	63.05
8	64.81	June 7	64.63	Sept. 6	64.22	Dec. 6	62.97
15	64.80	14	64.62	13	64.13	13	62.96
22	64.98	21	64.64	20	64.05	20	62.80
29	65.01	28	64.60	27	63.98	27	62.71
Apr. 5	64.97	July 5	64.55	Oct. 4	63.88		

N 1222.

Water level, in feet above mean sea level, 1941

Jan. 4	7.55	Apr. 5	8.98	July 5	7.75	Oct. 4	2.98
11	8.06	12	9.04	12	7.13	11	2.55
18	6.70	19	9.05	19	5.95	18	2.22
25	6.74	26	9.00	26	4.97	25	1.93
Feb. 1	7.37	May 3	8.96	Aug. 2	4.18	Nov. 1	1.71
8	8.75	10	9.02	9	3.57	8	1.61
15	9.01	17	8.99	16	3.07	15	1.51
22	8.99	24	8.85	23	2.64	22	1.43
Mar. 1	8.93	31	8.48	30	2.34	29	1.39
8	8.99	June 7	8.52	Sept. 6	2.90	Dec. 6	1.34
15	9.11	14	8.93	13	3.79	13	1.28
22	9.11	21	8.93	20	4.37	20	1.55
29	9.05	28	8.78	27	3.41	27	1.47

N 1234.

Water level, in feet above mean sea level, 1941

Jan. 4	61.26	Feb. 1	60.96	Mar. 1	61.92	Mar. 29	62.05
11	61.11	8	61.15	8	62.00	Apr. 5	62.07
18	61.07	15	61.54	15	61.91	12	61.97
25	61.05	22	61.77	22	61.96	19	62.03

Nassau County--Continued

N 1234.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 26	62.00	June 28	61.70	Aug. 30	61.18	Nov. 1	60.38
May 3	61.98	July 5	61.71	Sept. 6	61.12	8	60.19
10	62.00	12	61.60	13	60.97	15	60.12
17	62.05	19	61.59	20	60.86	22	59.94
24	61.88	26	61.51	27	60.77	29	59.93
31	61.78	Aug. 2	61.44	Oct. 4	60.74	Dec. 6	59.78
June 7	61.73	9	61.41	11	60.55	13	59.82
14	61.75	16	61.37	18	60.54	20	59.59
21	61.69	23	61.25	25	60.39	27	59.50

N 1240.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	+7.12	Apr. 5	+10.49	July 5	+7.22	Oct. 4	+1.78
11	+7.04	12	+10.54	12	+6.63	11	+1.08
18	+6.26	19	+10.59	19	+4.56	18	+.68
25	+6.20	26	+10.53	26	+3.27	25	+.25
Feb. 1	+8.37	May 3	+10.33	Aug. 2	+2.36	Nov. 1	-.07
8	+9.37	10	+10.53	9	+1.59	8	-.29
15	+10.37	17	+10.47	16	+1.15	15	-.53
22	+10.50	24	+10.36	23	+.67	22	-.76
Mar. 1	+10.43	31	+9.13	30	+.31	29	-.87
8	+10.51	June 7	+9.75	Sept. 6	+3.04	Dec. 6	-.95
15	+10.56	14	+10.33	13	+4.35	13	-1.06
22	+10.57	21	+10.58	20	+3.99	20	-.90
29	+10.56	28	+9.89	27	+1.97	27	-.86

N 1242.

Water level, in feet above mean sea level, 1941

Jan. 31	27.02	May 5	27.00	Aug. 1	26.83	Oct. 31	26.66
Feb. 28	27.05	June 2	26.92	29	26.76	Dec. 1	26.61
Mar. 28	27.03	30	26.92	Sept.29	26.65		

N 1243.

Water level, in feet above mean sea level, 1941

Jan. 31	57.11	May 5	56.94	Aug. 1	56.53	Oct. 31	56.02
Feb. 28	57.18	June 2	56.79	29	56.37	Dec. 1	55.96
Mar. 28	57.09	30	56.73	Sept.29	56.16		

N 1244.

Water level, in feet above mean sea level, 1941

Jan. 31	75.38	May 5	74.67	Aug. 1	74.18	Oct. 31	73.68
Feb. 28	75.17	June 2	74.49	29	74.01	Dec. 1	73.49
Mar. 28	74.99	30	74.33	Sept.29	73.86		

N 1245.

Water level, in feet above mean sea level, 1941

Jan. 31	80.21	May 5	79.53	Aug. 1	78.90	Oct. 31	78.50
Feb. 28	80.14	June 2	79.21	29	78.73	Dec. 1	78.19
Mar. 28	79.86	30	79.09	Sept.29	78.50		

N 1246.

Water level, in feet above mean sea level, 1941

Jan. 31	80.49	May 5	80.03	Aug. 1	79.54	Oct. 31	79.15
Feb. 28	80.52	June 2	79.77	29	79.41	Dec. 1	78.80
Mar. 28	80.27	30	79.69	Sept.29	79.17		

Nassau County--Continued

N 1247.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 31	73.12	May 5	73.04	Aug. 1	72.69	Oct. 31	72.08
Feb. 28	73.05	June 2	72.88	29	72.42	Dec. 1	71.65
Mar. 28	72.99	30	72.78	Sept.29	72.30		

N 1248.

Water level, in feet above mean sea level, 1941

Jan. 4	59.42	Apr. 5	60.48	July 5	60.28	Oct. 4	58.82
11	59.40	12	60.49	12	60.10	11	58.70
18	59.48	19	60.61	19	60.02	18	58.52
25	59.53	26	60.59	26	59.91	25	58.45
Feb. 1	59.62	May 3	60.52	Aug. 2	59.82	Nov. 1	58.36
8	59.83	10	60.42	9	59.71	8	58.25
15	60.44	17	60.31	16	59.58	15	58.14
22	60.60	24	60.21	23	59.47	22	58.05
Mar. 1	60.51	31	60.07	30	59.37	29	57.95
8	60.38	June 7	59.93	Sept. 6	59.30	Dec. 6	57.86
15	60.26	14	59.98	13	59.20	13	57.75
22	60.37	21	60.14	20	59.07	20	57.73
29	60.47	28	60.26	27	58.96	27	57.72

N 1249.

Water level, in feet above mean sea level, 1941

Jan. 31	52.51	May 5	53.40	Aug. 1	52.76	Oct. 31	51.12
Feb. 28	53.25	June 2	52.98	29	52.30	Dec. 1	50.72
Mar. 28	53.54	30	53.19	Sept.29	51.68		

N 1250.

Water level, in feet above mean sea level, 1941

Jan. 31	45.31	May 5	46.11	Aug. 1	45.50	Oct. 31	43.81
Feb. 28	45.97	June 2	45.63	29	44.99	Dec. 1	43.45
Mar. 28	46.29	30	45.98	Sept.29	44.31		

N 1251.

Water level, in feet above mean sea level, 1941

Jan. 31	37.63	May 5	38.34	Aug. 1	37.88	Oct. 31	36.00
Feb. 28	38.20	June 2	37.98	29	37.30	Dec. 1	35.61
Mar. 28	38.60	30	38.46	Sept.29	36.56		

N 1252.

Water level, in feet above mean sea level, 1941

Jan. 31	24.66	May 5	25.18	Aug. 1	24.72	Oct. 31	22.90
Feb. 28	25.07	June 2	24.95	29	24.15	Dec. 1	22.57
Mar. 28	25.33	30	25.22	Sept.29	23.40		

N 1253.

Water level, in feet above mean sea level, 1941

Jan. 4	14.87	Mar. 1	15.40	Apr. 26	15.61	June 21	15.45
11	14.69	8	15.42	May 3	15.52	28	15.35
18	14.73	15	15.63	10	15.48	July 5	15.12
25	14.66	22	15.72	17	15.43	12	14.90
Feb. 1	14.76	29	15.69	24	15.32	19	14.61
8	15.32	Apr. 5	15.57	31	15.15	26	14.24
15	15.61	12	15.67	June 7	15.09	Aug. 2	13.92
22	15.54	19	15.72	14	15.28	9	13.60

Nassau County--Continued

N 1253.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 16	13.27	Sept.20	12.81	Oct. 25	12.05	Nov. 29	11.49
23	12.99	27	12.65	Nov. 1	11.85	Dec. 6	11.40
30	12.80	Oct. 4	12.49	8	11.76	13	11.32
Sept. 6	12.67	11	12.33	15	11.64	20	11.68
13	12.73	18	12.17	22	11.54	27	11.64

N 1254.

Water level, in feet above mean sea level, 1941

Jan. 31	3.58	May 5	3.57	Aug. 1	3.37	Oct. 31	2.73
Feb. 28	3.51	June 2	3.44	29	2.92	Dec. 1	2.60
Mar. 28	3.55	30	3.57	Sept.29	2.86		

N 1255.

Water level, in feet above mean sea level, 1941

Jan. 4	60.11	Apr. 5	61.17	July 5	60.57	Oct. 4	59.49
11	60.07	12	61.23	12	60.60	11	59.41
18	60.18	19	61.20	19	60.58	18	59.33
25	60.23	26	61.09	26	60.42	25	59.13
Feb. 1	60.22	May 3	60.98	Aug. 2	60.34	Nov. 1	59.15
8	60.71	10	60.91	9	60.21	8	59.07
15	61.20	17	60.81	16	60.13	15	58.98
22	61.19	24	60.59	23	60.03	22	58.88
Mar. 1	61.06	31	60.46	30	60.12	29	58.79
8	61.02	June 7	60.48	Sept. 6	60.00	Dec. 6	58.71
15	61.04	14	60.55	13	59.88	13	58.64
22	61.28	21	60.75	20	59.75	20	59.08
29	61.25	28	60.55	27	59.62	27	59.05

N 1256.

Water level, in feet above mean sea level, 1941

Jan. 4	76.76	Apr. 5	77.10	July 5	76.67	Oct. 4	75.99
11	76.69	12	77.06	12	76.65	11	75.91
18	76.65	19	77.08	19	76.63	18	75.83
25	76.59	26	77.03	26	76.58	25	75.75
Feb. 1	76.58	May 3	77.01	Aug. 2	76.52	Nov. 1	75.71
8	76.60	10	76.98	9	76.49	8	75.60
15	77.52	17	76.97	16	76.44	15	75.51
22	77.41	24	76.88	23	76.36	22	75.45
Mar. 1	77.35	31	76.79	30	76.31	29	75.35
8	77.34	June 7	76.73	Sept. 6	76.29	Dec. 6	75.28
15	77.11	14	76.68	13	76.20	13	75.19
22	77.14	21	76.74	20	76.13	20	75.15
29	77.18	28	76.75	27	76.06	27	75.08

N 1257.

Water level, in feet above mean sea level, 1941

Jan. 4	7.41	Apr. 5	7.96	July 5	7.32	Oct. 4	6.00
11	7.40	12	8.24	12	7.44	11	6.01
18	7.52	19	8.06	19	7.23	18	5.93
25	7.60	26	7.85	26	7.03	25	5.89
Feb. 1	7.69	May 3	7.67	Aug. 2	6.90	Nov. 1	5.86
8	8.12	10	7.58	9	6.74	8	6.07
15	8.40	17	7.47	16	6.59	15	6.02
22	8.11	24	7.26	23	6.49	22	5.90
Mar. 1	7.91	31	7.08	30	6.60	29	5.98
8	7.75	June 7	7.08	Sept. 6	6.42	Dec. 6	5.91
15	8.15	14	7.23	13	6.31	13	5.83
22	8.36	21	7.67	20	6.18	20	6.65
29	8.21	28	7.36	27	6.08	27	6.65

Nassau County--Continued

N 1258.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	36.43	Apr. 5	37.46	July 5	37.31	Oct. 4	35.48
11	36.49	12	37.68	12	37.22	11	35.37
18	36.55	19	37.62	19	37.11	18	35.26
25	36.64	26	37.46	26	36.97	25	35.17
Feb. 1	36.72	May 3	37.32	Aug. 2	36.86	Nov. 1	35.08
8	37.15	10	37.23	9	36.71	8	35.01
15	37.52	17	37.17	16	36.55	15	34.92
22	37.36	24	37.08	23	36.40	22	34.83
Mar. 1	37.19	31	36.97	30	36.25	29	34.78
8	37.11	June 7	36.98	Sept. 6	36.13	Dec. 6	34.70
15	37.23	14	37.26	13	35.96	13	34.62
22	37.62	21	37.65	20	35.78	20	35.07
29	37.56	28	37.47	27	35.61	27	35.09

N 1259.

Water level, in feet above mean sea level, 1941

Jan. 4	51.16	Apr. 5	52.35	July 5	51.90	Oct. 4	50.92
11	51.13	12	52.30	12	51.88	11	50.81
18	51.16	19	52.32	19	51.84	18	50.72
25	51.24	26	52.32	26	51.77	25	50.62
Feb. 1	51.28	May 3	52.33	Aug. 2	51.71	Nov. 1	50.52
8	51.48	10	52.29	9	51.65	8	50.42
15	52.08	17	52.23	16	51.57	15	50.33
22	52.23	24	52.12	23	51.48	22	50.23
Mar. 1	52.20	31	52.04	30	51.40	29	50.14
8	52.21	June 7	51.96	Sept. 6	51.32	Dec. 6	50.06
15	52.17	14	51.93	13	51.21	13	49.96
22	52.32	21	51.96	20	51.12	20	49.92
29	52.37	28	51.93	27	51.01	27	49.87

N 1260.

Water level, in feet above mean sea level, 1941

Jan. 4	20.50	Apr. 5	21.42	July 5	20.95	Oct. 4	18.32
11	20.58	12	21.67	12	20.87	11	18.22
18	20.58	19	21.61	19	20.71	18	18.13
25	20.56	26	21.40	26	20.49	25	18.01
Feb. 1	20.65	May 3	21.24	Aug. 2	20.25	Nov. 1	17.89
8	20.85	10	21.13	9	20.00	8	17.81
15	21.50	17	21.04	16	19.72	15	17.73
22	21.29	24	20.93	23	19.45	22	17.63
Mar. 1	21.13	31	20.82	30	19.23	29	17.56
8	21.04	June 7	20.74	Sept. 6	19.01	Dec. 6	17.47
15	21.16	14	20.83	13	18.78	13	17.38
22	21.54	21	21.27	20	18.59	20	17.69
29	21.56	28	21.13	27	18.45	27	17.66

N 1262.

Water level, in feet above mean sea level, 1941

Jan. 4	34.41	Mar. 15	35.05	May 24	34.53	Aug. 2	34.45
11	34.27	22	35.05	31	34.39	9	34.15
18	34.57	29	34.97	June 7	34.60	16	34.14
25	34.63	Apr. 5	34.90	14	35.08	23	34.02
Feb. 1	34.45	12	34.92	21	35.14	30	34.08
8	35.86	19	34.87	28	34.49	Sept. 6	34.01
15	35.04	26	34.84	July 5	34.67	13	33.85
22	34.90	May 3	34.77	12	34.57	20	33.72
Mar. 1	34.79	10	34.80	19	34.48	27	33.64
8	34.83	17	34.53	26	34.31	Oct. 4	33.79

Nassau County--Continued

N 1262.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 11	33.78	Nov. 1	33.82	Nov. 22	33.48	Dec. 13	33.39
18	33.61	8	33.74	29	33.50	20	33.78
25	33.55	15	33.55	Dec. 6	33.49	27	33.70

N 1263.

Water level, in feet above mean sea level, 1941

Jan. 4	49.45	Apr. 5	50.79	July 5	50.17	Oct. 4	49.05
11	49.42	12	50.78	12	50.12	11	48.95
18	49.60	19	50.75	19	50.07	18	48.85
25	49.55	26	50.72	26	49.99	25	48.76
Feb. 1	49.61	May 3	50.67	Aug. 2	49.93	Nov. 1	48.66
8	50.82	10	50.62	9	49.84	8	48.57
15	50.67	17	50.56	16	49.75	15	48.48
22	50.69	24	50.45	23	49.64	22	48.38
Mar. 1	50.63	31	50.35	30	49.56	29	48.29
8	50.62	June 7	50.26	Sept. 6	49.47	Dec. 6	48.21
15	50.74	14	50.46	13	49.36	13	48.11
22	50.87	21	50.31	20	49.26	20	48.21
29	50.86	28	50.22	27	49.16	27	48.10

N 1264.

Water level, in feet above mean sea level, 1941

Jan. 4	7.94	Apr. 5	8.10	July 5	7.91	Oct. 4	6.85
11	8.03	12	8.27	12	7.79	11	6.68
18	8.36	19	8.11	19	7.60	18	5.22
25	8.40	26	8.04	26	7.42	25	4.92
Feb. 1	8.17	May 3	7.77	Aug. 2	7.35	Nov. 1	4.68
8	8.99	10	8.04	9	7.09	8	5.35
15	7.54	17	7.95	16	6.95	15	5.46
22	7.37	24	7.75	23	6.82	22	4.92
Mar. 1	7.71	31	7.50	30	7.09	29	4.70
8	7.97	June 7	7.84	Sept. 6	6.75	Dec. 6	4.41
15	8.54	14	8.40	13	6.84	13	4.20
22	8.25	21	8.08	20	6.82	20	4.88
29	8.16	28	7.84	27	6.66	27	4.60

N 1265. Measuring point raised 0.02 foot June 27, 1941. New measuring point, top of pipe, about level with land surface and 5.87 feet above mean sea level. Water level June 30, 1941, 2.95 feet below measuring point and 2.92 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level
Jan. 2	3.30	Aug. 29	3.15	Oct. 31	2.45
June 30	2.92	Sept.30	2.77	Dec. 1	2.43
July 31	3.07				

N 1266. Measuring point raised 0.01 foot June 27, 1941. New measuring point, top of pipe, about level with land surface and 5.83 feet above mean sea level. Water level June 30, 1941, 1.04 feet below measuring point and 4.79 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	5.08	Mar. 31	5.15	Aug. 29	4.76	Oct. 31	3.73
31	5.12	June 30	4.79	Sept.30	4.38	Dec. 1	3.72
Mar. 3	5.13	July 31	4.85				

Nassau County--Continued

N 1269.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	7.67	Mar. 31	8.00	June 30	6.98	Sept.30	5.45
31	7.99	May 5	7.42	July 31	6.73	Oct. 31	4.37
Mar. 3	7.71	June 3	6.90	Aug. 29	5.85	Dec. 1	4.12

N 1270. Measurements discontinued Oct. 31, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	8.66	Mar. 31	8.79	June 30	8.26	Sept.30	5.95
31	8.83	May 5	8.59	July 31	7.86	Oct. 31	5.18
Mar. 3	8.72	June 3	8.27	Aug. 29	6.66		

N 1271.

Water level, in feet above mean sea level, 1941

Jan. 2	2.49	Mar. 31	2.39	June 30	1.68	Sept.30	1.21
31	2.58	May 5	1.92	July 31	1.73	Oct. 31	1.36
Mar. 3	2.17	June 3	1.76	Aug. 29	1.90	Dec. 1	1.73

N 1273.

Water level, in feet above mean sea level, 1941

Jan. 2	6.48	Mar. 31	6.96	June 30	6.41	Sept.30	5.36
31	6.92	May 5	6.68	July 31	6.10	Oct. 31	5.12
Mar. 3	6.74	June 3	6.34	Aug. 29	5.91	Dec. 1	4.92

N 1274. Measurements discontinued Oct. 31, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	6.50	Mar. 31	7.10	June 30	6.52	Sept.30	5.38
31	6.93	May 5	6.80	July 31	6.14	Oct. 31	5.14
Mar. 3	7.20	June 3	6.40	Aug. 29	5.92		

N 1275.

Water level, in feet above mean sea level, 1941

Jan. 2	3.09	Mar. 31	2.92	June 30	2.61	Sept.30	1.89
31	3.28	May 5	2.61	July 31	2.34	Oct. 31	1.89
Mar. 3	2.74	June 3	2.31	Aug. 29	2.25	Dec. 1	2.07

N 1276. Measurements discontinued Dec. 1,1941.

Water level, in feet above mean sea level, 1941

Jan. 2	3.09	Mar. 31	2.94	June 30	2.63	Sept.30	1.92
31	3.31	May 5	2.64	July 31	2.35	Dec. 1	2.08
Mar. 3	2.75	June 3	2.33	Aug. 29	2.30		

N 1278.

Water level, in feet above mean sea level, 1941

Jan. 2	6.34	Mar. 31	6.68	June 30	6.37	Sept.30	5.05
31	6.62	May 5	6.37	July 31	5.91	Oct. 31	4.89
Mar. 3	6.38	June 3	6.09	Aug. 29	5.54	Dec. 1	4.88

N 1279. Measurements discontinued Dec. 1, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	6.36	Mar. 31	6.69	June 30	6.38	Sept.30	5.06
31	6.63	May 5	6.40	July 31	5.99	Oct. 31	4.89
Mar. 3	6.47	June 3	6.11	Aug. 29	5.56	Dec. 1	4.90

Nassau County--Continued

N 1280.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 2	8.64	Mar. 31	9.72	June 30	9.44	Sept.30	4.59
31	7.83	May 5	9.49	July 31	6.45	Oct. 31	3.41
Mar. 3	9.34	June 3	9.09	Aug. 29	4.43	Dec. 1	2.74

N 1281. Measurements discontinued Dec. 1, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	8.63	Mar. 31	9.69	June 30	9.42	Sept.30	4.54
31	7.80	May 5	9.46	July 31	6.42	Oct. 31	3.39
Mar. 3	9.32	June 3	9.06	Aug. 29	4.38	Dec. 1	2.68

N 1282.

Water level, in feet above mean sea level, 1941

Jan. 2	1.86	Mar. 31	1.16	June 30	1.60	Sept.30	1.08
31	1.56	May 5	1.47	July 31	1.41	Oct. 31	1.17
Mar. 3	1.58	June 3	1.08	Aug. 29	1.07	Dec. 1	1.34

N 1283. Measurements discontinued Dec. 1, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	1.87	Mar. 31	1.18	June 30	1.62	Sept.30	1.08
31	1.57	May 5	1.49	July 31	1.40	Oct. 31	1.19
Mar. 3	1.60	June 3	1.09	Aug. 29	1.08	Dec. 1	1.34

N 1285.

Water level, in feet above mean sea level, 1941

Jan. 2	3.11	Mar. 31	2.84	June 30	2.69	Sept.30	2.24
31	3.05	May 5	2.71	July 31	2.65	Oct. 31	2.32
Mar. 3	2.85	June 3	2.62	Aug. 29	2.66	Dec. 1	2.38

N 1286. Measurements discontinued Dec. 1, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	3.13	Mar. 31	2.86	June 30	2.69	Sept.30	2.25
31	3.06	May 5	2.73	July 31	2.65	Oct. 31	2.33
Mar. 3	2.86	June 3	2.63	Aug. 29	2.69	Dec. 1	2.41

N 1288.

Water level, in feet above mean sea level, 1941

Jan. 2	3.43	Mar. 31	3.30	June 30	3.06	Sept.30	2.39
31	3.66	May 5	3.07	July 31	2.75	Oct. 31	2.24
Mar. 3	3.14	June 3	2.78	Aug. 29	2.73	Dec. 1	2.24

N 1289. Measurements discontinued Dec. 1, 1941.

Water level, in feet above mean sea level, 1941

Jan. 2	3.47	Mar. 31	3.35	June 30	3.10	Sept.30	2.41
31	3.70	May 5	3.12	July 31	2.81	Oct. 31	2.28
Mar. 3	3.19	June 3	2.84	Aug. 29	2.77	Dec. 1	2.26

N 1290.

Water level, in feet above mean sea level, 1941

Jan. 2	3.76	Mar. 31	4.10	June 30	4.07	Sept.30	3.88
31	3.85	May 5	4.12	July 31	4.06	Oct. 31	3.77
Mar. 3	4.04	June 3	4.07	Aug. 29	3.97	Dec. 1	3.72

Nassau County--Continued

N 1613.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	23.05	Apr. 5	23.56	July 5	23.15	Oct. 4	22.23
11	22.96	12	23.46	12	23.26	11	22.10
18	23.04	19	23.49	19	23.15	18	22.01
25	23.00	26	23.41	26	22.85	25	21.92
Feb. 1	22.98	May 3	23.32	Aug. 2	22.85	Nov. 1	21.95
8	23.49	10	23.31	9	22.62	8	21.92
15	23.65	17	23.21	16	22.72	15	21.86
22	23.50	24	23.07	23	22.63	22	21.76
Mar. 1	23.48	31	22.99	30	22.68	29	21.78
8	23.50	June 7	23.03	Sept. 6	22.53	Dec. 6	21.73
15	23.42	14	23.05	13	22.38	13	21.80
22	23.53	21	23.12	20	22.26	20	22.02
29	23.54	28	23.07	27	22.19	27	22.01

N 1614.

Water level, in feet above mean sea level, 1941

Jan. 4	67.71	Apr. 5	67.92	July 5	68.31	Oct. 4	67.82
11	67.69	12	67.93	12	68.42	11	67.76
18	67.68	19	67.95	19	68.39	18	67.60
25	67.70	26	67.94	26	68.43	25	67.52
Feb. 1	67.76	May 3	67.94	Aug. 2	68.40	Nov. 1	67.52
8	68.02	10	67.94	9	68.42	8	67.46
15	68.08	17	67.96	16	68.32	15	67.31
22	68.10	24	67.96	23	68.24	22	67.19
Mar. 1	68.09	31	67.92	30	68.33	29	67.10
8	68.15	June 7	67.99	Sept. 6	68.32	Dec. 6	67.03
15	67.99	14	68.16	13	68.21	13	67.01
22	68.00	21	68.29	20	68.09	20	66.92
29	67.96	28	68.30	27	67.98	27	66.97

N 1615.

Water level, in feet above mean sea level, 1941

Jan. 31	43.57	May 5	44.41	Aug. 1	43.67	Oct. 31	42.48
Feb. 28	44.38	June 2	43.94	29	43.26	Dec. 1	42.29
Mar. 28	44.50	30	44.04	Sept. 29	42.82		

N 1616.

Water level, in feet above mean sea level, 1941

Jan. 4	81.49	Apr. 5	81.50	July 5	81.18	Oct. 4	80.53
11	81.38	12	81.43	12	81.15	11	80.44
18	81.36	19	81.45	19	81.12	18	80.37
25	81.22	26	81.41	26	81.07	25	80.31
Feb. 1	81.18	May 3	81.40	Aug. 2	81.02	Nov. 1	80.23
8	81.28	10	81.44	9	80.98	8	80.17
15	81.46	17	81.44	16	80.94	15	80.08
22	81.48	24	81.36	23	80.86	22	80.00
Mar. 1	81.50	31	81.31	30	80.83	29	79.93
8	81.54	June 7	81.30	Sept. 6	80.79	Dec. 6	79.85
15	81.44	14	81.34	13	80.70	13	79.76
22	81.49	21	81.26	20	80.63	20	79.71
29	81.54	28	81.22	27	80.57	27	79.63

N 1617.

Water level, in feet above mean sea level, 1941

Jan. 4	3.31	Feb. 1	3.47	Mar. 1	3.58	Mar. 29	3.59
11	3.34	8	3.49	8	3.57	Apr. 5	3.58
18	3.40	15	3.60	15	3.59	12	3.61
25	3.44	22	3.64	22	3.60	19	3.65

Nassau County--Continued

N 1617.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Apr. 26	3.63	June 28	3.58	Aug. 30	3.30	Nov. 1	2.88
May 3	3.64	July 5	3.58	Sept. 6	3.23	8	2.87
10	3.64	12	3.58	13	3.18	15	2.85
17	3.65	19	3.58	20	3.11	22	2.81
24	3.61	26	3.54	27	3.07	29	2.78
31	3.54	Aug. 2	3.49	Oct. 4	3.03	Dec. 6	2.74
June 7	3.51	9	3.47	11	3.00	13	2.71
14	3.51	16	3.42	18	2.96	20	2.68
21	3.56	23	3.35	25	2.92	27	2.69

N 1672.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	56.79	Apr. 5	58.26	July 5	57.22	Oct. 11	56.04
11	56.74	12	57.94	12	57.24	18	55.94
18	57.08	19	57.86	19	57.27	25	55.83
25	57.16	26	57.73	26	57.10	Nov. 1	56.08
Feb. 1	56.92	May 3	57.61	Aug. 2	56.99	8	55.71
8	58.40	10	57.50	9	56.89	15	55.65
15	58.22	17	57.42	16	56.78	22	55.55
22	57.87	24	57.27	23	56.67	29	55.50
Mar. 1	57.73	31	57.11	Sept. 6	56.68	Dec. 6	55.42
8	57.63	June 7	57.11	13	56.56	13	55.97
15	57.68	14	57.28	20	56.43	20	56.04
22	58.02	21	57.58	27	56.28	27	55.92
29	57.92	28	57.38	Oct. 4	56.15		

N 1682.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	42.64	Apr. 5	43.06	July 5	43.18	Oct. 4	42.46
11	42.60	12	43.10	12	43.16	11	42.38
18	42.56	19	43.12	19	43.11	18	42.29
25	42.56	26	43.15	26	43.06	25	42.19
Feb. 1	42.51	May 3	43.17	Aug. 2	42.92	Nov. 1	42.11
8	42.49	10	43.19	9	42.92	8	42.05
15	42.82	17	43.20	16	42.86	15	42.01
22	42.94	24	43.14	23	42.79	22	41.94
Mar. 1	43.04	31	43.10	30	42.76	29	41.88
8	42.98	June 7	43.08	Sept. 6	42.72	Dec. 6	41.82
15	42.97	14	43.10	13	42.68	13	41.85
22	43.01	21	43.18	20	42.61	20	41.72
29	43.04	28	43.21	27	42.53	27	41.70

N 1683.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	54.85	Apr. 5	55.42	July 5	55.28	Oct. 4	54.66
11	54.78	12	55.38	12	55.33	11	54.58
18	54.87	19	55.37	19	55.31	18	54.46
25	54.83	26	55.34	26	55.25	25	54.36
Feb. 1	54.77	May 3	55.33	Aug. 2	55.17	Nov. 1	54.30
8	55.57	10	55.31	9	55.12	8	54.22
15	55.38	17	55.27	16	55.07	15	54.12
22	55.44	24	55.20	23	54.99	22	54.02
Mar. 1	55.49	31	55.16	30	55.05	29	53.95
8	55.45	June 7	55.16	Sept. 6	55.01	Dec. 6	53.85
15	55.38	14	55.37	13	54.91	13	53.77
22	55.47	21	55.32	20	54.83	20	53.78
29	55.47	28	55.31	27	54.74	27	53.70

Nassau County--Continued

N 1684.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	56.88	Apr. 5	57.92	July 5	57.40	Oct. 4	56.79
11	56.84	12	57.91	12	57.44	11	56.63
18	56.83	19	57.88	19	57.48	18	56.49
25	56.95	26	57.81	26	57.44	25	56.36
Feb. 1	56.98	May 3	57.82	Aug. 2	57.39	Nov. 1	56.24
8	57.03	10	57.76	9	57.35	8	56.13
15	57.42	17	57.72	16	57.31	15	55.96
22	57.62	24	57.63	23	57.23	22	55.96
Mar. 1	57.73	31	57.52	30	57.17	29	55.88
8	57.72	June 7	57.42	Sept. 6	57.13	Dec. 6	55.80
15	57.72	14	57.36	13	57.08	13	55.71
22	57.86	21	57.39	20	57.00	20	55.65
29	57.92	28	57.39	27	56.92	27	55.60

N 1685 (replaces well N 66). Nassau County Department of Public Works. At municipal power plant on Sunrise Highway about 200 feet west of Long Beach Avenue, Freeport. Diameter 1¼ inches, measured depth 23.6 feet below measuring point. Measuring point, top of pipe, 0.5 foot above land surface and 20.60 feet above mean sea level. Water level Jan. 4, 1941, 10.37 feet below measuring point and 10.23 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	10.23	Apr. 5	9.88	July 5	9.74	Oct. 4	8.60
11	10.32	12	9.96	12	9.79	11	8.97
18	9.32	19	9.95	19	9.73	18	8.99
25	10.30	26	9.67	26	7.76	25	8.95
Feb. 1	10.30	May 3	10.25	Aug. 2	8.48	Nov. 8	8.89
8	10.64	10	10.16	9	8.50	15	8.88
15	10.45	17	7.47	16	9.51	22	8.95
22	9.13	24	7.03	23	9.52	29	8.85
Mar. 1	10.57	31	6.40	30	9.49	Dec. 6	8.68
8	10.09	June 7	9.19	Sept. 6	8.93	13	8.77
15	10.33	14	8.06	13	9.41	20	9.53
22	10.31	21	9.15	20	9.25	27	9.62
29	10.01	28	9.82	27	9.27		

Queens County

Q 268.

Lowest daily water level, in feet above mean sea level, 1941
(Record from Jan. 1 through May 2 based on recorder charts; record after May 2 taken from tape measurements)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	15.76	15.95	16.16	16.38	16.19	.....	.....	.....	.....	.....	15.38	.....
2	15.79	16.02	16.12	16.33	16.04	.....	.....	14.55	.....	.....	.....	.....
3	15.97	16.00	16.13	16.30	16.02	.....	.....	.....	.....	.....	.....	.....
4	16.02	15.94	16.01	16.27	.....	.....	.....	.....	.....	15.19	.....	.....
5	15.88	15.95	16.00	16.29	.....	.....	15.00	.....	.....	.....	.....	.....
6	15.74	15.94	15.98	16.47	.....	.....	.....	.....	15.18	.....	.....	15.44
7	15.74	16.00	15.96	16.47	.....	15.17	.....	.....	.....	.....	.....	.....
8	15.81	16.61	16.08	16.55	.....	.....	.....	.....	.....	.....	15.30	.....
9	15.88	16.49a	16.10	16.56	.....	.....	.....	14.58	.....	.....	.....	.....
10	15.92	16.40	.....	16.51	16.16	.....	.....	.....	.....	.....	.....	.....
11	15.96	16.46	.....	16.41	.....	.....	.....	.....	.....	15.06	.....	.....
12	15.96	16.49	.....	16.38	.....	.....	14.80	.....	.....	.....	.....	.....
13	15.76	16.46	.....	16.42	.....	.....	.....	.....	15.03	.....	.....	15.46
14	15.72	16.54	.....	16.54	.....	15.30	.....	.....	.....	.....	.....	.....
15	15.77	16.51a	16.38	16.52	.....	.....	.....	.....	.....	.....	15.40	.....
16	15.79	16.42	16.46	16.40	.....	.....	.....	14.58	.....	.....	.....	.....

a Estimated.

Queens County--Continued

Q 268.--Continued

Lowest daily water level, in feet above mean sea level, 1941
(Record from Jan. 1 through May 2 based on recorder charts; record after May 2 taken from tape measurements)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
17	16.08	16.42	16.50	16.40	16.27	.....	.....	.....	.....	.....	.....	.....
18	16.10	16.28	16.50	16.36	.....	.....	.....	.....	.....	15.16	.....	.....
19	16.05	16.28	a16.50	16.33	.....	.....	14.72	.....	.....	.....	.....	.....
20	15.94	16.30	.....	16.36	.....	.....	.....	.....	15.00	.....	.....	15.72
21	15.91	16.31	.....	16.24	.....	15.06	.....	.....	.....	.....	.....	.....
22	15.96	16.29	a16.40	16.15	.....	.....	.....	.....	.....	.....	15.21	.....
23	15.95	16.19	16.38	16.16	.....	.....	.....	14.66	.....	.....	.....	.....
24	15.92	16.16	16.45	16.23	16.03	.....	.....	.....	.....	.....	.....	.....
25	15.96	16.16	16.50	16.20	.....	.....	.....	.....	.....	15.25	.....	.....
26	15.92	16.13	16.43	16.20	.....	.....	14.67	.....	.....	.....	.....	.....
27	15.94	16.13	16.41	16.20	.....	.....	.....	.....	15.00	.....	.....	15.58
28	16.02	16.22	16.43	16.11	.....	15.11	.....	.....	.....	.....	.....	.....
29	16.06	.....	16.43	16.03	.....	.....	.....	.....	.....	.....	15.33	.....
30	16.05	.....	16.34	16.14	.....	.....	.....	15.26	.....	.....	.....	.....
31	15.98	.....	16.34	.....	15.16	.....	.....	.....	.....	.....	.....	.....

Q 273.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	....	5.84	5.45	5.25	5.32	5.11	4.96	4.88	4.78	4.45	4.76	4.27
2	....	5.83	5.35	5.29	5.33	5.22	4.94	4.85	4.67	4.38	4.83	4.28
3	....	5.70	5.35	5.21	5.31	5.22	4.86	4.80	4.60	4.38	4.67	4.27
4	....	5.60	5.37	5.17	5.33	5.24	4.89	4.80	4.60	4.50	4.58	4.27
5	....	5.55	5.27	5.18	5.48	5.36	4.88	4.82	4.65	4.54	4.54	4.29
6	5.41	5.52	5.20	5.34	5.57	5.22	4.86	4.74	4.79	4.45	4.54	4.39
7	5.35	5.53	5.18	5.25	5.60	5.18	4.91	4.67	4.73	4.45	4.67	4.30
8	5.36	5.65	5.23	5.24	5.69	5.21	5.03	4.68	4.62	4.46	4.52	4.29
9	5.42	5.40	a5.60	5.25	5.66	5.20	5.00	4.72	4.58	4.42	4.46	4.30
10	5.55	5.24	....	5.26	5.52	5.19	4.94	4.69	4.58	4.42	4.41	4.19
11	5.59	5.24	....	5.22	5.48	5.09	4.91	4.66	4.59	4.44	4.41	4.07
12	5.60	5.39	....	5.18	5.42	5.01	4.89	4.73	4.56	4.41	4.40	4.04
13	5.51	5.52	....	5.19	5.34	5.01	4.82	4.64	4.52	4.36	4.34	4.06
14	5.42	5.63	....	5.31	5.30	5.18	4.77	4.60	4.50	4.36	4.34	4.46
15	5.42	5.84	a5.28	5.40	5.28	5.24	4.79	4.60	4.54	4.48	4.35	4.26
16	5.42	5.86	5.31	5.33	5.31	5.23	4.83	4.67	4.62	4.40	4.37	4.25
17	5.65	5.87	5.37	5.33	5.36	5.17	4.86	4.65	4.58	4.33	4.19	4.23
18	a5.70	5.95	5.32	5.30	5.21	5.13	4.86	4.61	4.48	4.33	4.19	4.23
19	....	5.86	5.30	5.28	5.16	5.08	4.88	4.63	4.40	4.42	4.20	4.24
20	....	5.86	5.28	5.28	5.12	5.04	4.82	4.66	4.38	4.39	4.27	4.15
21	....	5.81	5.24	5.32	5.09	5.02	4.79	4.61	4.40	4.41	4.35	4.02
22	....	5.71	5.20	5.17	5.11	5.05	4.83	4.61	4.44	4.52	4.25	4.02
23	....	5.55	5.18	5.14	5.13	5.06	4.86	4.65	4.54	4.52	4.25	4.07
24	....	5.41	5.22	5.20	5.05	5.07	4.85	4.61	4.52	4.60	4.28	4.24
25	a5.78	5.41	5.35	5.24	5.00	4.99	4.85	4.61	4.51	4.65	4.24	4.26
26	5.71	5.34	5.33	5.24	5.03	4.94	4.85	4.77	4.46	4.61	4.29	4.17
27	5.71	5.33	5.29	5.29	5.09	4.97	4.77	4.72	4.38	4.62	4.38	4.14
28	5.79	5.38	5.29	5.32	5.04	4.98	4.79	4.64	4.37	4.71	4.27	4.12
29	5.88	....	5.35	5.24	5.06	5.00	4.80	4.61	4.38	4.60	4.27	4.08
30	5.96	....	5.27	5.26	5.04	4.98	4.81	4.63	4.36	4.60	4.35	4.04
31	5.95	....	5.24	....	5.06	....	4.88	4.72	....	4.68	....	4.04

a Estimated.

