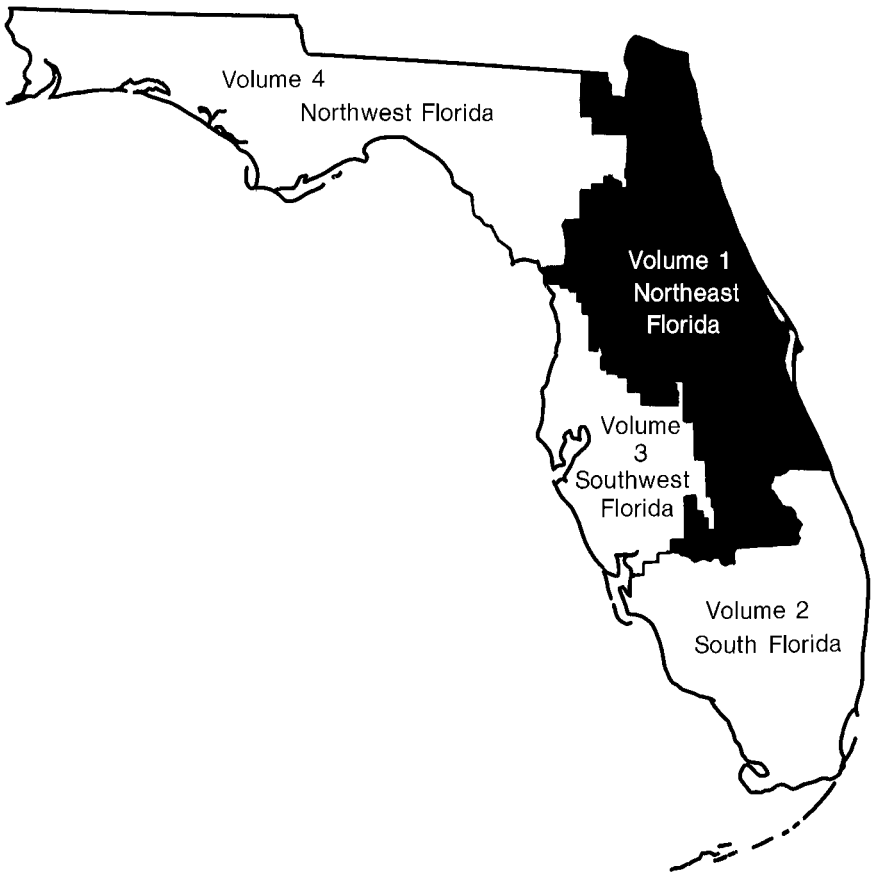
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data Florida Water Year 2002

Volume 1B. Northeast Florida Ground Water

Water-Data Report FL-02-1B



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

UNITED STATES DEPARTMENT OF THE INTERIOR

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2003

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

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13. ABSTRACT *(Maximum 200 words)*

Water resources data for the 2002 water year in Florida consist of continuous or daily discharge for 392 streams, periodic discharge for 17 streams, continuous or daily stage for 191 streams, periodic stage for 13 streams, peak stage and discharge for 33 streams; continuous or daily elevations for 14 lakes, periodic elevations for 49 lakes; continuous ground-water levels for 418 wells, periodic ground-water levels for 1,287 wells; quality-of-water data for 116 surface-water sites and 291 wells.

The data for northeast Florida include continuous or daily discharge for 155 streams, periodic discharge for 7 streams, continuous or daily stage for 61 streams, periodic stage for 0 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 53 wells, periodic ground-water levels for 589 wells; quality-of-water data for 44 surface-water sites and 86 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

