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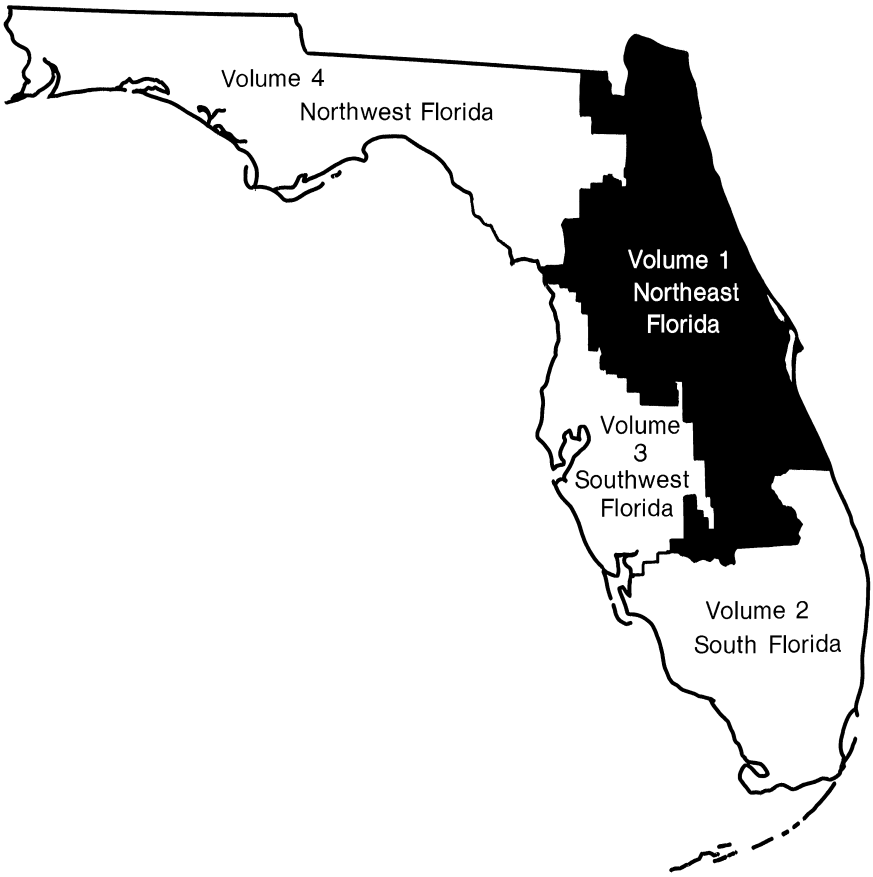
Water Resources Data
Florida
Water Year 2004

Volume 1B. Northeast Florida Ground Water

Water-Data Report FL-04-1B



U.S. Department of the Interior
U.S. Geological Survey

Prepared in cooperation with the
State of Florida
and with other agencies

Calendar for Water Year 2004

2003

October

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			1	2	3	4
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2004

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August

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September

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19	20	21	22	23	24	25
26	27	28	29	30		

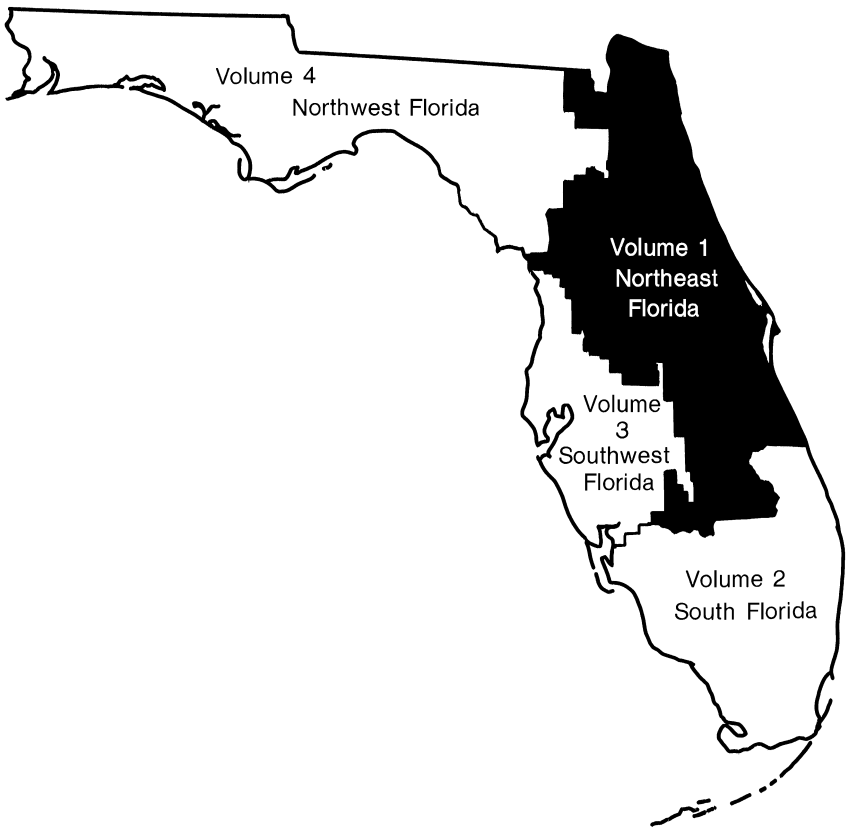
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data Florida Water Year 2004

Volume 1B. Northeast Florida Ground Water

By A. P. Nazarian, E.P. Simonds, S. M. Dickerson

Water-Data Report FL-04-1B



Prepared in cooperation with the State of Florida
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UNITED STATES DEPARTMENT OF THE INTERIOR

GALE A. NORTON, Secretary

U.S. GEOLOGICAL SURVEY

Charles G. Groat, Director

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For additional information write to
Chief, Hydrologic Records Section
U.S. Geological Survey
224 West Central Parkway, Suite 1006
Altamonte Springs, Florida 32714

2005

PREFACE

This volume of the annual hydrologic data report of Florida is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Florida are contained in four volumes:

Volume 1. Northeast Florida

Volume 2. South Florida

Volume 3. Southwest Florida

Volume 4. Northwest Florida

This report was prepared under the supervision of James L. Pearman. The following individuals contributed significantly to the collection, processing and tabulation of the data:

Altamonte Springs Subdistrict Office

S. Anderson	E.J. Duffy	R. Medina
L.L. Braley	H.G. George	J.A. O'Brien
M. Beckwith	R.S. Greenwood	M.J. Orr
T.C. Coates	R.E. Jones	G.F. Taylor
R.A. Craig	S. Kinnaman	D.J. Walsh
T.P. Curran	W.J. McDevitt	S.M. Wicklein

Jacksonville Field Headquarters

R.A. Broxton	C.V. Phillips, Jr.	L.B. Thomas
D. Huntt	M.J. Savarino	

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13. ABSTRACT *(Maximum 200 words)*

Water resources data for the 2004 water year in Florida consist of continuous or daily discharge for 405 streams, periodic discharge for 12 streams, continuous or daily stage for 159 streams, periodic stage for 19 streams, peak stage and discharge for 30 streams; continuous or daily elevations for 14 lakes, periodic elevations for 23 lakes; continuous ground-water levels for 408 wells, periodic ground-water levels for 1,157 wells; quality-of-water data for 140 surface-water sites and 239 wells.

The data for northeast Florida include continuous or daily discharge for 140 streams, periodic discharge for 4 streams, continuous or daily stage for 58 streams, periodic stage for 3 streams; peak stage and discharge for 0 streams; continuous or daily elevations for 10 lakes, periodic elevations for 20 lakes; continuous ground water levels for 50 wells, periodic ground-water levels for 522 wells; quality-of-water data for 40 surface-water sites and 66 wells.

These data represent the National Water Data System records collected by the U.S. Geological Survey and cooperating local, State and Federal agencies in Florida.

14. SUBJECT TERMS
*Florida, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels, Water analyses, Elevations, Water wells.

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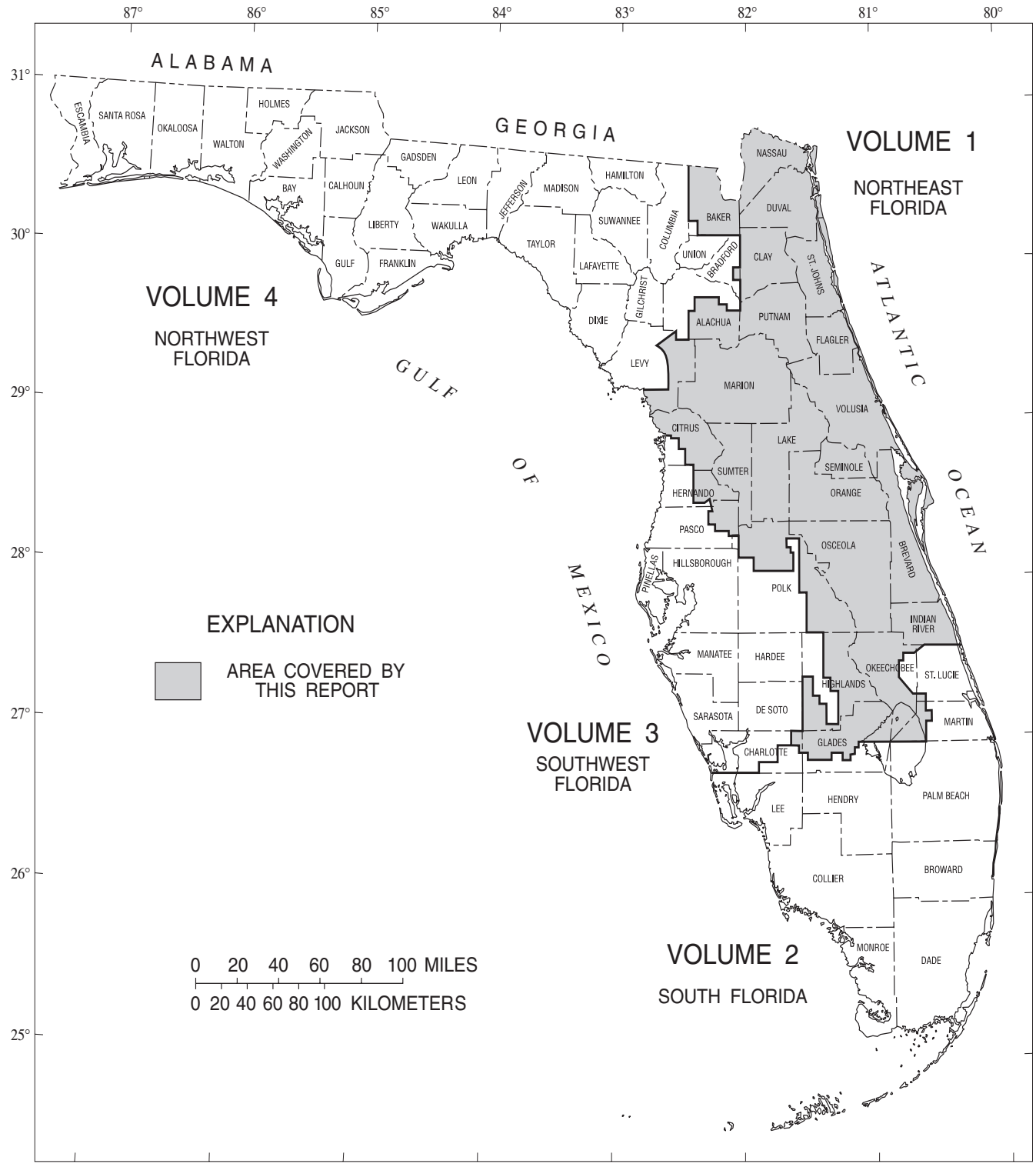

Figure 1.--Geographic area covered by this report.

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INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of Florida each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Florida."

This report series includes records of stage, discharge, and water quality of streams, stage, contents, water quality of lakes and reservoirs, and water levels and water quality of ground-water wells. Volume 1B contains records for continuous ground-water elevations at 50 wells; periodic ground-water elevations at 121 wells; miscellaneous ground-water elevations at 401 wells; and water-quality at 66 ground-water sites. The area encompassed in this report is shown in figure 1. The data presented here represent part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Florida.

This series of annual reports for Florida began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Florida were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Distribution Branch, Text Products Section, U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report FL-04-1B." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone (407)865-7575.

COOPERATION

The U.S. Geological Survey and agencies of the State of Florida have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are:

U.S. Army Corps of Engineers, Jacksonville District
Florida Department of Environmental Protection
St. Johns River Water Management District
South Florida Water Management District
Southwest Florida Water Management District
Reedy Creek Improvement District
City of Cocoa
City of Jacksonville
Jacksonville Electric Authority
Lake County Water Authority
Nassau County
Seminole County

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

RAINFALL: Rainfall during the 2004 water year was above normal. Based on rainfall data at six National Oceanic and Atmospheric Administration stations, the rainfall for the 12-month period, from October 2003 through September 2004, ranged from 23.40 in. above normal at Daytona Beach to 3.82 in. above normal at Vero Beach. Annual rainfall totals were affected by excess rainfall associated with hurricanes occuring during the months of August and September 2004. The departure from the 30-year average rainfall in 2004 for the six rainfall stations presented in the table below averaged 12.9 inches above normal. The change in average departure for these six rainfall stations from 2003 to 2004 was 5.7 inches (from an average surplus of 7.2 inches in 2003 to an average surplus of 12.9 inches in 2004 from the 30-year average). The following summary lists departure from the 30-year (1971-2000) normal for each of the stations.

Departure from the 30-year normal rainfall (1971-2000)

	October-December		January-March		April-June		July-September		Water Year	
	Total		Total		Total		Total		Total	
Station	Rainfall	Departure	Rainfall	Departure	Rainfall	Departure	Rainfall	Departure	Rainfall	Departure
Jacksonville AP	4.91	-3.93	7.47	-3.30	20.41	8.42	34.76	14.02	67.55	15.21
Ocala	6.08	-1.75	10.81	0.13	13.85	0.32	36.24	18.60	66.98	17.30
Daytona Beach	14.23	4.01	6.82	-2.89	6.88	-4.61	44.76	26.89	72.69	23.40
Orlando	5.80	-1.56	8.52	0.20	13.08	-0.43	32.46	13.30	59.86	11.51
Bushnell	6.19	-0.65	9.40	-0.98	10.79	-1.38	28.89	9.22	55.27	6.21
Vero Beach AP	7.14	-3.13	6.57	-2.97	5.46	-7.25	36.58	17.17	55.75	3.82

GROUND-WATER LEVELS: Figure 2 shows the locations of 15 selected ground-water wells which provide a general summary of hydrologic conditions in the the Upper Floridan aquifer in north-central Florida. Mean water levels and the range of water levels for the current water year and for the period of record are listed in table 1.

The average length of record for all 15 selected wells in this summary is 43 years (table 1). The longest period of record among the15 wells is 69 years (USGS Flagler 14 well in Flagler County, table 1 and fig. 2, map no. 10)). The record for three other wells begins as early as the late 1930's and early 1940's. The shortest period of record in this summary is for Well RD-77 near Orange Springs in Putnam County (table 1 and fig. 2, map no. 11), which includes 23 years of record starting in 1982.

Seasonal Patterns: Water levels in the 15 wells presented in table 1 historically had a mean annual range of about 4.6 ft. The largest range of water levels (8.0 ft) during the period of record was in well OR-47 in Orange County (table 1 and fig. 2, map no. 4); the smallest range (1.6 ft) was in well RD-77-G in Putnam County (table 1 and fig. 2, map no. 11). The ranges in water levels in the 15 wells during the current water year averaged 5.9 feet.

Historically, throughout most of the area covered by this report, seasonal water-level maximums are observed in the months of September and October each year and seasonal minimums are observed in the months of May and June. Water levels in wells in the northeast counties included here (table 1 and fig. 2, map nos. 10-15) tend toward seasonal maximums in the months of December through April and seasonal minimums in the later months of summer and early fall (July through October).

Annual Patterns: Over the period of record, the typical altitude of water levels for all 15 selected wells averages about 46.4 ft above the National Geodetic Vertical Datum of 1929 (NGVD of 1929) and ranges from a high of about 127 ft above NGVD of 1929 for the Lake Alfred Deep well in Polk County (table 1 and fig. 2, map no. 1), and to a low of about 15 ft above NGVD of 1929 for the USGS Flagler-14 well in Flagler County (table 1 and fig. 2, map no. 10). Generally, water levels in wells in the Upper Floridan aquifer are highest in an area encompassing the northern part of Polk County, the southern part of Lake and Sumter Counties, and the western part of Orange County; levels are lowest in Flagler and Putnam Counties, and northern Lake County.

Average water levels for the current year were lower than averages for the period of record at 9 of the 15 wells shown . Annual water levels for all 15 wells averaged 45.7 ft NGVD of 1929 for the current year, which is lower than the average for the period of record. Water levels in the 15 selected ground-water wells generally showed a decrease from 2003 levels. Of the 15 wells presented water levels in 11 wells were below the previous water-year mean.

Table 1: Summary of water levels at selected wells for the period of record and water-year 2004. [ft, feet; msl, mean sea level]

Map No.	Well Number and Name	Period of Record			Water-Year 2004			
		Beginning Year	Mean Water Level (ft msl)	Mean Annual Range (ft)	Mean Water Level (ft msl)	Range (ft)	Change From Previous Year (ft)	Departure from Period of Record Mean (ft)
Continuous water- level monitoring								
1.	281008081441801 Lake Alfred Deep Well near Lake Alfred (Polk)	1959	127.1	5.5	128.2	5.6	-0.8	1.1
2.	281714081093001 Lake Joel Well near Ashton (Osceola)	1973	43.5	5.2	43.4	7.2	-0.8	-0.1
3.	283249081053201 Bithlo-1 Well at Bithlo (Orange)	1960	35.9	4.8	35.4	6.8	-0.8	-0.5
4.	283253081283401 OR-47 Well at Orlo Vista (Orange)	1947	61.4	8.0	60.3	14.0	0.5	-1.1
5.	284842081533001 College Street Well at Leesburg (Lake)	1973	64.3	5.8	65.0	6.1	-1.9	0.8
6.	285102082204001 DOT-41 Observation Well at Inverness (Citrus)	1961	29.9	4.1	31.2	5.5	0.6	1.3
Periodic water- level monitoring								
7.	271150081054401 GL-155 Well near Brighton (Glades)	1971	47.0	4.3	46.7	6.3	-1.0	-0.3
8.	273127080481401 OK-1 Well at Fort Drum (Okeechobee)	1977	43.8	4.2	44.0	4.8	-0.3	0.2
9.	274607080493001 IR-189 Well near Yeehaw Junction (Indian River)	1976	41.8	4.3	42.3	4.0	-0.4	0.5
10.	292750081152001 USGS Flagler 14 at Bunnell (Flagler)	1936	14.9	2.5	13.8	3.1	-0.4	-1.1
11.	292948081503001 Well RD-77-G near Orange Springs (Putnam)	1982	19.6	1.6	20.6	1.4	0.1	1.0
12.	300656081463401 Local Number C-94 USGS Test Well near Orange Park (Clay)	1974	34.7	5.8	33.4	8.2	-1.0	-1.3
13.	300758081230501 Local Number SJ-5. G. Oesterreicher Well near Palm Valley (St. Johns)	1944	36.9	5.1	31.1	7.9	-1.2	-5.9
14.	301535082162001 Local Number B-11 USGS Well at Sanderson (Baker)	1963	54.1	3.8	52.8	3.5	0.4	-1.3
15.	302304081383202 Local Number D-122A City of Jacksonville Panama Park Well at Jax (Duval)	1940	40.7	3.8	37.0	4.9	-0.6	-3.7

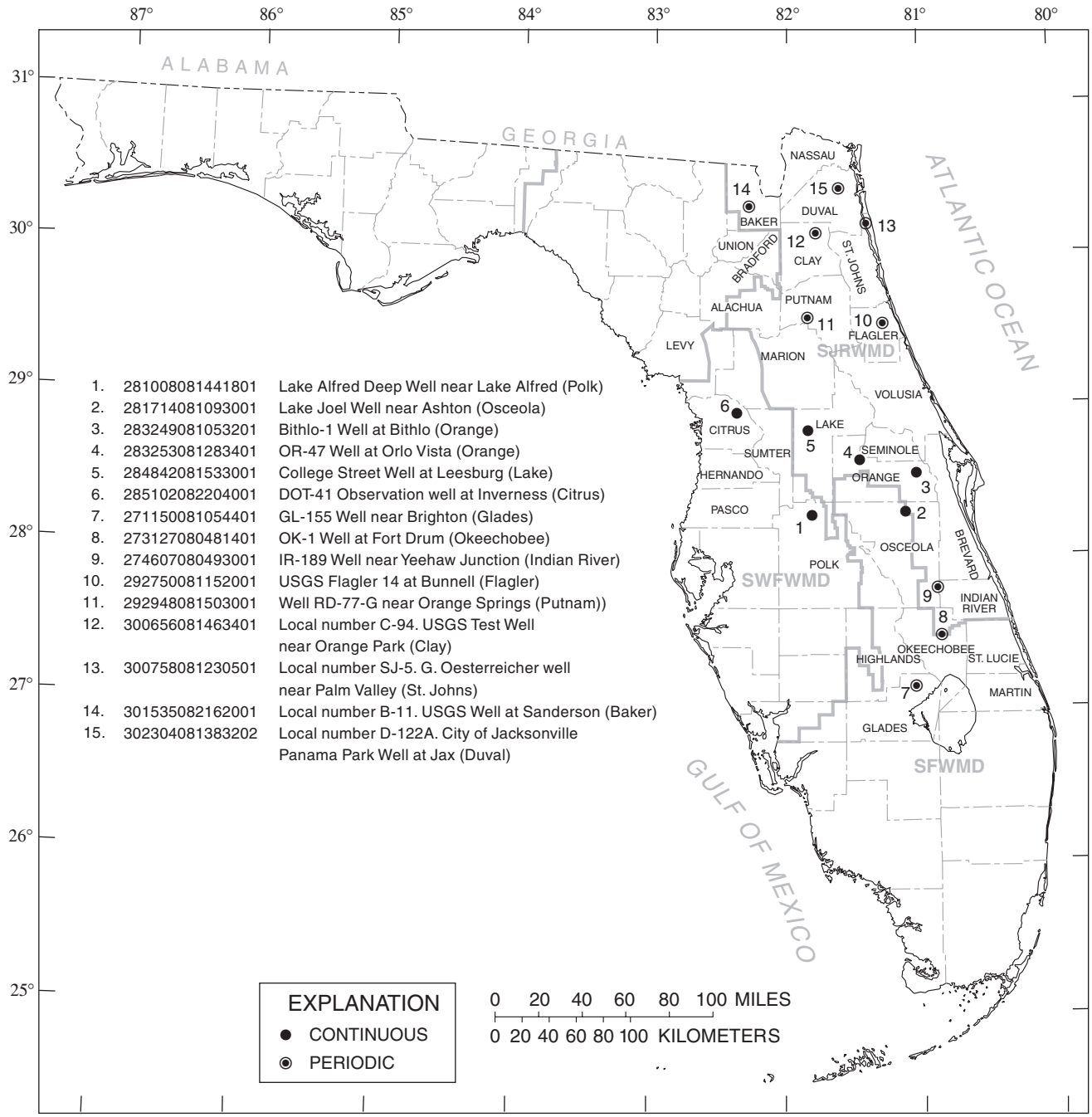

Figure 2.--Location of wells for long-term hydrographs.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative undeveloped watersheds nationwide, and from which date could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the affects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program can be found at http://water.usgs.gov/hbn/.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations were operated in the Mississippi, Columbia, Colorado, and Rio Grande. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program can be found at at http://water.usgs.gov/nasqan/.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 250 precipitation chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as all data from the individual sites, can be found at http://bqs.usgs.gov/acidrain/.

The USGS National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program can be found at http://water.usgs.gov/nawqa/.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

The ground-water records published in this report are for the 2004 water year that began October 1, 2003, and ended September 30, 2004. A calendar of the water year is provided on the inside of the front cover. The records contain ground water-quality and water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and for surface-water stations where only miscellaneous observations are made.

Latitude-Longitude System

The USGS well and miscellaneous site-numbering is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits are a sequential number for wells within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure 3.)

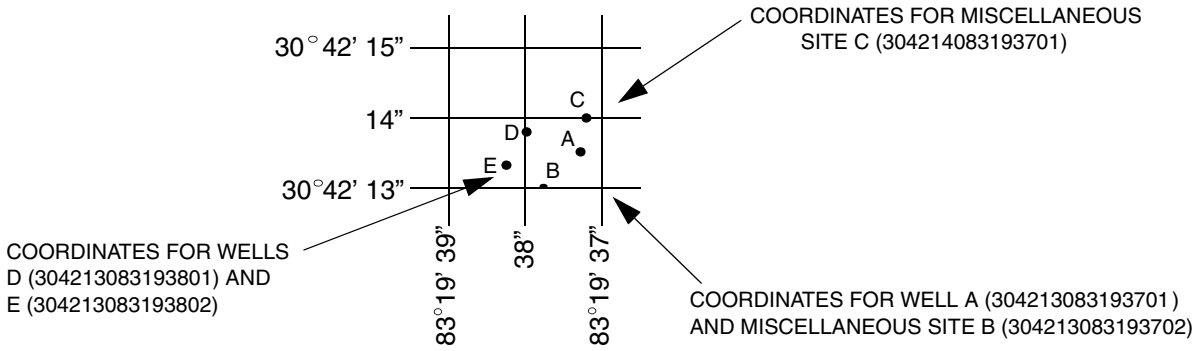

Figure 3.--System for numbering wells and miscellaneous sites. (latitude and longitude)

In addition to the well number that is based on the latitude and longitude for each well another well-numbering system used in Florida utilizes 7 l/2-minute quadrangles within the State. The quadrangles are numbered from west to east, and lettered from south to north, omitting the letters "I" and "O." The designation for each quadrangle is determined by the method "Read Right, Up." Wells are numbered serially within each quadrangle. This local well number is shown immediately after the primary well number.

Well records furnished by the State of Florida also include the well number that is based on an indexing system used by the State Water Control Board.

Records of Ground-Water Levels

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Data Collection and Computation

Measurements of water levels are made in many types of wells, under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The TWRI publications may be accessed from http://water.usgs.gov/pubs/twri/. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Water-level records are obtained from direct measurements with a steel tape, pressure gage, or an electronic water-stage recorder. The water-level measurements in this report are given in feet above National Geodetic Vertical Datum of 1929 or in some tables as feet below land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number, an alphanumeric number, derived from the township-range location of the well.

Each well record consists of two parts, the well description and the data table of water levels observed during the water year. Well descriptions are presented in headings preceding the tabular data. The following comments clarify information presented under the various headings.

LOCATION.--This paragraph follows the well identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as National Geodetic Vertical Datum of 1929 unless otherwise specified.

AQUIFER.--This entry designates by name and geologic age the aquifer(s) that the well taps.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing diameter and depth or screened interval, method of construction, use, and changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on continuous, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf and so forth), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.--This entry indicates the time period for which records are published for the well, the month and year of the start of publication of water-level records by the USGS, and the words "to current year" if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest instantaneously recorded or measured water levels of the period of published record, with repect to land-surface datum or National Geodetic Vertical Datum of 1929 and the dates of their occurrence.

Water-Level Tables

A table of water levels follows the station description for each well. Water levels are reported in feet above National Geodetic Datum of 1929 and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, maximums are listed for every fifth day and at the end of the month (EOM). The highest water level of the calendar and water year for complete record is shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water quality data in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs, which may be accessed from http://water.usgs.gov/pubs/twri/. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 5, Chapters A1, A3, and A4 and Book 9, Chapters A1-A6. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS District office (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed on site. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; and Book 5, Chapters A1, A3, and A4, which may be accessed from http://water.usgs.gov/pubs/twri/.

Remark Codes

The following remark codes may appear with the water-quality data in this section:

PRINT OUTPUT	REMARK
E	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
ND	Material specifically analyzed for but not detected.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
V	Analyte was detected in both the environmental sample and the associated blanks
&	Biological organism estimated as dominant.
cl	Value qualifier code for holding time exceeded by the laboratory.

Rounding Clarification

Values for some constituents analyzed by routine methods are tabulated with extraneous trailing zeros that are not significant digits. Extraneous zeros result because data obtained from low-level methods that have better (lower) detection limits are stored under the same parameter code as data obtained by routine analytical methods. Precision varies for different analytical methods used to determine the same constituent. The presence of trailing zeroes after the decimal in values printed in this report does not necessarily indicate that the method used for the determination is as precise as the level implied by the rightmost zero.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at:

http://water.usgs.gov

Water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division Offices (See address on the back of the title page of this report).

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, may be accessed from http://water.usgs.gov/ADR_Defs_2004.pdf. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from http://water.usgs.gov/glossaries.html.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "Annual runoff")

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample. (See also "Biomass" and "Dry weight")

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

Annual runoff is the total quantity of water that is discharged ("runs off") from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day, 10-year low-flow statistic.)

Aroclor is the registered trademark for a group of poly-chlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is collected. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also "Substrate")

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also "Biomass" and "Dry mass")

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also "Peak flow")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to an elevation equal to the top of the bedload sampler nozzle (ranging from 0.25 to 0.5 foot) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload," "Dry weight," "Sediment," and "Suspended-sediment discharge")

Bed material is the sediment mixture of which a stream-bed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliter (μm^3/mL). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton").)

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved solids content of the pore water and lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada's first order level network in 1928.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } 4/3\ \pi r^3 \quad \text{cone } 1/3\ \pi r^2 h \quad \text{cylinder } \pi r^2 h$$

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159….

From cell volume, total algal biomass expressed as biovolume ($\mu m^3/mL$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

Clostridium perfringens *(C. perfringens)* is a spore-forming bacterium that is common in the feces of human and other warm-blooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable bound-aries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure, as used in this report, is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [$(ft^3/s)/d$]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

Daily-record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to periodic sample or data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or UTM coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988").

Diatoms (*Bacillariophyta*) are the unicellular or colonial algae with a siliceous cell wall. The abundance of diatams in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per militer (μm^3/mL). The abundance of diatoms in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton").

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or **flow**, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i \approx 1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n} ,$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli *(E. coli)* are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an E code will be reported with the value. If the analyte is identified qualitatively as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an E code even though the measured value is greater than the MDL. A value reported with an E code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<). For bacteriological data, concentrations are reported as estimated when results are based on non-ideal colony counts.

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Filtered pertains to constituents in a water sample passed through a filter of specified pore diameter, most commonly 0.45 micrometer or less for inorganic analytes and 0.7 micrometer for organic analytes.

Filtered, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that has passed through a filter has been extracted. Complete recovery is not achieved by the extraction procedure and thus the analytical determination represents something less than 95 percent of the total constituent concentration in the sample. To achieve comparability of analytical data, equivalent extraction procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results.

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

Green algae (*Chlorophyta*) are unicellular or colonial algae with cholorophyll pigments similar to those in terrestial green plants. Some forms of green algae produce mats or floating "moss" in lakes. The abundance of green algae in phytoplankton samples is expressed as number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliter (μm^3/mL). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton").

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat are typically made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. "*See NOAA web site: http://www.csc.noaa.gov/text/glossary.html* (see "Low water")"

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = sum\frac{(n)(a)}{N} \text{ ,}$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the USGS. Each hydrologic unit is identified by an 8-digit number.

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. The LRL replaces the term 'non-detection value' (NDV).

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L} ,$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e \frac{I}{I_o} .$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *"See NOAA web site: http://www.csc.noaa.gov/text/glossary.html (see "High water")"*

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also "Discharge")

Mean high or **low tide** is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Method code is a one-character code that identifies the analytical or field method used to determine a value stored in the National Water Information System (NWIS).

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, µS/cm) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations**,** it does not necessarily represent local mean sea level at any particular place. *See NOAA web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88* (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

Nonfilterable refers to the portion of the total residue retained by a filter.

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian**,** Mexican, and United States first-order terrestrial leveling networks.

Open or **screened interval** is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or **volatile mass** of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

Phytoplankton is the plant part of the plankton. They are usually microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and commonly are known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photo-synthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/time)] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable is the amount of a given constituent that is in solution after a representative water sample has been extracted or digested. Complete recovery is not achieved by the extraction or digestion and thus the determination represents something less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results. (See also "Bed material").

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Salinity is the total quantity of dissolved salts, measured by weight in parts per thousand. Values in this report are calculated from specific conductance and temperature. Seawater has an average salinity of about 35 parts per thousand (for additional information, refer to: Miller, R.L., Bradford, W.L., and Peters, N.E., 1988, Specific conductance: theoretical considerations and application to analytical quality control: U.S. Geological Survey Water-Supply Paper 2311, 16 p.)

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums. See conversion factors and vertical datum page (inside back cover) for identification of the datum used in this report.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "Gage height")

Stage-discharge relation is the relation between the water-surface elevation, termed stage (gage height), and the volume of water flowing in a channel per unit time.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is defined operationally as the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by directly analyzing the suspended mate-rial collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment")

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydro-logic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata,* is the following:

Kingdom:	Animal
Phylum:	Arthropoda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	*Hexagenia*
Species:	*Hexagenia limbata*

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume")

Total recoverable is the amount of a given constituent in a whole-water sample after a sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Bedload," "Bedload discharge," "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "Sediment," "Suspended-sediment load," and "Total load")

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is an expression of the optical properties of a liquid that causes light rays to be scattered and absorbed rather than transmitted in straight lines through water. Turbidity, which can make water appear cloudy or muddy, is caused by the presence of suspended and dissolved matter, such as clay, silt, finely divided organic matter, plankton and other microscopic organisms, organic acids, and dyes (ASTM International, 2003, D1889–00 Standard test method for turbidity of water, *in* ASTM International, Annual Book of ASTM Standards, Water and Environmental Technology, v. 11.01: West Conshohocken, Pennsylvania, 6 p.). The color of water, whether resulting from dissolved compounds or suspended particles, can affect a turbidity measurement. To ensure that USGS turbidity data can be understood and interpreted properly within the context of the instrument used and site conditions encountered, data from each instrument type are stored and reported in the National Water Information System (NWIS) using parameter codes and measurement reporting units that are specific to the instrument type, with specific instruments designated by the method code. The respective measurement units, many of which also are in use internationally, fall into two categories: (1) the designations NTU, NTRU, BU, AU, and NTMU signify the use of a broad spectrum incident light in the wavelength range of 400-680 nanometers (nm), but having different light detection configurations; (2) The designations FNU, FNRU, FBU, FAU, and FNMU generally signify an incident light in the range between 780-900 nm, also with varying light detection configurations. These reporting units are equivalent when measuring a calibration solution (for example, formazin or polymer beads), but their respective instruments may not produce equivalent results for environmental samples. Specific reporting units are as follows:

NTU (Nephelometric Turbidity Units): white or broadband [400-680 nm] light source, 90 degree detection angle, one detector.

NTRU (Nephelometric Turbidity Ratio Units): white or broadband [400-680 nm] light source, 90 degree detection angle, multiple detectors with ratio compensation.

BU (Backscatter Units): white or broadband [400-680 nm] light source, 30 ± 15 degree detection angle (backscatter).

AU (Attenuation Units): white or broadband [400-680 nm] light source, 180 degree detection angle (attenuation).

NTMU (Nephelometric Turbidity Multibeam Units): white or broadband [400-680 nm] light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

FNU (Formazin Nephelometric Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, one detector.

FNRU (Formazin Nephelometric Ratio Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, multiple detectors, ratio compensation.

FBU (Formazin Backscatter Units): near infrared [780-900 nm] or monochrome light source, 30±15 degree detection angle.

FAU (Formazin Attenuation Units): near infrared [780-900 nm] light source, 180 degree detection angle.

FNMU (Formazin Nephelometric Multibeam Units): near infrared [780-900 nm] or monochrome light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

For more information please see http://water.usgs.gov/owq/FieldManual/Chapter6/6.7_contents.html.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See "Water-table aquifer")

Unfiltered pertains to the constituents in an unfiltered, representative water-suspended sediment sample.

Unfiltered, recoverable is the amount of a given constituent in a representative water-suspended sediment sample that has been extracted or digested. Complete recovery is not achieved by the extraction or digestion treatment and thus the determination represents less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results.

Vertical datum (See "Datum")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the "2002 water year."

Watershed (See "Drainage basin")

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976.)

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight")

WSP is used as an acronym for "Water-Supply Paper" in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also "Plankton").

WELL DESCRIPTIONS AND GROUND-WATER DATA

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

ALACHUA COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
292838082073701	05-17-04	1020	A-0725 LK LOCHLOOSA AT LOCHLOOSA,FL	54.60
	09-20-04	1020		57.73
293203082200601	05-18-04	1140	CHITTY WELL AT KIRKWOOD	53.61
	09-21-04	0950		56.31
293252082292301	05-18-04	1220	ALTO STRAUGHN-ARCHER WELL	41.24
	09-21-04	0730		43.99
293253082055701	05-17-04	1005	DRISCOLL WELL NR LOCHLOOSA	68.64
	09-20-04	1052		72.19
293539082112601	05-17-04	1100	A-005 OWENS-ILLINOIS NO.1	68.63
293556082043401	05-17-04	1050	A-0071 HAWTHORNE TOWER DEEP	73.94
	09-20-04	1110		77.39
293620082362001	05-18-04	1315	USGS WELL NR NEWBERRY,FL	39.17
	09-20-04	1510		40.50
293644082244201	05-18-04	1105	A-0016 RUN MONITOR WELL NO1 AT KANAPAHA	43.70
	09-21-04	0820		47.87
293943082085901	05-18-04	1545	A-0708 ALACHUA COUNTY F-5 NR ORANGE HEIGHTS,FL	73.71
	09-20-04	1129		76.81
294011082260401	05-18-04	1110	A-0713 ALACHUA CO VISA 3 AT GAINESVILLE,FL	44.49
	09-22-04	1613		48.84
294028082245301	05-18-04	1140	A-0712 VISA 2 NR GAINESVILLE,FL	44.50
	09-22-04	1641		47.32
294105082171501	05-17-04	1320	A-063 ALACHUA FAIRGROUNDS CF IN GAINESVILLE,FL	43.23
	09-20-04	1245		48.26
294339082184501	05-18-04	1040	A-0706 ALACHUA COUNTY F-3 IN GAINESVILLE, FL	34.26
	09-20-04	1641		36.17
294407082262801	05-18-04	0750	DEP SAN FELASCO HAMMOCK NR GAINESVILLE,FL	53.47
294530082232001	05-17-04	1430	DEERHAVEN POWER PLT WELL NR GAINESVILLE	41.06
294629082181301	05-18-04	1105	A-0704 ALACHUA CO F-1 WELL IN GAINESVILLE,FL	55.91
294640082064501	05-17-04	1145	ROD REESE NR KEYSTONE HEIGHTS	73.04
	09-20-04	1202		76.56
294839082230701	05-18-04	0915	CELLON WELL NR LA CROSSE(A-0053)	42.06
	09-20-04	1345		42.41
294928082355301	05-17-04	1515	94923502 08S17E03 CITY HIGH SPRINGS	32.52
	09-20-04	1420		37.05
295130082243001	05-17-04	1115	SRWMD DOF - LACROSSE TOWER NR GAINESVILLE,FL	41.82

KEY TO SITE LOCATIONS ON FIGURE 4
BAKER COUNTY, GROUND-WATER LEVELS

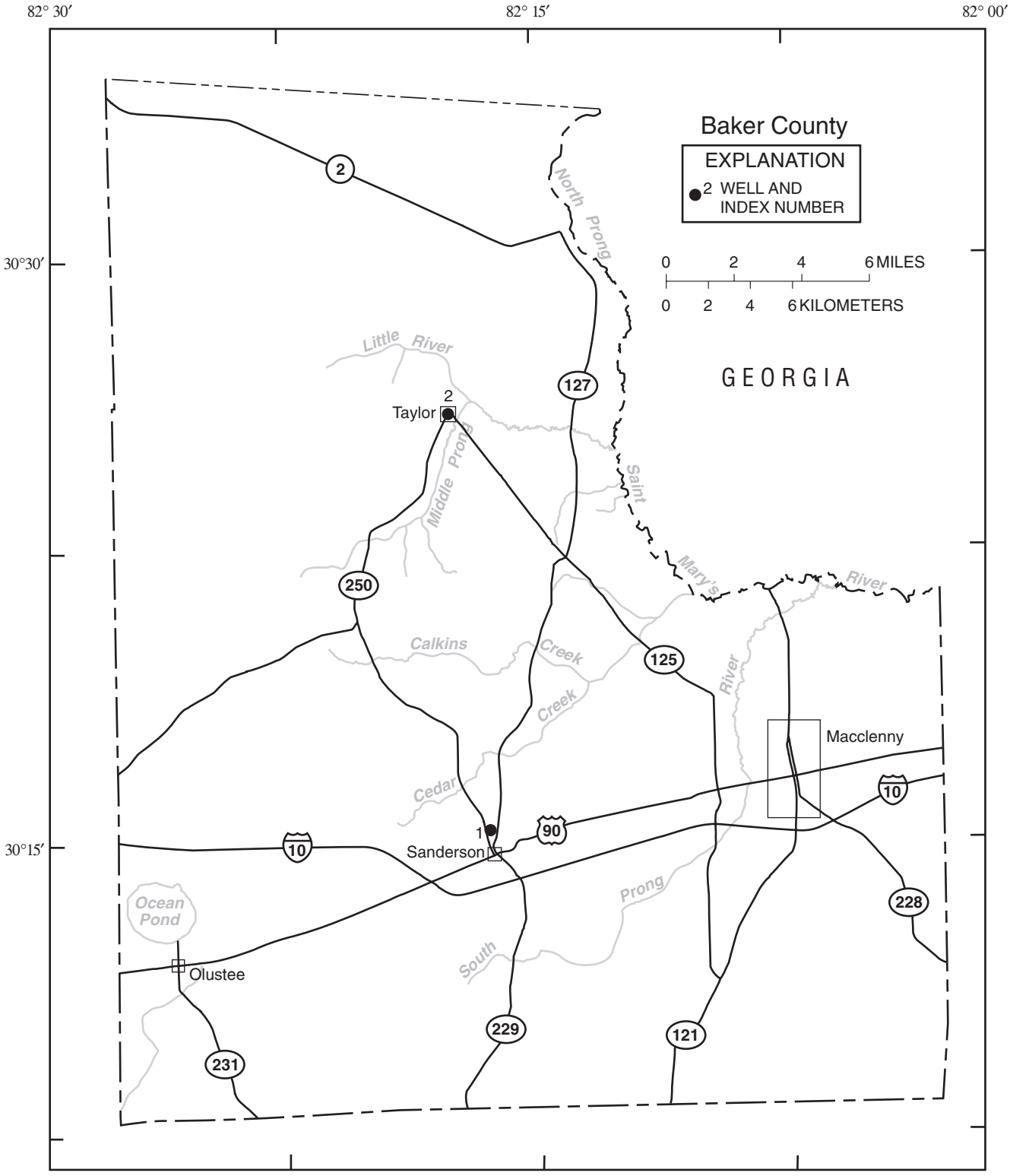

Figure 4.--Location of wells in Baker County.

BAKER COUNTY

WELL NUMBER.--301535082162001. Local Number B-11. USGS Well at Sanderson, FL.

LOCATION.--Lat 30°15'40", long 82°16'20", in SW¼NW¼SW¼ sec.1, T.3 S., R.20 E., Hydrologic Unit 03070204, 0.4 mi northwest of Sanderson Public School, and 0.7 mi north of U.S. Highway 90 in Sanderson. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 825 ft, cased to 282 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 157.68 ft above NGVD of 1929. Measuring point: Top of 6 in. coupling, 2.30 ft above land-surface datum.

PERIOD OF RECORD.--August 1963 to September 1983 (bimonthly); October 1983 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 64.05 ft above NGVD of 1929, Mar. 1, 1965; lowest measured, 46.87 ft above NGVD of 1929, June 24, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	53.94	JAN 27	53.33	APR 26	52.87	JUN 28	50.47	SEP 20	54.02
NOV 24	53.65	FEB 24	53.98	MAY 18	51.91	JUL 26	51.33		
DEC 30	53.33	MAR 25	53.93	24	51.63	AUG 22	51.37		

WATER YEAR 2004 LOWEST 50.47 JUN 28, 2004 HIGHEST 54.02 SEP 20, 2004

WELL NUMBER.--302620082173501. Local Number B-9. USGS Well at Taylor, FL.

LOCATION.--Lat 30°26'20", long 82°17'35", in NW¼SE¼NE¼ sec.3, T.1 S., R.20 E., Hydrologic Unit 03070204, 50 ft northeast of intersection of State Highways 125 and 250, and 200 ft northeast of General Store in Taylor. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 905 ft, cased to 417 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 116.30 ft above NGVD of 1929. Measuring point: Top of 6 in. coupling, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1963 to September 1983 (bimonthly); October 1983 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.50 ft above NGVD of 1929, Jan. 1, 1973; lowest measured, 44.18 ft above NGVD of 1929, July 29, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	51.44	JAN 27	51.07	APR 26	50.64	JUN 28	48.07	SEP 27	53.33
NOV 03	51.32	FEB 24	51.81	MAY 18	49.60	JUL 26	48.91		
DEC 30	51.05	MAR 25	51.88	24	49.32	AUG 22	48.92		

WATER YEAR 2004 LOWEST 48.07 JUN 28, 2004 HIGHEST 53.33 SEP 27, 2004

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

BAKER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
301022082103301	05-17-04	0850	B-17 (BA0019)MANNING WELL NR MANNING,FL	54.01
	09-27-04	1500		56.80
301245082233001	05-18-04	1025	SRWMD B-6 US FOREST SERV-OLUSTEE TWR	52.92
	09-15-04	0755		55.27
301423082261101	05-18-04	0710	B-15	57.38
	09-27-04	1345		62.69
301618082110901	05-18-04	0935	BA0054	52.09
	09-27-04	1140		55.08
301635082234001	05-18-04	0850	SRWMD B-0004	52.12
	09-14-04	1310		54.23
301702082271401	05-18-04	0830	SRWMD B-0003	53.72
	09-14-04	1210		57.96
302115082232201	05-18-04	0910	SRWMD B-2	51.24
	09-14-04	1235		52.80
302251082194901	05-18-04	0755	B-25 ONF NO.6 FLORIDAN WELL NEAR TAYLOR,FL.	50.10
	09-20-04	1200		52.49
303235082203501	05-18-04	0835	BA-0057 EDDY FIRETOWER FLORIDAN	48.37
	09-27-04	1130		52.99

KEY TO SITE LOCATIONS ON FIGURE 5
BREVARD COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	275629080504901	38
2	275955080434601	38

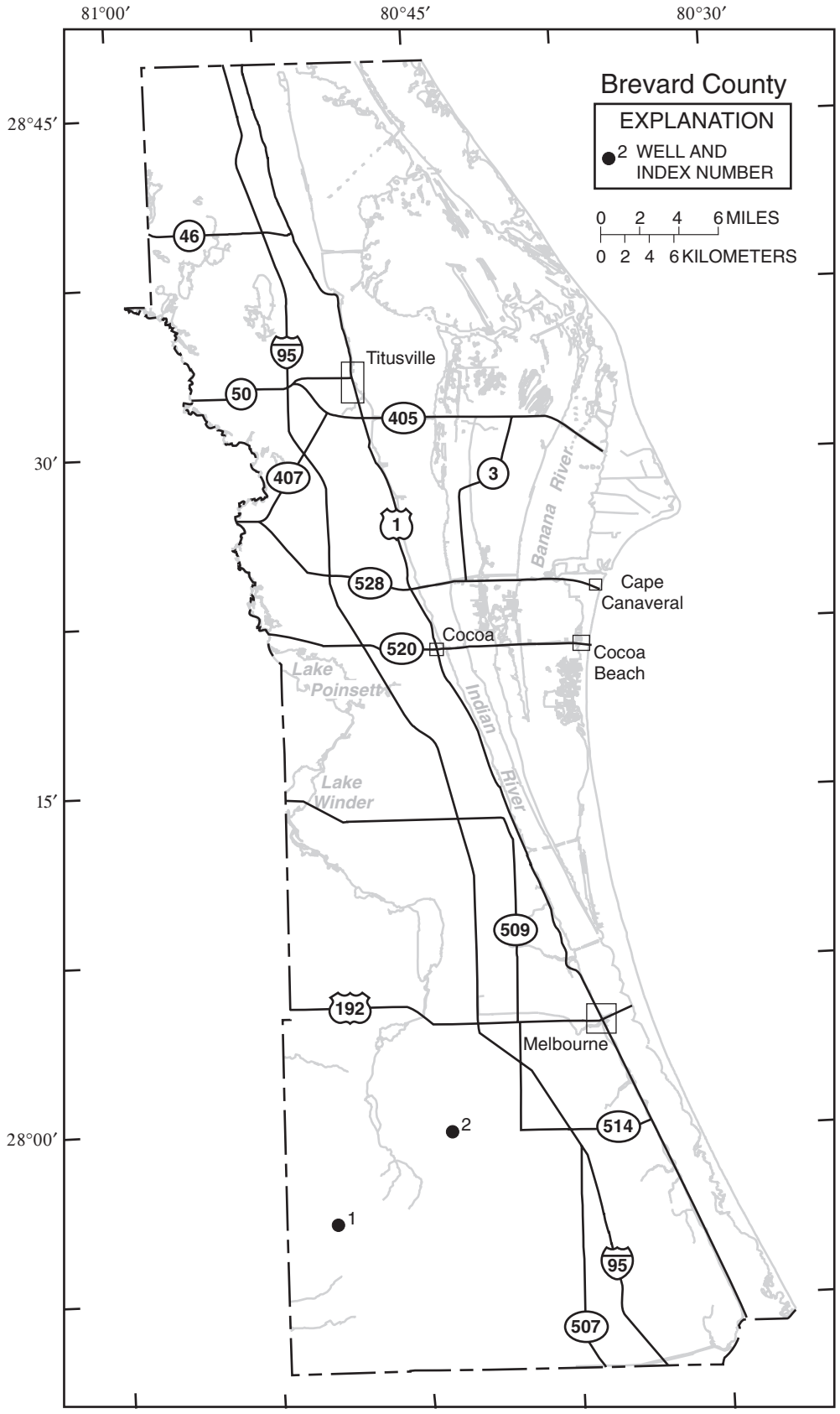

Figure 5.--Location of wells in Brevard County.

BREVARD COUNTY

WELL NUMBER.--275629080504901. Deseret Ranch Well No. 3 near Kenansville, FL.

LOCATION.--Lat 27°56'29", long 80°50'49", in SW¼SW¼NW¼ sec.32, T.29 S., R.35 E., Hydrologic Unit 03080101, 1,760 ft west of private road, 10 mi east of U.S. Highway 441, and 8 mi east of Kenansville. Owner: Deseret Ranches of Florida, Inc.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 2 in., depth 272 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Elevation of land-surface datum is 26.57 ft above NGVD of 1929. Measuring point: Top of 2 in elbow, 0.35 ft above land-surface datum. Prior to Sept. 21, 2004, measuring point was 1.95 ft higher.

PERIOD OF RECORD.--June 1956, May 1976 (annually); May 1977 to September 2002 (semiannually); November 2002 to September 2003 (bimonthly).

REMARKS.--Replaces Ten-Mile Ranch well near Kenansville (275508080510701).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.82 ft above NGVD of 1929, June 8, 1956; lowest measured, 35.57 ft above NGVD of 1929, May 14, 1977.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	40.37	FEB 24	40.47	JUN 01	36.52	SEP 21	42.72
DEC 08	40.07	MAY 18	37.79	AUG 02	36.67		

WATER YEAR 2004 LOWEST 36.52 JUN 01, 2004 HIGHEST 42.72 SEP 21, 2004

WELL NUMBER.--275955080434601. Platt Well near Melbourne, FL.

LOCATION.--Lat 27°59'55", long 80°43'46", in NE¼NE¼NW¼ sec.4, T.29 S., R.36 E., Hydrologic Unit 03080203, on south side of extension of State Highway 514, 3.5 mi west of State Highway 509, and 9.5 mi southwest of Melbourne. Owner: Marion Platt.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geological Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 4 in., depth 447 ft, cased to 125 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Elevation of land-surface datum is 21.78 ft above NGVD of 1929. Measuring point: Top of 4 in. tee, 1.25 ft above land-surface datum.