Queens County--Continued

Q 287.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	....	8.60	....	8.51	8.71	8.12	7.48	6.75	5.89	6.18	7.38	7.50
2	....	8.89	....	8.90	8.85	7.98	7.34	6.61	5.79	6.18	7.35	7.63
3	....	8.93	a8.77	8.79	8.84	7.89	7.25	6.52	5.73	6.23	7.30	7.48
4	a8.75	8.84	8.60	8.70	8.64	7.98	7.20	6.49	5.71	6.38	7.24	7.48
5	7.86	8.81	....	8.95	8.84	8.09	6.98	6.48	5.89	6.40	7.23	7.59
6	8.00	8.72	....	9.15	8.54	7.78	6.89	6.40	6.02	6.48	7.43	7.82
7	8.21	9.01	....	8.61	8.53	7.51	6.97	6.25	5.90	6.67	7.66	7.58
8	8.26	8.56	a9.65	8.49	8.49	7.61	6.96	6.22	5.79	6.66	7.37	7.67
9	8.45	8.18	8.79	8.41	8.58	7.55	6.95	6.30	5.86	6.54	7.47	7.34
10	8.38	8.14	8.14	8.28	8.42	7.56	6.88	6.28	5.90	6.85	7.28	7.46
11	8.54	8.23	8.31	8.17	8.39	7.58	6.91	6.23	6.08	6.46	7.47	7.34
12	8.75	8.14	8.25	8.00	8.40	7.49	7.01	6.52	6.16	6.70	7.28	7.36
13	7.99	8.23	8.24	8.00	8.36	7.52	6.96	6.37	6.20	6.78	7.28	7.79
14	7.77	8.64	8.09	8.26	8.35	7.73	6.89	6.22	6.28	6.80	7.19	7.32
15	7.75	8.67	8.04	8.39	8.40	7.92	7.05	6.32	6.13	6.83	7.20	6.99
16	7.95	8.26	8.36	8.43	8.50	8.10	7.24	6.43	6.18	6.53	7.05	7.03
17	8.30	8.53	8.20	8.50	8.76	7.93	7.30	6.21	6.18	6.50	6.98	7.28
18	8.32	8.59	....	8.54	8.53	7.98	7.23	6.25	6.09	6.48	6.98	7.30
19	8.03	8.41	8.00	8.60	8.34	7.84	7.10	6.24	6.06	6.48	6.89	7.23
20	7.80	8.28	8.13	8.64	8.36	7.75	6.83	6.11	5.94	6.47	7.04	7.23
21	8.00	8.40	8.49	8.43	8.26	7.77	6.84	5.96	5.83	6.59	7.15	7.15
22	8.25	8.72	8.38	8.18	8.32	7.78	6.82	5.89	5.82	6.61	7.07	7.21
23	8.08	8.67	8.35	8.16	8.35	7.75	6.77	5.95	6.06	6.77	7.40	7.52
24	8.13	8.34	8.39	8.36	8.35	7.87	6.62	5.88	6.14	6.54	7.09	a8.58
25	8.38	8.44	8.63	8.25	8.08	7.63	6.60	5.87	6.37	6.91	7.27	a8.25
26	8.28	8.18	8.30	8.34	7.98	7.44	6.64	6.02	6.25	7.00	7.34	a7.92
27	8.31	8.26	8.37	8.55	8.26	7.45	6.66	5.89	6.25	7.25	7.26	7.64
28	8.57	8.57	8.56	8.51	8.22	7.43	6.60	5.83	6.38	6.93	7.38	7.78
29	8.58	....	8.75	8.30	8.09	7.43	6.71	5.67	6.11	6.95	7.50	7.74
30	a8.53	....	8.59	8.39	8.00	7.48	6.62	5.84	6.37	7.10	7.49	7.80
31	8.45	....	8.33	....	7.98	....	6.72	5.91	....	7.17	....	7.81

Q 350. Measuring point raised 0.10 foot May 21, 1941. New measuring point, top of instrument shelf, 0.10 foot above top of 8-inch casing, 1.3 feet above land surface and 32.88 feet above mean sea level. Water level, May 22, 1941, 33.05 feet below measuring point and 0.17 foot below mean sea level.

Lowest daily water level, in feet, with reference to mean sea level, 1941
(Record from Jan. 4 through May 17, 1941 based on tape measurements; record after May 17 taken from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	+0.11	+0.51	.....	.....	-0.11	-0.61	-0.72	-0.58	-1.11	-1.73	-1.69
2	.....	.....	.....	.....	.....	+.12	-.91	-.81	-.72	-1.40	-1.65	-1.68
3	.....	.....	.....	.....	-.05	+.13	-.89	-.78	-.82	-1.35	-1.63	-1.60
4	+0.11	.....	.....	.....	.....	+.19	-.45	-1.01	-.70	a-1.10	-1.64	-1.61
5	.....	.....	.....	+.60	.....	+.38	-.15	-1.16	-.62	.....	-1.57	-1.61
6	.....	.....	.....	.....	.....	a+.38	-.06	-1.28	-.85	.....	-1.54	-1.69
7	.....	.....	.....	.....	.....	+.31	+.03	-1.27	-.89	.....	-1.55	-1.71
8	.....	+.64	+.70	.....	.....	+.30	+.07	-1.32	-.90	.....	-1.55	-1.68
9	.....	.....	.....	.....	.....	+.12	+.04	-1.41	-.90	.....	-1.50	-1.69
10	.....	.....	.....	.....	+.20	-.02	+.02	-1.22	-1.08	.....	-1.55	-1.65
11	.00	.....	.....	.....	.....	-.17	-.01	-1.28	-1.05	a-1.40	-1.53	-1.65
12	.....	.....	.....	+.01	.....	-.10	-.08	-1.00	-1.08	-1.39	-1.53	-1.68
13	.....	.....	.....	.....	.....	+.05	-.04	-.96	-1.08	-1.42	-1.54	-1.64
14	.....	.....	.....	.....	.....	+.28	-.03	-1.01	-1.08	-1.37	-1.56	-1.53
15	.....	+.77	+.65	.....	.....	+.39	-.08	-.93	-1.18	1.31	-1.60	-1.50
16	.....	.....	.....	.....	.....	+.23	-.08	a-.80	-1.36	-1.40	-1.61	-1.54
17	.....	.....	.....	.....	+.18	+.14	-.02	-.75	-1.42	-1.37	-1.65	-1.46

a Estimated.

Queens County--Continued

Q 350.--Continued

Lowest daily water level, in feet, with reference to mean sea level, 1941
(Record from Jan. 4 through May 17, 1941 based on tape measurements; record after May 17 taken from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
18	+.09	.....	.....	.....	.....	+.06	+.09	-.80	-1.41	-1.38	-1.63	-1.43
19	.....	.....	.....	+.33	.....	-.15	+.09	-.77	-1.37	-1.41	-1.70	-1.40
20	.....	.....	.....	.....	.....	-.49	+.12	-.60	-1.29	-1.44	-1.74	-1.46
21	.....	.....	.....	.....	.....	-.66	+.04	-.59	-1.24	-1.43	-1.72	-1.48
22	.....	+.38	+.60	.....	a-.17	-.69	-.04	-.66	-1.28	-1.44	-1.73	-1.47
23	.....	.....	.....	.....	-.31	-.64	-.23	-.74	-1.39	-1.41	-1.62	-1.51
24	.....	.....	.....	.....	-.24	-.68	-.30	-.76	-1.38	-1.43	-1.67	-1.42
25	+.05	.....	.....	.....	-.19	-.52	-.39	-.65	-1.37	-1.47	-1.59	a-1.49
26	.....	.....	.....	+.24	-.35	-.64	-.57	-.69	-1.37	-1.47	-1.62	.....
27	.....	.....	.....	.....	-.48	-.72	-.57	-.60	-1.41	-1.66	-1.60	a-1.48
28	.....	.....	.....	.....	-.33	-.99	-.66	-.44	-1.41	-1.69	-1.65	-1.46
29	.....	.....	+.63	.....	-.11	-.96	-.73	-.38	-1.31	-1.75	-1.66	-1.50
30	.....	.....	.....	.....	-.15	-.69	-.70	-.48	-1.22	-1.99	-1.67	-1.57
31	.....	.....	.....	.....	-.19	.....	-.57	-.49	.....	-2.00	.....	-1.62

Q 470.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.51	5.88	5.71	5.39	4.95	2.73	2.04	1.99	1.53	0.49	2.12	4.33
2	5.50	5.89	5.77	5.40	4.88	2.75	2.00	2.01	1.64	.51	2.20	4.34
3	5.50	5.91	5.76	5.39	4.81	2.77	1.95	2.06	1.66	.51	2.28	4.28
4	5.56	5.92	5.76	5.36	4.77	2.82	1.90	2.05	1.65	.55	2.31	4.24
5	5.59	5.89	5.71	5.36	4.77	2.88	1.89	2.05	1.57	.61	2.35	4.22
6	5.55	5.86	5.66	5.39	4.78	2.97	1.90	2.06	1.71	.71	2.35	4.21
7	5.51	5.85	5.60	5.44	4.79	3.02	1.93	2.12	1.80	.82	2.42	4.21
8	5.48	5.88	5.60	5.45	4.83	3.05	2.01	2.14	1.77	1.02	2.45	4.23
9	5.48	5.83	5.67	5.45	4.74	3.10	2.10	2.14	1.76	1.16	2.45	4.26
10	5.48	5.77	5.73	5.44	4.65	3.12	2.17	1.97	1.80	1.17	2.46	4.21
11	5.50	5.71	5.73	5.41	4.56	3.14	2.23	1.79	1.67	1.21	2.48	4.13
12	5.54	5.69	5.74	5.33	4.47	3.10	2.27	1.63	1.58	1.28	2.49	4.06
13	5.60	5.68	5.72	5.25	4.36	3.04	2.30	1.51	1.55	1.33	2.52	4.05
14	5.55	5.68	5.70	5.24	4.24	a3.03	2.33	1.45	1.48	1.39	2.62	4.15
15	5.51	5.72	5.69	5.24	4.15	....	2.37	1.41	1.44	1.51	2.60	4.24
16	5.50	5.74	5.69	5.23	4.08	....	2.41	1.40	1.38	1.60	2.59	4.26
17	5.53	5.73	5.69	5.21	4.03	....	2.48	1.41	1.31	1.62	2.57	4.29
18	5.60	5.75	5.61	5.16	3.94	....	2.52	1.42	1.17	1.62	2.57	4.29
19	5.62	5.75	5.53	5.13	3.86	....	2.54	1.41	1.03	1.66	2.80	4.27
20	5.61	5.72	5.50	5.12	3.80	....	a2.56	1.42	.90	1.78	3.12	4.27
21	5.60	5.71	5.47	5.11	3.73	a3.25	2.57	1.45	.89	1.84	3.45	4.23
22	5.60	5.72	5.43	5.04	3.64	3.14	2.58	1.46	.90	1.85	3.71	4.23
23	5.62	5.74	5.40	4.98	3.54	3.07	a2.56	1.45	.90	1.85	3.89	4.25
24	5.64	5.74	5.40	4.96	3.46	2.96	a2.49	1.44	.92	1.87	4.08	4.30
25	5.68	5.73	5.40	4.93	3.33	2.84	a2.43	1.44	.90	1.87	4.20	4.42
26	5.71	5.70	5.42	4.93	3.23	2.73	2.35	1.47	.85	1.88	4.27	4.44
27	5.72	5.68	5.43	4.93	3.07	2.58	2.23	1.58	.73	1.89	4.33	4.45
28	5.75	5.68	5.43	4.95	2.90	2.38	2.12	1.45	.63	1.94	4.33	4.47
29	5.79	....	5.44	4.98	2.79	2.20	2.04	1.38	.55	2.00	4.33	4.48
30	5.83	....	5.43	4.97	2.74	2.08	2.01	1.37	.49	2.02	4.33	4.48
31	5.86	....	5.40	....	2.73	....	1.99	1.41	....	2.07	....	4.42

a Estimated.

Queens County--Continued

Q 471.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	16.12	Apr. 5	16.27	July 5	15.11	Oct. 4	14.80
11	16.02	12	16.15	12	15.14	11	14.99
18	16.12	19	16.15	19	15.09	18	14.86
25	16.07	26	16.17	26	15.00	25	14.88
Feb. 1	15.89	May 3	16.16	Aug. 2	15.04	Nov. 1	14.99
8	16.21	10	15.87	9	15.39	8	14.91
15	16.29	17	15.77	16	15.09	15	14.85
22	16.22	24	15.87	23	15.05	22	15.79
Mar. 1	16.32	31	15.49	30	15.07	29	15.55
8	16.38	June 7	15.45	Sept. 6	15.33	Dec. 6	15.42
15	16.27	14	15.41	13	14.93	13	15.67
22	16.19	21	15.30	20	14.77	20	15.56
29	16.26	28	15.11	27	14.77	27	15.61

Q 503.

Water level, in feet above mean sea level, 1941

Date		Date		Date		Date	
Jan. 4	9.41	Apr. 5	9.32	July 5	8.88	Oct. 4	8.22
11	9.33	12	9.30	12	8.88	11	8.26
18	9.33	19	9.31	19	8.83	18	8.10
25	9.28	26	9.28	26	8.80	25	8.06
Feb. 1	9.23	May 3	9.23	Aug. 2	8.70	Nov. 1	8.04
8	9.34	10	9.21	9	8.63	22	7.87
15	9.41	17	9.21	16	8.57	29	7.85
22	9.36	24	9.12	23	8.47	Dec. 6	7.81
Mar. 1	9.35	31	9.05	30	8.48	13	7.79
8	9.40	June 7	9.04	Sept. 6	8.42	20	7.84
15	9.33	14	9.04	13	8.32	27	7.80
22	9.34	21	8.96	20	8.28		
29	9.38	28	8.91	27	8.23		

Q 543.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	8.00	9.06	a10.10	9.07	9.66	8.90	8.54	7.78	6.83	7.04	a8.35	8.43
2	8.75	9.46	9.19	9.48	9.93	8.73	8.38	7.64	6.63	7.04	....	8.47
3	9.38	9.51	9.30	9.36	10.04	8.67	8.24	7.48	6.48	7.04	....	8.30
4	9.40	9.40	9.07	9.20	9.62	8.70	8.12	7.47	6.48	7.29	....	8.24
5	8.11	9.38	9.14	9.57	9.76	8.84	7.88	7.43	6.78	7.34	....	8.40
6	8.40	9.18	8.82	9.88	9.47	8.62	7.74	7.35	7.00	7.43	....	8.60
7	8.79	9.64	8.93	9.39	9.28	8.24	7.87	7.14	6.84	7.63	....	8.29
8	8.80	9.04	9.75	9.19	9.26	8.26	7.82	7.13	6.71	7.68	a8.42	8.39
9	9.03	8.54	9.27	9.00	9.44	8.23	7.93	7.27	6.81	7.36	8.38	7.92
10	8.91	8.55	8.53	8.86	a9.40	8.20	7.78	7.29	6.87	7.93	7.71	8.06
11	9.07	8.72	8.53	8.72	9.31	8.30	7.92	7.27	7.05	7.28	8.32	7.94
12	9.38	8.73	8.68	8.51	9.40	8.17	7.98	7.57	7.28	7.62	7.98	7.94
13	8.39	8.88	8.78	8.51	9.37	8.28	8.04	7.40	7.25	7.74	7.94	8.64
14	8.01	9.38	8.53	8.80	9.36	8.54	7.92	7.19	7.20	7.77	7.98	7.84
15	8.06	9.40	8.49	8.93	9.46	8.77	8.06	7.25	6.99	7.80	8.18	7.44
16	8.43	8.80	8.88	9.02	9.59	8.88	8.26	7.40	7.00	7.45	7.77	7.74
17	8.85	9.16	8.53	9.13	9.84	8.71	8.27	7.27	7.04	7.43	7.71	7.93
18	8.98	9.09	....	9.18	9.40	8.71	8.20	7.26	7.01	7.40	7.73	7.95
19	8.41	8.85	8.22	9.16	9.13	8.54	8.03	7.23	7.00	7.34	7.50	7.90
20	7.99	8.65	8.37	9.44	9.22	8.51	7.81	6.99	6.93	7.34	7.77	7.95
21	8.32	9.00	9.12	9.13	9.17	8.60	7.77	6.91	6.73	7.41	7.83	7.84
22	8.35	9.33	8.96	8.90	9.24	8.56	7.75	6.89	6.68	7.46	7.83	7.98
23	8.46	9.05	8.84	8.84	9.25	8.56	7.50	6.93	6.96	7.68	8.28	8.36
24	8.78	8.69	9.00	9.09	9.18	8.79	7.45	6.88	7.08	7.35	7.85	9.27
25	9.03	8.90	9.23	9.02	8.84	8.64	7.58	6.89	7.44	7.73	8.05	8.50

a Estimated.

Queens County--Continued

Q 543.--Continued
Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	8.92	8.38	8.76	9.10	8.80	8.38	7.66	7.02	7.25	7.85	8.12	8.82
27	8.79	8.96	8.88	9.29	9.50	8.38	7.63	6.83	7.26	8.18	8.01	8.51
28	9.12	9.26	9.08	9.37	8.95	8.39	7.57	6.73	7.38	7.66	8.21	8.66
29	9.02	....	9.40	9.15	8.72	8.40	7.70	6.50	6.97	7.73	8.30	8.73
30	8.84	....	9.16	9.24	8.62	8.50	7.53	6.70	7.29	7.89	8.26	8.85
31	8.85	....	8.79	....	8.70	....	7.83	6.79	....	7.98	....	8.85

Q 1078. Measurements discontinued Dec. 15, 1941.
Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.33	5.35	5.50	5.23	5.32	5.80	5.75	5.59	5.12	4.65	4.73	4.65
2	5.35	5.41	5.45	5.35	5.38	5.68	5.71	5.56	5.07	4.61	5.02	4.71
3	5.50	5.41	5.46	5.32	5.47	5.61	5.68	5.54	a5.04	4.57	4.93	4.74
4	5.65	5.38	5.36	5.30	5.41	5.59	5.78	5.49	a5.00	4.60	4.92	4.72
5	5.27	5.36	5.28	5.35	5.44	5.74	5.75	5.48	a5.06	4.61	4.91	4.76
6	5.13	5.32	5.18	5.57	5.37	5.84	5.67	5.46	5.16	4.63	4.93	4.88
7	5.14	5.35	5.15	5.52	5.36	5.78	5.69	5.39	5.16	4.66	....	4.80
8	5.15	5.73	5.18	5.46	5.37	5.73	5.78	5.41	a5.12	4.77	a5.04	4.81
9	5.15	5.49	a5.53	5.41	5.49	5.64	5.77	5.45	a5.10	4.67	4.97	4.70
10	5.21	5.30	5.26	5.37	5.53	5.59	5.70	5.44	a5.08	4.76	4.84	4.69
11	5.26	5.29	5.21	5.37	5.59	5.60	5.65	5.39	a5.08	4.62	4.82	4.62
12	5.39	5.27	5.36	5.36	5.64	5.60	5.63	5.52	a5.02	4.61	4.69	4.62
13	5.55	5.25	5.36	5.39	5.63	5.59	5.63	5.51	a5.04	4.60	4.68	4.68
14	a5.32	5.51	5.41	5.44	5.64	5.93	5.60	5.37	....	4.62	4.66	5.05
15	a5.22	5.73	5.35	5.48	5.62	5.77	5.63	5.29	a4.73	4.64	4.66	a5.00
16	a5.24	5.58	5.50	5.45	5.58	5.78	5.68	5.29	4.74	4.53	4.70	....
17	5.64	5.60	5.52	5.42	5.69	5.92	5.71	5.18	4.66	4.53	4.64	....
18	5.59	5.35	5.22	5.39	5.52	5.93	5.70	5.16	4.66	4.53	4.63	....
19	5.45	5.18	5.01	5.35	5.40	5.90	5.71	5.22	4.72	4.54	4.63	....
20	5.17	5.06	4.98	5.38	5.36	5.82	5.58	5.24	4.85	4.51	4.67	....
21	5.09	5.06	5.08	5.27	5.30	5.76	5.54	5.16	4.81	4.62	4.73	....
22	5.16	5.12	5.04	5.14	5.28	5.77	5.52	5.15	4.74	4.67	4.64	....
23	5.12	5.26	5.03	5.09	5.29	5.77	5.51	5.19	4.98	4.75	4.71	....
24	5.12	5.15	5.07	5.14	5.53	5.81	5.46	5.22	4.89	4.70	4.71	....
25	5.45	5.17	5.20	5.12	5.48	5.77	5.46	5.24	4.93	4.70	4.71	....
26	5.48	5.15	5.17	5.16	5.40	5.72	5.48	5.36	4.88	4.64	4.69	....
27	5.45	5.17	5.16	5.25	5.59	5.72	5.49	5.34	4.76	4.70	4.62	....
28	5.60	5.24	5.22	5.31	5.75	5.70	5.47	5.29	4.73	4.64	4.61	....
29	5.60	....	5.34	5.23	5.79	5.71	5.52	5.15	4.59	4.61	4.61	....
30	5.50	....	5.36	5.30	5.75	5.72	5.53	5.09	4.59	4.62	4.65	....
31	5.40	....	5.24	....	5.75	....	5.58	5.09	....	4.67	....	....

Q 1089. Observations resumed May 3, 1941, in a new well put down about 300 feet from the old well that had been destroyed. Diameter of new well 2 inches, measured depth 32.3 feet below measuring point. New measuring point, top of coupling, about level with land surface and 20.51 feet above mean sea level. Water level May 3, 1941, 18.79 feet below measuring point and 1.72 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 3	1.72	June 7	1.65	July 12	1.74	Aug. 16	1.20
10	1.78	14	1.90	19	1.65	23	1.24
17	1.73	21	1.68	26	1.45	30	1.36
24	1.39	28	1.48	Aug. 2	1.45	Sept. 6	1.31
31	1.39	July 5	1.63	9	1.35	13	1.04

a Estimated.

Queens County--Continued

Q. 1089.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 20	1.09	Oct. 18	0.90	Nov. 15	0.72	Dec. 13	0.65
27	1.12	25	.80	22	.80	20	.98
Oct. 4	1.07	Nov. 1	.97	29	.67	27	.87
11	.97	8	1.12	Dec. 6	.75		

Q 1090. Observations resumed Apr. 26, 1941, in a new well put down to replace the old well that had become clogged. Old pipe removed and the new pipe placed in same hole. Well deepened to 42.2 feet below measuring point. New measuring point, top of 1½-inch coupling, about level with land surface and 31.62 feet above mean sea level. Water level Apr. 26, 1941, 27.43 feet below measuring point and 4.19 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Apr. 26	4.19	June 28	3.75	Aug. 30	3.35	Nov. 1	2.77
May 3	4.12	July 5	3.67	Sept. 6	3.32	8	2.74
10	4.10	12	3.66	13	3.23	15	2.70
17	4.07	19	3.65	20	3.18	22	2.75
24	3.98	26	3.61	27	3.06	29	2.64
31	3.87	Aug. 2	3.54	Oct. 4	2.97	Dec. 6	2.56
June 7	3.82	9	3.46	11	2.93	13	2.54
14	3.84	16	3.35	18	2.86	20	2.67
21	3.86	23	3.27	25	2.80	27	2.66

Q 1092. Measurements discontinued Feb. 1, 1941. Water level thereafter affected by surface runoff.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level
Jan. 4	8.42	Jan. 18	8.43	Feb. 1	8.45
11	8.40	25	8.46		

Q 1222.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	3.13	Apr. 5	2.89	July 5	2.51	Oct. 4	1.89
11	2.88	12	2.94	12	2.44	11	2.02
18	3.23	19	2.88	19	2.53	18	1.86
25	3.06	26	3.11	26	2.39	25	1.99
Feb. 1	3.12	May 3	3.28	Aug. 2	2.64	Nov. 1	2.26
8	3.52	10	3.34	9	2.48	8	2.60
15	3.14	17	3.18	16	2.26	15	2.21
22	2.68	24	2.87	23	2.21	22	2.16
Mar. 1	3.05	31	2.66	30	2.19	29	2.15
8	2.91	June 7	3.00	Sept. 6	2.23	Dec. 6	2.48
15	2.95	14	2.80	13	2.09	13	2.16
22	2.46	21	2.76	20	1.98	20	2.45
29	2.82	28	2.60	27	2.04	27	2.58

Q 1223. Measuring point raised 0.19 foot Apr. 19, 1941. New measuring point, top of coupling, about level with land surface and 26.60 feet above mean sea level. Water level Apr. 26, 1941, 18.64 feet below measuring point and 7.96 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Jan. 4	7.29	Feb. 1	7.49	Mar. 1	8.02	Mar. 29	8.07
11	7.32	8	7.70	8	7.95	Apr. 5	8.00
18	7.38	15	8.02	15	8.06	12	8.08
25	7.45	22	8.08	22	8.09	26	7.96

Queens County--Continued

Q 1223.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 3	7.87	July 5	7.61	Sept. 6	7.01	Nov. 8	6.50
10	7.84	12	7.64	13	6.95	15	6.47
17	7.75	19	7.52	20	6.86	22	6.42
24	7.66	26	7.46	27	6.81	29	6.41
31	7.55	Aug. 2	7.35	Oct. 4	6.69	Dec. 6	6.36
June 7	7.57	9	7.26	11	6.69	13	6.29
14	7.67	16	7.15	18	6.59	20	6.72
21	7.78	23	7.05	25	6.54	27	6.74
28	7.65	30	7.11	Nov. 1	6.44		

Q 1224. Measuring point raised 0.56 foot Apr. 19, 1941. New measuring point, top of coupling, about level with land surface and 47.65 feet above mean sea level. Water level Apr. 26, 1941, 38.65 feet below measuring point and 9.00 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	8.51	Apr. 5	8.93	July 12	8.52	Oct. 11	7.65
11	8.49	12	8.99	19	8.52	18	7.64
18	8.49	26	9.00	26	8.46	25	7.42
25	8.50	May 3	9.01	Aug. 2	8.47	Nov. 1	7.42
Feb. 1	8.51	10	8.98	9	8.35	8	7.39
8	8.55	17	8.96	16	8.28	15	7.33
15	8.76	24	8.90	23	8.38	22	7.49
22	8.84	31	8.84	30	8.12	29	7.47
Mar. 1	8.87	June 7	8.77	Sept. 6	8.08	Dec. 6	6.99
8	8.89	14	8.76	13	8.27	13	6.95
15	8.92	21	8.76	20	8.02	20	7.26
22	8.93	28	8.72	27	7.93	27	7.15
29	8.95	July 5	8.68	Oct. 4	7.84		

Q 1225. Measuring point raised 0.14 foot Apr. 23, 1941. New measuring point, top of coupling, about level with land surface and 49.40 feet above mean sea level. Water level Apr. 26, 1941, 20.60 feet below measuring point and 28.80 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	28.25	Apr. 5	29.13	July 5	28.16	Oct. 4	27.18
11	28.49	12	28.94	12	28.07	11	27.32
18	28.18	19	28.59	19	28.06	18	27.19
25	28.35	26	28.80	26	28.03	25	27.15
Feb. 1	28.28	May 3	28.60	Aug. 2	28.03	Nov. 1	27.29
8	28.31	10	28.48	9	27.92	8	27.09
15	28.31	17	28.40	16	27.84	15	27.03
22	28.56	24	28.37	23	27.80	22	26.99
Mar. 1	28.59	31	28.26	30	28.00	29	26.94
8	28.62	June 7	28.24	Sept. 6	27.70	Dec. 6	26.91
15	28.97	14	28.11	13	27.66	13	26.86
22	28.76	21	28.22	20	27.54	20	27.00
29	28.50	28	28.18	27	27.42	27	26.94

Q 1237.

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	+3.24	+2.64	+2.93	+3.09	+1.46	+0.45	+0.35	+1.49	+3.33	+1.78	+0.41	-3.52
2	+3.29	+2.74	+2.61	+3.22	+1.52	+1.27	+.10	+1.51	+3.05	+1.39	+.20	-3.47
3	+3.56	+2.76	+2.70	+3.22	+1.92	+.99	+.07	+1.63	+2.49	+1.01	+.07	-3.75
4	+3.68	+2.61	+2.73	+3.20	+1.43	+1.09	+.78	+1.22	+2.32	+1.37	+.04	-3.96
5	+3.44	+2.53	+2.67	+3.20	+1.43	+2.21	+1.60	+.73	+2.60	+1.43	+.15	-3.86
6	+3.15	+2.53	+2.60	+3.41	+1.80	+2.06	+1.70	+.41	+2.87	+1.19	+.22	-4.09

Queens County--Continued

Q 1237.--Continued

Lowest daily water level, in feet, with reference to mean sea level, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	+3.15	+2.59	+2.60	+3.44	+1.78	+1.82	+2.06	+.17	+2.47	+1.15	+.30	-4.22
8	+3.20	+3.01	+2.60	+3.48	+1.86	+1.59	+2.33	+.05	+2.30	+1.02	+.11	-4.19
9	+3.27	+2.74	+2.90	+3.46	+2.79	+1.23	+2.17	-.09	+2.22	+.64	+.05	-4.75
10	a+3.41	+2.41	+2.82	+3.51	+3.14	+.85	+1.91	-.07	+1.76	+.69	-.06	-4.76
11	a+3.56	+2.24	+2.85	+3.41	+3.04	+.49	+1.59	+.16	+1.32	+.64	-.07	-4.75
12	+3.59	+2.14	+2.84	+3.32	+2.76	+.55	+1.38	+.34	+1.08	a+.38	-.18	-4.50
13	+3.55	+2.37	+2.90	+3.33	+2.35	+1.18	+1.55	+.43	+.51	....	-.24	-4.44
14	+3.34	+3.08	+2.89	+3.35	a+2.34	+1.74	+1.27	+.36	+.50	....	-.26	-4.28
15	+3.30	+3.17	+2.89	+3.33	....	+1.79	+1.00	+.39	+.60	....	-.28	-4.57
16	+3.30	+3.02	+2.96	+3.00	....	+1.97	+.87	+1.02	+.14	....	-.34	-4.62
17	+3.67	+3.03	+2.91	+2.87	a+1.68	+1.89	+1.04	+1.12	-.38	....	-.48	-4.53
18	+3.43	+3.12	+2.76	+2.72	+1.83	+1.89	+1.53	+.82	-.39	+.72	-.39	-4.47
19	+3.21	+3.16	+2.14	+2.68	+1.57	+1.31	+1.57	+.95	-.14	+.63	-.27	-4.57
20	+2.90	+3.08	+1.89	+2.45	+1.10	+.80	+1.72	+1.51	+.03	+.52	-.12	-4.68
21	+2.69	+3.04	+1.89	+2.46	+.61	+.11	+1.36	+1.49	+.26	+.65	-.35	-4.67
22	+2.68	+3.03	+2.29	+2.33	+.49	-.01	+1.05	+1.49	+.33	+.41	-.43	-4.74
23	+2.73	+3.02	+2.41	+2.34	+.50	0.00	+.75	+1.34	+.28	+.55	-.41	-4.74
24	+2.74	+2.90	+2.52	+2.49	+.68	+.27	+.50	+1.51	+.12	+.57	-.32	-4.55
25	+3.07	+2.89	+2.73	+2.81	+.72	+.08	+.42	+1.95	+.31	+.26	-.36	-4.24
26	+3.00	+2.76	+2.69	+2.88	+.50	-.01	+.22	+2.05	+.43	+.18	-.36	-4.25
27	+3.08	+2.76	+2.66	+3.09	+.11	-.12	+.06	+2.35	+.55	+.20	-1.38	-4.30
28	+3.25	+2.80	+2.76	+2.83	+.16	-.55	+.10	+2.71	+.60	+.14	-2.34	-4.35
29	+3.28	....	+2.85	+2.62	+.35	-.47	+.38	+3.01	+.76	+.12	-2.92	-4.30
30	+3.19	....	+2.79	+2.41	+.26	+.32	+.55	+3.12	+.96	+.28	-3.37	-4.35
31	+2.68	....	+2.86	....	+.32	....	+1.34	+3.23	....	+.49	....	-4.29

Q 1248. Measuring point lowered 0.11 foot Apr. 23, 1941. New measuring point, top of coupling, about level with land surface and 76.53 feet above mean sea level. Water level Apr. 26, 1941, 40.28 feet below measuring point and 36.25 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	35.62	Apr. 5	36.22	July 5	35.69	Oct. 4	35.18
11	35.74	12	36.18	12	35.55	11	35.18
18	35.63	19	36.24	19	35.43	18	35.13
25	35.62	26	36.25	26	35.34	25	35.07
Feb. 1	35.59	May 3	36.24	Aug. 2	35.27	Nov. 1	35.01
8	35.70	10	36.26	9	35.19	8	35.02
15	35.96	17	36.26	16	35.11	15	34.97
22	36.05	24	36.21	23	35.04	22	34.92
Mar. 1	36.10	31	36.18	30	35.01	29	34.88
8	36.13	June 7	36.18	Sept. 6	34.97	Dec. 6	34.84
15	36.11	14	36.14	13	34.93	13	34.78
22	36.17	21	36.21	20	35.04	20	34.80
29	36.19	28	35.94	27	35.12	27	34.76

Q 1249. Measuring point raised 0.07 foot Apr. 23, 1941. New measuring point, top of coupling, about level with land surface and 72.35 feet above mean sea level. Water level Apr. 26, 1941, 40.09 feet below measuring point and 32.26 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Jan. 4	31.77	Feb. 22	32.07	Apr. 12	32.25	May 31	32.02
11	31.75	Mar. 1	32.13	19	32.13	June 7	32.01
18	31.75	8	32.13	26	32.26	14	32.06
25	31.71	15	32.21	May 3	32.25	21	32.04
Feb. 1	31.68	22	32.20	10	32.19	28	31.95
8	31.77	29	32.10	17	32.12	July 5	31.89
15	32.00	Apr. 5	32.19	24	32.08	12	31.85

a Estimated.

Queens County--Continued

Q 1249.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 19	31.79	Aug. 30	31.46	Oct. 11	31.00	Nov. 22	30.74
26	31.74	Sept. 6	31.38	18	30.94	29	30.72
Aug. 2	31.69	13	31.31	25	30.90	Dec. 6	30.70
9	31.61	20	31.25	Nov. 1	30.85	13	30.65
16	31.52	27	31.15	8	30.84	20	30.70
23	31.45	Oct. 4	31.07	15	30.80	27	30.66

Q 1250. Measuring point lowered 0.02 foot Apr. 23, 1941. New measuring point, top of coupling, about level with land surface and 37.56 feet above mean sea level. Water level Apr. 26, 1941, 16.14 feet below measuring point and 21.42 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Jan. 4	20.97	Apr. 5	21.64	July 5	21.18	Oct. 4	20.43
11	21.21	12	21.62	12	21.10	11	20.43
18	21.16	19	21.57	19	21.06	18	20.54
25	21.27	26	21.42	26	21.07	25	20.26
Feb. 1	21.13	May 3	21.30	Aug. 2	20.96	Nov. 1	20.30
8	21.04	10	21.15	9	20.96	8	20.16
15	21.43	17	21.09	16	20.89	15	20.26
22	21.61	24	21.21	23	20.98	22	19.97
Mar. 1	21.56	31	21.22	30	21.07	29	19.80
8	21.50	June 7	21.20	Sept. 6	20.77	Dec. 6	19.71
15	21.51	14	21.08	13	20.96	13	19.62
22	21.61	21	21.22	20	20.87	20	19.86
29	21.68	28	21.12	27	20.63	27	19.73

Q 1251. Measuring point lowered 0.03 foot Apr. 23, 1941. New measuring point, top of coupling, about level with land surface and 42.69 feet above mean sea level. Water level Apr. 26, 1941, 30.28 feet below measuring point and 12.41 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Jan. 4	11.86	Apr. 5	12.62	July 5	11.90	Oct. 4	11.09
11	11.91	12	12.82	12	11.97	11	11.00
18	11.74	19	12.57	19	11.93	18	10.92
25	11.99	26	12.41	26	11.92	25	10.81
Feb. 1	11.83	May 3	12.29	Aug. 2	11.84	Nov. 1	10.83
8	11.58	10	12.23	9	11.77	8	10.67
15	12.22	17	12.17	16	11.66	15	10.75
22	12.48	24	12.12	23	11.60	22	10.54
Mar. 1	12.55	31	12.06	30	11.59	29	10.49
8	12.58	June 7	12.06	Sept. 6	11.52	Dec. 6	10.42
15	12.85	14	11.99	13	11.44	13	10.36
22	12.66	21	12.08	20	11.30	20	10.43
29	12.61	28	11.97	27	11.18	27	10.36

Q 1252. Measuring point raised 0.10 foot Apr. 23, 1941. New measuring point, top of coupling, about level with land surface and 31.18 feet above mean sea level. Water level Apr. 26, 1941, 17.63 feet below measuring point and 13.55 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Jan. 4	13.43	Mar. 8	13.69	May 10	13.41	July 12	13.05
11	13.35	15	13.67	17	13.38	19	13.03
18	13.40	22	13.67	24	13.30	26	13.01
25	13.34	29	13.68	31	13.22	Aug. 2	12.96
Feb. 1	13.30	Apr. 5	13.64	June 7	13.21	9	12.89
8	13.54	12	13.61	14	13.28	16	12.82
15	13.70	19	13.60	21	13.29	23	12.74
22	13.69	26	13.55	28	13.17	30	12.98
Mar. 1	13.68	May 3	13.46	July 5	13.05	Sept. 6	12.86

Queens County-Continued

Q 1252.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 13	12.74	Oct. 11	12.41	Nov. 8	12.17	Dec. 6	11.88
20	12.67	18	12.33	15	12.13	13	11.90
27	12.55	25	12.29	22	12.08	20	11.95
Oct. 4	12.47	Nov. 1	12.20	29	11.99	27	11.89

Q 1253. Measuring point raised 0.10 foot Apr. 19, 1941. New measuring point, top of coupling, about level with land surface and 49.16 feet above mean sea level. Water level Apr. 26, 1941, 44.58 feet below measuring point and 4.58 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Jan. 4	4.04	Apr. 5	4.49	July 19	4.00	Oct. 18	3.18
11	4.15	12	4.52	26	3.94	25	3.01
18	4.13	26	4.58	Aug. 2	3.88	Nov. 1	2.98
25	4.19	May 3	4.57	9	3.82	8	2.94
Feb. 1	4.11	10	4.56	16	3.75	15	2.91
8	4.16	17	4.46	23	3.66	22	2.90
15	4.30	31	4.42	30	3.59	29	2.89
22	4.27	June 7	4.38	Sept. 6	3.56	Dec. 6	2.84
Mar. 1	4.30	14	4.31	13	3.55	13	2.83
8	4.32	21	4.28	20	3.40	20	2.78
15	4.40	28	4.31	27	3.30	27	2.75
22	4.46	July 5	4.15	Oct. 4	3.18		
29	4.46	12	4.06	11	3.21		

Q 1254. Measuring point raised 0.13 foot Apr. 19, 1941. New measuring point, top of coupling, about level with land surface and 45.51 feet above mean sea level. Water level Apr. 26, 1941, 45.25 feet below measuring point and 0.26 foot above mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Jan. 4	-0.14	Apr. 5	+0.29	July 12	-0.63	Oct. 11	-1.52
11	-.11	12	+.29	19	-.68	18	-1.49
18	-.05	26	+.26	26	-.75	25	-1.51
25	-.08	May 3	+.23	Aug. 2	-.84	Nov. 1	-1.52
Feb. 1	-.09	10	+.20	9	-.89	8	-1.52
8	-.07	17	+.16	16	-.98	15	-1.55
15	-.01	24	+.01	23	-1.05	22	-1.58
22	+.04	31	-.11	30	-1.12	29	-1.60
Mar. 1	+.10	June 7	-.22	Sept. 6	-1.18	Dec. 6	-1.65
8	+.13	14	-.31	13	-1.26	13	-1.66
15	+.19	21	-.38	20	-1.33	20	-1.70
22	+.23	28	-.49	27	-1.43	27	-1.71
29	+.26	July 5	-.57	Oct. 4	-1.49		

Q 1255. New York City Department of Water Supply, Gas, & Electricity. At northwest corner of Atlantic Avenue and Woodhaven Boulevard, Woodhaven. Diameter 1¼ inches, measured depth 52.8 feet below measuring point. Measuring point, top of coupling, about level with land surface and 40.43 feet above mean sea level. Water level Oct. 12, 1911, 31.30 feet below measuring point and 9.13 feet above mean sea level. Measurements from beginning of record on Oct. 12, 1911, to May 3, 1940, inclusive, by New York City, measurements thereafter by U. S. Geological Survey.