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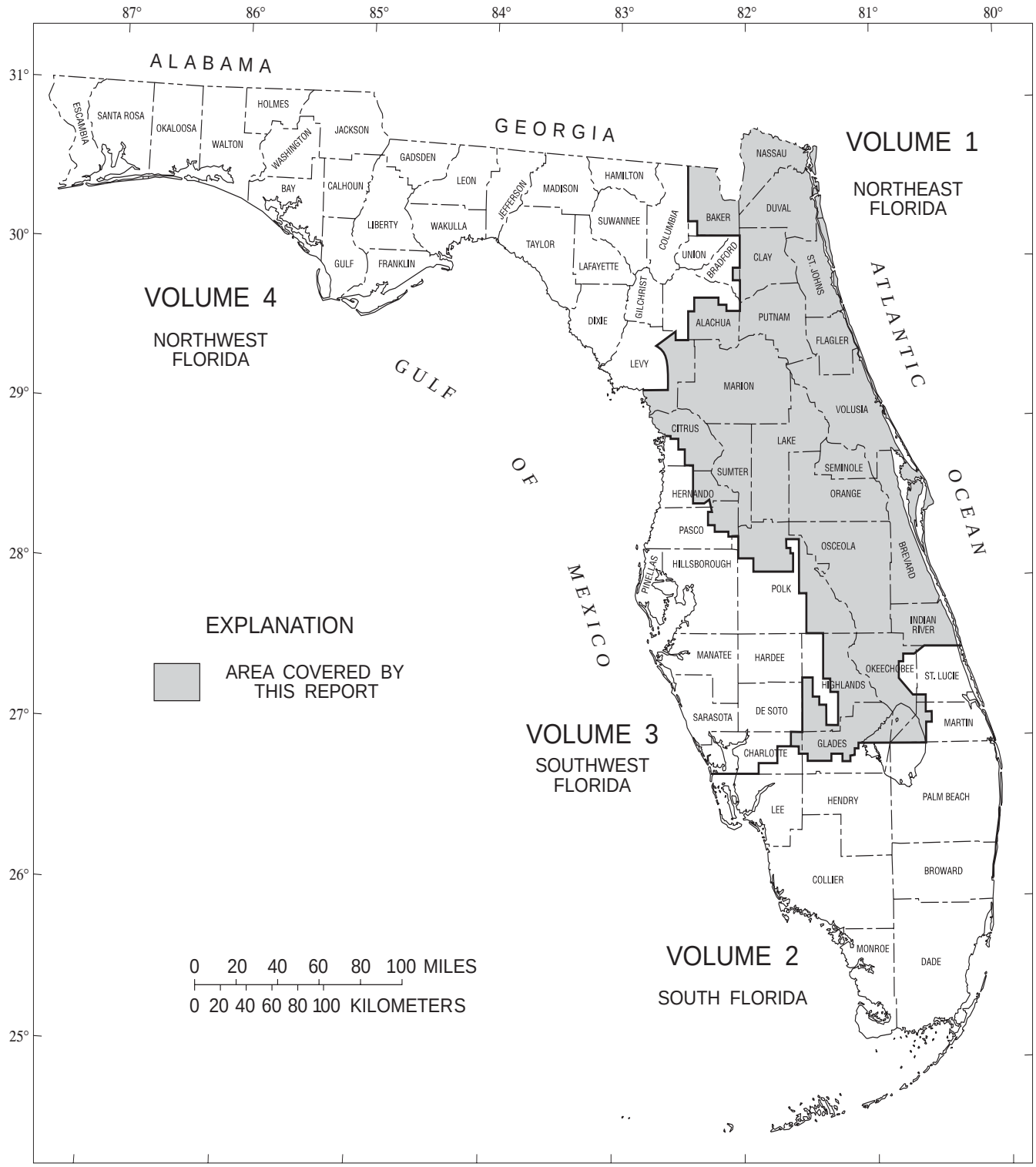

Figure 1.--Geographic area covered by this report.