COOPERATION.--Since Oct. 1, 1985 data provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--August 1934, July 1942, November 1946 (annually); May 1947 to December 1949 (semiannually); January 1950 to November 1975, December 1977 to September 1983 (bimonthly); October 1983 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.53 ft above NGVD of 1929, Aug. 14, 1934; lowest measured, 33.53 ft above NGVD of 1929, June 26, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	41.68	JAN 22	40.73	APR 20	39.00	JUN 22	38.17	SEP 21	42.26
NOV 19	41.60	FEB 17	41.27	MAY 17	38.93	JUL 21	39.20		
DEC 18	41.01	MAR 24	40.73	19	37.55	AUG 24	40.79		

WATER YEAR 2004 LOWEST 37.55 MAY 19, 2004 HIGHEST 42.26 SEP 21, 2004

BREVARD COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
275003080330201	05-18-04	0910	BR-1559 FLEMING GRANT NR FELLSMERE,FL	37.49
	09-21-04	0817		43.69
275138080491801	05-26-04	1210	TUCKER T-6 REPLACEMENT WELL NR KENANSVILLE,FL	37.54
	09-22-04	1605		45.19
275210080272202	05-18-04	1200	DR0625 SEB. INLET TW SHALLOW	32.33
	09-21-04	1055		39.33
275422080374001	05-18-04	0711	BREVARD GROVES DIESEL BR0288 NR FELLEMERE,FL	38.71
	09-21-04	0747		44.51
275425080283101	05-18-04	1145	754028002	31.77
	09-21-04	1041		39.57
275948080393501	05-17-04	1750	759039005 29S37E06 322 37578 FELLSMERE NW TP	36.85
	09-20-04	1530		43.35
280008080342601	05-18-04	1036	800034072 28S37E36 424 08182 MELBOURNE EAST TP	29.85
	09-21-04	0941		34.95
280256080325601	05-18-04	1120	802032002 28S38E17 432 1645 MELBOURNE EAST 49	27.70
	09-21-04	1017		35.70
280532080514501	05-17-04	1641	805051003 27S35E31 331 30139 DEER PARK SE TP	38.90
	09-20-04	1400		46.20
280534080465101	05-17-04	1620	805046002 27S35E36 331 37472 DEER PARK SE TP	36.83
	09-20-04	1349		44.63
280648080422801	05-17-04	1537	DAN PLATT SARNO RD REPLACEMENT WELL	35.15
	09-20-04	1321		41.45
281109080373701	05-18-04	1304	811037014 26S37E33 122 18134 EAU GALLIE 09	27.49
	09-21-04	1146		33.59
281210080473001	05-17-04	1400	DUDA RANCH L-2 (812047001)	36.20
	09-20-04	1228		41.20
281447080392601	05-18-04	1319	814039076 26S36E06 444 37577 EAU GALLIE 79	27.44
	09-21-04	1202		33.84
281905080375001	05-18-04	1404	819037196 25S37E16 212 27337 COCOA 04	22.55
	09-21-04	1238		28.55
281937080442001	05-17-04	1244	BR-1558 KENNEDY HIGH SCHOOL AT COCOA,FL	24.96
	09-20-04	1118		28.99
282301080460601	05-17-04	1221	BR-1557 COCOA HIGH SCHOOL AT COCOA,FL	22.70
	09-20-04	1055		25.93
282423080353601	05-18-04	1430	824035001 24S37E11 444 15764 CAPE CANAVERAL TP	19.42
	09-21-04	1300		24.38
282524080422301	05-18-04	1500	MERRITT ISLAND INJECTION WELL	17.20
	09-21-04	1325		22.20
282921080404701	05-18-04	1523	BR0608 NASA UFA NR GATE 2	12.04
	09-21-04	1342		16.84
282945080473901	05-17-04	1056	BR-586 TICO AIRPORT	15.15
	09-20-04	1001		18.80
283028080403501	05-18-04	1537	BR 1748 RANSOM RD REPLACEMENT NR COURTNAY,FL	10.69
	09-21-04	1356		15.29
283627080512001	05-17-04	0904	BR-0001 USGS TEST WELL	14.50
	09-20-04	0830		17.95
283644080574903	05-17-04	0832	BR-1526 SEMINOLE RANCH	18.06
	09-20-04	0820		22.16
283732080510001	05-17-04	0947	BR0585 ASTRONAUT H.S.CF	11.00
	09-20-04	0820		18.83
283835080424501	09-20-04	0918	838042002 21S36E27 MERRITT ISLE WILDLIFE	12.48

KEY TO SITE LOCATIONS ON FIGURE 6
CITRUS COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	284330082215401	42
2	284508082174601	42
3	285102082204001	43
4	285121082245401	43
5	285414082284201	44
6	285608082233401	44

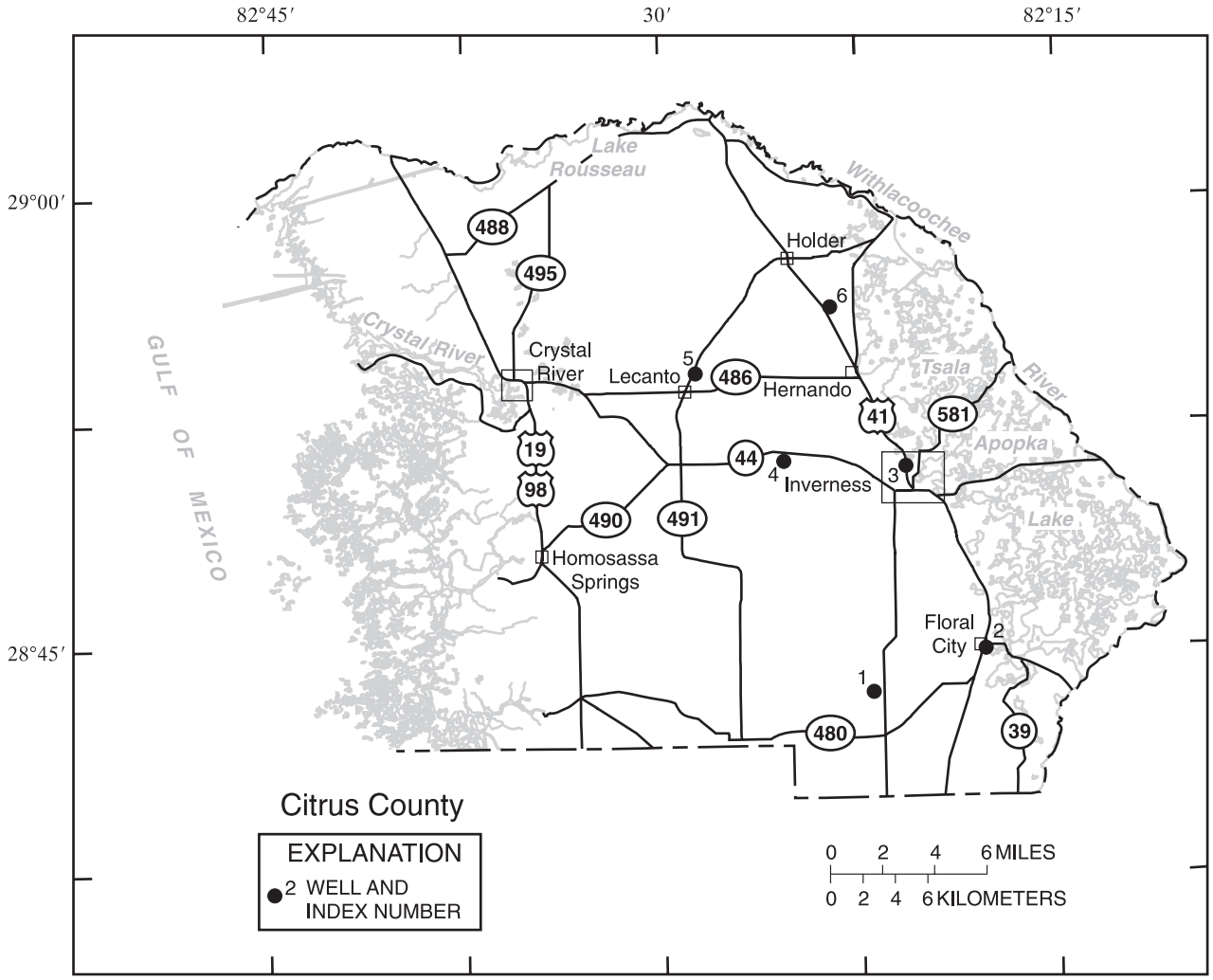

Figure 6.--Location of wells in Citrus County.

CITRUS COUNTY

WELL NUMBER.--284330082215401. Romp 109 Well near Floral City, FL.

LOCATION.--Lat 28°43'30", long 82°21'54", in SW¼SE¼SW¼ sec.24, T.20 S., R.19 E., Hydrologic Unit 03100208, 0.5 mi west of State Highway 581, 4.5 mi southwest of Floral City. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 6 in., depth 260 ft, cased to 189 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 157.13 ft above NGVD of 1929. Measuring point: Top of 6 in. flange, 2.67 ft above land-surface datum.

PERIOD OF RECORD.--May 1983 to July 2004 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 23.20 ft above NGVD of 1929, April 19, 1998; lowest water level measured, 12.32 ft above NGVD of 1929, July 13, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.97	22.14	21.20	20.18	19.24	18.60	18.06	17.43	16.78	16.47	---	---
10	22.87	21.97	21.06	20.01	19.13	18.51	17.95	17.33	16.75	16.37	---	---
15	22.74	21.83	20.84	19.86	18.99	18.44	17.86	17.23	16.70	16.29	---	---
20	22.58	21.67	20.68	19.69	18.86	18.34	17.79	17.14	16.68	16.28	---	---
25	22.43	21.52	20.53	19.54	18.78	18.25	17.65	17.06	16.61	---	---	---
EOM	22.26	21.34	20.32	19.39	18.67	18.15	17.53	16.89	16.54	---	---	---
MAX	23.02	22.24	21.30	20.29	19.38	---	18.12	17.52	16.88	---	---	---

CAL YR 2003 MAX 23.13

WELL NUMBER.--284508082174601. Ferris Packing Company Well at Floral City, FL.

LOCATION.--Lat 28°45'08", long 82°17'46", in NE¼NE¼NW¼ sec.15, T.20 S., R.20 E., Hydrologic Unit 03l00208, on east side of U.S. Highway 41, in rear of packing house, 0.2 mi north of State Highway 48 in Floral City. Owner: Ferris Packing Company.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 8 in., depth 400 ft, cased to 200 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 70.43 ft above NGVD of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--March and May l96l, January l964 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.32 ft above NGVD of 1929, Aug. 23, 1965; lowest measured, 25.17 ft above NGVD of 1929, July 13, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	36.97	FEB 10	34.27	MAY 19	32.83	AUG 10	32.08
DEC 09	35.63	APR 06	33.74	JUN 08	32.26	SEP 22	35.51

WATER YEAR 2004 LOWEST 32.08 AUG 10, 2004 HIGHEST 36.97 OCT 29, 2003

CITRUS COUNTY—Continued

WELL NUMBER.--285102082204001. DOT-41 Observation Well at Inverness, FL.

LOCATION.--Lat 28°51'02", long 82°20'40", in SW¼SW¼NE¼ sec.7, T.19 S., R.20 E., Hydrologic Unit 03100208, on east side of U.S. Highway 41, 0.4 mi north of intersection of U.S. Highway 41 and State Highway 581 in Inverness. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 18 in., depth 450 ft, cased to 290 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 41.56 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 2.07 ft above land-surface datum.

PERIOD OF RECORD.--March 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 37.80 ft above NGVD of 1929, Oct. 14, 1982; lowest, 21.70 ft above NGVD of 1929, June 4, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.37	33.72	33.16	32.40	31.71	31.37	30.86	30.08	29.14	28.99	29.15	30.26
10	34.30	33.62	33.12	32.29	31.62	31.32	30.74	29.94	29.04	29.04	29.17	30.98
15	34.21	33.55	32.82	32.18	31.66	31.21	30.53	29.81	29.04	29.11	29.28	31.65
20	34.01	33.51	32.70	32.02	31.51	31.16	30.50	29.64	29.12	29.08	29.51	31.92
25	33.84	33.36	32.61	31.94	31.54	31.02	30.33	29.56	29.01	29.01	29.69	32.23
EOM	33.76	33.15	32.43	31.83	31.33	31.09	30.20	29.36	28.98	29.09	29.77	33.18
MAX	34.43	33.82	33.16	32.41	31.85	31.39	31.06	30.21	29.33	29.13	29.83	33.18

CAL YR 2003 MAX 35.02
WTR YR 2004 MAX 34.43

WELL NUMBER.--285121082245401. ROMP 113 Replacement Well near Inverness, FL.

LOCATION.--Lat 28°51'21", long 82°24'54", in NE¼NW¼NW¼ sec.9, T.19 S., R.19 E., Hydrologic Unit 03100208, on south side of State Highway 44, 5.5 mi west of Inverness. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 6 in., depth 150 ft, cased to 51 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 132.57 ft above NGVD of 1929. Measuring point: Top of flange, 3.69 ft above land-surface datum.

PERIOD OF RECORD.--October 1996 to September 2004 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 12.06 ft above NGVD of 1929, Sept. 5,7, 2003; lowest, 4.72 ft above NGVD of 1929, June 22,23, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.53	10.72	9.87	9.02	8.34	7.89	7.37	6.89	6.46	6.40	6.67	6.96
10	11.41	10.58	9.75	8.86	8.25	7.79	7.24	6.84	6.43	6.36	6.70	7.67
15	11.29	10.43	9.60	8.74	8.12	7.70	7.25	6.75	6.44	6.32	6.80	8.59
20	11.14	10.29	9.48	8.64	8.05	7.69	7.12	6.66	6.52	6.45	6.86	9.22
25	10.97	10.15	9.33	8.59	7.98	7.58	7.01	6.60	6.50	6.57	6.84	9.59
EOM	10.86	10.04	9.15	8.45	7.98	7.44	6.92	6.51	6.44	6.61	6.82	9.98
MAX	11.62	10.84	10.01	9.12	8.45	7.96	7.42	6.90	6.53	6.61	6.87	9.98

CAL YR 2003 MAX 12.06
WTR YR 2004 MAX 11.62

CITRUS COUNTY—Continued

WELL NUMBER.--285414082284201. North Lecanto Well near Lecanto, FL.

LOCATION.--Lat 28°54'14", long 82°28'42", in SW¼NE¼NW¼ sec.22, T.18 S., R.18 E., Hydrologic Unit 03100207, 40 ft east of State Highway 491, and 3.8 mi north of Lecanto. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 335 ft, cased to 288 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 68.87 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.07 ft above land-surface datum.

PERIOD OF RECORD.--November 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 8.10 ft above NGVD of 1929, Oct. 15, 1982; lowest, 2.94 ft above NGVD of 1929, May 3-5, 9, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.15	6.53	5.89	5.33	4.88	4.79	4.48	4.32	4.08	4.18	4.50	4.40
10	7.07	6.44	5.84	5.20	4.81	4.71	4.53	4.32	4.12	4.03	4.55	6.16
15	7.07	6.28	5.80	5.10	4.82	4.62	4.60	4.13	4.30	4.12	4.71	6.58
20	6.86	6.29	5.70	5.18	4.71	4.77	4.34	4.11	4.27	4.47	4.63	6.70
25	6.74	6.20	5.55	5.09	4.86	4.51	4.27	4.13	4.28	4.46	4.52	6.64
EOM	6.74	6.04	5.40	4.94	4.80	4.47	4.16	4.06	4.20	4.48	4.52	7.25
MAX	7.25	6.64	5.98	5.38	4.95	4.80	4.67	4.34	4.35	4.49	4.71	7.25

CAL YR 2003 MAX 7.83
WTR YR 2004 MAX 7.25

WELL NUMBER.--285608082233401. Camp Mining Well (CE-64) near Holder, FL.

LOCATION.--Lat 28°56'08", long 82°23'34", in SW¼NW¼SE¼ sec.10, T.18 S., R.19 E., Hydrologic Unit 03100208, in a field about 0.5 mi east of U.S. Highway 41, at a point 2.5 mi south of County Road 491 in Holder. Owner: G.L. Robinson.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 14 in., depth 91 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 65.92 ft above NGVD of 1929. Measuring point: Top of casing, 1.14 ft above land-surface datum.

PERIOD OF RECORD.--March 1961, December 1961 to September 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.01 ft above NGVD of 1929, Nov. 20, 1964; lowest measured, 12.04 ft above NGVD of 1929, Apr. 13, 1982.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	27.81	FEB 17	24.31	JUN 08	20.87	SEP 22	20.69
DEC 09	26.63	APR 07	22.09	AUG 12	21.06		

WATER YEAR 2004 LOWEST 20.69 SEP 22, 2004 HIGHEST 27.81 OCT 29, 2003

CITRUS COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
284101082184301	05-19-04	1650	84121801 21S20E04 OAK FOREST SUBMERSIBLE	33.90
	09-23-04	1555		37.46
284439082131401	05-19-04	1615	84421301 TRAILS END FISH CAMP WELL NR FLORAL CITY	39.47
	09-22-04	1540		43.58
284519082150701	05-19-04	1600	84521501 20S21E07 HOMER N FISHER	39.86
	09-22-04	1520		42.54
284609082163001	05-19-04	1545	DUVAL ISLAND WELL NR FLORAL CITY, FL	39.52
	09-22-04	1500		41.90
284752082202501	05-18-04	1300	84722001 19S20E31 HIGHLANDS VFD NR INVERNESS	19.43
	09-23-04	1415		21.79
284805082225701	05-18-04	1045	84822201 19S19E26 WSF-HOLDER MINE REC AREA	12.54
	09-23-04	1425		15.37
284844082282801	05-18-04	0850	84822801 19S18E22 WSF-PERRYMAN TRACT	6.44
	09-23-04	1220		9.81
285037082213801	05-18-04	1015	85022101 19S19E12 INVERNESS VILLAGE EASTW	20.81
	09-22-04	1730		23.38
285105082135802	05-18-04	1350	USGS WELL 0.7MI.W OF WITH.R. ON SR 44.47FT N RD	35.63
	09-21-04	1245		40.72
285248082183201	05-18-04	1430	85221801 18S20E33 ELMER HEATH	37.68
	09-21-04	1310		39.69
285612082294201	05-19-04	1225	85622901 18S18E04 PINE RIDGE NO 3	4.35
	08-22-04			6.80
285720082201301	05-17-04	1930	85722001ROMP DEEP WELL 116 NEAR TSALA APOPKA, FL	32.38
	09-22-04	1115		37.20
285812082360901	05-19-04	0950	85823601 17S17E29 CE 7 U S GEOL SURVEY	11.80
285833082233301	05-19-04	1300	85822301 17S19E34 CE 16	15.07
	09-22-04	1045		17.63
285930082283702	05-19-04	1230	85922803 17S18E22 CITRUS SPRINGS RECORDER	7.87
	09-23-04	1000		9.21
285951082350901	05-19-04	1000	85923501 17S17E15 CE 6 U S GEOL SURVEY	18.89
	09-22-04	0935		24.91
290023082393601	05-19-04	0925	90023901 17S16E11 CE 89 U S GEOL SURVEY	10.71
	09-21-04	1420		15.23
290107082400501	05-19-04	0910	90124001 17S16E11 CE 88 U S GEOL SURVEY	1.65
	09-21-04	1405		7.09
290132082324201	05-19-04	1020	90123202 17S17E01 EMORY COWART HOUSE WELL	14.31
	09-22-04	0945		18.32
290216082292001	05-17-04	2000	90222901 16S18E33 CE 77 U S GEOL SURVEY	13.90
	09-22-04	1015		16.39

KEY TO SITE LOCATIONS ON FIGURE 7
CLAY COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	295733081365505	48
2	300656081463401	48
3	300834081421301	49

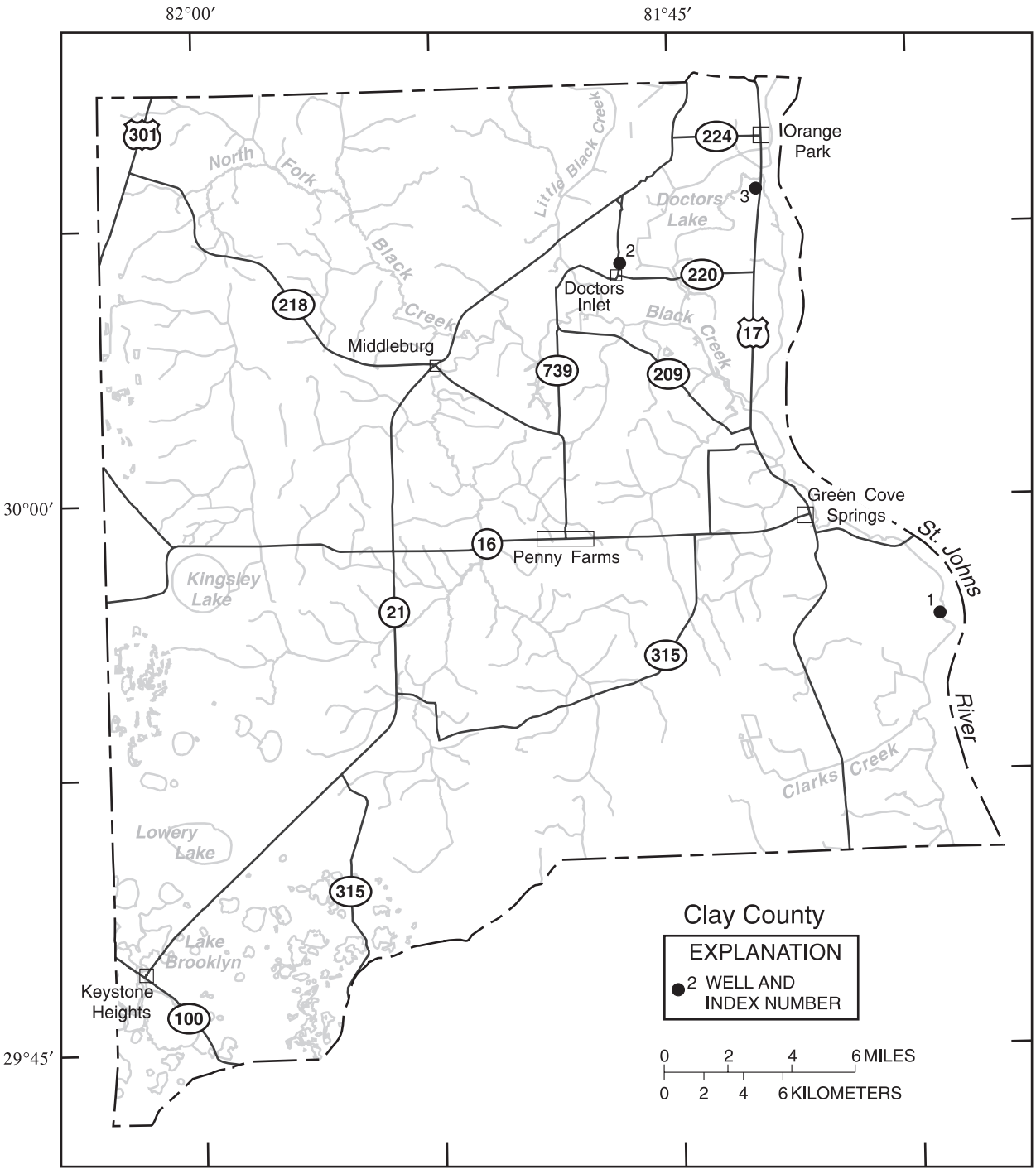

Figure 7.--Location of wells in Clay County.

CLAY COUNTY

WELL NUMBER.--295733081365505. Local Number C-0579. Bayard Point Well near Green Cove Springs, FL.

LOCATION.--Lat 29°57'33", long 81°36'55", in land grant 47, T.6 S., R.27 E., Hydrologic Unit 03080103, 60 ft north of dirt road, 1.6 mi southeast of State Highway 16, and 4.4 mi southeast of Green Cove Springs. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 656 ft, cased to 320 ft.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Land-surface datum is 9.64 ft above NGVD of 1929. Measuring point: Top of 6 in. gate valve, 1.55 ft above land-surface datum.

PERIOD OF RECORD.--May 2000 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.59 ft above NGVD of 1929, Sept. 21, 2004; lowest measured, 17.89 ft, above NGVD of 1929, Apr. 25, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07	30.79	FEB 10	31.49	MAY 06	27.09	JUN 01	24.29	SEP 21	31.59
DEC 01	30.99	MAR 22	29.59	19	25.19	JUL 27	24.19		

WATER YEAR 2004 LOWEST 24.19 JUL 27, 2004 HIGHEST 31.59 SEP 21, 2004

WELL NUMBER.--300656081463401. Local Number C-94. USGS Test Well near Orange Park, FL.

LOCATION.--Lat 30°06'56", long 81°46'34", in SW¼SE¼SW¼ sec.26, T.4 S., R.25 E., Hydrologic Unit 03080103, at St. Johns River Community College, 150 ft east of State Highway 224, 1.5 mi south of intersection of State Highways 224 and 21, and 5.0 mi southwest of Orange Park. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 8 in., depth 1,197 ft, cased to 391 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 46.22 ft above NGVD of 1929. Measuring point: Top of 2.5 in. coupling, 1.29 ft above land-surface datum.

PERIOD OF RECORD.--February 1974 to April 1979 (quarterly); July 1979 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.59 ft above NGVD of 1929, Feb. 28, 1983; lowest measured, 24.43 ft above NGVD of 1929, May 21, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	35.18	JAN 27	35.62	APR 26	30.53	JUN 28	30.28	SEP 22	35.21
NOV 24	35.63	FEB 24	36.72	MAY 18	29.69	JUL 26	31.69		
DEC 30	35.63	MAR 25	36.57	24	28.51	AUG 22	32.96		

WATER YEAR 2004 LOWEST 28.51 MAY 24, 2004 HIGHEST 36.72 FEB 24, 2004

CLAY COUNTY—Continued

WELL NUMBER.--300834081421301. Local Number C-7. Hanson Well near Orange Park, FL.

LOCATION.--Lat 30°08'34", long 81°42'13", in land grant 44, T.4 S., R.26 E., Hydrologic Unit 03080103, 350 ft north of Creighton Road, 500 ft west of U.S. Highway 17, and 1.5 mi south of Orange Park. Owner: Mr. Peacock.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 3 in., depth 550 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 3.88 ft above NGVD of 1929. Measuring point: Top of 3 in. cross, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to September 1980 (semiannually); May 1981 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.08 ft above NGVD of 1929, Mar. 24, 1983; lowest measured, 15.88 ft above NGVD of 1929, July 25, 1996.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	28.68	DEC 30	28.78	FEB 24	30.08	APR 26	29.68	JUN 28	22.88	AUG 22	26.38
NOV 24	28.18	JAN 27	28.58	MAR 25	29.98	MAY 24	19.88	JUL 26	24.88	SEP 27	29.38

WATER YEAR 2004 LOWEST 19.88 MAY 24, 2004 HIGHEST 30.08 FEB 24, 2004

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

CLAY COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
294307082020903	05-19-04	1010	C-0009 COUNTYLINE NR MELROSE,FL	78.86
	09-23-04	0815		81.84
294728082010901	05-19-04	1050	C-0442	75.42
	09-23-04	0850		78.33
294807082020903	05-19-04	1105	9482028 WELL AT KEYSTONE HEIGHTS,FL	75.79
	09-23-04	0915		78.66
294911081572601	05-19-04	1135	C-0453 GOLD HEAD	74.35
	09-23-04	1030		77.31
295016081433501	05-19-04	0910	C-0123 SUNGARDEN TWR OCALA,FL	66.21
	09-22-04	1445		68.42
295222081393501	05-19-04	0850	C-1026 BAYARD WELL NR WALKILL	43.86
	09-21-04	1030		47.30
295238081553701	05-19-04	1200	C-1011 AT CAMP BLANDING NO.1 NR JACKSONVILLE,FL	71.84
	09-23-04	1105		74.53
295625081410901	05-19-04	0815	C-1056 WALKILL WELL NR GREEN COVE SPGS,FL	44.99
	09-21-04	1100		48.15
295835081515001	05-19-04	1230	C-17	67.18
	09-21-04	1330		69.40
295851081555301	05-20-04	0810	C-0128 PENNY FARMS TWR	66.84
	09-21-04	1430		68.99
300048081414301	05-20-04	0720	C-30	25.97
	09-21-04	1500		33.07
300318082015401	05-20-04	0925	C-1017 TRAINING SITE AT CAMP BLANDING NR JAX,FL	57.83
	09-28-04	0930		60.55
300649081485901	05-18-04	1200	C-5 JOHN HUNTLEY WELL NEAR MIDDLEBURG,FL	34.42
	09-22-04	0910		39.22
300850081552001	05-18-04	1020	C-29(C-0010)UFA WELL	55.70
	09-22-04	1315		51.00
300926081561603	05-18-04	1030	C-0583 YELLOW WATER CR NR HUGH,FL	52.02
	09-22-04	1230		53.62

KEY TO SITE LOCATIONS ON FIGURE 8
DUVAL COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number	Index number	Site number	Page number
1	300622081284701	54	21	302022081393501	74
2	300820081354001	55	22	302052081323201	75
3	301157081374301	55	23	302130081411802	75
4	301422081541201	56	24	302159081235601	76
4	301422081541202	56	25	302218081360501	76
4	301422081541203	57	26	302227081435001	77
5	301522081331303	57	27	302236081401501	78
6	301537081441901	58	28	302301081295001	79
7	301551081415701	59	28	302301081295002	79
8	301604081361501	60	29	302304081383202	80
9	301639081330802	61	28	302307081293801	80
10	301648081431801	62	30	302339081254702	81
11	301710081323601	63	31	302416081522601	82
11	301710081323602	63	31	302416081522602	82
11	301710081323603	64	32	302502081330701	83
12	301725081584501	64	32	302503081332001	84
13	301740081361001	65	32	302505081331001	85
14	301743081304701	66	32	302511081331201	86
13	301743081362301	67	32	302519081331501	87
13	301744081363301	68	33	302538081392501	88
13	301752081360501	69	34	302550081331501	89
15	301844081403801	70	35	302557081253101	90
16	301846081350901	70	36	302608081354901	91
17	301852081234201	71	36	302608081354902	91
18	302007081353201	71	36	302608081354903	92
19	302013081353801	72	37	302724081244801	93
20	302015081384501	73			

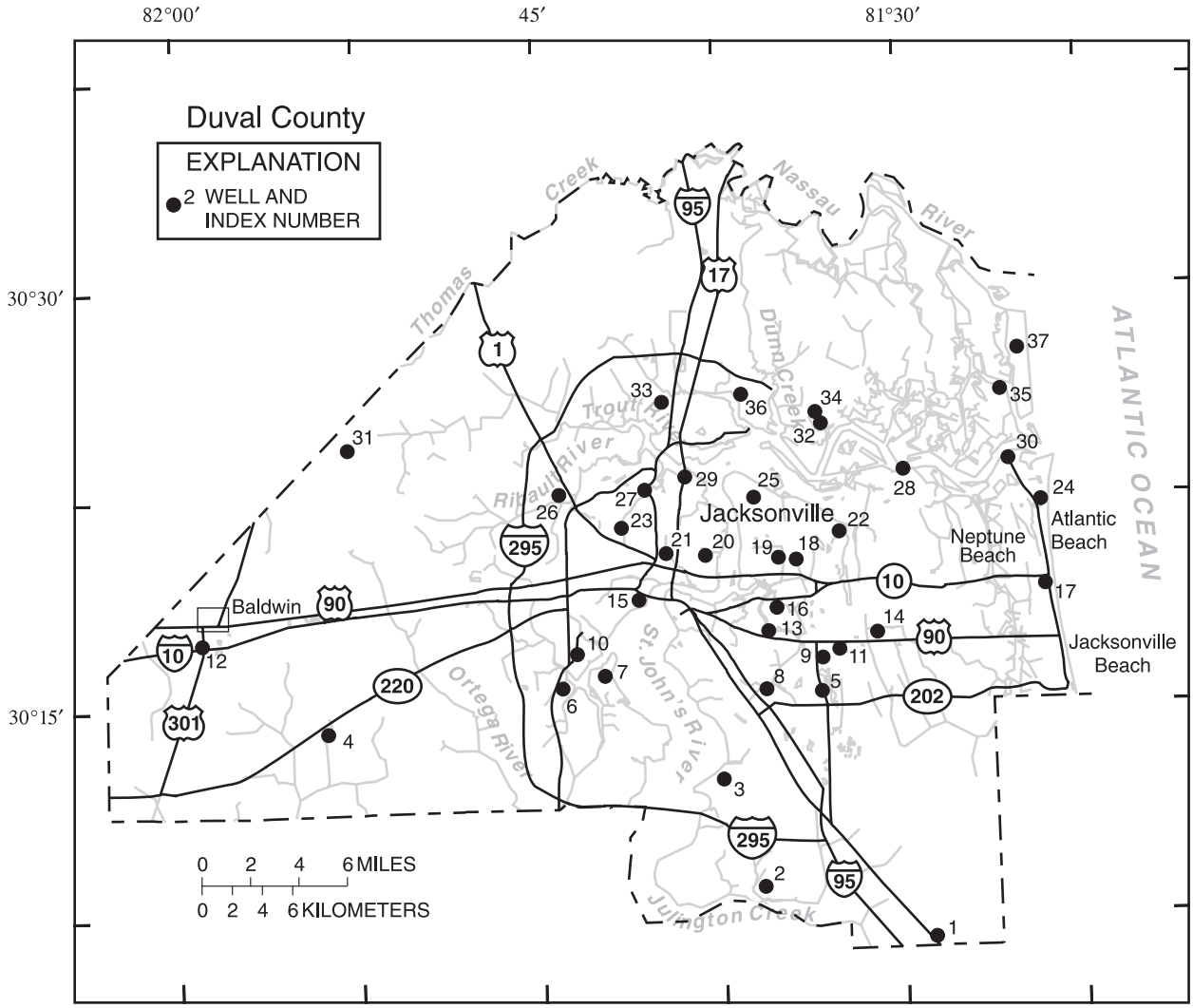

Figure 8.--Location of wells in Duval County.

DUVAL COUNTY

WELL NUMBER.--300622081284701. Local Number D-909. Dee Dot Ranch Well at Jacksonville, FL.

LOCATION.--Lat 30°06'22", long 81°28'47", in land grant 48, T.4 S., R.28 E., Hydrologic Unit 03080103, 300 ft northeast of U.S. Highway 1, 0.10 mi north of Duval-St. Johns County line in Jacksonville. Owner: Dee Dot Ranch.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 4 in., depth 500 ft, casing length unknown.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 22.81 ft above NGVD of 1929. Measuring point: Top of 4 in. cross pipe, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to September 1983 (semiannually); October 1990 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.91 ft above NGVD of 1929, Jan. 27, 1995; lowest measured, 32.71 ft above NGVD of 1929, July 25, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	39.61	JAN 22	39.01	APR 28	36.71	JUL 21	37.11

WATER YEAR 2004 LOWEST 36.71 APR 28, 2004 HIGHEST 39.61 OCT 24, 2003

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976-78, 1990 to current year (quarterly).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT 24...	1400	--	--	775	23.0	--	--	--	--	--	--	19.0	--
JAN 22...	1030	--	--	770	21.0	--	--	--	--	--	--	19.0	--
APR 28...	1230	5	7.2	770	22.0	360	87.0	33.0	2.50	15.0	133	19.0	.9
JUL 21...	1030	--	--	775	24.0	--	--	--	--	--	--	19.5	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR 28...	24.0	230	541	4,630

DUVAL COUNTY—Continued

WELL NUMBER.--300820081354001. Local Number D-296. Hood Landing Well at Mandarin, FL.

LOCATION.--Lat 30°08'20", long 81°35'40", in land grant 43, T.4 S., R.27 E., Hydrologic Unit 03080103, 50 ft east of Hood Landing Road, 150 ft south of Julington Creek Road. Owner: Mrs. Peoples.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, private, domestic, artesian well, diameter 3 in., depth 487 ft, casing length unknown.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962, 1970, 1972-79, 1983 to current year (quarterly).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
28...	1100	--	--	703	23.0	--	--	--	--	--	--	19.0	--
JAN													
22...	1100	--	--	723	22.0	--	--	--	--	--	--	20.0	--
APR													
28...	1320	5	7.2	702	23.0	320	61.0	39.0	2.90	14.0	114	18.0	.6
JUL													
22...	1350	--	--	680	25.0	--	--	--	--	--	--	19.4	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
28...	20.0	220	497	5,080

WELL NUMBER.--301157081374301. Local Number D-538. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°11'57", long 81°37'43", in land grant 40, T.3 S., R.27 E., Hydrologic Unit 03080103, located in Beauclerc Gardens pumping station, 3054 Shady Drive, 50 ft south of station entrance, in the Beauclerc Gardens area of Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 12 in., depth 1,000 ft, cased to 484 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-78, 1983-2001, 2004 (quarterly).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
JUL				
22...	1410	935	29.0	73.1

DUVAL COUNTY—Continued

WELL NUMBER.--301422081541201. Local Number DS-226. USGS Observation Well at Jacksonville, FL.

LOCATION.--Lat 30°14'22", long 81°54'12", in SW¼SE¼NE¼ sec.16, T.3 S., R.24 E., Hydrologic Unit 03080103, 250 ft south of State Highway 228 (Normandy Boulevard), 0.8 mi west of main gate NAS Cecil Field in Jacksonville. Owner: U.S. Geological Survey.

AQUIFER.--Hawthorn Formation of the Miocene Age, Geologic Unit 122 HTRN.

WELL CHARACTERISTICS.--Drilled, unused, nonartesian well, diameter 2 in., depth 210 ft, cased to 210 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 77.22 ft above NGVD of 1929. Prior to August 2002, land-surface datum was considered to be 80.00 ft from topographic map. Measuring point: Top of 2 in. PVC casing, at land-surface datum.

PERIOD OF RECORD.--January 1976, May 1977, February 1979 to February 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 75.5 ft above NGVD of 1929, Aug. 29, 1995, present datum; lowest measured, 65.07 ft above NGVD of 1929, Nov. 29, 1990, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	70.86	DEC 30	70.86	FEB 24	68.47

WATER YEAR 2004 LOWEST 68.47 FEB 24, 2004 HIGHEST 70.86 OCT 28, 2003 DEC 30, 2003

WELL NUMBER.--301422081541202. Local Number DS-227. USGS Observation Well at Jacksonville, FL.

LOCATION.--Lat 30°14'22", long 81°54'12", in SW¼SE¼NE¼ sec.16, T.3 S., R.24 E., Hydrologic Unit 03080103, 200 ft south of State Highway 228 (Normandy Boulevard), 0.8 mi west of main gate NAS Cecil Field in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Hawthorn Formation of the Miocene Age, Geologic Unit 122 HTRN.

WELL CHARACTERISTICS.--Drilled, unused, nonartesian well, diameter 2 in., depth 401 ft, cased to 396 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 78.83 ft above NGVD of 1929. Prior to August 2002, land-surface datum was considered to be 80.00 ft from topographic map. Measuring point: Top of 2 in. PVC casing, 1.5 ft above land-surface datum.

PERIOD OF RECORD.--January 1976, March to May 1977, February 1979 to February 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.13 ft above NGVD of 1929, May 21, 1984, present datum; lowest measured, 40.90 ft above NGVD of 1929, June 27, 2000, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	48.62	DEC 30	48.33	FEB 24	48.86

WATER YEAR 2004 LOWEST 48.33 DEC 30, 2003 HIGHEST 48.86 FEB 24, 2004

DUVAL COUNTY—Continued

WELL NUMBER.--301422081541203. Local Number DS-238. USGS Observation Well at Jacksonville, FL.

LOCATION.--Lat 30°14'22", long 81°54'12", in SW¼SE¼NE¼ sec.16, T.3 S., R.24 E., Hydrologic Unit 03080103, 220 ft south of State Highway 228 (Normandy Boulevard), 0.8 mi west of main gate NAS Cecil Field in Jacksonville. Owner: U.S. Geological Survey.

AQUIFER.--Limestone aquifer of the Miocene Age, Geologic Unit 122 LMSN.

WELL CHARACTERISTICS.--Drilled, unused, nonartesian well, diameter 2 in., depth 106 ft, cased to 82 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 78.50 ft above NGVD of 1929. Prior to August 2002, land-surface datum was considered to be 80.00 ft from topographic map. Measuring point: Top of 2 in. casing, at land-surface datum.

PERIOD OF RECORD.--March 1976 to May 1977, February 1979 to February 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 77.93 ft above NGVD of 1929, Feb. 23, 1998, present datum; lowest measured, 68.78 ft above NGVD of 1929, Nov. 29, 1990, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	73.67	DEC 30	72.34	FEB 24	73.04

WATER YEAR 2004 LOWEST 72.34 DEC 30, 2003 HIGHEST 73.67 OCT 28, 2003

WELL NUMBER.--301522081331303. Local Number D-4610 (Replacement for D-291). Humphrey's Mining Company Well at Jacksonville, FL.

LOCATION.--Lat 30°15'22", long 81°33'13", in NW¼NE¼SW¼ sec.12, T.3 S., R.27 E., Hydrologic Unit 03080103, 200 ft east of State Highway 115 (Southside Boulevard), and 2.2 mi south of U.S. Highway 90 (Beach Boulevard) in Jacksonville. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 1,218 ft, cased to 1,009 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 53.88 ft above NGVD of 1929. Prior to September 2002, land-surface datum was 0.41 ft higher. Measuring point: Top of 6 in. casing, 2.81 ft above land-surface datum.

REMARKS.--Prior to September 1999 originally well Local Number D-291 (301522081331301). Well drilled to 1,246 ft in 1957, backplugged to 1,218 ft in 1999.

PERIOD OF RECORD.--October 1999 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.69 ft above NGVD of 1929, Mar. 24, 2003; lowest measured, 27.33 ft above NGVD of 1929, June 27, 2000, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	35.49	JAN 26	35.90	MAR 29	34.71	JUN 28	31.35	SEP 23	35.46
NOV 24	35.88	FEB 23	36.51	APR 26	31.85	JUL 26	31.80		
DEC 29	35.98	MAR 29	34.71	MAY 24	30.31	AUG 23	33.17		

WATER YEAR 2004 LOWEST 30.31 MAY 24, 2004 HIGHEST 36.51 FEB 23, 2004

DUVAL COUNTY—Continued

WELL NUMBER.--301537081441901. Local Number D-75. City of Jacksonville Confederate Point Well at Jacksonville, FL.

LOCATION.--Lat 30°15'37", long 81°44'19", in land grant 42, T.3 S., R.26 E., Hydrologic Unit 03080103, at water plant lot, 200 ft north of west end of Swamp Fox Road, in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation, artesian well, diameter 12 in., depth 1,302 ft, cased to 970 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 15.45 ft above NGVD of 1929. Prior to September 2002, land-surface datum was considered to be 15.30 ft from topographic map. Measuring point: Top of concrete slab, 0.5 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.95 ft above NGVD of 1929, Mar. 23, 1998, present datum; lowest measured, 30.95 ft above NGVD of 1929, July 21, 2000, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	39.25	DEC 30	39.95	FEB 24	40.65	APR 22	36.85	JUN 28	35.95	AUG 22	36.95
NOV 24	39.95	JAN 21	39.45	MAR 25	39.65	MAY 24	34.95	JUL 20	36.25	SEP 27	39.45

WATER YEAR 2004 LOWEST 34.95 MAY 24, 2004 HIGHEST 40.65 FEB 24, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
28...	1000	--	--	363	25.0	--	--	--	--	--	--	7.30	--
JAN													
21...	1215	--	--	363	24.0	--	--	--	--	--	--	7.20	--
APR													
22...	1400	5	7.5	362	25.0	160	39.0	15.0	1.80	6.6	109	7.20	.4
JUL													
20...	0920	--	--	364	25.0	--	--	--	--	--	--	7.37	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
22...	17.0	62.0	232	3,170

DUVAL COUNTY—Continued

WELL NUMBER.--301551081415701. Local Number D-129. K.A. Merrill Well at Jacksonville, FL.

LOCATION.--Lat 30°15'51", long 81°41'57", in land grant 42, T.3 S., R.26 E., Hydrologic Unit 03080103, 44 ft north of Merrill driveway, and 45 ft east of Ortega Boulevard in Jacksonville. Owner: K.A. Merrill.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 600 ft, cased to 470 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 8.63 ft above NGVD of 1929. Measuring point: 0.5 in. corporation cock, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1940 to April 1942, January to April 1944, August 1945 to September 1978 (semiannually); February 1979 to July 1980 (bimonthly); August 1980 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.93 ft above NGVD of 1929, July 9, 1940; lowest measured, 17.33 ft above NGVD of 1929, May 22, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	27.63	DEC 30	31.23	FEB 24	32.03	APR 26	20.33	JUN 28	25.83	AUG 22	28.83
NOV 24	30.83	JAN 27	31.83	MAR 25	30.93	MAY 24	22.83	JUL 26	25.83	SEP 27	33.33

WATER YEAR 2004 LOWEST 20.33 APR 26, 2004 HIGHEST 33.33 SEP 27, 2004

DUVAL COUNTY—Continued

WELL NUMBER.--301604081361501. Local Number D-450. City of Jacksonville Santa Monica Well at Jacksonville, FL.

LOCATION.--Lat 30°16'08", long 81°36'28", in land grant 56, T.3 S., R.27 E., Hydrologic Unit 03080103, at water treatment plant, 75 ft east of the end of J-Ray Circle, 1 block east of Interstate Highway 95. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation, artesian well, diameter 12 to 8 in., depth 1,304 ft, cased to 1,100 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 20.05 ft above NGVD of 1929. Prior to September 2002, land-surface datum was considered to be 22.00 ft from topographic map. Measuring point: Top of concrete slab, 0.5 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.15 ft above NGVD of 1929, Mar. 24, 1998, present datum; lowest measured, 28.15 ft above NGVD of 1929, July 26, 2000, June 20, 2001, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	36.05	DEC 29	36.45	FEB 23	36.75	APR 27	34.35	JUL 22	33.15	SEP 27	36.75
NOV 24	35.95	JAN 23	35.85	MAR 29	35.55	JUN 28	33.05	AUG 23	33.75		

WATER YEAR 2004 LOWEST 33.05 JUN 28, 2004 HIGHEST 36.75 FEB 23, 2004 SEP 27, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
29...	0930	--	--	716	23.0	--	--	--	--	--	--	51.0	--
JAN													
23...	1345	--	--	734	22.0	--	--	--	--	--	--	58.0	--
APR													
27...	1330	10	7.2	730	23.0	310	74.0	30.0	2.10	25.0	145	58.0	.7
JUL													
22...	1100	--	--	736	26.0	--	--	--	--	--	--	60.4	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
27...	25.0	140	455	3,360

DUVAL COUNTY—Continued

WELL NUMBER.--301639081330802. Local Number D-1155. City of Jacksonville Southside Estates Well at Jacksonville, FL.

LOCATION.--Lat 30°16'39", long 81°33'08", in SW¼NE¼NW¼, sec. 1, T.3 S., R.27 E., Hydrologic Unit 03080103, 40 ft south of Anders Boulevard, 0.35 mi east of State Highway 115 (Southside Boulevard), and 0.60 mi south of U.S. Highway 90 (Beach Boulevard). Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation, artesian well, diameter 10 in., depth 1,170 ft, cased to 1,080 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 51.68 ft above NGVD of 1929. Measuring point: Top of 2 in. casing, 1.76 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.44 ft above NGVD of 1929, Apr. 21, 1993; lowest measured, 28.21 ft above NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	36.32	JAN 27	37.06	MAR 29	35.90	MAY 24	31.17	JUL 23	33.13	SEP 27	37.37
DEC 29	36.90	FEB 23	37.30	APR 30	32.57	JUN 28	32.25	AUG 24	34.48		

WATER YEAR 2004 LOWEST 31.17 MAY 24, 2004 HIGHEST 37.37 SEP 27, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT 29...	1115	--	--	974	27.0	--	--	--	--	--	--	110	--
JAN 27...	1115	--	--	924	27.0	--	--	--	--	--	--	100	--
APR 30...	1100	5	7.3	926	27.5	380	89.0	36.0	2.40	32.0	139	100	.7
JUL 23...	1100	--	--	935	28.0	--	--	--	--	--	--	110	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR 30...	24.0	170	563	4,160

DUVAL COUNTY—Continued

WELL NUMBER.--301648081431801. Local Number D-103. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°16'48", long 81°43'18", in land grant 59, T.2 S., R.26 E., Hydrologic Unit 03080103, located in Lakeshore pumping station at intersection of Hamilton and Appleton Streets, 0.1 mi south of intersection of State Highway 128 (San Juan Avenue) and U.S. Highway 17 (Roosevelt Boulevard) in Lakeshore area of Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 12 in., depth 1,332 ft, casing length unknown.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-76, 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT				
27...	0915	470	27.0	9.80
JAN				
21...	1340	472	25.0	10.0
JUL				
20...	1320	465	28.0	9.52

DUVAL COUNTY—Continued

WELL NUMBER.--301710081323601. Local Number DS-520. St. Johns River Water Management District Observation Well at Jacksonville, FL.

LOCATION.--Lat 30°17'10", long 81°32'36", in NE¼NE¼SE¼ sec.36, T.2 S., R.27 E., Hydrologic Unit 03080103, 200 ft south of U.S. Highway 90 (Beach Boulevard), and 0.9 mi east of State Highway 115 (Southside Boulevard), next to U.S. Forest Service Southside Lookout Tower. Owner: St. Johns River Water Management District.

AQUIFER.--Nonartesian sand aquifer of the Tertiary System, Geologic Unit 122 NRSD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 2 in., depth 60 ft, cased to 40 ft.

INSTRUMENTATION.--Water-stage recorder--60 minute interval.

DATUM.--Land-surface datum is 54.65 ft above NGVD of 1929. Measuring point: Top of 2 in. casing at shelter floor, 2.67 ft above land-surface datum.

PERIOD OF RECORD.--February 1989 to June 1991 (bimonthly); June 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 46.76 ft above NGVD of 1929, Sept. 16, 2001; lowest water level measured, 38.31 ft above NGVD of 1929, Aug. 3, 1989.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	42.81	42.77	42.42	---	42.00	42.56	42.39	42.35	41.90	---	---	42.95
10	42.78	42.76	42.35	41.79	42.21	42.56	42.38	42.34	41.92	---	---	44.38
15	43.04	42.69	42.29	41.76	42.36	42.53	42.41	42.16	---	---	---	44.36
20	43.04	42.62	---	41.71	42.40	42.62	42.28	41.99	---	---	42.88	44.10
25	42.85	42.56	---	41.64	42.49	42.62	42.18	41.88	---	---	42.94	43.90
EOM	42.79	42.52	---	41.66	42.54	42.56	42.05	41.73	---	---	42.90	44.79
MAX	43.04	42.79	---	---	42.54	42.62	42.54	42.35	---	---	---	44.79

WELL NUMBER.--301710081323602. Local Number DS-521. St. Johns River Water Management District Observation Well at Jacksonville, FL.

LOCATION.--Lat 30°17'10", long 81°32'36", in NE¼NE¼SE¼ sec.36, T.2 S., R.27 E., Hydrologic Unit 03080103, 200 ft south of U.S. Highway 90 (Beach Boulevard), and 0.9 mi east of State Highway 115 (Southside Boulevard), next to U.S. Forest Service Southside Lookout Tower. Owner: St. Johns River Water Management District.

AQUIFER.--Limestone aquifer of the Miocene Age, Geologic Unit 122 LMSN.

WELL CHARACTERISTICS.--Drilled, unused, nonartesian well, diameter 4 in., depth 120 ft, cased to 100 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 55.10 ft above NGVD of 1929. Measuring point: Top of 4 in. casing at shelter floor, 2.22 ft above land-surface datum.

PERIOD OF RECORD.--March 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 44.40 ft above NGVD of 1929, Aug. 6-13, 1991; lowest, 35.19 ft above NGVD of 1929, Sept. 7, 1999.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.09	38.19	37.78	37.39	37.91	38.43	37.52	37.45	36.62	---	---	38.08
10	38.13	38.10	37.69	37.23	38.17	38.22	37.62	37.14	36.66	---	---	39.02
15	38.51	38.07	37.64	37.19	38.38	38.04	37.64	36.82	---	---	---	39.21
20	38.55	38.09	37.51	37.29	38.31	38.32	37.35	36.51	---	---	37.80	39.10
25	38.20	38.09	37.43	37.19	38.45	38.12	37.01	36.26	---	---	37.94	39.11
EOM	38.22	37.92	37.30	37.36	38.42	37.84	36.90	35.78	---	---	37.88	39.48
MAX	38.56	38.22	37.84	37.39	38.48	38.44	37.84	37.47	---	---	---	39.48

DUVAL COUNTY—Continued

WELL NUMBER.--301710081323603. Local Number D-3824. St. Johns River Water Management District Observation Well at Jacksonville, FL.

LOCATION.--Lat 30°17'10", long 81°32'36", in NE¼NE¼SE¼ sec.36, T.2 S., R.27 E., Hydrologic Unit 03080103, 200 ft south of U.S. Highway 90 (Beach Boulevard), and 0.9 mi east of State Highway 115 (Southside Boulevard), next to U.S. Forest Service Southside Lookout Tower. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 6 in., depth 740 ft, cased to 490 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 54.97 ft above NGVD of 1929. Measuring point: Top of 6 in. casing at shelter floor, 2.37 ft above land-surface datum.

PERIOD OF RECORD.--March 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 35.68 ft above NGVD of 1929, Jan. 19, 1995; lowest, 11.02 ft above NGVD of 1929, May 28, 2004.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.44	24.99	24.81	25.22	27.32	26.28	20.35	21.60	---	---	---	---
10	24.23	24.81	25.43	25.52	27.32	25.47	21.16	17.27	16.89	---	---	---
15	25.39	24.66	25.51	25.22	27.79	24.17	21.59	15.86	---	---	---	---
20	24.18	24.42	26.00	25.90	27.36	24.51	19.28	14.81	---	---	---	---
25	22.70	24.03	25.92	26.12	26.93	22.93	17.36	13.19	---	---	---	24.14
EOM	24.38	24.22	25.71	26.23	28.06	21.85	16.74	---	---	---	---	25.14
MAX	25.62	24.99	26.36	26.33	28.21	27.59	21.70	---	---	---	---	---

WELL NUMBER.--301725081584501. Local Number D-254. Seaboard Coastline Well at Baldwin, FL.

LOCATION.--Lat 30°17'25", long 81°58'45", in NE¼SW¼SW¼ sec.26, T.2 S., R.23 E., Hydrologic Unit 03080103, 0.4 mi north of Interstate Highway 10, and 0.5 mi east of U.S. Highway 301, on property of Seaboard Railroad in Baldwin. Owner: Seaboard Coastline Railroad.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 8 in., depth 750 ft, cased to 433 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 85.00 ft above NGVD of 1929. Measuring point: 1.25 in. tap in pump base, 1.88 ft above land-surface datum.

PERIOD OF RECORD.--January 1961 to May 1962, May 1964 to September 1978 (annually); February 1979 to March 1983 (bimonthly); May 1983 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 59.75 ft above NGVD of 1929, Jan. 11, 1961; lowest measured, 47.62 ft above NGVD of 1929, Sept. 26, 1990.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	55.84	JAN 27	55.67	APR 26	54.79	JUN 28	53.15	SEP 20	54.89
NOV 24	55.69	FEB 24	56.15	MAY 17	54.12	JUL 26	53.49		
DEC 30	55.56	MAR 25	55.85	24	53.73	AUG 22	53.41		

WATER YEAR 2004 LOWEST 53.15 JUN 28, 2004 HIGHEST 56.15 FEB 24, 2004

DUVAL COUNTY—Continued

WELL NUMBER.--301740081361001. Local Number D-275. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°17'40", long 81°36'10", in land grant 52, T.2 S., R.27 E., Hydrologic Unit 03080103, located 300 ft west and 0.15 mi north of intersection of U.S. Highway 90 (Beach Boulevard) and University Boulevard in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 18 in., depth 1,234 ft, cased to 515 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-80, 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
23...	0830	--	--	1,060	27.0	--	--	--	--	--	--	160	--
NOV													
24...	1400	--	--	1,050	28.0	--	--	--	--	--	--	160	--
DEC													
30...	0915	--	--	1,040	27.0	--	--	--	--	--	--	160	--
JAN													
20...	1110	--	--	1,040	25.0	--	--	--	--	--	--	160	--
FEB													
24...	0830	--	--	1,030	27.0	--	--	--	--	--	--	150	--
MAR													
30...	0800	--	--	1,030	26.5	--	--	--	--	--	--	150	--
APR													
27...	0800	5	7.5	1,020	27.5	380	92.0	35.0	2.30	48.0	139	150	.6
MAY													
25...	0830	--	--	1,020	28.0	--	--	--	--	--	--	150	--
JUN													
29...	0815	--	--	1,010	28.5	--	--	--	--	--	--	150	--
JUL													
22...	1055	--	--	1,010	29.0	--	--	--	--	--	--	152	--
AUG													
24...	0920	--	--	1,010	28.5	--	--	--	--	--	--	149	--
SEP													
27...	1330	--	--	1,010	29.0	--	--	--	--	--	--	--	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
27...	25.0	130	610	3,430

DUVAL COUNTY—Continued

WELL NUMBER.--301743081304701. Local Number D-224. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°17'43", long 81°30'47", in SW¼SW¼SE¼ sec. 29, T.2 S., R.28 E., Hydrologic Unit 03080103, located at Sandalwood High School at intersection of Saints and John Prom Roads, 0.15 mi west of Oakridge Pumping Station in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 12 in., depth 1,179 ft, cased to 423 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-78, 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT				
24...	0915	838	25.0	86.0
JAN				
20...	1040	1,020	23.0	150
JUL				
21...	1315	651	26.0	28.9

DUVAL COUNTY—Continued

WELL NUMBER.--301743081362301. Local Number D-225. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°17'43", long 81°36'23", in land grant 52, T.2 S., R.27 E., Hydrologic Unit 03080103, located in pumphouse at Love Grove Water Plant at the end of Wilman Way, 600 ft north of Beach Boulevard, 0.4 mi east of intersection of Wilman Way and Spring Glen Road in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 18 in., depth 1,277 ft, cased to 547 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-75, 1978-80, 1982 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
28...	1340	--	--	1,050	28.0	--	--	--	--	--	--	160	--
NOV													
25...	1000	--	--	1,040	27.0	--	--	--	--	--	--	160	--
DEC													
30...	1140	--	--	1,040	27.0	--	--	--	--	--	--	160	--
JAN													
22...	1330	--	--	1,030	26.0	--	--	--	--	--	--	150	--
FEB													
24...	1010	--	--	1,060	26.0	--	--	--	--	--	--	140	--
MAR													
30...	1120	--	--	1,020	26.5	--	--	--	--	--	--	150	--
APR													
26...	1500	5	7.5	1,030	28.0	380	91.4	35.5	2.33	46.8	139	150	.6
MAY													
25...	0940	--	--	1,020	27.0	--	--	--	--	--	--	110	--
JUN													
29...	1115	--	--	1,010	28.5	--	--	--	--	--	--	140	--
JUL													
19...	1430	--	--	1,000	29.0	--	--	--	--	--	--	134	--
AUG													
24...	1000	--	--	997	28.0	--	--	--	--	--	--	143	--
SEP													
27...	1410	--	--	982	28.5	--	--	--	--	--	--	127	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
26...	25.5	133	609	3,440

DUVAL COUNTY—Continued

WELL NUMBER.--301744081363301. Local Number D-2193. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°17'44", long 81°36'33", land grant 52, T.2 S., R.27 E., Hydrologic Unit 03080103, located in pumphouse 85 ft south of Wilman Way, 165 ft northeast of intersection of Beach Boulevard and Spring Glen Road in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 18 in., depth 1,304 ft, cased to 550 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979, 1982 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
28...	1330	--	--	1,040	26.0	--	--	--	--	--	--	160	--
NOV													
25...	0930	--	--	1,040	26.0	--	--	--	--	--	--	160	--
JAN													
26...	1415	--	--	1,030	24.0	--	--	--	--	--	--	150	--
FEB													
24...	0945	--	--	1,030	23.0	--	--	--	--	--	--	150	--
MAR													
30...	1100	--	--	1,010	24.5	--	--	--	--	--	--	150	--
APR													
26...	1440	5	7.5	1,020	28.0	380	92.0	35.0	2.40	48.0	138	150	.6
MAY													
25...	0920	--	--	998	27.0	--	--	--	--	--	--	120	--
JUN													
29...	1100	--	--	1,020	28.0	--	--	--	--	--	--	130	--
JUL													
19...	1420	--	--	942	29.0	--	--	--	--	--	--	121	--
AUG													
24...	0930	--	--	998	28.0	--	--	--	--	--	--	145	--
SEP													
27...	1400	--	--	993	28.0	--	--	--	--	--	--	144	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
26...	25.0	140	609	3,430

DUVAL COUNTY—Continued

WELL NUMBER.--301752081360501. Local Number D-649. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°17'52", long 81°36'05", in land grant 52, T.2 S., R.27 E., Hydrologic Unit 03080103, located 50 ft east and 150 ft north of Hart Bridge on-ramp on University Boulevard, and 0.40 mi north of intersection of Beach and University Boulevards in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 18 in., depth 1,005 ft, cased to 534 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974, 1975, 1979, 1982 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
23...	0845	--	--	668	26.0	--	--	--	--	--	--	31.0	--
NOV													
24...	0745	--	--	685	25.0	--	--	--	--	--	--	38.0	--
DEC													
30...	0930	--	--	658	25.0	--	--	--	--	--	--	37.0	--
JAN													
20...	0830	--	--	682	24.0	--	--	--	--	--	--	37.0	--
FEB													
24...	0845	--	--	670	26.0	--	--	--	--	--	--	32.0	--
MAR													
30...	0820	--	--	664	26.0	--	--	--	--	--	--	31.0	--
APR													
27...	0830	10	7.5	638	25.0	280	66.0	27.0	2.00	17.0	136	30.0	.7
MAY													
25...	0845	--	--	662	26.0	--	--	--	--	--	--	29.0	--
JUN													
29...	0830	--	--	660	26.5	--	--	--	--	--	--	28.0	--
JUL													
22...	1040	--	--	660	27.0	--	--	--	--	--	--	28.6	--
AUG													
24...	0845	--	--	668	26.0	--	--	--	--	--	--	31.5	--
SEP													
27...	1345	--	--	662	27.0	--	--	--	--	--	--	30.9	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
27...	22.0	140	413	3,210

DUVAL COUNTY—Continued

WELL NUMBER.--301844081403801. Local Number D-18. Riverside Avenue and Lomax Street at Jacksonville, FL.