Water level, in feet, with reference to mean sea level, 1911-17, 1932-41

Date	Water level	Date	Water level	Date	Water level
Oct. 12, 1911	+9.13	Dec. 6, 1911	+9.53	Feb. 8, 1912	+10.08
26	+9.28	18	+9.58	Mar. 1	+10.13
Nov. 10	+9.23	29	+9.73	26	+10.43
22	+9.43	Jan. 22, 1912	+10.03	Apr. 10	+10.88

Queens County--Continued

Q 1255.--Continued

Water level, in feet, with reference to mean sea level, 1911-17, 1932-41

Date	Water level	Date	Water level	Date	Water level
Apr. 26, 1912	+11.33	June 17, 1915	+10.53	May 29, 1933	+1.26
May 15	+11.68	July 1	+10.38	June 29	+1.17
June 21	+11.88	19	+10.33	July 25	+.85
July 5	+11.78	Aug. 6	+10.33	Aug. 29	+.91
19	+11.48	23	+10.48	Sept.27	+.95
Aug. 9	+11.48	Sept. 8	+10.23	Nov. 2	+1.36
23	+11.53	17	+10.08	21	+1.36
Sept. 6	+11.48	Oct. 11	+10.18	Dec. 22	+1.52
20	+11.18	27	+10.18	Jan. 12, 1934	+1.34
Oct. 11	+11.03	Nov. 10	+9.88	Feb. 19	+1.21
25	+10.98	29	+9.53	Mar. 23	+1.12
Nov. 11	+10.78	Dec. 16	+9.38	Apr. 17	+1.30
27	+10.98	25	+9.43	June 13	+1.07
Dec. 11	+10.43	Jan. 3, 1916	+9.48	July 26	+.10
26	+10.28	27	+9.33	Aug. 27	-.06
Jan. 16, 1913	+10.33	Feb. 14	+9.23	Sept.21	+.30
31	+10.38	29	+9.33	Oct. 19	+.62
Feb. 17	+10.43	Mar. 21	+9.43	Nov. 5	+1.78
Mar. 6	+10.33	Apr. 4	+9.78	Dec. 19	+1.44
24	+10.43	17	+10.03	Jan. 11, 1935	+1.93
Apr. 10	+10.78	May 2	+10.23	Feb. 20	+1.40
May 1	+11.63	19	+10.53	Mar. 21	+1.25
16	+11.78	June 8	+10.53	June 5	+.94
June 4	+11.93	26	+10.43	July 2	+.60
18	+11.93	July 14	+10.33	Sept.16	-1.16
July 3	+11.78	Aug. 23	+10.03	Oct. 31	-1.92
22	+11.48	Sept. 6	+9.63	Dec. 11	-1.81
Aug. 20	+11.13	21	+9.13	Mar. 10, 1936	-2.10
Sept. 6	+10.88	Oct. 5	+8.93	May 19	-1.40
23	+10.58	18	+8.83	Aug. 3	-1.95
Oct. 15	+10.43	Nov. 9	+8.63	Sept.28	-2.58
31	+10.63	21	+8.48	Dec. 28	-2.59
Nov. 14	+10.43	Dec. 5	+8.38	Mar. 23, 1937	-1.84
Dec. 4	+10.28	22	+9.03	June 21	-1.82
23	+10.13	Jan. 10, 1917	+8.03	Aug. 24	-2.21
Jan. 15, 1914	+10.38	23	+8.03	Sept.27	-2.22
30	+10.73	Feb. 8	+8.13	Nov. 23	-2.06
Feb. 18	+10.98	26	+8.73	Jan. 10, 1938	-1.90
Mar. 13	+11.18	Mar. 15	+9.23	Feb. 25	-1.65
25	+11.83	27	+9.53	Apr. 19	-1.40
Apr. 17	+11.83	Apr. 18	+9.83	May 16	-1.34
May 12	+12.03	May 3	+9.23	June 17	-1.37
June 19	+11.88	21	+9.33	Sept.12	-.64
July 13	+11.83	June 6	+9.33	Dec. 20	-.15
30	+11.38	26	+9.53	Feb. 21, 1939	-.27
Aug. 18	+11.13	July 24	+9.63	Apr. 4	+.17
Sept.15	+10.63	Aug. 16	+10.13	May 29	+.55
Oct. 13	+10.13	Sept.19	+10.03	July 24	-.18
30	+9.83	Oct. 20	+9.98	Aug. 29	-.89
Nov. 18	+9.63	Nov. 6	+10.18	Oct. 24	-1.50
Dec. 11	+9.68	20	+10.18	Nov. 30	-1.98
31	+9.38	Dec. 12	+10.18	Mar. 12, 1940	-2.43
Jan. 21, 1915	+9.73	May 3, 1932	+1.75	Apr. 16	-2.50
Feb. 9	+10.48	16	+1.81	May 3	-2.37
24	+10.23	June 13	+1.65	Jan. 18, 1941	-3.06
Mar. 10	+10.98	Aug. 9	+.96	25	-3.03
23	+10.93	Sept. 1	+.64	Feb. 1	-3.03
Apr. 6	+10.73	Oct. 17	+.30	15	-2.95
20	+10.73	Nov. 21	+.36	Mar. 15	-2.51
May 4	+10.53	Jan. 20, 1933	+.76	22	-2.84
20	+10.43	Feb. 28	+.72	29	-2.88
31	+10.58	Apr. 20	+1.17	Apr. 5	-2.61

Queens County--Continued

Q 1255.--Continued

Water level, in feet, with reference to mean sea level, 1911-17, 1932-41

Date	Water level	Date	Water level	Date	Water level
Apr. 12, 1941	-2.89	July 12, 1941	-4.06	Oct. 4, 1941	-5.21
26	-2.85	19	-4.14	11	-4.96
May 3	-2.94	26	-4.21	18	-5.21
10	-3.04	Aug. 2	-4.21	25	-5.13
17	-3.26	9	-4.45	Nov. 1	-5.12
24	-3.29	16	-4.48	8	-5.17
31	-3.33	23	-4.60	15	-5.29
June 7	-3.52	30	-4.28	22	-5.27
14	-3.54	Sept. 6	-4.74	29	-5.30
21	-3.73	13	-4.55	Dec. 6	-5.40
28	-3.90	20	-4.93	20	-5.37
July 5	-3.95	27	-5.04	27	-5.46

Q 1256. Measuring point lowered 0.06 foot Apr. 19, 1941. New measuring point, top of coupling, about level with land surface and 23.97 feet above mean sea level. Water level Apr. 26, 1941, 27.29 feet below measuring point and 3.32 feet below mean sea level.

Water level, in feet, with reference to mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	-2.95	Apr. 5	-2.95	July 12	-5.03	Oct. 11	-6.08
11	-2.90	12	-3.00	19	-5.16	18	-6.14
18	-2.87	26	-3.32	26	-5.28	25	-6.21
25	-2.84	May 3	-3.48	Aug. 2	-5.35	Nov. 1	-6.20
Feb. 1	-2.84	10	-3.65	9	-5.41	8	-6.27
8	-2.78	17	-3.81	16	-5.52	15	-6.33
15	-2.68	24	-3.99	23	-5.63	22	-6.39
22	-2.58	31	-4.13	30	-5.69	29	-6.43
Mar. 1	-2.55	June 7	-4.32	Sept. 6	-5.74	Dec. 6	-6.50
8	-2.57	14	-4.48	13	-5.78	13	-6.52
15	-3.00	21	-4.58	20	-5.84	20	-6.59
22	-3.28	28	-4.73	27	-5.93	27	-6.64
29	-2.94	July 5	-4.88	Oct. 4	-5.99		

Q 1281. New York City Department of Water Supply, Gas, & Electricity. At southwest corner of Liberty Avenue and Woodhaven Boulevard, Ozone Park. Diameter 1½ inches, measured depth 38.8 feet below measuring point. Measuring point, top of coupling, about level with land surface and 28.78 feet above mean sea level. Water level Oct. 11, 1911, 23.54 feet below measuring point and 5.24 feet above mean sea level. Measurements from beginning of record on Oct. 11, 1911, to July 25, 1933, inclusive, by New York City, measurements thereafter by U. S. Geological Survey.

Water level, in feet, with reference to mean sea level, 1911-17, 1933, 1941

Date	Water level	Date	Water level	Date	Water level
Oct. 11, 1911	+5.24	Dec. 10, 1912	+6.44	July 22, 1913	+7.14
26	+5.39	25	+6.19	Aug. 20	+6.59
June 20, 1912	+8.49	Jan. 15, 1913	+6.19	Sept. 6	+6.29
July 5	+8.14	31	+6.34	23	+5.99
19	+7.79	Feb. 18	+6.34	Oct. 15	+5.74
Aug. 8	+7.34	Mar. 6	+6.54	31	+5.94
22	+7.24	24	+6.74	Nov. 17	+5.89
Sept. 6	+7.14	Apr. 10	+7.04	Dec. 3	+5.79
19	+6.94	May 1	+8.09	23	+5.64
Oct. 10	+6.74	16	+8.44	Jan. 13, 1914	+6.14
24	+6.64	June 4	+8.59	30	+6.14
Nov. 11	+6.84	18	+8.29	Dec. 24, 1915	+4.65
26	+7.04	July 3	+7.79	Jan. 1, 1916	+4.60

Queens County--Continued

Q 1281.--Continued

Water level, in feet, with reference to mean sea level, 1911-17, 1933, 1941

Date	Water level	Date	Water level	Date	Water level
Jan. 14, 1916	+4.65	Oct. 4, 1916	+4.50	May 17, 1941	-1.15
21	+4.55	11	+4.25	24	-1.30
28	+4.50	20	+4.15	31	-1.49
Feb. 4	+4.45	Nov. 9	+3.85	June 7	-1.61
11	+4.35	21	+3.65	14	-1.72
21	+4.25	Dec. 5	+3.55	21	-1.79
28	+4.70	22	+3.45	28	-1.95
Mar. 6	+4.80	Jan. 10, 1917	+3.09	July 5	-2.05
13	+4.85	23	+3.14	12	-2.10
20	+4.95	Feb. 8	+3.34	19	-2.16
28	+5.20	26	+3.94	26	-2.22
Apr. 3	+5.25	Mar. 15	+4.44	Aug. 2	-2.33
10	+5.45	27	+4.74	9	-2.46
18	+5.70	Apr. 18	+5.04	16	-2.57
25	+5.85	May 3	+5.69	23	-2.66
May 1	+5.95	21	+5.89	30	-2.65
9	+6.25	June 6	+6.14	Sept. 6	-2.71
18	+6.40	26	+6.34	13	-2.78
24	+6.45	July 24	+6.54	20	-2.89
29	+6.50	Aug. 16	+6.09	27	-2.98
June 6	+6.45	Sept. 18	+6.74	Oct. 4	-3.07
13	+6.50	Oct. 20	+6.64	11	-3.07
20	+6.60	Nov. 6	+6.94	18	-3.05
27	+6.50	20	+6.99	25	-3.06
July 6	+6.45	Dec. 12	+7.14	Nov. 1	-3.19
7	+6.45	Feb. 1, 1933	-1.32	8	-3.07
12	+6.35	Mar. 3	-.72	15	-3.16
Aug. 2	+5.95	Apr. 20	+.12	22	-3.16
8	+5.75	May 29	+.25	29	-3.20
16	+5.60	June 29	+.28	Dec. 6	-3.26
24	+5.40	July 25	-.25	13	-3.37
Sept. 5	+5.05	May 3, 1941	-.97	20	-3.30
13	+4.85	10	-1.07	27	-3.32
20	+4.70				

Q 1282. New York City Department of Water Supply, Gas, & Electricity. At northeast corner of Liberty Avenue and 113th Street, Richmond Hill. Diameter 1¼ inches, measured depth 52.4 feet below measuring point. Measuring point, top of coupling, about level with land surface and 40.02 feet above mean sea level. Water level Jan. 31, 1933, 39.85 feet below measuring point and 0.17 foot above mean sea level. Measurements from beginning of record on Jan. 31, 1933, to June 21, 1937, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1933-37, 1941

Jan. 31, 1933	0.17	Aug. 27, 1934	1.21	Mar. 23, 1937	2.13
Mar. 3	.45	Sept. 21	1.37	June 21	2.10
Apr. 20	.94	Oct. 8	1.82	May 3, 1941	2.36
May 23	1.50	Dec. 6	2.39	10	2.49
June 28	1.92	19	2.09	17	2.38
July 25	2.00	Jan. 11, 1935	2.30	24	2.31
Aug. 29	1.54	Feb. 20	2.07	31	2.23
Sept. 27	1.37	May 29	2.15	June 7	2.16
Nov. 1	1.89	July 2	1.98	14	2.14
21	1.75	Sept. 16	1.00	21	2.15
Dec. 12	1.82	Dec. 11	.59	28	1.99
Jan. 9, 1934	1.44	Mar. 10, 1936	.69	July 5	1.91
Mar. 23	1.49	May 19	1.59	12	1.84
Apr. 17	1.77	Aug. 3	1.23	19	1.76
June 12	1.79	Sept. 28	.82	26	1.72
July 26	1.42	Dec. 28	1.12	Aug. 2	1.65

Queens County--Continued

Q 1282.--Continued

Water level, in feet above mean sea level, 1933-37, 1941

Date	Water level	Date	Water level	Date	Water level
Aug. 9, 1941	1.59	Oct. 4, 1941	1.00	Nov. 22, 1941	0.73
16	1.49	11	.95	29	.78
23	1.44	18	.87	Dec. 6	.92
30	1.40	25	.86	13	.89
Sept.13	1.22	Nov. 1	.89	20	.62
20	1.15	8	.88	27	.59
27	1.04	15	.75		

Q 1283. New York City Department of Water Supply, Gas, & Electricity. At southeast corner of Rockaway Boulevard and 121st Street, South Ozone Park. Diameter 1¼ inches, measured depth 32.6 feet below measuring point. Measuring point, top of coupling, about level with land surface and 26.74 feet above mean sea level. Water level Oct. 12, 1911, 13.81 feet below measuring point and 12.93 feet above mean sea level. Measurements from beginning of record on Oct. 12, 1911, to May 29, 1935, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1911-16, 1933-35, 1941

Oct. 12, 1911	12.93	Sept. 7, 1915	9.98	July 26, 1934	3.08
26	13.13	16	9.78	Aug. 27	2.88
Nov. 10	13.33	Oct. 12	9.98	Sept.21	3.76
June 21, 1912	11.48	26	9.78	Oct. 8	4.70
July 5	11.18	Nov. 10	9.58	Dec. 6	4.28
19	10.83	29	9.33	19	3.71
Aug. 9	10.58	Dec. 17	9.18	Jan. 11, 1935	4.19
23	10.48	25	9.58	Feb. 20	3.88
Sept. 6	10.28	Jan. 1, 1916	9.73	Mar. 21	4.06
20	10.08	14	9.78	May 29	3.76
Oct. 11	9.78	21	9.63	Apr. 26, 1941	5.04
Oct. 29, 1913	11.18	28	9.53	May 3	5.06
Nov. 18	10.58	Feb. 4	9.58	10	5.00
Dec. 2	10.33	11	9.33	17	5.00
22	10.23	21	9.23	24	4.76
Jan. 15, 1914	10.73	28	10.03	31	4.74
30	10.78	Mar. 6	10.13	June 7	4.73
Feb. 18	11.33	13	10.03	14	4.69
Mar. 13	11.98	20	10.03	21	4.69
26	12.48	28	10.63	28	4.54
Apr. 15	12.48	Apr. 3	11.03	July 5	4.44
May 8	12.28	10	10.88	12	4.45
June 17	11.58	18	11.38	19	4.43
July 10	11.18	25	11.18	26	4.36
29	10.68	May 1	10.88	Aug. 2	4.28
Aug. 17	10.33	9	10.83	9	4.20
Sept.14	10.08	18	10.83	16	4.10
Oct. 9	9.63	24	10.68	23	4.05
28	9.18	29	10.63	30	4.16
Nov. 17	8.93	June 6	10.58	Sept. 6	4.10
Dec. 9	9.08	Jan. 30, 1933	2.23	13	3.96
30	9.18	Mar. 3	2.12	20	3.85
Jan. 20, 1915	10.28	Apr. 20	3.17	27	3.74
Feb. 8	11.98	May 23	3.70	Oct. 4	3.63
23	12.48	June 28	3.76	11	3.66
Mar. 10	13.28	July 25	3.46	18	3.61
23	11.08	Aug. 29	3.59	25	3.57
Apr. 6	10.88	Sept.27	3.62	Nov. 1	3.44
20	10.98	Nov. 1	3.64	8	3.53
May 4	10.58	21	3.36	15	3.39
14	10.48	Dec. 12	3.21	22	3.40
31	10.78	Jan. 9, 1934	2.99	29	3.34
June 16	10.33	Feb. 19	2.67	Dec. 6	3.25
July 16	10.38	Mar. 23	2.99	13	3.25
Aug. 12	10.73	Apr. 11	3.08	20	3.33
20	10.48	June 12	3.55	27	3.33

Queens County--Continued

Q 1284. New York City Department of Water Supply, Gas, & Electricity. At northwest corner of Rockaway Boulevard and Lincoln Street, South Ozone Park. Diameter 1½ inches, measured depth 43.1 feet below measuring point. Measuring point, top of coupling, about level with land surface and 33.84 feet above mean sea level. Water level Oct. 12, 1911, 26.12 feet below measuring point and 7.72 feet above mean sea level. Measurements from beginning of record on Oct. 12, 1911, to Oct. 8, 1934, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1911-14, 1933-34, 1941

Date	Water level	Date	Water level	Date	Water level
Oct. 12, 1911	7.72	June 16, 1913	11.25	Aug. 27, 1934	5.51
26	7.97	July 1	11.05	Sept.21	6.68
Nov. 10	8.02	18	10.75	Oct. 8	8.93
22	8.72	Aug. 19	10.20	May 10, 1941	7.24
Dec. 6	8.97	Sept. 4	9.90	17	7.17
18	9.12	24	9.65	24	6.98
29	9.32	Oct. 14	9.40	31	6.84
Jan. 22, 1912	9.70	30	9.45	June 7	6.90
Feb. 8	9.65	Nov. 18	9.65	14	6.85
Mar. 1	9.70	Dec. 2	9.60	21	6.78
26	10.05	19	9.45	28	6.55
Apr. 10	10.60	Jan. 15, 1914	9.35	July 5	6.53
26	11.10	30	9.95	12	6.62
May 15	11.30	Feb. 18	10.35	19	6.72
June 21	11.40	Mar. 13	10.65	26	6.45
July 5	11.15	26	11.45	Aug. 2	6.49
19	10.75	Apr. 15	11.05	9	6.28
Aug. 9	10.55	May 8	11.00	16	6.29
23	10.25	Jan. 28, 1933	5.01	23	6.28
Sept. 6	10.15	Mar. 3	5.21	30	6.41
20	9.80	Apr. 20	6.12	Sept. 6	6.38
Oct. 11	9.60	May 23	6.73	13	6.28
25	9.50	June 28	6.56	20	6.17
Nov. 11	9.30	July 25	6.05	27	6.07
27	9.55	Aug. 29	6.25	Oct. 4	6.03
Dec. 11	9.25	Sept.27	6.66	11	5.97
26	9.10	Nov. 1	6.69	18	5.91
Jan. 16, 1913	9.45	21	6.09	25	5.82
31	9.55	Dec. 12	6.04	Nov. 1	5.78
Feb. 17	9.90	Jan. 9, 1934	5.68	15	5.75
Mar. 4	10.05	Feb. 19	6.17	29	5.55
19	10.05	Mar. 23	5.66	Dec. 6	5.49
Apr. 8	10.25	Apr. 11	5.86	13	5.45
30	11.05	June 12	6.33	20	5.66
May 15	11.55	July 26	5.96	27	5.62
June 2	11.55				

Q 1285. New York City Department of Water Supply, Gas, & Electricity. At northwest corner of 132nd Street and 111th Avenue, South Ozone Park. Diameter 1½ inches, measured depth 47.4 feet below measuring point. Measuring point, top of coupling, about level with land surface and 42.72 feet above mean sea level. Water level Jan. 31, 1933, 39.85 feet below measuring point and 0.17 foot above mean sea level. Measurements from beginning of record on Jan. 31, 1933, to June 21, 1937, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1933-34, 1941

Apr. 20, 1933	6.35	Apr. 26, 1941	7.84	June 21, 1941	7.63
May 29	6.81	May 3	7.83	28	7.55
June 28	7.04	10	7.82	July 5	7.48
July 25	6.84	17	7.82	12	7.43
Aug. 29	6.45	24	7.75	19	7.38
Nov. 21	6.57	31	8.05	26	7.34
Dec. 12	6.09	June 7	7.63	Aug. 2	7.27
Jan. 9, 1934	5.99	14	7.62	9	7.22

Queens County--Continued

Q 1285.--Continued

Water level, in feet above mean sea level, 1933-34, 1941

Date	Water level	Date	Water level	Date	Water level
Aug. 16, 1941	7.14	Oct. 4, 1941	6.64	Nov. 22, 1941	6.21
23	7.07	11	6.57	29	6.15
30	7.03	18	6.51	Dec. 6	6.10
Sept. 6	6.98	25	6.46	13	6.03
13	6.91	Nov. 1	6.38	20	6.06
20	6.82	8	6.34	27	5.98
27	6.73	15	6.27		

Q 1286. New York City Department of Water Supply, Gas, & Electricity. On east side of 144th Place, about 315 feet south of Jamaica Avenue, Jamaica. Diameter 1¼ inches, measured depth 49.0 feet below measuring point. Measuring point, top of pipe, about level with land surface and 46.79 feet above mean sea level. Water level Apr. 20, 1933, 37.10 feet below measuring point and 9.69 feet above mean sea level. Measurements from beginning of record on Apr. 20, 1933, to Jan. 9, 1934, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1933-34, 1941

Apr. 20, 1933	9.69	June 21, 1941	10.94	Sept. 20, 1941	10.19
June 8	10.03	28	10.90	27	10.09
28	10.02	July 5	10.85	Oct. 4	9.95
Dec. 22	9.60	12	10.79	11	9.87
Jan. 9, 1934	9.56	19	10.73	18	9.79
Apr. 26, 1941	11.29	26	10.65	25	9.73
May 3	11.26	Aug. 2	10.61	Nov. 15	10.59
10	11.19	9	10.55	22	9.62
17	11.16	16	10.43	29	9.61
24	11.12	23	10.39	Dec. 6	9.59
31	11.05	30	10.41	20	9.63
June 7	10.95	Sept. 6	10.38	27	9.60
14	10.93	13	10.31		

Q 1287. New York City Department of Water Supply, Gas, & Electricity. At north corner of Merrick Boulevard and 116th Avenue, St. Albans. Diameter 2 inches, measured depth 27.1 feet below measuring point. Measuring point, top of coupling, about level with land surface and 25.33 feet above mean sea level. Water level Apr. 20, 1933, 10.40 feet below measuring point and 14.93 feet above mean sea level. Measurements from beginning of record on Apr. 20, 1933, to Oct. 5, 1934, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1933-34, 1941

Apr. 20, 1933	14.93	Apr. 26, 1941	12.92	Aug. 30, 1941	12.31
May 23	14.10	May 3	12.75	Sept. 6	12.10
June 28	13.56	10	12.72	13	11.92
July 25	13.17	17	12.55	20	11.78
Aug. 8	12.99	24	12.32	27	11.65
29	13.45	31	12.28	Oct. 4	11.66
Sept. 28	14.20	June 7	12.55	11	11.71
Nov. 1	13.13	14	12.80	18	11.64
21	12.83	21	12.80	25	11.60
Dec. 22	12.71	28	12.58	Nov. 1	11.54
Jan. 9, 1934	13.22	July 5	12.65	8	11.80
Feb. 19	14.03	12	12.72	15	11.74
Mar. 23	13.67	19	12.63	22	11.63
Apr. 11	14.06	26	12.42	29	11.69
June 13	14.00	Aug. 2	12.37	Dec. 6	11.59
July 27	12.40	9	12.13	13	11.53
Aug. 27	12.65	16	12.00	20	12.28
Sept. 21	14.91	23	11.89	27	12.27
Oct. 5	15.80				

Queens County--Continued

Q 1288. New York City Department of Water Supply, Gas, & Electricity. At northwest corner of Murdock Avenue and 180th Street, St. Albans. Diameter 1½ inches, measured depth 28.5 feet below measuring point. Measuring point, top of coupling, about level with land surface and 36.30 feet above mean sea level. Water level Apr. 20, 1933, 15.56 feet below measuring point and 20.74 feet above mean sea level. Measurements from beginning of record on Apr. 20, 1933, to Mar. 21, 1935, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1933-35, 1941

Date	Water level	Date	Water level	Date	Water level
Apr. 20, 1933	20.74	Dec. 18, 1934	20.57	Aug. 16, 1941	17.48
May 23	20.76	Jan. 14, 1935	20.34	23	17.40
June 28	19.63	Feb. 20	21.47	30	17.59
July 25	19.28	Mar. 21	21.45	Sept. 6	17.42
Aug. 8	18.99	Apr. 26, 1941	18.20	13	17.32
29	19.34	May 3	18.12	20	17.24
Sept.27	20.11	10	18.04	27	17.13
Nov. 1	19.35	17	17.93	Oct. 4	17.03
21	19.03	24	17.82	11	16.98
Dec. 22	18.55	31	17.73	18	16.87
Jan. 9, 1934	18.59	June 7	17.74	25	16.75
Mar. 23	19.48	14	17.77	Nov. 1	16.66
Apr. 11	19.55	21	17.95	8	16.61
June 13	20.09	28	17.91	15	16.54
July 27	19.83	July 5	17.86	22	16.48
Aug. 27	19.01	12	17.89	29	16.42
Sept.21	20.47	19	17.78	Dec. 6	16.34
Oct. 5	22.06	26	17.74	13	16.29
Nov. 8	21.84	Aug. 2	17.65	20	16.52
Dec. 5	21.01	9	17.57	27	16.51

Q 1289. New York City Department of Water Supply, Gas, & Electricity. At northwest corner of Springfield Boulevard and 110th Avenue, Queens Village. Diameter 2 inches, measured depth 31.5 feet below measuring point. Measuring point, top of coupling, about level with land surface and 53.80 feet above mean sea level. Water level Apr. 20, 1933, 21.03 feet below measuring point and 32.77 feet above mean sea level. Measurements from beginning of record on Apr. 20, 1933, to Mar. 3, 1938, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1933-38, 1941

Date	Water level	Date	Water level	Date	Water level
Apr. 20, 1933	32.77	Apr. 5, 1935	34.23	July 12, 1941	31.65
May 23	33.70	May 29	33.67	19	31.59
June 28	33.21	July 2	33.17	26	31.56
July 25	32.98	Sept.16	32.14	Aug. 2	31.53
Aug. 8	32.59	Oct. 31	31.71	9	31.36
29	32.56	Dec. 28, 1936	31.71	16	31.22
Sept.27	32.76	Mar. 22, 1937	33.26	23	31.23
Nov. 1	32.68	June 21	35.47	30	31.54
21	32.46	Aug. 24	32.81	Sept. 6	31.17
Dec. 22	32.08	Sept.27	32.61	13	31.12
Jan. 9, 1934	31.48	Oct. 14	32.44	20	31.04
Feb. 19	32.31	Nov. 23	32.25	27	30.97
Mar. 23	31.95	Jan. 10, 1938	32.47	Oct. 4	30.90
Apr. 11	32.12	Mar. 3	32.41	11	30.91
June 13	32.81	Apr. 26, 1941	31.96	18	30.83
July 27	32.26	May 3	31.94	25	30.71
Aug. 27	31.86	10	31.95	Nov. 1	30.84
Sept.21	32.98	17	31.89	8	30.61
Oct. 5	34.11	24	31.81	15	30.65
Nov. 8	34.56	31	31.82	22	30.54
Dec. 5	34.38	June 7	31.74	29	30.48
18	33.96	14	31.74	Dec. 6	30.35
Jan. 14, 1935	33.96	21	31.80	13	30.28
Feb. 20	33.83	28	31.76	20	30.27
Mar. 21	34.03	July 5	31.71	27	30.34

Queens County--Continued

Q 1290. New York City Department of Water Supply, Gas, & Electricity At southwest corner of Merrick Road and Springfield Boulevard, Springfield Diameter 2 inches, measured depth 22.2 feet below measuring point. Measuring point, top of coupling, about level with land surface and 24.03 feet above mean sea level. Water level Apr. 20, 1933, 4.95 feet below measuring point and 19.08 feet above mean sea level. Measurements from beginning of record on Apr. 20, 1933, to May 3, 1940, inclusive, by New York City; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1933-36, 1940-41

Date	Water level	Date	Water level	Date	Water level
Apr. 20, 1933	19.08	July 2, 1935	18.09	July 26, 1941	16.56
May 23	18.95	Sept.16	17.42	Aug. 2	16.61
June 28	18.60	Oct. 31	17.16	9	16.43
July 25	18.22	Dec. 11	17.84	16	16.38
Aug. 8	18.12	Mar. 16, 1936	18.19	23	16.35
29	18.35	Apr. 19	18.39	30	16.47
Nov. 21	18.74	July 2	18.02	Sept. 6	16.25
Dec. 22	18.28	Aug. 3	17.36	1.	16.31
Jan. 9, 1934	18.43	Sept.28	16.90	2(	16.18
Mar. 23	18.40	Dec. 28	17.58	27	16.11
Apr. 11	18.56	May 3, 1940	17.13	Oct. 4	16.14
June 13	18.88	Apr. 26, 1941	16.89	11	16.16
July 29	17.18	May 3	16.85	18	16.22
Aug. 27	17.85	10	16.86	25	15.93
Sept.21	18.89	17	16.77	Nov. 1	16.01
Oct. 5	19.48	24	16.63	8	16.04
Nov. 8	19.08	31	16.47	15	15.96
Dec. 5	18.80	June 7	16.58	22	15.71
18	18.48	14	16.60	29	15.76
Jan. 14, 1935	18.71	21	16.67	Dec. 6	15.51
Feb. 20	19.24	28	16.52	13	15.43
Mar. 21	19.10	July 5	16.61	20	15.60
Apr. 5	18.84	12	16.71	27	15.72
May 29	18.40	19	16.68		

Q 1292. New York City Department of Water Supply, Gas, & Electricity About 96 feet south of Union Turnpike and 81 feet east of 185th Street, Jamaica. Diameter 1⅛ inches, measured depth 44.0 feet below measuring point. Measuring point, top of coupling, about level with land surface and 67.71 feet above mean sea level. Water level May 10, 1941, 39.79 feet below measuring point and 27.92 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
May 10	27.92	July 12	27.75	Sept.13	27.54	Nov. 15	27.12
17	28.01	19	27.73	20	27.51	22	26.93
24	27.86	26	27.72	27	27.47	29	27.00
31	27.88	Aug. 2	27.68	Oct. 4	27.38	Dec. 6	26.82
June 7	27.83	9	27.73	11	27.26	13	27.03
14	27.87	16	27.68	18	27.33	20	26.62
21	27.87	23	27.63	25	27.15	27	26.68
28	27.83	30	27.64	Nov. 1	27.25		
July 5	27.75	Sept. 6	27.63	8	27.05		

Suffolk County

S 28.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	93.68	Apr. 5	93.24	July 5	93.59	Oct. 4	92.68
11	93.52	12	93.39	12	93.60	11	92.67
18	93.41	19	93.35	19	93.57	18	92.55
25	93.49	26	93.38	26	93.49	25	92.62
Feb. 1	93.53	May 3	93.64	Aug. 2	93.52	Nov. 1	92.61
8	93.34	10	93.76	9	93.29	8	92.69
15	93.24	17	93.36	16	93.27	15	92.58
22	93.22	24	93.78	23	93.22	22	92.54
Mar. 1	93.19	31	93.66	30	93.24	29	92.55
8	93.13	June 7	93.76	Sept. 6	93.24	Dec. 6	92.46
15	93.18	14	93.74	13	93.04	13	92.44
22	93.22	21	93.76	20	92.82	20	92.35
29	93.10	28	93.52	27	92.71	27	92.32

S 201. Measurements discontinued Feb. 8, 1941.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Jan. 4	a27.96	Jan. 18	a27.30	Jan. 26	29.01	Feb. 3	27.94
5	29.00	19	28.95	27	28.00	4	29.03
6	27.97	20	27.90	28	29.05	5	27.92
7	28.95	21	28.94	29	27.96	6	29.01
8	27.87	22	27.85	30	29.05	7	28.05
9	28.68	23	29.00	31	28.06	8	a27.95
10	27.36	24	27.92	Feb. 1	27.94		
11	a27.86	25	27.85	2	29.04		

S 202.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	39.49	39.55	39.77	39.35	39.18	39.02	38.94	38.96	38.84	38.93	38.78
2	.....	39.53	39.50	39.74	39.34	39.14	38.98	38.92	38.85	38.84	38.96	38.73
3	.....	39.51	39.52	39.64	39.31	39.12	38.93	38.91	38.78	38.87	38.88	38.75
4	a39.75	39.48	39.60	39.65	39.35	39.20	39.02	38.93	38.82	38.88	38.89	38.74
5	39.55	39.50	39.60	39.70	39.43	39.24	39.00	38.93	38.95	38.87	38.89	38.85
6	39.41	39.49	39.52	39.82	39.39	39.08	39.00	38.90	38.92	38.78	38.90	38.74
7	39.41	39.53	39.52	39.74	39.44	39.09	39.03	38.87	38.86	38.78	38.97	38.63
8	39.46	39.70	39.56	39.77	39.51	39.14	39.08	38.89	38.76	38.79	38.80	38.64
9	39.49	39.56	39.84	39.75	39.54	39.13	39.04	38.92	38.76	38.71	38.74	38.73
10	39.53	39.44	39.80	39.72	39.49	39.16	38.99	38.87	38.78	38.73	38.72	38.53
11	39.54	39.44	39.80	39.54	39.51	39.09	39.00	38.80	38.80	38.71	38.73	38.55
12	39.55	39.58	39.89	39.54	39.44	39.00	39.04	38.89	38.80	38.71	38.74	38.55
13	39.41	39.56	39.66	39.56	39.41	39.04	39.00	38.82	38.71	38.73	38.75	38.53
14	39.32	39.57	39.67	39.58	39.43	39.17	38.97	38.79	38.73	38.75	38.77	38.89
15	39.32	39.69	39.72	39.58	39.47	39.18	39.02	38.84	38.80	38.79	38.78	38.72
16	39.32	39.63	39.76	39.57	39.48	39.20	39.05	38.90	38.82	38.81	38.77	38.72
17	39.54	39.65	39.80	39.53	39.50	39.10	39.07	38.84	38.81	38.76	38.64	38.77
18	39.55	39.62	39.75	39.54	39.33	39.07	39.04	38.82	38.76	38.79	38.65	38.77
19	39.46	39.55	39.72	39.47	39.28	39.03	39.10	38.86	38.73	38.76	38.84	38.81
20	39.40	39.57	39.68	39.49	39.24	39.06	39.00	38.88	38.75	38.77	38.86	38.73
21	39.38	39.60	39.69	39.57	39.24	39.05	38.96	38.83	38.78	38.89	38.99	38.65
22	39.42	39.64	39.70	39.36	39.26	39.07	38.98	38.86	38.80	38.85	38.78	38.66
23	39.48	39.61	39.71	39.37	39.28	39.03	39.02	38.89	38.86	38.87	38.78	38.74
24	39.43	39.48	39.75	39.42	39.20	39.06	39.00	38.86	38.83	38.85	38.76	38.95
25	39.50	39.48	39.83	39.52	39.17	38.97	38.98	38.89	38.83	38.79	38.77	38.89
26	39.47	39.47	39.79	39.53	39.21	38.97	38.97	38.96	38.81	38.75	38.91	38.83
27	39.48	39.47	39.76	39.40	39.16	39.01	38.93	38.92	38.74	38.80	38.92	38.76
28	39.54	39.52	39.78	39.36	39.14	39.01	38.98	38.82	38.76	38.93	38.73	38.71
29	39.58	.....	39.84	39.28	39.13	39.00	38.94	38.84	38.74	38.73	38.75	38.69
30	a39.54	.....	39.80	39.33	39.16	38.99	38.98	38.89	38.74	38.75	38.83	38.70
31	a39.54	.....	39.75	.....	39.13	.....	39.02	38.92	.....	38.92	.....	38.75

a Estimated.

Suffolk County--Continued

S 203.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	75.62	75.46	75.31	75.14	75.07	74.83	74.68	74.57	74.49	74.31	74.25	73.38
2	75.65	75.51	75.28	75.11	74.98	74.79	74.66	74.55	74.43	74.26	74.23	73.94
3	75.76	75.47	75.28	75.08	74.97	74.79	74.61	74.53	74.39	74.29	74.17	73.88
4	75.82	75.44	75.21	75.08	74.93	74.83	74.66	74.54	74.44	74.36	74.15	73.89
5	75.67	75.46	75.21	75.10	74.99	74.81	74.62	74.56	74.49	74.36	74.15	73.96
6	75.56	75.42	75.20	75.07	74.96	74.74	74.61	74.50	74.52	74.27	74.16	73.92
7	75.56	75.48	75.19	75.07	74.98	74.75	74.67	74.50	74.45	74.27	74.14	73.90
8	75.60	75.48	75.29	75.08	75.03	74.83	74.71	74.54	74.40	74.26	74.03	73.91
9	75.63	75.32a	75.33	75.07	75.04	74.79	74.64	74.57	74.40	74.24	74.03	73.84
10	75.65	75.30	75.15a	75.05	74.91	74.80	74.63	74.46	74.42	74.32	74.06	73.82
11	75.69	75.34	75.15a	75.02	74.91	74.73	74.63	74.46	74.41	74.24	74.10	73.80
12	75.69	75.37	75.16	75.01	74.90	74.72	74.62	74.51	74.39	74.24	74.06	73.80
13	75.54	75.35	75.16	75.04	74.88	74.76	74.58	74.44	74.37	74.21	74.04	73.86
14	75.50	75.44	75.21	75.15	74.89	74.37	74.58	74.44	74.37	74.24	74.07	73.90
15	75.54	75.46	75.21	75.14	74.90	74.86	74.60	74.47	74.43	74.32	74.03	73.79
16	75.54	75.41	75.26	75.08	74.96	74.79	74.63	74.55	74.44	74.20	74.00	73.80
17	75.66	75.42	75.22	75.09	74.96	74.77	74.62	74.45	74.42	74.19	73.95	73.78
18	75.63	75.43	75.21	75.08	74.83	74.75	74.60	74.45	74.38	74.23	73.98	73.78
19	75.57	75.43	75.20	75.03	74.83	74.73	74.60	74.50	74.34	74.22	74.04	73.80
20	75.49	75.36	75.13	75.09	74.81	74.73	74.56	74.46	74.34	74.21	74.07	73.70
21	75.47	75.36	75.14	75.03	74.81	74.73	74.55	74.43	74.36	74.28	74.00	73.70
22	75.51	75.36	75.13	74.96	74.87	74.77	74.57	74.45	74.40	74.24	73.95	73.75
23	75.47	75.27	75.13	74.98	74.87	74.73	74.60	74.47	74.42	74.23	73.97	73.80
24	75.45	75.27	75.18	75.01	74.78	74.74	74.60	74.44	74.33	74.21	73.91	73.93
25	75.48	75.27	75.22	74.99	74.76	74.66	74.61	74.47	74.39	74.19	73.91	73.75
26	75.46	75.26	75.15	75.01	74.84	74.67	74.57	74.54	74.31	74.14	74.01	73.75
27	75.43	75.27	75.13	75.06	74.80	74.73	74.56	74.42	74.31	74.23	73.96	73.74
28	75.54	75.36	75.17	74.99	74.78	74.72	74.60	74.41	74.32	74.10	73.89	73.74
29	75.54	.....	75.17	74.94	74.76	74.73	74.55	74.42	74.28	74.07	73.90	73.69
30	75.54	.....	75.11	75.04	74.76	74.70	74.53	74.48	74.29	74.13	73.93	73.68
31	75.43	.....	75.11	.....	74.80	.....	74.60	74.52	.....	74.24	.....	73.70

S 1803

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	16.18	Apr. 5	16.27	July 5	16.12	Oct. 4	15.00
11	16.12	12	16.45	12	16.05	11	15.03
18	16.24	19	16.28	19	15.94	18	14.97
25	16.29	26	16.16	26	15.81	25	14.93
Feb. 1	16.24	May 3	16.05	Aug. 2	15.73	Nov. 1	15.01
8	16.74	10	16.03	9	15.59	8	15.15
15	16.59	17	15.94	16	15.49	15	15.12
22	16.40	24	15.87	23	15.39	22	15.04
Mar. 1	16.21	31	15.77	30	15.40	29	15.19
8	16.14	June 7	15.98	Sept. 6	15.31	Dec. 6	15.18
15	16.52	14	16.23	13	15.22	13	15.16
22	16.51	21	16.40	20	15.12	20	15.78
29	16.37	28	16.16	27	15.04	27	15.75

S 1804

Water level, in feet above mean sea level, 1941

Jan. 4	10.72	Feb. 15	10.90	Mar. 29	10.84	May 10	10.76
11	10.71	22	10.96	Apr. 5	10.81	17	10.70
18	10.75	Mar. 1	10.75	12	10.88	24	10.66
25	10.82	8	10.76	19	10.86	31	10.61
Feb. 1	10.79	15	10.87	26	10.81	June 7	10.67
8	10.93	22	10.89	May 3	10.75	14	11.02

a Estimated.