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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 55 wells; periodic ground-water elevations at 146 wells; miscellaneous ground-water elevations at 473 wells; and water-quality at 57 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-02-1B." 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 Game and Fresh Water Fish Commission
St. Johns River Water Management District
South Florida Water Management District
Southern Division Naval Facilities Engineering Command, Charleston, SC
Southwest Florida Water Management District
City of Cocoa
City of Daytona Beach
City of Jacksonville
Jacksonville Electric Authority
Lake County Water Authority
Reedy Creek Improvement District

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

RAINFALL: Rainfall during the 2002 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 2001 through September 2002, ranged from 11.30 in. above normal at Winter Haven to 2.91 in. below normal at Jacksonville. The departure from the 30-year average rainfall in 2002 for the six rainfall stations presented in the table below averaged 4.3 inches above normal. The change in average departure for these six rainfall stations from 2001 to 2002 was 3.3 inches (from an average surplus of 1.0 inch in 2001 to an average surplus of 4.3 inches in 2002 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	
Station	Total Rainfall	Departure	Total Rainfall	Departure	Total Rainfall	Departure	Total Rainfall	Departure	Total Rainfall	Departure
Jacksonville AP	5.38	-3.46	9.68	-1.09	9.12	-2.87	25.25	4.51	49.43	-2.91
Ocala	3.88	-3.95	8.25	-2.43	16.46	2.93	21.38	3.74	49.97	.29
Daytona Beach	10.49	.27	6.28	-3.43	16.49	5.00	22.77	4.90	56.03	6.74
Orlando	3.17	-4.19	5.10	-3.22	16.68	3.17	25.92	6.76	50.87	2.52
Winter Haven	4.48	-2.82	7.70	-.62	22.81	10.01	26.53	4.73	61.52	11.30
Vero Beach	10.54	-1.17	8.70	-.78	23.75	9.85	20.24	-.25	63.23	7.65

GROUND-WATER LEVELS: Figure 2 shows the locations of 17 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 17 selected wells in this summary is 41 years (table 1). The longest period of record among the17 wells is 70 years (Sharpes Ferry well in Marion County (table 1 and fig. 2, map no. 7)). The record for four other wells begins as early as the late 1930's and early 1940's. The shortest period of record in this summary is for the Humphreys Mining well in Nassau County (table 1 and fig. 2, map no. 17), which includes 18 years of record starting in 1985.

Seasonal Patterns: Water levels in the 17 wells presented in this report historically had a mean annual range of about 4.4 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. 12). The ranges in water levels in the 17 wells during the current water year averaged 5.5 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. 13-17) 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 17 selected wells averages about 46.1 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. 11). 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 all of the 17 wells shown . Annual water levels for all 17 wells averaged 43.1 ft NGVD of 1929 for the current year, which is lower than the average for the period of record. Generally, water levels in the 17 selected ground-water wells showed on increase from 2001 levels. Of the 17 wells presented, water levels in 15 were above the previous water-year mean.

Table 1: Summary of water levels at selected wells for the period of record and water-year 2002. [ft, feet; msl, mean sea level]