LOCATION.--Lat 30°18'44", long 81°40'38", in land grant 56, T.2 S., R.26 E., Hydrologic Unit 03080103, 70 ft north of Lomax Street and 350 ft east of Riverside Avenue in Jacksonville. Owner: Unknown.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth and casing length unknown.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 4.48 ft above NGVD of 1929. Measuring point: Top of 8 in. tee, 1.90 ft above land-surface datum.

PERIOD OF RECORD.--November 1938, July 1940 to May 1941, May 1946 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.68 ft above NGVD of 1929, Nov. 26, 1968; lowest measured, 21.38 ft above NGVD of 1929, June 22, 1998, May 21, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	31.98	DEC 30	33.58	FEB 24	34.58	APR 26	29.18	JUN 28	28.18	AUG 22	30.68
NOV 24	33.18	JAN 27	33.58	MAR 25	32.58	MAY 24	26.38	JUL 26	28.38	SEP 27	33.88

WATER YEAR 2004 LOWEST 26.38 MAY 24, 2004 HIGHEST 34.58 FEB 24, 2004

WELL NUMBER.--301846081350901. Local Number D-3544. Healthpoint Medical Center Well at Jacksonville, FL.

LOCATION.--Lat 30°18'46", long 81°35'09", in land grant 50, T.2 S., R.27 E., Hydrologic Unit 03080103, 15 ft south of Atlantic Boulevard, and 0.8 mi east of intersection of Atlantic Boulevard and University Boulevard. Owner: Healthpoint Medical Center.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 2 in., depth 651 ft, cased to 535 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 12.93 ft above NGVD of 1929. Measuring point: Top of reducer bushing, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--July 1985, July 1997 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.53 ft above NGVD of 1929, Feb. 23, 1998; lowest measured, 21.53 ft above NGVD of 1929, June 26, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	29.63	DEC 29	30.73	FEB 24	30.03	APR 26	27.33	JUN 28	26.69	AUG 23	26.13
NOV 24	29.33	JAN 26	29.63	MAR 29	29.53	MAY 24	26.83	JUL 26	25.23	SEP 27	28.03

WATER YEAR 2004 LOWEST 25.23 JUL 26, 2004 HIGHEST 30.73 DEC 29, 2003

DUVAL COUNTY—Continued

WELL NUMBER.--301852081234201. Local Number D-160. City of Neptune Beach Well at Neptune Beach, FL.

LOCATION.--Lat 30°18'52", long 81°23'42", in NW¼SW¼SE¼ sec.21, T.2 S., R.29 E., Hydrologic Unit 03080201, 20 ft south of Florida Avenue, 400 ft east of Third Street in Neptune Beach. Owner: City of Neptune Beach.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 585 ft, cased to 340 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 12.05 ft above NGVD of 1929. Measuring point: Top of 8 in. gate valve flange cover, 2.49 ft below land-surface datum.

PERIOD OF RECORD.--June 1934, October 1939, September 1940 to February 1942, January 1944 to April 1980 (bimonthly); May 1980 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.75 ft above NGVD of 1929, June 15, 1934; lowest measured, 17.76 ft above NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	29.16	JAN 26	30.56	APR 26	24.36	JUN 28	24.46	SEP 23	28.06
NOV 24	29.36	FEB 23	31.16	MAY 17	23.26	JUL 26	24.56		
DEC 29	30.76	MAR 30	28.26	24	21.06	AUG 23	26.86		

WATER YEAR 2004 LOWEST 21.06 MAY 24, 2004 HIGHEST 31.16 FEB 23, 2004

WELL NUMBER.--302007081353201. Local Number D-479. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°20'07", long 81°35'32", in land grant 52, T.2 S., R.27 E., Hydrologic Unit 03080103, located at Arlington Lions Club, at intersection of Commerce Avenue and Sprinkle Drive in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 18 in., depth 1,350 ft, cased to 606 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-79, 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT 27...	1300	1,060	28.0	170
JAN 20...	0920	997	25.0	140

DUVAL COUNTY—Continued

WELL NUMBER.--302013081353801. Local Number D-673. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°20'13", long 81°35'38", in land grant 52, T.2 S., R.27 E., Hydrologic Unit 03080103, located inside fenced area at 1595 Maitland Street, 0.25 mi north of intersection of Arlington Road and Maitland Street, in Arlington area of Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 18 in., depth 814 ft, cased to 578 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975, 1977-80, 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
23...	0900	--	--	1,110	27.0	--	--	--	--	--	--	180	--
NOV													
25...	0900	--	--	1,100	26.5	--	--	--	--	--	--	180	--
DEC													
30...	0945	--	--	1,100	27.0	--	--	--	--	--	--	180	--
JAN													
20...	0900	--	--	1,100	26.0	--	--	--	--	--	--	180	--
FEB													
24...	0910	--	--	1,090	26.0	--	--	--	--	--	--	170	--
MAR													
30...	0840	--	--	1,080	27.0	--	--	--	--	--	--	170	--
APR													
22...	0920	5	7.3	1,070	27.0	400	98.0	38.0	2.10	49.0	142	170	.6
MAY													
25...	0900	--	--	1,080	28.0	--	--	--	--	--	--	170	--
JUN													
29...	0900	--	--	1,080	28.0	--	--	--	--	--	--	170	--
JUL													
19...	1400	--	--	1,090	29.0	--	--	--	--	--	--	178	--
AUG													
24...	0900	--	--	1,090	27.5	--	--	--	--	--	--	174	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
22...	27.0	130	628	2,860

DUVAL COUNTY—Continued

WELL NUMBER.--302015081384501. Local Number D-335. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°20'15", long 81°38'45", in land grant 37, T.2 S., R.26 E., Hydrologic Unit 03080103, located at rear of Robert Kennedy Community Center, 1133 Ionia Street, near intersection of 2nd and Clark Streets, in Springfield area of Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 12 in., depth 1,286 ft, cased to 531 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966, 1969-79, 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
23...	1330	--	--	502	28.0	--	--	--	--	--	--	16.0	--
JAN													
22...	0920	--	--	505	26.0	--	--	--	--	--	--	16.0	--
APR													
23...	1145	5	7.3	510	28.0	230	57.0	21.0	1.70	13.0	150	15.0	.7
JUL													
19...	1300	--	--	540	28.0	--	--	--	--	--	--	15.3	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
23...	26.0	86.0	331	1,970

DUVAL COUNTY—Continued

WELL NUMBER.--302022081393501. Local Number D-176. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°20'22", long 81°39'35", in land grant 37, T.2 S., R.26 E., Hydrologic Unit 03080103, at pumphouse next to Hogan Creek Bridge, 50 ft west of intersection of Pearl and 3rd Streets. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation, artesian well, diameter 10 in., depth 1,280 ft, cased to 800 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 5.42 ft above NGVD of 1929. Prior to September 2002, land-surface datum was considered to be 3.00 ft from topographic map. Measuring point: Top of concrete slab, 0.5 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.92 ft above NGVD of 1929, Feb. 23, 2004; lowest measured, 22.42 ft above NGVD of 1929, July 25, 2000, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	36.42	DEC 29	37.02	FEB 23	38.92	APR 27	34.72	JUN 28	32.92	AUG 23	32.52
NOV 24	37.52	JAN 22	37.22	MAR 29	37.52	MAY 24	33.12	JUL 21	32.72	SEP 23	35.02

WATER YEAR 2004 LOWEST 32.52 AUG 23, 2004 HIGHEST 38.92 FEB 23, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
28...	0940	--	--	624	26.0	--	--	--	--	--	--	13.0	--
JAN													
22...	0900	--	--	628	23.0	--	--	--	--	--	--	13.0	--
APR													
27...	1000	5	7.4	623	23.0	290	71.0	27.0	2.10	11.0	136	13.0	.7
JUL													
21...	0845	--	--	626	25.5	--	--	--	--	--	--	13.0	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
27...	22.0	160	448	3,830

DUVAL COUNTY—Continued

WELL NUMBER.--302052081323201. Local Number D-3060. Arlington East Sewage Treatment Plant Well at Jacksonville, FL.

LOCATION.--Lat 30°20'52", long 81°32'32", in SE¼SW¼NW¼ sec. 7, T.2 S., R.28 E., Hydrologic Unit 03080103, 80 ft north of North Plant Road and 900 ft east of Millcove Road. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 2,112 ft, cased to 2,050 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape or pressure gage.

DATUM.--Land-surface datum is 28.44 ft above NGVD of 1929. Measuring point: Top of 6 in. well flange, 3.55 ft, above land-surface datum.

PERIOD OF RECORD.--February 1983 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.39 ft above NGVD of 1929, Apr. 30, 1986; lowest measured, 15.35 ft above NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	25.21	DEC 29	24.93	FEB 27	25.90	APR 27	22.52	JUN 28	21.29	AUG 23	23.15
NOV 24	25.53	JAN 26	25.37	MAR 30	24.68	MAY 24	21.76	JUL 26	22.04	SEP 23	24.73

WATER YEAR 2004 LOWEST 21.29 JUN 28, 2004 HIGHEST 25.90 FEB 27, 2004

WELL NUMBER.--302130081411802. Local Number D-46A. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°21'30", long 81°41'18", in land grant 35, T.2 S., R.26 E., Hydrologic Unit 03080103, located at intersection of Fairfax and 25th Streets, in Moncrief Park area of Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 10 in., depth 1,234 ft, cased to 530 ft.

REMARKS.--Well originally drilled to 1,064 ft in 1939, later drilled to 1,234 ft in 1963.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1941, 1964, 1969-81, 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT 23...	0950	--	--	548	27.0	--	--	--	--	--	--	13.0	--
JAN 22...	0840	--	--	548	24.0	--	--	--	--	--	--	13.0	--
APR 28...	0840	5	7.1	537	23.0	250	61.0	22.0	1.70	12.0	142	14.0	.7
JUL 19...	1230	--	--	536	28.0	--	--	--	--	--	--	13.7	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR 28...	24.0	110	367	2,350

DUVAL COUNTY—Continued

WELL NUMBER.--302159081235601. Local Number D-2386. Hanna Park Test Well at Jacksonville, FL.

LOCATION.--Lat 30°21'59", long 81°23'56", in land grant 37, T.2 S., R.29 E., Hydrologic Unit 03080201, 25 ft north of beach front parking lot #8, 0.8 mi east from intersection of Mayport and Wonderwood Road, and 2.6 mi southeast of City of Mayport. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 2,026 ft, cased to 1,892 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 18.94 ft above NGVD of 1929. Measuring point: Top of flange, 1.16 ft above land-surface datum.

PERIOD OF RECORD.--April 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 45.50 ft above NGVD of 1929, Feb. 21, 1995; lowest measured, 25.70 ft above NGVD of 1929, Jan. 28, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	43.90	DEC 29	43.80	FEB 23	43.90	APR 26	41.10	JUN 28	39.90	AUG 24	40.70
NOV 24	43.60	JAN 26	44.00	MAR 30	43.30	MAY 24	40.30	JUL 26	39.70		

WATER YEAR 2004 LOWEST 39.70 JUL 26, 2004 HIGHEST 44.00 JAN 26, 2004

WELL NUMBER.--302218081360501. Local Number D-356. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°22'18", long 81°36'05", in land grant 47, T.1 S., R.27 E., Hydrologic Unit 03080103, located at water treatment plant, 3735 Rubin Road, 0.5 mi east of intersection of University Blvd. and Rubin Road. Owner: Jacksonville Electric Authority. (JEA)

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation well, diameter 12 in., depth 1,016 ft, cased to 573 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 2003 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
JAN 23...	0900	--	--	550	23.0	--	--	--	--	--	--	16.0	--
APR 27...	1115	10	7.2	547	24.0	250	62.0	22.0	1.50	12.0	146	16.0	.6
JUL 21...	1415	--	--	544	28.0	--	--	--	--	--	--	15.9	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR 27...	26.0	110	372	1,890

DUVAL COUNTY—Continued

WELL NUMBER.--302227081435001. Local Number D-592. City of Jacksonville Lincoln Estates Well at Jacksonville, FL.

LOCATION.--Lat 30°22'27", long 81°43'50", in land grant 39, T.1 S., R.26 E., Hydrologic Unit 03080103, at water treatment plant, on south side of Kinlock Drive South, 0.3 mile west of U.S. Highway 1. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation, artesian well, diameter 16 to 10 in., depth 1,326 ft, cased to 1,150 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 8.85 ft above NGVD of 1929. Prior to September 2002, land-surface datum considered to be 10.00 ft from topographic map. Measuring point: Top of concrete slab, 0.5 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.75 ft above NGVD of 1929, Mar. 23, 1998, present datum; lowest measured, 31.55 ft above NGVD of 1929, July 25, 2000, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	39.45	DEC 29	40.05	FEB 23	40.35	APR 27	38.15	JUN 28	36.15	AUG 23	37.05
NOV 24	39.75	JAN 21	39.55	MAR 29	40.05	MAY 24	36.55	JUL 22	36.65	SEP 23	38.85

WATER YEAR 2004 LOWEST 36.15 JUN 28, 2004 HIGHEST 40.35 FEB 23, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
28...	0900	--	--	610	25.0	--	--	--	--	--	--	12.0	--
JAN													
21...	0830	--	--	612	23.0	--	--	--	--	--	--	12.0	--
APR													
27...	0915	5	7.3	612	24.0	290	73.0	25.0	1.60	10.0	132	12.0	.6
JUL													
22...	1140	--	--	608	26.0	--	--	--	--	--	--	11.6	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
27...	23.0	160	417	2,710

DUVAL COUNTY—Continued

WELL NUMBER.--302236081401501. Local Number D-336. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°22'36", long 81°40'15", in land grant 50, T.1 S., R.26 E., Hydrologic Unit 03080103, located at 1025 Kenmore Street, 0.4 mi west of Norwood Avenue, and 0.4 mi southeast of intersection of Norwood Avenue and Interstate Highway 95 in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter unknown, depth 1,303 ft, cased to 520 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975, 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
23...	0930	--	--	485	26.0	--	--	--	--	--	--	14.0	--
JAN													
21...	1140	--	--	476	26.0	--	--	--	--	--	--	14.0	--
APR													
22...	1315	5	7.4	481	27.0	220	54.0	20.0	1.50	12.0	147	14.0	.6
JUL													
19...	1130	--	--	482	27.5	--	--	--	--	--	--	14.1	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
22...	25.0	76.0	319	1,370

DUVAL COUNTY—Continued

WELL NUMBER.--302301081295001. Local Number DS-522. Fort Caroline National Memorial Park Well at Jacksonville, FL.

LOCATION.--Lat 30°23'01", long 81°29'38", in land grant 43, T.1 S., R.28 E., Hydrologic Unit 03080103, 75 ft west of Fort Caroline Road, and 200 ft southwest of Fort Caroline Park entrance. Owner: St. Johns River Water Management District.

AQUIFER.--Non-artesian sand aquifer of the Tertiary System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, unused, nonartesian well, diameter 4 in., depth 34 ft, cased to 24 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 16.58 ft above NGVD of 1929. Measuring point: Shelter floor, 1.22 ft above land-surface datum.

PERIOD OF RECORD.--December 1985 to current year. Prior to October 1989, published as D-3537 U.S. Park Service Well at Jacksonville.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 13.99 ft above NGVD of 1929, July 25, 1991; lowest, 6.07 ft above NGVD of 1929, Aug. 22, 1988.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.10	9.30	8.91	8.65	8.77	9.07	8.58	8.40	7.90	9.30	8.59	9.74
10	9.60	9.26	8.88	8.61	8.94	8.90	8.49	8.26	7.81	9.15	8.47	11.24
15	9.82	9.16	8.85	8.56	8.98	8.79	8.44	8.15	8.20	8.92	8.76	11.34
20	9.70	9.08	8.79	8.51	8.97	8.94	8.35	8.08	8.18	9.03	8.98	10.98
25	9.44	9.02	8.76	8.46	9.00	8.86	8.27	7.98	8.88	8.89	9.15	10.69
EOM	9.37	8.96	8.70	8.56	9.11	8.70	8.19	7.84	9.30	8.68	9.17	11.57
MAX	9.82	9.34	8.94	8.69	9.11	9.12	8.68	8.40	9.30	9.30	9.18	11.71

WTR YR 2004 MAX 11.71

WELL NUMBER.--302301081295002. Local Number DS-523. Fort Caroline National Memorial Park Well at Jacksonville, FL.

LOCATION.--Lat 30°23'01", long 81°29'50", in land grant 43, T.1S., R.28 E., Hydrologic Unit 03080103, 75 ft west of Fort Caroline Road, and 200 ft southwest of Fort Caroline Park entrance. Owner: St. Johns River Water Management District.

AQUIFER.--Hawthorne sand and gravel aquifer of Miocene Series, Geologic Unit 122 HTRN.

WELL CHARACTERISTICS.--Drilled, observation, unused, nonartesian well, diameter 4 in., depth 204 ft, cased to 190 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 16.81 ft above NGVD of 1929. Measuring point: Shelter floor, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--December 1985 to current year. Prior to October 1989, published as D-3538 U.S. Park Service Well at Jacksonville, FL.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 10.58 ft above NGVD of 1929, Oct. 15, 1995; lowest, 5.89 ft above NGVD of 1929, June 29, 1989.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.37	7.48	7.16	6.81	6.85	6.90	6.61	6.56	6.23	7.07	6.71	7.51
10	7.65	7.45	7.13	6.79	6.91	6.80	6.61	6.41	6.16	6.98	6.64	8.32
15	7.79	7.30	7.06	6.73	6.95	6.77	6.51	6.35	6.38	6.86	6.76	8.56
20	7.62	7.22	6.93	6.69	6.92	6.86	6.44	6.27	6.32	6.91	6.91	8.40
25	7.47	7.18	6.91	6.65	7.05	6.82	6.34	6.14	6.77	6.82	7.04	8.41
EOM	7.42	7.12	6.84	6.69	7.08	6.75	6.37	6.03	6.94	6.72	7.04	8.85
MAX	7.82	7.48	7.16	6.84	7.08	7.07	6.72	6.56	6.96	7.07	7.04	8.94

CAL YR 2003 MAX 8.85
WTR YR 2004 MAX 8.94

DUVAL COUNTY—Continued

WELL NUMBER.--302304081383202. Local Number D-122A. City of Jacksonville Panama Park Well at Jacksonville, FL.

LOCATION.--Lat 30°23'04", long 81°38'32", in land grant 50, T.1 S., R.27 E., Hydrologic Unit 03080103, between Eastland and Russell Streets, 20 ft north of 63rd Street, and 0.4 mi east of U.S. Highway 17 in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth 905 ft, cased to 571 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 13.07 ft above NGVD of 1929. Measuring point: Top of flange at land-surface datum.

REMARKS.--Well originally drilled to 700 ft in 1914, later drilled to 905 ft in 1925.

PERIOD OF RECORD.--August 1930, June 1938, November 1940 to April 1942, January 1944 to June 1944, August 1945 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 61.87 ft above NGVD of 1929, Aug. 21, 1930; lowest measured, 29.27 ft above NGVD of 1929, Apr. 24, 1975.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	38.37	JAN 26	38.47	APR 26	36.87	JUN 28	34.37	SEP 23	37.47
NOV 24	38.67	FEB 23	39.27	MAY 18	34.97	JUL 26	34.97		
DEC 29	38.57	MAR 29	38.67	24	34.57	AUG 23	35.37		

WATER YEAR 2004 LOWEST 34.37 JUN 28, 2004 HIGHEST 39.27 FEB 23, 2004

WELL NUMBER.--302307081293801. Local Number D-424. U.S. Park Service Well at Jacksonville, FL.

LOCATION.--Lat 30°23'07", long 81°29'38", in NW¼SE¼SE¼ sec.28, T.1 S., R.28 E., Hydrologic Unit 03080103, 106 ft southeast of Fort Caroline Road, and 0.2 mi northeast of Fort Caroline National Park entrance in Jacksonville. Owner: U.S. Park Service.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 6 in., depth 700 ft, cased to 426 ft.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Land-surface datum is 11.25 ft above NGVD of 1929. Measuring point: Top of flange on 6 in. tee, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--December 1966, May 1968 to September 1978 (semiannually); January 1979 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.55 ft above NGVD of 1929, Dec. 19, 1966; lowest measured, 22.05 ft above NGVD of 1929, June 8, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01	30.95	DEC 19	32.25	MAR 19	32.15	MAY 17	27.25	AUG 16	29.35
NOV 17	31.25	FEB 12	33.35	MAY 05	30.15	JUN 08	29.95	SEP 20	32.05

WATER YEAR 2004 LOWEST 27.25 MAY 17, 2004 HIGHEST 33.35 FEB 12, 2004

DUVAL COUNTY—Continued

WELL NUMBER.--302339081254702. Local Number D-464A. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°23'39", long 81°25'47", in land grant 38, T.1 S., R.29 E., Hydrologic Unit 03080103, in Julia Street pumping station, 1 block east of State Highway A1A and Ocean Street, 0.2 mi south of Mayport Ferry landing in Mayport. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 10 in., depth 1,000 ft, cased to 427 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Semiannual measurement with pressure gage.

DATUM.--Land-surface datum is 6.78 ft above NGVD of 1929. Measuring point: Top of 15 in. flange 3.90 ft above land-surface datum.

PERIOD OF RECORD.--May 1977 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.08 ft above NGVD of 1929, Sept. 15, 1982; lowest measured, 24.28 ft above NGVD of 1929, May 19, 1989.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Elevation, feet above NGVD (72020)	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)
OCT													
24...	1000		--	--	575	25.0	--	--	--	--	--	--	15.0
JAN													
20...	1000		--	--	574	23.0	--	--	--	--	--	--	14.0
APR													
26...	1315		5	7.4	473	26.5	270	60.0	28.0	1.70	11.0	130	14.0
MAY													
19...	0845	31.98	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	1200		--	--	574	26.0	--	--	--	--	--	--	14.1
SEP													
23...	0915	39.98	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Strontium, water, fltrd, ug/L (01080)
APR				
26...	.7	140	386	1,530

DUVAL COUNTY—Continued

WELL NUMBER.--302416081522601. Local Number D-348. Monticello Drug Company Well at Jacksonville, FL.

LOCATION.--Lat 30°24'16", long 81°52'26", in NW¼NW¼NE¼ sec.23, T.1 S., R.24 E., Hydrologic Unit 03080103, 1.5 mi west of west end of Garden Street, off a private dirt road in Jacksonville. Owner: Monticello Drug Company.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, temporary water supply, artesian well, diameter 6 in., depth 708 ft, cased to 416 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 86.78 ft above NGVD of 1929. Measuring point: Shelter floor at top of 11 in. flange, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--March 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 46.32 ft above NGVD of 1929, Mar. 20, 21, 1998; lowest, 35.07 ft above NGVD of 1929, July 22, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	42.79	42.98	43.13	43.18	43.12	43.65	43.05	41.42	39.18	39.70	40.14	41.21
10	42.91	42.88	43.40	43.07	43.18	43.68	42.76	41.18	39.34	39.73	39.95	41.40
15	43.22	42.99	43.18	43.11	43.53	43.55	42.43	40.78	39.36	40.01	40.06	41.75
20	43.07	43.16	43.11	43.06	43.50	43.45	42.11	40.37	39.41	40.20	40.20	41.95
25	42.84	43.11	43.10	43.06	43.71	43.25	41.65	40.02	39.53	40.06	40.38	42.56
EOM	42.84	42.98	43.08	43.10	43.54	43.38	41.27	39.29	39.56	39.99	40.58	43.06
MAX	43.27	43.30	43.40	43.29	43.72	43.74	43.33	41.49	39.56	40.23	40.63	43.16

WTR YR 2004 MAX 43.74

WELL NUMBER.--302416081522602. Local Number D-349. Monticello Drug Co. Well at Jacksonville, FL.

LOCATION.--Lat 30°24'16", long 81°52'26", in NW¼NW¼NE¼ sec.23, T.1 S., R.24 E., Hydrologic Unit 03080103, 1.5 mi west of west end of Garden Street, off a private dirt road in Jacksonville. Owner: Monticello Drug Company.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian oil test well, diameter 10 in., depth 1,986 ft, cased to 444 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 85.66 ft above NGVD of 1929. Measuring point: Top of 10 in. casing, 3.50 ft above land-surface datum.

REMARKS.--Well originally drilled to 2,230 ft in 1969.

PERIOD OF RECORD.--March 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 56.30 ft above NGVD of 1929, Mar. 10, 1971; lowest, 37.69 ft above NGVD of 1929, July 24,25, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	45.08	45.22	45.26	45.24	---	45.54	44.87	43.38	41.32	42.12	42.46	---
10	45.22	45.11	45.28	45.09	---	45.58	44.59	43.13	41.44	42.17	42.26	---
15	45.50	45.21	45.28	---	---	45.40	44.29	42.75	41.51	42.44	42.38	---
20	45.35	45.32	45.20	---	---	45.33	44.00	42.37	41.62	42.59	42.51	---
25	45.09	45.27	45.17	---	45.60	45.11	43.52	41.99	41.80	42.44	42.69	---
EOM	45.09	45.14	45.11	45.04	45.44	45.24	43.20	41.36	41.97	42.34	---	---
MAX	45.58	45.45	45.42	---	---	45.62	45.16	43.45	41.97	42.63	---	---

CAL YR 2003 MAX 46.70

DUVAL COUNTY—Continued

WELL NUMBER.--302502081330701. Local Number D-228. Jacksonville Electric Authority Well at Jacksonville, FL.

LOCATION.--Lat 30°25'02", long 81°33'30", in NW¼NW¼SE¼ sec. 13, T.1 S., R.27 E., Hydrologic Unit 03080103, located at Jacksonville Electric Authority Northside Generating Station at 4377 Heckscher Drive, 6.8 mi east of intersection of U.S. Highway 17 and Heckscher Drive in Jacksonville. Owner: Jacksonville Electric Authority.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 16 in., depth 850 ft, casing length unknown.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 9.43 ft above NGVD of 1929. Measuring point: Top of 16 in. flange, 1.00 ft, above land-surface datum.

REMARKS.--No water level data collected at times when well is in use.

PERIOD OF RECORD.--October 1979 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.83 ft above NGVD of 1929, Mar. 9, 1984; lowest measured, 27.83 ft above NGVD of 1929, July 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	35.83	JAN 21	35.83	APR 22	33.63	JUL 27	32.33

WATER YEAR 2004	LOWEST	32.33	JUL 27, 2004	HIGHEST	35.83	OCT 23, 2003	JAN 21, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974, 1976, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT 23...	1130	435	25.0	35.0
JAN 21...	1030	550	21.0	37.0
APR 22...	1055	500	24.0	36.0
JUL 27...	1130	456	26.0	37.5

DUVAL COUNTY—Continued

WELL NUMBER.--302503081332001. Local Number D-1149. Jacksonville Electric Authority Well at Jacksonville, FL.

LOCATION.--Lat 30°25'03", long 81°33'20", in NE¼NE¼SW¼ sec. 13, T.1 S., R.27 E., Hydrologic Unit 03080103, located at Jacksonville Electric Authority Northside Generating Station at 4377 Heckscher Drive, 6.8 mi east of intersection of U.S. Highway 17 and Heckscher Drive in Jacksonville. Owner: Jacksonville Electric Authority.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 16 in., depth 1,104 ft, cased to 520 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 10.94 ft above NGVD of 1929. Prior to July 2002, land-surface datum was considered to be 10.00 ft from topographic map. Measuring point: Top of 16 in. flange, 1.50 ft, above land-surface datum.

REMARKS.--No water level data collected at times when well is in use.

PERIOD OF RECORD.--January 1980 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.24 ft above NGVD of 1929, July 27, 2004, present datum; lowest measured, 27.94 ft above NGVD of 1929, July 24, 1981, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 21	43.44	APR 22	47.24	JUL 27	50.24

WATER YEAR 2004	LOWEST	43.44	JAN 21, 2004	HIGHEST	50.24	JUL 27, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT				
23...	1230	524	28.0	21.0
JAN				
21...	1020	519	24.0	20.0
APR				
22...	1045	580	27.0	20.0
JUL				
27...	1115	517	27.0	21.2

DUVAL COUNTY—Continued

WELL NUMBER.--302505081331001. Local Number D-1150. Jacksonville Electric Authority Well at Jacksonville, FL.

LOCATION.--Lat 30°25'05", long 81°33'10", in NW¼NW¼SE¼ sec. 13, T.1 S., R.27 E., Hydrologic Unit 03080103, located at Jacksonville Electric Authority Northside Generating Station at 4377 Heckscher Drive, 6.8 mi east of intersection of U.S. Highway 17 and Heckscher Drive in Jacksonville. Owner: Jacksonville Electric Authority.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 16 in., depth 1,104 ft, cased to 520 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 9.18 ft above NGVD of 1929. Measuring point: Top of 16 in. flange, 0.70 ft, above land-surface datum.

REMARKS.--No water level data collected at times when well is in use.

PERIOD OF RECORD.--January 1981 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.13 ft above NGVD of 1929, July 20, 1995; lowest measured, 27.78 ft above NGVD of 1929, July 24, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	44.78	JAN 21	46.08	APR 22	47.78	JUL 27	39.48

WATER YEAR 2004 LOWEST 39.48 JUL 27, 2004 HIGHEST 47.78 APR 22, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT 23...	1215	532	27.5	24.0
JAN 21...	1000	588	25.0	38.0
APR 22...	1040	588	27.0	38.0
JUL 27...	1055	598	27.5	42.4

DUVAL COUNTY—Continued

WELL NUMBER.--302511081331201. Local Number D-1151. Jacksonville Electric Authority Well at Jacksonville, FL.

LOCATION.--Lat 30°25'11", long 81°33'12", in SW¼SW¼NE¼ sec. 13, T.1 S., R.27 E., Hydrologic Unit 03080103, located at Jacksonville Electric Authority Northside Generating Station at 4377 Heckscher Drive, 6.8 mi east of intersection of U.S. Highway 17 and Heckscher Drive, in Jacksonville. Owner: Jacksonville Electric Authority.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 16 in., depth 1,104 ft, cased to 520 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 12.75 ft above NGVD of 1929. Measuring point: Top of 16 in. flange, 1.2 ft above land-surface datum.

REMARKS.--No water level data collected at times when well is in use.

PERIOD OF RECORD.--September 1976, July 1979, October 1980 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.75 ft above NGVD of 1929, July 26, 2001; lowest measured, 32.15 ft above NGVD of 1929, Oct. 31, 1990.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	46.15	JAN 21	47.15	APR 22	46.15	JUL 24	49.55
WATER YEAR 2004	LOWEST	46.15	OCT 23, 2003	APR 22, 2004	HIGHEST	49.55	JUL 24, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT 23...	1200	525	27.0	22.0
JAN 21...	0945	535	25.0	23.0
APR 22...	1030	528	26.0	23.0
JUL 27...	1045	529	27.0	23.0

DUVAL COUNTY—Continued

WELL NUMBER.--302519081331501. Local Number D-1152. Jacksonville Electric Authority Well at Jacksonville, FL.

LOCATION.--Lat 30°25'19", long 81°33'15", in NE¼SE¼NW¼ sec. 13, T.1 S., R.27 E., Hydrologic Unit 03080103, located at Jacksonville Electric Authority Northside Generating Station at 4377 Heckscher Drive, 6.8 mi east of intersection of U.S. Highway 17 and Heckscher Drive in Jacksonville. Owner: Jacksonville Electric Authority.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 16 in., depth 1,104 ft, cased to 520 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 13.96 ft above NGVD of 1929. Measuring point: Top of concrete slab, at land-surface datum.

REMARKS.--No water level data collected at times when well is in use.

PERIOD OF RECORD.--October 1980 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.16 ft above NGVD of 1929, Apr. 22, 2004; lowest measured, 30.26 ft above NGVD of 1929, July 24, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	47.56	JAN 21	48.76	APR 22	54.16	JUL 27	51.76

WATER YEAR 2004 LOWEST 47.56 OCT 23, 2003 HIGHEST 54.16 APR 22, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Chlor-ide, water, fltrd, mg/L (00940)
OCT 23...	1145	495	29.0	25.0
JAN 21...	0930	528	18.5	23.0
APR 22...	1020	373	26.0	26.0
JUL 27...	1030	533	29.0	23.2

DUVAL COUNTY—Continued

WELL NUMBER.--302538081392501. Local Number D-329. City of Jacksonville Well at Jacksonville, FL.

LOCATION.--Lat 30°25'38", long 81°39'25", in land grant 49, T.1 S., R.26 E., Hydrologic Unit 03080103, located in Highlands pumping station at end of Beckner Drive, 2 blocks south of intersection of Monaco Drive and Dunn Avenue in Jacksonville. Owner: City of Jacksonville.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 20 in., depth 1,209 ft, cased to 545 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967, 1972-78, 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
23...	1030	--	--	524	26.0	--	--	--	--	--	--	20.0	--
JAN													
21...	1115	--	--	522	25.0	--	--	--	--	--	--	20.0	--
APR													
23...	1100	10	7.3	520	26.0	230	55.0	22.0	1.60	15.0	160	19.0	.6
JUL													
19...	1200	--	--	518	27.0	--	--	--	--	--	--	19.7	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR				
23...	30.0	76.0	342	550

DUVAL COUNTY—Continued

WELL NUMBER.--302550081331501. Local Number D-3840. St. Johns River Power Park replacement Well at Jacksonville, FL.

LOCATION.--Lat 30°25'50", long 81°33'15", in SE¼NE¼SW¼ sec.12, T.1 S., R.27 E., Hydrologic Unit 03080103, 1,800 ft southeast of the intersection of New Berlin and Faye Roads in Jacksonville. Owner: St. Johns River Power Park.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, industrial, artesian well, diameter 6 in., depth 750 ft, cased to 470 ft.

INSTRUMENTATION.--Water-stage recorder with pressure transducer.

DATUM.--Land-surface datum is 13.67 ft above NGVD of 1929. Measuring point: Top of 6 in. pipe flange, 1.12 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells. Record is equivalent to that for D-2399 (302559081331501), available October 1984 to April 1990.

PERIOD OF RECORD.--April 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 37.29 ft above NGVD of 1929, Feb. 4, 1995; lowest, 15.54 ft above NGVD of 1929, June 18, 2002.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.49	28.29	30.99	30.69	30.69	32.49	31.59	31.89	20.79	21.69	23.79	29.79
10	30.19	30.39	31.29	30.39	25.29	32.99	30.79	27.59	26.79	23.79	21.99	29.79
15	24.09	30.09	30.79	30.79	31.79	34.29	30.09	27.39	26.19	21.69	22.29	30.09
20	30.09	24.39	29.79	30.99	31.19	33.99	28.99	27.09	25.89	25.89	29.19	30.09
25	27.69	30.39	31.39	30.59	30.79	31.89	28.89	20.79	21.09	22.29	28.29	30.39
EOM	23.79	30.39	30.69	30.39	33.09	30.39	28.79	26.49	26.49	21.69	28.89	30.09
MAX	30.69	32.19	31.39	31.59	33.09	34.29	32.19	31.89	26.99	26.49	29.59	31.59

WTR YR 2004 MAX 34.29

DUVAL COUNTY—Continued

WELL NUMBER.--302557081253101. Local Number D-913. Jerri Betz Well at Fort George Island, Jacksonville, FL.

LOCATION.--Lat 30°25'57", long 81°25'31", in land grant 37, T.1 S., R.29 E., Hydrologic Unit 03080103, located at former site of Betz residence, at State Park on Fort George Island, off dirt road, 0.30 mi north of Ft. George Road. Owner: Florida Park Service.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 556 ft, cased to 435 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 21.38 ft above NGVD of 1929. Prior to July 2002, land-surface datum was considered to be 20.00 ft from topographic map. Measuring point: Top of water spigot handle, 1.4 ft above land-surface datum.

PERIOD OF RECORD.--January 1982, October 1990 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.38 ft above NGVD of 1929, Jan. 25,1995, present datum; lowest measured, 33.28 ft above NGVD of 1929, July 26, 2000, present datum.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	40.88	JAN 23	41.08	APR 22	39.18	JUL 19	38.38

WATER YEAR 2004 LOWEST 38.38 JUL 19, 2004 HIGHEST 41.08 JAN 23, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1987, 1990 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT 24...	1100	--	--	1,600	22.0	--	--	--	--	--	--	390	--
JAN 23...	1130	--	--	1,870	21.0	--	--	--	--	--	--	400	--
APR 22...	1220	5	7.6	1,880	22.0	480	97.0	57.0	3.60	180	128	410	.5
JUL 19...	0945	--	--	1,860	24.0	--	--	--	--	--	--	408	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR 22...	23.0	170	1,040	1,800

DUVAL COUNTY—Continued

WELL NUMBER.--302608081354901. Local Number D-262. St. Regis Paper Company Well at Jacksonville, FL.

LOCATION.--Lat 30°26'10", long 81°35'48", in land grant 46, T.1 S., R.27 E., Hydrologic Unit 03080103, 75 ft south of dirt road, 0.4 mi east of Eastport Road in Jacksonville. Owner: Smurfit-Stone Container Corporation.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, industrial, artesian well, diameter 4 in., depth 1,237 ft, cased to 1,163 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 16.32 ft above NGVD of 1929. Measuring point: Top of well flange, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1951 to April 1981 (bimonthly); May 1981 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.32 ft above NGVD of 1929, June 12, 1951; lowest measured, 30.42 ft above NGVD of 1929, July 24, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	39.42	DEC 29	39.12	FEB 23	39.62	APR 26	38.22	JUN 28	36.52	AUG 23	36.62
NOV 24	40.02	JAN 26	39.42	MAR 29	38.72	MAY 24	36.52	JUL 26	36.12	SEP 23	37.72

WATER YEAR 2004 LOWEST 36.12 JUL 26, 2004 HIGHEST 40.02 NOV 24, 2003

WELL NUMBER.--302608081354902. Local Number D-263. St. Regis Paper Company Well at Jacksonville, FL.

LOCATION.--Lat 30°26'08", long 81°35'49", in land grant 46, T.1 S., R.27 E., Hydrologic Unit 03080103, 75 ft south of dirt road, 0.4 mi east of Eastport Road in Jacksonville. Owner: Smurfit-Stone Container Corporation.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 1,025 ft, cased to 850 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 15.96 ft above NGVD of 1929. Measuring point: Top of spigot handle, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1951 to April 1979 (semiannually); January 1980 to September 1985 (bimonthly), October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.16 ft above NGVD of 1929, Feb. 4, 1954; lowest measured, 31.16 ft above NGVD of 1929, July 24, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	39.36	DEC 29	39.86	FEB 23	40.36	APR 26	38.16	JUN 28	36.06	AUG 23	36.56
NOV 24	40.06	JAN 26	39.36	MAR 29	39.86	MAY 24	36.36	JUL 26	36.36	SEP 23	36.96

WATER YEAR 2004 LOWEST 36.06 JUN 28, 2004 HIGHEST 40.36 FEB 23, 2004

DUVAL COUNTY—Continued

WELL NUMBER.--302608081354903. Local Number D-264. St. Regis Paper Company Well at Jacksonville, FL.

LOCATION.--Lat 30°26'10", long 81°35'49", in land grant 46, T.1 S., R.27 E., Hydrologic Unit 03080103, 75 ft south of dirt road, 0.4 mi east of Eastport Road in Jacksonville. Owner: Smurfit-Stone Container Corporation.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, industrial, artesian well, diameter 4 in., depth 654 ft, cased to 574 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 15.87 ft above NGVD of 1929. Measuring point: Top of well flange, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1951 to September 1978 (semiannually); February 1979 to September 1985 (bimonthly), October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.87 ft above NGVD of 1929, Jan. 9, 1952; lowest measured, 29.37 ft above NGVD of 1929, June 26, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	37.87	DEC 29	38.47	FEB 23	38.97	APR 26	36.67	JUN 28	34.87	AUG 23	35.67
NOV 24	38.67	JAN 26	38.27	MAR 29	38.37	MAY 24	35.37	JUL 26	35.17	SEP 23	36.97

WATER YEAR 2004 LOWEST 34.87 JUN 28, 2004 HIGHEST 38.97 FEB 23, 2004

DUVAL COUNTY—Continued

WELL NUMBER.--302724081244801. Local Number D-395. Florida Park Service Well at Jacksonville, FL.

LOCATION.--Lat 30°27'24", long 81°24'48", in land grant 42, T.1 S., R.29 E., Hydrologic Unit 03070205, well located at Little Talbot Island State Park, 2.2 mi north of Ft. George Inlet on State Highway A1A. Owner: Florida Park Service.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter unknown, depth and casing length unknown.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with pressure gage.

DATUM.--Land-surface datum is 7.57 ft above NGVD of 1929. Measuring point: Top of 4 in. tee, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--Water years 1966, 1969, 1972-76 (annually); 1977-89 (semiannually); 1991 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.17 ft above NGVD of 1929, May 10, 1966; lowest measured, 28.47 ft above NGVD of 1929, July 26, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	35.87	JAN 23	36.27	APR 23	34.87	MAY 17	32.87	JUL 19	33.47	SEP 20	37.87

WATER YEAR 2004 LOWEST 32.87 MAY 17, 2004 HIGHEST 37.87 SEP 20, 2004

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-79, 1985 to current year (quarterly).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT 24...	1130	--	--	497	24.0	--	--	--	--	--	--	20.0	--
JAN 23...	1100	--	--	492	21.0	--	--	--	--	--	--	20.0	--
APR 23...	1000	10	7.3	495	23.0	220	48.0	23.0	1.90	16.0	154	20.0	.7
JUL 19...	0900	--	--	494	24.0	--	--	--	--	--	--	19.8	--

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
APR 23...	30.0	65.0	316	410

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

DUVAL COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
300824081305401	05-19-04	1130	D-0169 POWEL AT BAYARD, FL	35.87
	09-21-04	1330		39.17
300926081343002	05-17-04	1240	D-1313 GREENLAND PINES AT GREENLAND,FL	29.30
	09-23-04	1100		35.80
301157081465201	05-19-04	1120	D-1292 INDIAN TRAILS AT JACKSONVILLE,FL	33.61
	09-21-04	0950		36.49
301333081324101	05-19-04	1310	D-2847 GOLF COURSE AT DEERWOOD, FL	20.91
	09-23-04	1005		30.34
301339081531203	09-21-04	0915	D-0326 J-0391	46.45
301347081421801	05-19-04	1150	D-1394(D-65)NAS WELL NR JACKSONVILLE,FL	25.89
	09-21-04	1015		30.69
301617081421601	05-18-04	1120	D-0115 J-0179	26.65
	09-20-04	0915		32.35
301652081265001	05-17-04	1220	D-0259 BEACH HAVEN WELL NR JACKSONVILLE BEACH, FL	12.80
	09-20-04	1130		23.58
301749081384602	05-18-04	1220	D-1782 J-1819	34.95
	09-20-04	1350		40.25
301758081462901	05-17-04	0830	D-0221 ROLLING HILLS WELL NR MARIETTA,FL	37.30
	09-20-04	0840		40.80
302330081463001	05-19-04	1015	D-0420 J-0487 WING-LEE FARM; JAX, FL.	37.92
	09-21-04	0815		39.92
302502081321001	05-17-04	1115	D-0270 J-0335 5186 HECKSHER DR, JAX, FL.	32.35
302521081455601	05-17-04	0905	D-1309 DINSMORE ELEM SCHOOL NR DINSMORE,FL	37.18
	09-21-04	0940		38.78
302538081253101	01-23-04	1145	D-164 J-228 GOLF COURSE @ FT. GEORGE ISLAND, FL.	40.34
	03-02-04	1000		40.44
	03-30-04	0930		39.74
	04-23-04	0845		38.94
	05-17-04	1425		34.84
	05-25-04	1015		36.24
	09-20-04	1405		40.64
302709081311601	05-17-04	1045	D-1307 CAMDEN RD NR EASTPORT,FL	33.31
	09-20-04	1030		36.31
303209081371801	05-17-04	1000	TISONIA FIRETOWER NR JACKSONVILLE,FL	34.13
	09-20-04	1010		36.52
303216081433301	05-19-04	0945	D-0401 J-0468 DUVAL COUNTY PRISON FARM; JAX, FL.	36.97
	09-20-04	1455		38.47

KEY TO SITE LOCATIONS ON FIGURE 9
FLAGLER COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	292750081152001	98

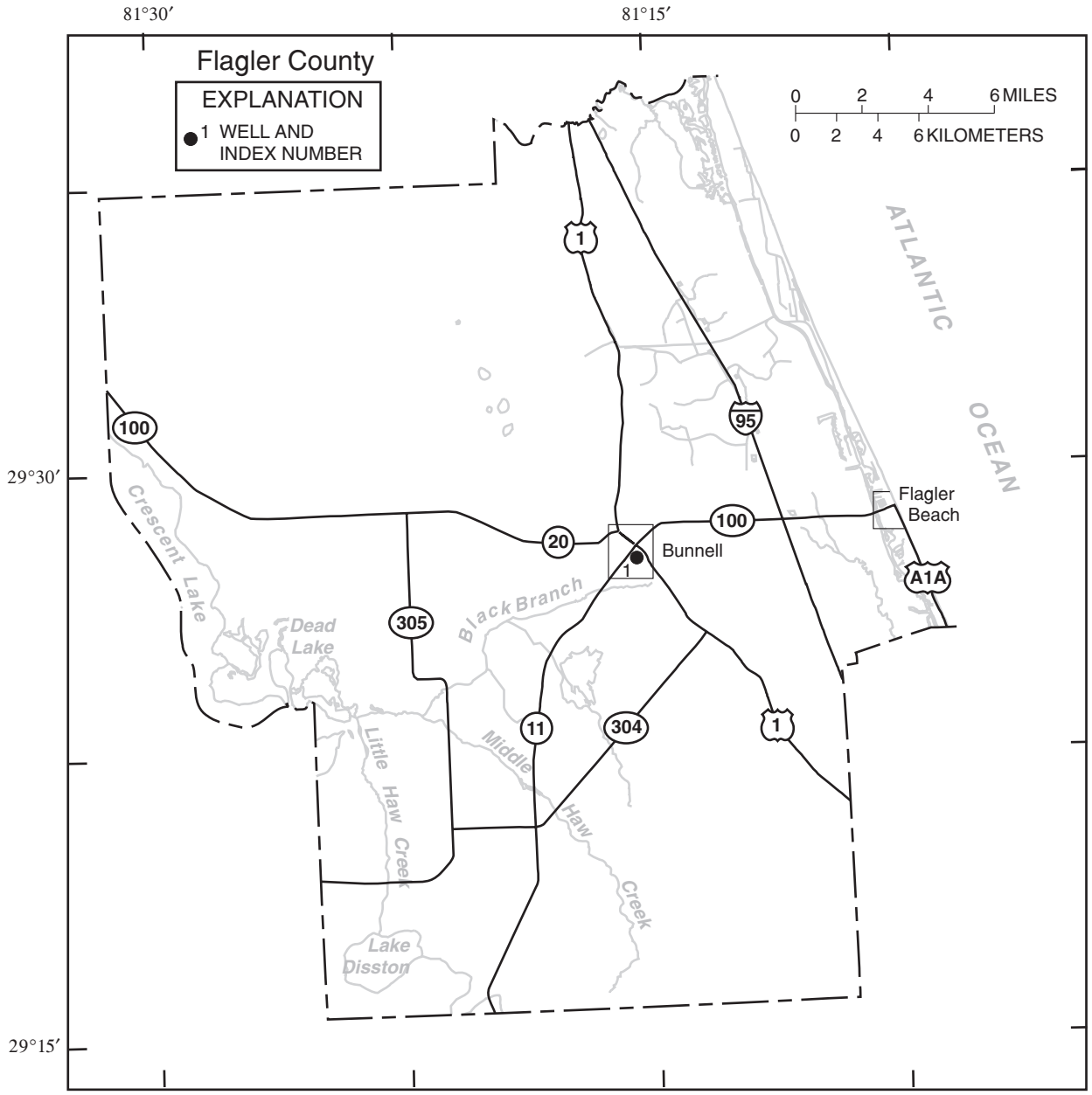

Figure 9.--Location of wells in Flagler County.

FLAGLER COUNTY

WELL NUMBER.--292750081152001. USGS Well Flagler 14 at Bunnell, FL.

LOCATION.--Lat 29°27'50", long 81°15'20", in NE$^1/_4$ sec.15, T.12 S., R.30 E., Hydrologic Unit 03080201, 200 ft south of intersection of West Court and South Railroad Streets, and 600 ft southwest of intersection of State Highway 11 and U.S. Highway 1 at Bunnell. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 to 4 in., depth 417 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 21.00 ft above NGVD of 1929. Measuring point: Top of 6 in. coupling at land-surface datum.

COOPERATION.--Since Oct. 1, 1985 data provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--March 1936 to December 1962 (monthly); February 1963 to September 1985 (bimonthly); October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.30 ft above NGVD of 1929, Sept. 9, 1947; lowest measured, 9.10 ft above NGVD of 1929, June 26, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	14.76	JAN 21	14.03	APR 20	12.48	JUN 25	12.01	SEP 20	14.94
NOV 18	14.80	FEB 18	14.57	MAY 17	12.12	JUL 13	12.89	24	15.09
DEC 17	14.59	MAR 23	14.37	18	11.97	AUG 25	13.92		

WATER YEAR 2004 LOWEST 11.97 MAY 18, 2004 HIGHEST 15.09 SEP 24, 2004

FLAGLER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
291818081190401	05-17-04	0850	RELAY TOWER DEEP WELL (F0251)	14.74
	09-20-04	0720		18.29
291913081224201	05-17-04	0950	F-0257 STRAWN WELL NR DEANVILLE,FL	14.66
	09-20-04	0945		17.42
291955081200901	05-17-04	0915	91912003 13S29E36	10.10
	09-20-04	0815		13.47
292302081155901	05-17-04	1340	SR304 WELL AT SWEETWATER BRANCH	13.06
	09-20-04	0930		14.00
292603081082502	05-17-04	1420	F-176 BULLOW RUINS	6.30
	09-20-04	1420		10.40
292604081062401	05-17-04	1450	SJRWMD SHALLOW WELL F174	3.41
	09-20-04	1450		8.84
292647081182001	05-17-04	1100	92611803 12S30E19	7.75
	09-20-04	1030		10.96
292757081222801	05-17-04	1031	F-0353 WESTSIDE BAPTIST NR BIMINI,FL	6.86
	09-20-04	1050		13.31
293128081090501	05-17-04	1530	LENSSEN WELL AT BEVERLY BCH	5.43
	09-20-04	1510		5.47
293313081132402	05-17-04	1625	SJ F158 11S31E18 ITTPALMCOASTSTJOEGRADE LW-11	12.31
	09-20-04	1340		15.77
293344081232401	05-17-04	1135	F-0294(REP.F-204)TIGER ISLAND DEEP	13.92
	09-20-04	1124		16.78
293529081191701	05-17-04	1235	SJ F165 10S30E31 PALMCOASTITT-LW-20 WESTBOUNDR	13.85
	09-20-04	1230		16.87
293754081121901	05-17-04	1600	SJ F200 10S31E WASHINGTONOAKSPARKWEATHERSTA	13.32
	09-20-04	1538		16.88

KEY TO SITE LOCATIONS ON FIGURE 10
GLADES COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	265529081185201	102
2	271150081054401	102

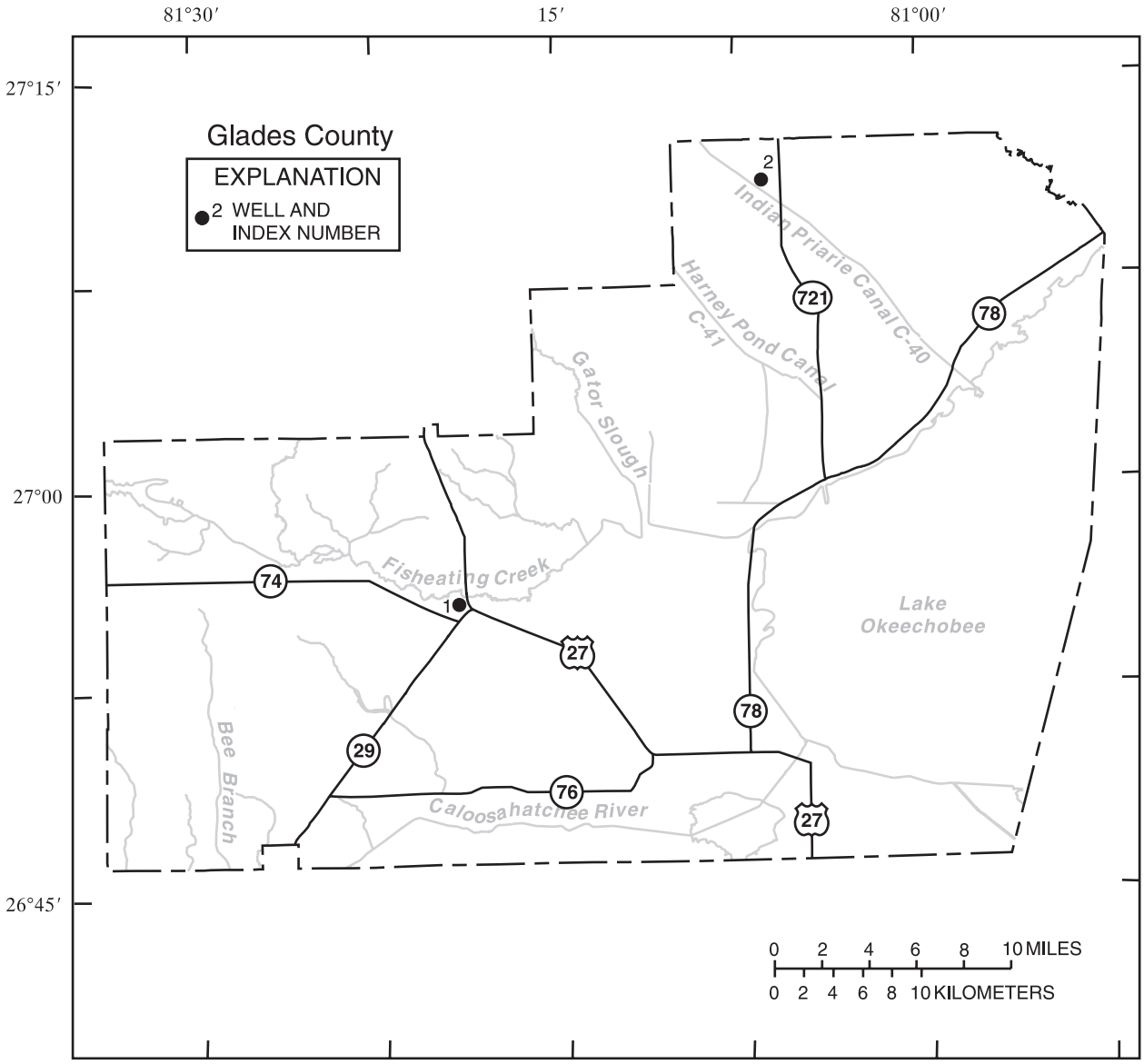

Figure 10.--Location of wells in Glades County.