Suffolk County--Continued

S 1804.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
June 21	10.83	Aug. 9	10.49	Sept.27	10.24	Nov. 15	10.18
28	10.68	16	10.50	Oct. 4	10.28	22	10.17
July 5	10.74	23	10.42	11	10.28	29	10.19
12	10.70	30	10.53	18	10.20	Dec. 6	10.19
19	10.63	Sept. 6	10.38	25	10.17	13	10.11
26	10.57	13	10.32	Nov. 1	10.23	20	10.31
Aug. 2	10.68	20	10.29	8	10.27	27	10.30

S 1805. On Aug. 30, 1941, observations were started in a new well constructed by New York City Department of Water Supply, Gas, & Electricity to replace the old well, about 100 feet distant. New well is at southwest corner of Farmingdale Road and Albany Avenue, about 3 miles north of Amityville. Diameter 2 inches, measured depth 22.9 feet below measuring point. Measuring point, top of coupling, 0.7 foot above land surface and 57.31 feet above mean sea level. Water level Aug. 30, 1941, 15.66 feet below measuring point and 41.65 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Aug. 30	41.65	Oct. 4	40.77	Nov. 8	40.04	Dec. 13	39.40
Sept. 6	41.46	11	40.63	15	39.91	20	39.60
13	41.46	18	40.46	22	39.76	27	39.52
20	41.11	25	40.30	29	39.64		
27	40.94	Nov. 1	40.14	Dec. 6	39.52		

S 1806.

Water level, in feet above mean sea level, 1941

Jan. 4	55.52	Apr. 5	56.48	July 5	56.71	Oct. 4	55.14
11	55.47	12	56.47	12	56.75	11	54.97
18	55.50	19	56.58	19	56.65	18	54.89
25	55.53	26	56.68	26	56.51	25	54.70
Feb. 1	55.60	May 3	56.74	Aug. 2	56.40	Nov. 1	54.54
8	55.84	10	56.72	9	56.28	8	54.46
15	56.02	17	56.63	16	56.14	15	54.30
22	56.33	24	56.50	23	56.00	22	54.17
Mar. 1	56.50	31	56.38	30	55.86	29	54.04
8	56.54	June 7	56.29	Sept. 6	55.73	Dec. 6	53.89
15	56.43	14	56.24	13	55.56	13	53.76
22	56.45	21	56.31	20	55.41	20	53.69
29	56.46	28	56.56	27	55.28	27	53.61

S 1807.

Water level, in feet above mean sea level, 1941

Jan. 4	21.71	Apr. 5	21.89	July 5	21.97	Oct. 4	20.78
11	21.66	12	22.02	12	21.85	11	20.81
18	21.81	19	21.99	19	21.74	18	20.71
25	21.84	26	21.93	26	21.56	25	20.69
Feb. 1	21.77	May 3	21.82	Aug. 2	21.49	Nov. 1	20.86
8	22.34	10	21.87	9	21.33	8	20.80
15	22.16	17	21.86	16	21.27	15	20.71
22	22.00	24	21.76	23	21.14	22	20.68
Mar. 1	21.86	31	21.70	30	21.17	29	20.79
8	21.83	June 7	21.84	Sept. 6	21.05	Dec. 6	20.86
15	21.80	14	22.19	13	20.94	13	20.78
22	22.04	21	22.11	20	20.83	20	21.25
29	21.96	28	22.01	27	20.76	27	21.20

Suffolk County--Continued

S 1808.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	11.15	Apr. 5	11.01	July 5	10.82	Oct. 4	9.63
11	10.36	12	11.14	12	10.67	11	9.78
18	11.30	19	10.95	19	10.50	18	9.70
25	11.36	26	10.86	26	10.27	25	9.66
Feb. 1	11.01	May 3	10.72	Aug. 2	10.22	Nov. 1	9.78
8	12.06	10	11.04	9	10.01	8	10.06
15	11.35	17	10.69	16	9.96	15	10.01
22	11.05	24	10.54	23	9.85	22	9.92
Mar. 1	10.85	31	10.37	30	10.12	29	10.16
8	10.96	June 7	10.92	Sept. 6	9.97	Dec. 6	10.32
15	11.50	14	11.42	13	9.80	13	10.21
22	11.20	21	10.95	20	9.67	20	10.89
29	11.13	28	10.56	27	9.58	27	10.73

S 1809.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	27.81	Apr. 5	28.93	July 5	29.25	Oct. 4	27.06
11	27.92	12	29.03	12	29.09	11	26.92
18	28.03	19	29.17	19	28.92	18	26.77
25	28.08	26	29.04	26	28.75	25	26.66
Feb. 1	28.27	May 3	28.94	Aug. 2	28.58	Nov. 1	26.58
8	28.32	10	28.84	9	28.39	8	26.44
15	28.85	17	28.71	16	28.21	15	26.35
22	28.95	24	28.61	23	28.02	22	26.26
Mar. 1	28.81	31	28.52	30	27.86	29	26.18
8	28.68	June 7	28.55	Sept. 6	27.70	Dec. 6	26.12
15	28.59	14	28.79	13	27.53	13	26.05
22	28.81	21	29.36	20	27.37	20	26.26
29	28.98	28	29.47	27	27.20	27	26.38

S 1810.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	51.16	Apr. 5	51.75	July 5	51.99	Oct. 4	51.10
11	51.08	12	51.67	12	52.16	11	50.95
18	51.06	19	51.73	19	52.23	18	50.81
25	50.97	26	51.75	26	52.23	25	50.70
Feb. 1	50.99	May 3	51.82	Aug. 2	52.14	Nov. 1	50.57
8	51.01	10	51.83	9	52.05	8	50.43
15	51.14	17	51.91	16	51.96	15	50.30
22	51.26	24	51.84	23	51.85	22	50.15
Mar. 1	51.45	31	51.76	30	51.73	29	50.01
8	51.48	June 7	51.69	Sept. 6	51.62	Dec. 6	49.91
15	51.71	14	51.66	13	51.48	13	50.11
22	51.76	21	51.69	20	51.35	20	49.66
29	51.80	28	51.83	27	51.22	27	49.54

S 1811. Measuring point raised 0.22 foot Oct. 1, 1941. New measuring point, top edge of bridge over ditch that connects Lake Ronkonkoma with a small nearby swampy area. Measuring point is 59.17 feet above mean sea level. Lake level, Oct. 4, 1941, 5.39 feet below measuring point and 53.78 feet above mean sea level.

Lowest daily lake level, in feet above mean sea level, 1941
(Record from Jan. 1 through Sept. 27 based on recorder charts; record after Sept. 27 taken from tape measurements)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	55.00	55.10	55.16	55.21	54.96	54.64	54.71	54.52	54.25	.....	53.67	.....
2	54.99	55.10	55.19	55.21	54.95	54.67	54.71	54.51	54.24	.....	.....	.....
3	55.00	55.08	55.19	55.20	54.93	54.67	54.71	54.49	54.23	.....	.....	.....
4	55.01	55.08	55.18	55.19	54.91	54.66	54.71	54.47	54.23	53.78	.....	.....
5	54.99	55.07	55.16	55.19	54.90	54.68	54.73	54.45	54.23	.....	.....	.....

Suffolk County--Continued

S 1811.--Continued

Lowest daily lake level, in feet above mean sea level, 1941
(Record from Jan. 1 through Sept. 27 based on recorder charts; record after Sept. 27 taken from tape measurements)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
6	54.93	55.07	55.15	55.26	54.89	54.72	54.72	54.43	54.17	.....	.....	53.49
7	54.97	55.06	55.15	55.28	54.87	54.72	54.72	54.41	54.13	.....	.....	.....
8	54.96	55.33	55.15	55.26	54.87a	54.72	54.75	54.39	54.12	.....	53.62	.....
9	54.96	55.33	55.29	55.25	54.90	.....	54.74	54.38	54.12	.....	.....	.....
10	54.95	55.32	55.29	55.24	54.91	.....	54.73	54.34	54.12	.....	.....	.....
11	54.95	55.32	55.23	55.23	54.89	.....	54.73	54.32	54.11	53.56	.....	.....
12	54.94	55.31	55.34	55.22	54.88	.....	54.72	54.32	54.10	.....	.....	.....
13	54.94	55.30	55.33	55.21	54.86	.....	54.71	54.28	54.10	.....	.....	53.35
14	54.93	55.30	55.32	55.20	54.84a	54.76	54.71	54.26	54.09	.....	.....	.....
15	54.93	55.30	55.32	55.20	54.82a	54.76	54.70	54.25	54.09	.....	53.46	.....
16	54.93	55.29	55.32	55.19	54.81a	54.77	54.70	54.26	54.09	.....	.....	.....
17	54.93	55.29	55.31	55.17	54.80a	54.77	54.69	54.25	54.08	.....	.....	.....
18	55.08	55.28	55.23	55.16	54.77a	54.77	54.69	54.25	54.08	53.62	.....	.....
19	55.06	55.27	55.26	55.16	54.75a	54.78	54.69	54.25	54.07	.....	.....	.....
20	55.05	55.25	55.26	55.15	54.74a	54.78	54.68	54.25	54.06	.....	.....	53.35
21	55.05	55.24	55.25	55.11	54.72	54.78	54.67	54.24	54.00	.....	.....	.....
22	55.04	55.23	55.25	55.09	54.71	54.77	54.65	54.24	53.98	.....	53.48	.....
23	55.04	55.21	55.24	55.06	54.70	54.76	54.63	54.24	53.98	.....	.....	.....
24	55.04	55.20	55.24	55.06	54.70	54.75	54.62	54.23	53.97	.....	.....	.....
25	55.13	55.19	55.27	55.07	54.67	54.74	54.61	54.23	53.97	53.59	.....	.....
26	55.12	55.17	55.26	55.04	54.64	54.73	54.58	54.24	53.95	.....	.....	.....
27	55.13	55.16	55.26	55.02	54.63	54.73	54.56	54.26	53.94	.....	.....	53.34
28	55.13	55.16	55.25	55.00	54.64	54.73	54.55	54.25	.....	.....	.....	.....
29	55.13	.....	55.23	54.99	54.65	54.72	54.54	54.25	.....	.....	53.45	.....
30	55.12	.....	55.23	54.97	54.64	54.72	54.54	54.25	.....	.....	.....	.....
31	55.11	.....	55.22	.....	54.64	.....	54.53	54.24	.....	.....	.....	.....

S 1812.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	47.50	Apr. 5	47.74	July 5	47.57	Oct. 4	46.79
11	47.41	12	47.68	12	47.58	11	46.70
18	47.43	19	47.74	19	47.55	18	46.60
25	47.33	26	47.72	26	47.49	25	46.51
Feb. 1	47.28	May 3	47.72	Aug. 2	47.46	Nov. 1	46.44
8	47.61	10	47.74	9	47.41	8	46.32
15	47.55	17	47.72	16	47.35	15	46.21
22	47.57	24	47.64	23	47.28	22	46.10
Mar. 1	47.61	31	47.57	30	47.21	29	46.01
8	47.67	June 7	47.56	Sept. 6	47.15	Dec. 6	45.92
15	47.72	14	47.66	13	47.05	13	45.83
22	47.73	21	47.58	20	46.97	20	45.77
29	47.76	28	47.60	27	46.88	27	45.68

S 1813.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	38.45	Apr. 5	38.70	July 5	38.60	Oct. 4	37.89
11	38.39	12	38.75	12	38.59	11	37.85
18	38.43	19	38.78	19	38.53	18	37.77
25	38.37	26	38.72	26	38.46	25	37.66
Feb. 1	38.35	May 3	38.65	Aug. 2	38.45	Nov. 1	37.71
8	38.54	10	38.63	9	38.37	8	37.66
15	38.71	17	38.57	16	38.32	15	37.59
22	38.66	24	38.55	23	38.26	22	37.53
Mar. 1	38.58	31	38.51	30	38.22	29	37.49
8	38.61	June 7	38.56	Sept. 6	38.18	Dec. 6	37.42
15	38.61	14	38.65	13	38.10	13	37.37
22	38.68	21	38.74	20	38.02	20	37.49
29	38.70	28	38.69	27	37.94	27	37.35

a Estimated.

Suffolk County--Continued

S 1814.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	36.75	Apr. 5	37.17	July 5	37.17	Oct. 4	36.29
11	36.68	12	37.12	12	37.16	11	36.18
18	36.67	19	37.16	19	37.12	18	36.10
25	36.64	26	37.16	26	37.13	25	36.03
Feb. 1	36.63	May 3	37.15	Aug. 2	36.98	Nov. 1	35.95
8	36.80	10	37.13	9	36.92	8	35.87
15	36.98	17	37.12	16	36.85	15	35.79
22	37.10	24	37.05	23	36.77	22	35.69
Mar. 1	37.15	31	37.00	30	36.69	29	35.63
8	37.21	June 7	36.97	Sept. 6	36.62	Dec. 6	35.54
15	37.16	14	37.00	13	36.53	13	35.48
22	37.19	21	37.08	20	36.45	20	35.45
29	37.20	28	37.16	27	36.37	27	35.39

S 1815.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	46.09	Apr. 5	46.45	July 5	46.44	Oct. 4	45.82
11	45.99	12	46.35	12	46.48	11	45.74
18	46.06	19	46.37	19	46.49	18	45.62
25	45.92	26	46.38	26	46.47	25	45.54
Feb. 1	45.90	May 3	46.40	Aug. 2	46.43	Nov. 1	45.51
8	47.01	10	46.48	9	46.38	8	45.37
15	46.34	17	46.47	16	46.33	15	45.25
22	46.35	24	46.40	23	46.25	22	45.15
Mar. 1	46.37	31	46.34	30	46.21	29	44.94
8	46.40	June 7	46.34	Sept. 6	46.14	Dec. 6	44.96
15	46.47	14	46.53	13	46.04	13	44.85
22	46.49	21	46.36	20	45.97	20	44.77
29	46.49	28	46.39	27	45.90	27	44.65

S 1816.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	57.45	Apr. 5	58.02	July 5	58.49	Oct. 4	57.21
11	57.35	12	57.94	12	58.57	11	57.07
18	57.35	19	58.08	19	58.57	18	56.92
25	57.30	26	58.16	26	58.43	25	56.79
Feb. 1	57.33	May 3	58.24	Aug. 2	58.33	Nov. 1	56.66
8	57.55	10	58.28	9	58.22	8	56.53
15	57.67	17	58.27	16	58.11	15	56.39
22	57.85	24	58.13	23	57.98	22	56.25
Mar. 1	58.00	31	58.04	30	57.88	29	56.12
8	58.05	June 7	57.98	Sept. 6	57.76	Dec. 6	55.98
15	58.05	14	58.02	13	57.61	13	55.92
22	58.05	21	58.08	20	57.48	20	55.76
29	58.06	28	58.34	27	57.35	27	55.64

S 1817.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	51.99	Mar. 8	52.11	May 10	52.15	July 12	52.11
11	51.80	15	52.51	17	51.95	19	51.94
18	52.22	22	52.40	24	51.92	26	51.73
25	52.07	29	52.34	31	51.75	Aug. 2	51.67
Feb. 1	51.90	Apr. 5	52.24	June 7	52.26	9	51.55
8	53.17	12	52.41	14	53.05	16	51.46
15	52.49	19	52.22	21	52.46	23	51.25
22	52.26	26	52.12	28	52.15	30	51.34
Mar. 1	52.10	May 3	52.00	July 5	52.19	Sept. 6	51.18

Suffolk County--Continued

S 1817.--Continued

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 13	51.04	Oct. 11	50.69	Nov. 8	50.57	Dec. 6	50.33
20	50.88	18	50.54	15	50.43	13	50.25
27	50.74	25	50.47	22	50.32	20	50.95
Oct. 4	50.71	Nov. 1	50.55	29	50.37	27	50.72

S 2020. Measurements discontinued June 14, 1941.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	9.57	9.85	10.48	9.77	10.06	9.94
2	9.38	10.11	9.91	10.18	10.12	9.90
3	10.30	10.11	9.93	10.15	10.06	a 9.85
4	10.22	10.08	9.96	9.35	9.92	a 9.90
5	9.28	9.98	9.80	10.01	10.14	a 10.15
6	9.15	9.83	9.65	10.52	9.91	a 10.15
7	9.83	10.11	9.58	10.21	9.92	a 9.67
8	9.74	9.96	9.77	9.33	9.94	9.71
9	9.80	9.46	10.60	9.77	9.93	9.57
10	9.83	9.44	9.52	9.63	9.84	9.55
11	10.22	9.42	9.48	9.48	9.71	9.66
12	10.43	9.40	9.63	9.32	9.70	9.59
13	9.45	9.53	9.53	9.24	9.64	9.58
14	9.30	9.86	9.38	9.49	9.62	a 10.01
15	9.24	9.85	9.38	9.66	9.67	.....
16	9.66	9.33	9.72	9.67	9.80	.....
17	9.92	9.50	9.32	9.82	10.08	.....
18	9.93	9.75	8.97	9.79	9.90	.....
19	9.43	9.44	8.95	9.92	9.76	.....
20	9.29	9.20	9.03	9.98	9.87	.....
21	9.17	9.34	9.66	9.72	9.83	.....
22	9.45	9.38	9.59	9.52	9.79	.....
23	9.63	9.79	9.51	9.48	9.83	.....
24	9.55	9.40	9.62	9.66	9.87	.....
25	9.65	9.60	9.38	9.56	9.52	.....
26	9.59	9.35	9.53	9.70	9.38	.....
27	9.75	9.52	9.54	9.33	9.70	.....
28	9.85	9.92	9.76	9.91	a 9.75	.....
29	9.83	.....	10.11	9.53	9.77	.....
30	9.70	.....	9.75	9.70	a 9.65	.....
31	9.76	.....	9.44	.....	9.65	.....

S 2454.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	7.62	Apr. 5	7.40	July 5	7.50	Oct. 4	6.70
11	7.37	12	7.56	12	7.37	11	7.02
18	7.71	19	7.40	19	7.25	18	6.86
25	7.77	26	7.29	26	7.11	25	6.83
Feb. 1	7.49	May 3	7.22	Aug. 2	7.14	Nov. 1	7.07
8	8.24	10	7.43	9	6.99	8	7.18
15	7.72	17	7.23	16	6.97	15	6.99
22	7.45	24	7.22	23	6.92	22	6.91
Mar. 1	7.31	31	7.09	30	7.16	29	7.01
8	7.33	June 7	7.54	Sept. 6	7.02	Dec. 6	7.12
15	7.88	14	7.93	13	6.92	13	6.94
22	7.55	21	7.56	20	6.82	20	7.42
29	7.48	28	7.34	27	6.81	27	7.24

a Estimated.

Suffolk County--Continued

S 2455.

Lowest daily water level, in feet above mean sea level, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	21.80	22.15	22.53	22.73	22.58	22.08	22.62	21.93	21.19	20.55	20.18	20.06
2	21.81	22.17	22.50	22.70	22.55	22.10	22.59	21.91	21.16	20.53	20.19	20.06
3	21.83	22.13	22.50	22.68	22.53	22.08	22.56	21.88	21.14	20.52	20.19	20.05
4	21.86	22.19	22.47	22.66	22.51	22.08	22.56	21.86	21.12	20.51	20.18	20.05
5	21.89	22.19	22.45	22.66	22.49	22.08	22.54	21.83	21.10	20.49	20.17	20.04
6	21.91	22.19	22.43	22.70	22.47	22.10	22.52	21.80	21.08	20.48	20.17	20.05
7	21.92	22.19	22.41	22.72	22.45	22.11	22.50	21.77	21.06	20.47	20.16	20.05
8	21.94	22.25	22.41	22.77	22.44	22.16	22.50	21.75	21.04	20.45	20.16	20.05
9	21.95	22.40	22.40	22.84	22.44	22.23	22.48	21.72	21.02	20.44	20.15	20.04
10	21.96	22.56	22.37	22.91	22.42	22.27	22.45	21.69	21.00	20.43	20.15	20.04
11	21.97	22.67	22.36	22.95	22.40	22.31	22.42	21.66	20.98	20.41	20.14	20.03
12	21.98	22.75	22.40	22.98	22.38	22.33	22.40	21.64	20.96	20.40	20.13	20.03
13	21.98	22.80	22.46	23.00	22.36	22.33	22.38	21.61	20.93	20.39	20.13	20.03
14	21.97	22.83	22.50	23.01	22.34	22.37	22.36	21.58	20.91	20.38	20.12	20.05
15	21.96	22.86	22.53	23.01	22.33	22.43	22.33	21.56	20.89	20.36	20.12	20.24
16	21.96	22.86	22.58	22.98	22.31	22.53	22.31	21.52	20.87	20.35	20.11	20.37
17	21.98	22.86	22.64	22.97	22.30	22.66	22.29	21.49	20.85	20.33	20.10	20.46
18	22.00	22.81	22.68	22.93	22.28	22.76	22.27	21.46	20.82	20.33	20.09	20.53
19	22.00	22.78	22.72	22.90	22.26	22.82	22.25	21.44	20.80	20.31	20.09	20.59
20	22.01	22.75	22.75	22.89	22.24	22.87	22.22	21.42	20.78	20.30	20.08	20.64
21	22.00	22.72	22.77	22.84	22.23	22.89	22.19	21.39	20.76	20.29	20.07	20.67
22	22.00	22.70	22.78	22.78	22.21	22.91	22.17	21.37	20.74	20.28	20.07	20.69
23	22.01	22.66	22.79	22.77	22.20	22.90	22.14	21.35	20.72	20.27	20.07	20.71
24	22.01	22.63	22.79	22.75	22.19	22.88	22.12	21.32	20.70	20.26	20.08	20.73
25	22.02	22.61	22.80	22.72	22.18	22.82	22.09	21.31	20.68	20.25	20.10	20.75
26	22.05	22.58	22.79	22.70	22.16	22.79	22.07	21.29	20.65	20.23	20.09	20.75
27	22.06	22.56	22.78	22.69	22.15	22.75	22.04	21.30	20.63	20.22	20.08	20.76
28	22.03	22.56	22.78	22.65	22.13	22.72	22.02	21.28	20.61	20.21	20.07	20.77
29	22.10	.....	22.77	22.63	22.11	22.68	21.99	21.26	20.59	20.20	20.07	20.76
30	22.12	.....	22.74	22.61	22.10	22.65	21.97	21.23	20.57	20.19	20.06	20.75
31	22.14	.....	22.73	.....	22.08	.....	21.95	21.21	.....	20.18	.....	20.75

S 2543. New York City Board of Water Supply. About 100 feet south of Suffolk Avenue and about 200 feet east of Blydenburgh Road, Central Islip. Diameter 2 inches, measured depth 27.6 feet below measuring point. Measuring point, top of pipe, 0.2 foot above land surface and 62.32 feet above mean sea level. Water level Mar. 23, 1907, 27.12 feet below measuring point and 35.20 feet above mean sea level. Measurements from beginning of record on Mar. 23, 1907, to Dec. 3, 1909, inclusive, by New York City Board of Water Supply; measurements thereafter by U. S. Geological Survey.

Water level, in feet above mean sea level, 1907-09, 1941

Date	Water level	Date	Water level	Date	Water level
Mar. 23, 1907	35.20	Oct. 15, 1908	34.67	Mar. 22, 1941	35.09
Apr. 11	35.37	Nov. 19	34.34	29	35.04
July 29	35.25	Jan. 9, 1909	33.91	Apr. 5	34.97
Sept. 7	34.83	Feb. 20	33.73	12	34.98
Oct. 10	34.59	Mar. 26	34.41	19	35.00
Nov. 2	34.46	Apr. 27	34.65	26	35.03
Dec. 9	34.85	June 15	34.78	May 3	35.01
Jan. 3, 1908	35.14	Aug. 11	34.09	10	34.99
Feb. 4	35.52	Oct. 1	33.68	17	34.94
Mar. 4	35.91	Nov. 5	33.42	24	34.86
Apr. 1	36.03	Dec. 3	33.21	31	34.78
May 2	36.06	Feb. 15, 1941	35.06	June 7	34.80
30	36.20	22	35.16	14	34.86
June 30	35.92	Mar. 1	35.20	21	34.97
Aug. 4	35.45	8	35.23	28	35.00
Sept.15	34.98	15	35.05	July 5	35.02

Suffolk County--Continued

S 2543.--Continued

Water level, in feet above mean sea level, 1907-09, 1941

Date	Water level	Date	Water level	Date	Water level
July 12, 1941	35.01	Sept.13, 1941	34.23	Nov. 8, 1941	33.77
19	34.92	20	34.15	15	33.63
26	34.82	27	34.07	22	33.66
Aug. 2	34.73	Oct. 4	34.00	29	33.62
9	34.63	11	33.94	Dec. 6	33.58
16	34.52	18	33.88	13	33.53
23	34.44	25	33.84	20	33.67
30	34.37	Nov. 1	33.82	27	33.59
Sept. 6	34.32				

S 3112. New York City Department of Water Supply, Gas, & Electricity. At northeast corner of Long Island Avenue and Little East Neck Road, Wyandanch. Diameter 1½ inches, measured depth 33.5 feet below measuring point. Measuring point, top of coupling, 0.3 foot above land surface and 78.09 feet above mean sea level. Water level Aug. 30, 1941, 23.88 feet below measuring point and 54.21 feet above mean sea level.

Water level, in feet above mean sea level, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Aug. 30	54.21	Oct. 4	53.42	Nov. 8	52.71	Dec. 13	52.23
Sept. 6	54.06	11	53.27	15	52.59	20	52.02
13	53.87	18	53.15	22	52.44	27	51.97
20	53.71	25	52.98	29	52.33		
27	53.56	Nov. 1	52.83	Dec. 6	52.21		

OHIO

BUTLER AND HAMILTON COUNTIES

By F. H. Klaer, Jr.

The investigation of ground-water conditions in Butler and Hamilton Counties, Ohio, begun in June 1938, was continued during 1941 by the Federal Geological Survey, in cooperation with the Boards of Commissioners of Butler and Hamilton Counties. The detailed field work of the investigation was essentially completed by December 31, 1940, but measurements of water levels in selected observation wells have been continued through December 31, 1941. It is hoped that the observation-well program will be continued through 1942. Descriptions of the investigation and measurements of water levels made in observation wells in 1938, 1939, and 1940 are given on pages 370-383, Water-Supply Paper 845; pages 556-587, Water-Supply Paper 886; and on pages 173-209, Water-Supply Paper 906, respectively.

A complete report of the investigation, including maps, graphs, and tables of well data and water analyses, was released in manuscript form in June 1941, accompanied by a mimeographed press release.[1/] The report was released in this manner in order that it might be made available as soon as possible to interested persons. It is planned to publish the report as a water-supply paper of the Geological Survey. A brief statement regarding water levels in observation wells during the first 6 months of 1941 was released as a mimeographed press release [2/] in September 1941.

At the end of 1941, water levels were being measured at weekly intervals in 40 wells and at monthly intervals in 20 additional wells. During the year, about 3,500 measurements of water level were made by H. F. Pittman and C. L. Elliott, local observers for the Geological Survey. Measurements of water level in 31 wells were discontinued and measurements in 9

1/ Ground-water resources of the Cincinnati area, Butler and Hamilton Counties, Ohio: U.S. Dept. Interior Press memo. 147236, 2 pp., June 26, 1941.

2/ Ground water in the Cincinnati area reaches lowest levels in three years: U.S. Dept. Interior Press memo. 155883, 3 pp., Sept. 2, 1941.

new wells were begun during the year. Fifteen automatic water-stage recorders were maintained on observation wells, many of them in areas of heavy pumping where fluctuations of water level are so great that individual measurements made at weekly intervals are of little value. Recorders were maintained throughout the year on 8 wells and for shorter periods on 10 other wells. At the end of the year, recorders were in operation on 11 wells in Butler and Hamilton Counties.

Precipitation in southwestern Ohio during 1941 was nearly 11 inches below normal. The year 1941 was the third driest year during the period of record since 1915 at the Abbe Observatory in Cincinnati. The precipitation was normal or above normal only in June, July, October, and December. The greatest deficiencies in precipitation occurred during the first five months of the year, which includes the period when most recharge to the ground-water reservoir generally takes place. During the winter months the ground is usually frozen and there is little opportunity for infiltration, and during the summer months much of the water falling on the ground is lost by evaporation and transpiration.

Although the precipitation was several inches above normal in June and slightly above normal in July, only very little effect on water levels was noted except in the vicinity of Middletown. (See accompanying figure.) The precipitation was above normal in October and December, but recharge did not occur until the latter part of December, at which time the water levels in many wells began to rise.

Pumpage from wells in the area was greater during 1941 than in former years, largely because of increased industrial activity in connection with the war effort. It is estimated that the pumpage from wells in the whole area was 25 to 35 percent greater than during 1939 and 15 to 20 percent greater than during 1940. The total pumpage from the Mill Creek Valley and the Norwood trough during 1941 was estimated to be 18,000,000 gallons a day.

In the Lockland area, where most of the ground water pumped is used for municipal purposes, the average daily pumpage from wells increased from an estimated total of 6,150,000 gallons a day in 1939 to about 6,980,000 gallons a day in 1940, an increase of 13.5 percent. The total pumpage from wells in 1941 was estimated to be 7,941,000 gallons a day, an increase of

14 percent over that of 1940 and 29 percent over that of 1939. (See accompanying figure.) Part of the increase in average daily pumpage from wells in the Lockland area was due to the establishment of a new industrial plant in the Mill Creek Valley near Lockland.

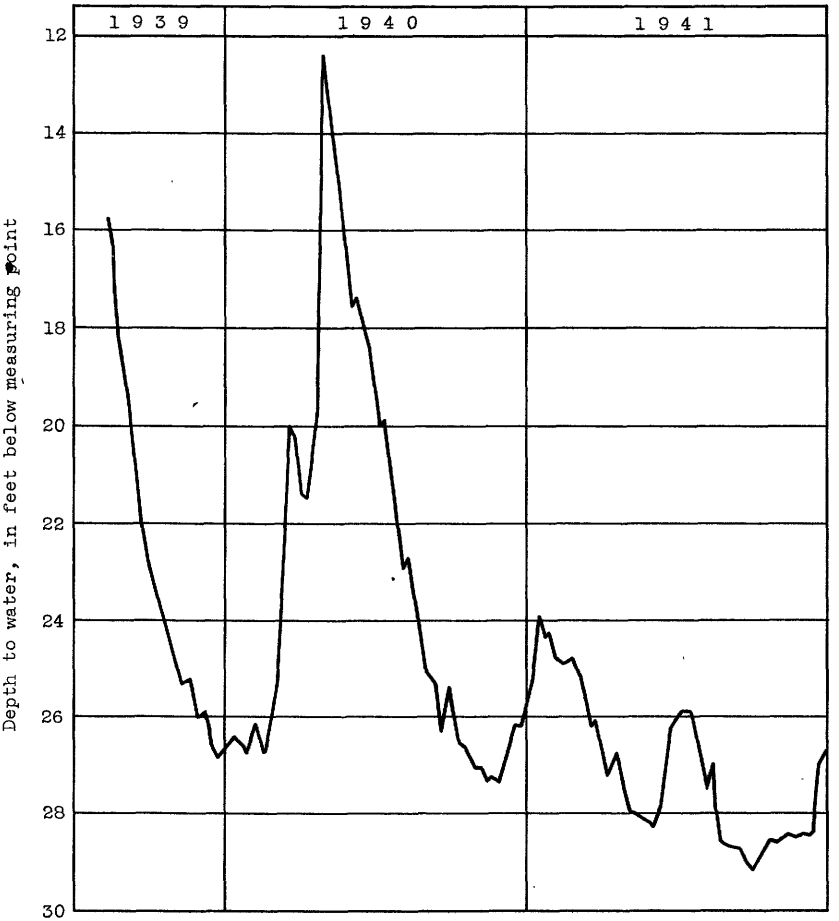

Figure 5.--Graph showing water level in well 29-1, Middletown, Butler County, Ohio.

Water levels in January 1941 were in general low and in some wells they were the lowest levels on record since July 1938. The water levels in most wells declined almost steadily throughout the year, and on December 31 they were generally 10 to 12 feet lower than on January 1, 1941. (See

accompanying figures.) In a few wells, particularly shallow wells in the Middletown area and wells in the Mill Creek Valley between Flockton and Crescentville, water levels rose during January, February, and March but remained several feet lower than during the same periods in 1939 and 1940.

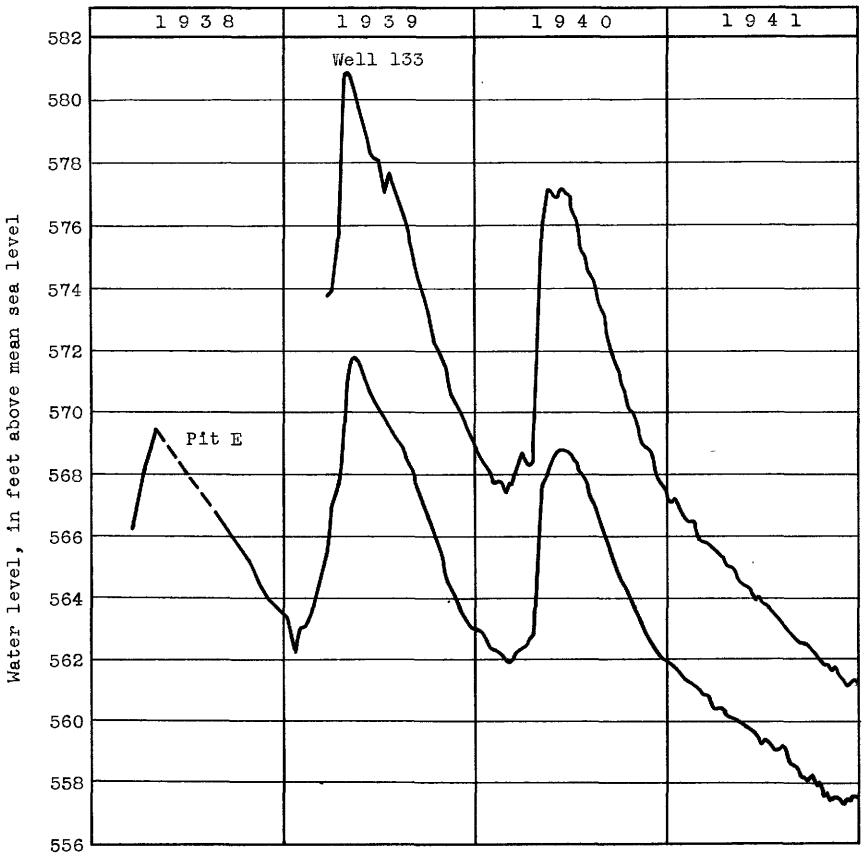

Figure 6.--Graph showing water levels in well 133, Mill Creek Valley, and pit E, Miami Valley, Butler County, Ohio.

Heavy precipitation in June caused a rise of nearly 2 feet in shallow wells in the Middletown area, but elsewhere the water levels showed little effect of the rains. Precipitation was above normal in October and December and small rises in water level occurred in most shallow wells and in wells away from the areas of heavy pumping. On December 31, 1941, the water levels in areas of heavy pumping were in general the lowest on record.

Although only a few records of water level in 1936, reported to be the lowest levels previously reached, are available, it is believed that the levels in December 1941 were, in general, from 2 to 20 feet lower than those in December 1936. Part of this decline may be attributed to the

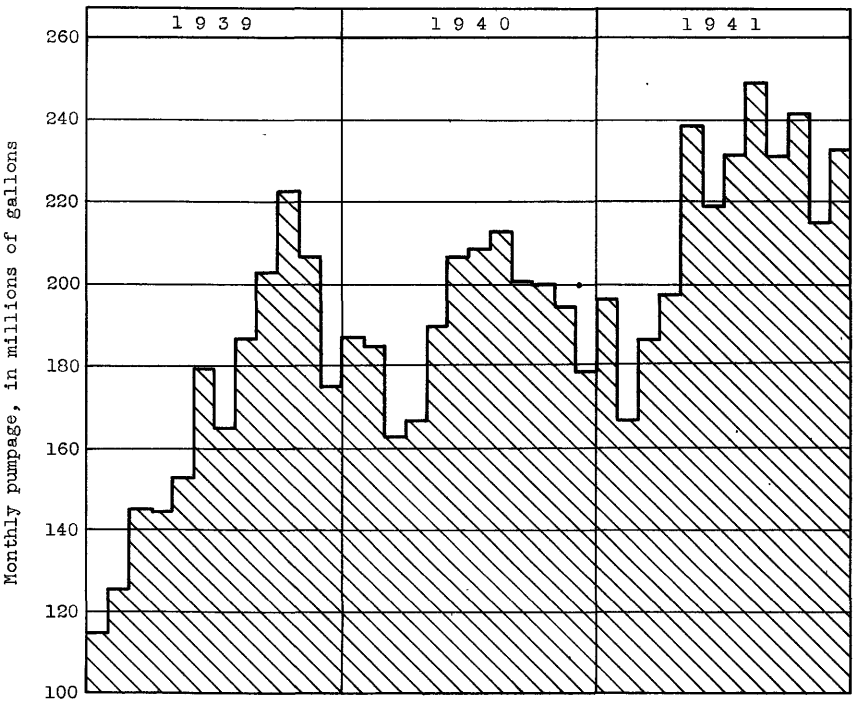

Figure 7.--Graph showing total monthly pumpage from wells of principal users of ground water in the Lockland area, Hamilton County, Ohio, 1939-41.

general decline in water levels during the past five years and part to the decline during the past year because of increased industrial pumpage and deficient precipitation.

In the following tables, water levels in wells are given in feet below the measuring points, and water levels in gravel pits are given in feet above the zero readings of staff gages. If water-level measurements for a

well have been given in previous reports, the descriptions of the wells and of the measuring points, if unchanged, are omitted. For wells on which automatic water-stage recorders have been in operation, the lowest water level reached each day, as determined from recorder charts, is given.

The numbers of the wells are those used in the complete report released in June 1941, and are based on geographic location. Permanent num-

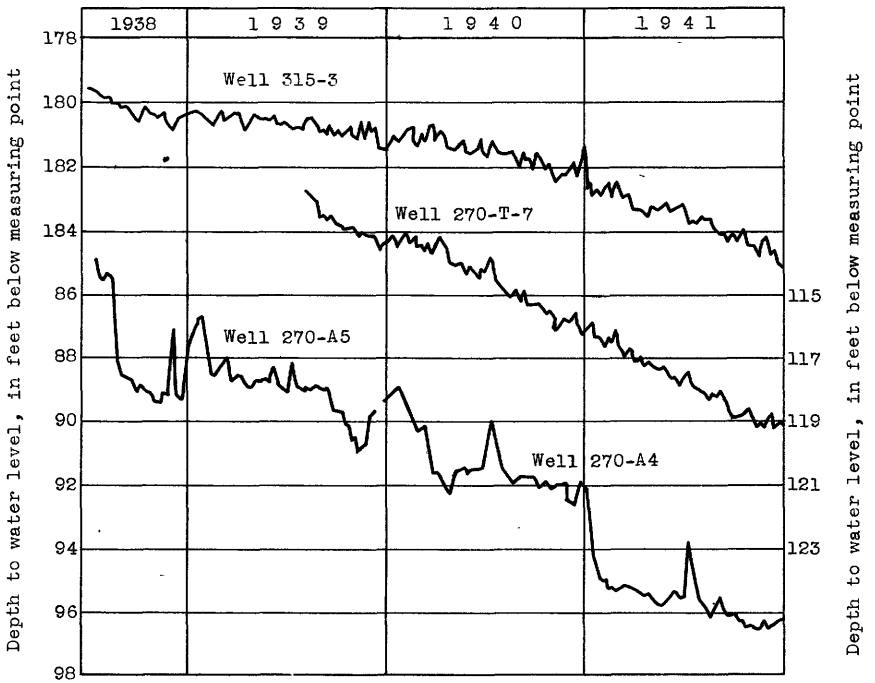

Figure 8.--Graphs showing water level in wells 315-3, Norwood, 270-T-7, 270-A4, and 270-A5, Ivorydale, Mill Creek Valley, Hamilton County, Ohio. Well 270-A4 replaced well 270-A5 in December 1940 and measurements are corrected to measuring point of well 270-A4.

bers are used. In general, the wells are grouped by townships, beginning in the northern part of Butler County.