Map No.	Well Number and Name	Period of Record			Water-Year 2002			
		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	127.0	5.5	126.6	6.7	+2.4	-.5
2.	281714081093001 Lake Joel Well near Ashton (Osceola)	1973	43.5	5.2	42.5	6.2	+2.2	-1.0
3.	283249081053201 Bithlo-1 Well at Bithlo (Orange)	1960	35.9	4.8	34.5	5.7	+2.1	-1.4
4.	283253081283401 OR-47 Well at Orlo Vista (Orange)	1947	61.4	8.0	54.4	9.9	+3.5	-7.1
5.	284842081533001 College Street Well at Leesburg (Lake)	1973	64.1	5.7	63.6	9.4	+2.8	-.6
6.	285102082204001 DOT-41 Observation Well at Inverness (Citrus)	1961	29.8	4.0	25.1	5.3	+1.9	-4.8
7.	291115081592501 Sharpes Ferry Well, Marion 5 near Ocala (Marion)	1933	47.8	3.3	43.7	3.5	+1.0	-4.1
Periodic water- level monitoring								
8.	271150081054401 GL-155 Well near Brighton (Glades)	1971	47.0	4.3	46.8	7.2	+1.6	-.2
9.	273127080481401 OK-1 Well at Fort Drum (Okeechobee)	1977	43.8	4.2	43.4	5.0	+2.0	-.4
10.	274607080493001 IR-189 Well near Yeehaw Junction (Indian River)	1976	41.8	4.4	41.4	4.7	+2.2	-.3
11.	292750081152001 USGS Flagler 14 at Bunnell (Flagler)	1936	14.9	2.5	13.3	4.8	+1.3	-1.6
12.	292948081503001 Well RD-77-G near Orange Springs (Putnam)	1982	19.5	1.6	18.9	3.2	-.5	-.6
13.	300656081463401 Local Number C-94 USGS Test Well near Orange Park (Clay)	1974	34.8	5.6	29.7	8.5	+.8	-5.0
14.	300758081230501 Local Number SJ-5. G. Oesterreicher Well near Palm Valley (St. Johns)	1944	37.2	5.0	30.3	5.5	+2.2	-6.9
15.	301535082162001 Local Number B-11 USGS Well at Sanderson (Baker)	1963	54.2	3.8	48.2	2.8	-.3	-5.9
16.	302304081383202 Local Number D-122A City of Jacksonville Panama Park Well at Jax (Duval)	1940	40.8	3.8	33.1	3.8	+.7	-7.8
17.	304410081592101 Local Number N-120 Humphreys Mining No. 2 well near Boulogne (Nassau)	1985	40.4	3.8	37.8	.5	+.6	-2.7