GLADES COUNTY

WELL NUMBER.--265529081185201. GL-267 Well near Palmdale, FL.

LOCATION.--Lat 26°55'29", long 81°18'52", in NE¼SW¼NW¼ sec.10, T.41 S., R.30 E., Hydrologic Unit 03090103, 100 ft north of Palmdale Fire Tower, 500 ft northwest of intersection of U.S. Highway 27 and State Highway 29, and 2.0 mi south of Palmdale. Owner: Florida Division of Forestry.

AQUIFER.--Hawthorn Limestone aquifer of the Miocene Series, Geologic Unit 122 HTRNN.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 600 ft, cased to 450 ft.

INSTRUMENTATION.--Bimonthly measurement with pressure gage, chalked or electric tape.

DATUM.--Elevation of land-surface datum is 42.15 ft above NGVD of 1929. Prior to Oct. 1, 1978, land-surface datum was considered to be 41 ft, from topographic map. Oct. 1, 1978 to Mar. 25, 1980 at datum 0.60 ft lower. Measuring point: Top of 3/4 in. tee, 0.89 ft above land-surface datum.

PERIOD OF RECORD.--December 1971 to May 1976 (annually); July 1976 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.25 ft above NGVD of 1929, Sept. 7, 1976; lowest measured, 36.11 ft above NGVD of 1929, May 15, 1995.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01	41.42	JAN 14	40.15	MAY 05	39.54	JUN 29	39.18	SEP 22	41.70
NOV 13	41.25	MAR 17	38.02	20	39.06	AUG 24	41.19		

WATER YEAR 2004 LOWEST 38.02 MAR 17, 2004 HIGHEST 41.70 SEP 22, 2004

WELL NUMBER.--271150081054401. GL-155 Well near Brighton, FL.

LOCATION.--Lat 27°11'50", long 81°05'44", in NE¼SE¼SW¼ sec.2, T.38 S., R.32 E., Hydrologic Unit 03090103, in front of Lykes Ranch headquarters, 300 ft west of State Highway 721, and 1.9 mi south of State Highway 70 in Brighton. Owner: Lykes Ranch.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 6 in., depth 600 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Elevation of land-surface datum is 29.35 ft above NGVD of 1929. Measuring point: Top of 4 in. PVC tee, 1.80 ft above land-surface datum.

PERIOD OF RECORD.--December 1971 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.15 ft above NGVD of 1929, Apr. 1, 1983; lowest measured, 38.15 ft above NGVD of 1929, May 11, 1976.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 13	48.35	MAR 17	46.45	MAY 20	44.95	AUG 24	47.05
JAN 14	46.55	MAY 05	44.65	JUN 30	44.55	SEP 21	50.85

WATER YEAR 2004 LOWEST 44.55 JUN 30, 2004 HIGHEST 50.85 SEP 21, 2004

GLADES COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
265452081165401	05-20-04	1241	65411601 41S30E12 CLEMONS PALMDALE	47.83
	09-22-04	1039		51.70

KEY TO SITE LOCATIONS ON FIGURE 11
HERNANDO COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	283537082151501	106
2	283840082154801	106

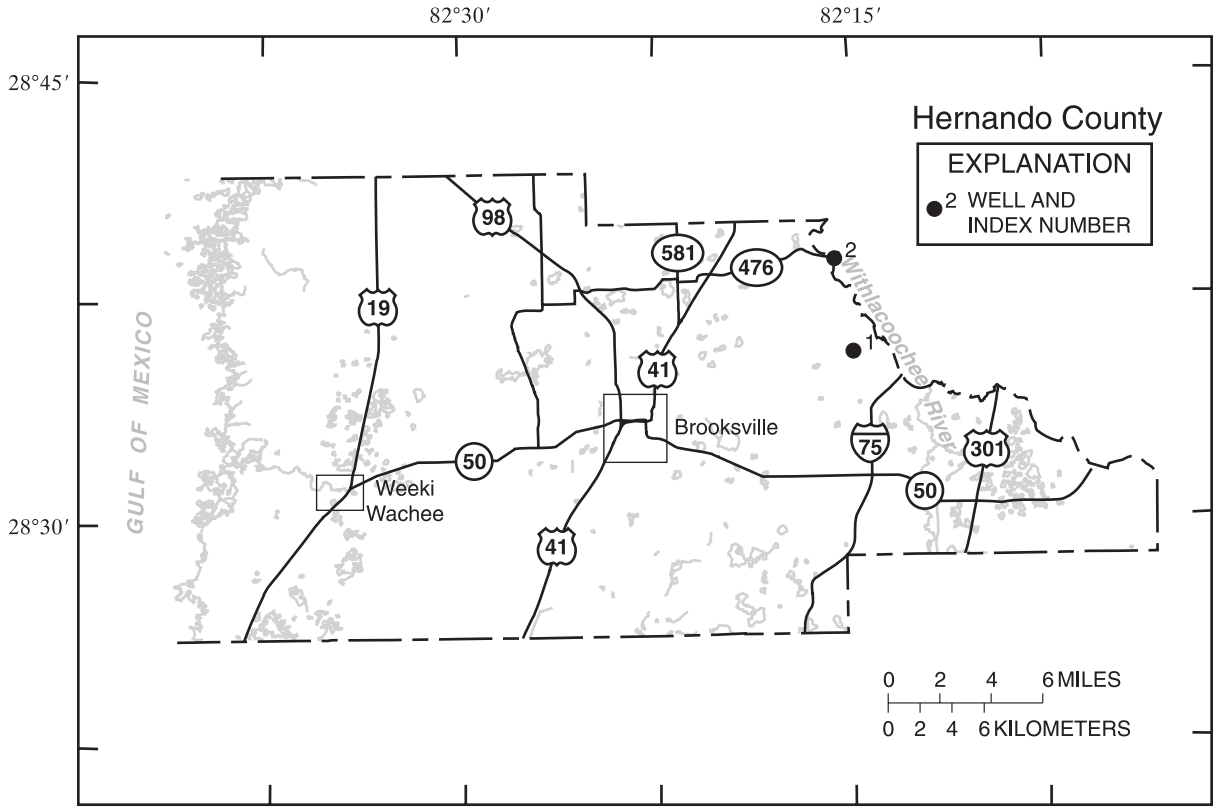

Figure 11.--Location of wells in Hernando County.

HERNANDO COUNTY

WELL NUMBER.--283537082151501. ROMP 103 Well near Brooksville, FL.

LOCATION.--Lat 28°35'37", long 82°15'15", in NE¼NE¼NE¼ sec.12, T.22 S., R.20 E., Hydrologic Unit 03100208, on south side of Croom Road, 2.6 mi east of Tucker Hill Fire Tower, and 6.3 mi northeast of Brooksville. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 8 in., depth 198 ft, cased to 111 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 92.80 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.42 ft above land-surface datum.

PERIOD OF RECORD.--April 1977 to September 1992; October 1992 to September 2004 (monthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.04 ft above NGVD of 1929, Sept. 28, 2004; lowest, 33.80 ft above NGVD of 1929, June 21, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	46.96	JAN 27	43.74	APR 27	43.09	JUN 29	41.68	SEP 24	48.28
NOV 25	45.81	FEB 24	43.20	MAY 20	42.47	JUL 27	41.46	28	49.04
DEC 30	44.58	MAR 30	43.94	25	42.29	AUG 24	42.52		

WATER YEAR 2004 LOWEST 41.46 JUL 27, 2004 HIGHEST 49.04 SEP 28, 2004

WELL NUMBER.--283840082154801. Barnhart Well (CE-25) at Nobleton, FL.

LOCATION.--Lat 28°38'40", long 82°15'48", in NW¼NW¼SW¼ sec.24, T.21 S., R.20 E., Hydrologic Unit 03100208, on Sentinel Street, 200 ft east of Edgewater Avenue in Nobleton. Owner: C.C. Chandler.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit l20 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 140 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 59.30 ft above NGVD of 1929. Measuring point: Hole in sanitary seal, 0.33 ft above land-surface datum.

PERIOD OF RECORD.--March 1961 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.33 ft above NGVD of 1929, Aug. 23, 1965; lowest measured, 33.44 ft above NGVD of 1929, June 6, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	44.03	MAR 08	42.17	MAY 20	41.15	AUG 24	41.73
JAN 14	42.48	MAY 03	41.60	JUL 07	40.48	SEP 23	46.32

WATER YEAR 2004 LOWEST 40.48 JUL 07, 2004 HIGHEST 46.32 SEP 23, 2004

HERNANDO COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
282620082193801	05-20-04	1440	82621901	81.72
	09-24-04	1355		84.47
282839082190801	05-20-04	1400	82821901 RUSSELL BLACKETT LAKE NEFF	86.91
	09-24-04	1120		85.86
282851082035301	05-20-04	1700	82820301 23S22E13 E H BOYETTE	83.35
	09-24-04	1335		84.86
283001082064702	05-20-04	1630	83020602 23S22E09 WSF-RICHLOAM FIRE TOWER	72.63
	09-24-04	1315		74.48
283036082105501	05-20-04	1600	83021001 23S21E02 830210133 RIDGE MANOR NO 1	54.02
	09-24-04	1245		60.54
283508082215101	05-20-04	1220	83522101 22S19E12 CLARENCE SMITH	40.41
	09-24-04	1030		45.12
283510082133701	05-20-04	0940	CROOM RR SIDING WELL NR CROOM,FL	43.59
	09-24-04	0910		49.82
283613082184301	05-20-04	1250	83621801 22S20E04 DELMAS C NIX	38.47
	09-24-04	0945		43.60
283804082211001	05-20-04	1100	RUSSANO WELL AT LAKE LYNDSEY, FL	23.97
	09-23-04	1505		27.49
283957082181001	05-20-04	1020	83921801 21S20E16 W A BLIZZARD	35.25
	09-23-04	1535		39.14

KEY TO SITE LOCATIONS ON FIGURE 12
HIGHLANDS COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	270157081203101	110
2	272504081120101	110

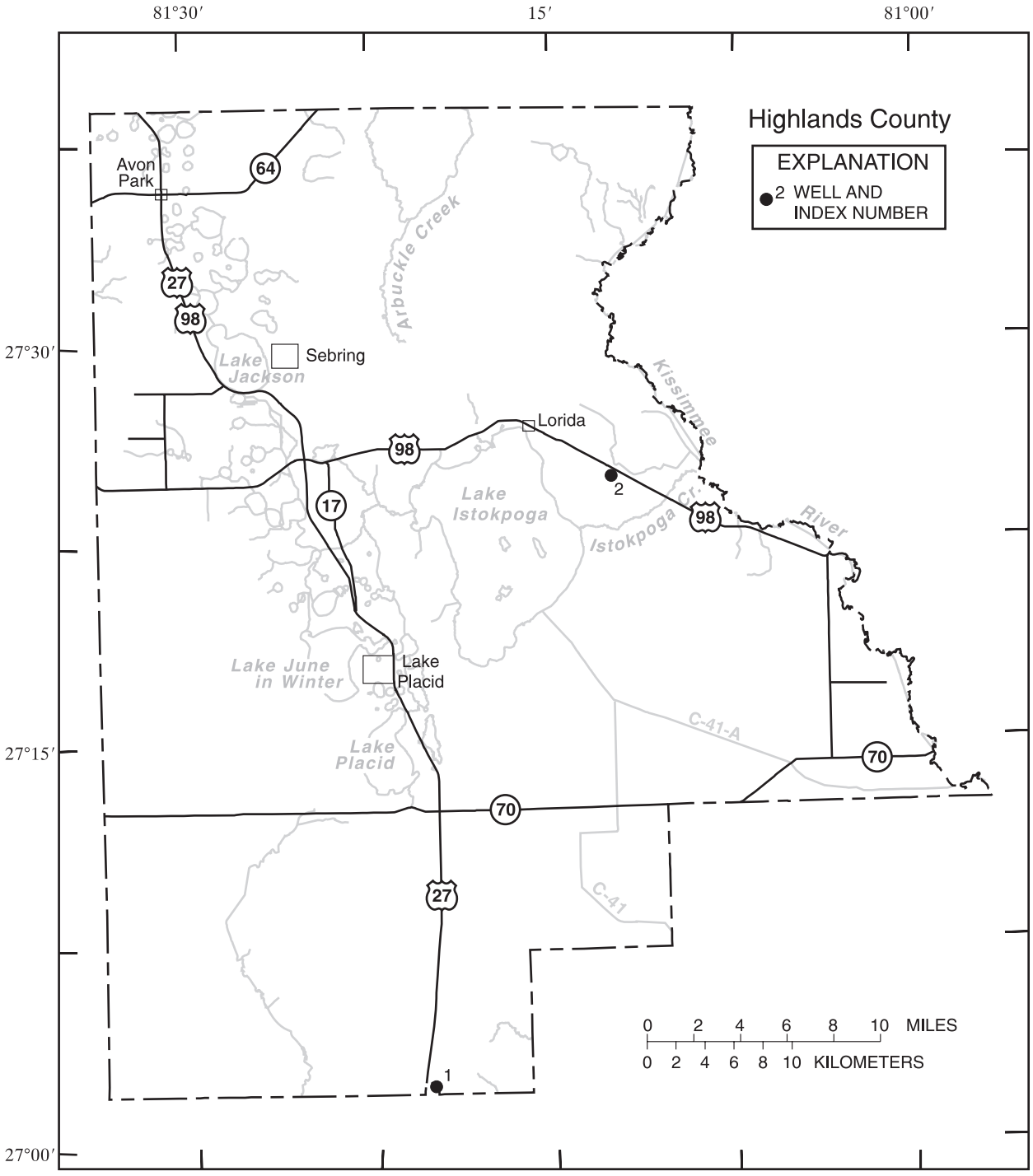

Figure 12.--Location of wells in Highlands County.

HIGHLANDS COUNTY

WELL NUMBER.--270157081203101. H-15A Well near Palmdale, FL.

LOCATION.--Lat 27°02'02", long 81°20'33", in SE¼SE¼SW¼ sec.32, T.39 S., R.30 E., Hydrologic Unit 03090103, on east side of U.S. Highway 27, 200 ft north of Glades-Highlands County line, 2.4 mi southeast of Venus, and 6.7 mi northwest of Palmdale. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of the Pleistocene Age, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 23 ft, cased to 19 ft, gravel-packed screen from 19 to 23 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 58.52 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.68 ft above land-surface datum.

PERIOD OF RECORD.--December 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 60.40 ft above NGVD of 1929, Sept. 26, 2004; lowest, 53.49 ft above NGVD of 1929, June 27, 1956.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	58.13	57.40	56.54	57.10	57.55	57.77	56.72	---	---	55.44	58.66	60.01
10	57.76	57.28	56.50	56.99	57.29	57.60	56.55	---	---	55.34	58.71	58.94
15	57.60	56.95	57.35	56.90	57.47	57.42	57.48	---	---	56.87	59.22	58.17
20	57.39	56.90	57.64	57.58	57.27	57.28	57.02	---	---	57.12	58.74	58.30
25	57.27	56.76	57.57	57.31	59.00	57.11	56.78	---	---	56.84	59.07	58.74
EOM	57.10	56.64	57.31	57.63	58.09	56.91	56.68	---	55.71	59.00	58.48	58.74
MAX	58.76	57.44	57.80	57.63	59.00	57.98	57.62	---	---	59.00	59.74	60.40

WELL NUMBER.--272504081120101. H-11A Well near Lake Placid, FL.

LOCATION.--Lat 27°25'04", long 81°12'01", in NE¼NE¼SW¼ sec.23, T.35 S., R.31 E., Hydrologic Unit 03090101, on north side of U.S. Highway 98, 0.4 mi east of State Highway 621, 2.6 mi northwest of the Istokpoga Canal, and 9.0 mi east of Lake Placid. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of the Pleistocene Age, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 16 ft, cased to 13 ft, gravel-packed screen from 13 to 16 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 49.02 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 2.10 ft above land-surface datum.

PERIOD OF RECORD.--February 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 49.04 ft above NGVD of 1929, Sept. 10, 1960; lowest, 43.26 ft above NGVD of 1929, June 18, 1975.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	47.68	46.06	45.89	46.83	47.49	47.39	45.99	46.86	45.02	45.10	46.29	48.26
10	47.19	47.11	45.81	46.67	47.13	47.04	45.76	46.36	45.16	44.87	46.51	48.08
15	46.92	46.71	46.23	46.51	47.19	46.73	47.73	46.04	46.43	44.67	47.31	47.88
20	46.60	46.51	47.53	47.18	46.92	46.97	47.14	45.73	46.05	44.98	47.12	47.77
25	46.36	46.29	47.22	46.86	47.75	46.55	46.80	45.49	45.62	44.93	46.62	47.89
EOM	46.16	46.07	46.95	47.07	47.83	46.27	46.62	45.15	45.33	45.36	47.54	48.40
MAX	48.05	47.19	47.60	47.18	47.96	47.72	47.77	46.86	46.43	45.36	47.54	48.75

KEY TO SITE LOCATIONS ON FIGURE 13
INDIAN RIVER COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	273923080471801	114
2	274607080493001	114

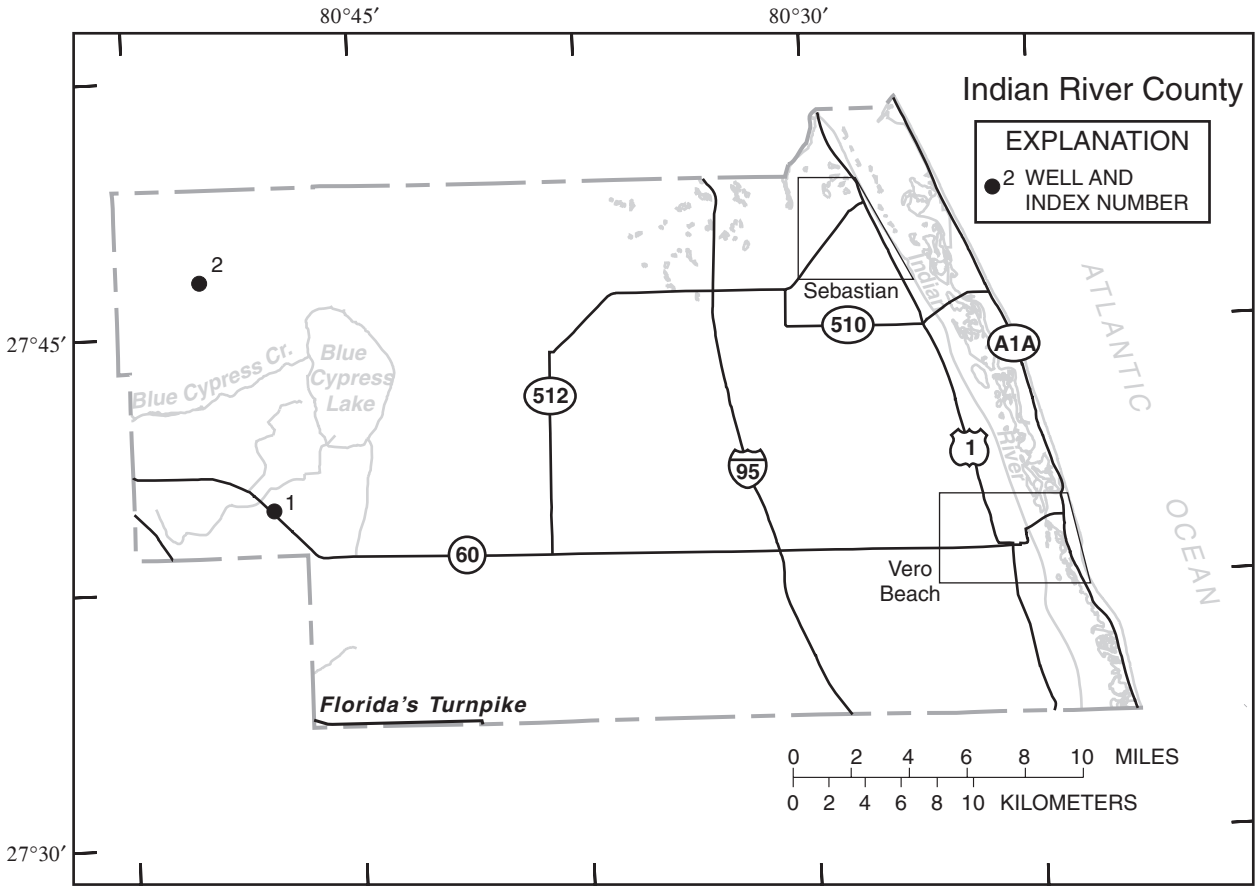

Figure 13.--Location of wells in Indian River County.

INDIAN RIVER COUNTY

WELL NUMBER.--273923080471801. IR-25 Well near Yeehaw Junction, FL.

LOCATION.--Lat 27°39'23", long 80°47'18", in NW¼NE¼NW ¼ sec.36, T.32 S., R.35 E., Hydrologic Unit 03080101, on north side of State Highway 60, 1.3 mi east of Blue Cypress Road, and 7.9 mi east of U.S. Highway 441 in Yeehaw Junction. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand of the Surficial Aquifer System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 19 ft, cased to 13 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 30.01 ft above NGVD of 1929. Measuring point: Top of shelf, 2.30 ft above land-surface datum.

PERIOD OF RECORD.--October 1950 to September 1996; October 1996 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 31.99 ft above NGVD of 1929, Sept. 4, 1979; lowest, 25.17 ft above NGVD of 1929, May 31, 1967.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	28.14	DEC 30	28.60	FEB 24	28.53	APR 26	27.11	JUN 29	27.19	AUG 23	29.66
NOV 24	27.96	JAN 26	28.73	MAR 30	27.95	MAY 25	26.10	JUL 27	29.22		

WATER YEAR 2004 LOWEST 26.10 MAY 25, 2004 HIGHEST 29.66 AUG 23, 2004

WELL NUMBER.--274607080493001. IR-189 Well near Yeehaw Junction, FL.

LOCATION.--Lat 27°46'07", long 80°49'30", in SE¼NE¼SW¼ sec.22, T.31 S., R.35 E., Hydrologic Unit 03080101, on north side of private road at Rollins Ranch, 10 mi north of Yeehaw Junction. Owner: Rollins Ranch.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, stock, artesian well, diameter 4 in., depth 630 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Elevation of land-surface datum is 33.85 ft above NGVD of 1929. Prior to April 1983, land-surface datum was 0.69 ft lower. May 1983 to September 2001 land-surface datum was 0.19 ft lower. Measuring point: Top of 4 in. tee, 1.63 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--195l, 1957, 1970 (annually); January 1976 to October 1983 (bimonthly); November 1983 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 48.16 ft above NGVD of 1929, datum then in use, Nov. 13, 1951, July 10, 1957; lowest measured, 36.67 ft above NGVD of 1929, datum then in use, May 6, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	43.80	DEC 30	42.88	FEB 24	43.46	APR 27	41.21	JUL 27	41.67
NOV 24	43.48	JAN 26	42.68	MAR 30	42.44	MAY 25	39.81	AUG 24	41.18

WATER YEAR 2004 LOWEST 39.81 MAY 25, 2004 HIGHEST 43.80 OCT 28, 2003

INDIAN RIVER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
273435080255101	05-19-04	1055	73402501 USDA SOUTH WELL 43RD AVE SW OF OSLO	28.25
	09-20-04	1533		35.74
273515080344303	05-19-04	1703	IR-0954 SJWCD	38.08
	09-21-04	1219		44.03
273536080240201	05-19-04	1020	73502403 REVERSE OSMOSIS MONITOR W OF OSLO	33.02
	09-21-04	0907		38.59
273805080223802	05-19-04	0921	IR-1008 VERO BEACH POWER PLANT IN VERO BEACH,FL	29.67
	09-21-04	0955		37.67
273847080254703	05-19-04	1204	IR-1006 DODGER STADIUM EAST IN DODGERTOWN,FL	31.77
	09-20-04	1701		36.26
273941080375401	05-19-04	1238	IR-0955 DELTA FARMS	39.09
	09-21-04	1253		44.09
274055080281301	05-19-04	1531	74002801 IR 210 WALTER POOL LINDSEY RD GIFFORD	29.39
	09-21-04	1032		36.89
274126080304803	05-19-04	1618	IR-0963 CORRIGAN RANCH WELL	34.04
	09-21-04	1118		40.34
274217080464201	05-21-04	1412	IR-0968 BLUE CYPRESS WELL	36.90
	09-21-04	1435		45.35
274916080520701	05-26-04	1101	74905201 USGS TH MACE RANCH FELLSMERE GRADE	50.55
	09-22-04	1658		53.27

KEY TO SITE LOCATIONS ON FIGURE 14
LAKE COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	282245081492601	118
1	282245081492602	118
2	282717081553101	119
3	283314081455501	119
4	284445081462101	120
5	284842081533001	120
6	290950081315501	121

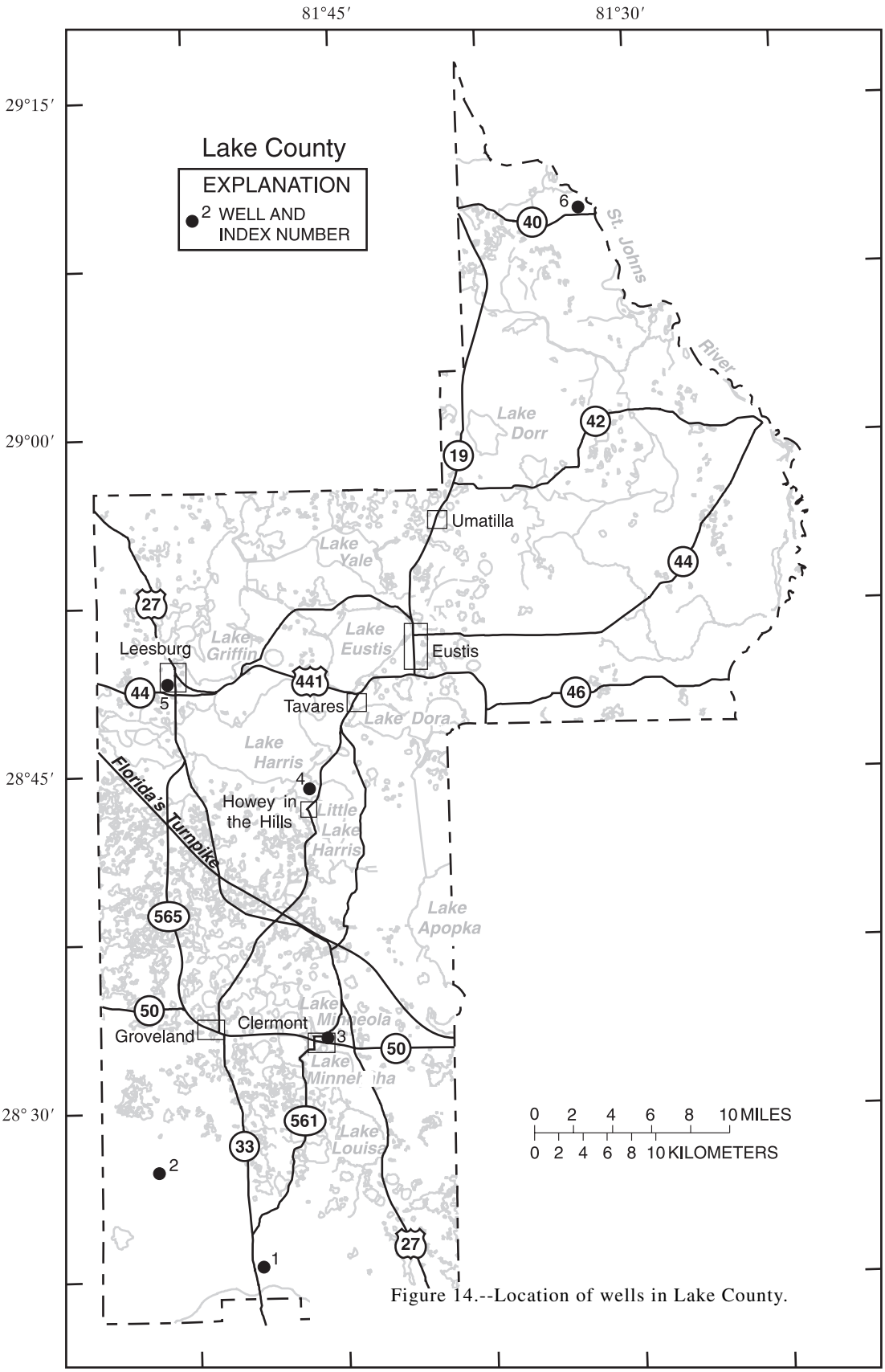

Figure 14.--Location of wells in Lake County.

LAKE COUNTY

WELL NUMBER.--282245081492601. Eva Deep Well at Eva, FL.

LOCATION.--Lat 28°22'45", long 81°49'26", in NE¼SE¼SE¼ sec.20, T.24 S., R.25 E., Hydrologic Unit 03100208, on east side of State Highway 33, 1,000 ft north of State Highway 474 at Eva. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 192 ft, cased to 100 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape or electric tape.

DATUM.--Elevation of land-surface datum is 113.47 ft above NGVD of 1929. Measuring point: Top of 6 in. nipple, 3.22 ft above land-surface datum. Prior to Oct. 1, 2002, measuring point 3.40 ft above land-surface datum.

PERIOD OF RECORD.--January 1959 to December 1962; January 1963 to October 2000 (bimonthly); December 2000 to September 2004 (monthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 112.72 ft above NGVD of 1929, Sept. 10, 1960; lowest measured, 105.06 ft above NGVD of 1929, June 20, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	110.62	JAN 26	110.22	APR 26	109.66	JUN 28	109.02	SEP 21	111.69
NOV 24	110.24	FEB 23	110.31	MAY 17	109.22	JUL 26	109.19	27	111.91
DEC 29	110.21	MAR 29	110.30	24	108.89	AUG 23	111.35		

WATER YEAR 2004 LOWEST 108.89 MAY 24, 2004 HIGHEST 111.91 SEP 27, 2004

WELL NUMBER.--282245081492602. Eva Shallow Well at Eva, FL.

LOCATION.--Lat 28°22'45", long 81°49'26", in NE¼SE¼SE¼ sec.20, T.24 S., R.25 E., Hydrologic Unit 03100208, on east side of State Highway 33, 1,000 ft north of State Highway 474 at Eva. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of the Tertiary Quaternary Age, Geologic Unit 111 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 23 ft, cased to 18 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked tape or electric tape.

DATUM.--Elevation of land-surface datum is 113.44 ft above NGVD of 1929. Measuring point: Hole in 6 in. cap, 3.62 ft above land-surface datum.

PERIOD OF RECORD.--January 1959 to June 1962; July 1962 to September 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 114.44 ft above NGVD of 1929, Sept. 10, 1960; lowest measured, 105.12 ft above NGVD of 1929, June 20, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	111.73	FEB 23	110.97	MAY 17	109.62	AUG 23	113.28
DEC 29	110.98	APR 26	110.37	JUN 28	109.24	SEP 21	113.71

WATER YEAR 2004 LOWEST 109.24 JUN 28, 2004 HIGHEST 113.71 SEP 21, 2004

LAKE COUNTY—Continued

WELL NUMBER.--282717081553101. ROMP 101 Well near Bay Lake, FL.

LOCATION.--Lat 28°27'17", long 81°55'31", in NE¼NE¼SE¼ sec.29, T.23 S., R.24 E., Hydrologic Unit 03100208, 75 ft south of State Highway 565, 800 ft west of former Seaboard Coastline Railroad crossing, and 2.3 mi southwest of intersection of Bay Lake Road and State Highway 565 at Bay Lake. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 8 in., depth 404 ft, cased to 118 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 101.35 ft above NGVD of 1929. Measuring point: Top of casing, 2.58 ft above land- surface datum.

PERIOD OF RECORD.--July 1977 to May 2004 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 100.30 ft above NGVD of 1929, Sept. 11, 1988; lowest, 92.26 ft above NGVD of 1929, June 22, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	99.37	98.80	98.35	98.08	98.40	98.90	98.12	98.87	---	---	---	---
10	99.44	98.76	98.31	98.02	98.30	98.70	97.99	98.57	---	---	---	---
15	99.27	98.63	98.46	---	98.40	98.71	98.27	98.33	---	---	---	---
20	99.09	98.63	98.29	---	98.20	98.65	98.03	98.13	---	---	---	---
25	98.94	98.49	98.23	98.10	99.10	98.48	97.79	97.87	---	---	---	---
EOM	98.91	98.39	98.11	98.50	99.00	98.38	98.06	---	---	---	---	---
MAX	99.49	98.88	98.53	---	99.10	99.00	98.45	---	---	---	---	---

WELL NUMBER.--283314081455501. City Well Replacement at Clermont, FL.

LOCATION.--Lat 28°33'14", long 81°45'55", in NE¼SE¼SW¼ sec.24, T.22 S., R.25 E., Hydrologic Unit 03080102, on Lake Avenue, 0.2 mi north of State Highway 50 in Clermont. Owner: City of Clermont.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic well, diameter 12 in., depth 525 ft, casing length unknown.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 148.28 ft above NGVD of 1929. Measuring point: Top of casing, 2.8 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 86.04 ft above NGVD of 1929, Mar. 27, 1998; lowest, 74.65 ft above NGVD of 1929, June 14, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	85.17	84.82	84.39	83.99	83.76	83.91	83.22	82.94	82.02	82.66	82.25	84.22
10	85.28	84.77	84.37	83.95	83.84	83.90	83.05	82.79	82.21	82.46	82.65	84.54
15	85.22	84.64	84.24	83.80	83.76	83.78	83.04	82.60	82.48	82.40	83.09	84.85
20	85.18	84.60	84.22	83.84	83.76	83.64	83.09	82.36	82.39	82.51	83.41	84.90
25	84.95	84.57	84.18	83.75	83.92	83.46	82.70	82.32	82.36	82.26	83.56	85.11
EOM	84.96	84.34	84.11	83.84	83.82	83.46	82.75	82.00	82.52	82.27	83.63	85.60
MAX	85.32	84.93	84.39	84.03	83.92	83.96	83.38	83.01	82.56	82.67	83.66	85.65

LAKE COUNTY—Continued

WELL NUMBER.--284445081462101. Lake Yale Groves Well near Tavares, FL.

LOCATION.--Lat 28°44'45", long 81°46'21", in SE¼SW¼ sec.13, T.20 S., R.25 E., Hydrologic Unit 03080102, on north side of Little Lake Harris, 0.2 mi west of State Highway 19, and 3.8 mi south of Tavares. Owner: Lake County Water Authority.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 8 in., depth 200 ft, cased to 112 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape or manometer.

DATUM.--Elevation of land-surface datum is 64.75 ft above NGVD of 1929. Measuring point: Top of tee, 2.10 ft above land-surface datum.

COOPERATION.--Since Oct. 1, 1985 data provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--May 1963 (annually); October 1963 to September 1985 (bimonthly); October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 70.45 ft above NGVD of 1929, Mar. 13, 1970; lowest measured, 60.54 ft above NGVD of 1929, May 23, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	67.43	JAN 23	66.42	APR 20	65.60	JUN 22	65.47	SEP 21	67.78
NOV 17	67.26	FEB 17	66.94	MAY 18	65.27	JUL 20	65.26	22	68.12
DEC 17	67.23	MAR 25	66.32	19	65.05	AUG 24	66.02		

WATER YEAR 2004 LOWEST 65.05 MAY 19, 2004 HIGHEST 68.12 SEP 22, 2004

WELL NUMBER.--284842081533001. College Street Well at Leesburg, FL.

LOCATION.--Lat 28°48'42", long 81°53'30", in SW¼NE¼NE¼ sec.27, T.19 S., R.24 E., Hydrologic Unit 03080l02, on west side of College Street, near water tank, 350 ft north of West Main Street in Leesburg. Owner: City of Leesburg.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 12 in., depth 245 ft, cased to 90 ft.

INSTRUMENTATION.--Water-stage recorder--15-minute interval.

DATUM.--Elevation of land-surface datum is 93.10 ft above NGVD of 1929. Measuring point: Edge of flange, 1.2 ft above land-surface datum.

PERIOD OF RECORD.--September 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 70.38 ft above NGVD of 1929, Mar. 2, 1998; lowest, 57.29 ft above NGVD of 1929, May 16, 1981.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	67.68	66.91	65.85	65.59	---	---	64.86	64.70	63.02	63.55	62.86	64.80
10	67.64	66.76	65.87	65.46	---	65.56	64.63	64.32	63.32	63.29	63.53	66.46
15	67.55	66.47	65.95	65.50	---	65.30	64.50	63.87	63.81	63.25	63.88	66.95
20	67.31	66.45	65.81	65.56	---	65.43	64.37	63.51	63.32	63.54	63.66	67.01
25	66.75	66.49	66.03	---	---	65.22	63.92	63.66	63.40	63.05	63.98	67.00
EOM	67.00	66.03	65.77	---	---	65.12	64.13	63.16	63.45	63.04	63.81	68.53
MAX	68.05	66.91	66.21	---	---	---	65.05	64.75	63.92	63.88	63.98	68.64

LAKE COUNTY—Continued

WELL NUMBER.--290950081315501. Astor Park Well at Astor Park, FL.

LOCATION.--Lat 29°09'50", long 81°31'55", in land grant 37, T.15 S., R.28 E., Hydrologic Unit 03080101, at residence, 200 ft north of State Highway 40, and 0.7 mi west of St. Johns River at Astor Park. Owner: W.G. House.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 225 ft, casing length 175 ft.

INSTRUMENTATION.--Water-stage recorder-60-minute interval.

DATUM.--Elevation of land-surface datum is 17.78 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 2.40 ft above land-surface datum.

PERIOD OF RECORD.--February 1936 to December 1949 (monthly); January 1950 to September 1985 (bimonthly); October 1985 to September 1997 (monthly); October 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.15 ft above NGVD of 1929, October 1945; lowest daily maximum, 9.18 ft above NGVD of 1929, Jan. 3, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.56	15.49	15.03	14.62	14.71	14.84	14.53	14.52	---	---	13.86	15.64
10	15.68	15.60	14.99	14.56	14.66	14.72	14.40	14.41	---	---	14.41	15.72
15	15.84	15.48	14.92	14.45	14.77	14.63	14.07	14.26	---	---	14.63	15.91
20	15.61	15.33	14.90	14.46	14.71	14.94	14.03	14.08	---	---	14.79	15.89
25	15.36	15.20	14.68	14.28	14.86	14.89	13.79	13.86	---	---	14.96	16.29
EOM	15.32	15.06	14.68	14.25	---	14.87	13.82	13.54	---	13.80	14.99	16.45
MAX	15.87	15.68	15.09	14.63	---	15.04	14.83	14.52	---	---	15.09	16.69

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

LAKE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
282241081443901	05-17-04	1400	L-0051 SAND MINE RD DP WELL NR CLERMONT	114.88
	09-21-04	0920		117.20
282318081544003	05-19-04	1145	GREEN SWAMP AQUIFER TEST LK751W	102.11
282729081443301	05-17-04	1332	LK LOUISA STATE PARK (SJRWMD L-0053) NR CLERMONT	97.21
	09-22-04	1130		99.72
283019081455701	05-17-04	1539	LCFD DIST.9 STATION 1	91.86
	09-22-04	1158		94.86
283128081404701	05-17-04	1258	JOHNS LAKE WELL NR CLERMONT (SJ L-0052)	82.70
	09-21-04	1410		85.79
283204081544901	05-17-04	1505	832154334 MASCOTTE DEEP WELL NR MASCOTTE, FL.	99.76
	09-21-04	1044		102.02
283232081394101	05-17-04	1135	83213902 EDGEWATER BEACH DEEP	80.14
	09-21-04	1440		83.05
283355081411701	05-17-04	1120	L-0199 TURNPIKE	73.29
	09-21-04	1343		75.13
283530081514501	05-18-04	0932	DR PHILLIPS & SONS DP	88.33
	09-21-04	1125		92.08
283608081403001	05-17-04	1100	L-0658 CITY OF MONTVERDE	73.88
	09-21-04	1330		76.53
284122081534401	05-18-04	0955	L-0095 GROVELAND TOWER DEEP	82.29
	09-21-04	1145		85.64
284232081533001	05-18-04	1028	842153142 20S24E34	79.64
	09-21-04	1210		83.31
284528081530201	05-18-04	1050	CHURCH OF GOD OF PROPHECY	65.58
	09-21-04	1250		68.73
284725081361901	05-17-04	0945	WOLF SINK OBSERVATION WELL NR SORRENTO	48.43
	09-22-04	0834		54.29
284757081320701	01-26-04	1330	L KNOWLES DEEP	48.32
	05-17-04	0850		45.81
	07-15-04	1145		45.55
	09-22-04	0720		50.84
284929081294901	05-20-04	1540	ABANDONED FREEFLOW SR46A NR SORRENTO	40.25
	09-22-04	1600		42.35
285144081475002	05-18-04	1251	L-0290 LEESBURG FIRETOWER DEEP AT LEESBURG,FL	61.83
	09-22-04	1255		64.48
285257081434201	05-18-04	1400	852143121 18S26E32 J EICHEL BERGER	56.56
	09-22-04	1350		58.76
285357081472801	05-18-04	1315	SJR DEEP NR CABBAGE HAMMOCK L-0620	56.26
	09-22-04	1318		58.68
285454081241201	05-19-04	1615	LOWER WEKIWA R. 2IN FREE FLOW	28.07
	09-24-04	1545		30.57

LAKE COUNTY---Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
285504081405901	05-18-04	1445	855140-- 18S26E14 AUSTIN GROVES	51.89
	09-22-04	1415		54.93
285539081262901	05-18-04	1608	PINE LAKES WELL ON SR 44	35.66
	09-22-04	1520		39.75
285810081234101	09-24-04	1430	LOWER WEKIVA R 4"FREEFLO	28.73
285827081331401	05-18-04	1536	PAUL SHOKLEY AT PAISLEY	41.12
	09-23-04	1538		44.40
290000081380001	05-18-04	1514	PITTMAN WORK CENTER ABANDONED NR ALTOONA,FL	46.55
	09-23-04	1020		49.37
290052081271201	05-20-04	1441	CENTRAL BAPTIST YOUTH CAMP	43.07
	09-24-04	1245		46.29
290244081302601	05-20-04	1330	OCALA NF4" NR ALEX.SPGS.CR BOAT LANDING	15.03
	09-23-04	1450		18.29
290451081344401	05-20-04	1348	L-0066 OBS WELL ALEXANDER SP NR ASTOR	16.13
	09-23-04	1507		17.93
290633081375201	05-20-04	0900	90613701 16S27E18 CAMP OCALA	41.71
	09-23-04	1043		44.43
290646081314001	05-20-04	1225	L-0441 USFS WELL NR ASTOR,FL	18.46
	09-23-04	1345		20.88
290647081342101	05-20-04	1300	USGS WELL,2MI N ALEX SPGS,ALTOONA	37.49
	09-23-04	1425		42.18
290647081342102	05-20-04	1255	L-0456 ALEXANDER SPS SH	41.42
	09-23-04	1428		43.82
290900081342002	05-20-04	1140	909134 15S27E-- ASTOR PARK	33.82
	09-23-04	1415		35.62
290910081360001	05-20-04	1040	CAMP MCQUARRIE ABANDONED DP AT CROOKED LAKE	45.19
	09-23-04	1150		47.21
291002081330601	05-20-04	1150	L-0455 ASTOR 150 CF	16.65
	09-23-04	1315		19.25
291448081381601	05-20-04	0945	JUNIPER HUNT CLUB SUPPLY	.56
	09-23-04	1110		2.48

KEY TO SITE LOCATIONS ON FIGURE 15
LEVY COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	290112082371101	126
2	290200082432301	126
3	290202082403901	127
4	290230082412501	127
5	290743082341501	128
6	291910082341101	128
7	292430082283001	129

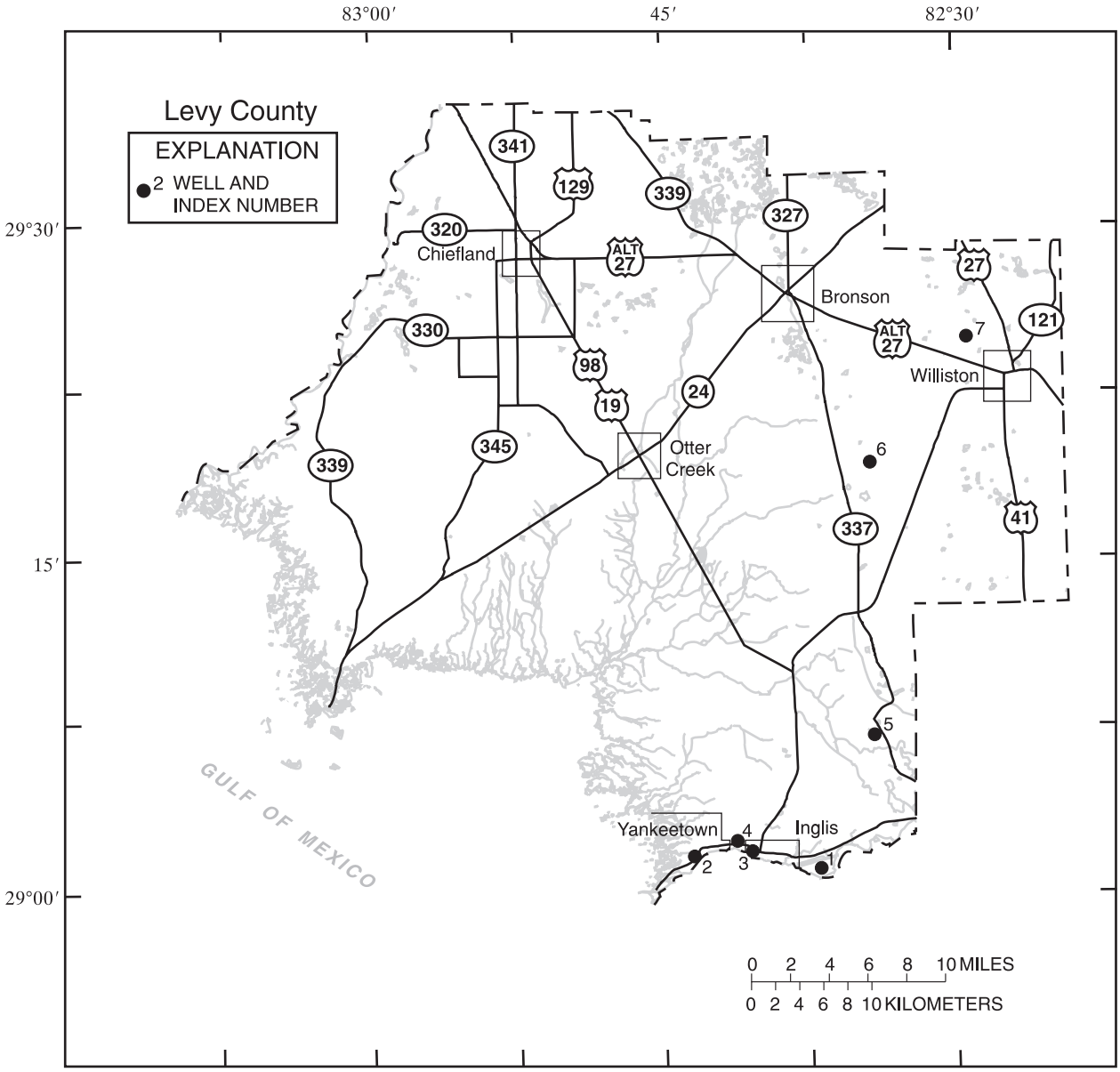

Figure 15.--Location of wells in Levy County.

LEVY COUNTY

WELL NUMBER.--290112082371101. CE-5 Well near Inglis, FL.

LOCATION.--Lat 29°01'12", long 82°37'11", in NE¼NE¼NE¼ sec.7, T.17 S., R.17 E., Hydrologic Unit 03100208, on island 700 ft southwest of Inglis lock, and 3.2 mi southeast of Inglis. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth l25 ft, cased to 84 ft.

INSTRUMENTATION.--Water-stage recorder--15-minute interval.

DATUM.--Elevation of land-surface datum is 25.39 ft above NGVD of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 9.41 ft above NGVD of 1929, Sept. 6, 1968; lowest, 4.38 ft below NGVD of 1929, Dec. 12, 2002.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.02	6.83	6.30	6.10	5.49	5.86	5.82	5.61	5.87	5.70	6.03	4.48
10	7.19	5.67	6.80	6.04	5.30	5.30	5.81	5.60	5.25	5.08	5.53	6.96
15	7.15	6.53	5.64	5.59	5.44	5.58	5.02	5.41	5.62	5.58	6.15	8.49
20	6.64	6.30	5.62	5.54	5.66	5.79	5.64	5.78	5.73	5.67	5.82	7.16
25	7.05	6.64	6.19	5.81	5.60	5.45	5.47	5.31	5.19	5.76	5.58	7.48
EOM	6.32	5.48	5.60	4.94	5.03	6.13	5.31	5.67	5.63	6.48	6.03	8.21
MAX	7.46	7.32	6.80	6.10	6.14	6.13	6.30	5.89	5.87	6.48	6.51	9.04

WELL NUMBER.--290200082432301. ROMP 124 Well near Yankeetown, FL.

LOCATION.--Lat 29°02'00", long 82°43'23", in NW¼NE¼NE¼ sec.6, T.17 S., R.16 E., Hydrologic Unit 03110101, 120 ft south of Bonita Club Road, and 1.2 mi west of Yankeetown. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 250 ft, cased to 200 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 4.21 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.74 ft above land-surface datum.

PERIOD OF RECORD.--March 1978 to September 1992; October 1992 to September 2004 (monthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 6.11 ft above NGVD of 1929, Aug. 31, 1985; lowest water level measured, 1.51 ft above NGVD of 1929, Jan. 24, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	3.64	JAN 26	2.67	APR 26	2.59	JUN 28	2.63	SEP 22	3.63
NOV 24	3.18	FEB 23	2.71	MAY 19	2.23	JUL 26	3.01	27	2.79
DEC 29	2.43	MAR 29	2.91	24	2.40	AUG 23	3.06		

WATER YEAR 2004 LOWEST 2.23 MAY 19, 2004 HIGHEST 3.64 OCT 27, 2003

LEVY COUNTY—Continued

WELL NUMBER.--290202082403901. Florida Power Corporation (CE-62) Well at Inglis, FL.

LOCATION.--Lat 29°02'02", long 82°40'39", in SW¼NW¼NE¼ sec.3, T.17 S., R.16 E., Hydrologic Unit 03100208, 100 ft south of State Highway 40 at abandoned power plant, 0.6 mi west of U.S. Highway 19 in Inglis. Owner: Florida Power Corporation.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 155 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 12.67 ft above NGVD of 1929. Measuring point: Top of 4 in. coupling, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--March 1961, October 1963 to September 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.55 ft above NGVD of 1929, Sept. 15, 1964; lowest measured, 1.34 ft above NGVD of 1929, Mar. 14, 1968.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	5.79	DEC 12	4.37	FEB 13	3.73	APR 09	4.72	JUN 07	2.97	AUG 11	4.40

WATER YEAR 2004 LOWEST 2.97 JUN 07, 2004 HIGHEST 5.79 OCT 30, 2003

WELL NUMBER.--290230082412501. ROMP 125 Well at Crackertown, FL.

LOCATION.--Lat 29°02'30", long 82°41'25", in SE¼SW¼SE¼ sec.33, T.16 S., R.16 E., Hydrologic Unit 03110101, 40 ft southwest of intersection of State Highway 40A and Schoolcraft Road at Crackertown. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, unused, artesian well, diameter 6 in., depth 280 ft, cased to 270 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 8.64 ft above NGVD of 1929. Measuring point: Top of flange, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 8.29 ft above NGVD of 1929, Sept. 9, 1988; lowest, .57 ft above NGVD of 1929, June 9,10, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.22	---	---	3.27	3.21	5.11	4.27	3.35	2.47	2.49	3.99	4.93
10	5.06	---	---	3.15	3.29	4.81	4.20	3.21	2.34	2.30	3.87	7.63
15	5.21	---	3.52	3.04	3.42	4.77	4.13	2.99	2.55	2.52	4.24	7.30
20	4.84	---	3.42	3.18	3.52	5.03	3.92	2.89	2.53	4.13	4.10	6.68
25	4.67	---	3.41	3.24	5.16	4.61	3.63	2.74	2.43	4.33	4.17	6.24
EOM	---	---	3.24	3.07	5.18	4.48	3.41	2.53	2.56	4.21	4.46	7.19
MAX	---	---	---	3.27	5.28	5.19	4.48	3.50	2.56	4.35	4.50	8.06

LEVY COUNTY—Continued

WELL NUMBER.--290743082341501. Tidewater Number 1 Well near Dunnellon, FL.