521719 O - 43 - 14

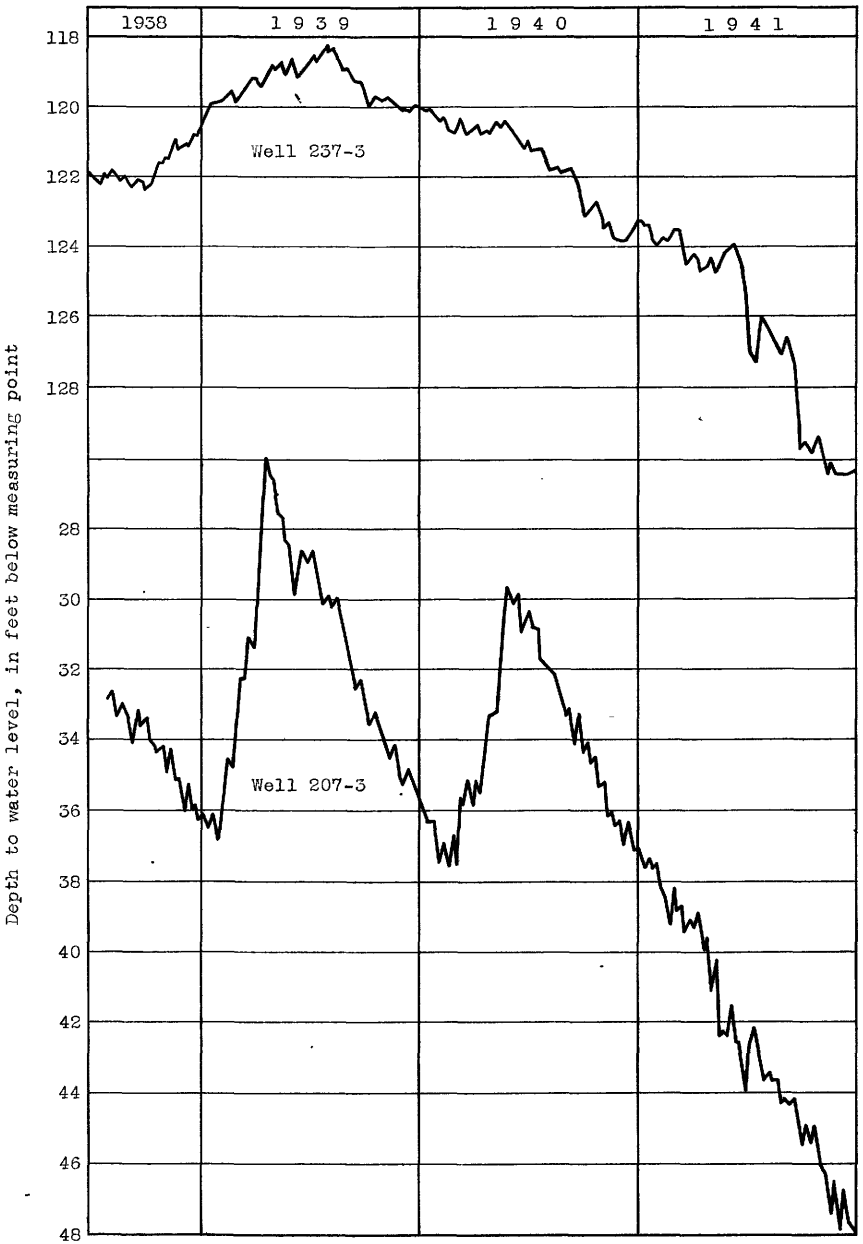

Figure 9.--Graph showing water levels in well 237-3, Wyoming, and well 207-3, Sharon Avenue, Mill Creek Valley, Ohio. Measurements on well 207-3 corrected to present measuring point.

Butler County

12. Village of Trenton, 2.3 miles west from Excello.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	15.90	Mar. 11	16.37	May 13	17.04	July 15	16.56
14	16.08	18	16.48	20	a 18.34	22	16.75
21	16.06	25	16.55	27	a 18.40	29	a 18.24
28	a 17.35	Apr. 1	16.69	June 3	a 18.40	Aug. 5	17.28
Feb. 4	16.17	8	16.60	10	a 17.94	12	a 18.59
11	16.14	15	16.50	17	16.31	Sept. 16	a 19.15
18	15.98	22	16.62	24	16.26	Oct. 14	18.14
25	16.09	29	16.55	July 1	16.46	Nov. 10	18.10
Mar. 4	a 17.50	May 6	a 18.65	8	16.53	Dec. 16	a 19.62

25-5. City of Middletown, municipal water plant. In boiler pit at pumping plant. Abandoned drilled well, diameter 8 inches, depth 62 feet. Measuring point, top of grating over pump pit, level with floor of pumphouse, 27.5 feet above top of casing, 1.0 foot above land surface and 650.9 feet above sea level. Automatic water-stage recorder installed Apr. 15, 1941.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	40.10	40.86	38.26	39.62	41.20	41.92	40.78	40.75
2	.....	40.18	40.63	38.41	39.71	40.97	41.84	40.80	40.68
3	.....	40.19	40.54	38.47	39.70	41.22	41.81	40.82	40.57
4	.....	40.26	40.50	38.48	39.87	41.15	41.70	40.85	40.58
5	.....	40.27	40.45	38.08	40.08	41.27	41.54	40.93	40.66
6	.....	40.37	40.23	37.92	40.13	41.40	41.38	40.90	40.64
7	.....	40.37	40.30	37.60	40.14	41.33	41.08	40.86	40.58
8	.....	40.43	40.23	37.62	40.15	41.35	41.08	40.86	40.63
9	.....	40.44	40.20	37.62	40.25	41.36	41.10	40.81	.....
10	.....	40.31	40.18	37.67	40.28	41.42	41.01	40.70	40.62
11	.....	40.48	40.30	37.75	40.24	41.37	40.87	40.66	40.90
12	.....	40.56	40.30	37.87	40.07	41.36	40.76	40.61	41.01
13	.....	40.61	40.25	37.91	40.26	41.39	40.71	40.62	40.95
14	.....	40.67	40.23	37.93	40.40	41.42	40.63	40.55	40.77
15	38.70	40.73	40.10	38.02	40.40	41.42	40.71	40.44	40.45
16	38.85	40.75	39.77	37.95	40.44	41.43	40.76	40.44	40.40
17	39.02	40.47	39.20	37.87	40.56	41.52	40.67	40.52	40.44
18	39.16	40.35	39.00	37.80	40.70	44.52	40.62	40.51	40.45
19	39.28	40.35	38.78	37.96	.....	41.53	40.65	40.60	40.34
20	39.28	40.45	38.67	38.00	41.03	41.55	40.64	40.65	40.21
21	38.87	40.55	38.58	38.17	41.17	41.59	40.63	40.65	40.00
22	39.20	40.60	38.58	38.16	41.30	41.69	40.65	40.65	40.02
23	39.37	40.60	38.22	38.14	41.42	41.76	40.68	40.55	40.13
24	39.69	40.57	37.98	38.14	41.44	42.04	40.64	40.57	40.14
25	40.08	40.60	38.06	38.19	41.25	42.10	40.65	40.52	40.01
26	40.20	40.43	38.12	38.35	41.26	41.98	40.59	40.48	39.45
27	39.95	40.14	38.17	38.55	41.25	41.98	40.62	40.66	39.40
28	39.86	40.32	38.34	38.70	41.31	42.02	40.71	40.74	39.15
29	39.98	40.54	38.35	38.91	41.28	41.99	40.75	40.78	38.95
30	40.06	40.67	38.28	39.05	41.15	41.96	40.81	40.80	38.65
31	.....	40.82	.....	39.33	41.18	.....	40.76	.....	38.42

Pit J. Moorman Sand and Gravel Company gravel pit, Columbia Avenue, Middletown. Zero of staff gage, 618.00 feet above sea level.

Water level, in feet with reference to zero of staff gage, 1941

Jan. 7	1.00	Feb. 18	1.41	Apr. 1	0.08	May 13	-0.40
14	1.02	25	1.56	8	.18	20	- .62
21	.86	Mar. 4	1.16	15	.94	27	- .50
28	.89	11	.74	22	.84	June 3	- .74
Feb. 4	.80	18	.42	29	.44	10	- .26
11	1.02	25	.26	May 6	- .11	17	.89

a Pumping.

Butler County--Continued.

Pit J. Moorman Sand and Gravel Company gravel pit.--Continued.

Water level, in feet with reference to zero of staff gage, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
June 24	1.50	Aug. 12	-0.80	Sept.30	-2.01	Nov. 18	-0.70
July 1	1.40	19	-1.23	Oct. 7	-1.37	25	- .83
8	1.26	26	-1.45	14	-1.25	Dec. 2	- .83
15	1.20	Sept. 2	-1.58	21	-1.10	9	- .75
22	.86	9	-1.58	28	-1.15	16	-1.07
29	.36	16	-1.65	Nov. 4	-1.15	23	- .99
Aug. 5	- .30	23	-2.20	12	- .85	30	.25

Pit L. Smith Farm gravel pit, abandoned, 0.3 mile north from Middletown. Zero of staff gage, 623.4 feet above sea level.

Water level, in feet with reference to zero of staff gage, 1941

Jan. 7	-1.35	Mar. 25	-1.13	June 10	-2.15	Sept.30	-3.27
14	-1.15	Apr. 1	-1.25	17	-1.98	Oct. 14	-3.51
21	- .99	8	-1.42	24	-1.67	21	-3.34
28	- .87	15	-1.50	July 1	-1.20	28	-3.29
Feb. 4	- .92	22	-1.51	8	-1.18	Nov. 4	-3.13
11	- .86	29	-1.50	15	-1.13	12	-3.02
18	- .82	May 6	-1.67	22	-1.12	25	-2.83
25	- .71	13	-1.80	29	-1.31	Dec. 1	-2.80
Mar. 4	- .71	20	-1.92	Aug. 5	-1.54	16	-2.72
11	- .80	27	-2.17	12	-1.93	23	-2.72
18	- .95	June 3	-2.10	Sept.16	-2.90	30	-2.55

29-1. Young Men's Christian Association, Manchester Avenue and Broad Street, Middletown.

Water level, in feet below measuring point, 1941

Jan. 7	24.84	Apr. 8	27.33	July 8	25.92	Oct. 7	29.20
14	23.84	15	26.98	15	25.88	14	28.91
21	24.41	22	26.77	22	25.92	21	28.68
28	24.25	29	27.42	29	26.26	28	28.58
Feb. 4	24.81	May 6	27.85	Aug. 5	27.10	Nov. 4	28.61
11	24.96	13	28.06	12	27.60	12	28.60
18	24.95	20	28.14	19	26.97	18	28.48
25	24.78	27	28.16	26	28.48	25	28.47
Mar. 4	25.07	June 3	28.32	Sept. 2	28.62	Dec. 2	28.55
11	25.58	10	28.08	9	28.67	9	28.47
18	26.28	17	27.76	16	28.67	16	28.53
25	26.10	24	26.51	23	28.80	23	28.30
Apr. 1	26.68	July 1	26.07	30	29.11	30	27.09

33-1. Wardlow-Thomas Company, Vanderveer and Fifth Avenues, Middletown. Measurements discontinued July 29, 1941.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Jan. 1	46.37	Jan. 21	45.54	Feb. 10	45.71	Mar. 2	46.29
2	46.37	22	45.57	11	45.87	3	45.99
3	46.37	23	45.62	12	45.97	4	46.08
4	46.37	24	45.73	13	46.11	5	46.22
5	45.97	25	45.75	14	46.27	6	46.35
6	45.93	26	45.40	15	46.32	7	46.37
7	46.05	27	45.25	16	45.85	8	46.40
8	46.11	28	45.35	17	45.91	9	46.20
9	46.13	29	45.47	18	46.07	10	46.08
10	46.20	30	45.57	19	46.21	11	46.15
11	46.25	31	45.69	20	46.30	12	46.30
12	45.70	Feb. 1	45.74	21	46.34	13	46.40
13	45.67	2	45.35	22	46.34	14	46.40
14	45.61	3	45.50	23	45.88	15	46.40
15	45.72	4	45.60	24	45.84	16	46.40
16	45.78	5	45.70	25	45.97	17	46.38
17	45.83	6	45.85	26	46.06	18	46.40
18	45.85	7	46.00	27	46.15	19	(a)
19	45.48	8	46.05	28	46.25	Apr. 1	(b)
20	45.48	9	45.66	Mar. 1	46.29	July 29	(b)

a Recorder removed. b Well dry Apr. 1 to July 29, 1941.

Butler County--Continued.

36-13. American Rolling Mill Company, well 13, East end plant, Middletown.

Lowest daily water level, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	115.00	115.54	114.31	114.08	116.81	118.80
2	115.30	114.18	113.41	114.40	117.21	117.40
3	115.40	114.63	113.70	114.68	117.30	117.90
4	115.55	114.84	113.91	114.95	116.30	118.41
5	114.75	114.99	114.00	115.02	116.77	118.84
6	114.90	115.27	114.10	114.12	116.88	119.03
7	115.00	115.34	114.13	114.38	117.30	119.18
8	115.12	115.30	114.10	114.53	117.50	118.90
9	115.30	114.26	112.90	114.89	117.75	118.21
10	115.42	114.58	113.18	115.18	117.45	118.50
11	115.49	114.69	113.38	115.37	116.50	118.78
12	115.30	114.97	113.53	115.10	116.50	119.18
13	114.38	115.10	113.70	114.38	116.96	119.41
14	114.50	115.30	113.62	114.92	117.40	119.40
15	114.78	115.25	113.61	115.10	117.83	119.40
16	114.90	114.20	113.25	115.35	118.18	119.00
17	115.22	113.31	113.71	115.57	118.20	119.14
18	115.32	113.20	113.92	115.97	.....	119.50
19	115.27	113.00	114.04	115.86	.....	119.75
20	114.27	113.55	114.37	115.40	118.00	120.06
21	114.47	113.81	114.58	115.80	118.18	120.16
22	114.89	113.91	114.62	115.90	118.24	119.60
23	115.04	113.23	113.63	116.20	118.29	120.00
24	115.32	113.51	114.00	116.41	117.80	120.40
25	115.35	113.80	113.87	116.63	117.20	120.60
26	114.65	113.91	114.10	116.64	117.00	120.63
27	115.02	114.21	114.40	115.75	117.60	120.91
28	115.10	114.40	114.64	115.85	117.81	121.21
29	115.30	.....	114.71	116.25	118.31	121.24
30	115.49	.....	113.80	116.64	118.75	121.69
31	115.56	.....	113.93	.....	119.07	.....

Lowest daily water level, in feet below measuring point, 1941 (from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	121.72	124.00	125.05	126.20	124.95	125.93
2	122.06	123.83	124.50	126.52	124.00	126.60
3	122.27	122.88	124.90	127.02	123.69	127.12
4	122.10	122.82	125.13	126.93	123.93	127.35
5	121.10	123.20	125.50	125.75	124.31	127.60
6	120.58	123.50	125.58	125.20	124.76	127.58
7	120.96	123.80	125.39	125.68	124.95	127.13
8	121.40	124.12	124.25	125.98	124.80	127.27
9	121.80	124.32	124.65	126.37	123.86	127.50
10	122.00	123.90	124.95	126.66	123.53	127.30
11	122.31	123.42	125.21	126.30	123.75	127.31
12	122.30	123.96	125.41	125.10	124.00	127.31
13	121.60	124.06	125.53	124.50	124.45	127.11
14	121.58	123.82	124.72	124.78	125.05	126.71
15	121.78	124.29	124.60	125.09	125.03	126.58
16	122.19	124.37	125.01	125.32	124.75	126.80
17	122.36	124.20	125.50	125.45	124.63	127.19
18	122.64	123.28	125.84	125.30	125.12	127.71
19	122.20	123.62	126.16	124.69	125.41	127.26
20	121.70	123.88	126.30	124.60	126.00	127.14
21	122.14	124.20	125.75	124.98	126.49	127.51
22	122.30	124.50	125.41	125.13	126.60	127.58
23	122.70	124.72	125.95	125.58	126.51	127.11
24	122.98	124.54	126.08	125.81	125.99	127.36
25	123.28	124.20	126.75	125.61	126.13	127.20

Butler County--Continued.

36-13. American Rolling Mill Company, well 13.--Continued.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	123.11	124.40	126.84	124.47	126.39	126.42
27	122.65	124.68	126.82	124.30	126.17	126.42
28	122.88	125.00	125.87	124.59	126.20	125.83
29	123.30	125.04	125.26	124.70	126.50	125.40
30	123.59	125.15	125.82	125.00	126.35	125.31
31	123.80	125.25	.....	125.08	.....	125.60

Pit P. South Middletown Sand and Gravel Company, gravel pit, 0.1 mile west from 2100 South Main Street, Middletown. Zero of staff gage, 616.6 feet above sea level.

Water level, in feet with reference to zero of staff gage, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	1.64	Apr. 1	0.82	June 24	2.46	Oct. 21	0.74
14	1.26	8	1.62	July 1	1.94	28	.60
21	1.48	15	1.82	8	1.90	Nov. 4	- .55
28	1.32	22	1.54	15	1.98	12	- .50
Feb. 4	1.38	29	1.18	22	1.41	18	- .70
11	1.64	May 6	.92	29	.96	25	- .85
18	2.52	13	.69	Aug. 5	.64	Dec. 2	- .85
25	1.86	20	.87	12	.20	9	-1.04
Mar. 4	1.62	27	.58	Sept.16	- .90	16	-1.20
11	1.17	June 3	.94	30	-1.45	23	-1.30
18	1.06	10	1.48	Oct. 7	-1.39	30	1.62
25	.90	17	3.09	14	- .68		

47-1. Butler County Canning Factory, Oakland. Measurements discontinued Nov. 28, 1939.

47-2. Butler County Canning Factory, Oakland. Measurements discontinued Nov. 28, 1939.

48. Monroe Lumber Company, Oakland. Measurements discontinued Dec. 26, 1939.

85-7. City of Hamilton, new well field, 0.9 mile north from Hamilton on U. S. Highway 127. West well.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	24.70	24.95	25.67	27.31	28.64	27.66	28.55	.....	28.38	29.86	28.97	26.97
2	24.54	25.77	25.62	27.43	27.83	28.25	28.75	.....	28.11	29.94	28.73	27.65
3	23.69	25.37	25.77	27.43	27.85	27.30	28.80	.....	28.25	29.67	27.50	28.12
4	23.90	25.34	26.18	26.55	27.75	27.58	28.06	.....	28.28	28.77	27.15	28.02
5	23.60	25.61	26.40	26.54	28.34	27.01	27.78	29.21	28.26	.....	27.07	27.31
6	25.57	25.50	26.34	26.45	28.36	.....	27.67	.....	28.35	.....	27.94	27.03
7	25.80	25.20	26.40	26.84	28.42	.....	28.28	.....	28.34	26.51	28.47	.....
8	25.73	24.99	26.15	26.90	28.18	.....	28.28	.....	28.30	27.70	28.40	.....
9	26.15	24.78	26.64	26.81	27.87	.....	28.47	.....	28.50	28.77	28.23	28.40
10	25.94	25.42	26.81	26.97	27.63	27.47	28.25	.....	28.47	29.37	28.39	28.77
11	25.72	25.66	26.80	27.24	27.55	26.83	28.05	.....	28.53	29.54	27.94	28.33
12	25.63	25.83	26.70	26.60	28.12	26.36	28.02	29.95	28.43	29.60	28.58	28.20
13	25.82	25.82	26.45	26.41	28.21	26.35	27.99	29.70	28.41	.....	28.40	28.71
14	25.95	25.17	26.13	26.95	28.20	26.58	28.65	29.97	28.33	29.36	28.00	28.75
15	25.93	24.86	26.13	26.95	28.00	26.30	28.90	29.84	28.47	28.37	27.25	28.95
16	25.90	24.67	26.18	26.93	27.82	26.58	28.92	29.59	28.55	28.24	27.13	29.06
17	25.50	25.25	26.30	27.38	27.54	26.40	28.55	29.53	28.66	28.89	27.98	29.25
18	25.51	25.06	26.77	27.42	27.50	26.57	28.43	29.26	28.57	28.52	28.27	29.23
19	25.08	25.29	26.88	27.31	28.07	26.16	28.32	28.50	28.73	28.00	28.57	29.34

Butler County--Continued.

85-7. City of Hamilton.--Continued.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
20	25.05	25.54	26.67	27.43	28.00	26.50	28.18	28.32	28.75	28.05	28.60	29.44
21	25.16	25.60	26.64	27.44	27.98	26.74	28.83	28.45	28.76	28.08	27.37	29.30
22	25.10	25.67	26.35	27.45	27.82	27.02	28.47	28.96	29.50	27.87	27.15	29.53
23	25.19	25.62	26.36	26.75	27.56	27.87	28.60	27.95	29.55	27.30	27.07	29.33
24	24.74	25.77	27.00	27.40	27.36	27.97	.....	27.54	29.70	28.15	27.94	28.33
25	25.06	25.98	27.00	27.41	27.47	28.32	.....	29.33	29.81	28.83	28.32	27.87
26	25.00	25.29	26.75	27.13	28.05	28.40	.....	28.47	29.74	28.38	28.52	27.93
27	25.35	25.54	27.15	26.89	28.00	28.30	.....	29.04	29.67	27.86	28.05	27.80
28	25.31	25.60	27.30	.....	28.75	28.38	.....	28.63	29.69	27.76	29.21	27.83
29	25.32	.....	26.71	28.33	28.75	28.14	.....	28.65	29.70	28.98	29.12	28.07
30	25.17	.....	26.50	28.33	27.14	28.32	.....	28.48	29.80	29.18	25.80	28.18
31	24.95	.....	27.05	.....	27.70	.....	.....	28.46	.....	29.19	.....	27.79

86-7. City of Hamilton, old well field, 0.2 mile north from Hamilton on U. S. Highway 127.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	16.56	Mar. 18	17.48	May 27	17.95	Aug. 5	18.18
14	16.68	25	17.55	June 3	17.82	12	18.53
21	16.78	Apr. 1	17.70	10	17.58	Sept.16	18.65
28	16.85	8	17.67	17	17.25	30	18.78
Feb. 4	16.89	15	17.68	24	17.35	Oct. 14	18.68
11	16.93	22	17.73	July 1	17.52	Nov. 10	18.32
18	16.83	29	17.76	8	17.62	Dec. 1	18.47
25	16.98	May 6	17.93	15	17.72	15	18.65
Mar. 4	17.21	13	17.99	22	17.84	30	18.18
11	17.31	20	17.90	29	18.04		

89-3. General Machinery Company (Niles Tool Works), Hamilton. Automatic water-stage recorder removed and measurements discontinued Aug. 19, 1941.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1	40.70	41.07	40.84	41.58	40.88	41.20	39.68	40.78
2	40.52	41.10	40.94	41.49	40.99	41.33	39.73	40.72
3	40.45	41.12	41.12	41.55	41.08	39.80	39.80	40.61
4	40.54	41.00	41.13	41.56	41.07	39.43	39.61	40.89
5	40.51	40.93	41.13	41.38	41.18	39.53	39.70	40.88
6	40.62	40.90	41.18	41.10	41.29	39.67	39.51	40.96
7	40.73	40.94	41.21	40.82	41.31	39.76	39.37	41.09
8	40.70	40.95	41.19	40.70	41.33	39.70	39.35	41.18
9	40.72	40.94	41.30	40.48	41.38	39.88	39.40	41.21
10	40.70	41.12	41.41	40.40	41.40	39.90	39.40	41.18
11	40.78	41.19	41.40	40.41	41.35	39.80	39.30	41.31
12	40.81	41.20	41.29	40.40	41.29	39.60	39.08	41.38
13	40.98	41.12	41.25	40.31	41.35	39.24	39.00	41.40
14	41.07	41.02	41.30	40.28	41.37	38.96	39.18	41.38
15	41.01	40.82	41.29	40.33	41.41	38.92	39.38	41.36
16	41.03	40.32	41.31	40.30	41.42	37.38	39.40	41.29
17	41.05	39.89	41.39	40.23	41.30	37.30	39.60	41.29
18	41.00	39.98	41.50	40.13	40.48	36.93	39.63	41.40
19	40.96	40.10	41.42	40.22	40.08	37.13	39.72	.....
20	41.00	40.30	41.40	40.30	40.32	37.58	40.02	.....
21	41.00	40.43	41.36	40.39	40.52	37.61	40.16	.....
22	40.95	40.57	41.32	40.44	40.66	38.21	40.19	.....
23	40.98	40.62	41.30	40.44	40.78	38.72	40.25	.....
24	40.96	40.74	41.39	40.50	40.92	39.10	40.30	.....

Butler County--Continued.

89-3. General Machinery Company.--Continued.

Lowest daily water level, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
25	40.98	40.85	41.37	40.55	40.90	39.32	40.24	.....
26	40.96	40.88	41.50	40.60	41.10	39.48	40.35	.....
27	40.98	40.93	41.53	40.58	41.21	39.60	40.47	.....
28	41.00	40.91	41.42	40.61	41.30	39.71	40.71	.....
29	40.97	.....	41.21	40.72	41.39	39.54	40.82	.....
30	41.03	.....	41.37	40.80	41.39	39.57	40.90	.....
31	41.03	.....	41.52	.....	41.22	.....	40.88	.....

104-1. McGreevy Dairy Company, Dixie Highway and Laurel Avenue, Hamilton.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	40.08	Feb. 18	40.60	Apr. 1	41.10	May 13	41.61
14	40.18	25	40.69	8	41.30	20	41.76
21	40.30	Mar. 4	40.79	15	41.37	27	41.75
28	40.40	11	40.89	22	41.42	June 3	41.86
Feb. 4	40.46	18	40.96	29	41.51	10	(a)
11	40.53	25	41.02	May 6	41.57	Dec. 30	(a)

Pit D. Paul Benninghofen gravel pit, (Symmes Lake), 2.1 miles west from Symmes. Zero of staff gage, 543.0 feet above sea level.

Water level, in feet above zero of staff gage, 1941

Jan. 15	2.14	Apr. 16	2.48	Aug. 15	2.00	Dec. 15	0.96
Feb. 15	2.77	June 18	2.35	Dec. 1	1.27	30	2.24
Mar. 15	2.04	July 18	2.04				

114. George Groh, 1.4 miles west from Symmes.

Water level, in feet below measuring point, 1941

Jan. 15	18.65	May 20	19.06	Aug. 15	19.50	Nov. 10	19.62
Feb. 15	18.25	June 18	18.50	Sept.16	19.65	Dec. 16	19.75
Mar. 15	18.64	July 18	18.88	Oct. 4	19.83	30	19.35
Apr. 16	18.56						

117. Anna Magie, 0.7 mile northwest from Symmes.

Water level, in feet below measuring point, 1941

Jan. 7	29.69	Apr. 8	29.92	July 8	30.53	Oct. 7	31.67
14	29.70	15	29.55	15	30.52	14	31.67
21	29.77	22	29.90	22	30.60	21	31.70
28	29.70	29	30.03	29	30.75	28	31.72
Feb. 4	29.53	May 6	30.13	Aug. 5	30.85	Nov. 4	31.67
11	29.54	13	30.25	12	30.97	12	31.63
18	29.39	20	30.41	19	31.11	18	31.63
25	29.50	27	30.48	26	31.17	25	31.68
Mar. 4	29.34	June 3	30.49	Sept. 2	31.27	Dec. 2	31.68
11	29.79	10	30.55	9	31.29	9	31.72
18	29.75	17	30.39	16	31.39	16	31.80
25	29.81	24	30.31	23	31.47	23	31.82
Apr. 1	29.96	July 1	30.46	30	31.59	30	31.47

121. Edward Hieb, 0.5 mile west and 1.3 miles north from Symmes. Measurements discontinued Aug. 12, 1941.

Water level, in feet below measuring point, 1941

Jan. 7	29.33	Mar. 4	29.54	Apr. 29	29.94	June 24	29.43
14	29.56	11	29.72	May 6	30.14	July 1	29.86
21	29.52	18	29.81	13	30.25	8	29.88
28	29.55	25	29.82	20	30.22	15	29.80
Feb. 4	29.46	Apr. 1	30.17	27	30.32	22	30.12
11	29.36	8	29.74	June 3	30.40	29	30.40
18	29.01	15	29.55	10	29.95	Aug. 5	30.56
25	29.26	22	29.74	17	29.37	12	30.68

a Well dry June 10 to Dec. 30.

Butler County--Continued.

T-50. Mary Gerber, River Road, 0.5 mile south from Hamilton. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	16.38	Mar. 18	16.65	May 27	17.10	Aug. 5	17.18
14	16.44	25	16.74	June 3	17.21	12	17.27
21	16.48	Apr. 1	16.80	10	16.95	Sept.16	17.65
28	16.47	8	16.75	17	16.64	30	17.83
Feb. 4	16.47	15	16.71	24	16.50	Oct. 14	17.77
11	16.41	22	16.65	July 1	16.66	Nov. 10	17.54
18	16.27	29	16.77	8	16.76	Dec. 2	17.57
25	16.27	May 6	16.87	15	16.69	16	17.76
Mar. 4	16.38	13	16.98	22	16.84	23	17.73
11	16.55	20	17.04	29	17.00	30	17.28

T-51. Miami Conservancy District, River Road, 0.2 mile south from Hamilton. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Jan. 7	17.29	Mar. 11	17.81	May 13	18.33	July 15	17.42
14	17.79	18	17.90	20	19.13	22	17.97
21	17.37	25	18.02	27	18.34	29	18.30
28	17.55	Apr. 1	18.07	June 3	17.45	Aug. 5	18.38
Feb. 4	17.14	8	17.40	10	17.17	12	18.63
11	17.29	15	17.41	17	15.58	Dec. 1	18.14
18	16.35	22	17.71	24	17.23	16	18.36
25	17.39	29	18.09	July 1	17.66	30	16.45
Mar. 4	17.79	May 6	18.25	8	17.38		

Pit E. South Hamilton Sand and Gravel Company gravel pit, 1.4 miles north from Symmes and 0.4 mile east from U. S. Highway 127. Zero of staff gage, 552.6 feet above sea level.

Water level, in feet above zero of staff gage, 1941

Jan. 7	9.27	Apr. 8	7.85	July 22	6.58	Oct. 14	5.36
14	9.15	15	7.85	29	6.52	21	5.41
21	9.00	22	7.65	Aug. 5	6.42	28	5.04
28	8.90	29	7.58	12	6.70	Nov. 4	5.08
Feb. 4	8.75	May 6	7.46	19	6.44	12	4.98
11	8.66	13	7.45	26	6.12	18	4.89
18	8.65	20	7.30	Sept. 2	5.99	25	4.99
Mar. 4	8.46	June 3	7.20	9	5.87	Dec. 2	4.90
11	8.25	17	7.00	16	5.62	9	4.65
18	8.25	24	6.98	23	5.62	16	4.94
25	8.00	July 1	6.70	30	5.40	23	4.90
Apr. 1	7.90	8	6.84	Oct. 7	5.70	30	4.90

128. George Shearer, Schenck.

Water level, in feet below measuring point, 1941

Jan. 7	51.12	Apr. 15	52.76	July 15	54.03	Oct. 14	55.38
14	51.24	22	52.86	22	54.12	21	55.48
21	51.38	29	52.97	29	54.22	28	55.57
28	51.50	May 6	53.05	Aug. 5	54.35	Nov. 4	55.58
Feb. 4	51.64	13	53.21	12	54.67	12	55.65
11	51.76	20	53.34	19	54.67	18	55.72
18	51.89	27	53.42	26	54.63	25	55.75
25	51.99	June 3	53.54	Sept. 2	54.78	Dec. 2	55.78
Mar. 4	52.11	10	53.60	9	54.90	9	55.89
11	52.21	17	53.72	16	54.95	16	55.93
18	52.35	24	53.78	23	55.05	23	55.90
25	52.45	July 1	53.87	30	55.15	30	55.82
Apr. 1	52.57	8	53.95	Oct. 7	55.26		

Butler County--Continued.

133. J. E. Ryan, 0.7 mile south from Schenck.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	38.67	Mar. 25	40.18	June 17	41.85	Oct. 21	43.76
14	38.57	Apr. 1	40.35	24	41.78	28	43.97
21	38.87	8	40.39	July 1	41.97	Nov. 4	43.88
28	39.03	15	40.55	8	42.15	12	44.03
Feb. 4	39.26	22	40.64	15	42.15	18	44.05
11	39.40	29	40.77	22	42.25	25	44.00
18	39.31	May 6	40.82	Aug. 5	42.50	Dec. 2	44.28
25	39.70	13	41.08	12	42.63	9	44.46
Mar. 4	40.00	20	41.26	Sept.16	43.22	16	44.63
11	40.00	June 3	41.44	30	43.32	23	44.48
18	40.10	10	41.43	Oct. 14	43.68	30	44.45

Pit G. Fred Bantel gravel pit, abandoned, 1.3 miles west from Flockton. Measurements discontinued Dec. 31, 1940.

146-1. J. A. and L. N. Jaquemin, 0.8 mile northwest from Flockton. Measurements discontinued Jan. 28, 1941. Water levels, in feet below measuring point, 1941: Jan. 7, 92.16; Jan. 14, 92.33; Jan. 21, 92.62; Jan. 28, 92.37.

150-2. Harry A. Morris, Flockton. Measurements discontinued Aug. 12, 1941.

Water level, in feet below measuring point, 1941

Jan. 7	15.17	Mar. 4	15.55	Apr. 29	16.54	June 24	19.24
14	15.38	11	15.55	May 6	17.40	July 1	19.59
21	15.38	18	15.57	13	17.74	8	20.15
28	15.18	25	15.70	20	18.07	15	20.45
Feb. 4	15.11	Apr. 1	15.83	27	18.62	22	20.55
11	15.21	8	16.00	June 3	18.44	29	20.95
18	15.20	15	15.98	10	19.05	Aug. 5	21.11
25	15.39	22	16.16	17	18.90	12	21.37

151-1. Harry A. Morris, Flockton. U. S. Geological Survey test well. Deep well.

Lowest daily water level, in feet below measuring point, 1941 (from recorder charts).

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	23.96	24.97	25.61	26.40	27.13	28.11	28.97	29.83	30.67	31.40	32.20	32.74
2	24.00	24.99	25.61	26.42	27.16	28.14	29.00	29.86	30.71	31.43	32.22	32.80
3	24.01	25.03	25.63	26.43	27.19	28.18	29.02	29.88	30.74	31.45	32.20	32.81
4	24.08	25.04	25.72	26.43	27.21	28.20	29.06	29.90	30.75	31.46	32.20	32.81
5	24.15	25.05	25.75	26.46	27.24	28.27	29.08	29.96	30.78	31.50	32.20	32.86
6	24.20	25.04	25.76	26.52	27.25	28.30	29.10	30.00	30.80	31.52	32.20	32.89
7	24.20	25.05	25.76	26.54	27.29	28.33	29.12	30.01	30.83	31.55	32.25	32.89
8	24.21	25.09	25.76	26.54	27.32	28.36	29.16	30.04	30.86	31.58	32.29	32.91
9	24.26	25.15	25.80	26.58	27.39	28.39	29.20	30.07	30.89	31.60	32.31	32.91
10	24.26	25.17	25.81	26.60	27.41	28.35	29.22	30.09	30.92	31.64	32.34	32.95
11	24.31	25.17	25.90	26.63	27.43	28.36	29.25	30.10	30.95	31.65	32.38	32.96
12	24.34	25.18	25.94	26.65	27.46	28.40	29.30	30.13	30.96	31.68	32.40	32.97
13	24.39	25.18	25.96	26.65	27.50	28.44	29.32	30.15	30.99	31.70	32.42	32.99
14	24.41	25.25	25.99	26.66	27.54	28.46	29.34	30.16	31.00	31.74	32.44	33.01
15	24.43	25.26	25.96	26.66	27.56	28.50	29.36	30.20	31.02	31.79	32.44	33.02
16	24.44	25.27	26.01	26.68	27.59	28.53	29.40	30.23	31.05	31.81	32.48	33.04
17	24.49	25.27	26.05	26.71	27.61	28.56	29.43	30.25	31.08	31.83	32.50	33.05
18	24.57	25.30	26.06	26.75	27.67	28.60	29.45	30.26	.....	31.85	32.50	33.08
19	24.62	25.31	26.07	26.76	27.70	28.63	29.50	30.31	.....	31.87	32.51	33.10
20	24.64	25.34	26.09	26.81	27.74	28.66	29.52	30.35	.....	31.90	32.55	33.13
21	24.65	25.36	26.12	26.86	27.77	28.68	29.55	30.36	.....	31.95	32.56	33.13
22	24.68	25.40	26.15	26.86	27.80	28.70	29.56	30.40	.....	31.96	32.57	33.14
23	24.73	25.44	26.15	26.89	27.84	28.71	29.58	30.42	31.20	32.01	32.61	33.10
24	24.76	25.45	26.20	26.94	27.88	28.78	29.61	30.44	31.21	32.02	32.62	33.20

Butler County--Continued.

151-1. Harry A. Morris, Flockton--Continued.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
25	24.79	25.52	26.22	26.97	27.90	28.81	29.64	30.46	31.26	32.04	32.62	33.20
26	24.80	25.52	26.24	26.99	27.92	28.84	29.66	30.52	31.30	32.05	32.65	33.15
27	24.87	25.56	26.25	27.02	27.97	28.85	29.69	30.56	31.31	32.09	32.68	33.15
28	24.87	25.60	26.29	27.05	28.01	28.89	30.70	30.59	31.36	32.20	32.70	33.11
29	24.90	.....	26.31	27.08	28.03	28.90	29.75	30.60	31.38	32.23	32.71	33.10
30	24.91	.....	26.32	27.10	28.05	28.94	29.76	30.62	31.37	32.22	32.73	33.07
31	24.96	.....	26.33	.....	28.08	.....	29.80	30.65	.....	32.20	.....	33.01

151-2. Harry A. Morris, Flockton. U. S. Geological Survey test well. Shallow well. Automatic water-stage recorder removed Aug. 19, 1941.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	22.75	23.76	24.38	25.05	25.75	26.76	27.65	28.61	.....	.....	.....	.....
2	22.79	23.78	24.39	25.09	25.79	26.79	27.69	28.65	a29.49	.....	.....a	31.76
3	22.80	23.81	24.40	25.10	25.82	26.80	27.73	28.66	.....	.....	.....	.....
4	22.85	23.83	24.44	25.11	25.85	26.84	27.75	28.69	.....	.....a	31.14	.....
5	22.91	23.83	24.45	25.14	25.88	26.87	27.78	28.71	.....	.....	.....	.....
6	22.95	23.84	24.49	25.16	25.89	26.90	27.81	28.75	.....	.....	.....	.....
7	22.98	23.85	24.49	25.18	25.92	26.94	27.85	28.77	.....a	30.46	.....	.....
8	23.00	23.88	24.50	25.20	25.95	26.97	27.90	28.80	.....	.....	.....	.....
9	23.04	23.92	24.53	25.22	26.00	26.99	27.93	28.84	a29.69	.....	.....	a31.98
10	23.06	23.95	24.55	25.25	26.04	27.00	27.95	28.86	.....	.....	.....	.....
11	23.11	23.97	24.59	25.26	26.07	27.04	27.99	28.88	.....	.....	.....	.....
12	23.15	23.98	24.63	25.29	26.10	27.06	28.03	28.93	.....	.....	a31.31	.....
13	23.20	23.99	24.66	25.30	26.16	27.09	28.05	28.96	.....	.....	.....	.....
14	23.23	24.04	24.67	25.31	26.21	27.12	28.07	28.99	.....	a30.64	.....	.....
15	23.25	24.05	24.67	25.38	26.23	27.15	28.10	29.02	.....	.....	.....	.....
16	23.27	24.07	24.70	25.41	26.28	27.19	28.13	29.05	a29.88	.....	.....	a32.04
17	23.31	24.08	24.75	25.43	26.30	27.23	28.15	29.08	.....	.....	.....	.....
18	23.37	24.09	24.74	25.45	26.32	27.26	28.19	29.11	.....	.....	a31.45	.....
19	23.41	24.11	24.75	25.47	26.35	27.29	28.23	29.12	.....	.....	.....	.....
20	23.45	24.15	24.77	25.52	26.37	27.33	28.26	.....	.....	.....	.....	.....
21	23.46	24.17	24.80	25.55	26.40	27.35	28.29	.....	.....	a30.83	.....	.....
22	23.50	24.20	24.83	25.51	26.44	27.38	28.31	.....	.....	.....	.....	.....
23	23.54	24.24	24.84	25.52	26.49	27.40	28.34	.....	a30.06	.....	.....	a32.10
24	23.56	24.26	24.87	25.56	26.52	27.45	28.37	.....	.....	.....	.....	.....
25	23.60	24.28	.....	25.60	26.55	27.48	28.40	.....	.....	.....	a31.61	.....
26	23.61	24.30	.....	25.63	26.58	27.51	28.44	a29.33	.....	.....	.....	.....
27	23.65	24.32	.....	25.66	26.60	27.54	28.45	.....	.....	.....	.....	.....
28	23.66	24.35	24.95	25.69	26.63	27.57	28.49	.....	.....	a30.98	.....	.....
29	23.69	.....	24.97	25.70	26.66	27.60	28.51	.....	.....	.....	.....	.....
30	23.71	.....	24.99	25.73	26.70	27.64	28.55	.....	a30.27	.....	.....	a32.12
31	23.75	.....	25.00	.....	26.73	.....	28.57	.....	.....	.....	.....	.....

160-1. Orin James, 0.9 mile east from Flockton. Deep well.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	27.80	Mar. 25	29.02	June 10	30.87	Oct. 28	35.90
14	27.77	Apr. 1	29.08	17	31.15	Nov. 4	35.56
21	28.07	8	29.28	24	31.20	12	36.02
28	28.23	15	29.30	July 1	31.42	18	35.96
Feb. 4	28.19	22	30.64	29	32.09	25	36.10
11	28.33	29	29.64	Aug. 12	32.84	Dec. 1	36.12
18	28.50	May 6	29.67	19	32.71	9	37.27
25	28.69	13	30.08	26	32.95	16	36.34
Mar. 4	31.35	20	30.87	Oct. 14	35.08	23	35.97
11	28.74	27	30.49	21	34.97	30	36.50
18	28.50	June 3	30.52				

a Tape measurement.

Butler County--Continued.

160-2. Orin James, 0.9 mile east from Flockton. Shallow well.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	19.79	Mar. 11	19.66	May 13	13.66	July 15	18.88
14	20.22	18	18.41	20	14.24	22	19.44
21	20.64	25	17.80	27	14.80	29	20.02
28	20.97	Apr. 1	17.13	June 3	15.37	Aug. 5	20.64
Feb. 4	21.12	8	14.70	10	16.00	12	21.26
11	21.00	15	13.23	17	16.54	Oct. 14	19.72
18	20.27	22	12.78	24	17.12	21	a27.29
25	20.00	29	12.73	July 1	17.72	28	a27.70
Mar. 4	19.93	May 6	13.12	8	18.30	Nov. 4	(b)

165-2. E. C. Shepherd, Princeton Pike, 0.7 mile north from Port Union.

Water level, in feet below measuring point, 1941

Jan. 7	20.25	Apr. 8	21.34	July 8	25.45	Oct. 7	28.88
14	20.38	15	21.41	15	26.02	14	28.82
21	20.73	22	21.69	22	26.40	21	28.82
28	20.85	29	21.87	29	26.92	28	29.36
Feb. 4	20.98	May 6	22.40	Aug. 5	27.69	Nov. 4	28.59
11	21.05	13	22.46	12	28.73	11	28.50
18	21.06	20	22.58	19	28.97	18	28.36
25	21.04	27	22.88	26	28.84	25	28.26
Mar. 4	21.09	June 3	23.46	Sept. 2	28.62	Dec. 2	28.10
11	21.09	10	23.40	9	28.44	9	28.03
18	17.90	17	23.41	16	28.29	16	27.92
25	21.20	24	23.89	23	28.55	23	27.82
Apr. 1	21.14	July 1	24.89	30	28.93	30	27.82

168. M. Haugbers, Port Union.

Water level, in feet below measuring point, 1941

Jan. 14	24.26	Apr. 29	22.52	July 22	23.72	Oct. 14	26.97
21	23.79	May 6	21.81	29	23.85	21	26.52
Feb. 4	22.38	13	22.77	Aug. 5	24.42	28	26.64
11	21.89	20	22.49	12	24.56	Nov. 4	27.36
25	21.52	27	22.87	19	24.61	12	26.71
Mar. 4	21.40	June 3	22.89	26	25.68	18	26.92
11	21.66	10	23.20	Sept. 2	25.33	25	26.70
18	22.07	17	22.54	9	24.77	Dec. 1	26.83
25	21.79	24	22.85	16	25.27	8	27.08
Apr. 1	21.17	July 1	23.33	23	25.78	16	27.05
8	21.36	8	23.94	30	25.56	23	27.23
15	21.10	15	23.40	Oct. 7	26.02	30	24.45
22	21.39						

173. Margaret Bramble Estate, Rialto.

Water level, in feet below measuring point, 1941

Jan. 15	10.02	Apr. 16	6.97	July 18	11.70	Dec. 16	11.95
Feb. 15	7.70	May 15	7.59	Aug. 15	12.05	30	7.29
Mar. 15	7.34	June 18	8.23	Dec. 1	11.73		

175. J. W. Margonett, Rialto. Measurements discontinued Dec. 1, 1941.

Water level, in feet below measuring point, 1941

Jan. 15	10.88	Mar. 15	10.70	May 15	11.23	July 18	9.08
Feb. 15	11.15	Apr. 16	10.56	June 18	11.25	Dec. 1	11.38

a Pumping.
b Well dry Nov. 4 to Dec. 30.

Butler County--Continued.

180. Fox Paper Company, Crescentville.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 7	17.56	Apr. 8	12.35	July 8	15.21	Oct. 7	17.66
14	17.30	15	12.90	15	15.03	14	17.95
21	16.65	22	13.87	22	15.64	21	18.17
28	15.09	29	13.97	29	16.00	28	18.69
Feb. 4	14.20	May 6	14.25	Aug. 5	16.27	Nov. 4	18.20
11	14.62	13	14.97	12	16.51	11	18.40
18	13.88	20	15.43	19	16.85	18	18.57
25	14.32	27	15.61	26	16.91	25	18.65
Mar. 4	14.68	June 3	15.77	Sept. 2	17.02	Dec. 2	18.48
11	14.33	10	15.54	9	16.77	9	18.81
18	14.43	17	15.36	16	16.94	16	18.70
25	14.20	24	15.47	23	17.17	23	18.45
Apr. 1	14.04	July 1	15.89	30	17.39	30	16.20

Hamilton County

T-75. Frederick Hauck, 0.1 mile east from Crescentville. U. S. Geological Survey test well. Measurements discontinued Dec. 2, 1941.

Water level, in feet below measuring point, 1941

Jan. 6	12.72	Mar. 10	11.01	May 6	10.83	July 1	11.67
13	12.89	17	10.97	13	11.04	8	11.40
20	12.32	24	10.90	20	11.25	15	11.50
27	11.47	31	10.94	27	11.45	22	11.41
Feb. 3	10.95	Apr. 7	10.55	June 3	11.43	29	11.95
10	11.03	15	10.45	10	11.37	Aug. 5	12.16
17	10.83	22	10.54	17	11.21	11	12.47
24	10.89	29	10.63	24	11.40	Dec. 2	13.92
Mar. 3	10.91						

T-74. Frederick Hauck, 0.5 mile east from Crescentville. U. S. Geological Survey test well. Measurements discontinued Dec. 2, 1941.

Water level, in feet below measuring point, 1941

Jan. 6	14.05	Mar. 10	11.15	May 6	11.44	July 1	12.45
13	14.23	17	11.07	13	11.82	8	11.33
20	13.52	24	10.95	20	12.26	15	11.90
27	12.76	31	10.84	27	12.56	22	12.61
Feb. 3	12.28	Apr. 7	10.55	June 3	12.73	29	13.02
10	12.00	15	10.35	10	12.39	Aug. 5	13.11
17	11.61	22	10.42	17	11.91	11	12.52
24	11.44	29	10.93	24	12.52	Dec. 2	15.52
Mar. 3	11.29						

204-4. Albert Sorter Estate, 0.2 mile north from Kemper Road, 100 feet east from Mill Creek.

Water level, in feet below measuring point, 1941

Jan. 6	13.32	Apr. 14	11.39	July 15	12.45	Oct. 6	13.84
13	13.29	21	11.63	22	12.70	13	14.02
20	13.25	28	11.85	29	12.86	20	14.12
27	13.03	May 5	11.87	Aug. 5	12.96	27	14.26
Feb. 3	12.85	12	12.16	12	13.10	Nov. 3	14.20
10	12.72	19	12.31	18	13.16	10	14.35
17	12.55	27	12.48	25	13.44	17	14.40
24	12.43	June 3	12.55	30	13.39	24	14.51
Mar. 3	12.33	10	12.65	Sept. 3	13.40	Dec. 1	14.60
10	12.45	17	12.67	8	13.17	8	14.70
17	12.25	24	12.81	15	13.29	15	14.79
24	12.21	July 1	12.85	22	13.60	22	16.75
31	12.30	8	12.35	29	13.73	29	15.98
Apr. 7	11.58						

Hamilton County--Continued.

T-68. Emmit Ferris, 30 feet east from Mill Creek, Kemper Road, U. S. Geological Survey test well. Measurements discontinued Dec. 15, 1941.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	10.61	Mar. 10	10.26	May 12	10.30	July 8	9.94
13	10.64	17	9.25	19	10.40	15	10.26
20	10.48	24	10.25	27	10.46	22	10.37
27	9.98	31	10.33	June 3	10.12	29	10.46
Feb. 3	9.92	Apr. 7	9.99	10	10.43	Aug. 5	10.52
10	10.22	14	10.13	17	10.35	11	9.63
17	10.03	21	10.19	24	10.45	Dec. 2	11.89
24	10.21	28	10.24	July 1	10.42	15	12.10
Mar. 3	10.18	May 5	10.26				

T-67. Emmit Ferris, Kemper Road, 0.2 mile east from Mill Creek. U. S. Geological Survey test well. Measurements discontinued Dec. 29, 1941.

Water level, in feet below measuring point, 1941

Jan. 6	8.76	Mar. 10	7.02	May 12	7.31	July 15	7.07
13	8.80	17	7.07	19	7.57	22	7.41
20	8.76	24	6.90	27	7.76	29	7.74
27	8.40	31	7.19	June 3	7.90	Aug. 5	6.98
Feb. 3	7.68	Apr. 7	6.50	10	7.62	12	8.21
10	7.43	14	6.53	17	7.15	Dec. 15	9.77
17	7.00	21	6.65	24	7.28	22	9.85
24	6.90	28	6.89	July 1	7.52	29	9.25
Mar. 3	6.90	May 5	7.10	8	6.88		

T-46. L. Smizer, Sharon Avenue, 0.5 mile east from Mostellar Road. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Jan. 6	24.62	Feb. 24	25.62	Apr. 14	26.50	June 2	27.32
13	24.76	Mar. 3	25.70	21	26.63	9	27.35
20	24.95	10	25.86	28	26.72	16	27.38
27	25.09	17	25.90	May 5	26.89	23	27.50
Feb. 3	25.26	24	26.01	12	26.96	30	(a)
10	25.41	31	26.23	19	27.26	Dec. 29	(a)
17	25.50	Apr. 7	26.38	26	27.27		

207-3. Village of Glendale, municipal water plant, Sharon Avenue, 0.2 mile east from Mostellar Road.

Lowest daily water level, in feet below measuring point, 1941

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	39.98	40.32	40.99	41.80	44.22	44.52	45.62	46.12	47.07	46.52	48.20	50.52
2	39.20	41.00	41.70	42.30	42.20	43.46	44.72	45.35	47.00	46.58	48.65	49.90
3	39.80	41.10	41.42	41.50	42.26	44.36	44.45	45.35	47.20	46.59	49.75	49.68
4	39.49	40.58	41.33	41.52	42.37	44.22	43.58	45.58	46.88	48.55	49.18	49.41
5	40.35	40.12	41.09	.....	42.50	44.26	43.91	45.62	46.25	47.00	49.14	49.60
6	40.65	40.79	40.90	.....	42.99	43.96	43.90	46.18	45.76	47.37	47.83	49.85
7	39.83	40.49	41.11	.....	43.24	44.09	45.00	46.22	46.78	47.69	48.80	49.68
8	39.68	40.10	40.88	41.22	42.40	44.41	44.63	45.93	46.82	47.91	48.21	49.55
9	39.74	40.70	41.46	41.23	42.73	44.32	43.75	45.69	47.23	47.17	49.30	.....
10	39.80	40.30	41.62	41.51	42.34	45.29	43.80	46.22	46.71	47.16	49.18	.....
11	39.96	40.58	40.89	41.81	44.10	44.51	44.77	46.64	47.36	47.02	48.75	.....
12	39.96	40.30	41.15	41.54	42.62	44.09	44.82	46.23	46.72	47.77	48.78	49.72
13	39.88	40.92	41.06	42.92	44.80	43.82	45.58	46.30	47.28	46.75	49.50	49.71
14	40.11	40.73	40.91	41.00	44.73	44.14	44.59	45.87	46.21	47.70	48.56	50.53
15	39.89	41.43	41.51	42.18	44.30	45.40	44.72	46.14	46.82	48.44	48.34	50.52
16	39.82	42.31	42.00	42.40	45.38	44.50	44.81	.....	46.71	48.00	50.55	49.82
17	39.56	41.30	41.68	41.73	45.13	43.71	44.60	.....	46.90	47.71	50.00	49.62
18	40.03	41.00	42.12	42.37	44.31	44.93	45.05	.....	47.30	47.95	49.34	49.82
19	41.13	41.51	41.20	42.38	45.30	43.89	44.04	45.81	46.30	46.90	49.43	50.01
20	40.69	41.15	41.31	41.69	44.39	45.65	44.85	46.28	47.10	47.89	48.02	50.40

a Well dry from June 30 to Dec. 29, 1941.

Hamilton County--Continued.

207-3. Village of Glendale--Continued.

Lowest daily water level, in feet below measuring point, 1941

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
21	40.25	41.12	42.05	41.70	44.48	45.70	44.52	45.13	47.62	47.81	49.22	50.82
22	39.82	41.84	42.35	41.87	44.28	46.68	44.58	46.42	47.51	47.03	49.13	50.51
23	40.11	41.28	42.07	42.54	44.66	47.08	44.32	46.60	47.24	47.54	49.18	49.87
24	39.81	41.02	41.38	41.90	44.47	45.48	45.50	47.32	46.86	47.85	48.90	49.60
25	40.28	41.23	41.20	41.55	44.33	45.28	45.15	46.02	46.42	46.71	49.20	50.48
26	40.40	40.81	41.66	42.00	44.86	46.46	45.90	46.20	47.40	48.89	49.11	49.62
27	40.30	39.98	41.38	43.00	45.48	45.40	46.58	46.50	47.50	48.14	48.84	50.60
28	40.00	41.19	41.99	42.03	45.42	45.35	45.25	45.75	46.35	49.00	49.58	50.31
29	40.00	.....	41.58	42.20	44.86	45.40	45.38	46.81	47.03	48.70	49.38	.....
30	40.45	.....	42.18	42.28	45.04	45.40	45.22	47.21	47.59	48.28	50.89	49.38
31	40.46	.....	42.06	.....	44.23	.....	44.96	46.60	.....	49.00	.....	50.32

207-5. Village of Glendale, municipal water plant, Sharon Avenue, 0.2 mile east from Mostellar Road. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	19.98	Feb. 24	20.90	Apr. 14	21.68	June 2	22.58
13	20.13	Mar. 3	21.00	21	21.94	9	22.65
20	20.32	10	21.14	28	22.02	16	22.70
27	20.45	17	21.31	May 5	22.27	23	22.80
Feb. 3	20.57	24	21.45	12	22.34	30	(a)
10	20.70	31	21.50	19	22.43	Dec. 29	(a)
17	20.81	Apr. 7	21.68	26	22.48		

T-47. Drackett Chemical Company, Sharon Avenue, 0.1 mile west from Mostellar Road. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Jan. 6	15.72	Jan. 20	15.85	Feb. 3	15.90	Feb. 17	16.16
13	15.81	27	17.00	10	16.24	24	b 16.39

T-14. Johns-Manville Corporation, 0.35 mile north from Glendale-Milford Road on south bank of Mill Creek. U. S. Geological Survey test well. Measurements discontinued July 28, 1941.

Water level, in feet below measuring point, 1941

Jan. 6	19.20	Feb. 24	19.92	Apr. 14	21.19	June 2	22.75
13	19.47	Mar. 3	19.57	21	21.44	9	22.90
20	19.30	10	20.53	28	21.65	16	23.00
27	19.23	17	20.71	May 5	21.79	23	23.00
Feb. 3	19.10	24	21.01	12	21.03	July 7	22.75
10	19.54	31	21.17	19	22.15	14	22.00
17	19.55	Apr. 7	21.04	26	24.45	28	(c)

212-1. Johns-Manville Corporation, 0.1 mile north from Glendale-Milford Road.

Lowest daily water level, in feet below measuring point, 1941 (from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	36.80	38.09	38.95	39.86	40.42	42.17	43.18	43.84	45.13	45.87	47.10	48.77
2	36.70	37.97	38.77	39.75	40.29	42.43	43.07	43.91	44.84	46.60	47.31	48.77
3	37.00	38.40	38.57	39.79	40.48	42.10	43.24	43.89	44.89	46.10	47.58	49.09
4	36.73	38.13	38.68	39.92	40.45	42.08	43.10	43.95	45.15	46.68	47.57	49.00
5	37.09	37.89	38.83	39.73	40.64	43.00	43.05	44.19	44.81	46.52	47.25	48.72
6	37.94	38.24	39.13	40.07	40.73	43.20	42.87	44.15	44.94	46.16	47.08	48.82
7	37.13	37.95	38.71	39.97	40.70	42.20	42.76	44.42	45.51	46.28	47.74	47.51
8	37.18	37.98	38.74	39.74	41.27	42.66	43.08	44.44	45.52	46.55	47.24	49.00
9	37.21	38.32	38.92	39.98	40.97	42.54	42.93	44.34	45.44	46.47	47.58	49.24
10	37.19	38.04	38.64	40.33	41.28	42.92	42.80	44.18	45.27	46.35	47.60	49.44
11	37.48	38.10	38.94	40.11	41.36	42.74	43.67	44.75	45.31	46.61	47.36	49.13
12	37.18	38.53	38.87	39.80	41.05	42.96	43.41	44.67	45.68	46.87	47.55	49.12

a Well dry from June 30 to Dec. 29, 1941.
b Well dry from Mar. 3 to Dec. 15, 1941.
c Well dry.

Hamilton County--Continued.

212-1. Johns-Manville Corporation.--Continued.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
13	37.34	38.40	39.03	39.93	41.60	42.71	43.41	44.70	.....	46.69	47.49	48.85
14	37.35	38.63	39.22	40.44	41.27	42.83	43.32	44.63	.....	46.60	47.68	49.19
15	37.36	38.25	39.02	40.08	41.38	42.50	43.32	44.85	45.29	46.67	47.88	49.22
16	37.63	38.43	39.40	40.21	41.96	42.75	43.40	44.60	45.35	46.92	47.98	49.39
17	37.30	37.95	39.49	40.10	41.57	42.75	43.70	44.30	45.47	46.83	48.05	49.34
18	37.18	38.44	39.49	40.15	41.25	42.82	43.71	45.12	45.70	46.92	47.88	49.75
19	37.43	38.37	39.73	40.43	41.83	42.87	43.46	44.82	46.17	46.56	47.85	49.48
20	38.28	38.12	39.65	39.98	42.53	43.33	43.32	44.92	45.68	47.05	47.76	49.83
21	37.93	38.55	39.90	40.27	42.05	43.06	43.87	44.55	45.67	46.64	47.89	49.38
22	37.60	38.50	39.63	40.37	42.13	43.36	43.63	44.80	46.18	46.77	48.07	49.75
23	37.90	37.29	39.44	40.16	42.11	43.35	43.46	45.24	45.81	46.82	48.16	49.46
24	38.08	38.25	40.01	40.14	42.25	43.10	43.95	44.92	45.73	47.25	48.02	49.25
25	37.92	38.61	39.90	40.22	42.10	43.06	43.84	45.05	45.63	46.85	48.10	49.37
26	37.46	38.33	39.58	40.20	42.40	43.38	43.88	44.92	46.22	46.82	48.67	49.24
27	38.22	38.83	40.28	40.33	42.35	43.38	43.75	45.03	45.94	47.34	48.54	49.30
28	37.78	38.45	39.77	40.56	42.50	43.38	43.68	45.32	45.75	47.11	48.62	49.10
29	37.79	.....	39.87	40.36	42.44	43.14	43.65	45.38	46.29	47.48	48.64	49.55
30	38.36	.....	39.88	40.37	42.23	43.31	43.67	45.32	46.33	47.30	48.39	49.02
31	37.95	.....	40.03	.....	42.47	.....	43.81	45.03	.....	47.37	.....	49.30

212-2. Johns-Manville Corporation, 0.1 mile north from Glendale-Milford Road. U. S. Geological Survey test well. Well dry Nov. 18, 1940, to Dec. 29, 1941.

T-8. Saint Rita School for Deaf Children, Glendale-Milford Road and Pennsylvania Railroad. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	19.05	Mar. 10	20.02	May 12	20.67	July 14	20.47
13	19.23	17	20.12	19	20.74	21	20.40
20	19.34	24	20.23	26	20.75	28	20.32
27	19.44	31	20.33	June 2	20.75	Aug. 4	20.23
Feb. 3	19.53	Apr. 7	20.40	9	20.75	11	20.13
10	19.64	14	20.47	16	20.75	Sept.15	19.92
17	19.71	21	20.54	23	20.75	Oct. 13	19.93
24	19.81	28	20.56	30	20.67	Nov. 10	20.09
Mar. 3	19.92	May 5	20.63	July 7	20.88	Dec. 15	20.32

T-8A. Johns-Manville Corporation, Glendale-Milford Road, 0.1 mile east from Pennsylvania Railroad. U. S. Geological Survey test well. Measurements discontinued Dec. 15, 1941.

Water level, in feet below measuring point, 1941

Jan. 15	24.46	Apr. 16	26.64	July 18	28.23	Dec. 1	(a)
Feb. 15	24.93	May 15	27.29	Aug. 15	28.65	15	(a)
Mar. 15	25.72	June 18	27.92				

214-3. Tennessee Corporation, Glendale-Milford Road and Big Four Railroad, rear of old office.

Water level, in feet below measuring point, 1941

Jan. 6	26.68	Mar. 31	29.22	June 16	30.92	Oct. 13	32.83
13	26.98	Apr. 7	29.40	23	31.05	20	32.83
20	27.06	14	29.53	30	31.16	27	32.99
27	27.27	21	29.69	July 7	31.26	Nov. 10	33.01
Feb. 3	27.31	28	29.90	21	31.42	17	33.02
10	27.41	May 5	30.08	28	31.55	24	33.07
17	27.65	12	30.25	Aug. 4	31.67	Dec. 1	33.10
24	27.86	19	30.43	11	31.79	8	33.15
Mar. 3	28.14	26	30.58	Sept.15	32.32	15	33.28
10	28.49	June 2	30.73	29	32.54	22	33.42
17	28.73	6	30.77	Oct. 6	32.66	29	33.24
24	28.98	9	30.85				

a Well dry.

Hamilton County--Continued.

T-9. P. Froehlich, Glendale-Milford Road, 500 feet west from Mill Creek. U. S. Geological Survey test well. Measurements discontinued Dec. 15, 1941.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	23.22	Mar. 3	24.95	Apr. 28	26.50	June 23	27.90
13	23.52	10	25.30	May 5	26.90	30	28.20
20	23.67	17	25.54	12	26.98	July 7	28.30
27	23.79	24	25.80	19	27.30	14	28.25
Feb. 3	23.68	31	26.17	26	27.48	21	28.50
10	23.99	Apr. 7	26.11	June 2	27.70	28	(a)
17	24.19	14	26.30	9	27.75	Dec. 15	(a)
24	24.55	21	26.50	16	27.85		

T-10. H. Burwinkle, Glendale-Milford Road and Mill Creek, east bank. U. S. Geological Survey test well. Measurements discontinued Dec. 1, 1941.

Water level, in feet below measuring point, 1941

Jan. 15	20.28	Apr. 16	23.27	June 18	23.62	Aug. 15	24.08
Mar. 15	22.74	May 15	23.69	July 18	23.85	Dec. 1	23.18

T-3. Harry F. Pittman, Jackson Road, 1.3 miles north from Lockland. U. S. Geological Survey test well. Measurements discontinued Dec. 1, 1941.

Water level, in feet below measuring point, 1941

Jan. 15	27.13	Apr. 16	29.76	June 18	30.64	Aug. 15	30.00
Feb. 15	28.38	May 15	30.30	July 18	30.86	Dec. 1	31.41
Mar. 15	29.07						

215-1. Harry F. Pittman, Jackson Road, 1.3 miles north from Lockland. Deep well.

Water level, in feet below measuring point, 1941

Jan. 6	35.69	Apr. 10	38.82	June 30	41.67	Sept. 29	45.95
13	35.88	14	38.75	July 7	41.48	Oct. 6	44.65
20	36.43	21	39.01	14	41.70	13	45.32
27	36.60	28	39.10	21	42.09	20	45.36
Feb. 3	36.74	May 5	39.26	28	42.63	27	45.80
10	36.83	12	39.86	Aug. 4	42.28	Nov. 3	46.01
17	36.47	19	40.65	11	43.47	10	46.36
24	36.89	26	40.50	18	42.82	17	46.89
Mar. 3	36.76	June 2	40.56	25	43.15	24	47.30
10	37.09	5	43.30	30	43.77	Dec. 1	47.50
17	37.28	6	42.94	Sept. 3	43.59	8	47.41
24	36.89	7	40.75	8	44.80	15	48.97
25	38.03	9	40.80	15	43.95	22	49.10
31	38.01	16	41.07	22	44.39	29	49.
Apr. 7	38.38	23	41.69				

215-2. Harry F. Pittman, Jackson Road, 1.3 miles north from Lockland. Shallow well.

Water level, in feet below measuring point, 1941

Jan. 6	28.19	Apr. 10	30.28	June 30	31.22	Sept. 29	31.58
13	28.42	14	30.40	July 7	31.28	Oct. 6	31.59
20	28.75	21	30.50	14	31.32	13	31.62
27	28.83	28	30.58	21	31.34	20	31.63
Feb. 3	28.88	May 5	30.64	28	31.36	27	31.64
10	28.90	12	30.70	Aug. 4	31.39	Nov. 3	31.66
17	28.97	19	30.75	11	31.41	10	31.67
24	29.14	26	30.82	18	31.43	17	31.69
Mar. 3	29.28	June 2	30.92	25	31.47	24	31.70
10	29.61	5	30.96	30	31.49	Dec. 1	31.71
17	29.73	6	30.98	Sept. 3	31.50	8	31.71
24	29.85	7	30.99	8	31.51	15	31.72
25	29.86	9	31.03	15	31.53	22	31.73
31	30.03	16	31.08	22	31.56	29	31.75
Apr. 7	30.19	23	31.17				

a Well dry July 28 to Dec. 15, 1941.

Hamilton County--Continued.

T-59. Mary I. Jackson Estate, 0.6 mile north from Lockland, at Big Four Railroad. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	26.32	Mar. 24	26.67	May 19	26.26	July 7	22.40
13	26.38	31	26.68	26	26.38	14	22.50
20	26.44	Apr. 7	26.72	June 2	26.36	21	22.90
27	26.48	10	26.65	5	25.80	28	22.94
Feb. 3	26.48	11	26.28	6	25.58	Aug. 4	22.99
10	26.53	12	25.97	7	25.38	11	23.22
17	26.58	14	25.73	9	25.26	Dec. 1	24.50
24	26.61	21	25.82	16	23.07	15	24.76
Mar. 3	26.60	28	25.97	23	23.35	22	24.73
10	26.62	May 5	26.12	30	22.91	29	24.07
17	26.65	12	26.26				

T-20. Wright Aeronautical Company, Shepherd Road and Big Four Railroad, Lockland. U. S. Geological Survey test well.

Water level, in feet below measuring point, 1941

Jan. 6	43.20	Apr. 12	42.82	June 30	43.33	Sept. 29	43.82
13	43.22	14	42.86	July 7	43.21	Oct. 6	43.88
20	43.30	16	42.87	14	43.23	13	43.96
27	43.35	21	42.77	21	43.22	20	43.92
Feb. 3	43.30	28	42.73	28	43.25	27	43.99
10	43.29	May 5	42.93	Aug. 4	43.25	Nov. 3	44.04
17	43.20	12	43.12	11	43.26	10	44.10
24	43.21	19	43.37	18	43.61	17	44.10
Mar. 3	43.18	26	43.47	25	43.57	24	44.17
10	43.24	June 2	43.59	30	43.69	Dec. 1	44.20
17	43.26	5	43.58	Sept. 3	43.65	8	44.22
24	43.21	6	43.54	8	43.64	15	44.30
31	43.13	9	43.45	15	43.65	22	44.30
Apr. 7	43.05	16	43.40	22	43.73	29	43.90
10	42.93	23	43.32				

216-0. Wright Aeronautical Corporation, 0.25 mile north from Shepherd Road and 0.25 mile east from Lockland Road. Drilled test well, diameter 4 inches, depth 86 feet. Measuring point, top of 4-inch casing, 1.9 feet above land surface.

Water level, in feet below measuring point, 1941

Mar. 25	67.90	June 5	71.42	Aug. 4	73.05	Oct. 13	76.50
31	67.74	6	71.60	11	73.40	20	76.79
Apr. 7	68.15	7	71.32	18	73.97	27	76.90
14	68.20	9	71.30	25	74.23	Nov. 10	78.02
21	68.50	16	71.23	30	74.83	17	77.88
28	69.10	23	71.53	Sept. 3	74.76	24	78.05
May 5	69.39	30	71.89	8	74.93	Dec. 1	77.76
12	69.92	July 7	71.93	15	75.16	8	78.04
19	70.47	14	72.55	22	75.56	15	78.21
26	70.72	21	72.92	29	75.97	22	78.26
June 2	69.94	28	72.90	Oct. 6	75.94	29	78.38

216-A. Wright Aeronautical Corporation, 0.5 mile north of Shepherd Road, and 200 feet west from Big Four Railroad. Drilled test well A, diameter 6 inches, depth 153 feet. Measuring point, top of 6-inch coupling, 4.4 feet above land surface and 559.1 feet above sea level.

Water level, in feet below measuring point, 1941

Mar. 25	54.76	May 19	61.17	June 30	62.47	Sept. 15	67.25
31	54.53	26	61.46	July 7	62.64	Oct. 13	68.38
Apr. 7	55.07	June 2	61.70	14	63.25	Nov. 10	70.80
9	62.56	5	62.75	21	64.55	24	69.00
10	63.19	6	62.70	28	63.38	Dec. 1	68.75
14	58.92	7	62.17	Aug. 4	63.55	8	70.05
21	59.29	9	61.86	11	64.10	15	69.40
28	58.68	16	62.01	18	65.24	22	69.36
May 5	60.00	23	62.27	25	65.23	29	69.47
12	60.50						

Hamilton County--Continued.

216-B. Wright Aeronautical Corporation, 0.5 mile north from Shepherd Road, and 1,750 feet west from Big Four Railroad. Drilled test well B, diameter 6 inches, depth 116 feet. Measuring point, top of 6-inch coupling, 2.4 feet above land surface and 556.3 feet above sea level. Measurements discontinued May 26, 1941.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Mar. 25	40.34	Apr. 14	42.45	May 5	42.67	May 19	42.95
31	40.24	21	42.63	12	42.82	26	42.98
Apr. 7	40.46	28	42.65				

216-C. Wright Aeronautical Corporation, Lockland Road and Jackson Road, southeast corner. Drilled test well C, diameter 6 inches, depth 135 feet. Measuring point, top of 6-inch coupling, 0.2 foot above land surface and 570.3 feet above sea level.

Water level, in feet below measuring point, 1941

Mar. 25	60.82	June 5	64.87	July 7	63.91	Nov. 17	70.24
Apr. 14	61.19	6	64.85	14	64.34	24	70.54
21	61.48	7	63.38	21	64.59	Dec. 1	69.50
28	61.64	9	63.45	28	64.66	8	70.24
May 5	61.80	16	63.57	Sept.15	67.10	15	72.59
12	62.26	23	63.73	Oct. 13	68.28	22	73.20
19	62.75	30	63.91	Nov. 10	69.54	29	72.19
26	63.01						

216-D. Wright Aeronautical Corporation, 1,100 feet south from Jackson Road, and 120 feet east from Lockland Road. Drilled test well D, diameter 6 inches, depth 116 feet. Measuring point, top of 6-inch coupling, 0.6 foot above land surface and 569.5 feet above sea level.

Water level, in feet below measuring point, 1941

Mar. 25	67.32	May 26	69.77	June 30	70.87	Sept.15	73.84
31	67.26	June 2	70.02	July 7	70.89	Oct. 13	75.05
Apr. 7	67.75	5	70.52	14	71.09	Nov. 10	76.45
14	67.85	6	72.18	21	71.28	Dec. 1	76.90
21	68.11	7	70.41	28	71.80	8	76.85
28	68.43	9	70.24	Aug. 4	71.91	15	77.88
May 5	68.64	16	70.35	11	72.30	22	78.10
12	69.09	23	70.57	18	72.50	29	78.17
19	69.60						

216-G. Wright Aeronautical Corporation, 110 feet south from Jackson Road, and 100 feet west from Big Four Railroad. Drilled test well G, diameter 2½ inches, depth 80 feet. Measuring point, top of 2½-inch pipe, 3.0 feet above land surface and 560.0 feet above sea level. Measurements discontinued Oct. 13, 1941.

Water level, in feet below measuring point, 1941

Mar. 25	47.83	May 5	47.99	June 7	48.54	July 14	49.03
31	48.03	12	48.16	9	48.61	21	49.11
Apr. 7	47.97	19	48.20	16	48.69	28	49.19
14	48.07	26	48.32	23	48.76	Aug. 4	49.29
21	47.09	June 5	48.47	30	48.88	11	49.40
28	48.07	6	48.52	July 7	48.95	Oct. 13	50.84

Hamilton County--Continued.

216-E. Wright Aeronautical Corporation, Jackson Road and Big Four Railroad, southwest corner. Drilled test well, diameter 6 inches, depth 180 feet. Measuring point, top of 6-inch casing, 5.0 feet above land surface and 560.4 feet above sea level. Automatic water-stage recorder installed Apr. 8, 1941.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	48.79	50.11	51.23	52.13	52.95	57.30	55.54	58.12
2	.....	48.91	50.34	51.33	52.08	53.37	57.75	55.67	58.57
3	.....	49.10	50.25	51.36	52.01	53.47	54.63	56.04	58.80
4	.....	48.87	53.08	51.15	52.05	53.46	54.50	56.10	58.33
5	.....	49.10	53.87	51.03	52.07	53.42	54.40	56.90	57.53
6	.....	49.15	53.71	50.96	52.20	53.50	54.66	56.79	57.75
7	.....	49.18	50.63	51.17	52.37	53.25	54.78	56.17	57.13
8	48.21	49.31	50.46	51.44	52.36	53.75	55.03	56.10	59.28
9	49.00	49.65	50.60	51.43	52.20	53.83	54.87	56.03	59.04
10	49.15	49.62	50.78	51.33	52.16	53.98	55.10	56.43	59.38
11	48.60	49.35	50.61	51.50	53.42	54.06	55.04	56.36	59.01
12	48.39	49.47	50.70	51.41	54.86	54.07	54.74	56.40	59.05
13	48.17	49.67	50.86	51.30	52.65	53.84	55.10	56.30	58.08
14	48.36	49.66	50.60	51.56	52.61	53.65	55.17	56.87	58.17
15	48.42	49.71	50.45	51.50	54.89	53.93	55.22	57.46	59.84
16	48.36	49.76	50.84	51.58	52.60	54.00	55.34	56.11	60.24
17	48.49	49.60	50.98	51.72	52.36	54.10	55.40	57.84	60.63
18	48.47	49.64	51.10	51.52	52.57	54.23	55.15	58.40	60.60
19	48.40	50.06	51.02	51.63	55.10	54.22	55.10	58.07	60.55
20	48.29	50.32	51.08	51.55	55.33	54.08	55.32	56.55	60.63
21	48.57	50.20	50.84	51.83	53.05	54.02	55.33	58.01	60.90
22	48.73	50.32	50.76	51.85	53.07	54.25	55.34	57.50	60.15
23	48.60	50.36	51.00	51.80	53.12	54.21	55.49	57.45	60.36
24	48.71	50.30	51.16	51.91	52.94	54.14	55.63	58.07	60.40
25	48.75	50.20	51.17	52.04	53.01	54.18	55.50	58.08	58.39
26	48.75	50.32	54.20	51.94	53.15	54.61	55.40	58.60	60.00
27	48.50	50.42	55.23	51.78	53.53	54.47	55.50	58.73	58.87
28	48.87	50.49	55.18	51.96	53.62	54.15	55.91	58.80	58.50
29	48.90	50.49	51.07	51.98	53.60	54.60	55.91	58.53	60.58
30	48.88	50.29	51.02	51.90	53.39	53.85	55.80	57.60	60.46
31	.....	50.25	.....	52.00	53.20	.....	55.66	.....	60.74

218-2. Chemical Products Company (formerly Joslin-Schmidt Company), 0.4 mile north from Reading. Automatic water-stage recorder removed Oct. 30, 1941, measurements discontinued and well put back into service.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
1	56.70	59.95	60.28	60.89	62.40	63.80	64.94	65.95	65.24	68.65
2	57.30	59.73	60.47	60.83	62.14	63.63	65.26	66.22	67.00	68.98
3	57.18	59.76	59.72	60.84	62.66	63.73	65.30	66.17	67.24	68.57
4	56.73	59.90	60.52	60.85	62.37	63.82	64.63	65.30	67.50	68.59
5	56.46	60.16	60.30	60.70	62.12	64.26	64.42	65.80	67.39	68.12
6	58.36	60.02	60.42	60.75	62.51	64.35	64.42	66.10	67.78	68.35
7	58.84	60.24	60.28	60.93	62.65	64.23	64.81	66.20	66.98	68.62
8	59.52	59.83	59.99	61.26	62.77	64.00	65.06	66.22	67.55	68.85
9	59.67	60.17	59.86	62.40	63.00	63.95	65.19	66.22	67.70	68.88
10	59.28	59.70	59.84	62.81	63.00	64.12	65.27	65.75	68.01	68.71
11	59.76	59.91	60.41	61.57	62.80	64.05	65.28	65.58	67.95	68.80
12	57.63	60.08	60.65	61.33	62.68	64.13	65.37	66.52	68.09	68.87
13	58.30	59.85	60.28	60.85	63.18	64.22	65.04	66.54	67.98	68.42
14	59.05	60.05	60.37	59.60	63.23	64.26	64.87	66.69	67.57	69.03
15	58.56	60.06	60.22	60.64	63.50	63.90	65.36	66.60	67.37	69.14
16	58.91	59.95	59.96	60.92	63.36	63.73	65.41	66.77	67.90	69.15
17	59.00	58.25	59.88	61.38	63.30	64.20	65.68	66.32	68.17	69.15
18	58.95	60.07	60.77	.....	63.21	64.50	65.61	66.25	68.05	68.86

Hamilton County--Continued.

218-3. Chemical Products Company.--Continued.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
19	59.33	59.85	60.75	60.66	62.92	64.46	65.48	67.05	68.17	68.95
20	59.07	60.12	60.54	61.00	63.61	64.21	65.38	.....	68.18	69.00
21	59.44	.....	60.50	60.89	63.34	64.15	65.52	.....	67.86	69.29
22	59.41	.....	60.50	61.54	63.68	64.15	65.75	.....	67.65	69.39
23	59.55	59.93	60.36	61.33	64.00	64.24	65.82	.....	68.35	69.42
24	59.70	59.78	60.76	61.47	64.10	64.65	65.80	.....	68.34	69.55
25	60.14	60.37	61.05	61.87	64.20	64.82	65.92	66.58	68.27	69.68
26	59.73	60.31	61.11	61.54	63.36	64.96	65.92	66.98	68.63	69.35
27	59.75	60.05	61.01	61.53	63.74	65.08	65.54	67.46	68.58	69.85
28	59.84	60.35	61.28	61.66	63.65	64.98	65.34	67.53	68.05	70.49
29	60.25	.....	61.16	62.00	63.60	64.54	65.78	67.74	68.44	70.56
30	59.78	.....	61.11	62.25	63.87	64.38	65.54	67.43	68.23	.....
31	59.93	.....	60.76	.....	63.25	.....	66.05	66.97	.....	.....