LOCATION.--Lat 29°07'43", long 82°34'15", in NE¼SE¼NE¼ sec.34, T.15 S., R.17 E., Hydrologic Unit 03110101, on south side of State Highway 336 in Tidewater, 9.8 mi northwest of Dunnellon. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 12 in., depth 784 ft, cased to 298 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 70.07 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.82 ft above land-surface datum.

PERIOD OF RECORD.--October 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 61.81 ft above NGVD of 1929, Sept. 26, 1982; lowest, 49.34 ft above NGVD of 1929, June 19, 2002.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	55.81	55.42	54.94	54.35	53.97	54.35	54.11	53.59	52.60	52.86	54.03	54.60
10	55.72	55.27	54.94	54.24	53.93	54.31	54.03	53.46	52.61	52.71	53.96	55.05
15	55.78	55.21	54.59	54.19	54.04	54.31	53.89	53.33	52.70	52.92	53.94	55.76
20	55.59	55.19	54.53	54.01	53.98	54.33	53.96	53.14	52.81	53.53	53.91	55.96
25	55.42	55.06	54.47	54.09	54.33	54.21	53.71	53.02	53.07	53.71	53.92	56.30
EOM	55.44	54.85	54.31	53.97	54.25	54.36	53.61	52.77	53.03	53.88	53.95	56.86
MAX	55.87	55.54	54.94	54.35	54.35	54.46	54.30	53.64	53.09	53.94	54.09	57.13

WELL NUMBER.--291910082341101. Bullock-Huber Well near Williston, FL.

LOCATION.--Lat 29°19'10", long 82°34'11", in NW¼NW¼NW¼ sec.36, T.13 S., R.17 E., Hydrologic Unit 03110101, in a field, 1.0 mi south of a county road, 2.9 mi west of State Highway 121, and 10 mi southwest of Williston. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 91 ft, cased to 68 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 91.40 ft above NGVD of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum. Prior to Oct. 1995 at elevation 0.60 ft lower.

PERIOD OF RECORD.--February 1974 to September 1977 (bimonthly); October 1977 to September 1979 (semiannually); October 1979 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.53 ft above NGVD of 1929, Mar. 13, 1998; lowest measured, 37.58 ft above NGVD of 1929, June 12, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	44.85	FEB 17	42.74	MAY 18	42.12	AUG 23	41.96	SEP 29	49.86
DEC 12	44.00	APR 20	42.96	JUN 10	41.48	SEP 21	48.40		

WATER YEAR 2004 LOWEST 41.48 JUN 10, 2004 HIGHEST 49.86 SEP 29, 2004

LEVY COUNTY—Continued

WELL NUMBER.--292430082283001. Devils Den Sink CE-8 near Williston, FL.

LOCATION.--Lat 29°24'26", long 82°28'36", in NW¼SE¼SE¼ sec.26, T.12 S., R.18 E., Hydrologic Unit 03080102, 1,000 ft west of county road, 1.3 mi north of Alternate U.S. Highway 27, at a point 1.0 mi west of U.S. Highway 41 in Williston. Owner: Hugh Barton.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Natural sinkhole, depth 32 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 71.55 ft above NGVD of 1929. Measuring point: Painted mark on east side of sink at land-surface datum.

PERIOD OF RECORD.--November 1935 to December 1949, and March 1966 to September 1967 (monthly); November 1967 to September 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 60.40 ft above NGVD of 1929, October 1948; lowest measured, 39.07 ft above NGVD of 1929, August 1, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	45.86	FEB 17	44.01	MAY 18	43.67	AUG 23	42.90	SEP 29	48.81
DEC 12	45.20	APR 20	44.09	JUN 10	43.19	SEP 21	47.25		

WATER YEAR 2004 LOWEST 42.90 AUG 23, 2004 HIGHEST 48.81 SEP 29, 2004

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

LEVY COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
290503082323101	05-19-04	0840	90523201 16S17E13 SCE 108 T & J RANCH	71.02
	09-22-04	0910		74.67
290605082372601	05-19-04	1020	90623701 16S17E07 GEOTHE ROAD	28.52
	09-22-04	0800		34.54
291004082382901	05-19-04	0920	91023801 15S16E24 910238433 DIXIE LIME PR	22.77
	09-21-04	1430		26.05
291414082560901	05-19-04	1440	ROSEWOOD TOWER WELL NR. CEDAR KEYS FL.	10.23
	09-21-04	1330		11.47
291508082432901	05-19-04	1420	GULF HAMMOCK	8.63
	09-21-04	1205		11.24
291712082351801	05-19-04	1400	SOUTH OF BONSON-RO	46.27
	09-21-04	1240		48.49
292143082282201	05-19-04	1205	92122801 13S18E11 WILLISTON AIRPORT	43.34
	09-21-04	1110		47.34
292310082373701	05-18-04	1430	ERCELL SMITH	51.98
	09-21-04	1150		55.11
292615082272601	05-18-04	1505	ROMP 134 NEAR WILLISTON, FL	43.55
	09-21-04	1010		47.10
292713082493601	05-19-04	1135	H.E.MILLS NR CHIEFLAND,FL	21.09
	09-29-04	1130		30.50
292744082375201	09-02-04	1345	BRONSON HIGH SCHOOL WELL AT BRONSON,FL	43.63

KEY TO SITE LOCATIONS ON FIGURE 16
MARION COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	290106082191001	134
2	290133082140901	134
3	290215082152401	135
4	290306082232802	135
5	290312082250801	136
6	290514082270701	136
7	290815082025701	137
8	291059082190801	137
9	291100082010003	138
10	291110082060001	138
11	291115082102901	139
12	291849081411401	139
13	292200081510001	140
14	292543081513301	140

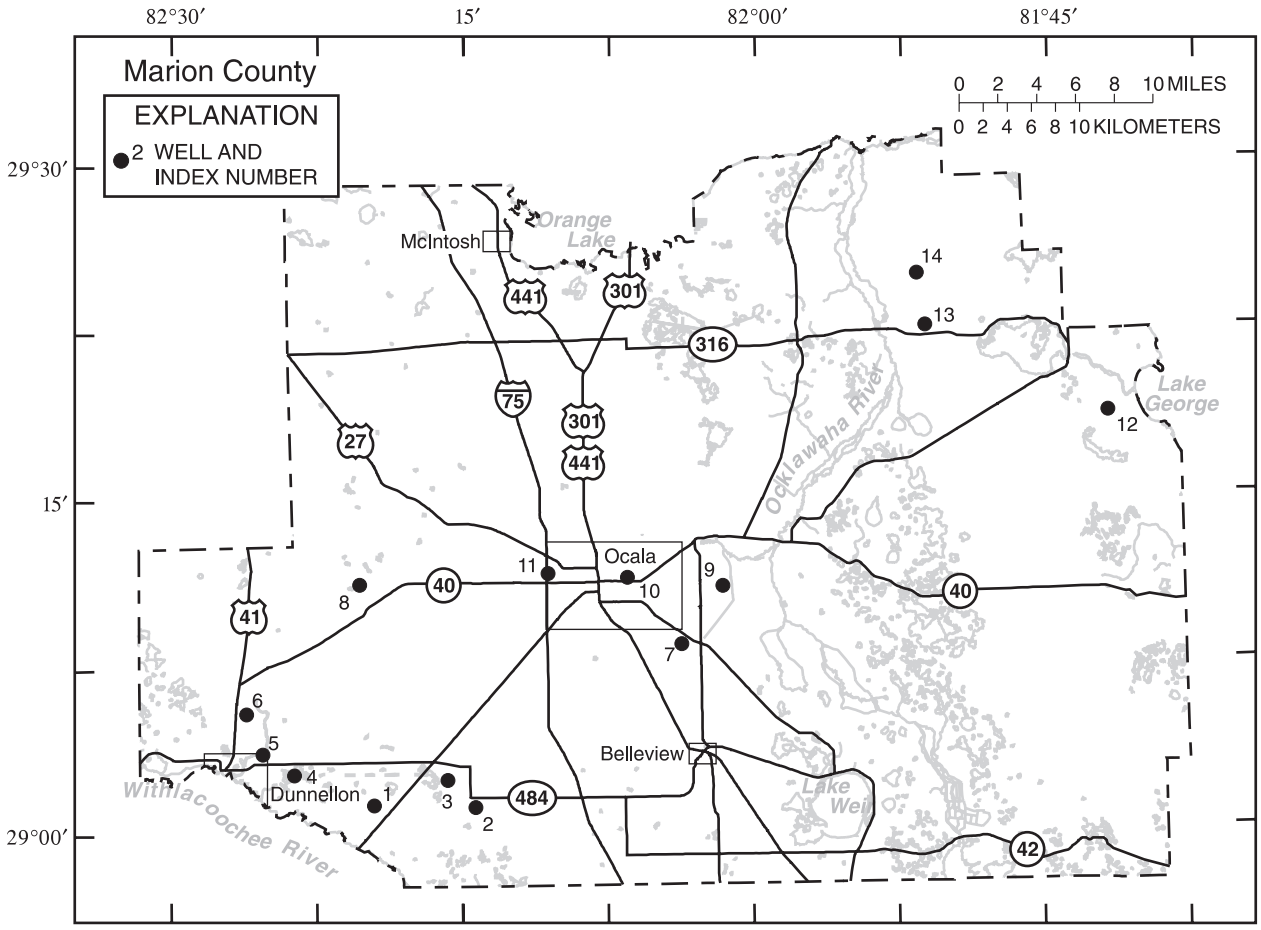

Figure 16.--Location of wells in Marion County.

MARION COUNTY

WELL NUMBER.--290106082191001. CE-23 Well near Dunnellon, FL.

LOCATION.--Lat 29°01'06", long 82°19'10", in NE¼NE¼NE¼ sec.17, T.17 S., R.20 E., Hydrologic Unit 03100208, north of State Highway 200, 2.8 mi northeast of Withlacoochee River, and 16.3 mi southwest of Ocala. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit l20 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 45 ft, cased to 19 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 62.64 ft above NGVD of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1966 to September 1977; October 1977 to September 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.94 ft above NGVD of 1929, Mar. 11, 1998; lowest measured, 36.37 ft above NGVD of 1929, March 20, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 04	44.77	FEB 10	41.46	MAY 18	41.34	AUG 04	42.06
DEC 15	43.17	APR 19	42.30	JUN 04	40.77	SEP 21	48.81

WATER YEAR 2004 LOWEST 40.77 JUN 04, 2004 HIGHEST 48.81 SEP 21, 2004

WELL NUMBER.--290133082140901. ROMP 119 Well near Ocala, FL.

LOCATION.--Lat 29°01'33", long 82°14'09", in NW¼NW¼SW¼ sec.8, T.17 S., R.21 E., Hydrologic Unit 03080102, on south side of State Highway 484, 4.5 mi west from intersection with Interstate Highway 75, and 12 mi southwest of Ocala. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 8 in., depth 502 ft, cased to 106 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 71.85 ft above NGVD of 1929. Measuring point: Top of flange, 3.90 ft above land-surface datum.

PERIOD OF RECORD.--December 1982 to June 2004 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 52.20 ft above NGVD of 1929, Mar. 28, 30, 31, 1998; lowest, 39.90 ft above NGVD of 1929, June 25,26, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	46.62	45.97	45.35	44.53	43.85	43.70	44.06	43.55	42.89	---	---	---
10	46.50	45.95	45.22	44.40	43.78	43.70	44.00	43.45	42.83	---	---	---
15	46.45	45.84	45.05	44.27	43.72	43.67	43.92	43.35	42.94	---	---	---
20	46.33	45.73	44.93	44.15	43.63	43.92	43.85	43.25	43.11	---	---	---
25	46.19	45.60	44.80	44.05	43.61	44.02	43.71	43.14	---	---	---	---
EOM	46.07	45.45	44.65	43.93	43.66	44.11	43.59	42.99	---	---	---	---
MAX	46.69	46.05	45.43	44.62	43.92	44.11	44.10	43.59	---	---	---	---

MARION COUNTY—Continued

WELL NUMBER.--290215082152401. CE-74 Well near Ocala, FL.

LOCATION.--Lat 29°02'15", long 82°15'24", in NE¼SW¼SE¼ sec.1, T.17 S., R.20 E., Hydrologic Unit 03100208, 0.25 mi west of State Highway 484, 2.9 mi southeast of State Highway 200, and 13 mi southwest of Ocala. Owner: U.S. Army Corps of Engineers.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 2 in., depth 51 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 76.97 ft above NGVD of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1964 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.63 ft above NGVD of 1929, Mar. 11, 1998; lowest measured, 38.82 ft above NGVD of 1929, March 19, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 04	45.15	FEB 13	42.82	MAY 18	42.41	AUG 12	42.36
DEC 12	44.32	APR 19	43.02	JUN 10	41.91	SEP 21	47.52

WATER YEAR 2004 LOWEST 41.91 JUN 10, 2004 HIGHEST 47.52 SEP 21, 2004

WELL NUMBER.--290306082232802. Fire Tower (CE-73) Well at Dunnellon, FL.

LOCATION.--Lat 29°03'06", long 82°23'28", in SE¼NW¼SE¼ sec.34, T.16 S., R.19 E., Hydrologic Unit 03100208, on south side of State Highway 484, across from Dunnellon Fire Tower, and 4.4 mi east of U.S. Highway 41 in Dunnellon. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 36 ft, cased to 26 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 65.18 ft above NGVD of 1929. Measuring point: Hole in cap, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1964 to May 1966 (monthly), July 1966 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 61.99 ft above NGVD of 1929, Mar. 11, 1998; lowest measured, 47.91 ft above NGVD of 1929, July 15, 1975.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	55.37	FEB 13	52.83	MAY 18	52.96	AUG 12	53.60
DEC 12	54.11	APR 19	54.18	JUN 09	51.95	SEP 21	58.28

WATER YEAR 2004 LOWEST 51.95 JUN 09, 2004 HIGHEST 58.28 SEP 21, 2004

MARION COUNTY—Continued

WELL NUMBER.--290312082250801. CE-14 Well near Dunnellon, FL.

LOCATION.--Lat 29°03'12", long 82°25'08", in NW¼NW¼NW¼ sec.32, T.16 S., R.19 E., Hydrologic Unit 03100208, on north side of State Highway 484, 8.3 mi west of State Highway 200, and 2.7 mi east of Dunnellon. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 190 ft, cased to 112 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 60.24 ft above NGVD of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1966 to September 2004 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 50.90 ft above NGVD of 1929, Mar. 1, 1998; lowest, 34.18 ft above NGVD of 1929, July 11, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	45.29	44.09	42.89	41.69	40.53	---	---	40.64	39.51	38.75	39.10	40.02
10	45.10	43.89	42.63	41.49	40.38	---	---	40.48	39.35	38.57	39.53	45.10
15	44.92	43.69	42.45	41.30	---	---	---	40.30	39.20	38.48	39.80	45.74
20	44.69	43.50	42.29	41.08	---	---	41.17	40.12	39.03	38.51	39.93	45.84
25	44.44	43.32	42.09	40.92	---	---	40.99	39.96	38.97	38.78	40.00	45.84
EOM	44.26	43.12	41.86	40.72	---	---	40.81	39.76	38.83	38.91	39.95	48.38
MAX	45.43	44.24	43.09	41.82	---	---	---	40.80	39.73	38.91	40.02	48.38

WELL NUMBER.--290514082270701. Rainbow Springs Well near Dunnellon, FL.

LOCATION.--Lat 29°05'14", long 82°27'07", in SW¼NW¼SW¼ sec.13, T.16 S., R.18 E., Hydrologic Unit 03100208, on east side of U.S. Highway 41, 2.8 mi north of Dunnellon. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 442 ft, cased to 125 ft.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--60-minute interval.

DATUM.--Elevation of land-surface datum is 113.13 ft above NGVD of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

REMARKS.--Well records used to determine flow of Rainbow Springs.

PERIOD OF RECORD.--October 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily mean water level, 36.12 ft above NGVD of 1929, Oct. 22, 1964; lowest, 29.68 ft above NGVD of 1929, June 11, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.37	31.93	31.58	31.28	30.90	30.88	30.79	30.66	30.45	30.40	30.74	31.02
10	32.28	31.88	31.53	31.22	30.86	30.90	30.80	30.58	30.42	30.40	30.84	31.95
15	32.27	31.84	31.50	31.15	30.93	30.88	30.79	30.52	30.44	30.42	30.90	32.59
20	32.15	31.81	31.46	31.15	30.86	30.91	30.69	30.47	30.37	30.52	30.94	33.03
25	32.04	31.71	31.41	31.10	30.91	30.85	30.62	30.48	30.41	30.55	30.96	33.26
EOM	32.05	31.64	31.33	30.93	30.87	30.82	30.60	30.42	30.39	30.63	30.99	34.11
MAX	32.44	32.02	31.62	31.32	30.94	30.97	30.82	30.69	30.45	30.64	30.99	34.11

MARION COUNTY—Continued

WELL NUMBER.--290815082025701. USGS Well CE-40 replacement near Ocala, FL.

LOCATION.--Lat 29°08'15", long 82°02'57", in SE¼SE¼SW¼ sec.31, T.15 S., R.23 E., Hydrologic Unit 03100208, on south side of State Highway 464, 6.5 mi northwest of Candler, and 4.3 mi southeast of Ocala. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 3 in., depth 105 ft, cased to 47 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 91.45 ft above NGVD of 1929. Measuring point: Top edge of casing, 2.80 ft above land-surface datum.

REMARKS.--Record is equivalent to that for CE-40 (290810082025001), available March 1966 to September 1982.

PERIOD OF RECORD.--March 1986 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.39 ft above NGVD of 1929, Mar. 13, 1998; lowest measured, 39.63 ft above NGVD of 1929, July 2, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	45.13	DEC 17	44.10	FEB 15	42.95	APR 21	43.03	JUN 01	42.35	AUG 02	42.61

WATER YEAR 2004 LOWEST 42.35 JUN 01, 2004 HIGHEST 45.13 OCT 23, 2003

WELL NUMBER.--291059082190801. Romp 120 near Cotton Plant, FL.

LOCATION.--Lat 29°10'59", long 82°19'08", in NE¼SE¼SE¼ sec.17, T.15 S., R.20 E., Hydrologic Unit 03080102, on south side of State Highway 328, 0.4 mi from intersection with State Highway 40 in Cotton Plant. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 8 in, depth 403 ft, cased to 110 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 76.04 ft above NGVD of 1929. Measuring point: Top of flange, 3.22 ft above land-surface datum.

PERIOD OF RECORD.--October 1981 to August 1992; September 1992 to September 2004 (monthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.16 ft above NGVD of 1929, Mar. 24, 1998; lowest, 38.96 ft above NGVD of 1929, June 20, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	45.71	JAN 26	43.51	APR 26	42.92	JUN 28	42.22	SEP 21	46.93
NOV 24	45.10	FEB 23	42.93	MAY 20	42.43	JUL 26	42.26		
DEC 29	44.25	MAR 29	43.26	24	42.48	AUG 23	42.48		

WATER YEAR 2004 LOWEST 42.22 JUN 28, 2004 HIGHEST 46.93 SEP 21, 2004

MARION COUNTY—Continued

WELL NUMBER.--291100082010003. Local Number CE-76. USGS Observation Well CE-76 near Ocala, FL.

LOCATION.--Lat 29°11'00", long 82°01'00", in NE¼NW¼SW¼ sec.16, T.15 S., R.23 E., Hydrologic Unit 03080102, on south side of Sharpes Ferry Road, 6.5 mi east of Ocala. Owner: U.S. Geological Survey.

AQUIFER..--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 153 ft, cased to 124 ft.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--60 minute interval.

DATUM.--Land-surface datum is 64.51 ft above NGVD of 1929. Measuring point: Top edge of casing, 2.80 ft above land-surface datum.

PERIOD OF RECORD.--January 1968 to September 1977; October 1977 to March 2002 (bimonthly), April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 46.78 ft above NGVD of 1929, Apr. 19, 1970; lowest measured, 39.22 ft above NGVD of 1929, July 2, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	43.72	43.47	43.03	42.57	42.18	42.23	42.25	42.05	41.66	41.81	41.97	42.58
10	43.71	43.39	42.99	42.48	42.15	42.19	42.22	41.95	41.65	41.80	41.99	44.23
15	43.72	43.31	42.83	42.42	42.15	42.22	42.16	41.89	41.78	41.84	42.05	44.66
20	43.66	43.26	42.78	42.33	42.08	42.42	42.14	41.85	41.79	41.85	42.10	44.80
25	43.56	43.16	42.70	42.29	42.25	42.35	42.03	41.79	41.78	41.82	42.20	44.93
EOM	43.51	43.06	42.60	42.22	42.29	42.35	41.98	41.68	41.82	41.95	42.21	45.95
MAX	43.77	43.52	43.04	42.59	42.30	42.47	42.33	42.05	41.83	41.97	42.24	45.95

CAL YR 2003 MAX 44.37
WTR YR 2004 MAX 45.95

WELL NUMBER.--291110082060001. USGS Well CE-44 at Ocala, FL.

LOCATION.--Lat 29°11'10", long 82°06'00", in SW¼SW¼NW¼ sec.15, T.15 S., R.22 E., Hydrologic Unit 03080102, on south side of State Highway 40, 120 ft east of Florida Highway Patrol Station at Ocala, and 3.0 mi west of Silver Springs. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 91 ft, cased to 34.2 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 102.73 ft above NGVD of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--April 1966 to September 1977; October 1977 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 46.94 ft above NGVD of 1929, Mar. 13, 1998; lowest measured, 37.36 ft above NGVD of 1929, April 8, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	43.05	DEC 08	42.29	FEB 19	41.36	APR 20	41.43	MAY 27	41.09	AUG 03	41.33

WATER YEAR 2004 LOWEST 41.09 MAY 27, 2004 HIGHEST 43.05 OCT 23, 2003

MARION COUNTY—Continued

WELL NUMBER.--291115082102901. USGS Well CE-31 replacement at Ocala, FL.

LOCATION.--Lat 29°11'15", long 82°10'29", in SE¼SW¼NE¼ sec.14, T.15 S., R.21 E., Hydrologic Unit 03080102, 0.25 mi west of Alternate U.S. Highway 27, and 0.1 mi north of State Highway 40, about 2 mi west of Ocala. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 55 ft, cased to 27 feet.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 72.66 ft above NGVD of 1929. Measuring point: Top of casing, 2.4 ft above land-surface datum.

REMARKS.--Record is equivalent to that for CE-31 (291120082102501), available November 1935 to May 1983.

PERIOD OF RECORD.--April 1986 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.88 ft above NGVD of 1929, Mar. 13, 1998; lowest measured, 39.40 ft above NGVD of 1929, July 2, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	44.89	FEB 17	42.73	MAY 20	42.32	AUG 05	42.28
DEC 08	43.91	APR 20	42.71	JUN 07	42.15	SEP 21	46.11

WATER YEAR 2004 LOWEST 42.15 JUN 07, 2004 HIGHEST 46.11 SEP 21, 2004

WELL NUMBER.--291849081411401. Lake George Well near Salt Springs, FL.

LOCATION.--Lat 29°18'49", long 81°41'14", in SE¼ sec.42, Joseph M. Hernandez Grant, T.13 S., R.26 E., Hydrologic Unit 03080101, on a sand trail, on the east side of State Highway 19, 3.8 mi southeast of Salt Springs. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in, depth 298 ft, cased to 267.50 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 18.92 ft above NGVD of 1929. Measuring point: Top of PVC casing at black mark, 2.68 ft above land-surface datum.

PERIOD OF RECORD.--January 1983 to September 1985 (bimonthly); October 1985 to March 2002 (monthly); April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 19.52 ft above NGVD of 1929, Nov. 17, 2003; lowest measured, 12.99 ft above NGVD of 1929, June 27, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	18.46	18.63	---	17.63	17.34	17.07	16.77	16.36	15.84	15.85	15.94	16.93
10	18.43	18.62	---	17.57	17.26	16.95	16.61	16.27	15.88	15.92	16.05	17.62
15	18.59	18.39	---	17.53	17.29	17.01	16.46	16.22	15.91	15.96	15.99	18.26
20	18.66	18.79	---	17.42	17.19	17.01	16.46	16.12	15.86	15.88	16.14	18.56
25	18.54	---	17.77	17.37	17.23	16.98	16.27	15.98	15.83	15.88	16.20	18.92
EOM	18.52	---	17.69	17.29	17.24	16.98	16.36	15.88	15.83	15.91	16.30	19.16
MAX	18.69	---	---	17.67	---	17.21	---	16.36	15.91	16.00	16.35	19.39

MARION COUNTY—Continued

WELL NUMBER.--292200081510001. USGS Well CE-84 near Salt Springs, FL.

LOCATION.--Lat 29°22'00", long 81°51'00", in NW¼NW¼NE¼ sec.13, T.13 S., R.24 E., Hydrologic Unit 03080101, on north side of State Highway 316, 2.5 mi east of Ocklawaha River at Eureka, 7.5 mi west of Salt Springs, and 8.0 mi east of Fort McCoy. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 90 ft, cased to 53 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 91.72 ft above NGVD of 1929. Measuring point: Top of casing, 3.38 ft above land-surface datum.

COOPERATION.--Since Oct. 1, 1985 records provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--July 1970 to September 1977; October 1977 to September 1985 (bimonthly); October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.92 ft above NGVD of 1929, Nov. 28, 1979; lowest measured, 21.31 ft above NGVD of 1929, Sept. 16, 1992.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	26.20	JAN 23	25.88	APR 20	25.42	JUN 17	24.95	SEP 21	25.94
NOV 19	26.30	FEB 17	25.82	MAY 17	25.26	JUL 20	24.78	23	26.27
DEC 15	26.14	MAR 23	25.59	18	25.20	AUG 17	24.72		

WATER YEAR 2004 LOWEST 24.72 AUG 17, 2004 HIGHEST 26.30 NOV 19, 2003

WELL NUMBER.--292543081513301. M-0471 Forest Road 75 well near Salt Springs, FL.

LOCATION.--Lat 29°25'43", long 81°51'33", in SE¼SE¼SE¼ sec.23, T.12 S., R.24 E., Hydrologic Unit 03080102, on northwest corner of Forest Roads 75 and 97 in the Ocala National Forest, 7.8 mi northeast of Fort McCoy and 9.2 mi northwest of Salt Springs. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 380 ft, cased to 317 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 136.86 ft above NGVD of 1929. Measuring point: Top of casing, 0.76 ft below land-surface datum.

COOPERATION.--Since April 2002, data provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--April 2002 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.30 ft above NGVD of 1929, Nov. 19, 2003; lowest measured, 19.02 ft above NGVD of 1929, April 19, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	22.20	JAN 23	21.60	APR 20	21.06	JUN 17	20.93	SEP 23	22.20
NOV 19	22.30	FEB 17	21.38	MAY 17	21.00	AUG 17	20.76		
DEC 15	22.16	MAR 24	21.34	18	20.97	SEP 21	22.04		

WATER YEAR 2004 LOWEST 20.76 AUG 17, 2004 HIGHEST 22.30 NOV 19, 2003

MARION COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
285900082072001	05-18-04	1130	USGS OBSER WELL CE36 AT PEDRO, FL.	44.98
	09-20-04	1130		49.04
285930081430901	05-24-04	0800	SR 42 W OF ALTOONA	51.46
	09-20-04	1250		53.56
285933082192501	05-18-04	1330	85921901 17S20E20 CE 24 U S GEOL SURVEY	37.07
	09-21-04	0900		44.89
285953081590101	05-17-04	0740	M-0467 LAKE WEIR MIDDLE SCHOOL NR LADY LAKE,FL	48.26
	09-20-04	1220		51.01
290227082250801	05-18-04	1410	90222501 16S19E31 CE 75 U S GEOL SURVEY	54.62
	09-21-04	1040		59.24
290306082032101	05-20-04	1220	M-0465 BELLEVIEW ELEM SCHOOL AT BELLEVIEW,FL	45.10
	09-22-04	1545		48.78
290312082190601	05-18-04	1345	90321901 16S20E33 CE 22 U S GEOL SURVEY	47.32
	09-21-04	1000		52.85
290400082091001	05-18-04	1200	90420901 USGS OB WELL CE33 NR OCALA FL	43.73
	09-20-04	1040		47.80
290447082250901	05-18-04	1450	90422501 16S19E20 CE 13 U S GEOL SURVEY	32.53
	09-21-04	1110		37.96
290455081530401	05-17-04	0830	90415301USGS OBSER WELL AT MOSS BLUFF PARK, FL.	51.05
	09-20-04	1330		53.30
290628081425301	05-18-04	0845	LOOKOUT TOWER BOMBING RANGE DEEP, ASTOR PARK	49.63
	09-22-04	0900		51.67
290739082245701	05-18-04	1515	90722401 15S19E32 CE 12 U S GEOL SURVEY	33.99
	09-21-04	1300		37.86
290752082271101	05-19-04	0845	90722701 15S18E35 SCE 116 RAINBOW ACRES	33.84
	09-21-04	1325		37.42
290910082315001	05-19-04	0915	90923101 15S18E30 SCE 138 LITTLE LAKE BONABLE	41.58
	09-21-04	1415		47.34
290913082245601	05-19-04	0950	90922401 15S19E29 SCE 118 LAKE TROPICANA	35.71
	09-21-04	1440		40.05
290953082031301	05-20-04	1020	CE79 (M0038) OB WELL NR SILVER SPRINGS, FL	41.77
	09-20-04	1420		45.07
291056082263201	05-19-04	1020	91022601 15S18E13 HERSHEL KYPER ROMEO	37.22
	09-21-04	1500		40.08
291117081540501	05-17-04	0900	REDWATER LAKE DEEP WELL NR LYNNE (SJ M-0044)	48.26
	09-22-04	0900		50.55
291130082015001	05-20-04	1000	USGS OBSER WELL CE 47 NEAR OCALA, FL	40.96
	09-20-04	1400		44.03

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

MARION COUNTY--Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
291625082085901	05-20-04	0930	M-0419 MARION CTY SHERRIF NR OCALA,FL	42.07
	09-21-04	1610		45.69
291728081390501	05-17-04	1015	PONDEROSA CLUB FREEFLOW	14.77
	09-23-04	1345		17.25
291740081562001	05-17-04	1445	USGS OBSER WELL CE54 NEAR OCALA,FL	44.64
	09-22-04	0930		46.66
291751081414301	05-17-04	1040	OCALA NF 4IN SHALLOW WELL(M-0413)	18.30
	09-23-04	1325		20.94
292146082182501	05-19-04	1130	92121801 13S20E09 SR 316 WELL SRWMD	46.43
	09-23-04	0800		46.97
292204082022801	05-17-04	1420	FT MCCOY DEEP	49.13
	09-22-04	0945		51.33
292310081582201	05-17-04	1340	M-0463 FT MCCOY ELEMENTARY SCHOOL NR FT MCCOY,FL	49.84
	09-22-04	1010		57.39
292554082034501	05-19-04	1415	M-0443 CITRA RANCH NR CITRA,FL	53.09
	09-22-04	1245		56.16
292656082125001	05-19-04	1310	M-0351 SPORTSMAN COVE	50.66
292718082202601	05-19-04	1235	92722001 12S20E18 MAHAFFEY WELL	50.45
	09-23-04	0915		51.87
292816082234501	05-19-04	1215	92822301 12S19E03 SMITH BROTHERS WACAHOOTA	50.93
	09-23-04	0845		51.84
292817081483602	05-17-04	1130	OCALA NF 6IN DP WELL(M-0410)NR SALT SPRINGS,FL	20.18
	09-23-04	1200		22.22
292957081573002	05-19-04	1440	M-0441 G&M CATTLE RANCH NR ORANGE SPRINGS,FL	50.16
	09-22-04	1220		55.60

KEY TO SITE LOCATIONS ON FIGURE 17
NASSAU COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	303435081271401	146
2	303518081275002	147
3	303823081273304	147
4	304005081380201	148
5	304213081270801	148

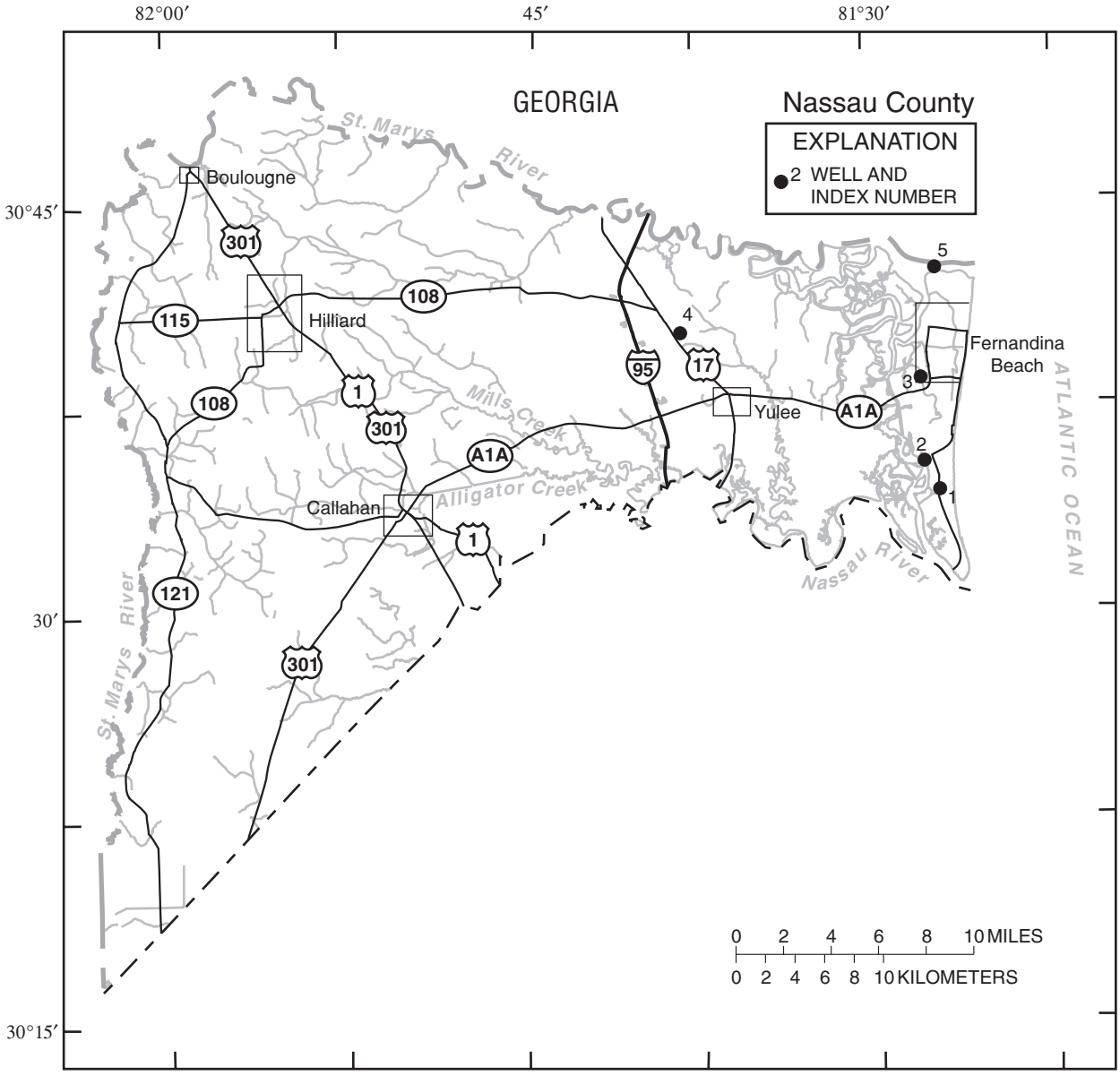

Figure 17.--Location of wells in Nassau County.

NASSAU COUNTY

WELL NUMBER.--303435081271401. Local Number N-46. Amelia Island Corporation Well at Amelia City, FL.

LOCATION.--Lat 30°34'35", long 81°27'14", in SE$^1/_4$SW$^1/_4$SW$^1/_4$ sec.14, T.2 N., R.28 E., Hydrologic Unit 03070205 at Amelia Island waterworks, 200 ft east of water storage tanks, and 1.1 mi south of intersection of State Highways A1A and 105A at Amelia City. Owner: Nassau-Amelia Utilities Corporation.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, commercial, artesian well, diameter 12 in., depth 1,016 ft, cased to 492 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-78, 1983-89 (varied frequencies); 1996 to current year (quarterly).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
24...	1200	<5	7.3	597	23.5	270	59.0	30.0	2.00	17.0	148	23.0	.6
JAN													
23...	1030	<5	7.2	596	22.0	260	56.0	30.0	1.90	17.0	149	23.0	.6
APR													
28...	1015	10	7.2	597	23.0	260	55.0	30.0	1.90	17.0	149	23.0	.6
JUL													
27...	1230	5	7.3	598	26.5	270	56.0	31.8	2.02	16.9	149	23.2	.7

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
OCT				
24...	32.0	120	390	550
JAN				
23...	30.0	120	388	530
APR				
28...	31.0	120	403	540
JUL				
27...	31.4	123	382	535

NASSAU COUNTY—Continued

WELL NUMBER.--303518081275002. Local Number N-130 Well at Amelia City, FL.

LOCATION.--Lat 30°35'18", long 81°27'50", in land grant 12, T.2 N., R.28 E., Hydrologic Unit 03070205, at McCranie residence on Forrest Drive, 0.4 mi west of State Highway A1A at Amelia City. Owner: Mr. Crider.

AQUIFER.--Floridan aquifer system of Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 600 ft, cased to 515 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 14.76 ft above NGVD of 1929. Measuring point: Top of reducer bushing, 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells. Record is equivalent to that for N-3 (303518081275001), available March 1939 to January 2000.

PERIOD OF RECORD.--March 2000 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.56 ft above NGVD of 1929, Feb. 23, 2004; lowest measured, 16.15 ft above NGVD of 1929, May 22, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	24.86	JAN 26	26.56	APR 26	21.66	JUN 28	21.96	SEP 20	26.26
NOV 24	25.96	FEB 23	28.56	MAY 17	20.76	JUL 26	21.56		
DEC 29	26.06	MAR 30	24.36	24	18.31	AUG 24	23.96		

WATER YEAR 2004 LOWEST 18.31 MAY 24, 2004 HIGHEST 28.56 FEB 23, 2004

WELL NUMBER.--303823081273304. Local Number N-62. ITT Rayonier No. 8 Well at Fernandina Beach, FL.

LOCATION.--Lat 30°38'23", long 81°27'33", in land grant 30, T.3 N., R.28 E., Hydrologic Unit 03070205, 30 ft west of State Highway A1A, and 200 ft north of intersection of State Highways A1A and 108, in Fernandina Beach. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 12 in., depth 1,020 ft, cased to 565 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 17.60 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.36 ft above land-surface datum.

REMARKS.--Well originally drilled to 2,130 ft in 1945, later reconstructed to 1,020 ft in 1991.

PERIOD OF RECORD.--November 1994 to December 2003 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 13.23 ft above NGVD of 1929, Feb. 25,26, 2001; lowest, 30.01 ft below NGVD of 1929, June 25, 1999.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-2.19	-6.17	-6.47	---	---	---	---	---	---	---	---	---
10	-1.41	-5.82	-5.91	---	---	---	---	---	---	---	---	---
15	-0.88	-4.34	-5.72	---	---	---	---	---	---	---	---	---
20	-1.57	-5.05	---	---	---	---	---	---	---	---	---	---
25	-4.67	-7.02	---	---	---	---	---	---	---	---	---	---
EOM	-4.57	-7.26	---	---	---	---	---	---	---	---	---	---
MAX	0.40	-1.93	---	---	---	---	---	---	---	---	---	---

Note.--Negative figures indicate water level below NGVD of 1929.

NASSAU COUNTY—Continued

WELL NUMBER.--304005081380201. Local Number N-121. Becker Oil Test Supply Well near Yulee, FL.

LOCATION.--Lat 30°40'05", long 81°38'02", in land grant 50, T.3 N., R.27 E., Hydrologic Unit 03070205, 0.2 mi east of Yulee Fire Tower, 0.42 mi southeast of intersection of U.S. Highway 17 and Parker Road, and 3.0 mi northwest of Yulee. Owner: ITT Rayonier Incorporated.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 645 ft, cased to 460 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 21.95 ft above NGVD of 1929. Prior to September 2002, land-surface datum was 0.08 ft higher. Measuring point: Top of casing, 1.82 ft above land-surface datum. Prior to September 2002 measureing point 1.45 ft above land-surface datum.

REMARKS.--Record is equivalent to that for N-53 (304002081381201), available February 1940 to June 1994.

PERIOD OF RECORD.--May 1984, August 1985, August 1994 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.07 ft above NGVD of 1929, Mar. 30, 2004; lowest measured, 23.23 ft above NGVD of 1929, July 24, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	36.57	JAN 26	36.37	APR 26	35.67	JUN 28	32.97	SEP 20	34.77
NOV 24	36.27	FEB 23	36.87	MAY 17	34.27	JUL 26	33.77		
DEC 29	36.27	MAR 30	37.07	24	34.07	AUG 24	34.17		

WATER YEAR 2004 LOWEST 32.97 JUN 28, 2004 HIGHEST 37.07 MAR 30, 2004

WELL NUMBER.--304213081270801. Local Number N-19. Fort Clinch State Park Well at Fernandina Beach, FL.

LOCATION.--Lat 30°42'13", long 81°27'08", in NE$\frac{1}{4}$SE$\frac{1}{4}$NW$\frac{1}{4}$ sec.12, T.3 N., R.28 E., Hydrologic Unit 03070204, at picnic area in Fort Clinch State Park at Fernandina Beach. Owner: Florida Department of Environmental Protection.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 5 in., depth 710 ft, casing length unknown.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Land-surface datum is 8.41 ft above NGVD of 1929. Measuring point: Top of 5 in. casing, 1.00 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--May 1974, December 1974 to December 1975 (monthly); May 1977 to September 1978 (semiannually); April 1979 to September 1981 (bimonthly); May 1982 to September 1985 (semiannually); October 1985 to November 1985 (bimonthly); December 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 9.33 ft above NGVD of 1929, Apr. 27, 1998, Feb. 27, 28, Mar. 1, 2001; lowest water level measured, 30.30 ft below NGVD of 1929, Sept. 25, 1978.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-0.58	-2.16	-1.77	-1.61	-2.23	1.02	-0.94	-0.08	-4.05	-4.84	-2.71	-4.04
10	-0.61	-1.67	-1.64	-2.37	-0.40	1.28	-0.70	-3.26	-3.90	-4.71	-3.17	-1.81
15	-0.82	0.29	-1.45	-3.37	0.15	4.20	1.56	-2.78	-4.73	-4.74	-3.31	-1.86
20	-2.83	-3.20	-2.49	-1.35	5.56	1.64	-0.30	-2.82	-5.80	-4.43	-0.90	-3.62
25	-2.37	-2.33	-0.91	-2.20	4.77	0.87	-0.26	-4.05	-6.20	-4.08	-1.62	-2.53
EOM	-2.37	-2.56	-0.59	-2.14	2.80	-1.17	-1.19	-3.05	-5.72	-4.03	-3.45	-1.57
MAX	0.39	0.55	-0.53	0.01	5.67	4.29	1.56	0.08	-3.17	-3.42	-0.86	-0.64

Note.--Negative figures indicate water level below NGVD of 1929.

NASSAU COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
302409081551603	05-17-04	0850	N-0237 CAREY STATE FORREST	39.64
	09-20-04	0910		40.37
303357081295601	05-17-04	1245	N-119 CHARLES ALLEN WELL N-100 SUB	28.17
	09-20-04	1230		29.67
303541081495001	05-17-04	0910	N-0220 NASSAU COUNTY FAIRGROUNDS	41.95
	09-20-04	0945		46.95
303939081312601	05-17-04	1225	N-20	7.51
	09-20-04	1210		8.44
304324081555901	05-24-04	1425	N-129	40.90
304658081571201	05-17-04	0935	N-0221	41.24
	09-20-04	1030		41.08

KEY TO SITE LOCATIONS ON FIGURE 18
OKEECHOBEE COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	273127080481401	152

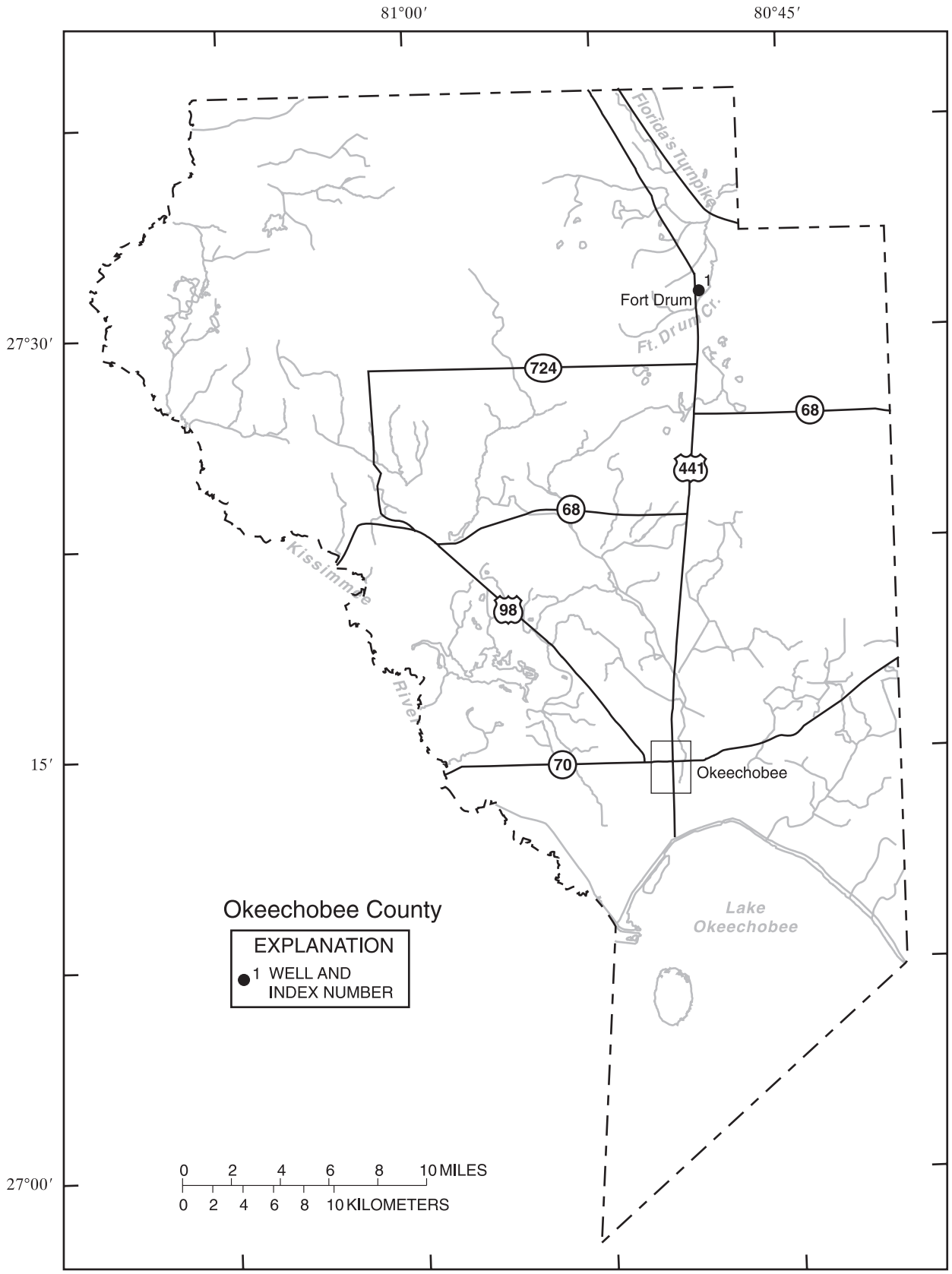

Figure 18.--Location of wells in Okeechobee County.

OKEECHOBEE COUNTY

WELL NUMBER.--273127080481401. OK-1 Well at Fort Drum, FL.

LOCATION.--Lat 27°31'27", long 80°48'14", in SE¼SW¼SW¼ sec.11, T.34 S., R.35 E., Hydrologic Unit 03080101, 200 ft south of dirt road, 0.2 mi east of U.S. Highway 441 at Fort Drum, and 13.4 mi south of State Road 60. Owner: Charles Pierce.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 8 in., depth 960 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 55.67 ft above NGVD of 1929. Measuring point: Top of casing, 0.3 ft above land-surface datum. Prior to Oct. 1, 1990 miscellaneous readings published at datum 0.53 higher.

PERIOD OF RECORD.--May 1976, May 1977 to September 1985 (semiannually); October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.66 ft above NGVD of 1929, Sept. 18, 1985; lowest measured, 38.91 ft above NGVD of 1929, May 8, 1976, Apr. 27, 1999.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	45.16	JAN 27	44.81	APR 26	42.74	JUN 28	42.40	SEP 21	45.71
NOV 24	45.11	FEB 24	44.77	MAY 19	41.75	JUL 27	43.18	27	46.10
DEC 30	44.79	MAR 30	44.09	25	41.26	AUG 23	44.51		

WATER YEAR 2004 LOWEST 41.26 MAY 25, 2004 HIGHEST 46.10 SEP 27, 2004

OKEECHOBEE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
271340080504001	05-19-04	0911	OKF-31	46.43
	09-28-04	0936		51.47
271514080511601	05-19-04	0944	OKF-23 NR LIVESTOCK MARKET	45.47
	09-28-04	1022		48.29
272704081053501	05-17-04	1007	727105--	46.00
	09-22-04	0955		48.09
272726081003901	05-17-04	0902	727100-- 35S33E02 BASS WELL N OF BASSINGER	43.96
	09-22-04	0946		47.67
273007081114601	05-18-04	1218	OKF-42 EXP WELL S65C	43.95
	09-23-04	1236		47.92
273217081012601	05-17-04	0853	PEAVINE TRAIL W (OKF-34)	43.92
	09-22-04	0926		47.59

KEY TO SITE LOCATIONS ON FIGURE 19
ORANGE COUNTY, GROUND-WATER LEVELS

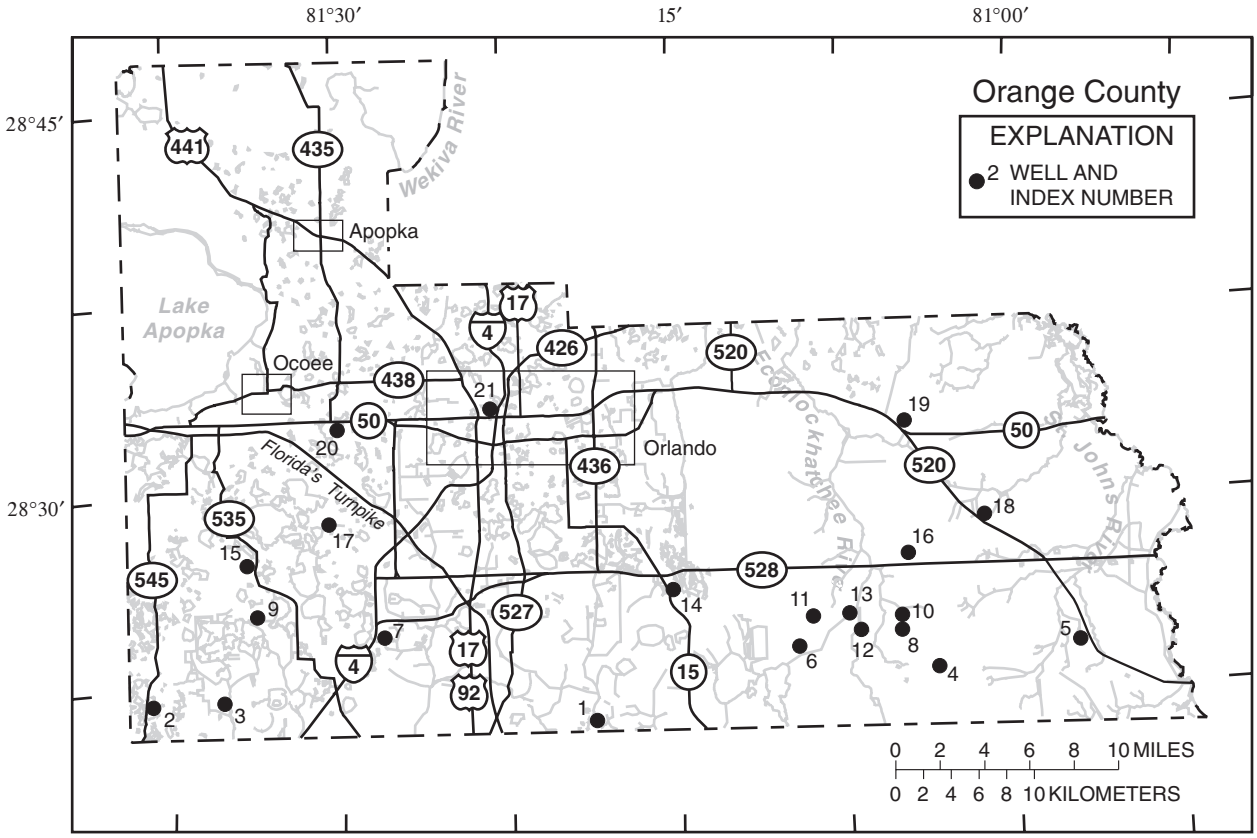

Figure 19.--Location of wells in Orange County.

ORANGE COUNTY

WELL NUMBER.--282051081183401. Boggy Creek Road Well at county line near Taft, FL.

LOCATION.--Lat 28°20'51", long 81°18'34", in SW¼SW¼SW¼ sec.34, T.24 S., R.30 E., Hydrologic Unit 03090101, 40 ft east of Boggy Creek Road (County Road 527A) and 30 ft north of intersection of County Roads 527A and 530. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 4 in., depth 400 ft, cased to 199 ft.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--60-minute interval.

DATUM.--Elevation of land-surface datum is 74.70 ft above NGVD of 1929. Measuring point: Top of flange, 3.25 ft above land-surface datum. Prior to January 2001 measuring point top of casing 3.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1961 to May 1974 (miscellaneous measurements); May 1977 to September 1991(semiannually); October 1991 to December 2001 (monthly); January 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.92 ft above NGVD of 1929, Dec. 12, 1963, lowest measured, 34.92 ft above NGVD of 1929, May 22, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.57	48.08	47.78	47.68	48.15	48.36	46.30	45.25	42.01	45.01	45.66	49.38
10	49.42	48.41	47.76	47.40	48.10	48.08	45.69	44.89	43.01	45.24	46.20	50.50
15	49.28	48.46	47.73	47.41	48.02	47.48	45.68	44.33	43.72	45.40	47.23	50.54
20	48.87	48.46	48.02	47.62	47.98	47.47	45.47	43.79	44.13	45.39	47.96	50.00
25	48.13	48.30	48.04	47.64	48.23	47.21	45.10	43.25	44.24	45.17	48.47	50.41
EOM	47.87	47.76	47.69	47.96	48.47	46.85	44.76	42.16	44.36	45.28	48.40	51.18
MAX	49.61	48.51	48.11	47.96	48.47	48.48	46.78	45.25	44.39	45.42	48.57	51.18

WELL NUMBER.--282202081384601. Lake Oliver Deep Well near Vineland, FL.

LOCATION.--Lat 28°22'02", long 81°38'46", in NE¼NW¼SE¼ sec.30, T.24 S., R.27 E., Hydrologic Unit 03090101, on west side of State Highway 545, 1.4 mi north of U.S. Highway 192, and 15.0 mi west of Vineland. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 318 ft, cased to 103 ft.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--30-minute interval.

DATUM.--Elevation of land-surface datum is 117.12 ft above NGVD of 1929. Measuring point: Top of 6 in. nipple, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--February 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 112.73 ft above NGVD of 1929, Sept. 13, 1960; lowest, 103.48 ft above NGVD of 1929, May 19, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	110.62	109.95	109.60	109.38	109.35	109.56	109.89	108.85	107.94	108.56	108.44	110.63
10	110.52	110.04	109.52	109.35	109.30	109.26	108.88	108.69	108.37	108.46	108.80	111.22
15	110.41	109.92	109.64	109.26	109.26	109.36	109.04	108.48	108.85	108.44	109.50	111.00
20	110.25	109.86	109.68	109.32	109.18	109.38	108.94	108.30	108.75	108.57	109.63	110.75
25	110.08	109.71	109.50	109.24	109.59	109.22	108.74	108.14	108.55	108.39	109.78	110.84
EOM	110.02	109.67	109.40	109.34	109.67	109.14	108.72	108.04	108.48	108.23	109.61	111.58
MAX	110.74	110.07	109.80	109.41	109.67	109.64	109.89	108.89	108.88	108.58	109.78	111.63

ORANGE COUNTY—Continued

WELL NUMBER.--282202081384602. Lake Oliver Shallow Well near Vineland, FL.

LOCATION.--Lat 28°22'02", long 81°38'46", in NE¼NW¼SE¼ sec.30, T.24 S., R.27 E., Hydrologic Unit 03090101, on west side of State Highway 545, 1.4 mi north of U.S. Highway 192, and 15.0 mi west of Vineland. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of the Tertiary Quaternary Age, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 4 in., depth 38 ft, revised, well deepened June 1982.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--30-minute interval.

DATUM.--Elevation of land-surface datum is 117.06 ft above NGVD of 1929. Measuring point: Top of 4 in. coupling, 2.48 ft above land-surface datum.

PERIOD OF RECORD.--April 1959 to December 1969; January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 115.54 ft above NGVD of 1929, Sept. 10, 1960; lowest, 106.16 ft, above NGVD of 1929, June 14, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	113.68	113.28	112.78	112.57	112.47	112.74	112.26	111.97	111.34	111.62	111.44	114.27
10	113.60	113.19	112.71	112.50	112.38	112.62	112.16	111.89	111.73	111.53	111.69	114.31
15	113.57	113.12	113.02	112.42	112.35	112.50	112.22	111.78	112.15	111.42	112.74	113.98
20	113.47	113.04	112.82	112.47	112.29	112.54	112.08	111.67	112.01	111.49	112.65	---
25	113.34	112.96	112.72	112.37	113.03	112.43	111.99	111.59	111.81	111.33	112.71	113.67
EOM	113.26	112.86	112.61	112.42	112.92	112.35	111.95	111.45	111.68	111.25	112.51	114.58
MAX	113.75	113.29	113.02	112.59	113.04	112.88	112.36	111.99	112.16	111.66	112.85	---

WELL NUMBER.--282210081352601. Disney Shallow Well at Tree Farm near Vineland, FL.

LOCATION.--Lat 28°22'10" long 81°35'26", in SW¼SW¼NW¼ sec.26, T.24 S., R.27 E., Hydrologic Unit 03090101, at Walt Disney World tree farm, 2.5 mi south of State Highway 405, and 5.6 mi southwest of Vineland. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of the Pleistocene Age, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 18 ft, cased to 18 ft.

INSTRUMENTATION.--Water-stage recorder--30-minute interval.

DATUM.--Elevation of land-surface datum is 99.44 ft above NGVD of 1929. Prior to Oct. 1, 1977, land-surface datum was considered to be 99 ft, from topographic map. Measuring point: Top of casing, 2.90 ft above land-surface datum.

PERIOD OF RECORD.--March 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 99.94 ft above NGVD of 1929, Sept. 26, 2004; well observed dry many days in December 1995.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	97.48	97.15	95.84	95.70	97.10	97.18	95.73	96.03	95.22	98.71	98.11	99.88
10	97.44	97.19	95.70	95.60	96.66	96.90	95.51	95.97	97.19	98.32	98.60	99.11
15	97.39	96.87	95.91	95.50	96.25	96.38	95.82	95.82	98.84	98.06	99.74	98.64
20	97.16	96.38	96.00	95.80	96.01	97.29	95.73	95.65	98.21	98.45	98.61	98.64
25	96.74	96.15	95.90	95.80	97.63	96.64	95.57	95.47	98.09	97.82	98.66	98.39
EOM	96.34	95.99	95.80	96.10	97.46	95.99	95.40	95.32	97.75	97.93	98.33	98.79
MAX	97.69	97.24	96.10	96.10	97.65	97.40	95.93	96.03	98.84	98.77	99.84	99.94

ORANGE COUNTY—Continued

WELL NUMBER.--282341081040101. Cocoa-A Well near Bithlo, FL.

LOCATION.--Lat 28°23'41", long 81°04'01", in SE¼SW¼SE¼ sec.13, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 100 ft west of Cocoa Water Plant Road, 7 mi west of State Highway 520, and 11.3 mi south of Bithlo. Owner: City of Cocoa.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 10 in., depth 516 ft, cased to 301 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 75.06 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 2.71 ft above land-surface datum.

PERIOD OF RECORD.--March 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 43.59 ft above NGVD of 1929, Sept. 30, Oct. 17, 1960; lowest, 29.01 ft above NGVD of 1929, June 10, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	37.98	36.92	36.70	36.60	36.74	---	35.46	34.20	32.48	34.24	35.13	37.70
10	37.92	37.06	36.73	36.49	36.78	---	34.98	34.09	32.86	34.44	35.34	37.63
15	37.83	37.06	36.51	36.40	36.96	---	34.83	33.81	33.22	34.75	35.71	37.98
20	37.50	37.12	36.60	36.43	36.85	---	34.74	33.46	33.61	34.73	36.10	37.98
25	37.13	37.00	36.68	36.47	---	---	34.38	33.12	33.80	34.69	36.42	38.56
EOM	36.87	36.68	36.61	36.63	---	35.98	34.17	32.67	34.01	34.79	36.69	38.58
MAX	37.98	37.22	36.81	36.64	---	---	35.91	34.22	34.01	34.85	36.75	38.92

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970-72, 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 25...	1240	7.3	1,220	23.8	350	112	16.0	3.20	110	277	271	170

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 25...	.4	26.0	73.0	728	1,910

ORANGE COUNTY—Continued

WELL NUMBER.--282348080564701. Palmetto Well near Bithlo, FL.

LOCATION.--Lat 28°23'48", long 80°56'47", in NE¼SE¼SE¼ sec.18, T.24 S., R.34 E., Hydrologic Unit 03080101, 50 ft west of State Road 520, 5 mi southeast of BeeLine Expressway. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 3 in., depth 381 ft, cased to 245 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 40.62 ft above NGVD of 1929. Measuring point: Top of casing, 4.60 ft above land-surface datum. Prior to March 25, 2002 top of casing was 0.33 ft lower.

PERIOD OF RECORD.--October 1960 to September 1991 (semiannually); October 1991 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.32 ft above NGVD of 1929, Oct. 25, 1960; lowest measured, 29.44 ft above NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	36.71	JAN 26	35.91	APR 26	33.92	JUN 28	33.23	SEP 20	37.26
NOV 24	36.50	FEB 23	36.10	MAY 18	32.75	JUL 26	34.05	28	37.84
DEC 29	36.12	MAR 29	35.67	24	32.40	AUG 23	35.60		

WATER YEAR 2004 LOWEST 32.40 MAY 24, 2004 HIGHEST 37.84 SEP 28, 2004

WELL NUMBER.--282406081093602. Cocoa R near Bithlo, FL.

LOCATION.--Lat 28°24'06" long 81°09'36", in SW¼SW¼NW¼ sec.18, T.24 S., R.32 E., Hydrologic Unit 03090101, in Cocoa Well field, 50 ft west of private road, 2.5 mi southwest of Magnolia Ranch headquarters and 1.8 mi south of Wewahootee Road. Owner: City of Cocoa.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 1205 ft, cased to 1098 ft.

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 68.20 ft above NGVD of 1929. Measuring point: Top of threaded coupling, 2.42 ft above land-surface datum.

PERIOD OF RECORD.--September 1993 to February 1999 (monthly); March 1999 to September 2001 (bimonthly); October 2001 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.40 ft above NGVD of 1929, Feb. 25, 1998; lowest measured, 29.90 ft above NGVD of 1929, May 23, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	36.95	FEB 10	36.68	MAY 25	32.50

WATER YEAR 2004 LOWEST 32.50 MAY 25, 2004 HIGHEST 36.95 NOV 21, 2003

ORANGE COUNTY—Continued

WELL NUMBER.--282434081283102. Sea World Drive Replacement Well near Vineland, FL.

LOCATION.--Lat 28°24'34", long 81°28'31", in NE¼SE¼SE¼ sec.11, T.24 S., R.28 E., Hydrologic Unit 03090101, on west side of Interstate Highway 4, 2.0 mi northeast of Vineland. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 4 in., depth 239 ft, cased to 158 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 103.16 ft above NGVD of 1929. Measuring point: Top of coupling, 4.00 ft above land-surface datum.

REMARKS.--Record is equivalent to that for Sea World Drive Well (282434081283101), available October 1980 to September 1989.

PERIOD OF RECORD.--October 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 67.83 ft above NGVD of 1929, Mar. 2, 3, 1998; lowest water level measured, 49.57 ft above NGVD of 1929, May 27, 2000, may have been lower during period of missing record, May-June 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	62.93	60.95	60.40	59.96	62.13	61.26	57.84	---	---	57.26	58.47	63.97
10	62.03	61.46	60.12	59.54	61.31	60.68	56.85	---	54.92	57.63	59.14	65.86
15	62.18	61.52	60.54	59.33	60.49	59.53	57.65	---	56.08	57.85	61.01	66.27
20	61.72	61.38	61.22	60.35	60.98	59.39	57.64	---	56.41	57.78	62.03	64.82
25	61.01	60.61	60.89	61.10	61.00	59.31	56.77	---	56.06	57.69	---	64.92
EOM	61.02	59.97	60.09	61.89	61.81	58.87	56.43	---	56.23	57.95	---	66.31
MAX	63.30	61.86	61.22	61.89	62.24	61.91	58.89	---	---	57.95	---	66.36

WELL NUMBER.--282510081054502. Cocoa-M Well near Bithlo, FL.

LOCATION.--Lat 28°25'10", long 81°05'45", in SE¼NE¼NE¼ sec.10, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 300 ft southwest of intersection of private road and Wewahootee Road, and 9.1 mi south of Bithlo. Owner: City of Cocoa.

AQUIFER.--Nonartesian sand of the Surficial Aquifer System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 10 ft, cased to 10 ft.

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 70.81 ft above NGVD of 1929. Measuring point: Bolt hole in cap, 3.15 ft above land-surface datum.

PERIOD OF RECORD.--February 1969 to January 1977; February 1977 to April 1999 (monthly); May 1999 to August 2000 (bimonthly); November 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 69.94 ft above NGVD of 1929, Nov. 4, 1969; well observerd dry August 1981, July 1982, August, October 1984, April 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	66.76	FEB 10	67.15	MAY 24	65.86	AUG 26	68.53

WATER YEAR 2004 LOWEST 65.86 MAY 24, 2004 HIGHEST 68.53 AUG 26, 2004

ORANGE COUNTY—Continued

WELL NUMBER.--282510081054503. Cocoa-1T Well near Bithlo, FL.

LOCATION.--Lat 28°25'10", long 81°05'45", in SE¼NE¼NE¼ sec.10, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 300 ft southwest of intersection of private road and Wewahootee Road, and 9.1 mi south of Bithlo. Owner: City of Cocoa.

AQUIFER.--Hawthorn sand and gravel of the Intermediate Aquifer System, Geologic Unit 122 HTRNS.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 12 in., depth 200 ft, cased to 85 ft.

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 71.19 ft above NGVD of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--September 1969 to March 1970, January 1971 to April 1999 (monthly); May 1999 to August 2000 (bimonthly); October 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 65.54 ft above NGVD of 1929, Oct. 1, 1982; lowest measured 44.55 ft above NGVD of 1929, June 7, 1971.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	62.44	FEB 10	62.33	MAY 25	46.68	AUG 26	51.58

WATER YEAR 2004 LOWEST 46.68 MAY 25, 2004 HIGHEST 62.44 NOV 21, 2003

WELL NUMBER.--282528081340901. Bay Lake Deep Well near Windermere, FL.

LOCATION.--Lat 28°25'28", long 81°34'09", in SW¼NE¼SW¼ sec.1, T.24 S., R.27 E., Hydrologic Unit 03090101, on north shore of Bay Lake, 0.8 mi northeast of Magic Kingdom Theme Park, and 5.3 mi southwest of Windermere. Owner: Reedy Creek Improvement District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 8 in., depth 223 ft, cased to 104 ft.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--15-minute interval.

DATUM.--Elevation of land-surface datum is 97.10 ft above NGVD of 1929. Measuring point: Top of casing, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--March 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 96.91 ft above NGVD of 1929, Oct. 31, 1966; lowest, 77.37 ft above NGVD of 1929, June 10, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	89.32	88.10	88.35	87.59	88.73	87.97	86.02	86.46	83.56	85.09	85.67	89.73
10	88.59	88.65	88.17	88.02	88.26	87.83	85.25	85.94	---	85.42	86.14	90.21
15	88.65	88.81	88.39	88.13	88.24	86.97	86.13	85.20	85.95	85.30	87.45	90.38
20	88.25	89.03	88.78	88.00	87.81	87.03	85.68	84.88	85.54	85.44	87.51	89.69
25	88.03	88.66	88.09	88.22	87.73	86.85	85.34	84.15	84.59	84.65	88.19	89.71
EOM	88.05	88.27	87.39	88.51	88.25	86.53	85.52	82.82	84.70	85.31	87.95	90.25
MAX	89.82	89.03	88.78	88.51	88.81	88.21	86.57	---	---	85.56	88.23	90.49

ORANGE COUNTY—Continued

WELL NUMBER.--282531081054301. Cocoa-O Well near Bithlo, FL.

LOCATION.--Lat 28°25'31", long 81°05'43", in NW$^1/_4$SW$^1/_4$SW$^1/_4$ sec.2, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 225 ft east of private road (abandoned FEC Railroad grade owned by Magnolia Ranch), 0.3 mi north of Wewahootee Road, 1.6 mi south of State Highway 528, and 8.6 mi south of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Hawthorn sand and gravel of the Intermediate Aquifer System, Geologic Unit 122 HTRNS.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 90 ft, cased to 70 ft.

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 68.60 ft above NGVD of 1929. Measuring point: Top of 4 in. casing, 3.00 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby well.

PERIOD OF RECORD.--February 1970 to April 1999 (monthly); May 1999 to September 2001 (bimonthly); October 2001 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 67.77 ft above NGVD of 1929, Oct. 1, 1982; lowest measured, 8.25 ft above NGVD of 1929, April 23, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	62.47	FEB 10	62.33	MAY 24	11.06	AUG 26	13.49

WATER YEAR 2004 LOWEST 11.06 MAY 24, 2004 HIGHEST 62.47 NOV 21, 2003

ORANGE COUNTY—Continued

WELL NUMBER.--282531081095701. Cocoa-D Well near Narcoossee, FL.

LOCATION.--Lat 28°25'31", long 81°09'57", in NE¼SW¼SE¼ sec.1, T.24 S., R.31 E., Hydrologic Unit 03080101, in Cocoa well field, on south side of Wewahootee Road, 5.1 mi west of State Highway 15, 2.5 mi west of Magnolia Ranch headquarters, and 9.7 mi northeast of Narcoossee. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 300 ft, cased to 226 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 75.91 ft above NGVD of 1929. Measuring point: Top of shelf, 3.63 ft above land-surface datum.

PERIOD OF RECORD.--July 1961 to October 1965 (bimonthly); November 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.04 ft above NGVD of 1929, Dec. 12, 1963; lowest daily maximum water level, 25.97 ft above NGVD of 1929, June 6, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	39.78	36.00	36.42	34.93	36.09	36.79	34.31	35.80	32.52	34.46	34.94	37.54
10	38.84	37.02	35.49	35.67	34.98	35.70	33.78	33.75	32.39	34.37	36.22	37.42
15	37.34	36.17	36.01	35.27	36.01	35.76	35.16	33.27	33.75	34.00	35.05	39.39
20	36.75	36.98	35.98	35.47	34.82	35.89	34.13	32.79	32.75	34.90	36.63	38.63
25	36.27	35.94	36.26	35.53	37.46	36.71	32.77	32.65	33.58	32.59	37.93	38.52
EOM	36.29	35.96	34.50	35.72	37.41	35.94	35.36	31.24	34.44	33.88	36.88	36.97
MAX	40.23	37.02	36.83	36.04	37.47	37.29	35.63	35.80	34.44	35.48	38.24	39.52

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1968, 1980, 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 26...	0933	7.5	611	23.5	290	109	3.40	.80	21.0	331	334	11.0

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	.2	30.0	.20	383	480

ORANGE COUNTY—Continued

WELL NUMBER.--282532081075601. Cocoa-B Well near Bithlo, FL.

LOCATION.--Lat 28°25'32", long 81°07'56", in SW¼NE¼SE¼ sec.5, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, on south side of Wewahootee Road, 7.1 mi west of State Highway 15, 10.1 mi south of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 515 ft, cased to 235 ft.

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 62.15 ft above NGVD of 1929. Measuring point: Top of casing, 3.70 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--January 1965 (annually); October 1965 to July 1968; August 1968 to April 1999 (monthly); May 1999 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.37 ft above NGVD of 1929, June 23, 1966; lowest water level measured, 21.42 ft above NGVD of 1929, Aug. 5, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	35.60	FEB 10	35.03	MAY 24	31.07

WATER YEAR 2004 LOWEST 31.07 MAY 24, 2004 HIGHEST 35.60 NOV 21, 2003

ORANGE COUNTY—Continued

WELL NUMBER.--282533081082202. Cocoa-C (Zone 1) Well near Bithlo, FL.

LOCATION.--Lat 28°25'33", long 81°08'22", in SW¼NE¼SW¼ sec.5, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 10 ft north of Wewahootee Road, 6.6 mi east of State Highway 15, and 10 mi south of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 1.25 in., depth 1,357 ft, cased to 1,351 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.71 ft above NGVD of 1929. Measuring point: Top of male quick connect coupling, 2.85 ft above land-surface datum.

PERIOD OF RECORD.--December 1965 (annually); February 1966 to April 1999 (monthly); May 1999 to August 2000 (bimonthly); November 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.81 ft above NGVD of 1929, Dec. 6, 1965; lowest measured, 25.67 ft above NGVD of 1929, April 25, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	31.68	FEB 10	31.87	MAY 24	28.39	AUG 26	31.40

WATER YEAR 2004 LOWEST 28.39 MAY 24, 2004 HIGHEST 31.87 FEB 10, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 26...	1515	7.4	10,900	23.5	1,800	349	213	60.4	1,760	24	18	3,150

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	.2	E.35	1,140	7,340	10,200

ORANGE COUNTY—Continued

WELL NUMBER.--282533081082204. Cocoa-C (Zone 3) Well near Bithlo, FL.

LOCATION.--Lat 28°25'33", long 81°08'22", in SW¼NE¼SW¼ sec.5, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 10 ft north of Wewahootee Road, 6.6 mi east of State Highway l5, and l0 mi south of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 1.25 in., depth 1,224 ft, cased to 1,218 ft.

WATER LEVEL RECORDS

INSTRUMENTAION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.77 ft above NGVD of 1929. Measuring point: Top of male quick connect coupling 2.81 ft above land-surface datum.

PERIOD OF RECORD.--February 1966 to April 1999 (monthly); May 1999 to August 2000 (bimonthly); November 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.27 ft above NGVD of 1929, Feb. 2, 1970; lowest measured, 32.23 ft above NGVD of 1929, April 28, 1999.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	38.10	FEB 10	37.93	MAY 24	35.38	AUG 26	37.78

WATER YEAR 2004 LOWEST 35.38 MAY 24, 2004 HIGHEST 38.10 NOV 21, 2003

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 26...	1346	8.0	921	23.8	340	106	16.0	2.60	47.0	206	213	82.0

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	.2	21.0	140	602	9,920

ORANGE COUNTY—Continued

WELL NUMBER.--282533081082205. Cocoa-C (Zone 4) Well near Bithlo, FL.

LOCATION.--Lat 28°25'33", long 81°08'22", in SW¼NE¼SW¼ sec.5, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, l0 ft north of Wewahootee Road, 6.6 mi east of State Highway 15, and 10.0 mi south of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 1.25 in., depth 1,050 ft, cased to 1,044 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.74 ft above NGVD of 1929. Measuring point: Top of male quick connect coupling, 2.82 ft above land-surface datum.

PERIOD OF RECORD.--February 1966 to April 1999 (monthly); May 1999 to August 2000 (bimonthly); November 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.27 ft above NGVD of 1929, Oct. 31, 1969; lowest measured, 30.95 ft above NGVD of 1929, July 30, 1998.

WATER SURFACE ELEVATION IN FEET NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	38.06	FEB 10	37.81	MAY 24	34.19	AUG 26	37.24

WATER YEAR 2004 LOWEST 34.19 MAY 24, 2004 HIGHEST 38.06 NOV 21, 2003

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 26...	1202	8.1	618	24.8	260	75.0	6.90	1.80	20.0	230	245	37.0

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	.3	22.0	32.0	399	38,900

ORANGE COUNTY—Continued

WELL NUMBER.--282533081082206. Cocoa-C (Zone 5) Well near Bithlo, FL.

LOCATION.--Lat 28°25'33", long 81°08'22", in SW¼NE¼SW¼ sec.5, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 10 ft north of Wewahootee Road, 6.6 mi east of State Highway 15, and 10 mi south of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 8 in., depth 1,004 ft, cased to 248 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.72 ft above NGVD of 1929. Measuring point: Top of male quick coupling, 2.82 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--February 1966 to April 1999 (monthly); May 1999 to August 2000 (bimonthly); November 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.18 ft above NGVD of 1929, Dec. 4, 1969; lowest measured, 26.52 ft above NGVD of 1929, April 28, 1999.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	35.31	FEB 10	34.92	MAY 24	30.97	AUG 26	33.38

WATER YEAR 2004 LOWEST 30.97 MAY 24, 2004 HIGHEST 35.31 NOV 21, 2003

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 26...	1014	8.0	1,090	22.9	360	114	18.0	3.40	86.0	210	221	150

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	.2	18.0	130	728	4,970

ORANGE COUNTY—Continued

WELL NUMBER.--282623081153801. Cocoa-P Well near Taft, FL.

LOCATION.--Lat 28°26'23", long 81°15'38", in NW¼NW¼SW¼ sec.31, T.23 S., R.31 E., Hydrologic Unit 03080101, on east side of State Highway 15, 0.4 mi south of State Highway 528, and 7.2 mi east of Taft. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 439 ft, cased to 245 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 94.12 ft above NGVD of 1929. Measuring point: Top of casing, 0.80 ft below land-surface datum. Prior to April 5, 1999, elevation of land-surface datum was 91.48 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 4.03 ft above land-surface datum.

PERIOD OF RECORD.--April 1961 to January 1971 (bimonthly); March 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.02 ft above NGVD of 1929, present datum, Apr. 14, 1961; lowest daily maximum water level, 34.45 ft above NGVD of 1929, June 10, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	47.23	45.54	44.91	44.62	45.54	45.49	42.73	42.88	38.99	44.12	42.81	---
10	46.90	45.98	44.97	44.63	45.28	45.17	42.47	41.67	40.30	43.25	44.27	---
15	47.00	45.95	45.47	44.53	45.22	44.35	42.88	40.92	41.45	43.00	46.30	---
20	46.10	45.69	45.53	45.19	45.07	44.56	42.36	40.59	41.71	42.78	46.55	---
25	45.48	45.56	45.25	44.65	46.22	43.93	41.58	39.78	41.26	41.93	47.67	---
EOM	45.42	44.99	44.95	45.22	46.33	43.74	41.69	38.44	41.89	42.80	46.43	---
MAX	47.47	46.26	45.85	45.22	46.56	46.11	43.60	42.99	41.97	44.12	47.67	---

WELL NUMBER.--282738081341401. Lake Sawyer Well near Windermere, FL.

LOCATION.--Lat 28°27'38", long 81°34'14", in SW¼NE¼NW¼ sec.25, T.23 S., R.27 E., Hydrologic Unit 03090101, on Overstreet Road, 0.6 mi west of State Highway 535, and 3.2 mi southwest of Windermere. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 4 in., depth 178 ft, cased to 103 ft.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--60-minute interval.

DATUM.--Elevation of land-surface datum is 116.04 ft above NGVD of 1929. Measuring point: Top of coupling, 2.88 ft above land-surface datum.

PERIOD OF RECORD.--October 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 87.98 ft above NGVD of 1929, Mar. 20, 21, 1998; lowest, 70.36 ft above NGVD of 1929, June 22, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	84.89	83.20	83.35	83.34	84.11	83.91	81.69	82.10	78.72	80.16	80.87	85.26
10	84.51	84.23	82.93	83.37	83.52	83.39	80.99	80.79	80.78	80.54	81.92	86.35
15	84.85	84.20	83.15	82.47	83.68	82.84	82.01	79.66	81.46	80.81	83.42	86.35
20	84.35	84.18	84.33	83.71	83.42	83.03	80.97	80.04	81.11	81.15	83.47	85.80
25	83.78	83.63	83.87	83.45	83.77	82.47	79.90	78.12	79.57	80.47	84.03	86.18
EOM	83.02	83.54	83.28	83.98	84.13	81.14	81.17	77.82	80.89	80.72	83.70	87.16
MAX	85.32	84.31	---	83.98	84.34	84.10	82.16	---	81.46	81.23	84.18	87.34

ORANGE COUNTY—Continued

WELL NUMBER.--282739081054501. Cocoa-F Well near Bithlo, FL.

LOCATION.--Lat 28°27'39", long 81°05'45", in SE¼SE¼NE¼ sec.27, T.23 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 150 ft west of Dallas Boulevard, 0.7 mi north of Beeline Expressway (State Highway 528), and 6.3 mi south of Bithlo. Owner: Cape Orlando Corporation.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 375 ft, cased to 200 ft.

INSTRUMENTATION.--Quarterly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 68.24 ft above NGVD of 1929. Prior to Oct. 1, 2003, land-surface datum was considered to be 67.29 ft above NGVD of 1929. Measuring point: Top of 6 in. coupling, 0.80 ft above land-surface datum.

PERIOD OF RECORD.--1960-70 (annually); October 1970 to April 1999 (monthly); May 1999 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.92 ft above NGVD of 1929, June 24, 1960; lowest measured, 29.99 ft above NGVD of 1929, Apr. 28, 1999.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	36.14	FEB 10	35.94	MAY 18	31.67	MAY 24	32.39	AUG 26	34.67	SEP 20	37.19

WATER YEAR 2004 LOWEST 31.67 MAY 18, 2004 HIGHEST 37.19 SEP 20, 2004

WELL NUMBER.--282835081305201. Palm Lake Drive Well near Windermere, FL.

LOCATION.--Lat 28°28'39", long 81°30'26", in SE¼NW¼NW¼ sec.22, T.23 S., R.28 E., Hydrologic Unit 03090101, 2.0 mi southwest of Windermere, and 2.3 mi north of Doctor Phillips. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 4 in., depth 235 ft, cased to 161 ft.

INSTRUMENTATION.--Water-stage recorder--15-minute interval.

DATUM.--Elevation of land-surface datum is 157.10 ft above NGVD of 1929. Measuring point: Top of coupling, 2.56 ft above land-surface datum.

PERIOD OF RECORD.--October 1980 to June 1981 (bimonthly); July 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 78.55 ft above NGVD of 1929, Sept. 26, 2004; lowest, 57.07 ft above NGVD of 1929, June 15, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	72.41	71.53	70.18	70.54	71.59	71.23	68.10	68.87	64.59	67.20	67.63	75.66
10	72.02	71.35	70.12	70.15	71.20	70.48	68.04	67.29	68.40	67.63	69.53	77.13
15	72.49	71.16	70.80	69.41	70.45	70.02	68.32	66.26	67.82	67.29	72.35	76.23
20	71.77	71.22	71.51	70.76	70.92	70.55	67.76	66.05	67.82	68.10	72.27	76.49
25	70.69	70.95	70.72	70.47	72.02	69.21	66.23	64.98	66.72	66.56	73.64	75.53
EOM	70.60	70.34	70.63	71.48	71.71	68.85	68.00	63.79	67.55	67.98	72.26	77.42
MAX	73.12	71.56	72.08	71.48	72.02	71.84	68.97	68.87	68.40	69.30	73.91	78.55

ORANGE COUNTY—Continued

WELL NUMBER.--282847081013701. Cocoa-H Well near Bithlo, FL.

LOCATION.--Lat 28°28'47", long 81°01'37", in SW¼NW¼NW¼ sec.21, T.23 S., R.33 E., Hydrologic Unit 03080101, on west side of State Highway 520, 5.4 mi south of intersection with State Highway 50, and 7.3 mi southeast of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 495 ft, cased to 252 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 60.00 ft above NGVD of 1929. Measuring point: Top of casing, 3.13 ft above land-surface datum.

PERIOD OF RECORD.--August 1968 to June 1977; July 1977 to April 1999 (monthly); May 1999 to September 2000 (bimonthly); November 2000 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 39.01 ft above NGVD of 1929, Feb. 25, 1970; lowest measured, 29.48 ft above NGVD of 1929, May 13, 1981, Apr. 28, 1999.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	36.05	JAN 26	35.30	APR 26	33.15	MAY 26	31.99	AUG 23	35.00
NOV 24	35.85	FEB 23	35.44	MAY 18	32.31	JUN 28	32.61	SEP 20	36.70
DEC 29	35.49	MAR 29	35.02	24	32.05	JUL 26	33.36	28	37.31

WATER YEAR 2004 LOWEST 31.99 MAY 26, 2004 HIGHEST 37.31 SEP 28, 2004

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1970-72, 1991 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 26...	1216	7.5	878	24.2	290	69.0	28.0	2.40	54.0	197	203	99.0

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	.7	29.0	73.0	535	2,410

ORANGE COUNTY—Continued

WELL NUMBER.--282847081013702. Cocoa-K Well near Bithlo, FL.

LOCATION.--Lat 28°28'47", long 81°01'37", in SW¼NW¼NW¼ sec.21, T.23 S., R.33 E., Hydrologic Unit 03080101, on west side of State Highway 520, 5.4 mi south of intersection with State Highway 50, and 7.3 mi southeast of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand of the Surficial Aquifer System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 8 ft, cased to 8 ft.

INSTRUMENTATION.--Quarterly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 60.00 ft above NGVD of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1968 to February 1977; March 1977 to April 1999 (monthly); May 1999 to August 2000 (bimonthly); November 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 59.81 ft above NGVD of 1929, Oct. 3,4, 1969; lowest, 54.16 ft above NGVD of 1929, May 20, 1996.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	57.70	FEB 10	57.89	MAY 26	56.74	AUG 26	59.32

WATER YEAR 2004 LOWEST 56.74 MAY 26, 2004 HIGHEST 59.32 AUG 26, 2004

ORANGE COUNTY—Continued

WELL NUMBER.--283249081053201. Bithlo-1 Well at Bithlo, FL.

LOCATION.--Lat 28°32'49", long 81°05'32", in NE¼NW¼SW¼ sec.26, T.22 S., R.32 E., Hydrologic Unit 03080101, on north side of State Highway 50, 0.8 mi west of intersection of State Highway 520, and 1.0 mi east of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 492 ft, cased to 151 ft.

WATER LEVEL RECORDS

INSTRUMENTATION.-Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 63.53 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.10 ft above land-surface datum. Prior to October 1, 2001 at elevation 0.05 ft higher.

PERIOD OF RECORD.--October 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 42.98 ft above NGVD of 1929, Oct. 31, 1960; lowest, 28.70 ft above NGVD of 1929, June 10, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	37.47	36.48	36.20	35.98	36.14	36.39	35.09	33.80	31.83	33.87	34.40	37.23
10	37.44	36.67	36.22	35.92	36.16	36.34	34.52	33.62	32.35	34.00	34.75	37.30
15	37.34	36.66	35.99	35.81	36.35	36.00	34.37	33.27	32.78	34.19	35.25	37.61
20	36.96	36.70	36.08	35.85	36.26	35.91	34.22	32.90	33.09	34.14	35.64	37.48
25	36.63	36.53	36.12	35.89	36.50	35.66	33.84	32.57	33.26	34.06	36.05	38.01
EOM	36.38	36.20	36.02	36.01	36.40	35.68	33.68	31.92	33.51	34.12	36.18	38.05
MAX	37.51	---	36.26	36.01	36.55	36.42	35.62	33.80	33.51	34.22	36.31	38.44

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960,1965,1970-72,1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)
MAY 26...	1325	7.5	559	24.2	200	58.0	13.0	1.80	33.0	156	160	55.0

Date	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	.2	18.0	44.0	351	1,160

ORANGE COUNTY—Continued

WELL NUMBER.--283249081053202. Bithlo-2 Well at Bithlo, FL.

LOCATION.--Lat 28°32'49", long 81°05'32", in NE¼NW¼SW¼ sec.26, T.22 S., R.32 E., Hydrologic Unit 03080101, on north side of State Highway 50, 0.8 mi west of intersection with State Highway 520, and 1.0 mi east of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Hawthorn limestone of the Intermediate Aquifer System, Geologic Unit 122 HTRNN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 75 ft, cased to 65 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.49 ft above NGVD of 1929. Measuring point: Top of casing cap, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1960 to August 2000 (monthly); October 2000 to September 2002 (bimonthly); October 2002 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 61.60 ft above NGVD of 1929, Jan. 26, 1971; lowest measured, 43.31 ft above NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	48.29	DEC 29	48.20	FEB 23	48.18	APR 26	46.38	JUN 28	45.80	AUG 23	48.58
NOV 24	48.13	JAN 26	48.02	MAR 29	47.68	MAY 24	45.19	JUL 26	46.55	SEP 28	49.49

WATER YEAR 2004 LOWEST 45.19 MAY 24, 2004 HIGHEST 49.49 SEP 28, 2004

WELL NUMBER.--283249081053203. Bithlo-3 Well at Bithlo, FL.

LOCATION.--Lat 28°32'49", long 81°05'32", in NE¼NW¼SW¼ sec.26, T.22 S., R.32 E., Hydrologic Unit 03080101, on north side of State Highway 50, 0.8 mi west of intersection with State Highway 520, and 1.0 mi east of Bithlo. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand of the Surficial Aquifer System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 15 ft, cased to 12 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.14 ft above NGVD of 1929. Measuring point: Top of casing cap, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1960 to August 2000 (monthly); October 2000 to September 2002 (bimonthly); October 2002 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 64.21 ft above NGVD of 1929, Aug. 28, 1964; lowest measured, 56.25 ft above NGVD of 1929, April 25, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	60.51	DEC 29	59.80	FEB 23	59.69	APR 26	59.35	JUN 28	61.36	AUG 23	62.87
NOV 24	60.60	JAN 26	59.45	MAR 29	59.75	MAY 24	59.11	JUL 26	60.30	SEP 28	62.83

WATER YEAR 2004 LOWEST 59.11 MAY 24, 2004 HIGHEST 62.87 AUG 23, 2004

ORANGE COUNTY—Continued

WELL NUMBER.--283253081283401. OR-47 Well at Orlo Vista, FL.

LOCATION.--Lat 28°32'53", long 81°28'34", in SE$^1/_4$NE$^1/_4$NE$^1/_4$ sec.26, T.22 S., R.28 E., Hydrologic Unit 03080101, on west side of Hiawassee Road, 0.6 mi north of Old Winter Garden Road, and 0.15 mi south of State Highway 50 in Orlo Vista. Owner: Orange County.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 350 ft, cased to 328 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 81.71 ft above NGVD of 1929. Measuring point: Top of casing, 0.71 ft below land-surface datum.

PERIOD OF RECORD.--July 1930 to May 1933; August 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 80.78 ft above NGVD of 1929, Mar. 20, 1960; lowest, 48.32 ft above NGVD of 1929, May 24, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	63.10	61.85	61.25	60.54	60.65	60.51	58.54	58.14	55.19	58.76	58.15	65.13
10	62.89	62.19	61.14	60.50	60.39	60.14	58.31	57.45	56.18	58.35	59.53	67.24
15	63.22	62.08	61.48	60.30	60.23	59.65	58.61	57.05	57.38	58.44	61.82	66.56
20	62.65	61.84	61.49	60.51	60.12	59.72	58.25	56.79	57.35	58.30	61.81	66.15
25	62.16	61.69	61.12	60.23	60.92	59.40	57.61	56.17	57.08	57.56	62.79	66.70
EOM	62.00	61.25	60.79	60.51	60.88	---	57.63	55.22	57.80	58.26	62.51	68.53
MAX	---	62.34	61.68	60.69	61.06	---	59.02	58.25	57.85	58.77	62.90	68.84

WELL NUMBER.--283333081233501. Lake Adair 9 Deep Well at Orlando, FL.

LOCATION.--Lat 28°33'33", long 81°23'35", in NW$^1/_4$NW$^1/_4$SW$^1/_4$ sec.23, T.22 S., R.29 E., Hydrologic Unit 03080101, 25 ft northeast of intersection of Westmoreland Drive and Lake Adair Boulevard in Orlando. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 20 in., depth 1,281 ft, cased to 601 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 80.40 ft above NGVD of 1929. Measuring point: Top of casing, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--January 196l (annually); November 1962 to August 1973; September 1973 to September 1983 (bimonthly); October 1983 to January 1984 (monthly); January 1984 to June 1988; July 1988 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 60.23 ft above NGVD of 1929, Aug. 9, 1966; lowest water level measured, 38.03 ft above NGVD of 1929, May 22, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	48.51	DEC 29	47.94	FEB 23	47.40	APR 26	44.21	JUN 28	44.80	AUG 23	52.32
NOV 24	48.50	JAN 26	47.58	MAR 29	46.38	MAY 24	42.63	JUL 26	44.13	SEP 27	58.02

WATER YEAR 2004 LOWEST 42.63 MAY 24, 2004 HIGHEST 58.02 SEP 27, 2004

ORANGE COUNTY—Continued

WELL NUMBER.--283333081233502. Lake Adair 10 Shallow Well at Orlando, FL.

LOCATION.--Lat 28°33'33", long 81°23'35", in NW¼NW¼SW¼ sec.23, T.22 S., R.29 E., Hydrologic Unit 03080101, 25 ft northeast of intersection of Westmoreland Drive and Lake Adair Boulevard in Orlando. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian, observation well, diameter 4 in., depth 400 ft, cased to 105 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 80.40 ft above NGVD of 1929. Measuring point: Top of casing, 3.62 ft above land-surface datum.

PERIOD OF RECORD.--November 1962 to November 1972; May 1973 to September 1983 (bimonthly); October 1983 to January 1984 (monthly); January 1984 to June 1988; July 1988 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 68.92 ft above NGVD of 1929, June 28, 1974; lowest measured, 38.44 ft above NGVD of 1929, May 22, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	48.93	DEC 29	48.34	FEB 23	47.72	APR 26	44.54	JUN 28	45.71	AUG 23	55.58
NOV 24	48.89	JAN 26	47.92	MAR 29	46.86	MAY 24	43.07	JUL 26	44.56	SEP 27	63.42

WATER YEAR 2004 LOWEST 43.07 MAY 24, 2004 HIGHEST 63.42 SEP 27, 2004

ORANGE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
282241081112801	05-18-04	1152	82211103 24S31E23 MOSS PARK	38.93
	09-20-04	1200		44.23
282241081112802	05-18-04	1154	82211104 24S31E23 MOSS PARK SHALLOW	60.06
	09-20-04	1156		62.11
282331081370801	05-17-04	0804	82313702 27416 E USGS WELL HARTZOG RD	100.55
	09-21-04	0846		104.84
282339081010001	05-18-04	0957	OR-0669 COCOA 13T NR BITHLO,FL	33.51
	09-20-04	1028		37.91
282354081313001	05-19-04	0938	82313104 24S28E17 RCID OBSER. WELL NO. 1	75.94
	09-21-04	1043		84.26
282543081385801	05-17-04	0836	82513801	97.35
	09-21-04	0911		99.30
282718081215101	05-19-04	0841	PINECASTLE POST OFFICE AT PINECASTLE	44.00
	09-22-04	0947		48.90
282848080544501	05-18-04	0757	TOSOHATCHEE GAME PRESERVE NR CHRISTMAS,FL	26.95
	09-22-04	0808		33.80
282923081282801	05-19-04	1012	82912802	61.48
	09-21-04	1216		71.03
282936081340201	05-17-04	1011	82913405 23S27E12 ROSS WELL ON LK BUTLER	79.56
	09-21-04	0945		85.06
283007081122705	05-18-04	1307	OR-0678 UFA EASTERN WWTP NR UNION PARK,FL	35.35
	09-20-04	0705		41.67
283144081254201	05-17-04	1305	83112504 LK MANN DRAIN WELL O-174,ORLANDO	45.22
283307081300801	05-17-04	1210	83313001 22S28E22 W-5110 LK SHERWOOD D WL	60.87
283340081222803	05-18-04	1434	LAKE IVANHOE UPPER FLORIDAN WELL AT ORLANDO,FL	43.51
	09-21-04	1410		54.29
283959081303101	05-17-04	1352	OR-0796 APOPKA CRATE MILL AT APOPKA,FL	45.52
	09-21-04	0724		52.58
284230081345301	05-17-04	1414	OR0106 UPPER FL NR APOPKA,FL	52.38
	09-21-04	0743		57.25
284238081275803	05-17-04	1445	OR-0548	20.17
	09-21-04	0634		22.65

282127081053901 -- COCOA 44 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY										
25...	1315	7.3	1,250	25.4	350	115	15.0	3.40	100	248

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY							
25...	249	180	.3	22.0	92.0	739	1,600

282145081053801 -- COCOA 43 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY										
25...	1230	7.4	1,610	25.2	420	126	25.0	4.80	150	238

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY							
25...	227	270	.3	22.0	140	947	1,870

282208081053801 -- COCOA 42 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY										
25...	1120	7.3	965	24.6	330	112	12.0	2.10	65.0	271

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY							
25...	253	100	.2	25.0	59.0	576	1,040

282250081053801 -- COCOA 40 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 25...	0750	7.4	1,070	24.7	310	82.0	26.0	2.70	87.0	195

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 25...	186	160	.6	29.0	85.0	624	1,570

282300081092401 -- COCOA 25 NR BITHLO, FL

Date	Time	Elev-ation, feet above NGVD (72020)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)
MAY 26...	0950	32.49	7.5	559	24.2	250	84.0	8.90	1.70	23.0

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	228	160	33.0	.2	21.0	21.0	357	610

282304081053901 -- COCOA 39 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 25...	0720	7.2	1,320	24.9	360	110	20.0	3.50	110	213

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 25...	306	210	.3	23.0	120	782	1,860

282315081053801 -- COCOA 38 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1435	7.4	1,260	25.0	350	103	21.0	3.50	110	201

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	196	200	.3	20.0	110	737	2,420

282315081093601 -- COCOA 24 NR BITHLO , FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 26...	0905	7.4	707	24.9	290	94.0	12.0	2.00	28.0	230

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	278	42.0	.2	21.0	61.0	440	950

282331081093801 -- COCOA 23 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 26...	1015	7.4	842	24.9	320	105	14.0	2.20	36.0	220

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	237	58.0	.2	21.0	120	540	1,080

282344081054201 -- 82310501 COCOA 11 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1345	7.5	1,460	25.3	390	117	22.0	4.30	130	207

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	212	240	.2	20.0	140	856	3,150

282356081091901 -- COCOA 22 16IN WELL NR BITHLO, FL

Date	Time	Elev-ation, feet above NGVD (72020)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)
MAY 25...	1222	27.48	7.4	604	24.9	240	83.0	8.70	1.80	25.0

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 25...	226	217	38.0	.2	22.0	27.0	367	620

282406081093601 -- COCOA 21 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 25...	1318	7.4	1,150	25.0	430	137	22.0	2.60	65.0	185

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 25...	203	120	.2	19.0	230	776	1,710

282424081093601 -- COCOA 20 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 25...	1344	7.5	933	24.9	370	121	17.0	2.10	44.0	203

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 25...	201	75.0	.2	21.0	170	601	1,450

282451081054501 -- 82410503 COCOA 5

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	0940	7.3	926	24.6	320	106	12.2	1.94	65.1	271

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	272	97.3	.3	24.3	55.1	569	2,110

282529081073201 -- 82510702 COCOA 7A NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1000	7.3	1,520	24.5	460	153	18.0	3.20	120	233

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	252	230	.2	22.0	180	943	3,360

282530081054201 -- 82510503 COCOA 7 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	0938	7.5	1,430	24.1	420	146	13.0	2.70	120	290

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	292	220	.2	24.0	93.0	843	1,410

282530081054204 -- 82510521 COCOA 7T1 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	0930	7.2	630	23.0	290	109	3.50	1.10	16.0	305

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	306	17.0	.2	21.0	<.20	367	560

282530081065603 -- OR0613

Date	Time	Elev-ation, feet above NGVD (72020)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)
MAY 24...	1228	22.96	7.3	22,300	28.7	3,000	485	441	130	3,850

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	107	108	7,010	.3	12.0	1,650	14,800	13,100

282530081085401 -- 82510802 COCOA 15 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1150	7.5	1,210	24.8	370	117	19.0	3.20	96.0	199

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	216	170	.2	20.0	150	734	2,270

282530081094001 -- 82510903 COCOA 17 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1253	7.1	678	24.8	240	76.0	13.0	1.90	36.0	172

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	178	59.0	.2	20.0	74.0	426	1,120

282531081075602 -- COCOA 13R NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1025	7.6	965	24.1	330	117	9.90	2.00	68.0	261

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	264	110	.2	24.0	73.0	595	880

282531081082201 -- 82510801 COCOA 14 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY										
24...	1123	7.4	918	24.0	300	95.0	16.0	2.50	62.0	193

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY							
24...	202	110	.2	20.0	96.0	550	1,570

282548081054201 -- 82510504 COCOA 3 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY										
24...	1135	7.3	1,100	23.9	360	129	8.70	1.70	78.0	287

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY							
24...	294	140	.2	23.0	58.0	664	1,370

282556081094001 -- COCOA 18 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY										
24...	1315	7.4	975	24.7	340	104	19.0	2.60	62.0	181

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY							
24...	170	110	.2	20.0	140	615	1,770

282612081054201 -- 82610502 COCOA 2 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1115	7.2	1,330	24.5	400	140	12.0	2.40	110	266

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	274	190	.2	23.0	100	818	4,720

282650081054201 -- 82610504 COCOA 9 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 24...	1230	7.5	1,330	24.1	390	131	14.0	2.80	110	256

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 24...	262	190	.3	23.0	110	788	1,720

282716081054501 -- 82710501 COCOA 10 NR BITHLO, FL

Date	Time	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
MAY 26...	0838	7.3	1,010	24.9	330	114	10.0	1.80	70.0	263

Date	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Stront-ium, water, fltrd, ug/L (01080)
MAY 26...	265	120	.4	28.0	57.0	601	950

KEY TO SITE LOCATIONS ON FIGURE 20
OSCEOLA COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	274149080534801	190
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5	275609081132001	192
6	275852081030501	192
7	280619080542601	193
8	280750081155701	193
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11	281429081290501	195
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13	281559081260701	196
14	281630080591001	196
15	281630081024401	197
16	281714081093001	197
17	281719081134001	198
18	281722080543001	198

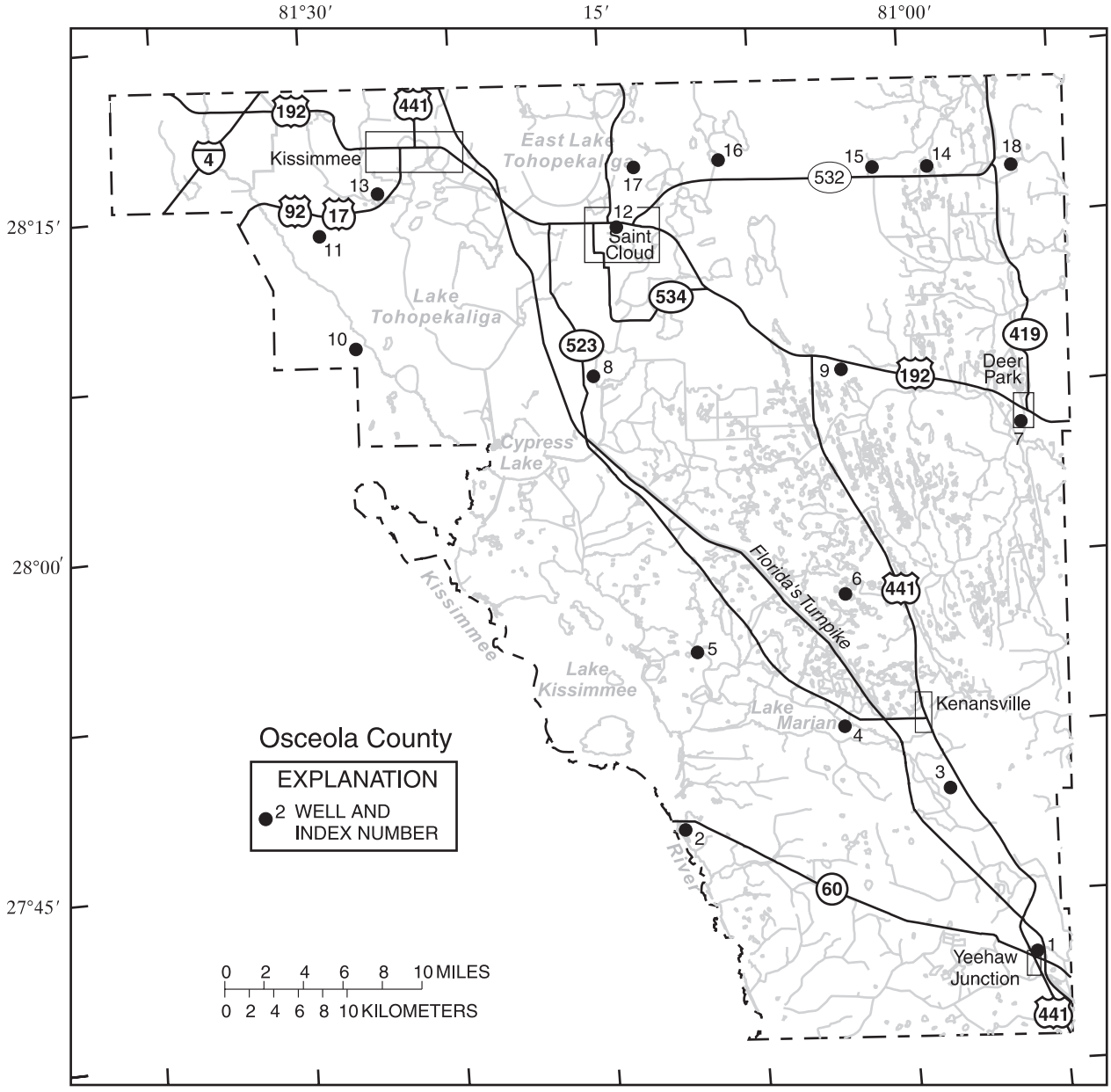

Figure 20.--Location of wells in Osceola County.

OSCEOLA COUNTY

WELL NUMBER.--274149080534801. OSF-60A Test Well at Yeehaw Junction, FL.

LOCATION.--Lat 27°41'49", long 80°53'48", in SW¼NW¼NE¼ sec.4, T.32 S., R.34 E., Hydrologic Unit 03080101, at the northeast corner of the intersection of State Highway 91 (Florida Turnpike) and State Highway 60 at Yeehaw Junction, FL. Owner: South Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 8 in., depth 590 ft, cased to 325 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 57.13 ft above NGVD of 1929. Measuring point: Top of PVC casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1992 to September 1995 (monthly); May 1996 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.46 ft above NGVD of 1929, Sept. 27, 2004; lowest measured, 36.28 ft above NGVD of 1929, May 16, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	42.17	JAN 26	41.70	APR 26	39.76	JUN 29	39.30	SEP 21	42.79
NOV 24	42.11	FEB 24	41.90	MAY 18	38.87	JUL 27	40.09	27	43.46
DEC 30	41.77	MAR 30	41.20	25	38.23	AUG 23	41.48		

WATER YEAR 2004 LOWEST 38.23 MAY 25, 2004 HIGHEST 43.46 SEP 27, 2004

WELL NUMBER.--274807081115501. S65 Well near Kenansville, FL.

LOCATION.--Lat 27°48'07", long 81°11'55", in NE¼NW¼NW¼ sec.11, T.31 S., R.31 E., Hydrologic Unit 03080101, on the right bank of the Kissimmee River at lock structure S-65, 8 mi east of Indian Lake Estate, and 14 mi southwest of Kenansville. Owner: South Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 12 in., depth 850 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 53.86 ft above NGVD of 1929. Measuring point: Top of PVC casing, 2.84 ft above land-surface datum.

PERIOD OF RECORD.--May 1983 to September 1992 (semiannually); October 1992 to August 1994 (monthly); May 1995 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.39 ft above NGVD of 1929, Sept. 13, 1995; lowest measured, 40.33 ft above NGVD of 1929, May 16, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	45.30	JAN 27	44.64	APR 27	42.61	JUN 29	42.10	SEP 21	45.77
NOV 24	45.07	FEB 24	44.88	MAY 18	41.77	JUL 26	43.06	28	46.19
DEC 30	44.68	MAR 30	44.11	24	41.26	AUG 24	44.33		

WATER YEAR 2004 LOWEST 41.26 MAY 24, 2004 HIGHEST 46.19 SEP 28, 2004

OSCEOLA COUNTY—Continued

WELL NUMBER.--274947080584001. Hayman Well near Kenansville, FL.

LOCATION.--Lat 27°49'47", long 80°58'40", in SE¼SE¼NW¼ sec.36, T.30 S., R.33 E., Hydrologic Unit 03080101, in pasture of 7-11 Ranch, 0.4 mi west of U.S. Highway 441, and 3.1 mi south of Kenansville. Owner: W. Paul Hayman.

AQUIFER.--Nonartesian sand aquifer of the Pleistocene Age, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, nonartesian well, diameter 3 in., depth 90 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 74.25 ft above NGVD of 1929. Measuring point: Hole in threaded cap, 2.48 ft above land-surface datum. Prior to Aug. 31, 1999, measuring point .48 ft above land-surface datum.

PERIOD OF RECORD.--January 1974 to December 2003 (bimonthly), incomplete, discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.10 ft above NGVD of 1929, July 18, 2002; lowest measured, 64.74 ft above NGVD of 1929, June 13, 1985.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	69.75	DEC 08	69.96

WATER YEAR 2004	LOWEST	69.75	OCT 20, 2003	HIGHEST	69.96	DEC 08, 2003	

WELL NUMBER.--275222081030701. OS-243 Well at Lake Marian near Kenansville, FL.

LOCATION.--Lat 27°52'22", long 81°03'07", in SE¼NE¼NE¼ sec.18, T.30 S., R.33 E., Hydrologic Unit 03090101, at boat ramp in Osceola County Park, on east side of Lake Marian, and 3.0 mi west of Kenansville. Owner: U.S. Geological Survey.

AQUIFER.--Hawthorn limestone aquifer of the Miocene Series, Geologic Unit 122 HTRNN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 320 ft, cased to 243 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.21 ft above NGVD of 1929. Prior to Oct. 1, 1977, datum was considered to be 63.95 ft, Oct. 1, 1977, to Sept. 30, 1978, to be 65.05 ft, and Oct. 1, 1979 to Sept. 30, 1990, to be 62.61 ft above NGVD of 1929. Measuring point: Top of 4 in PVC casing, 1.17 ft above land-surface datum (revised).