220-4. City of Reading, municipal water plant, Walnut Street, Reading.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 15	86.19	May 12	89.10	July 14	89.87	Oct. 27	93.30
Feb. 15	87.17	19	89.60	21	91.13	Nov. 3	94.02
Mar. 15	87.20	26	89.06	28	91.16	10	94.36
26	87.38	June 2	89.55	Aug. 4	91.62	17	94.17
31	87.38	7	89.92	11	91.43	24	94.63
Apr. 7	87.89	9	89.70	Sept.15	92.62	Dec. 1	94.20
14	87.82	16	89.85	29	93.23	8	94.40
21	88.28	23	90.08	Oct. 6	93.24	15	94.83
28	88.80	30	90.32	13	93.39	22	94.77
May 5	89.21	July 7	90.32	20	93.48	29	95.38

226. W. S. Burkhardt property, 500 feet north from Clark Road and 300 feet east from Mill Creek.

Water level, in feet below measuring point, 1941

Jan. 6	68.03	Feb. 10	67.58	Mar. 17	68.15	Apr. 14	69.03
13	67.65	17	67.58	24	68.32	21	69.36
20	68.29	24	67.03	31	68.49	28	(a)
27	67.98	Mar. 3	67.47	Apr. 7	69.01	Dec. 29	(a)
Feb. 3	67.73	10	68.15				

Pit I. Reading Sand and Gravel Company pit, Granite and Jefferson Streets, Reading. Staff gage removed June 18 and measurements discontinued.

Water level, in feet above zero of staff gage, 1941

Date	Water level	Date	Water level	Date	Water level
Jan. 15	1.94	Mar. 15	2.26	May 15	1.74
Feb. 15	2.12	Apr. 16	1.98		

T-80. W. S. Burkhardt property, east bank of Mill Creek, 250 feet north from Amity Road, Arlington Heights.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	53.15	Feb. 3	49.95	Mar. 3	52.03	Mar. 24	54.10
13	54.78	10	50.32	10	52.74	31	54.50
20	52.70	17	48.93	15	52.52	Apr. 7	54.42
27	51.05	24	50.49	17	52.89	14	(b)

a Well dry Apr. 28 to Dec. 29, 1941.
b Well dry Apr. 14 to Dec. 29, 1941.

Hamilton County--Continued.

T-54. W. S. Burkhardt property, 100 feet east of east fork of Mill Creek along Amity Road, Reading. U. S. Geological Survey test well. Measurements discontinued Aug. 15, 1941.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 15	15.96	Mar. 15	15.71	May 15	14.96	July 18	14.45
Feb. 15	16.00	Apr. 16	15.78	June 18	14.94	Aug. 15	14.73

236-4. Grasselli Chemicals Division, E. I. du Pont de Nemours and Company. Wayne Avenue and West Fork of Mill Creek, Lockland. Drilled well, diameter 12 inches, depth 155 feet. Measuring point, top of 6-inch pipe, 0.5 foot above land surface and 545.9 feet above sea level.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	.....	.....	102.57	103.65	104.42	104.80	106.19
2	.....	a100.00	.....	102.74	103.85	104.52	105.15	106.15
3	.....	.....	.....	102.81	103.69	104.50	105.27	106.32
4	.....	.....	.....	102.71	103.71	104.40	105.18	106.18
5	.....	.....	.....	102.75	103.61	104.40	105.11	106.16
6	.....	.....	.....	102.88	103.70	104.55	104.86	106.55
7	.....	.....	a101.10	103.60	103.70	104.52	105.15	106.57
8	.....	.....	.....	102.95	103.70	104.75	105.42	106.20
9	.....	a100.42	.....	102.95	103.82	104.78	105.70	106.37
10	.....	.....	.....	103.01	104.10	104.94	105.84	106.75
11	.....	.....	.....	102.91	104.26	105.03	105.88	106.85
12	.....	.....	.....	103.05	104.21	104.92	105.85	106.69
13	.....	.....	.....	103.25	104.10	105.04	106.47	106.37
14	.....	.....	a101.72	103.86	104.15	104.81	105.82	106.55
15	.....	.....	.....	103.06	104.56	105.00	105.69	106.60
16	.....	a100.45	.....	103.27	104.07	105.77	105.83	106.87
17	.....	.....	.....	103.29	104.20	105.09	105.95	106.50
18	a99.45	.....	.....	103.20	104.28	105.04	106.06	106.53
19	.....	.....	.....	103.26	104.23	105.15	105.99	106.57
20	.....	.....	.....	103.38	104.25	105.17	105.88	106.88
21	.....	.....	a102.34	104.16	104.31	105.05	106.06	106.90
22	.....	.....	.....	103.38	104.30	105.15	106.11	106.60
23	.....	a100.73	.....	103.46	104.21	105.23	106.17	106.87
24	.....	.....	.....	103.40	104.14	105.32	107.04	106.50
25	.....	.....	b102.39	103.24	104.18	105.13	106.45	106.53
26	99.74	.....	102.50	103.47	104.40	105.15	106.25	106.57
27	.....	.....	102.55	103.72	104.51	105.00	106.27	106.88
28	.....	.....	102.53	103.85	104.65	105.55	106.44	106.90
29	.....	.....	102.48	104.28	104.78	105.82	106.44	107.20
30	.....	.....	102.36	103.83	104.83	105.55	106.28	107.10
31	.....	.....	102.46	103.75	.....	106.02	.....	106.80

237-3. Village of Wyoming municipal water plant, Vine and Water Streets, Wyoming.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	123.32	123.75	123.50	124.02	123.98	123.88
2	123.12	123.50	120.80	124.41	124.05	124.05
3	123.18	123.68	122.43	124.39	124.44	.....
4	123.15	123.75	123.54	123.96	124.10	.....
5	123.48	123.58	123.52	123.90	124.15	.....
6	123.35	123.24	123.52	124.20	124.05	124.09
7	123.52	123.31	123.21	124.27	124.37	123.97
8	123.55	123.06	123.18	124.50	124.43	123.84
9	123.44	123.61	123.02	124.62	124.83	123.88

a Individual tape measurements.

b Recorder installed.

Hamilton County--Continued.

237-3. Village of Wyoming municipal water plant.--Continued.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
10	123.42	123.94	122.79	124.67	124.85	123.86
11	123.35	123.82	123.34	124.72	124.27	123.71
12	123.42	123.22	123.57	124.76	124.30	123.78
13	123.09	122.84	124.22	124.08	124.48	123.85
14	123.20	122.96	123.93	124.49	123.04	124.04
15	123.03	123.07	123.41	124.65	123.06	124.04
16	123.05	122.53	123.32	124.70	122.84	124.15
17	122.86	.....	124.28	124.73	122.93	124.21
18	123.36	.....	124.58	123.90	123.02	124.30
19	123.90	.....	124.16	124.17	123.13	124.35
20	123.72	.....	124.25	124.23	123.30	124.45
21	123.68	.....	124.53	124.67	123.41	124.55
22	123.41	.....	124.52	124.65	123.46	124.15
23	123.62	.....	123.81	124.31	123.68	124.37
24	123.50	123.17	123.97	124.33	123.58	124.42
25	123.67	123.26	124.19	124.16	123.67	124.57
26	123.63	123.25	124.16	124.40	123.50	124.75
27	123.67	123.18	124.10	124.42	123.75	124.86
28	123.96	123.28	124.10	124.13	124.03	125.00
29	123.82	.....	124.21	124.38	124.08	124.92
30	123.45	.....	123.55	124.11	124.07	125.02
31	123.64	.....	123.68	.....	123.91	.....

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	124.94	126.05	126.40	129.37	127.52	130.16
2	125.05	126.28	126.35	129.56	129.46	130.14
3	125.24	126.34	126.28	129.31	128.28	130.21
4	127.00	126.34	126.18	129.33	129.66	129.85
5	126.72	126.24	126.28	128.98	129.44	129.91
6	126.80	126.32	126.46	129.28	129.15	130.51
7	125.09	126.41	126.40	129.16	128.06	130.50
8	127.03	126.30	126.72	129.31	129.73	129.88
9	126.88	126.29	126.80	129.24	130.62	130.06
10	126.60	126.25	126.96	129.17	128.20	130.50
11	125.89	126.16	127.06	129.48	130.00	130.58
12	126.97	126.40	127.00	129.33	129.77	130.25
13	125.50	126.67	126.86	129.64	130.27	130.02
14	125.21	126.57	126.94	129.91	130.55	129.83
15	127.30	126.46	127.00	129.48	129.84	130.09
16	127.50	126.63	126.94	129.63	129.98	129.84
17	125.44	126.75	127.21	129.53	129.74	130.06
18	125.45	126.64	127.25	129.54	129.77	130.00
19	125.74	126.70	127.36	129.56	129.94	130.06
20	125.50	126.88	127.39	129.60	129.98	130.55
21	125.76	126.89	127.33	129.27	130.01	130.44
22	125.84	126.82	129.16	129.55	130.03	129.87
23	125.76	126.87	129.44	129.32	129.68	129.67
24	125.75	126.81	129.30	129.76	130.15	129.30
25	125.85	126.66	129.08	129.58	130.01	129.63
26	125.65	126.87	129.58	129.28	130.16	129.35
27	125.55	127.11	129.73	127.53	130.26	129.59
28	125.59	127.21	129.55	129.32	130.41	130.25
29	125.73	127.01	129.70	128.14	130.48	130.48
30	125.71	126.99	129.27	129.40	130.35	130.21
31	125.88	126.44	.....	129.20	.....	128.30

Hamilton County--Continued.

241-3. Gardner-Richardson Company, South Cooper Avenue, Lockland.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	118.34	122.24	123.14	122.76	123.21	125.28
2	117.73	122.42	122.30	122.90	123.43	125.38
3	117.70	122.07	121.35	122.86	123.51	125.35
4	117.62	122.02	122.38	122.74	123.60	125.79
5	117.60	121.93	122.51	123.24	123.30	126.06
6	118.14	121.67	122.59	123.57	123.69	126.14
7	118.19	121.95	122.56	123.15	124.07	126.16
8	118.30	122.21	122.58	123.18	124.25	126.26
9	118.61	122.38	122.57	123.25	124.54	125.79
10	118.43	122.04	122.00	123.10	124.57	126.00
11	118.88	122.21	122.40	123.32	124.41	126.00
12	118.96	122.16	122.78	123.40	123.75	126.25
13	119.34	122.17	123.00	123.48	123.65	126.34
14	119.35	122.55	123.02	122.80	123.61	126.27
15	119.36	122.52	122.85	123.00	123.45	126.29
16	119.35	122.57	122.80	123.03	123.88	126.20
17	119.87	122.10	122.75	123.44	124.34	126.37
18	119.92	122.46	122.95	123.70	124.44	126.55
19	120.19	122.57	122.98	123.88	124.24	126.60
20	120.30	122.64	122.96	124.06	124.19	126.70
21	120.36	122.58	123.20	123.95	124.34	126.75
22	120.17	122.73	123.25	124.09	124.40	126.60
23	120.21	122.79	123.19	123.83	124.76	126.20
24	120.90	122.15	122.78	123.88	124.70	126.41
25	120.99	122.51	122.91	123.94	124.63	126.46
26	120.51	122.64	122.88	124.06	124.32	126.33
27	120.87	122.98	122.60	123.67	124.89	126.30
28	120.94	123.12	122.98	123.40	125.01	126.22
29	121.25	.....	123.08	123.63	125.15	126.10
30	121.65	.....	122.70	123.44	125.16	126.00
31	122.15	.....	122.09	.....	125.10	.....

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	125.96	127.76	127.74	127.77	127.90	126.43
2	126.09	127.90	127.70	127.74	128.28	126.18
3	126.10	127.93	127.99	127.64	128.14	126.23
4	126.10	127.00	128.07	127.55	128.14	126.15
5	126.15	127.31	128.08	127.63	127.89	126.26
6	126.12	127.73	128.22	127.65	127.69	126.40
7	125.61	127.88	128.43	127.66	127.97	126.44
8	125.99	127.94	128.50	127.83	127.65	126.83
9	126.05	128.06	128.66	127.84	127.50	127.56
10	126.10	128.14	128.83	127.74	127.51	128.01
11	126.21	128.05	128.87	127.76	127.50	128.02
12	126.38	128.08	128.22	127.63	127.20	127.91
13	126.42	128.06	127.78	127.45	126.97	127.95
14	126.17	127.80	127.60	127.35	126.80	128.00
15	126.25	127.40	127.48	127.60	126.64	128.29
16	126.33	127.29	127.61	127.78	126.73	128.40
17	126.44	127.29	127.67	127.68	126.75	128.60
18	126.40	127.48	127.83	127.80	127.06	128.74
19	126.57	127.82	127.87	127.90	126.83	128.96
20	126.21	128.03	127.62	127.76	126.71	129.21
21	126.33	128.06	127.40	127.66	126.85	129.21
22	126.86	128.08	127.57	127.66	126.85	128.88
23	126.00	128.17	127.86	127.68	126.89	128.79
24	126.43	128.13	127.89	127.53	126.84	129.44
25	126.60	127.90	128.25	127.28	126.58	129.12

Hamilton County--Continued.

241-3. Gardner-Richardson Company--Continued.

Lowest daily water level, in feet below measuring point, 1941 (from recorder charts)

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.
26	126.77	128.28	128.33	127.16	126.51	128.06
27	127.00	128.41	128.27	126.97	126.47	127.86
28	127.09	128.23	128.15	127.03	126.58	127.46
29	127.23	128.07	127.95	127.13	126.66	127.16
30	127.42	127.98	127.76	127.01	126.30	126.90
31	127.61	127.92	.....	127.16	.....	126.50

245. A. Tieman, Cherry Hill Road, Hartwell. Measurements discontinued Dec. 14, 1940.

T-57. Waldemann Estate, west end of property, rear of 406 Elliott Avenue, Arlington Heights. U. S. Geological Survey test well. Well dry Sept. 4, 1940, to Dec. 29. 1941.

T-55. Waldemann Estate, west side of West Fork of Mill Creek, Amity Road, Arlington Heights. U. S. Geological Survey test well. Well dry Sept. 16, 1940, to Dec. 29, 1941.

T-64. Mrs. Ann Frank, 8033 Woodbine Avenue, Hartwell. U. S. Geological Survey test well. Measurements discontinued Aug. 15, 1941.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 15	18.58	Mar. 15	18.67	May 15	18.80	July 18	18.52
Feb. 15	18.56	Apr. 16	18.73	June 18	18.48	Aug. 15	18.75

T-63. Lunkenheimer Valve Company, North Bend Road and Baltimore and Ohio Railroad, Carthage. U. S. Geological Survey test well. Measurements discontinued Aug. 15, 1941.

Water level, in feet below measuring point, 1941

Jan. 15	24.31	Mar. 15	24.67	May 15	18.92	July 18	24.61
Feb. 15	24.43	Apr. 16	24.80	June 18	24.45	Aug. 15	24.80

252. Flintkote Company, Seventy-fifth Street and Longview Avenue, Carthage.

Water level, in feet below measuring point, 1941

Jan. 6	96.82	Mar. 17	98.24	May 26	99.33	Aug. 4	98.90
13	96.63	24	98.45	June 2	99.55	11	98.65
20	96.52	31	98.52	9	99.58	Sept.15	99.91
27	96.49	Apr. 7	98.47	16	99.77	Oct. 13	101.40
Feb. 3	96.65	14	98.45	23	99.89	Nov. 10	101.67
10	97.18	21	98.78	30	100.15	Dec. 1	101.71
17	97.37	28	98.84	July 7	99.68	8	101.24
24	97.70	May 5	98.94	14	99.42	15	101.84
Mar. 3	97.82	12	99.09	21	99.16	22	102.16
10	97.96	19	99.31	28	98.99	29	102.54

265. Cities Service Oil Company, Laidlaw Avenue and Norfolk and Western Railroad, Cincinnati.

Water level, in feet below measuring point, 1941

Jan. 15	123.49	Apr. 16	124.43	June 18	125.35	Aug. 15	125.54
Mar. 15	124.10	May 15	124.71	July 18	124.95		

Hamilton County--Continued.

270-A4. Proctor and Gamble Company, Ross Run well field, Vine Street at Big Four Railroad, Ivorydale.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	91.38	94.98	95.24	94.95	95.30	93.88	94.83	95.48	94.90	95.76	96.20	95.83
2	91.50	93.38	94.67	95.10	95.45	94.35	95.00	95.60	94.65	95.90	95.91	96.10
3	91.69	93.72	94.60	95.15	95.55	94.68	95.15	95.25	94.92	95.92	96.10	96.16
4	92.05	94.13	95.14	95.22	95.10	95.10	95.21	95.18	95.06	95.96	96.12	96.08
5	91.60	94.34	95.15	95.26	94.65	95.30	94.05	95.44	95.22	95.55	96.15	96.32
6	91.48	94.55	95.17	94.45	95.00	95.35	93.70	95.58	95.22	95.13	96.20	96.41
7	92.54	94.63	95.15	94.10	95.30	95.33	93.22	95.60	94.06	95.66	96.45	96.38
8	93.05	94.92	95.05	94.61	95.43	94.45	93.27	95.58	94.76	95.78	96.44	96.00
9	93.50	94.75	94.50	94.92	95.67	94.15	93.28	95.64	95.28	95.80	96.06	96.12
10	93.55	94.45	94.32	95.13	95.67	94.62	93.54	94.97	95.58	96.08	96.25	96.20
11	93.85	94.65	94.83	95.28	95.57	94.78	92.37	95.25	95.68	96.11	96.33	95.95
12	92.45	94.81	95.04	95.32	95.05	95.02	92.25	95.67	95.71	95.63	96.35	95.54
13	93.09	94.84	95.10	94.90	95.37	95.17	92.97	95.89	95.66	95.55	96.45	95.94
14	93.53	95.16	95.16	94.58	95.45	95.20	93.58	95.74	95.34	95.83	96.44	95.95
15	93.81	95.20	95.03	95.00	95.50	94.90	94.00	95.79	95.50	96.10	96.40	95.73
16	93.92	94.75	94.15	95.22	95.53	94.82	94.36	95.84	95.70	96.17	95.92	95.90
17	94.37	94.40	94.32	95.26	95.69	95.08	94.54	95.76	95.86	96.10	96.10	96.06
18	94.56	94.95	94.83	95.43	95.35	95.25	94.65	95.85	95.92	96.10	96.25	96.16
19	93.08	95.11	95.04	95.45	95.00	95.35	94.81	95.98	95.92	95.90	96.27	96.25
20	93.00	95.18	95.10	95.00	95.34	95.40	94.60	96.02	96.00	96.02	96.16	96.35
21	93.66	95.15	95.16	95.00	95.46	95.44	94.65	96.03	95.52	96.18	95.42	95.95
22	94.11	95.04	95.03	95.08	95.53	95.25	94.80	96.03	95.16	96.25	95.63	95.64
23	94.32	94.70	94.15	95.10	95.70	94.55	94.93	96.08	95.48	96.41	95.87	95.64
24	94.56	94.20	94.10	95.27	95.77	95.02	95.05	95.57	96.57	96.40	95.64	96.17
25	94.63	94.74	94.46	95.34	95.35	95.21	95.16	95.48	96.00	96.28	95.67	95.65
26	93.85	94.84	94.77	95.39	94.83	95.28	95.22	95.67	96.07	96.29	95.87	95.19
27	94.33	95.04	94.95	94.95	95.21	95.34	94.50	95.76	96.08	95.97	96.02	95.55
28	94.50	95.20	95.15	94.75	95.35	95.44	94.57	95.81	95.23	96.25	96.13	95.18
29	94.68	.....	95.23	95.05	95.43	95.30	94.85	95.82	95.18	96.26	96.11	95.40
30	94.75	.....	94.87	95.16	95.49	94.45	95.10	95.83	95.50	96.15	95.65	95.54
31	94.95	.....	94.36	.....	95.42	.....	95.31	94.90	.....	96.12	.....	95.71

270-T-7. Proctor and Gamble Company, Ross Run well field, Vine Street and Big Four Railroad, Ivorydale. In bed of abandoned Miami and Erie Canal, 500 feet south from Murray Road.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	117.06	Apr. 14	117.95	July 14	118.42	Oct. 6	119.89
13	116.77	21	118.27	21	118.83	13	119.88
20	117.28	28	118.19	28	118.94	20	119.82
27	117.25	May 5	118.15	Aug. 4	119.05	27	119.49
Feb. 3	117.36	12	118.32	11	119.05	Nov. 3	119.97
10	117.69	19	118.46	18	119.21	10	120.16
17	117.22	26	118.26	25	119.00	17	120.00
24	117.52	June 2	118.23	30	119.24	24	120.15
Mar. 3	117.12	9	118.60	Sept. 3	119.09	Dec. 1	119.84
10	117.58	16	118.73	8	119.34	8	119.70
17	118.00	23	118.66	15	119.44	15	120.21
24	117.67	30	118.87	22	119.65	22	120.10
31	117.73	July 7	118.54	29	119.93	29	120.15
Apr. 7	118.14						

Hamilton County--Continued.

315-3. Globe-Wernicke Company, Norwood and Carthage Avenues, Norwood.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	182.90	Apr. 7	183.45	July 7	183.22	Oct. 13	184.33
13	182.57	14	183.48	14	183.72	20	184.45
20	183.00	21	183.42	21	183.91	27	183.89
27	182.76	28	183.68	28	183.80	Nov. 3	184.42
Feb. 3	182.79	May 5	183.29	Aug. 4	183.83	10	184.57
10	182.95	12	183.33	11	183.69	17	184.57
17	182.46	19	183.54	18	180.77	24	184.95
24	183.14	26	183.50	25	183.66	Dec. 1	184.32
Mar. 3	182.43	June 2	183.14	30	183.90	8	184.21
10	182.63	9	183.47	Sept. 15	184.15	15	184.82
17	183.02	16	183.43	22	184.13	22	184.60
24	182.97	23	180.00	29	184.47	29	185.05
31	182.96	30	183.29	Oct. 6	184.09		

317-14. City of Norwood, municipal water plant, Harri and Forest Avenues, Norwood. Well 16-5 in Water Supply Paper 886. Automatic water-stage recorder removed Apr. 7, 1941, and measurements discontinued Aug. 11, 1941.

Lowest daily water level, in feet below measuring point, 1941

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	187.70	191.05	191.14	187.82	.....	.....
2	187.30	191.72	191.68	187.64	.....	a193.12
3	186.78	188.73	188.50	187.54	.....	.....
4	189.35	187.83	187.65	187.19	.....	.....
5	191.62	187.22	187.65	191.20	a191.19	.....
6	191.88	186.73	187.40	192.65	.....	.....
7	187.90	186.49	187.24	192.80	.....	.....
8	187.50	189.50	190.50	.....	.....	.....
9	187.06	190.39	191.85	.....	.....	a193.23
10	187.06	188.25	188.60	.....	.....	.....
11	190.60	187.57	187.42	.....	.....	.....
12	191.23	187.15	187.52	.....	a192.02	.....
13	188.26	186.78	187.50	.....	.....	.....
14	187.50	186.79	187.52	a189.68	.....	.....
15	186.99	190.83	190.85	.....	.....	.....
16	186.48	191.47	191.75	.....	.....	a193.73
17	186.17	188.23	189.20	.....	.....	.....
18	190.75	187.42	189.96	.....	.....	.....
19	191.77	187.43	188.00	.....	a192.30	.....
20	188.78	189.60	187.54	.....	.....	.....
21	187.72	189.88	187.45	a190.22	.....	.....
22	187.10	191.30	191.50	.....	.....	.....
23	186.90	192.13	192.28	.....	.....	a196.07
24	186.82	189.18	189.50	.....	.....	.....
25	190.74	187.77	188.30	.....	.....	.....
26	191.35	187.55	187.84	.....	a192.49	.....
27	188.46	187.20	187.50	.....	.....	.....
28	187.82	187.16	187.27	a190.73	.....	.....
29	187.26	.....	191.50	.....	.....	.....
30	186.93	.....	192.17	.....	.....	a192.25
31	189.10	.....	189.10	.....	.....	.....

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level
July 7	196.20	July 21	198.50	Aug. 4	200.25
14	198.75	28	199.00	11	200.40

a Individual tape measurement.

Hamilton County--Continued.

326. Cincinnati Milling Machine Company, Madison and Marburg Roads, Oakley. Abandoned drilled well, diameter 6 inches, depth 213 feet. Measuring point, top of 6-inch casing, 1.0 foot above land surface and 615.7 feet above sea level.

Water level, in feet below measuring point, 1941

Date	Date level	Date	Date level	Date	Date level	Date	Date level
Jan. 6	162.55	Mar. 10	162.36	May 12	163.08	July 14	163.74
13	162.34	17	162.89	19	163.40	21	163.92
20	162.73	24	162.76	26	163.25	28	163.80
27	162.60	31	162.64	June 2	163.22	Aug. 4	163.92
Feb. 3	162.56	Apr. 7	163.14	9	163.41	11	163.69
10	162.63	14	163.46	16	163.40	Sept.15	164.45
17	162.15	21	163.25	23	163.50	Oct. 13	164.58
24	162.76	28	163.49	30	164.82	Nov. 10	164.67
Mar. 3	162.15	May 5	163.08	July 7	163.39	Dec. 1	164.56

306-1. United States Engineer Office, War Department, test hole, 310 feet east from Evans Street and 270 feet south from Eighth Street Viaduct, Mill Creek Valley, Cincinnati. Automatic water-stage recorder removed, and measurements discontinued Nov. 17, 1941.

Lowest daily water level, in feet below measuring point, 1941
(from recorder charts)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1	48.02	45.91	47.30	46.97	47.53	49.57	50.70	50.79	51.29	51.64	52.09
2	48.01	45.94	47.38	46.98	47.60	49.63	50.85	50.81	51.30	51.66	52.09
3	48.00	45.96	47.41	47.00	47.68	49.66	50.90	50.85	51.32	51.68	52.09
4	47.55	45.97	47.46	47.02	47.77	49.68	50.94	50.86	51.33	51.69	52.10
5	47.01	46.00	47.48	47.04	47.83	49.71	50.97	50.87	51.34	51.70	52.12
6	46.80	46.03	47.52	47.06	47.90	49.72	50.99	50.88	51.35	51.72	52.13
7	46.77	46.04	47.55	47.07	47.97	49.72	51.00	50.90	51.37	51.75	52.14
8	46.73	46.03	47.57	47.07	48.04	49.69	51.00	50.92	51.38	51.76	52.14
9	46.73	45.98	47.59	47.08	48.13	48.76	51.00	50.95	51.40	51.78	52.15
10	46.74	45.95	47.59	47.08	48.22	47.67	50.90	50.97	51.41	51.80	52.37
11	46.79	45.99	47.59	46.30	48.28	46.90	50.81	50.98	51.42	51.82	52.38
12	46.81	46.06	47.59	45.86	48.35	46.78	50.46	51.00	51.44	51.84	52.40
13	46.86	46.18	47.59	45.69	48.42	46.94	50.40	51.02	51.45	51.85	52.41
14	46.91	46.33	47.59	45.69	48.48	47.24	50.42	51.03	51.46	51.86	52.42
15	46.86	46.44	47.59	45.74	48.55	47.45	50.44	51.05	.....	51.87	52.43
16	47.02	46.53	46.94	45.80	48.61	47.60	50.47	51.06	.....	51.89	52.47
17	47.07	46.60	46.75	45.90	48.70	47.68	50.50	51.08	.....	51.90	.....
18	47.14	46.60	46.70	46.03	48.82	47.74	50.53	51.07	.....	51.92	.....
19	47.17	46.61	46.65	46.23	48.89	47.78	50.57	51.08	.....	51.95	.....
20	47.20	46.61	46.65	46.40	48.94	47.83	50.59	51.09	.....	51.98	.....
21	47.23	46.63	46.66	46.49	48.99	47.88	50.62	51.10	.....	51.99	.....
22	47.26	46.67	46.68	46.66	49.04	47.91	50.62	51.11	51.55	52.00	.....
23	47.29	46.72	46.74	46.79	49.10	47.96	50.62	51.13	51.55	52.01	.....
24	47.33	46.80	46.78	46.90	49.16	48.06	50.64	51.14	51.56	52.02	.....
25	47.35	46.91	46.81	47.00	49.21	48.17	50.66	51.17	51.57	52.03	.....
26	47.36	47.03	46.84	47.11	49.26	48.26	50.68	51.19	51.59	52.04	.....
27	47.37	47.15	46.87	47.19	49.31	48.34	50.70	51.21	51.61	52.04	.....
28	47.37	47.23	46.91	47.29	49.36	48.42	50.74	51.23	51.62	52.05	.....
29	46.58	.....	46.93	47.38	49.41	49.02	50.74	51.25	51.62	52.06	.....
30	46.23	.....	46.94	47.46	49.46	50.13	50.76	51.27	51.63	52.07	.....
31	45.94	.....	46.96	.....	49.51	.....	50.77	51.28	.....	52.08	.....

STARK COUNTY

City of Canton

By A. N. Sayre

During 1941 measurements of water level in 11 wells were made weekly by the Canton Water Department, measurements of water level in the Republic Steel Company test well were made weekly by Mr. E. V. Beftoulides, and an automatic water-stage recorder was maintained on a well of the Ohio Power Company's steam plant by Mr. C. R. Phillips under the direction of the Geological Survey. Graphs showing the fluctuations of water levels in the last-mentioned two wells are shown in the accompanying figure. All of the 13 wells end in the outwash gravel that underlies a large part of the city to depths of 100 to 200 feet.

The water levels in all the wells declined during the year. The water level declined an average of about 3.5 feet in the 8 wells of the Northeast well field, about 3.75 feet in the Goughnour well northeast of the Northeast well field, 5 feet in the Ninth Street well, 7.19 feet in the well at the city dump, and 7.42 feet in the Ohio Power Company well.

The average rate of pumping in the city wells during 1941 was 12,167,321 gallons a day (see table of pumpage) as compared with an average of 10,729,600 gallons a day in 1940. A part of this increase came from the Ninth Street well that was completed in 1940. There was probably a considerably greater increase in the pumpage at the various industrial plants in the city as a result of war production.

According to the records of the United States Weather Bureau, the precipitation during 1941 was 32.45 inches, which contrasts with 40.44 inches in 1940 and an average annual precipitation of 38.73 inches.

During 1940, when the pumpage in the Northeast well field was nearly 11,000,000 gallons a day and the precipitation was somewhat above normal, the water level in the field rose an average of about 1 foot and the water level in the Goughnour well, which is presumably beyond the radius of influence of the pumping in the city, was about the same at the end of the year as it was at the beginning. Thus the pumpage in the Northeast well field was not excessive. On the other hand, in the central part of the city there was a considerable increase in pumpage by industries and the water levels declined 4.73 feet in the Republic Steel Company test well and 4.69 feet in the well at the Ohio Power Company's steam plant.

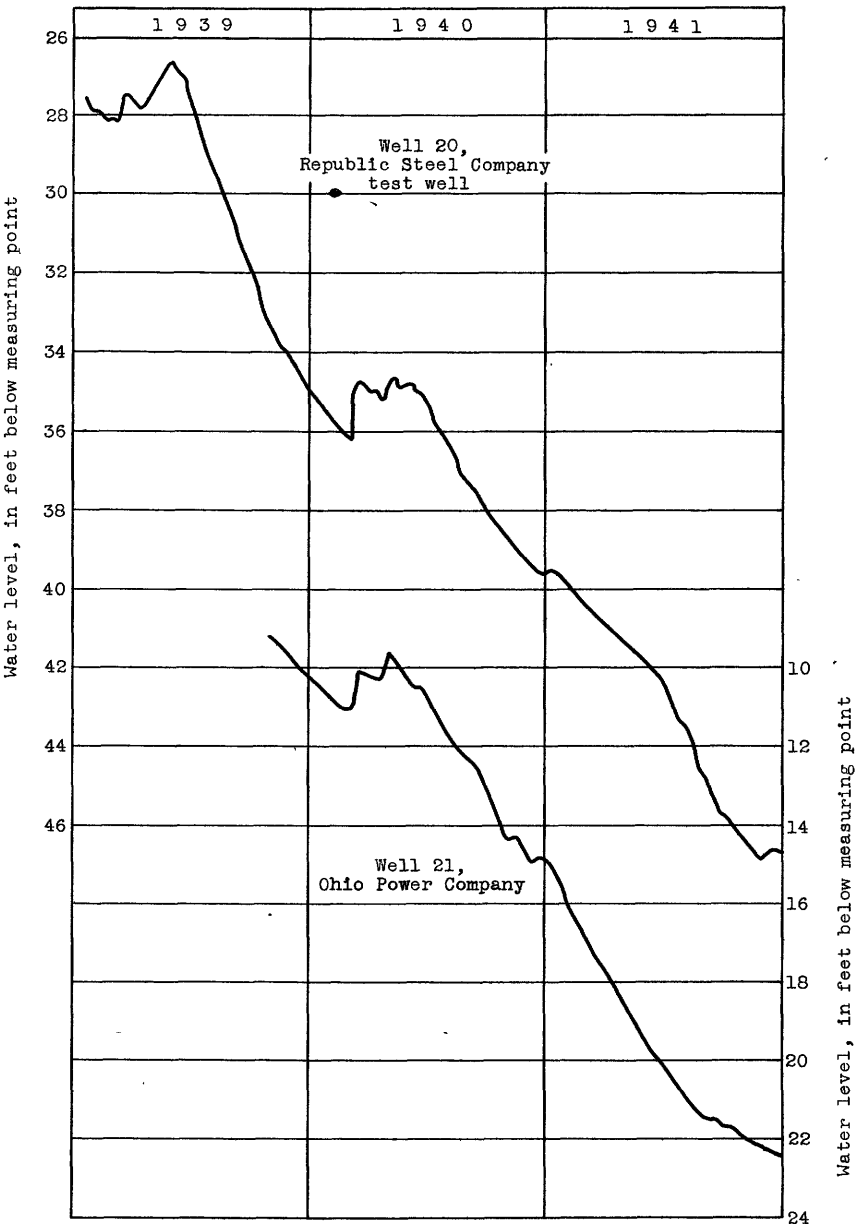

Figure 10.--Graphs showing fluctuations of water levels in well 20, Republic Steel Co. test well, and well 21, Ohio Power Co., Canton, Ohio.

During 1941 there was a continued increase in the pumpage and in addition there was a deficiency in rainfall so that recharge to the water-bearing formations was less than usual. Hence, there was a considerable decline in all the pumped areas for which records are on hand. Records of the pumpage in individual areas are not available, but it seems likely that the increase in pumpage in the Northeast well field was not great and that most of the increase in the pumpage by the city was accounted for by pumpage from the Ninth Street well. The decline in the water level in the Northeast well field therefore appears to be largely due to the deficiency in precipitation. This conclusion is supported by the fact that a decline of about the same magnitude occurred in the Goughnour well. In the area affected by the industrial pumpage, and also by the pumpage from the Ninth Street well, the decline in water levels was about twice the decline in the Northeast well field and about twice the decline in the industrial area during 1940. Therefore, it is evident that although a part of the decline in this area resulted from a deficiency in precipitation, a considerable part of it resulted from increased pumpage.

Any increase in pumpage is accompanied by a decline in water levels in the pumped area, but as pumping at the increased rate is maintained over a period of time, the rate of decline decreases and water levels eventually reach new equilibrium stages, providing the rate of pumping does not exceed the rate of recharge. Information is not available to indicate whether water levels in the Canton area will continue to decline at the same rate if the present rate of pumpage is maintained.

Monthly pumpage, in gallons, from wells of the City of Canton, 1941

Month	Pumpage	Month	Pumpage	Month	Pumpage
Jan.	305,700,000	May	384,642,000	Sept.	412,170,000
Feb.	294,870,000	June	405,731,000	Oct.	375,899,500
Mar.	330,850,000	July	428,826,000	Nov.	366,606,200
Apr.	347,110,000	Aug.	423,951,000	Dec.	364,716,782

The depths to water level in the wells measured by the City Water Department on the Monday nearest the end of the month are given below. All the measurements made under the direction of the Geological Survey are also given. Water-level measurements for 1939 and 1940 are published in Water-Supply Papers 886 and 906.

2. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	49	Mar. 31	42	June 30	47	Sept. 29	50
27	46	Apr. 28	43	July 28	48	Nov. 3	50
Mar. 4	42	June 2	45	Sept. 1	49	Dec. 1	53

3. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	41	Apr. 28	38	July 28	40	Nov. 3	43
27	38	June 2	37	Sept. 1	40	Dec. 1	46
Mar. 4	37	30	39	29	43	30	45
31	36						

4. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	46	Mar. 31	37	June 30	41	Sept. 29	44
27	43	Apr. 28	40	July 28	43	Nov. 3	44
Mar. 4	38	June 2	38	Sept. 1	41	Dec. 1	48

5. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	44	Apr. 28	37	July 28	40	Nov. 3	44
27	40	June 2	37	Sept. 1	39	Dec. 1	46
Mar. 4	38	30	39	29	43	30	46
31	36						

8. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	41	Mar. 31	35	June 30	40	Sept. 29	41
27	39	Apr. 28	36	July 28	40	Nov. 3	43
Mar. 4	37	June 2	36	Sept. 1	40	Dec. 1	46

9. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	41	Apr. 28	36	July 28	40	Nov. 3	43
27	39	June 2	37	Sept. 1	39	Dec. 1	47
Mar. 4	36	30	39	29	43	30	45
31	35						

10. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	42	Apr. 28	37	July 28	40	Nov. 3	43
27	40	June 2	37	Sept. 1	40	Dec. 1	47
Mar. 4	38	30	39	29	43	30	45
31	35						

11. City of Canton. Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	37	Apr. 28	32	July 28	35	Nov. 3	39
27	33	June 2	33	Sept. 1	34	Dec. 1	41
Mar. 4	32	30	34	29	37	30	40
31	32						

12. Goughnour well. Northeast of Northeast well field.

Water level, in feet below land surface, 1941

Jan. 6	18.0	Apr. 28	17.0	July 28	18.66	Nov. 10	19.83
Feb. 3	18.0	June 2	17.58	Sept. 1	18.92	Dec. 1	21.0
Mar. 10	17.0	30	18.25	29	18.66	30	21.75
31	16.75						

13. Harrisburg well.

Water level, in feet below land surface, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 6	40.5	Apr. 28	35.33	July 28	39.17	Nov. 30	41.92
27	38.33	June 2	36.33	Sept. 1	38.92	Dec. 1	45.42
Mar. 4	35.66	30	38.66	29	41.58	30	43.83
31	34.58						

14. Ninth Street well. City of Canton. Diameter 30 inches, depth 180 feet. City Park near West Branch of Nimishillen Creek and Ninth Street, S.W.

Water level, in feet below land surface, 1941

Jan. 6	14	Apr. 28	18.5	July 28	21	Nov. 3	21
27	14	June 2	19	Sept. 9	21	Dec. 1	20
Mar. 4	17	30	20	29	21	30	19
31	18						

20. Republic Steel Company test well. Lippert Street and Warner Road, N.E.

Water level, in feet below land surface, 1941

Jan. 2	39.52	Apr. 2	40.94	July 2	42.46	Oct. 7	45.66
8	39.58	9	41.04	9	42.75	12	45.79
15	39.71	16	41.12	18	43.16	22	46.02
20	39.77	23	41.23	24	43.27	29	46.10
29	39.88	29	41.29	30	43.41	Nov. 4	46.27
Feb. 6	40.00	May 7	41.46	Aug. 4	43.58	12	46.41
11	40.08	14	41.66	12	43.89	19	46.58
21	40.29	21	41.75	26	44.41	25	46.66
27	40.35	28	41.85	Sept. 2	44.62	Dec. 3	46.83
Mar. 7	40.50	June 5	41.96	10	44.75	9	46.96
12	40.60	11	42.04	16	45.16	16	46.75
19	40.75	18	42.14	24	45.37	24	46.71
26	40.82	26	42.25	30	45.62	31	46.71

21. Ohio Power Company. Second Street at Savannah, S.E.

Water level, in feet below land surface, 1941

Jan. 7	14.88	Apr. 7	17.73	July 7	20.07	Oct. 6	21.73
13	15.06	14	17.90	14	20.23	13	21.74
20	15.28	21	18.13	21	20.33	20	21.68
27	15.51	28	18.30	28	20.46	27	21.75
Feb. 3	15.76	May 5	18.55	Aug. 4	20.60	Nov. 3	21.81
10	16.05	12	18.78	11	20.74	10	21.94
18	16.31	19	18.93	18	20.89	17	22.00
24	16.53	26	19.19	25	21.18	24	22.04
Mar. 3	16.76	June 2	19.34	Sept. 1	21.38	Dec. 1	22.09
10	16.99	9	19.47	8	21.52	8	22.16
17	17.19	16	19.63	15	21.51	15	22.20
24	17.39	23	19.81	22	21.51	22	22.28
31	17.55	30	19.99	29	21.51	29	22.30

PENNSYLVANIA

By R. C. Baker

In 1941, as in previous years, weekly measurements of water level in a State-wide net of observation wells were made in cooperation with the Topographic and Geologic Survey of the Pennsylvania Department of Internal Affairs. A total of about 1,500 measurements was made during the year and an automatic water-stage recorder and a rain gage were maintained at well 100. During the year a trip was made by the writer to inspect the observation wells and to study their field relations. Two wells were abandoned and five new wells were included. At the end of the year measurements were being made in 29 wells. No water is pumped from any of the observation wells except from well 76, near Wapwallopen, which is pumped during dry periods. Well 57, at Sunbury, and well 61, at Newport, may be somewhat affected by pumping from nearby wells.