PERIOD OF RECORD.--April 1974 to September 1992 (bimonthly); October 1992 to September 1994 (monthly); October 1994 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.83 ft above NGVD of 1929, Sept. 13, 1995; lowest measured, 48.43 ft above NGVD of 1929, present datum, May 8, 1976.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	54.25	FEB 12	54.00	MAY 21	52.46	JUL 30	52.59
DEC 08	54.06	APR 12	53.64	JUN 01	52.02	SEP 21	53.92

WATER YEAR 2004	LOWEST	52.02	JUN 01, 2004	HIGHEST	54.25	OCT 20, 2003	

OSCEOLA COUNTY—Continued

WELL NUMBER.--275609081132001. Joe Overstreet Well (OSF-4) near St. Cloud, FL.

LOCATION.--Lat 27°56'09", long 81°13'20", in SE¼NW¼SE¼ sec.28, T.29 S., R.31 E., Hydrologic Unit 03080101, on south side of Joe Overstreet Road, 5.2 mi southwest of State Highway 523 (Canoe Creek Road), 21 mi southeast of St. Cloud. Owner: Joe Overstreet.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 400 ft, cased to 288 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Land-surface datum is 59.09 ft above NGVD of 1929. Measuring point: Top of sanitary seal, at land-surface datum.

PERIOD OF RECORD.--May 1976 to May 1978 (semiannually); October 1978 to September 1980 (miscellaneous); May 1982 to September 1992 (semiannually); October 1992 to September 1994 (monthly); May 1995 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.30 ft above NGVD of 1929, Sept. 13, 1995; lowest measured, 41.94 ft above NGVD of 1929, May 14, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 30	48.71	FEB 23	48.38	APR 26	46.49	MAY 24	44.11	JUL 27	46.94	SEP 21	49.80
JAN 26	48.46	MAR 30	48.14	MAY 17	45.06	JUN 29	45.97	AUG 24	48.39	28	50.25

WATER YEAR 2004 LOWEST 44.11 MAY 24, 2004 HIGHEST 50.25 SEP 28, 2004

WELL NUMBER.--275852081030501. TH-10 Williams Road Well near Holopaw, FL.

LOCATION.--Lat 27°58'52", long 81°03'05", in NW¼NE¼NE¼ sec.7, T.29 S., R.33 E., Hydrologic Unit 03080101, on eastern bank of pond, 4.4 mi west of intersection of State Highway 441 and Williams Road, 13.7 mi south of Holopaw, FL. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 405 ft, cased to 242 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 75.30 ft above NGVD of 1929. Measuring point: Top of PVC pipe, 0.24 ft above land-surface datum.

PERIOD OF RECORD.--March 1980 to September 1992 (semiannually); October 1992 to September 1994 (monthly); May 1995 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 46.48 ft above NGVD of 1929, Sept. 11, 1995; lowest measured, 38.76 ft above NGVD of 1929, May 15, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	44.64	JAN 27	43.93	APR 27	41.79	JUN 28	41.37	SEP 21	45.05
NOV 24	44.37	FEB 24	44.23	MAY 17	40.97	JUL 26	42.24		
DEC 29	44.05	MAR 29	43.43	25	40.32	AUG 23	41.64		

WATER YEAR 2004 LOWEST 40.32 MAY 25, 2004 HIGHEST 45.05 SEP 21, 2004

OSCEOLA COUNTY—Continued

WELL NUMBER.--280619080542601. OS-179 Well at Deer Park, FL.

LOCATION.--Lat 28°06'19", long 80°54'26", in NW¼NE¼SW¼ sec.27, T.27 S., R.34 E., Hydrologic Unit 03080101, on south side of U.S. Highway 192, 0.8 mi northwest of Deer Park, and 11 mi east of Holopaw. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand of the surficial aquifer system, Geologic Unit 112 SDGV.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 17.6 ft, cased to 17.6 ft, gravel packed 12.6 to 17.6 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 48.84 ft above NGVD of 1929. Measuring point: Top of casing, 3.20 ft above land-surface datum.

REMARKS.--Well was destroyed as a result of widening of U.S. Highway 192.

PERIOD OF RECORD.--April 1949 to May 2004 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 49.11 ft above NGVD of 1929, July 15, 1978; lowest, 42.24 ft above NGVD of 1929, June 30, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	45.66	44.95	45.09	45.62	45.44	44.49	43.68	---	---	---	---
10	46.38	45.96	44.94	44.97	45.38	45.17	44.34	43.52	---	---	---	---
15	46.41	45.59	45.48	44.82	45.30	44.91	44.26	43.37	---	---	---	---
20	46.00	45.37	45.68	44.90	45.10	45.21	44.11	---	---	---	---	---
25	45.78	45.22	45.46	44.73	45.78	44.87	43.96	---	---	---	---	---
EOM	45.55	45.07	45.23	45.17	45.69	44.66	43.81	---	---	---	---	---
MAX	---	46.01	45.73	45.19	45.81	45.64	44.63	---	---	---	---	---

WELL NUMBER.--280750081155701. Canoe Creek Road Well near St. Cloud, FL.

LOCATION.--Lat 28°07'50", long 81°15'57", in SW¼SW¼SE¼ sec.13, T.27 S., R.30 E., Hydrologic Unit 03090101, well is 400 ft east of County Road 523 and 8 mi south of St. Cloud. Owner: Earl Partin.

AQUIFER.-Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 816 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 70 ft above NGVD of 1929. Measuring point: Top of casing 2.30 ft above land-surface datum.

PERIOD OF RECORD.--July to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.63 ft above NGVD of 1929, Sept. 28, 2004; lowest measured, 47.21 ft above NGVD of 1929, May 24, 2004.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	51.38	DEC 30	50.90	MAR 30	50.33	MAY 17	47.73	JUL 27	49.02	SEP 28	52.63
NOV 24	51.27	JAN 26	50.76	APR 15	48.98	24	47.21	AUG 24	50.65		
DEC 11	50.57	FEB 23	51.02	26	48.58	JUN 29	48.25	SEP 21	52.16		

WATER YEAR 2004 LOWEST 47.21 MAY 24, 2004 HIGHEST 52.63 SEP 28, 2004

OSCEOLA COUNTY—Continued

WELL NUMBER.--280826081031801. Holopaw Test Well No. 1 (OSF-28) near Holopaw, FL.

LOCATION.--Lat 28°08'26", long 81°03'18", in NE¼SE¼NW¼ sec.18, T.27 S., R.33 E., Hydrologic Unit 03090101, on south side of U.S. State Highway 192, 1.3 mi east of U.S. 441 and State Highway 192 intersection, 1.3 mi northeast of Holopaw. Owner: South Brevard Water Authority.

AQUIFER.-Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, test well, artesian well, diameter 10 in., depth 1097 ft, casing length 322 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 70.06 ft above NGVD of 1929. Measuring point: Top of casing 3.01 ft above land-surface datum.

PERIOD OF RECORD.--August 1987 to September 1990; May 1991 to September 1992 (semiannually); October 1992 to September 1994 (monthly); May 1995 to May 1996, May 2000 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.89 ft above NGVD of 1929, Sept. 15, 1995; lowest measured, 37.26 ft above NGVD of 1929, May 17, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	43.83	JAN 27	43.25	APR 27	41.04	JUL 26	41.50	SEP 28	44.87
NOV 24	43.71	FEB 24	43.62	MAY 17	40.19	AUG 23	42.97		
DEC 29	43.42	MAR 29	42.75	JUN 28	40.66	SEP 20	44.48		

WATER YEAR 2004 LOWEST 40.19 MAY 17, 2004 HIGHEST 44.87 SEP 28, 2004

WELL NUMBER.--280905081270101. Reedy Creek Overlook Well (OSF-11) near Deer Park, FL.

LOCATION.--Lat 28°09'05", long 81°27'01", in NW¼NW¼SE¼ sec.9, T.28 S., R.29 E., Hydrologic Unit 03080101, on Ranch Road, 0.8 mi east of State Highway 419 and 5.5 mi north of Deer Park. Owner: Deseret Ranch.

AQUIFER.-Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation, diameter 6 in., depth 398 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 63.57 ft above NGVD of 1929. Measuring point: Top of 6 inch casing, 3.05 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to May 1992 (semiannually); September 1992 to September 1994 (monthly); May 1996 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.50 ft above NGVD of 1929, Sept. 15, 1982; lowest measured, 55.06 ft above NGVD of 1929, May 30, 2002.

ELEVATION IN FEET NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	62.57	JAN 26	62.69	APR 26	60.30	JUN 28	59.91	SEP 20	64.77
NOV 25	63.12	FEB 23	62.72	MAY 17	60.32	JUL 27	60.67		
DEC 30	62.72	MAR 29	62.11	24	59.41	AUG 24	63.17		

WATER YEAR 2004 LOWEST 59.41 MAY 24, 2004 HIGHEST 64.77 SEP 20, 2004

OSCEOLA COUNTY—Continued

WELL NUMBER.--281429081290501. Mercantile Lane (OS254) near Kissimmee, FL.

LOCATION.--Lat 28°14'29", long 81°29'05", in NE¼SE¼NW¼ sec. 11, T.26 S., R.28 E., Hydrologic Unit 03080101, 600 ft east of South Poinciana Blvd., 0.9 mi south of U.S. Highway 17-92 and 6.2 mi southwest of Kissimmee. Owner: M. H. Brown.

AQUIFER.--Hawthorn limestone aquifer of the Miocene Series, Geologic Unit 122 HTRNN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, 6 in. steel casing, depth 328 ft, cased to 110 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 77.65 ft above NGVD of 1929. Measuring point: Top of 6 in. casing, 1 ft above land-surface datum.

PERIOD OF RECORD.--January 1973 to May 1974; May 1974 to September 1992 (semiannually); September 1992 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 69.42 ft above NGVD of 1929, Feb. 23, 1973; lowest measured, 57.68 ft above NGVD of 1929, May 13, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	63.62	JAN 26	63.57	APR 26	61.34	JUN 28	60.81	SEP 20	66.05
NOV 25	63.87	FEB 23	63.71	MAY 17	61.37	JUL 27	61.76	28	66.62
DEC 30	63.63	MAR 29	63.02	24	60.48	AUG 24	64.74		

WATER YEAR 2004 LOWEST 60.48 MAY 24, 2004 HIGHEST 66.62 SEP 28, 2004

WELL NUMBER.--281443081140501. Ashton Forestry Tower Well at Ashton, FL.

LOCATION.--Lat 28°14'43", long 81°14'05", in NW¼NW¼NE¼ sec. 8, T.26 S., R.31 E., Hydrologic Unit 03090101, located 301 ft south of U.S. Highway 192, 0.5 mi east of State Highway 15 at Forestry Tower in Ashton. Owner: U.S. Forestry Department.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in, depth 400 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 74.79 ft above NGVD of 1929. Measuring point: Top of casing, 1.2 ft above land-surface datum.

PERIOD OF RECORD.--May 1973 to November 1979 (about thrice yearly); September 1980 to September 1992 (semiannually); February 1993 to September 1994 (monthly); May 1995 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.10 ft above NGVD of 1929, Nov. 5, 1973; lowest measured, 39.54 ft above NGVD of 1929, May 15, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	46.75	JAN 26	46.70	APR 26	43.75	JUN 28	43.70	SEP 20	48.38
NOV 24	47.11	FEB 23	46.91	MAY 17	43.09	JUL 26	44.72	28	48.98
DEC 29	46.87	MAR 29	46.02	24	42.40	AUG 23	46.61		

WATER YEAR 2004 LOWEST 42.40 MAY 24, 2004 HIGHEST 48.98 SEP 28, 2004

OSCEOLA COUNTY—Continued

WELL NUMBER.--281559081260701. Shingle Creek Well at State Highway 531A near Kissimmee, FL.

LOCATION.--Lat 28°15'59", long 81°26'07", in NW¼NE¼SW¼ sec. 32, T.25 S., R.29 E., Hydrologic Unit 03080101, 365 ft east of Shingle Creek Road (State Highway 531A), 0.4 mi north of U.S. Highway 17-92 and 2.2 mi southwest of Kissimmee. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 200 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 59.98 ft above NGVD of 1929. Measuring point: Top of casing, 0.8 ft above land-surface datum.

PERIOD OF RECORD.--March 1978 to September 1979 (monthly); May 1979 to September 1992 (semiannually); September 1992 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 63.50 ft above NGVD of 1929, Sept. 15, 1982; lowest measured, 50.79 ft above NGVD of 1929, May 13, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	57.87	JAN 26	57.75	APR 26	55.19	JUN 28	54.49	SEP 20	61.01
NOV 25	58.26	FEB 23	58.02	MAY 17	55.07	JUL 27	55.80		
DEC 30	57.79	MAR 29	56.94	24	53.99	AUG 24	59.34		

WATER YEAR 2004 LOWEST 53.99 MAY 24, 2004 HIGHEST 61.01 SEP 20, 2004

WELL NUMBER.--281630080591001. TH-3 Lake Poinsett SW near New Eden, FL.

LOCATION.--Lat 28°16'30", long 80°59'10", in SW¼SW¼SE¼ sec.26, T.25 S., R.33 E., Hydrologic Unit 03090101, 40 ft north of County Road 532, 3.9 mi west of intersection of County Road 532 and County Road 419, and 8.7 mi east of New Eden. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 360 ft, cased to 246 ft.

INSTRUMENTATION.--Monthly measurements with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 59.68 ft above NGVD of 1929. Measuring point: 1.0 ft below land-surface datum. Prior to Sept. 23, 2003, measuring point at land-surface datum.

PERIOD OF RECORD.--December 1979 to September 1982, May 1984 to September 1992 (semiannually); October 1992 to September 1994 (monthly); May 1995 to September 2001 (seminannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.06 ft above NGVD of 1929, Sept. 11, 1995; lowest measured, 32.24 ft above NGVD of 1929, May 13, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	38.64	JAN 27	37.89	APR 27	36.86	JUN 28	35.33	SEP 20	39.14
NOV 25	38.36	FEB 24	38.31	MAY 17	35.02	JUL 26	36.14	28	39.86
DEC 29	38.11	MAR 29	37.63	25	34.46	AUG 23	37.55		

WATER YEAR 2004 LOWEST 34.46 MAY 25, 2004 HIGHEST 39.86 SEP 28, 2004

OSCEOLA COUNTY—Continued

WELL NUMBER.--281630081024401. TH-9 Nova Road 532 west (OSF-93) near New Eden, FL.

LOCATION.--Lat 28°16'30", long 81°02'44", in SW¼SW¼SW¼ sec.29, T.25 S., R.33 E., Hydrologic Unit 03090101, 20 ft north of County Road 532, 7.9 mi west of the intersection of County Road 532 and County Road 419 and 8.2 mi east of New Eden. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 405 ft, cased to 288 ft.

INSTRUMENTATION.--Monthly measurements with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 76.79 ft above NGVD of 1929. Measuring point: Top of casing 3.31 ft above land-surface datum.

PERIOD OF RECORD.--September 1980 to September 1992 (semiannually); October 1992 to September 1994 (monthly); May 1995 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.23 ft above NGVD of 1929, Sept. 28, 2004; lowest measured, 35.43 ft above NGVD of 1929, May 13, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	41.96	JAN 27	41.31	APR 27	39.35	JUN 28	38.85	SEP 20	42.74
NOV 25	41.71	FEB 24	41.68	MAY 17	38.50	JUL 26	39.66	28	43.23
DEC 29	41.46	MAR 29	41.08	25	37.96	AUG 23	41.18		

WATER YEAR 2004 LOWEST 37.96 MAY 25, 2004 HIGHEST 43.23 SEP 28, 2004

WELL NUMBER.--281714081093001. Lake Joel Well near Ashton, FL.

LOCATION.--Lat 28°17'14", long 81°09'30", in SW¼NW¼NW¼ sec.30, T.25 S., R.32 E., Hydrologic Unit 03090101, on southwest shore of Lake Joel, 0.8 mi north of State Highway 532, and 5.0 mi northeast of Ashton. Owner: Deseret Ranch.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth 750 ft, cased to 394 ft.

INSTRUMENTATION.--Water-stage recorder---60-minute interval.

DATUM.--Elevation of land-surface datum is 64.78 ft above NGVD of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1969, May 1973 to November 1975 (bimonthly); December 1975 to current year. Prior to October 1977, published as (OS 213), Gulf American Co.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.68 ft above NGVD of 1929, Nov. 20, 1969; lowest daily maximum water level, 36.30 ft above NGVD of 1929, June 3, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	45.66	44.32	44.07	44.03	44.19	44.53	43.13	41.77	39.47	41.79	42.58	45.21
10	45.61	44.51	44.06	43.80	44.20	44.43	42.44	41.66	40.04	42.01	42.74	45.15
15	45.35	44.58	43.93	43.76	44.39	44.10	42.38	41.20	40.54	42.20	43.26	45.50
20	45.02	---	44.03	43.80	44.28	44.04	42.18	40.76	40.96	42.22	43.63	45.47
25	44.51	44.47	44.15	43.87	44.43	43.76	41.83	40.38	41.22	42.26	44.04	46.04
EOM	44.26	44.22	44.02	44.07	44.41	43.59	41.64	39.64	41.48	42.29	44.33	46.09
MAX	45.67	---	44.27	44.07	44.46	44.53	43.55	41.78	41.48	42.36	44.38	46.40

OSCEOLA COUNTY—Continued

WELL NUMBER.--281719081134001. South Eagle Road Grove Well at Narcoossee, FL.

LOCATION.--Lat 28°17'19", long 81°13'40", in NW¼NW¼NW¼ sec.28, T.25 S., R.31 E., Hydrologic Unit 03090101, in orange grove 0.1 mi southwest of South Eagle Road, in Narcoossee. Owner: Mrs. C. Fulmer.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 8 in., depth 474 ft, cased to 239 ft.

INSTRUMENTATION.--Monthly measurements with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 78.00 ft above NGVD of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1979 to September 1992 (semiannually); October 1992 to September 1994 (monthly); May 1995 to May 1996 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.88 ft above NGVD of 1929, May 15, 1980; lowest measured, 38.44 ft above NGVD of 1929, May 18, 1995.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	45.70	JAN 26	45.17	MAR 29	44.36	MAY 24	40.96	JUL 26	43.15	SEP 28	47.48
DEC 29	45.15	FEB 23	45.38	APR 26	42.27	JUN 28	42.20	AUG 23	45.08		

WATER YEAR 2004 LOWEST 40.96 MAY 24, 2004 HIGHEST 47.48 SEP 28, 2004

WELL NUMBER.--281722080543001. OS-171 Well near Deer Park, FL.

LOCATION.--Lat 28°17'22", long 80°54'30", in SE¼SW¼SW¼ sec.22, T.25 S., R.34 E., Hydrologic Unit 03080101, on ranch road, 0.9 mi east of State Highway 532, 3.6 mi south of K-6 Ranch Headquarters, and 13.5 mi north of Deer Park. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand of the surficial aquifer system, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 19 ft, cased to 12.7 ft, gravel packed, 11 to 19 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 31.60 ft above NGVD of 1929. Measuring point: Top of casing, 3.32 ft above land-surface datum.

PERIOD OF RECORD.--October 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 33.56 ft above NGVD of 1929, Sept. 23, 1960; lowest, 26.32 ft above NGVD of 1929, July 28, 1981.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.39	30.68	29.95	30.72	31.22	31.18	29.46	---	29.26	---	29.91	32.30
10	31.17	31.03	30.05	30.62	31.06	30.97	---	---	---	---	29.92	31.47
15	31.04	30.64	30.90	30.38	31.19	30.79	---	---	---	---	31.33	31.50
20	30.91	30.51	30.98	30.73	30.90	30.89	---	---	---	---	31.27	31.52
25	30.60	30.17	30.92	30.35	31.60	30.57	29.62	---	---	---	31.54	31.57
EOM	30.54	29.79	30.78	31.10	31.31	30.11	---	27.96	---	29.53	31.34	31.61
MAX	31.73	31.03	31.10	31.10	31.60	31.28	---	---	---	---	31.75	33.09

OSCEOLA COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
274307080582401	05-18-04	0545	OSF-42	42.44
	09-21-04	1135		46.44
280036080563801	05-17-04	1206	OS-0019 BULL CR LOOP RD	39.91
280229080565501	05-18-04	1038	TEST HOLE 8(OS-0004)NR DEER PARK,FL	39.66
	09-20-04	1544		43.94
280829080574001	05-18-04	1141	808057 27S34E18 TH-6 DEER PARK NW	39.98
	09-20-04	1340		44.27
281023081075401	05-17-04	0953	OSF-68 TEST WELL	38.13
	09-20-04	0944		42.28
281105080541401	05-18-04	1216	811054-- 26S34E34 RODEO FIELD DEER PARK NW	36.42
	09-20-04	1412		39.56
281146081211701	05-17-04	0850	CECIL WHALEY WELL	47.81
	09-20-04	0849		53.10
281354080563301	05-18-04	1246	813056 26S34E08 TH-4 DEER PARK NW	37.76
	09-20-04	1212		42.12
281456081171701	05-17-04	0912	ST.CLOUD POWER PLANT WELL	39.60
	09-20-04	0914		47.84
281632080515001	05-18-04	1340	DSR-38 LAKE POINSETT NR ROCKLEDGE,FL	36.43
	09-20-04	1126		40.10
281937081245901	05-17-04	0600	81912401 25S29E09 OS U.L	39.60
	09-20-04	0547		49.05

KEY TO SITE LOCATIONS ON FIGURE 21
PASCO COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	281654082065901	202
2	282259082104101	202

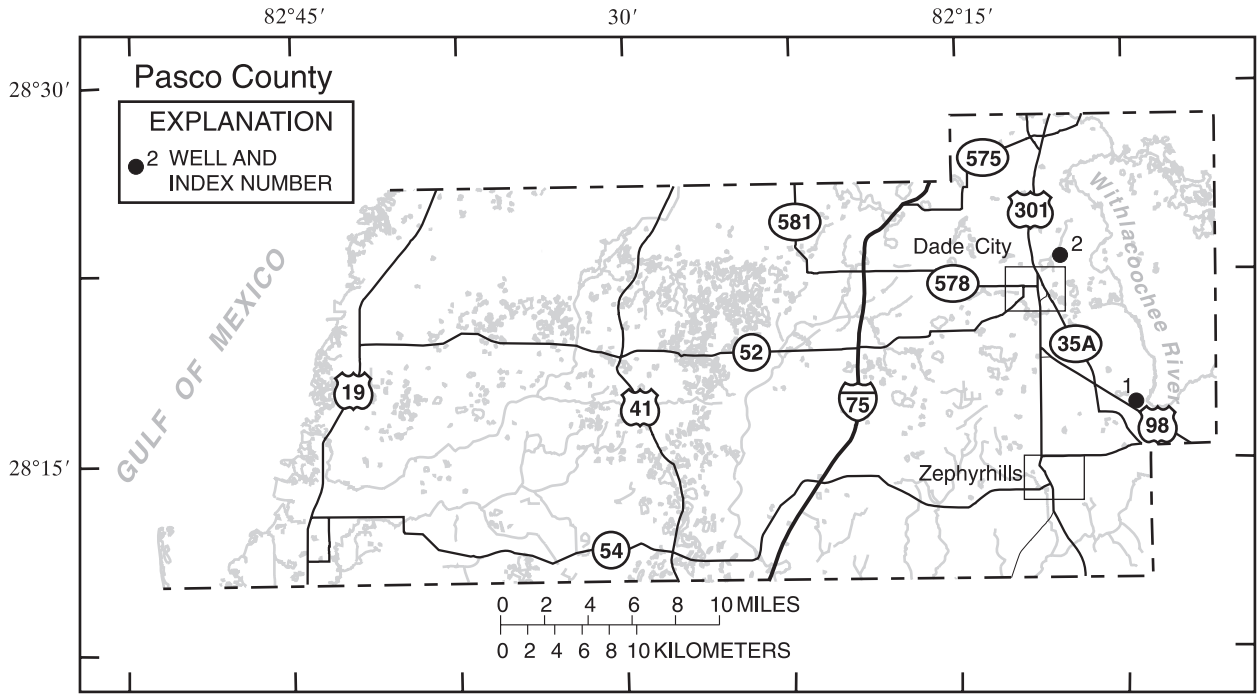

Figure 21.--Location of wells in Pasco County.

PASCO COUNTY

WELL NUMBER.--281654082065901. U.S. Highway 98 Well near Dade City, FL.

LOCATION.--Lat 28°16'54", long 82°06'59", in SW¼SE¼NW¼ sec.28, T.25 S., R.22 E., Hydrologic Unit 03100208, on north side of U.S. Highway 98, 2.9 mi north of intersection of State Highway 54, and 7.8 mi southeast of Dade City. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 3 in., depth 200 ft, cased to 41 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 83.77 ft above NGVD of 1929. Measuring point: Top of casing, 3.10 ft above land-surface datum.

PERIOD OF RECORD.--May 1976, January 1977 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 80.68 ft above NGVD of 1929, Oct. 11, 1995; lowest measured, 68.72 ft above NGVD of 1929, June 4, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	78.30	MAR 08	78.67	MAY 04	77.47	JUL 06	78.32	SEP 20	80.64
JAN 13	77.33	APR 26	77.11	17	76.49	AUG 27	79.41		

WATER YEAR 2004 LOWEST 76.49 MAY 17, 2004 HIGHEST 80.64 SEP 20, 2004

WELL NUMBER.--282259082104101. Lykes Pasco Well near Dade City, FL.

LOCATION.--Lat 28°22'59", long 82°10'41", in NW¼NW¼SE¼ sec.23, T.24 S., R.21 E., Hydrologic Unit 03100208, 0.5 mi east of confluence of Pasco Packing Company and Evans Packing Company canals, and 2 mi northeast of Dade City. Owner: Lykes Pasco Packing Co.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 36 ft, casing length unknown.

INSTRUMENTATION.--Water-stage recorder and data-collection platform--60 minute interval.

DATUM.--Elevation of land-surface datum is 73.81 ft above NGVD of 1929. Measuring point: Top edge of flange on casing, 4.13 ft above land-surface datum.

PERIOD OF RECORD.--April 1973 to September 1992; October 1992 to February 2003 (monthly), March 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 75.24 ft above NGVD of 1929, Sept. 30, 2004; lowest measured, 57.38 ft above NGVD of 1929, June 21, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	72.90	71.39	70.16	69.15	68.46	---	68.01	67.11	65.88	---	68.06	69.89
10	72.68	71.19	69.94	68.90	68.44	68.74	67.80	66.98	65.85	67.08	68.30	72.09
15	72.50	70.96	69.78	68.74	68.40	68.65	67.71	66.76	65.96	67.08	68.48	73.41
20	72.15	70.80	69.65	68.67	68.26	68.53	67.59	66.57	66.18	67.12	68.64	74.13
25	71.84	70.65	69.43	68.54	68.19	68.33	67.48	66.36	65.95	67.36	68.84	74.34
EOM	71.58	70.32	69.23	68.44	68.43	68.17	67.19	66.09	66.21	67.82	69.10	75.24
MAX	72.90	71.55	70.31	69.17	68.49	---	---	67.18	66.21	---	69.10	75.24

PASCO COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
281942082112801	05-17-04	1025	MUNBURY DR WELL AT DADE CITY,FL	66.01
	09-20-04	1035		73.75
282121082071101	05-17-04	1055	82120702 24S22E32 CUMMER OFFICE WELL	72.92
	09-20-04	1144		76.67
282154082142401	05-17-04	1003	82121401 24S21E30 HAYCRAFT WELL	68.03
	09-20-04	1010		76.43
282221082103001	05-17-04	1130	82221001 24S21E26 COLLURA WELL NO. 1	67.41
	09-20-04	1100		75.17
282428082134501	05-17-04	0948	82421301 24S21E08 LEE WELL	65.54
	09-20-04	0955		74.93
282430082112101	05-17-04	0925	82421102 24S21E10 SELF WELL	64.71
	09-20-04	0935		73.76
282717082142001	05-17-04	0907	82721401 23S21E30 ROSSINI WELL WEST OF TRILBY	57.19
	09-20-04	0915		67.62
282816082123701	05-17-04	0855	82821201 23S21E21 TOMKOW HAY BARN WELL	52.41
	09-20-04	0900		62.98

KEY TO SITE LOCATIONS ON FIGURE 22
POLK COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	273929081080601	206
2	274812081190301	206
3	274815081130301	207
4	274846081262001	207
5	275135081252601	208
6	275634081211901	208
7	280503081552801	209
8	280531081431601	209
9	280556081532601	210
10	280715081543501	210
10	280719081543301	211
11	281008081441801	211
11	281008081441802	212
12	281057081495002	212
13	281202081391701	213
14	281312082011601	213

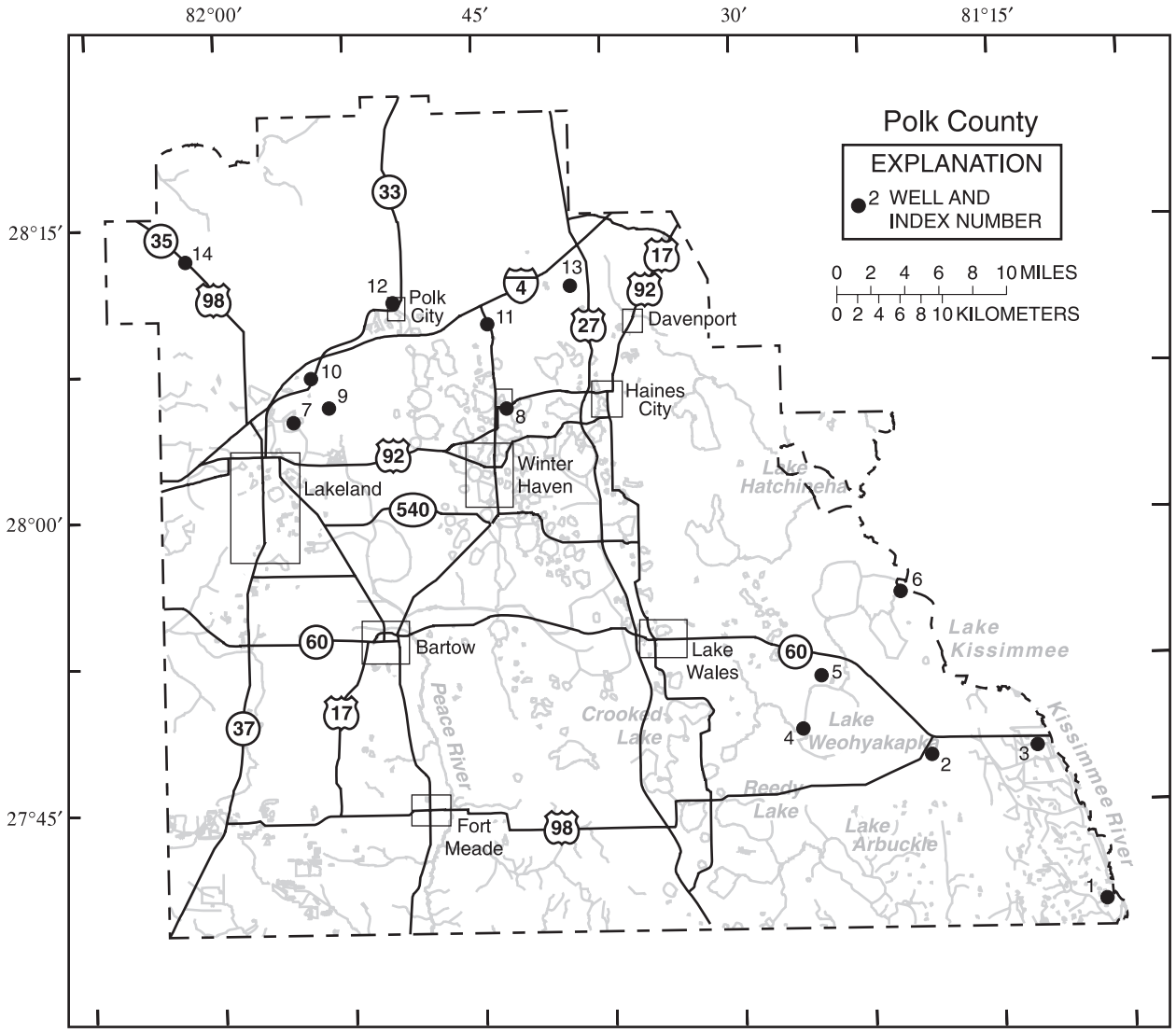

Figure 22.--Location of wells in Polk County.

POLK COUNTY

WELL NUMBER.--273929081080601. S-65A (POF-20) Well near Yeehaw Junction, FL.

LOCATION.--Lat 27°39'29", long 81°08'06", in SW¼SW¼SW¼ sec.28, T.32 S., R.32 E., Hydrologic Unit 03090101, on right bank of the Kissimmee River S-65A lock structure, 7.7 mi southwest of State Road 60, 18.7 mi southwest of Yeehaw Junction. Owner: South Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 8 in., depth 1000 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurements with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 49.00 ft above NGVD of 1929. Prior to June 2002, land-surface datum was 50.80 ft above NGVD of 1929. Measuring point: Top of casing, 3.48 ft above land-surface datum.

PERIOD OF RECORD.--May 1983 to September 1993 (semiannually); November 1993 to September 1994 (monthly); May 1995 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 47.75 ft above NGVD of 1929, May 15, 1996; lowest, 40.68 ft above NGVD of 1929, May 16, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	45.70	DEC 30	45.15	FEB 24	45.36	APR 27	43.15	MAY 24	41.81	JUL 26	43.61
NOV 24	45.55	JAN 27	45.18	MAR 30	44.57	MAY 18	42.35	JUN 29	42.74	AUG 24	44.89

WATER YEAR 2004 LOWEST 41.81 MAY 24, 2004 HIGHEST 45.70 OCT 27, 2003

WELL NUMBER.--274812081190301. P-49 Well near Frostproof, FL.

LOCATION.--Lat 27°48'12", long 81°19'03", in SE¼NE¼NE¼ sec.9, T.31 S., R.30 E., Hydrologic Unit 03090101, on south side of State Highway 630, 0.2 mi west of State Highway 60, and 12.0 mi east of Frostproof. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of the Pleistocene Age, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 17 ft, cased to 14 ft, gravel-packed from 14 to 17 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 104.93 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 3.38 ft above land-surface datum.

PERIOD OF RECORD.--April 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 105.45 ft above NGVD of 1929, Sept. 26, 2004; lowest, 98.61 ft above NGVD of 1929, June 5, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	103.90	103.47	102.72	102.94	103.23	102.58	101.72	101.69	100.87	102.92	103.12	104.85
10	103.62	103.66	102.76	102.82	102.74	102.27	101.55	101.41	101.77	102.95	103.48	104.09
15	103.79	103.28	103.63	102.64	102.95	102.03	102.96	101.22	103.16	103.13	104.71	103.72
20	103.31	103.29	103.57	103.19	102.59	102.76	102.35	101.04	102.71	103.36	104.07	103.89
25	103.07	103.07	103.39	102.73	103.18	102.25	102.00	100.88	102.68	102.65	104.22	103.66
EOM	102.97	102.91	103.09	102.92	103.04	101.93	101.75	100.66	102.52	102.93	103.91	104.06
MAX	104.48	103.88	103.99	103.19	103.36	103.03	103.14	101.74	103.16	103.45	104.74	105.45

POLK COUNTY—Continued

WELL NUMBER.--274815081130301. River Ranch Well near Indian Lake Estates, FL.

LOCATION.--Lat 27°48'15", long 81°13'03", in NW¼NW¼NW¼ sec.10, T.31 S., R.31 E., Hydrologic Unit 03090101, 92 ft south of State Highway 60, 1.0 mi west of Kissimmee River Bridge, and 6.5 mi east of Indian Lake Estates. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 300 ft, cased to 185 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 55.17 ft above NGVD of 1929. Prior to Oct. 1, 1977, datum was considered to be 55.64 ft, and Oct. 1, 1977 to Sept. 30, 1978, at 55.34 ft above NGVD of 1929. Measuring point: Top of casing, 0.37 ft below land-surface datum.

PERIOD OF RECORD.--May 1974 to September 1984 (bimonthly); October 1984 to September 1986 (monthly); October 1986 to September 1995, October 1996 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.23 ft above NGVD of 1929, Mar. 10, 1998; lowest measured, 41.02 ft above NGVD of 1929, June 22, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 12	47.00	MAR 16	46.56	MAY 18	44.04	AUG 23	46.37
JAN 15	46.47	MAY 06	44.46	JUN 29	43.52	SEP 21	48.01

WATER YEAR 2004 LOWEST 43.52 JUN 29, 2004 HIGHEST 48.01 SEP 21, 2004

WELL NUMBER.--274846081262001. Lake Weohyakapka Well near Frostproof, FL.

LOCATION.--Lat 27°48'46", long 81°26'20", in NE¼NW¼SE¼ sec.5, T.31 S., R.29 E., Hydrologic Unit 03090101, on southwest shore of Lake Weohyakapka, at county boat ramp, and 8.0 mi east of Frostproof. Owner: Polk County.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 3 in., depth 199 ft, cased to 153 ft.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Elevation of land-surface datum is 65.15 ft above NGVD of 1929. Prior to Oct. 1, 1977, datum was considered to be 65 ft, from topographic map, and Oct. 1, 1977, to Sept. 30, 1978, at 65.30 ft above NGVD of 1929. Measuring point: Spigot on discharge line, 1.85 ft above land-surface datum.

PERIOD OF RECORD.--February 1958, December 1959, June 1969 to September 1984 (bimonthly); October 1984 to September 1986 (monthly); October 1986 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.35 ft above NGVD of 1929, present datum, Dec. 15, 1959; lowest measured, 72.27 ft above NGVD of 1929, May 20, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 12	83.00	JAN 15	81.10	MAY 06	79.60	JUN 29	79.60	SEP 20	86.10
DEC 11	82.00	MAR 16	82.20	18	79.30	AUG 23	82.40		

WATER YEAR 2004 LOWEST 79.30 MAY 18, 2004 HIGHEST 86.10 SEP 20, 2004

POLK COUNTY

WELL NUMBER.--275135081252601. East Lake Wales Utilities Shallow Well at Nalcrest, FL.

LOCATION.--Lat 27°51'35", long 81°25'26", in NW¼SW¼NE¼ sec.21, T.30 S., R.29 E., Hydrologic Unit 03090101, located at East Lake Wales Utilities water plant, 50 ft north of W. Lesiure Lane, in Nalcrest. Owner: East Lake Wales Utilities.

AQUIFER.--Nonartesian sand of the Surficial Aquifer System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 4 in., depth 22 ft, cased to 12 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 67.00 ft above NGVD of 1929. Measuring point: Top of casing, 3.18 ft above land- surface datum.

PERIOD OF RECORD.--April 2004 to September 2004.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 67.19 ft above NGVD of 1929, Sept. 26, 2004; lowest, 61.15 ft above NGVD of 1929, June 2, 2004.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	---	62.59	61.34	63.18	62.82	66.77
10	---	---	---	---	---	---	63.11	62.30	62.06	63.05	63.57	66.35
15	---	---	---	---	---	---	63.66	62.10	64.85	62.68	65.47	65.74
20	---	---	---	---	---	---	63.15	61.83	64.14	63.62	64.96	66.04
25	---	---	---	---	---	---	62.83	61.65	63.46	63.18	65.82	66.16
EOM	---	---	---	---	---	---	62.68	61.30	63.11	63.12	65.75	66.05
MAX	---	---	---	---	---	---	---	62.65	64.87	63.62	66.11	67.19

WELL NUMBER.--275634081211901. Lake Kissimmee St. Park Shallow Well near Lake Wales, FL.

LOCATION.--Lat 27°56'34", long 81°21'19", in NW¼SW¼SE¼ sec.19, T.29 S., R.30 E., Hydrologic Unit 03090101, in Lake Kissimmee State Park, on a sand trail, 150 ft north of park access road, 3.6 mi southeast of park entrance and Camp Mack Road, and 13.6 mi northeast of Lake Wales. Owner: Florida State Parks.

AQUIFER.--Nonartesian sand of the Surficial Aquifer System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 4 in., depth 28 ft, cased to 18 ft.

INSTRUMENTATION.--Water-stage recorder--60-minute interval.

DATUM.--Elevation of land-surface datum is 56.00 ft above NGVD of 1929. Measuring point: Top of casing, 3.43 ft above land- surface datum.

PERIOD OF RECORD.--April 2004 to September 2004.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 56.08 ft above NGVD of 1929, Sept. 26, 2004; lowest, 49.27 ft above NGVD of 1929, June 3, 2004.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	---	49.88	49.51	50.54	49.96	54.36
10	---	---	---	---	---	---	50.26	49.78	50.29	50.52	50.45	55.56
15	---	---	---	---	---	---	50.30	49.68	51.48	50.48	51.88	54.62
20	---	---	---	---	---	---	50.16	49.57	51.60	50.40	51.88	55.38
25	---	---	---	---	---	---	50.07	49.46	51.08	50.30	51.75	54.80
EOM	---	---	---	---	---	---	49.97	49.33	50.80	50.11	52.93	55.50
MAX	---	---	---	---	---	---	---	49.95	52.03	50.75	53.10	56.08

POLK COUNTY

WELL NUMBER.--280503081552801. Fish Lake Deep Well near Lakeland, FL.

LOCATION.--Lat 28°05'03", long 81°55'28", in SE¼SE¼SE¼ sec.32, T.27 S., R.24 E., Hydrologic Unit 03l00l0l, 50 ft east of Lake Park Drive, 1.4 mi south of Old Combee Road, and 3.5 mi northeast of Lakeland. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 311 ft, cased to 265 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 135.93 ft above NGVD of 1929. Measuring point: Top of casing, .90 ft above land-surface datum. Prior to Aug. 2, 2000, elevation of land-surface datum was 134.84 ft above NGVD of 1929. Measuring Point: Top of casing 3.65 ft above NGVD of 1929.

PERIOD OF RECORD.--December 1955 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 120.97 ft above NGVD of 1929, Aug. 8, 1960; lowest measured, 103.60 ft above NGVD of 1929, May 10, 1976.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	114.43	MAR 11	114.79	MAY 19	111.41	AUG 30	115.55
JAN 12	113.60	MAY 06	112.50	JUL 13	112.08	SEP 22	117.67

WATER YEAR 2004 LOWEST 111.41 MAY 19, 2004 HIGHEST 117.67 SEP 22, 2004

WELL NUMBER.--280531081431601. Lake Alfred Deep Well at Lake Alfred, FL.

LOCATION.--Lat 28°05'31", long 81°43'16", in SE¼SW¼NW¼ sec.33, T.27 S., R.26 E., Hydrologic Unit 03100101, on northeast corner at intersection of Glencruiten Avenue and Haines Boulevard at Lake Alfred. Owner: City of Lake Alfred.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter l2 in., depth 555 ft, cased to 282 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 171.04 ft, above NGVD of 1929. Measuring point: Top of recorder shelter floor, 3.46 ft above land-surface datum. Prior to May 1988, at elevation 3.12 ft lower.

PERIOD OF RECORD.--May 1973 to February 1976 (quarterly), incomplete; March 1976 to September 1992; October 1992 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 126.64 ft above NGVD of 1929, Sept. 27, 2004; lowest daily maximum water level, 109.13 ft above NGVD of 1929, May 15, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	121.57	JAN 27	122.61	APR 27	119.06	JUN 29	120.26	SEP 22	125.63
NOV 25	122.42	FEB 24	121.93	MAY 17	119.18	JUL 27	121.25	27	126.64
DEC 30	122.14	MAR 30	121.24	25	117.55	AUG 24	123.74		

WATER YEAR 2004 LOWEST 117.55 MAY 25, 2004 HIGHEST 126.64 SEP 27, 2004

POLK COUNTY—Continued

WELL NUMBER.--280556081532601. Tennorock Road Well near Lakeland, FL.

LOCATION.--Lat 28°05'56", long 81°53'26", in SE¼SE¼SE¼ sec.27, T.27 S., R.24 E., Hydrologic Unit 03100101, on south side of Tennorock Road, 0.9 mi east of Alternate State Highway 33, and 5.4 mi northeast of Lakeland. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 3 in., depth 72 ft, cased to 45 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 132.01 ft above NGVD of 1929. Measuring point: Top of casing, 2.30 ft above land-surface datum.

PERIOD OF RECORD.--February 1956 to February 1960 (monthly), incomplete; June 1960 to May 1961 and January 1963 to September 1977 (about thrice yearly); October 1977 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 124.71 ft above NGVD of 1929, Feb 3,1998; lowest measured, 96.15 ft above NGVD of 1929, May 7, 1968.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	120.78	MAR 11	121.06	MAY 19	118.29	AUG 30	122.60
JAN 12	120.04	MAY 06	119.24	JUL 13	119.41	SEP 22	124.11

WATER YEAR 2004 LOWEST 118.29 MAY 19, 2004 HIGHEST 124.11 SEP 22, 2004

WELL NUMBER.--280715081543501. Combee Road Deep Well near Lakeland, FL.

LOCATION.--Lat 28°07'07", long 81°54'30", in SW¼NE¼SE¼ sec.21, T.27 S., R.24 E., Hydrologic Unit 03100101, at the intersection of State Highway 33 and Combee Road, 1.5 mi southwest of Interstate Highway 4, and 7.3mi northeast of Lakeland. Owner: U.S. Geological Survey.

AQUIFER.--Hawthorn Formation of Miocene Age, Geologic Unit 122 HTRN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 3 in., depth 55 ft, cased to 31 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 136.20 ft above NGVD of 1929. Measuring point: Top of casing, 0.86 ft above land-surface datum. Aug. 10, 1999 to May 7, 2000, measuring point 0.18 ft above land-surface datum. June 30, 1991 to Aug. 9, 1999, measuring point 3.41 ft above land-surface datum. Prior to June 30, 1991, measuring point 2.80 ft above land-surface datum.

PERIOD OF RECORD.--January 1956 to September 1977 (thrice yearly); October 1977 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 136.92 ft above NGVD of 1929, July 7, 1959; lowest measured, 118.56 ft above NGVD of 1929, Nov. 6, 1964.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	132.77	MAR 11	133.41	MAY 19	132.26	AUG 30	134.34
JAN 12	132.28	MAY 06	132.90	JUL 13	133.84	SEP 22	134.47

WATER YEAR 2004 LOWEST 132.26 MAY 19, 2004 HIGHEST 134.47 SEP 22, 2004

POLK COUNTY—Continued

WELL NUMBER.--280719081543301. Combee Road Shallow Well near Lakeland, FL.

LOCATION.--Lat 28°07'06", long 81°54'31", in SW¼NE¼SE¼ sec.21, T.27 S., R.24 E., Hydrologic Unit 03100101, at the intersection of State Highway 33 and Combee Road, 1.5 mi southwest of Interstate Highway 4, and 7.3 mi northeast of Lakeland. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of Pleistocene Age, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 1.25 in., depth 9 ft, cased to 8 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 136.45 ft above NGVD of 1929. Measuring point: Top of casing, 3.63 ft above land-surface datum. June 30, 1991 to Oct. 5, 1999, measuring point 1.06 ft above land-surface datum. Prior to June 30, 1991, measuring point 3.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1955 to September 1977 (thrice yearly); October 1977 to September 2004 (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 136.97 ft above NGVD of 1929, Oct. 10, 1995; well observed dry, Nov. 16, 1964.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	133.05	MAR 11	133.74	MAY 19	132.63	AUG 30	134.38
JAN 12	132.28	MAY 06	133.12	JUL 13	134.82	SEP 22	135.04

WATER YEAR 2004 LOWEST 132.28 JAN 12, 2004 HIGHEST 135.04 SEP 22, 2004

WELL NUMBER.--281008081441801. Lake Alfred Deep Well near Lake Alfred, FL.

LOCATION.--Lat 28°10'08", long 81°44'18", in SW¼NW¼NW¼ sec.5, T.27 S., R.26 E., Hydrologic Unit 03100208, on west side of Pit Road, l00 ft north of intersection with State Highway 557, 1.2 mi south of Interstate Highway 4, and 5.0 mi north of Lake Alfred. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 425 ft, cased to 102 ft.

INSTRUMENTATION.--Water-stage recorder--30-minute interval.

DATUM.--Elevation of land-surface datum is 137.38 ft above NGVD of 1929. Measuring point: Top of casing, 2.25 ft above land-surface datum.

PERIOD OF RECORD.--July 1959 to November 1960 (monthly); December 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 131.18 ft above NGVD of 1929, Mar. 21, 1998; lowest, 119.85 ft above NGVD of 1929, May 3, 1974.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	129.39	128.53	127.83	128.11	128.78	128.73	127.54	127.83	126.16	127.26	127.68	129.79
10	129.39	128.63	127.91	127.99	128.74	128.42	126.91	127.71	127.25	127.29	127.85	130.13
15	129.47	128.37	128.26	128.15	128.61	128.09	127.83	126.74	127.71	127.41	128.47	130.23
20	128.91	128.33	128.54	128.39	128.51	128.55	127.70	126.41	127.75	127.54	128.92	130.08
25	128.58	128.43	128.23	128.54	128.51	128.28	126.95	126.18	126.97	127.44	129.11	130.18
EOM	128.54	128.25	128.05	128.58	128.81	127.71	126.73	125.72	127.18	127.47	128.94	130.90
MAX	129.51	128.78	128.56	128.58	128.86	128.85	127.83	127.84	127.78	127.63	129.13	130.90

POLK COUNTY—Continued

WELL NUMBER.--281008081441802. Lake Alfred Shallow Well near Lake Alfred, FL.

LOCATION.--Lat 28°10'08", long 81°44'18", in SW¼NW¼NW¼ sec.5, T.27 S., R.26 E., Hydrologic Unit 03100208, on west side of Pit Road, 100 ft north of intersection with State Highway 557, 1.2 mi south of Interstate Highway 4, and 5.0 mi north of Lake Alfred. Owner: U.S. Geological Survey.

AQUIFER.--Nonartesian sand aquifer of the Tertiary Quaternary Age, Geologic Unit 111 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 6 in., depth 9 ft, cased to 6 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 137.17 ft above NGVD of 1929. Measuring point: Top of casing, 2.40 ft above land-surface datum.

PERIOD OF RECORD.--October 1960 to September 1977 (monthly); October 1977 to September 1983 (bimonthly); October 1983 to September 1997, April 1998 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 137.02 ft above NGVD of 1929, Aug. 23, 1999; well observed dry on numerous visits.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 24	132.94	SEP 20	133.65	SEP 27	135.65

WATER YEAR 2004 LOWEST 132.94 AUG 24, 2004 HIGHEST 135.65 SEP 27, 2004

WELL NUMBER.--281057081495002. ROMP 76A Well near Polk City, FL.

LOCATION.--Lat 28°10'57", long 81°49'50", in NW¼SW¼NE¼ sec.32, T.26 S., R.25 E., Hydrologic Unit 03100208, in pasture at end of Pine Avenue, 0.3 mi north of State Highway 33 in Polk City. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 6 in., depth 315 ft, cased to 264 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 136.79 ft above NGVD of 1929. Measuring point: Top of casing, 3.40 ft above land-surface datum.

PERIOD OF RECORD.--November 1978 to September 1992; October 1992 to September 2004 (monthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 132.84 ft above NGVD of 1929, Mar. 23, 1998; lowest measured, 119.37 ft above NGVD of 1929, May 16,1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	129.42	JAN 27	129.62	APR 27	127.85	JUN 29	127.84	AUG 24	130.50
NOV 25	129.28	FEB 24	129.36	MAY 19	127.16	JUL 15	128.35	SEP 22	132.01
DEC 30	129.22	MAR 30	129.26	25	126.64	27	128.59	27	132.66

WATER YEAR 2004 LOWEST 126.64 MAY 25, 2004 HIGHEST 132.66 SEP 27, 2004

POLK COUNTY—Continued

WELL NUMBER.--281202081391701. PO-1 Thornhill Deep Well near Davenport, FL.

LOCATION.--Lat 28°12'02", long 81°39'17", in SE¼SW¼SW¼ sec.19, T.26 S., R.19 E., Hydrologic Unit 03080102, on dirt road 0.8 mi east of State Highway 27, and 2.0 mi south of the intersection State Highway 27 and Interstate Highway 4 and 4.2 mi northwest of Davenport. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, unused, diameter 4 in., depth 151 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 133.21 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 2.20 ft above land-surface datum.

PERIOD OF RECORD.--May 1983 to October 1985 (semiannually); October 1985 to September 1996; October 1996 to September 2001 (semiannually); October 2001 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 129.06 ft above NGVD of 1929, Sept. 12, 1983; lowest measured, 118.90 ft above NGVD of 1929, May 16, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	127.53	JAN 27	126.60	APR 27	125.17	JUN 29	124.80	SEP 22	127.87
NOV 25	127.02	FEB 24	126.40	MAY 19	124.63	JUL 27	124.73	27	128.61
DEC 30	126.55	MAR 30	125.60	25	124.56	AUG 24	126.39		

WATER YEAR 2004 LOWEST 124.56 MAY 25, 2004 HIGHEST 128.61 SEP 27, 2004

WELL NUMBER.--281312082011601. ROMP 87 Well near Lakeland, FL.

LOCATION.--Lat 28°13'12", long 82°01'25", in SE¼NE¼SE¼ sec.17, T.26 S., R.23 E., Hydrologic Unit 03l00208, 2.35 mi northwest of intersection of U.S. Highway 98 and Rock Ridge Road, and l4.5 mi northwest of Lakeland. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 6 in., depth 380 ft, cased to 300 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 107.52 ft above NGVD of 1929. Measuring point: Top of casing, 3.73 ft above land-surface datum.

PERIOD OF RECORD.--January 1981 to September 1992; October 1992 to September 2004 (monthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 105.78 ft above NGVD of 1929, Dec. 29, 1997; lowest measured, 94.88 ft above NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	102.61	JAN 27	102.27	APR 27	101.99	JUN 29	100.66	SEP 20	104.87
NOV 25	101.96	FEB 24	102.76	MAY 17	101.58	JUL 27	101.89	28	105.25
DEC 30	101.90	MAR 30	103.08	25	100.79	AUG 24	104.65		

WATER YEAR 2004 LOWEST 100.66 JUN 29, 2004 HIGHEST 105.25 SEP 28, 2004

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

POLK COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
273903081185201	05-18-04	0927	73911801 33S30E06 USAF AVON PARK #1	69.39
	09-21-04	0855		75.99
274552081115201	05-18-04	1122	RIVER RANCH REPLACEMENT WELL	39.56
	09-21-04	1218		42.81
274746081202201	05-18-04	1045	747120-- 31S30E08 INDIAN LK ESTATES GOLF COURS	60.36
	09-21-04	1102		65.14
275137081252501	05-18-04	1018	751125-- 30S29E21 E. LK. WALES UTILITY	75.08
	06-29-04	0630		78.08
	08-24-04	0845		81.08
	09-21-04	1012		84.98
275622081252301	09-21-04	1313	756125 29S29E28 L. ROSALIE NW	61.09
275634081211801	05-18-04	1227	756121-- 29S30E19 KISS STPK NR LK KISSIMMEE	54.44
	06-28-04	1540		54.79
	08-23-04	1410		57.08
	09-21-04	1350		58.53
280153081274101	05-18-04	1338	801127-- 28S29E19 LK HATCHI NR HAINES CITY	67.39
	09-21-04	1504		72.19
280558081314801	05-18-04	1405	805131-- 27S28E29 KIMBELL WELL NR LK MARION	70.28
	09-21-04	1525		74.32
281058081495002	05-19-04	0941	USGS 1.75" DRILL PIPE INNER MONITOR AT POLK CITY	127.01
	09-22-04	0955		131.98
281058081495003	05-19-04	0938	USGS 4" ANNULAR MONITOR AT POLK CITY	126.00
	09-22-04	1000		131.16
281058081495004	05-19-04	0930	USGS CORE HOLE 2 AT POLK CITY	124.49
	09-22-04	0952		127.98
281058081495005	05-19-04	0933	ROMP 76 SURFICIAL WELL NR POLK CITY,FL	133.02
	07-15-04	1531		132.54
	09-22-04	0956		134.86
281202081391702	05-19-04	1145	PO-2 THORNHILL SH NR DAVENPORT	127.95
	09-22-04	1207		130.72
281317081491301	05-19-04	0935	813149423 26S25E16 FUSSELL RD DP	125.34
	09-22-04	1015		129.11
281317081491302	05-19-04	1000	81314902 26S25E16 FUSSELL RD SH	126.95
	09-22-04	1017		130.57
281440081431701	05-19-04	1041	814143232 26S26E04 SPREAD EAGLE RNCH DP	126.09
	09-22-04	1058		129.00
281440081431702	05-19-04	1045	81414302 26S26E04 SPREAD EAGLE RNCH SH	129.44
	09-22-04	1100		130.77
281532081345001	05-19-04	1110	815134134 26S27E02 LOUGHMAN DP WELL NR LOUGHMAN	88.37
	09-22-04	1134		91.78
281532081345002	05-19-04	1115	815134134A26S27E02 LOUGHMAN SH WELL NR LOUGHMAN	90.40
	09-22-04	1136		94.23
281532081493001	05-19-04	1019	815149233 25S25E32	123.65
	09-22-04	1035		126.71
281837081544101	05-19-04	1020	ROMP 88 DEEP NR ROCKRIDGE,FL	102.36
	09-24-04	0925		106.11

KEY TO SITE LOCATIONS ON FIGURE 23
PUTNAM COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	292948081503001	218

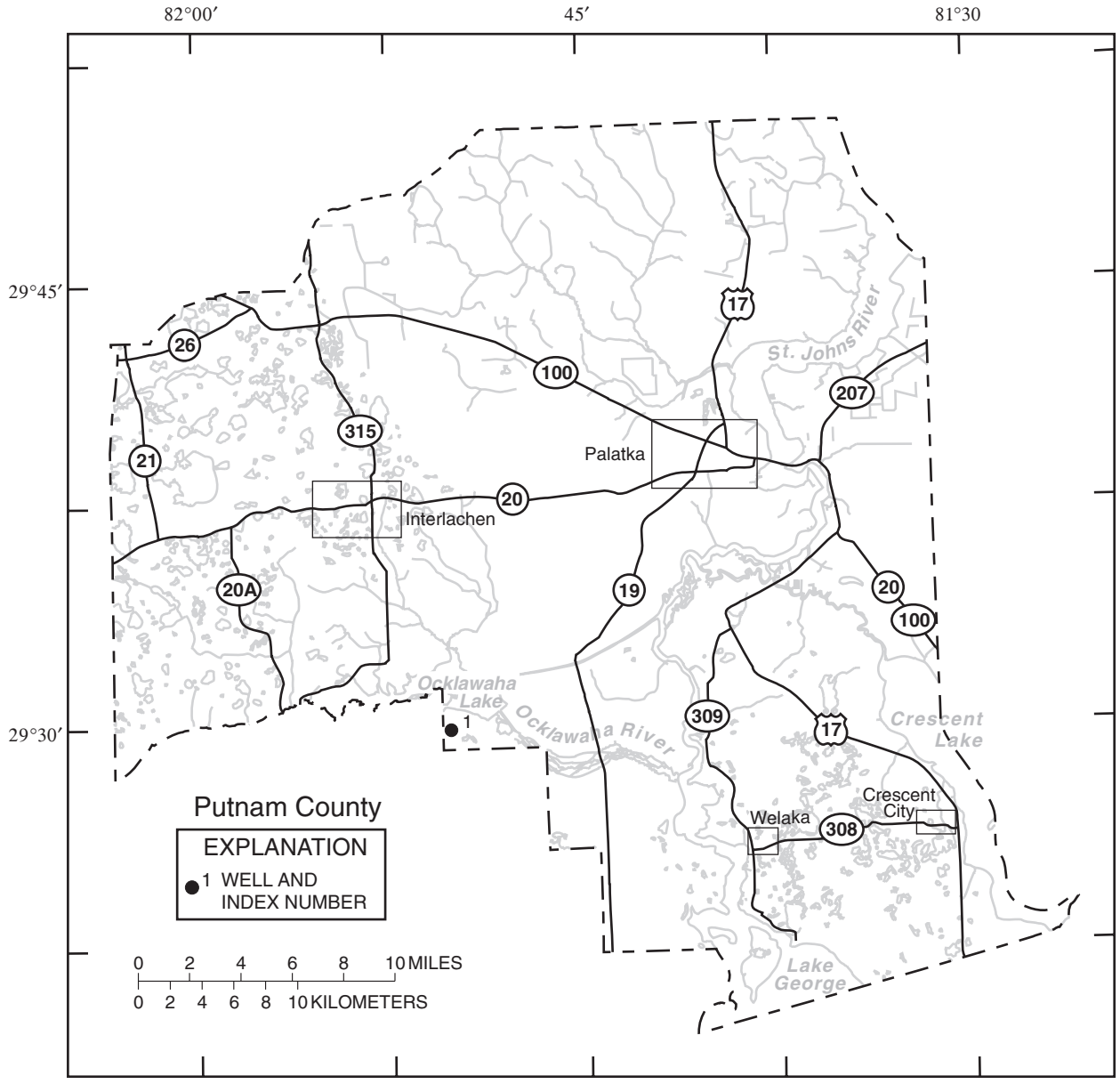

Figure 23.--Location of wells in Putnam County.

PUTNAM COUNTY

WELL NUMBER.--292948081503001. Well RD-77-G near Orange Springs, FL.

LOCATION.--Lat 29°29'48", long 81°50'30", in NW¼SW¼NW¼ sec. 31, T.11 S., R.25 E., Hydrologic Unit 03080102, in northeast corner of intersection of roads 77 and 77-G in Ocala National Forest, 7.3 mi west of State Highway 19, and about 6.0 mi east of Orange Springs. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary system, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 241 ft, cased to 215 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 100.81 ft above NGVD of 1929. Measuring point: Top of 4 in. casing, 2.50 ft above land-surface datum.

COOPERATION.--Since October 1, 1985 records provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--September 1982 to September 1985 (bimonthly), October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.28 ft above NGVD of 1929, May 8, 1998; lowest measured, 16.84 ft above NGVD of 1929, Mar. 25, 1992.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	21.39	DEC 15	20.95	FEB 17	20.18	APR 20	20.12	JUN 17	20.26	AUG 17	20.32
NOV 19	21.55	JAN 23	20.36	MAR 23	20.35	MAY 18	20.20	JUL 20	20.23	SEP 21	21.51

WATER YEAR 2004 LOWEST 20.12 APR 20, 2004 HIGHEST 21.55 NOV 19, 2003

PUTNAM COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
292124081345202	05-18-04	1110	P-0736 MIDDLE RD UPPER DEEP	7.65
292218081333101	05-18-04	1040	P-0410 POTMAP WELL NR GEORGETOWN,FL	24.76
	09-21-04	1000		26.95
292239081282401	05-18-04	1215	P-0255	12.04
	09-21-04	1115		13.11
292254081382101	05-18-04	0910	SJ P421 13S27E39 DRAYTONISLAND EASTSHORELANDIN	10.94
	09-21-04	0830		13.34
292435081441301	05-17-04	1035	NR FRONTIER D H NR SALT SPGS	10.60
	09-20-04	1140		13.32
292528081383501	05-18-04	1005	92513801 26S12E26 PUTNAM 28	17.66
	09-21-04	0920		20.16
292555081305003	05-18-04	1250	P-2037 REPLACEMENT WELL AT LAKE STELLA	22.33
	09-21-04	1150		25.28
292628081385501	05-18-04	0950	SJ P396 12S26E23 WELAKAFISHHATCHERYFRUITLAND	11.60
	09-21-04	0900		13.35
292824081341501	05-18-04	1320	P-0246 COL. SAULS	31.35
	09-21-04	1230		33.35
292824081443301	05-17-04	1010	JOHNSONS FIELD NR WELAKA	7.38
	09-20-04	1115		9.66
293113081370301	05-19-04	0845	SJ P382 11S27E19 MAINROAD OFFSISCORDPOMONAPARK	27.76
	09-22-04	1110		29.90
293206081351701	05-19-04	0920	P-0817	24.68
	09-22-04	1155		27.17
293228081495301	09-20-04	1035	P-0306 GREENWAY REPLACEMENT NEAR RODMAN,FL	31.73
293300081523901	05-17-04	0930	933152 11S24E11 CE 60 U S A CORPS ENG.	59.02
293554081342601	05-19-04	0950	SAN MATEO TOWERSITE DEEP	14.72
	09-22-04	1245		18.56
293633081594601	05-17-04	0830	DRAINAGE WELL COWPEN LAKE PUTNAM CO FL	75.61
	09-20-04	0850		79.51
293733081474801	05-17-04	0900	HOLLISTER WORKCTR CF (P-510)	48.05
	09-20-04	0920		50.53
293755081412903	05-17-04	1110	P-0891 EH MILLER SCHOOL	25.43
	09-20-04	1230		28.46
293933081342801	05-19-04	1025	93913411 10S27E04 P-172 CRACKER SWAMP	13.37
	09-22-04	0935		20.21

PUTNAM COUNTY---Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
293951081413901	05-17-04	1235	P-0123 DHQ DEEP WELL	27.28
	09-20-04	1305		30.44
294243081555901	05-17-04	0745	P-0822 FLORIDA ROCK IN PUTNAM CO	77.19
	09-20-04	0800		80.85
294255081323501	05-19-04	1055	P-0076 A.J.ROBERTS	16.43
	09-22-04	1000		22.64
294321081492103	05-19-04	0750	P-4086 EATONIA EAST V ROAD NR PALATKA,FL	70.41
	09-22-04	0850		73.04
294553081344301	05-17-04	1215	94513401 08S27E-- RIVERDALE NO 61	22.38
	09-20-04	1345		27.58
294816081482201	05-19-04	1235	P-4083 ETONIA SF MANNING RD NR PALATKA,FL	68.80
	09-22-04	1345		71.38

KEY TO SITE LOCATIONS ON FIGURE 24
ST. JOHNS COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	295357081294301	224
2	295713081203401	224
3	300717081381001	225
4	300758081230501	225
5	301132081225801	226

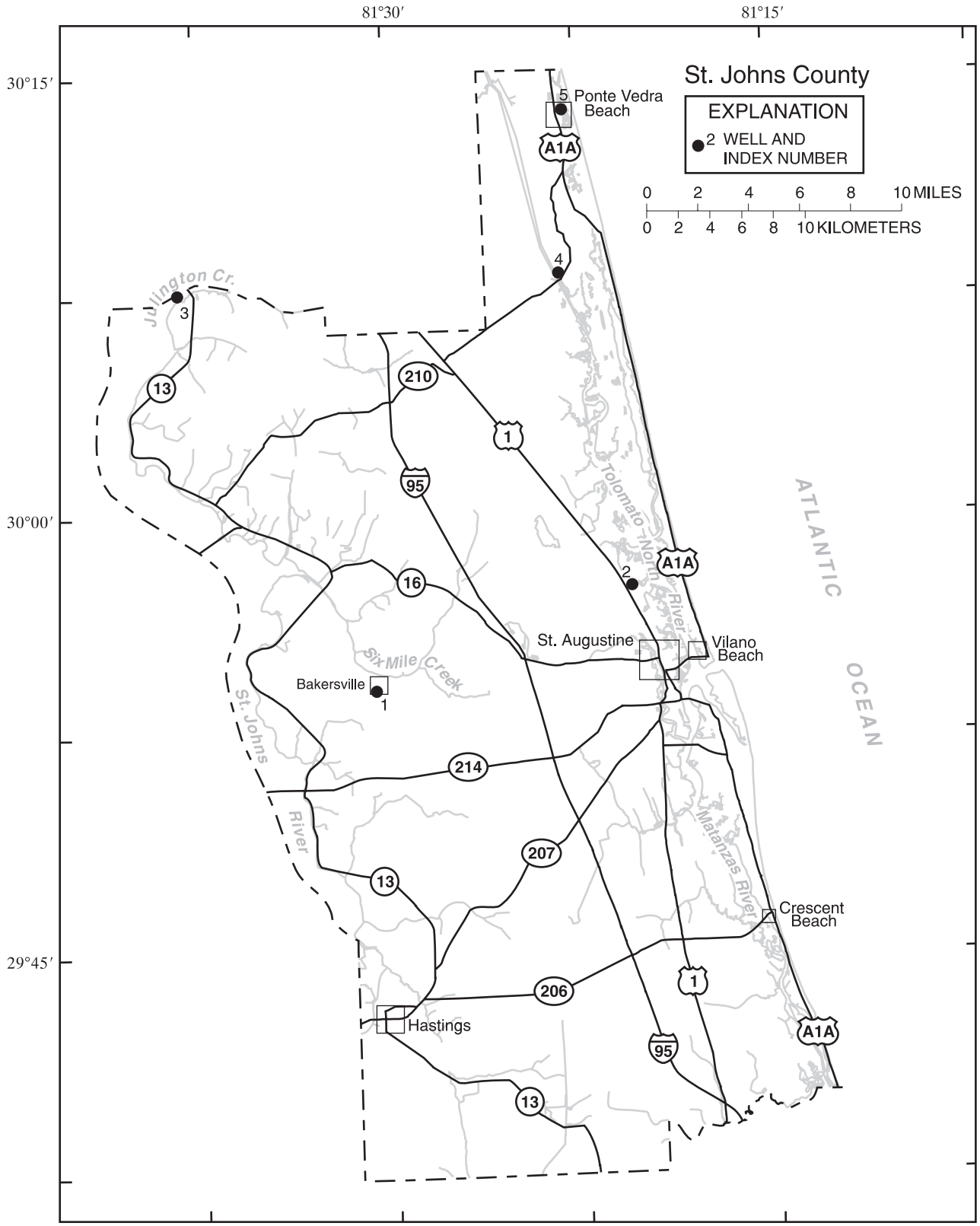

Figure 24.--Location of wells in St. Johns County.

ST. JOHNS COUNTY

WELL NUMBER.--295357081294301. Local Number SJ-77. Engel Well near Molasses Junction, FL.

LOCATION.--Lat 29°53'57", long 81°29'43", in NE¼NE¼NE¼ sec. 17, T.7 S., R.28 E., Hydrologic Unit 03080103, in ditch on the west side of Alternate State Road 13, and 0.4 mi south of State Road 208. Owner: Mr. Engel.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth and casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Land-surface datum is 20.62 ft above NGVD of 1929. Measuring point: Top of 4 in. tee at land-surface datum.

REMARKS.--Water level seasonally affected by pumping of nearby wells.

PERIOD OF RECORD.--May 1977 to May 1986 (semiannually); July 1986 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.82 ft above NGVD of 1929, Feb. 6, 1997; lowest measured, 21.97 ft above NGVD of 1929, Apr. 8, 1991.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	34.02	DEC 17	33.92	FEB 12	33.62	APR 08	23.62	JUN 02	25.32	JUL 30	30.42

WATER YEAR 2004 LOWEST 23.62 APR 08, 2004 HIGHEST 34.02 OCT 14, 2003

WELL NUMBER.--295713081203401. Local Number SJ-89. Airport Well near St. Augustine, FL.

LOCATION.--Lat 29°57'13", long 81°20'34", in land grant 50, T.6 S., R.29 E., Hydrologic Unit 03080201, at St. Augustine Airport on U.S. Highway 1, 2.5 mi north of St. Augustine. Owner: St. Augustine Airport Authority.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 in., depth 350 ft, cased to 190 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 9.48 ft above NGVD of 1929. Measuring point: File marks on south side of 9 in flange at land-surface datum.

REMARKS.--Water levels affected by pumping of nearby wells.

PERIOD OF RECORD.--May 1978 to September 1980 (semiannually); May 1981 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 33.98 ft above NGVD of 1929, Dec. 21, 1994; lowest measured, 23.18 ft above NGVD of 1929, May 24, 2003.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	31.08	DEC 29	31.28	FEB 24	31.68	APR 26	26.38	JUN 28	27.28	AUG 23	29.68
NOV 24	31.18	JAN 27	30.88	MAR 31	29.98	MAY 24	26.48	JUL 27	28.18	SEP 27	32.28

WATER YEAR 2004 LOWEST 26.38 APR 26, 2004 HIGHEST 32.28 SEP 27, 2004

ST. JOHNS COUNTY—Continued

WELL NUMBER.--300717081381001. Local Number SJ-15. S.L. Chavez Well near Mandarin, FL.

LOCATION.--Lat 30°07'17", long 81°38'10", in NE¼SW¼SW¼ sec. 30, T.4 S., R.27 E., Hydrologic Unit 03080103, 300 ft north of Fruit Cove Road, 0.6 mi west of the intersection of State Road 13 and Fruit Cove Road, and 3.7 mi south of old Mandarin Post Office. Owner: S.L. Chavez.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 3 to 2 in., depth 580 ft, cased to 300 ft.

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 8.12 ft above NGVD of 1929. Measuring point: Top of 3 in. tee, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--1974, 1977 to 1980 (semiannually); May 1981 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.02 ft above NGVD of 1929 May 12, 1980; lowest measured, 17.32 ft above NGVD of 1929, May 21, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	29.92	DEC 29	30.72	FEB 24	31.92	APR 26	22.62	JUN 28	24.62	AUG 23	28.62
NOV 25	30.22	JAN 27	30.82	MAR 31	27.62	MAY 24	20.42	JUL 27	27.82	SEP 27	33.82

WATER YEAR 2004 LOWEST 20.42 MAY 24, 2004 HIGHEST 33.82 SEP 27, 2004

WELL NUMBER.--300758081230501. Local Number SJ-5. G. Oesterreicher Well near Palm Valley, FL.

LOCATION.--Lat 30°07'58", long 81°23'05", in land grant 54, T.4 S., R.29 E., Hydrologic Unit 03080201, 100 ft east of the Intracoastal Waterway, 250 ft northwest of State Highways 210 and 210A, and 2.8 mi south of Palm Valley. Owner: Eddie Ervin.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 6 in., depth 350 ft, cased to 180 ft .

INSTRUMENTATION.--Monthly measurement with pressure gage.

DATUM.--Land-surface datum is 4.53 ft above NGVD of 1929. Measuring point: Top of 4 in. gate valve, 2.18 ft above land-surface datum.

PERIOD OF RECORD.--1934, 1940, 1944 to 1946 (annually); 1947 to 1963 (bimonthly); 1964 to 1980 (annually); May 1981 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.73 ft above NGVD of 1929, Nov. 9, 1948; lowest measured, 22.71 ft above NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	32.31	JAN 27	33.41	MAR 31	32.41	MAY 19	27.71	JUN 28	28.51	AUG 23	31.71
NOV 24	32.71	FEB 24	35.01	APR 26	28.81	24	27.11	JUL 27	29.51	SEP 23	33.71

WATER YEAR 2004 LOWEST 27.11 MAY 24, 2004 HIGHEST 35.01 FEB 24, 2004

ST. JOHNS COUNTY—Continued

WELL NUMBER.--301132081225801. Local Number SJ-150. Ponte Vedra Test Well near Ponte Vedra, FL.

LOCATION.--Lat 30°11'28", long 81°23'01", in land grant 70, T.4 S., R.29 E., Hydrologic Unit 03080201, 290 ft west of State Highway 210 behind St. Johns County Courthouse Annex and Library, 1500 ft southwest of junction of State Highways 201 and A1A, and 1.6 mi southwest of Ponte Vedra Post Office. Owner: St. Johns River Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 2,035 ft, cased to 1,980 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 6.34 ft above NGVD of 1929. Measuring point: Top of 6 in. gate valve, 4.56 ft above land-surface datum.

PERIOD OF RECORD.--April 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.63 ft above NGVD of 1929, Mar. 29, 1993; lowest measured, 7.76 ft below NGVD of 1929, June 27, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	.50	DEC 29	.58	FEB 24	1.00	APR 26	-2.19	JUN 28	-2.80	AUG 23	-1.29
NOV 24	.43	JAN 26	.58	MAR 31	-.05	MAY 24	-2.71	JUL 27	-2.52	SEP 27	.54

WATER YEAR 2004 LOWEST -2.80 JUN 28, 2004 HIGHEST 1.00 FEB 24, 2004

Note.--Negative figures indicate water level below NGVD of 1929.

ST JOHNS COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
293729081221201	05-18-04	1150	SJ-104 MEADOWBRICK WELL	13.29
	09-22-04	1345		17.81
294128081291301	05-18-04	1100	SJ-263 D.REID	9.31
	09-22-04	1410		16.85
294213081194401	05-18-04	1215	SJ-0602 DOT I95 SOUTH	9.34
	09-22-04	1320		14.86
294519081184502	05-18-04	1222	SJ-516 DUPONT CTR FIRE TOWER NR YELVINGTON,FL	14.20
	09-22-04	1300		17.60
294701081263301	05-18-04	0900	SJ-317 SIKES WELL NR ELKTON,FL	8.63
	09-22-04	1245		24.31
295000081212702	05-18-04	1236	SJ0824 TREATY PARK WELL AT ST AUGUSTINE,FL	22.60
	09-22-04	1140		26.58
295039081325401	09-22-04	1230	SJ-133 WILSON	25.80
295132081164801	05-18-04	1300	SJ-92 ST.JOHNS CO.PARKS-REC OFFICE	16.81
	09-22-04	1110		24.01
295427081293101	05-18-04	0825	SJ-0027 BAKERSVILLE TOWER	23.62
	09-22-04	1215		35.12
295604081223503	05-18-04	1355	SJ 0331 WOODLAWN RD WELL NR BAKERSVILLE,FL	28.76
	09-22-04	1030		32.91
295903081334301	05-19-04	1040	SJ-119 (SUB FOR SJ-11)	25.93
	09-22-04	1050		31.83
300340081383901	05-19-04	0945	SJ0508 GREENBRIER RD MIDDLE SCH NR SWITZERLAND,FL	28.32
	09-22-04	0940		34.57
300341081395401	05-19-04	1015	SJ-12	28.87
	09-22-04	1200		34.57
300507081272701	05-19-04	0920	SJ-163 SJRWMD DURBIN OBSERVATION WELL	36.15
	09-21-04	1300		39.82
301212081252401	05-20-04	0930	SJ-63 DEE DOT RANCH AT BULL PEN	37.78
301408081253101	05-20-04	0900	SJ-60 DEE DOT RANCH AT CRACKER LODGE	16.04
	09-23-04	0930		26.04

KEY TO SITE LOCATIONS ON FIGURE 25
SEMINOLE COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	284147081220201	230

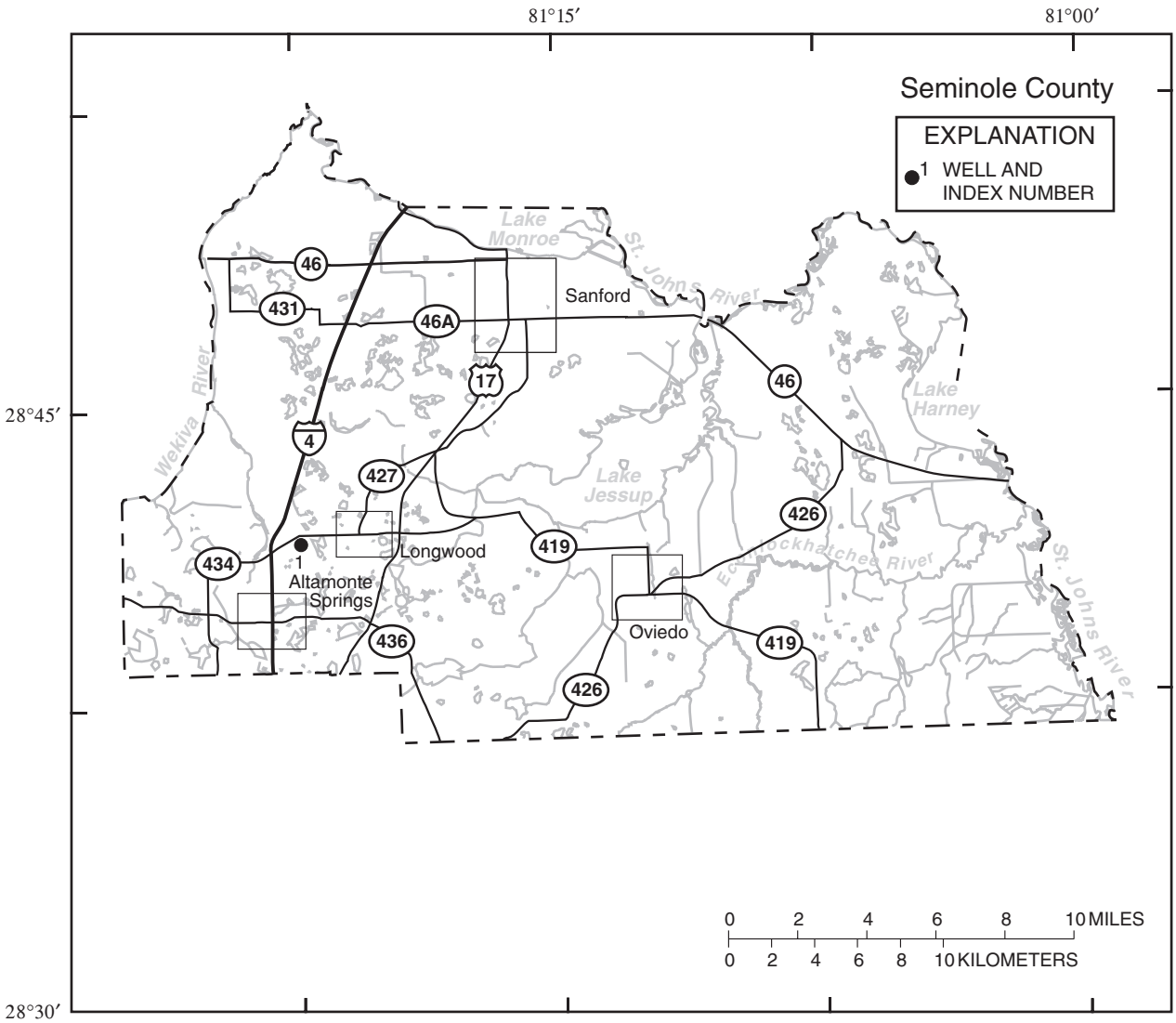

Figure 25.--Location of wells in Seminole County.

SEMINOLE COUNTY

WELL NUMBER.--284147081220201. Seminole 125 Well at Longwood, FL.

LOCATION.--Lat 28°41'47", long 81°22'02", in NW¼NE¼ sec.1, T.21 S., R.29 E., Hydrologic Unit 03080101, 500 ft south of State Highway 434, at a point 1.3 mi west of State Highway 427 in Longwood. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 146 ft, cased to 63 ft.

INSTRUMENTATION.--Water-stage recorder--15-minute interval.

DATUM.--Elevation of land-surface datum is 85.69 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 1.26 ft above land-surface datum.

PERIOD OF RECORD.--October 1951 to September 1952 (monthly); November 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 55.80 ft above NGVD of 1929, Sept. 30, 1960; lowest, 30.11 ft above NGVD of 1929, May 27, 2000.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	44.49	43.43	43.06	42.08	42.72	42.46	40.00	40.66	37.67	41.23	39.77	44.63
10	44.57	44.17	42.88	42.20	42.47	42.14	39.93	38.78	37.88	37.16	41.37	46.41
15	45.15	43.75	43.33	41.99	42.50	40.83	40.72	38.86	39.49	39.78	42.88	46.03
20	44.22	43.62	43.28	42.52	42.15	40.95	39.96	38.01	38.35	40.02	43.07	45.49
25	43.08	43.37	42.67	41.76	42.94	40.80	35.91	37.71	38.68	38.49	43.76	45.84
EOM	43.77	42.05	42.74	42.79	43.21	40.46	39.87	36.52	39.63	39.41	43.37	46.96
MAX	45.30	44.26	43.68	42.79	43.45	43.01	41.14	40.67	39.65	41.23	43.78	47.32

SEMINOLE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
283933081123103	05-17-04	0907	S-1193 AT OVIEDO WTP	32.25
	09-20-04	0952		37.91
284052081212601	05-17-04	1311	S-1014 CHARLOTTE STREET	41.37
	09-20-04	1331		48.24
284133081105701	05-17-04	0924	FLORIDA AVE WELL NR OVIEDO	20.65
	09-20-04	1011		24.09
284217081023001	05-17-04	1005	KILBEE #3 TEST NR GENEVA,FL S-0025	7.02
284247081070801	05-17-04	0945	GENEVA WELL S-0001 NR GENEVA,FL	18.86
	09-20-04	1033		22.77
284315081182702	05-17-04	1343	ENVIRONMENTAL CENTER S-0829 NR WINTER SPGS,FL	27.83
	09-20-04	1310		32.09
284412081071102	05-17-04	1023	OLD GENEVA FIRE STATION S-1253	16.28
	09-20-04	1102		20.89
284715081051802	05-17-04	1051	S-0086 OSCEOLA LANDFILL	10.47
	09-20-04	1143		14.72
284923081234802	05-17-04	1229	S-1230 YANKEE LAKE	18.92
	09-20-04	1233		22.30

KEY TO SITE LOCATIONS ON FIGURE 26
SUMTER COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	282741081585701	234
2	283638082025702	234
3	284619082035101	235
4	285119082120601	235
5	285207082014501	236

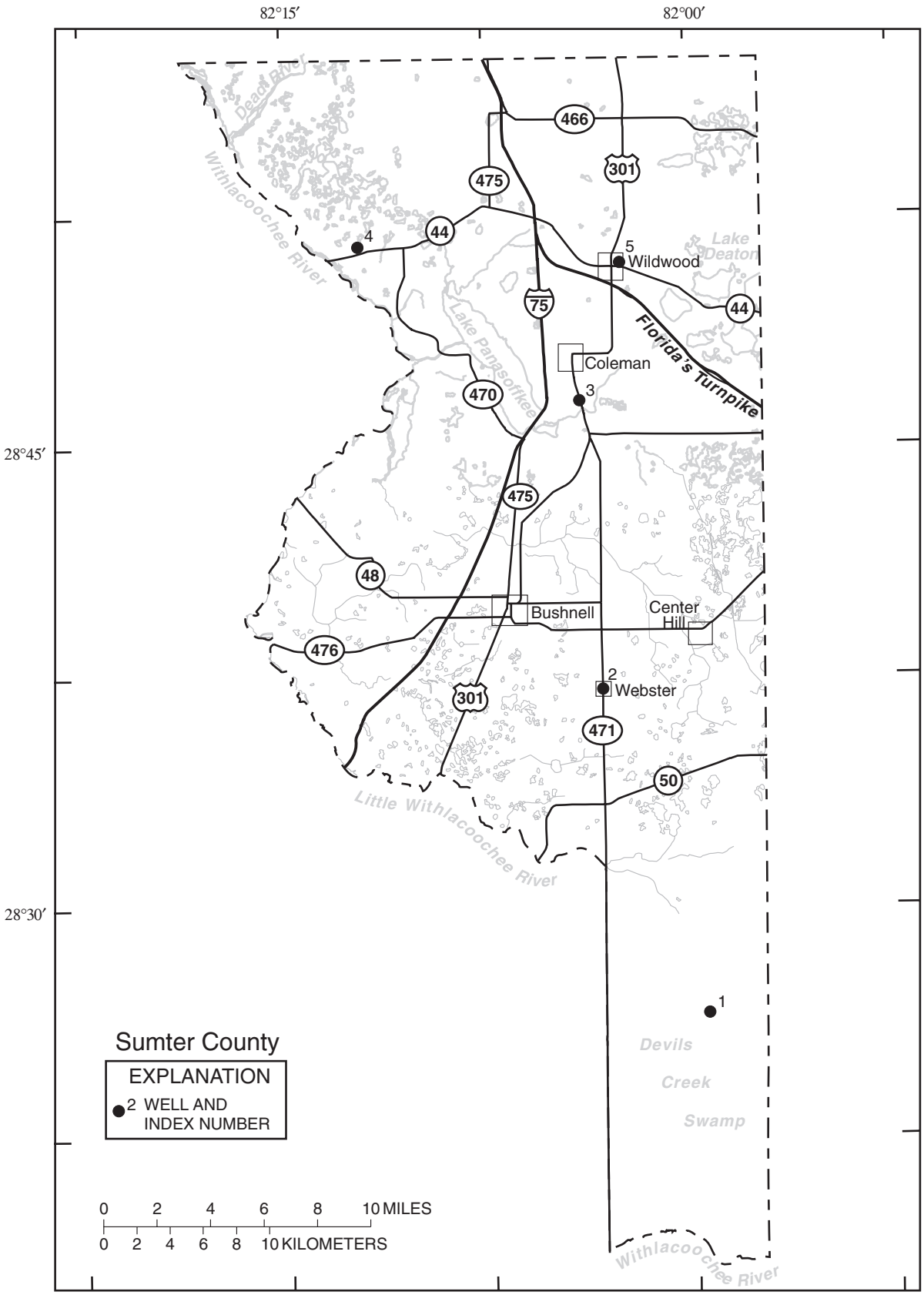

Figure 26.--Location of wells in Sumter County.

SUMTER COUNTY

WELL NUMBER.--282741081585701. Withlacoochee State Forest Green Swamp Well near Bay Lake, FL.

LOCATION.--Lat 28°27'41", long 81°58'57", in NE¼NE¼NW¼ sec.26, T.23 S., R.23 E., Hydrologic Unit 03100208, in Withlacoochee State Forest, at southwest corner of Center and South Loop Roads, 4.8 mi east of State Highway 471, and 4.8 mi west of Bay Lake. Owner: U.S. Geological Survey.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 3 in., depth 175 ft, cased to 99 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 96.94 ft above NGVD of 1929. Measuring point: Top of casing, 1.60 ft above land-surface datum. Prior to June 1991, 3.00 ft above land-surface datum.

COOPERATION.--Data provided by Southwest Florida Water Management District from October 1983 to September 1985.

PERIOD OF RECORD.--July 1959, September 1964 to September 1984 (bimonthly); October 1984 to September 1985 (monthly); October 1986 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 96.50 ft above NGVD of 1929, July 8, 1974; lowest measured, 89.29 ft above NGVD of 1929, May 4, 2000.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	94.50	MAR 10	95.22	MAY 17	95.18	AUG 30	95.56
JAN 14	93.67	MAY 07	95.51	JUL 01	94.85	SEP 20	95.90

WATER YEAR 2004 LOWEST 93.67 JAN 14, 2004 HIGHEST 95.90 SEP 20, 2004

WELL NUMBER.--283638082025702. Webster City Well 2 at Webster, FL.

LOCATION.--Lat 28°36'38", long 82°02'57", in SW¼SE¼SW¼ sec.31, T.21 S., R.23 E., Hydrologic Unit 03100208, 100 ft west of town water tank at east end of Main Street in Webster. Owner: City of Webster.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth 341 ft, cased to 174 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 91.85 ft above NGVD of 1929. Measuring point: Mark on top of 14 in casing protector, 2.94 ft above land-surface datum. Prior to June 1997, .89 ft above land-surface datum.

PERIOD OF RECORD.--April to September 1978; October 1979 to September 1992; October 1992 to current year (monthly). Prior to October 1992 published as Webster City Recorder Well at Webster, FL.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.82 ft above NGVD of 1929, Sept. 27, 2004; lowest daily maximum water level, 74.45 ft above NGVD of 1929, July 20, 1981.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	86.95	JAN 26	84.77	APR 26	84.24	JUN 28	82.69	SEP 20	87.00
NOV 24	86.24	FEB 23	85.01	MAY 17	83.29	JUL 26	82.84	27	88.82
DEC 29	85.46	MAR 29	85.34	24	82.99	AUG 23	84.79		

WATER YEAR 2004 LOWEST 82.69 JUN 28, 2004 HIGHEST 88.82 SEP 27, 2004

SUMTER COUNTY—Continued

WELL NUMBER.--284619082035101. ROMP 111 Well at Tompkins Park near Coleman, FL.

LOCATION.--Lat 28°46'19", long 82°03'51", in NW¼SE¼SW¼ sec.1, T.20 S., R.22 E., Hydrologic Unit 03100208, in G.B. Tompkins Park on U.S. Highway 301, 500 ft north of Shady Brook, and 2.0 mi south of Coleman. Owner: Southwest Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, observation well, diameter 8 in., depth 192 ft, cased to 62 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 59.34 ft above NGVD of 1929. Measuring point: Top of 8 in. coupling, 1.62 ft above land-surface datum.

PERIOD OF RECORD.--October 1975 to September 1992; October 1992 to September 2004 (monthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.36 ft above NGVD of 1929, Sept. 27, 2004; lowest daily maximum water level, 44.23 ft above NGVD of 1929, July 30, 1992.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	50.70	JAN 26	49.93	APR 26	49.67	JUN 28	49.37	SEP 21	51.79
NOV 24	50.44	FEB 23	50.18	MAY 18	49.11	JUL 26	49.57	27	53.36
DEC 29	50.11	MAR 29	50.46	24	48.99	AUG 23	50.70		

WATER YEAR 2004 LOWEST 48.99 MAY 24, 2004 HIGHEST 53.36 SEP 27, 2004

WELL NUMBER.--285119082120601. Sumter 13 Replacement Well near Wildwood, FL.

LOCATION.--Lat 28°51'19", long 82°12'05", in SW¼NW¼NW¼ sec.10, T.19 S., R.21 E., Hydrologic Unit 03100208, on north side of State Highway 44, 1.2 mi east of Withlacoochee River, and 9.0 mi west of Wildwood. Owner: South Florida Water Management District.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 33 ft, cased to 28 ft.

INSTRUMENTATION.--Monthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 47.80 ft above NGVD of 1929. Measuring point: Shelter floor, 4.81 ft above land-surface datum.

PERIOD OF RECORD.--August 2002 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 46.98 ft above NGVD of 1929, Sept. 27, 2004; lowest measured, 38.98 ft above NGVD of 1929, May 24, 2004.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	42.88	JAN 26	40.75	APR 26	40.11	JUN 28	41.94	SEP 21	44.33
NOV 24	42.02	FEB 23	40.99	MAY 19	39.16	JUL 26	41.79	27	46.98
DEC 29	41.19	MAR 29	41.29	24	38.98	AUG 23	41.24		

WATER YEAR 2004 LOWEST 38.98 MAY 24, 2004 HIGHEST 46.98 SEP 27, 2004

SUMTER COUNTY—Continued

WELL NUMBER.--285207082014501. Masters Avenue City Well at Wildwood, FL.

LOCATION.--Lat 28°52'07", long 82°01'45", in SE¼SE¼NW¼ sec.5, T.19 S., R.23 E., Hydrologic Unit 03100208, 100 ft east of Masters Avenue, and 600 ft north of Cleveland Avenue in Wildwood. Owner: City of Wildwood.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geological Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 12 in., depth 82 ft, cased to 62 ft.

INSTRUMENTATION.--Bimonthly measurement with chalked or electric tape.

DATUM.--Elevation of land-surface datum is 82.58 ft above NGVD of 1929. Measuring point: Bottom edge of 2 in. vent pipe, 1.48 ft above land-surface datum.

PERIOD OF RECORD.--March 1961 to January 1978 (bimonthly); February 1978 to October 1979; November 1979 to current year (bimonthly), discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.86 ft above NGVD of 1929, Sept. 15, 1964; lowest measured, 43.34 ft above NGVD of 1929, May 7, 2002.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	50.50	MAR 10	47.37	MAY 19	47.34	AUG 30	48.16
JAN 13	47.72	MAY 03	47.69	JUL 02	47.51	SEP 21	53.10

WATER YEAR 2004 LOWEST 47.34 MAY 19, 2004 HIGHEST 53.10 SEP 21, 2004

SUMTER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
281951082012001	05-17-04	0823	81920101GREEN SWAMP L11MD NR DADE CITY, FL	87.27
	09-20-04	1053		91.93
281951082012002	05-17-04	0825	81920102GREEN SWAMP L11MM NR DADE CITY, FL	87.33
	09-20-04	1159		92.02
281951082012003	05-17-04	0820	81920103 GREEN SWAMP L11MS NR DADE CITY, FL	87.70
	09-20-04	1056		91.73
282740082012101	05-17-04	0928	82720101GREEN SWAMP L12BD NR BAY LAKE, FL	90.84
	09-20-04	1005		92.17
282740082012102	05-17-04	0930	82720102GREEN SWAMP L12BS NR BAY LAKE, FL	90.82
	09-20-04	1007		92.14
283432081592401	05-17-04	0730	83415901 22S23E15 JC 51 HUGH ILEY	90.92
	09-20-04	0822		93.58
283539082000301	05-17-04	1002	83520001 25S23E10 JC 67 FLA ROCK IND NO 2	88.13
	09-20-04	1215		91.19
283637082081501	05-17-04	1031	83620801 21S22E32 SCL RR USED 155	63.63
	09-21-04	1107		66.60
283829082123701	05-17-04	1053	83821202 21S21E21 JC 47 N R DOKE	44.42
	09-21-04	1124		47.97
283904082001601	05-18-04	0805	83920001 21S23E22 JC 65 U S GEOL SURVEY	82.33
	09-21-04	0758		84.04
283952082022001	05-18-04	0826	83920201 21S23E18 JC 42 PARROT RANCH	76.48
	09-21-04	0810		79.23
283953082051401	05-17-04	1150	83920501 21S22E14 JC 36	75.39
	09-21-04	1040		78.20
284105081594301	05-18-04	0740	STUART RANCH REPLACEMENT NR CENTER HILL	88.36
284115082062601	05-18-04	0950	84120601 21S22E04 JC 27A	58.65
	09-21-04	0944		63.40
284119082034501	05-18-04	1109	84120304 21S22E01 JC 44 PARROT RANCH	77.84
284126082034501	05-18-04	1056	84120305 21S22E01 JC 45 PARROT RANCH	78.30
	09-21-04	0835		81.20
284146082061401	05-18-04	1005	84120604 21S22E03 JC 32	57.97
	09-21-04	0937		61.55
284147082052801	05-18-04	1028	84120506 21S22E03 JC 34	65.17
	09-21-04	1000		67.39
284212082071701	05-18-04	0935	84220702 20S22E32 JC 63 U S GEOL SURVEY	54.38
	09-21-04	1019		55.81
284317082142601	05-18-04	0905	84321401 20S21E30 TRAILER PARK NW OF WAHOO	39.93
	09-21-04	1148		43.63
284435082011701	05-18-04	1215	BRENTWOOD WELL NR SUMTERVILLE,FL	63.17
	09-21-04	0908		61.38
284449082055201	09-21-04	1214	84420502 20S22E15 WOODWARD RESIDENCE	45.62
284703082001701	05-19-04	0715	LOWES BURNED HOUSE WELL NR ADAMSVILLE, FL	54.29
	09-21-04	1352		58.11
284809082080701	05-19-04	0748	84820801 19S22E30 HOWARD KENT	39.38
	09-21-04	1230		42.20
284955081595801	05-19-04	0858	BYRD TRAILER WELL NR ORANGE HOME,FL	64.66
	09-21-04	1338		65.68
285150082044001	05-19-04	0835	85120401 19S22E02 JC 58 U S GEOL SURVEY	45.96
	09-21-04	1257		49.23
285420081571901	05-19-04	1010	SMITH WELL NO.2 NR CHERRY LAKE,FL	50.71
	09-21-04	1448		54.45
285422082001901	05-19-04	0945	HATCHER WELL AT LAKE MIONA NR OXFORD,FL	43.01
	09-21-04	1415		49.46
285536082044001	05-19-04	0930	85520401 18S22E14 G N SMITH	44.88
	09-21-04	1311		49.75

KEY TO SITE LOCATIONS ON FIGURE 27
VOLUSIA COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	291905081251001	240

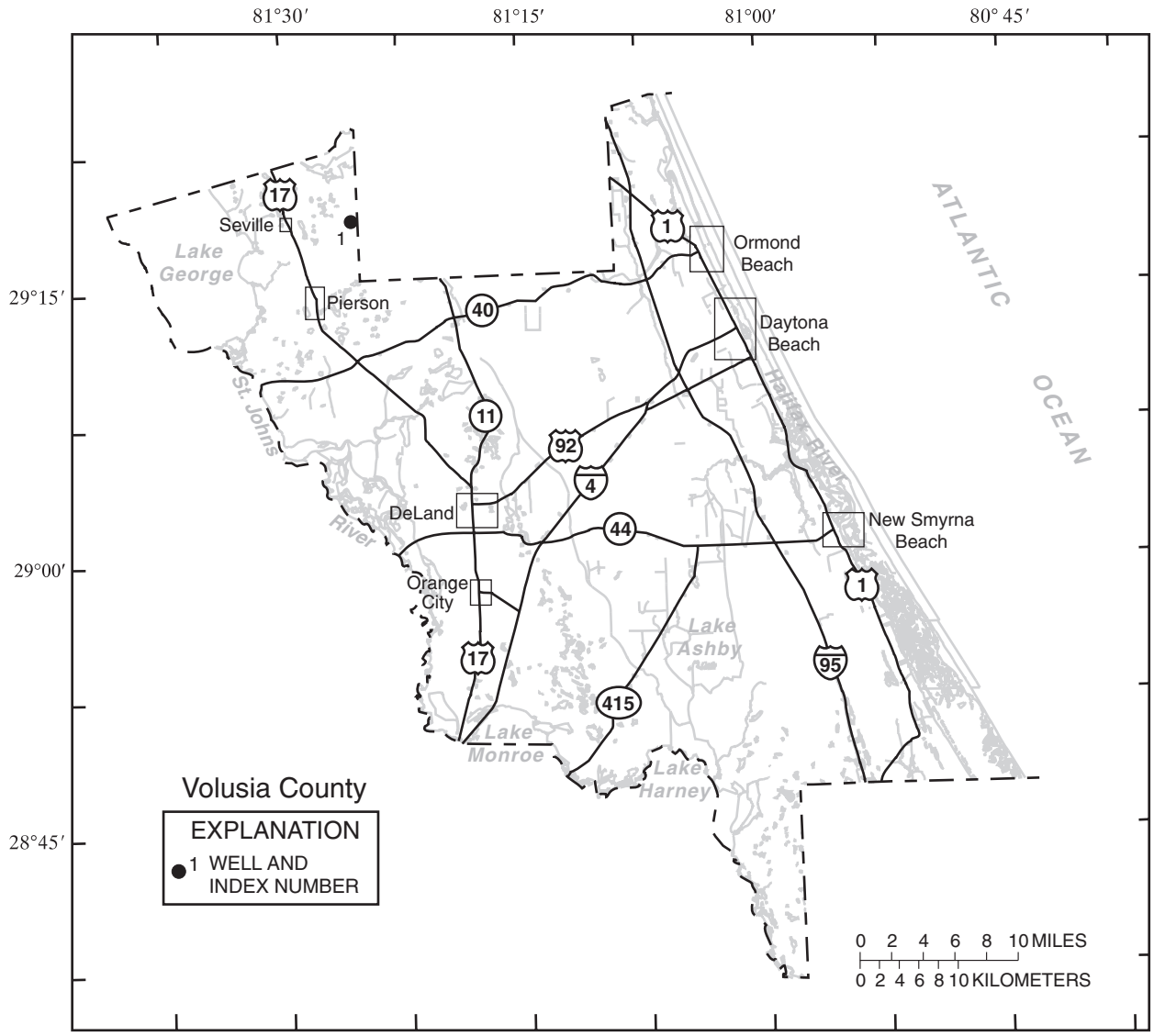

Figure 27.--Location of wells in Volusia County.

VOLUSIA COUNTY

WELL NUMBER.--291905081251001. R. Nolan Well near Seville, FL.

LOCATION.--Lat 29°19'05", long 81°25'10", in SE¼SE¼ sec.36, T.13 S., R.28 E., Hydrologic Unit 03080103, 25 ft south of State Highway 305, 100 ft west of Volusia-Flagler County line, and 4.8 mi east of U.S. Highway 17 in Seville. Owner: Robert Nolan.

AQUIFER.--Floridan aquifer system of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, stock, artesian well, diameter 6 in., depth 138 ft, casing length unknown.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 23.30 ft above NGVD of 1929. Measuring point: Top of casing, 1.21 ft above land-surface datum.

COOPERATION.--Since Oct. 1, 1985 data provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--December 1935 to April 1950 (monthly); July 1950 to September 1985 (bimonthly); October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.90 ft above NGVD of 1929, Sept. 1, Oct. 1, 1947; lowest measured, 14.51 ft above NGVD of 1929, May 15, 2001.

ELEVATION IN FEET ABOVE NGVD 1929, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	21.06	JAN 28	19.83	MAY 17	19.11	JUN 24	18.80	SEP 20	21.61
NOV 21	20.95	MAR 24	20.79	19	18.58	AUG 18	20.83	22	21.73

WATER YEAR 2004 LOWEST 18.58 MAY 19, 2004 HIGHEST 21.73 SEP 22, 2004

VOLUSIA COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
284840081115701	05-18-04	0840	V-0818 OSTEEN RANCH	15.97
	09-22-04	0935		21.03
284859080501002	05-18-04	0950	V-0840 MIGOR SHILOH RD NR OAK HILL,FL	2.31
	09-21-04	0950		5.64
285221081095002	05-18-04	0810	85210902 USGS TEST WELL G-2, N. OF OSTEEN, FL	22.78
	09-21-04	0820		27.84
285419081041001	05-18-04	0910	V-0198 LAKE ASHBY TWR DEEP	9.80
	09-21-04	0900		19.64
285442081181401	05-19-04	1050	V-0196 ORANGE CITY TWR DEEP	18.40
	09-21-04	1520		24.02
285513081202801	05-19-04	1130	V-1091 WELL SO OF BLUE SPRINGS NR DEBARY,FL	16.70
	09-22-04	1200		21.30
285524081132403	05-19-04	0820	V-0772 GALAXY MIDDLE SCHOOL	9.71
	09-21-04	1340		15.66
285638081203101	05-19-04	1020	V-0083 BLUE SPGS WELL SOUTH, ORANGE CITY, FL	5.95
285745081054001	05-18-04	1225	85710501 USGS OBSER WELL AT ALAMANA, FL.	25.39
	09-21-04	1305		30.46
285813081142402	05-19-04	0840	V-0777 LAKE HELEN UPPER	16.79
	09-21-04	1410		22.00
285921080541001	05-18-04	1010	85905402 MOORE WELL RIVERSIDE DR EDGEWATER	5.57
285934081041801	05-18-04	1215	85910401 USGS TEST WELL 10, S. OF SAMSULA	22.22
290103080551902	05-18-04	1030	V-0508 NEW SMYRNA BEACH	1.90
	09-21-04	1045		6.42
290138081203202	05-19-04	0940	V-0115 USGS J-24 TEST WELL,W.OF DELAND	9.09
	09-22-04	1255		16.83
290225081040301	05-18-04	1200	USGS TEST WELL 9(V-0117), NR SAMSULA,FL	17.36
	09-21-04	1230		23.13
290230081123401	05-17-04	1650	90211203 USGS TEST HOLE 5, E. OF DELAND	35.26
290541081132902	05-17-04	1540	90511304 USGS 04 DP TEST W. NR. DELAND,FL.6"CSG	35.31
	09-23-04	1425		38.65
290550081162601	05-17-04	1410	V-0808 WL LAWRENCE 4IN NR LK DAUGHARTY	39.12
	09-22-04	1525		43.05
290614081183301	05-17-04	1350	V-0742	33.03
	09-22-04	1510		38.46
290737081220301	05-17-04	1325	90712201 HAGSTROM IRRIG WELL, W OF DELEON SPGS	8.63
	09-22-04	1330		11.81

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2003 TO SEPTEMBER 2004

VOLUSIA COUNTY---Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEVATION ABOVE NGVD (FEET)
290806081013901	05-18-04	1140	V-0162 CITY OBS.WELL #2,WELLFIELD,P.ORANGE	3.56
	09-21-04	1205		6.14
290828081215103	05-17-04	1315	1030 WELL AT DELEON SPRINGS,FL	18.84
290834081073802	05-17-04	1630	V-0188	14.06
	09-23-04	1255		18.75
291031080590103	05-18-04	1100	V-0200 DAYTONA BEACH SHORES 4INUFA DAYTONA BCH,FL	-1.18
	09-23-04	1040		3.71
291040081143701	05-17-04	1455	V-0700 ORMOND BEACH DAN FORD	31.71
	09-23-04	1355		34.80
291150081282501	05-17-04	1245	91112806 15S28E14 HARPERS WELL E OF MURPHY RD	27.88
	09-22-04	1405		30.30
291258081313701	05-17-04	1215	91213103 4" SUPPLY WELL,SE L.GEORGE,NR EMPORIA	7.23
	09-22-04	1428		9.36
291448081274905	05-17-04	1035	V-0531 PIERSON UPPER	24.72
	09-20-04	1440		27.83
291458081294201	05-17-04	1150	91412901 SJRWMD WELL 1.0 MI W OF PIERSON	17.70
	09-20-04	1550		20.65
291509081302601	05-17-04	1125	V-4034 SJRWMD 6IN, 2MI W PIERSON,FL	14.74
291523081095001	05-18-04	1500	91510902 USGS WELL #1,SR40,W.OF ORMOND	12.89
	09-23-04	1235		17.43
291705081073502	05-18-04	1445	V-1094 NR ORMOND BEACH, FL	4.56
	09-23-04	1130		11.69
291835081324201	05-17-04	0945	91813201 USED 426 PINE ISLAND, W.OF SEVILLE	6.86
	09-20-04	1350		8.80
292038081315302	05-17-04	1005	V-0567	31.60
	09-20-04	1325		33.50

Note: Negative figures indicate water level below NGVD of 1929.

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INDEX TO INTRODUCTORY TEXT---Continued

Conversion Factors

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter (mm)
	2.54×10^{-2}	meter (m)
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^{0}	kilometer (km)
	Area	
acre	4.047×10^{3}	square meter (m^2)
	4.047×10^{-1}	square hectometer (hm^2)
	4.047×10^{-3}	square kilometer (km^2)
square mile (mi^2)	2.590×10^{0}	square kilometer (km^2)
	Volume	
gallon (gal)	3.785×10^{0}	liter (L)
	3.785×10^{-3}	cubic meter (m^3)
	3.785×10^{0}	cubic decimeter (dm^3)
million gallons (Mgal)	3.785×10^{3}	cubic meter (m^3)
	3.785×10^{-3}	cubic hectometer (hm^3)
cubic foot (ft^3)	2.832×10^{-2}	cubic meter (m^3)
	2.832×10^{1}	cubic decimeter (dm^3)
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter (m^3)
	2.447×10^{-3}	cubic hectometer (hm^3)
acre-foot (acre-ft)	1.233×10^{3}	cubic meter (m^3)
	1.233×10^{-3}	cubic hectometer (hm^3)
	1.233×10^{-6}	cubic kilometer (km^3)
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second (L/s)
	2.832×10^{-2}	cubic meter per second (m^3/s)
	2.832×10^{1}	cubic decimeter per second (dm^3/s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m^3/s)
	6.309×10^{-2}	cubic decimeter per second (dm^3/s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second (m^3/s)
	4.381×10^{1}	cubic decimeter per second (dm^3/s)
	Mass	
ton (short)	9.072×10^{-1}	megagram (Mg) or metric ton

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F = (1.8 \times °C) + 32$$

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey
224 West Central Parkway, Suite 1006
Altamonte Springs, FL 32714