The accompanying figure shows graphs of the weekly average of the water levels in 1941, the highest and lowest weekly averages prior to 1941, and the 9-year average, which is a composite of the weekly averages from 1932 to 1940. It also shows the 1941 precipitation and the 54-year monthly normal precipitation.

At the end of 1941 the weekly average was about 3.2 feet lower than at the beginning of the year.

In the first week in January 1941 the water levels averaged about 2½ feet above the 9-year average for that week and about 1 foot higher than the highest previous average of record for that week. Throughout the year the average followed the precipitation, dropping relative to the 9-year average in months of deficient precipitation and rising in relation to the 9-year average in periods of excessive precipitation. A notable exception occurred in the latter half of March and the first part of April, during which period there was an average rise of more than 2 feet, whereas the 9-year average went up only 1 foot. During this period the conditions were favorable for infiltration, and as a result there was an unusual amount of recharge, even though the precipitation was subnormal.

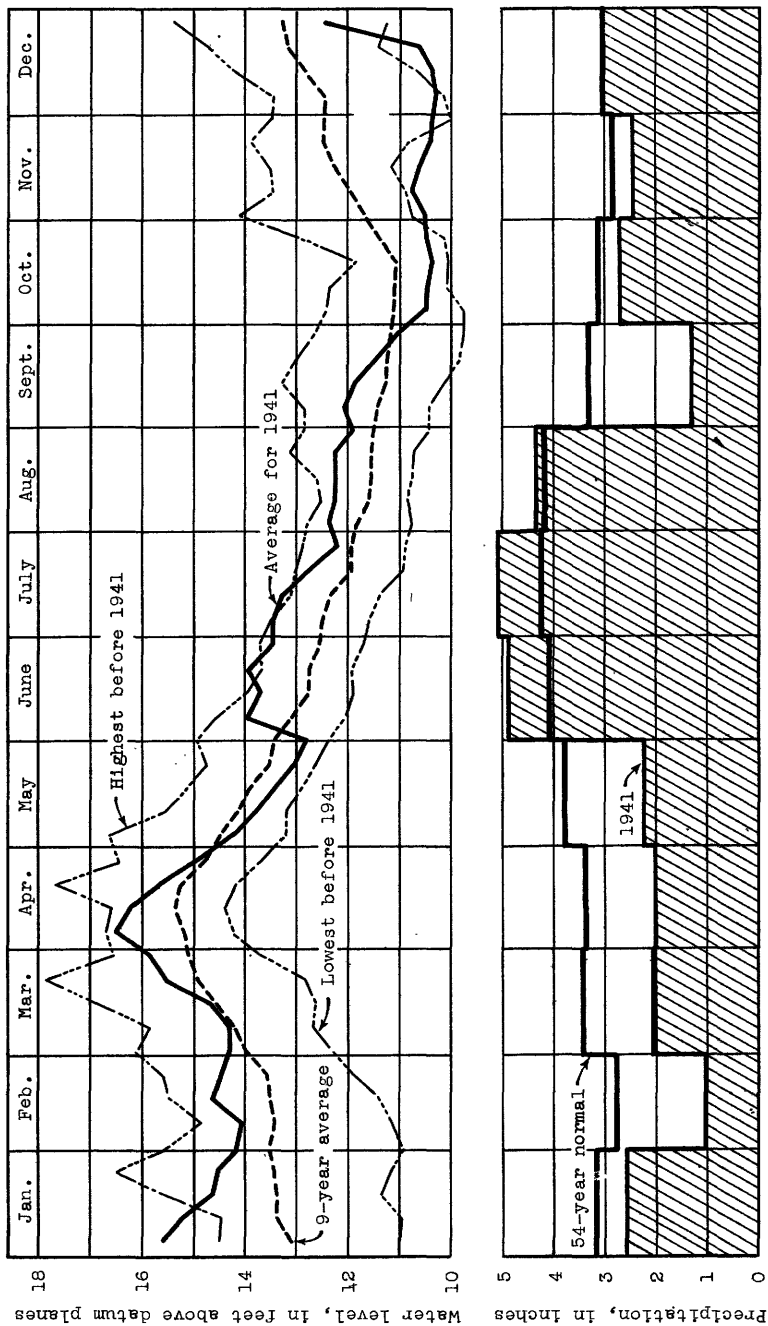

Figure 11.--Graphs showing average ground-water levels and precipitation in Pennsylvania in 1941 in comparison with previous years of record.

In October, November, and most of December 1941, the average was low and did not fluctuate greatly, but in the latter part of December there was a pronounced rise in water levels. During November 1941 the average of the water levels remained nearly constant, whereas the 9-year average rose about 0.8 foot. If this difference were entirely due to the deficiency in precipitation in November 1941 of 0.4 inch, there would be indicated a capacity for the storage of water in the soil within the range of fluctuation of the water table of only about 4 percent, which is quite low, and only about one-sixth of the specific yield of fairly clean sand. This computation, although not in itself conclusive, accords with the conclusion already arrived at that over the State as a whole the capacity of the soil for ground-water storage is small.

In 1941 two wells reached new high levels for the period of record (one in March and the other in April), five wells reached new low levels (one in September, one in November, and three in December), and one well which was never dry before was dry at various times in November and December.

In the following tables the water levels are expressed in feet above an assumed datum at each well, except wells 116, 117, 118, 119, and 120, for which the water levels are given in feet below the measuring points. These five wells were added to the observation-well program in the autumn of 1941 and suitable datum planes had not been determined for them at the end of the year. The table of weekly averages for 1941 does not include the records for wells 115, 116, 117, 118, 119, and 120.

The records of water levels in the observation wells in previous years are given in Water-Supply Papers 777, 817, 840, 845, 886, and 906. The descriptions of the wells and of the measuring points and bench marks, if not given in this report, will be found in the water-supply papers to which reference is made.

Weekly average of water levels in observation wells in Pennsylvania, in feet above assumed datum planes, 1941

Date	Number of wells	Water level	Date	Number of wells	Water level
Jan. 4	23	15.60	Mar. 1	23	14.26
11	23	15.29	8	24	14.30
18	23	14.74	15	23	14.63
25	23	14.55	22	23	15.53
Feb. 1	23	14.18	29	23	15.83
8	23	14.07	Apr. 5	23	16.52
15	23	14.68	12	23	16.25
22	24	14.49	19	23	15.65

Weekly average of water levels in observation wells in Pennsylvania, in feet above assumed datum planes, 1941--Continued

Date	Number of wells	Water level	Date	Number of wells	Water level
Apr. 26	23	14.96	Aug. 30	24	11.89
May 3	23	14.20	Sept. 6	24	12.03
10	23	13.80	13	24	11.86
17	23	13.43	20	24	11.50
24	24	13.00	27	24	11.02
31	23	12.80	Oct. 4	23	10.52
June 7	23	13.92	11	23	10.47
14	23	13.69	18	23	10.36
21	23	13.93	25	21	10.49
27	23	13.47	Nov. 1	22	10.59
July 5	23	13.43	8	23	10.78
12	23	13.24	15	22	10.61
19	23	12.85	22	22	10.44
26	23	12.27	29	22	10.38
Aug. 2	23	12.36	Dec. 6	22	10.26
9	23	12.21	13	22	10.31
16	24	12.26	20	22	10.60
23	24	12.25	27	23	12.43

Bedford County

45. West Saxton. (Water-Supply Paper 817, P. 266). Abandoned. Replaced by well 116.

116. West Saxton. Owner, W. M. Hoffman. Observer, George W. Darr. West corner of Norris and Liberty Streets, West Saxton (Stonerton) in Everett quandrangle. Altitude about 895 feet. Unused dug well, curbed with stone, depth 58.5 feet in red shale of the Catskill formation. Measuring point edge of iron pipe imbedded in concrete well cover, about 4 inches above land surface. No bench mark set. Arbitrary datum not determined. Water level Oct. 29, 1941, 53.34 feet below measuring point. Measured by wetted-tape method.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Oct. 29	53.34	Nov. 15	53.40	Dec. 6	53.54	Dec. 20	53.19
Nov. 1	53.35	22	53.47	13	52.45	27	52.89
8	53.55	29	53.49				

Berks County

114. Bally. (Water-Supply Paper 817, P. 268).

Water level, in feet above assumed datum, 1941

Jan. 3	13.02	Apr. 4	12.79	July 4	10.96	Oct. 3	9.46
10	12.86	11	13.07	11	11.02	10	9.29
17	13.19	18	13.09	18	10.76	18	9.13
24	13.48	25	12.68	25	10.58	24	9.02
31	13.28	May 2	12.36	Aug. 1	10.42	31	8.98
Feb. 7	13.49	9	11.88	8	10.29	Nov. 7	9.07
14	13.38	16	11.58	15	10.06	14	8.88
21	13.19	23	11.16	22	10.05	21	8.88
28	12.98	30	11.07	29	10.28	27	a 8.75
Mar. 7	12.86	June 6	10.78	Sept. 5	10.14	Dec. 5	9.51
14	12.43	13	10.58	12	9.97	12	9.51
21	12.55	20	10.86	19	9.76	19	9.50
28	12.83	27	10.77	26	9.73	26	9.49

a Lowest of record.

Bradford County

81. Monroeton. (Water-Supply Paper 817, P. 268).

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	12.35	Apr. 6	a 13.70	July 13	10.72	Oct. 19	(b)
12	12.25	13	12.16	20	10.62	20	9.31
19	12.25	20	12.15	27	10.59	26	(b)
26	12.20	27	12.15	Aug. 3	10.77	28	(b)
Feb. 3	12.22	May 4	11.88	10	10.68	Nov. 2	(b)
5	12.73	7	11.84	17	10.73	9	(b)
9	12.18	11	11.72	24	10.71	16	(b)
16	12.32	18	11.65	31	10.57	23	(b)
23	12.15	25	11.40	Sept. 7	10.57	29	(b)
Mar. 2	12.19	June 1	10.88	10	10.33	Dec. 3	10.30
9	12.07	8	11.42	14	10.22	8	10.41
16	12.15	15	10.81	21	9.95	14	10.47
23	12.60	22	11.87	28	9.87	22	10.57
28	12.36	29	11.00	Oct. 5	(b)	28	11.70
30	12.28	July 6	11.59	12	(b)		

82. East Towanda. (Water-Supply Paper 817, P. 269). On Oct. 22, 1941, the measuring point was 1.38 feet below the bench mark. The well cover was replaced and the new measuring point is 1.27 feet below bench mark. Well measured after Oct. 22, 1941, by wetted-tape method.

Water level, in feet above assumed datum, 1941

Jan. 5	21.29	Mar. 30	32.10	June 22	23.69	Sept. 21	13.06
12	27.94	Apr. 6	34.79	29	23.18	28	12.13
19	24.86	13	34.98	July 6	21.18	Oct. 22	10.00
26	22.43	20	33.04	13	19.76	26	9.67
Feb. 2	20.76	27	29.50	20	18.61	Nov. 2	9.12
5	20.21	May 4	26.37	27	17.66	9	8.59
9	19.74	7	25.36	Aug. 2	16.95	16	8.13
16	21.44	11	24.15	10	16.30	23	7.65
23	25.15	18	22.52	17	15.71	30	7.15
Mar. 2	25.08	25	20.97	24	15.21	Dec. 3	6.93
9	23.45	June 1	19.94	31	14.67	6	6.65
16	24.96	8	19.12	Sept. 7	14.08	14	6.17
23	32.63	15	18.43	10	13.77	21	5.69
28	32.13	17	18.22	14	13.40	28	c 5.17

Butler County

120. West Sunbury. Owner and observer, Ralph W. Wick. Just east of owner's residence, which is the third house east of the main street on the east-west side street intersecting the main street just north of the post office, Hilliards quadrangle. Altitude about 1,400 feet. Unused dug well, curbed with stone, about 18 feet in depth, in Conemaugh formation. Nearest pumped well of comparable depth over 200 feet away. Measuring point, inside edge of iron washer over hole in well cover about 3 inches above land surface, 0.53 feet below bench mark, which is lag bolt in root on west side of 20-inch cottonwood tree about 20 feet northeast of well. Water level, Nov. 14, 1941, 9.60 feet below the measuring point. Measured by wetted-tape method.

Water level, in feet below measuring point, 1941

Nov. 4	9.60	Nov. 22	9.47	Dec. 6	9.63	Dec. 20	9.77
8	9.50	29	9.59	13	9.71	27	9.46
15	9.35						

a Highest of record.
b Dry.
c Lowest of record.

Centre County

38. Central City. (Water-Supply Paper 817, P. 271).

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	11.72	Apr. 12	11.42	July 5	10.90	Oct. 11	10.32
11	11.32	19	11.22	12	11.00	18	10.78
18	11.24	26	11.10	19	10.98	28	10.85
Feb. 1	11.12	May 3	11.00	26	10.80	Nov. 1	10.94
8	11.18	10	10.98	Aug. 2	10.62	8	11.24
15	11.42	17	10.94	9	10.36	15	11.06
22	11.22	24	10.90	16	10.70	22	11.00
Mar. 1	11.20	31	10.88	23	10.92	29	11.10
8	11.16	June 7	11.18	30	11.10	Dec. 6	11.28
15	11.62	14	10.98	Sept. 6	11.08	13	11.30
22	11.70	21	10.96	20	10.66	20	11.34
29	11.54	28	10.70	Oct. 4	10.20	27	12.15
Apr. 5	11.78						

Clarion County

103. Clarion. (Water-Supply Paper 817, P.272).

Water level, in feet above assumed datum, 1941

Jan. 4	13.38	Apr. 5	12.08	July 5	9.09	Oct. 4	5.87
11	11.60	12	12.03	12	8.47	11	7.74
18	9.93	19	10.48	19	8.15	18	7.92
25	10.38	26	9.23	26	8.40	25	7.90
Feb. 1	10.19	May 3	8.51	Aug. 2	9.45	31	7.55
8	9.91	10	8.87	9	8.71	Nov. 1	7.63
15	11.02	17	8.74	16	9.94	8	8.60
22	11.44	24	8.63	23	9.81	15	8.43
Mar. 1	10.28	31	8.51	Sept. 1	9.06	22	7.61
8	11.00	June 7	10.73	6	8.59	29	7.36
15	11.29	14	11.28	13	8.35	Dec. 6	7.20
22	11.44	21	12.45	20	7.73	13	6.96
29	11.94	28	10.40	27	7.24	27	9.00

Clearfield County

111. Near Bower. (Water-Supply Paper 817, P. 274).

Water level, in feet above assumed datum, 1941

Jan. 4	15.46	Apr. 8	16.63	July 19	13.20	Oct. 11	12.48
11	14.61	12	16.53	25	12.75	18	12.94
18	14.16	19	16.08	Aug. 2	12.41	25	12.73
25	15.03	26	15.33	9	12.26	Nov. 1	13.26
Feb. 1	14.03	May 10	13.77	14	12.07	8	13.85
8	13.59	17	13.91	16	12.89	14	13.24
15	14.23	21	13.29	24	12.83	15	13.36
20	14.22	24	13.16	30	13.83	22	12.69
22	16.28	31	13.23	Sept. 6	15.28	29	12.94
Mar. 1	13.74	June 7	14.76	12	13.70	Dec. 6	13.46
8	14.98	14	14.30	18	13.33	11	12.91
15	14.45	21	14.00	20	13.08	13	13.48
22	15.05	28	13.85	27	12.79	20	13.48
29	15.94	July 5	13.27	Oct. 4	12.83	28	14.29
Apr. 5	16.56	12	13.35				

Columbia County

75. Fernville. (Water-Supply Paper 817, P. 274). On Oct. 16, 1941, the measuring point was 3.07 feet above the bench mark. The well cover was replaced and the new measuring point was 3.03 feet above the bench mark.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	14.33	Apr. 12	14.03	July 12	12.23	Oct. 11	10.35
11	14.05	19	13.76	19	11.98	16	10.33
18	14.10	26	13.64	26	11.51	18	10.29
25	13.80	May 3	13.36	Aug. 2	11.34	25	10.25
Feb. 1	13.50	10	13.26	10	11.05	Nov. 1	10.43
8	13.70	17	13.73	16	11.33	8	10.73
15	14.74	24	12.73	23	11.24	15	10.71
22	14.15	31	12.37	30	11.34	22	10.60
Mar. 1	14.08	June 7	13.30	Sept. 6	11.05	29	10.61
8	14.03	14	13.27	13	11.01	Dec. 6	10.53
15	14.53	21	12.69	20	10.77	13	10.01
22	14.42	28	12.20	27	10.52	20	11.41
29	14.13	July 5	12.75	Oct. 4	10.44	27	13.25
Apr. 5	14.13						

Elk County

118. Kersey. Owner, Mrs. Elizabeth Ernst. Observer, Francis Ernst. In back of frame house west of Ford garage on south side of the main street about 0.5 mile west of post office. Drilled well with 4-inch casing, depth about 87 feet in the Allegheny formation. Measuring point, top of casing on side away from house, 2 feet above land surface. Measured by wetted-tape method.

Water level, in feet below measuring point, 1941

Date	Water level	Date	Water level	Date	Water level
Nov. 26	11.82	Dec. 6	11.80	Dec. 20	11.90
29	11.90	13	11.68	27	11.57

Erie County

1. Near Carters Corners. (Water-Supply Paper 817, P. 276).

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Feb. 23	12.07	Aug. 30	6.7	Oct. 11	6.6	Nov. 22	7.9
Mar. 6	11.98	Sept. 6	7.1	18	6.7	29	8.4
11	12.07	13	6.6	25	7.1	Dec. 6	9.2
May 24	8.00	20	6.49	Nov. 1	7.73	13	9.1
Aug. 16	6.7	29	6.8	8	8.6	20	9.2
23	6.6	Oct. 4	6.5	15	8.3	27	10.8

Huntingdon County

47. Near Trexler Bridge. (Water-Supply Paper 817, P. 279).

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	18.11	Apr. 12	17.35	July 12	16.83	Oct. 11	13.32
11	16.46	19	15.65	19	15.95	18	14.08
18	14.73	26	14.81	26	14.82	25	15.32
25	15.78	May 3	14.28	Aug. 2	15.04	29	13.09
Feb. 1	14.39	10	14.34	9	14.85	Nov. 1	15.95
8	14.11	17	13.91	16	15.74	8	14.48
15	16.25	24	14.85	23	15.31	15	14.31
22	14.67	31	15.78	30	14.77	22	14.42
Mar. 1	14.23	June 7	17.18	Sept. 6	18.11	29	14.02
8	14.50	14	18.21	13	15.15	Dec. 6	13.66
15	(a)	21	17.40	20	14.58	13	13.74
22	17.19	28	15.77	27	14.29	20	13.76
29	15.40	July 5	16.36	Oct. 4	14.31	27	16.65
Apr. 5	34.74						

50. Near Petersburg. (Water-Supply Paper 817, P. 281). The water levels for Sept. 10, 1938, to Dec. 31, 1938, were incorrectly reported. They should have been as follows:

Water level, in feet above assumed datum, 1938

Sept. 10	9.69	Oct. 15	9.26	Nov. 12	9.14	Dec. 10	10.31
17	9.69	24	9.17	21	9.70	19	10.57
24	9.76	29	9.14	26	9.33	24	10.31
Oct. 1	9.52	Nov. 5	9.03	Dec. 3	9.38	31	10.26
8	9.50						

Water level, in feet above assumed datum, 1941

Jan. 4	13.68	Apr. 12	13.32	July 12	13.10	Oct. 11	9.53
11	12.60	19	13.32	19	12.58	18	9.51
18	12.46	26	13.31	26	12.11	25	9.40
25	12.46	May 3	13.34	Aug. 2	11.81	29	9.31
Feb. 1	12.43	10	13.38	9	11.38	Nov. 1	9.55
8	12.44	17	13.35	16	11.48	8	9.89
15	12.27	24	11.37	23	11.06	15	9.65
22	12.21	31	11.38	30	10.00	22	9.40
Mar. 1	12.30	June 7	12.24	Sept. 6	10.58	29	9.65
8	12.51	14	11.57	13	10.26	Dec. 6	10.26
15	13.81	21	11.61	20	9.99	13	10.07
22	13.61	28	11.21	27	9.73	20	10.83
29	13.32	July 5	12.18	Oct. 4	9.63	27	13.97
Apr. 5	13.01						

Lackawanna County

101. Waverly. (Water-Supply Paper 817, P. 283).

Water level, in feet above assumed datum, 1941

Jan. 4	14.50	Mar. 8	14.05	May 10	14.18	July 12	12.09
11	14.26	15	14.03	17	14.11	19	10.81
18	14.32	22	14.13	24	14.01	26	10.26
25	13.86	29	14.28	31	12.81	Aug. 2	12.07
Feb. 1	13.41	Apr. 5	14.42	June 7	12.26	9	11.68
8	13.62	12	14.26	14	12.20	16	11.36
15	13.99	19	14.31	21	13.02	23	11.51
22	14.11	26	14.22	28	12.28	30	11.68
Mar. 1	14.17	May 3	14.20	July 5	12.14	Sept. 6	12.20

a Full. Highest of record.

Lackawanna County--Continued

101.--Continued.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept.13	12.46	Oct. 18	10.38	Nov. 8	10.51	Dec. 6	10.85
20	11.20	23	10.32	15	10.55	13	11.55
Oct. 4	10.26	25	10.29	22	10.69	20	12.05
11	10.35	Nov. 1	10.34	29	10.81	27	12.33

102. Near Carbondale. (Water-Supply Paper 817, P. 284).

Water level, in feet above assumed datum, 1941

Jan. 5	17.23	Apr. 13	16.07	July 13	14.39	Oct. 12	9.47
12	15.73	20	14.93	20	14.31	19	9.23
19	13.63	27	14.11	27	13.34	26	9.02
26	13.17	May 4	13.29	Aug. 3	13.13	27	9.19
Feb. 2	12.53	11	12.71	10	12.71	Nov. 2	8.95
9	13.17	18	12.36	17	12.08	9	9.53
16	14.23	25	11.86	24	12.07	16	9.74
23	13.43	June 1	11.38	31	10.95	23	9.65
Mar. 2	13.03	8	12.28	Sept. 7	12.13	30	9.53
9	13.63	15	12.43	14	11.25	Dec. 7	9.53
16	12.85	22	13.42	20	10.65	14	9.44
23	15.03	29	14.28	28	10.15	21	9.73
30	14.89	July 6	13.73	Oct. 5	9.75	28	12.98
Apr. 6	18.78						

Lancaster County

104. Near Safe Harbor. (Water-Supply Paper 817, P. 286). Measurements discontinued Dec. 1, 1941.

Water level, in feet above assumed datum, 1941

Jan. 4	15.71	Mar. 29	17.05	June 21	18.66	Sept.13	16.78
11	15.70	Apr. 5	17.22	28	18.55	20	16.60
18	15.69	12	17.49	July 5	18.43	28	16.42
25	15.72	19	17.67	12	18.31	Oct. 4	16.29
Feb. 1	15.81	26	17.88	19	18.12	11	16.16
8	15.93	May 3	18.09	26	17.96	18	16.02
15	16.02	10	18.30	Aug. 2	17.79	Nov. 1	15.74
22	16.13	17	18.44	9	17.61	8	15.62
Mar. 3	16.34	24	18.55	16	17.46	15	15.45
8	16.50	31	18.68	23	17.27	22	15.31
15	16.67	June 7	18.72	30	17.10	29	15.17
22	16.85	14	18.72	Sept. 6	16.86	Dec. 1	15.13

119. At West Quarryville. Owner, Pennsylvania Water and Power Co. Observer, H. W. Lowy. Near northwest corner of old building foundation on south side of State Route 372 and just across road from small brick school building in West Quarryville, about one mile west of Quarryville, Quarryville quadrangle. Altitude about 500 feet. Unused dug well, curbed with stone, depth 32 feet in Wissahickon formation. Measuring point, top of 1-inch iron bar in south side of well, 5 inches below the land surface. Well measured by wetted-tape method, until float gage is installed. Water level, in feet below measuring point, 1941: Dec. 1, 24.23.

Luzerne County

76. Near Wapwallopen. (Water-Supply Paper 817, P. 287). Well is used regularly for watering stock in times of low water. On Oct. 17, 1941, the measuring point was 0.43 foot below bench mark. The measuring point was probably shifted when the well was cleaned about Aug. 19, 1940.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 5	15.4	Apr. 13	13.8	July 6	11.0	Oct. 13	12.0
12	14.8	20	13.6	13	10.5	14	11.7
19	14.4	28	13.7	20	10.8	17	11.02
26	14.4	29	14.2	21	10.6	20	10.6
Feb. 2	14.0	May 4	13.4	27	10.4	26	9.93
10	14.0	11	13.5	Aug. 10	11.3	Nov. 2	10.17
16	15.5	18	13.3	17	16.2	11	10.53
23	14.3	25	12.7	24	14.4	16	9.98
Mar. 2	14.4	June 1	10.9	31	15.2	23	10.0
9	14.6	8	12.4	Sept. 3	a 8.96	Dec. 1	10.07
16	14.2	10	12.2	7	13.9	7	9.8
18	15.2	15	11.9	14	13.7	14	10.3
23	15.6	22	12.4	22	13.2	21	11.4
31	14.2	29	11.8	Oct. 5	12.3	28	15.67
Apr. 6	13.9						

Mifflin County

117. Naginey. Owner, Charles C. Naginey. Observer, Howard E. Confer. To reach the well, take State Route 983 east from Milroy, 0.5 mile east of Milroy take the right fork leaving route 983, then 0.5 mile beyond the first railroad crossing turn right on side road. The well is in a wooden well house on the south side of the road about 0.1 mile from main road. Lewistown quadrangle. Altitude about 680 feet. Unused dug well curbed with stone below concrete top, depth 30.5 feet in Ordovician limestones and dolomites. Measuring point, top of brass plate on east (door) side of rectangular hole 0.2 foot above ground surface, 0.11 foot above bench mark, which is a cross chiseled into the concrete floor just inside and to left of door when entering house. Measured by wetted-tape method.

Water level, in feet below measuring point, 1941

Nov. 17	23.2	Nov. 29	22.6	Dec. 13	19.7	Dec. 27	19.5
24	23.3	Dec. 6	21.1	20	19.4		

Northumberland County

57. West Sunbury. (Water-Supply Paper 817, P. 291).

Water level, in feet above assumed datum, 1941

Jan. 5	11.59	Mar. 9	11.61	May 18	12.42	July 14	11.06
12	11.70	16	11.63	25	12.16	20	11.00
18	12.01	23	11.91	June 1	11.95	27	10.89
26	11.84	30	12.16	4	11.85	Aug. 3	10.74
Feb. 2	11.84	Apr. 6	13.52	7	11.92	10	10.62
10	11.70	13	13.31	15	11.75	17	10.55
18	11.62	20	13.03	22	11.61	24	10.47
23	11.60	27	12.86	29	11.46	26	10.45
Mar. 2	11.61	May 4	12.74	July 6	11.21	31	10.31
7	11.54	11	12.56	13	11.08	Sept. 7	10.20

a Lowest of record.

Northumberland County--Continued

57.--Continued.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Sept. 14	10.12	Oct. 16	9.72	Nov. 10	9.72	Dec. 7	9.52
21	10.03	19	9.70	16	9.75	14	9.46
28	9.97	26	9.63	23	9.70	21	a 9.40
Oct. 5	9.89	Nov. 2	9.76	30	9.58	28	11.01
12	9.82	9	9.79				

Perry County

61. Newport. (Water-Supply Paper 817, P. 292).

Water level, in feet above assumed datum, 1941

Jan. 5	12.65	Apr. 7	13.33	July 5	11.54	Oct. 4	10.45
10	12.88	12	13.53	12	11.46	11	10.35
18	12.98	18	13.55	19	11.38	15	10.32
26	12.68	26	13.16	25	11.28	18	10.25
31	12.73	May 3	12.89	Aug. 1	11.16	24	10.16
Feb. 8	12.69	10	12.67	8	11.03	31	10.06
15	12.63	17	12.52	11	11.00	Nov. 7	10.09
21	12.83	19	12.33	16	10.98	15	9.89
22	12.90	24	12.18	23	10.90	21	9.84
28	12.99	31	11.98	29	10.81	28	9.78
Mar. 7	12.78	June 7	11.83	Sept. 5	10.78	Dec. 5	9.80
14	12.86	14	11.91	12	10.71	12	a 9.69
21	13.31	21	11.73	15	10.68	21	9.78
28	13.50	28	11.65	20	10.62	27	10.05
Apr. 5	13.38	30	11.62	26	10.56		

110. Near Millerstown. (Water-Supply Paper 817, P. 293; Water-Supply Paper 840, P. 359). On Oct. 15, 1941, measuring point was 1.97 feet below bench mark.

Water level, in feet above assumed datum, 1941

Jan. 4	12.00	Mar. 29	12.02	May 31	11.64	Oct. 3	8.30
11	11.90	Apr. 5	12.13	June 7	11.48	10	8.35
18	11.84	10	12.56	14	11.28	15	7.64
25	11.88	12	12.05	21	11.60	17	7.30
Feb. 1	11.92	19	11.90	28	11.72	Nov. 29	9.92
8	11.94	26	11.83	30	12.24	Dec. 6	11.28
15	12.00	May 3	11.82	July 1	11.82	8	11.48
17	12.01	10	11.76	9	11.80	13	11.52
22	11.94	17	11.70	Aug. 11	11.35	20	11.48
Mar. 15	11.93	19	11.62	Sept. 15	10.89	27	12.04
22	11.98	24	11.67				

Schuylkill County

72. Near Pine Grove. (Water-Supply Paper 817, P. 294). Old bench mark lost. New bench mark 0.98 feet above measuring point is a lag bolt about 14 inches above the ground surface on south (road) side of 12-inch walnut tree about 80 feet east of well.

a Lowest of record.

Schuylkill County--Continued

72.--Continued.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	21.01	May 5	16.95	July 29	13.58	Oct. 27	10.36
11	19.86	13	16.02	Aug. 4	13.51	Nov. 3	10.23
18	18.84	20	15.31	11	13.22	11	10.58
24	18.19	27	14.93	18	12.97	13	10.33
Feb. 8	18.75	June 2	13.65	26	12.70	18	10.37
15	22.41	9	14.84	Sept. 9	12.16	24	10.33
Mar. 7	18.49	16	14.61	22	11.63	Dec. 1	10.31
28	20.09	24	14.23	29	11.37	8	10.27
Apr. 5	21.19	30	14.22	Oct. 6	11.09	17	11.42
11	19.48	July 8	14.50	13	10.79	22	11.93
18	19.18	14	14.46	20	10.57	31	17.82
28	18.15						

Somerset County

16. Markleton. (Water-Supply Paper 817, P. 296).

Water level, in feet above assumed datum, 1941

Jan. 5	11.76	Apr. 14	11.86	July 13	11.20	Oct. 13	9.40
11	11.54	20	11.65	20	10.80	19	9.92
19	11.38	26	11.25	27	10.55	26	9.67
25	11.40	May 3	11.27	Aug. 4	10.30	30	9.52
Feb. 2	11.30	11	11.23	11	10.05	Nov. 2	9.94
9	11.10	17	11.26	17	10.18	9	9.98
16	11.35	24	11.27	24	10.31	16	9.85
23	11.26	June 1	11.27	31	10.54	23	10.45
Mar. 2	10.97	7	12.26	Sept. 7	10.85	30	9.98
8	11.40	15	12.27	14	10.45	Dec. 7	9.94
15	11.70	22	12.27	21	10.17	15	9.90
23	11.65	28	12.22	29	9.97	20	10.12
30	11.70	July 5	12.21	Oct. 6	9.55	28	10.50
Apr. 6	12.20						

115. Near Trent. (Water-Supply Paper 840, P. 360).

Water level, in feet above assumed datum, 1941

Jan. 6	14.69	Mar. 14	14.68	May 14	14.65	Nov. 22	15.05
17	14.82	20	14.61	23	14.70	29	14.99
Feb. 4	14.76	Apr. 1	14.72	June 5	15.12	Dec. 6	15.01
12	14.69	9	14.71	Oct. 30	13.80	13	14.98
18	14.79	15	14.64	Nov. 1	14.99	20	15.00
25	14.77	23	14.57	8	15.09	27	14.90
Mar. 4	14.69	May 9	14.85	15	15.06		

Sullivan County

105. Near Millview. (Water-Supply Paper 817, P. 298).

Water level, in feet above assumed datum, 1941

Jan. 4	12.20	Feb. 22	11.18	Apr. 12	12.03	May 31	9.71
11	11.94	Mar. 1	11.23	19	11.49	June 7	9.79
18	11.75	8	11.51	26	11.14	14	9.67
25	11.53	15	11.54	May 3	10.51	21	9.73
Feb. 1	11.31	22	11.81	10	10.23	28	9.62
8	11.20	29	12.25	17	10.15	July 5	9.60
15	11.15	Apr. 5	13.10	24	9.89	12	9.51

Sullivan County--Continued

105.--Continued.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
July 19	9.43	Sept. 6	9.93	Oct. 18	8.69	Nov. 22	8.71
26	9.35	13	9.73	25	(a)	29	8.67
Aug. 2	9.39	20	9.49	28	(a)	Dec. 6	8.61
9	9.23	27	9.27	Nov. 1	(a)	13	8.66
16	9.79	Oct. 4	9.19	8	9.41	20	8.85
23	10.00	11	8.86	15	8.99	27	12.28
30	9.97						

Susquehanna County

100. Montrose. (Water-Supply Paper 817, P. 298).

Water level, in feet above assumed datum, 1941

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	11.97	12.46	17.05	12.90	10.69	11.16	11.55	11.09	10.39	.....	10.14
2	.....	11.89	12.45	17.08	12.75	10.67	11.14	11.57	11.05	10.36	.....	10.14
3	.....	11.83	12.45	16.93	12.60	10.66	11.13	11.62	11.02	10.35	.....	10.14
4	15.89	11.80	12.53	16.62	12.45	10.65	11.13	11.70	10.98	10.37	.....	10.14
5	15.80	11.71	12.60	16.60	12.31	10.73	11.17	11.77	10.95	10.37	.....	10.14
6	15.62	11.65	12.69	17.45	12.16	10.73	11.21	11.81	10.94	10.35	.....	10.14
7	15.44	11.59	12.75	16.99	12.03	10.74	11.28	11.84	10.92	10.34	9.99	10.14
8	15.26	11.55	12.85	16.60	11.95	10.74	11.34	11.86	10.89	10.32	9.99	10.13
9	15.12	11.54	12.91	16.26	11.85	10.75	11.41	11.86	10.86	10.30	10.00	10.13
10	14.96	11.53	12.92	16.00	11.72	10.76	11.46	11.85	10.84	10.29	10.01	10.13
11	14.80	11.49	12.93	15.79	11.65	10.77	11.50	11.83	10.81	10.27	10.02	10.13
12	14.70	11.46	12.93	15.55	11.58	10.78	11.54	11.82	10.79	10.27	10.04	10.11
13	14.56	11.44	12.92	15.10	11.52	10.79	11.54	11.78	10.76	10.26	10.05	10.09
14	14.41	11.48	12.92	15.27	11.44	10.79	11.54	11.73	10.74	10.25	10.06	10.09
15	14.25	11.66	12.94	15.14	11.38	10.79	11.54	11.68	10.72	10.24	10.07	10.09
16	14.07	11.80	13.06	14.99	11.31	10.79	11.54	11.61	10.69	10.23	10.07	10.09
17	13.92	11.90	13.30	14.87	11.26	10.79	11.53	11.59	10.66	10.22	.....	10.08
18	13.75	12.03	13.38	14.77	11.21	10.79	11.52	11.55	10.64	10.22	.....	10.07
19	13.60	12.08	13.61	14.70	11.16	10.79	11.51	11.51	10.60	10.22	.....	10.07
20	13.44	12.10	13.66	14.60	11.11	10.78	11.48	11.47	10.60	10.21	.....	10.07
21	13.25	12.28	13.70	14.46	11.06	10.77	11.46	11.43	10.58	10.20	.....	10.07
22	13.12	12.47	13.76	14.30	11.02	10.77	11.44	11.38	10.56	10.18	10.13	10.06
23	12.98	12.47	14.20	14.17	10.98	10.76	11.41	11.37	10.55	10.18	10.14	10.06
24	12.84	12.47	15.02	14.00	10.94	10.74	11.38	11.35	10.53	10.16	10.14	10.56
25	12.71	12.47	15.76	13.85	10.91	10.73	11.34	11.32	10.51	10.15	10.14	10.60
26	12.59	12.47	16.02	13.69	10.87	10.71	11.32	11.28	10.48	10.14	10.14	10.63
27	12.46	12.47	16.65	13.56	10.83	10.69	11.29	11.24	10.46	10.13	10.15	10.67
28	12.35	12.47	.....	13.41	10.80	10.68	11.45	11.20	10.44	.....	10.15	10.69
29	12.25	.....	17.08	13.22	10.77	10.68	11.41	11.16	10.43	.....	10.15	10.70
30	12.18	.....	16.86	13.06	10.74	11.10	11.48	11.12	10.40	.....	10.15	10.72
31	12.10	.....	16.81	.....	10.71	.....	11.50	11.12	.....	.....	.....	10.74

a Dry.

Tioga County

106. Gaines. (Water-Supply Paper 817, P. 299).

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	18.51	Apr. 12	18.31	July 12	9.89	Oct. 11	6.19
11	16.31	19	17.32	19	11.78	18	6.61
18	14.35	26	15.82	26	11.87	25	7.59
25	12.72	May 3	14.17	Aug. 2	15.21	28	8.60
Feb. 1	11.76	10	12.64	9	13.16	Nov. 1	8.61
8	10.26	17	11.98	16	14.02	8	10.88
15	10.59	24	11.35	23	12.61	15	9.49
22	11.59	31	10.43	30	11.62	22	8.67
Mar. 1	10.97	June 7	11.64	Sept. 6	10.27	29	8.22
8	13.41	14	10.86	13	8.97	Dec. 6	7.79
15	12.56	21	9.94	20	8.11	13	7.11
22	14.12	28	9.22	27	7.67	20	7.66
29	17.94	July 5	8.86	Oct. 4	5.94	27	16.87
Apr. 5	16.22						

Washington County

112. Amity. (Water-Supply Paper 817, P. 299). On Oct. 13, 1941, measuring point was 0.17 foot above bench mark.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	30.01	Apr. 12	30.58	July 11	28.68	Oct. 11	17.95
11	29.97	19	29.58	19	25.78	14	17.53
18	31.01	26	26.94	26	16.98	18	17.03
25	31.98	May 3	22.00	Aug. 2	16.78	25	17.96
Feb. 1	32.02	10	21.03	9	19.28	Nov. 1	17.80
8	32.02	17	17.58	16	19.02	8	17.94
15	32.00	24	21.58	26	23.97	15	17.95
22	28.01	31	19.93	31	19.01	22	16.97
Mar. 1	26.52	June 7	33.94	Sept. 6	19.77	29	15.94
8	26.50	14	32.20	13	25.94	Dec. 6	17.02
15	31.96	21	31.00	20	25.75	13	16.75
22	30.97	28	28.87	27	20.48	20	17.03
29	29.10	July 4	30.96	Oct. 6	17.53	27	16.28

Wayne County

83. Near Hawley. (Water-Supply Paper 817, P. 300). Measuring point was changed on Oct. 23, 1941, so that measurements could be made when water was low. New measuring point is at point of arrow chiseled in southwest corner of flagstone well cover 1.14 feet above bench mark.

Water level, in feet above assumed datum, 1941

Date	Water level	Date	Water level	Date	Water level	Date	Water level
Jan. 4	17.01	Apr. 12	20.43	July 12	13.14	Oct. 11	10.28
11	16.52	19	18.10	19	12.22	18	10.20
18	16.21	26	17.47	26	11.91	23	10.14
25	15.84	May 3	16.98	Aug. 2	11.67	25	(a)
Feb. 1	15.31	10	16.55	9	11.39	Nov. 1	10.34
8	15.32	17	16.13	16	11.12	8	10.18
15	15.37	24	15.73	23	11.08	15	(a)
22	15.39	31	15.21	30	11.01	22	(a)
Mar. 1	15.38	June 7	15.27	Sept. 6	10.84	29	(a)
8	15.34	14	14.88	13	10.64	Dec. 6	(a)
15	15.31	21	14.64	20	10.58	13	(a)
22	15.28	28	14.07	27	10.52	20	(a)
29	18.51	July 5	13.48	Oct. 4	10.43	27	10.90
Apr. 5	22.22						

a Dry. Lowest of record.