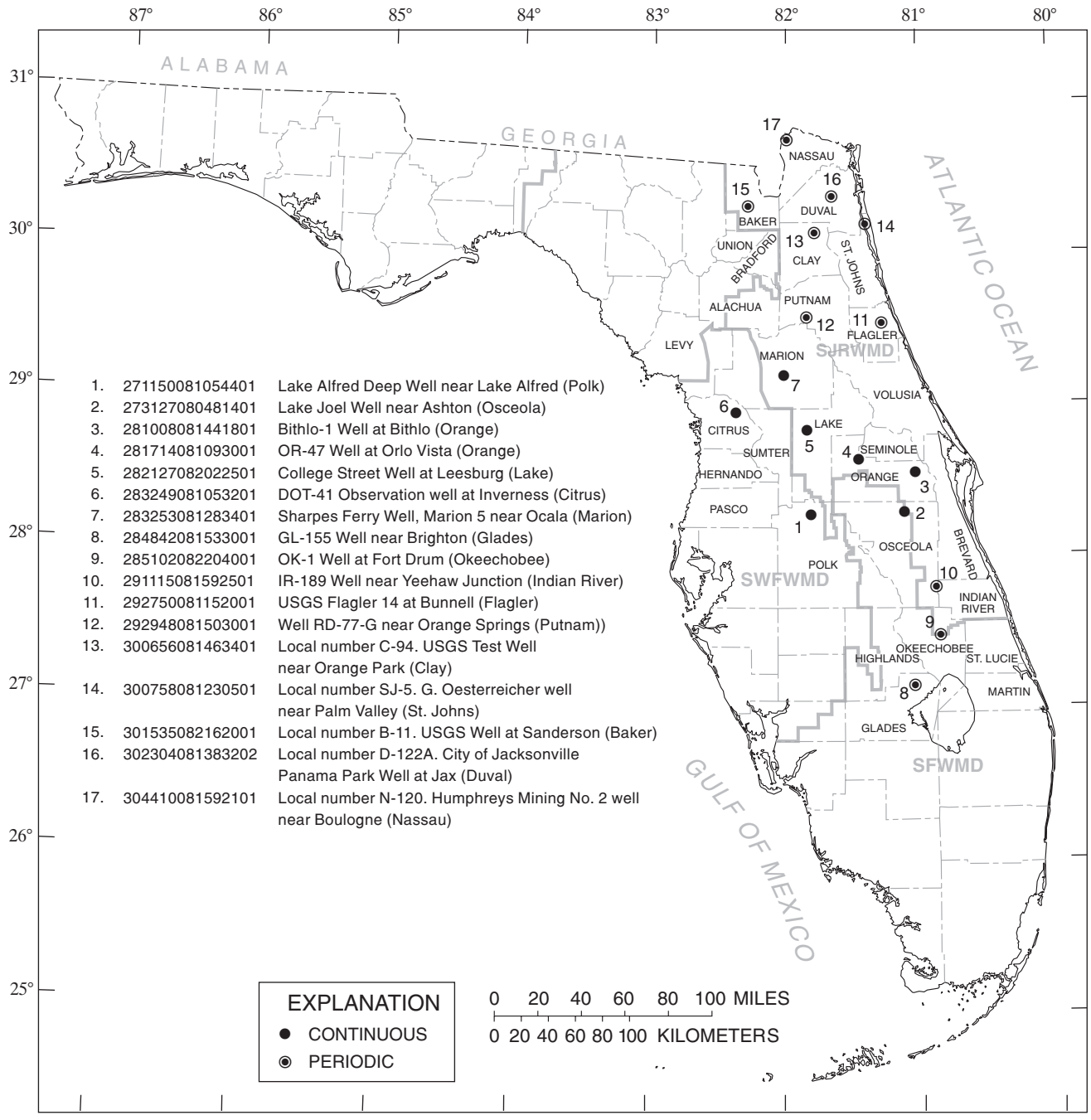

Figure 2.--Location of wells for long-term hydrographs.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the streamflow representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities. At 10 of these 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) monitors 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. From 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia 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) 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 225 precipitation chemistry monitoring 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 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; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 59 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 decision making by water-resources managers 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 THE RECORDS

The surface-water and ground-water records published in this report are for the 2002 water year that began October 1, 2001, and ended September 30, 2002. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-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.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 02228500, which appears just to the left of the station name, includes the 2-digit part number "02" plus the 6- to 12-digit downstream-order number "228500." The part number designates the major river basin; for example, part "02" is the South Atlantic Slope and eastern Gulf of Mexico basins.

Latitude-Longitude System

The identification numbers for wells are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites 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.)

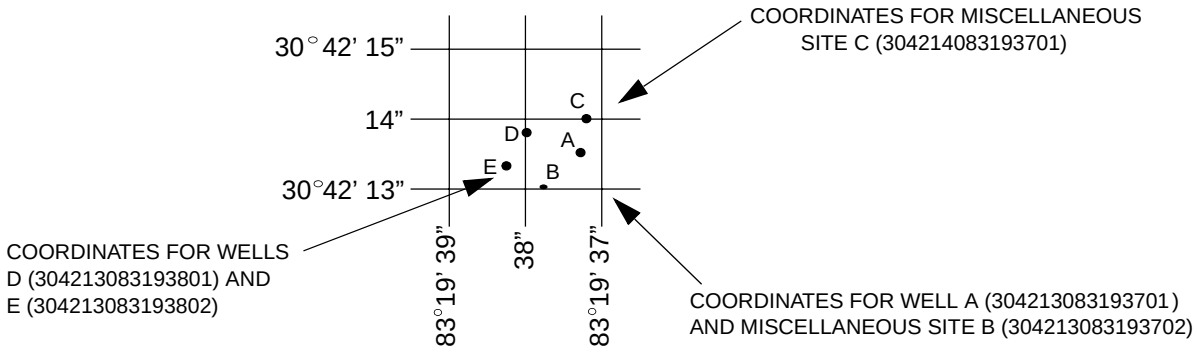

Figure 3.--System for numbering wells and miscellaneous sites. (latitude and longitude)

A second 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

Ground-water level data from a national network of observation wells are given in this report. The records include data from wells equipped with water-level recorders and data from wells where water levels are measured periodically.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

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

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive 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 latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other 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 periodic or continuous record.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), 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. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with reference to National Geodetic Vertical Datum of 1929 and the dates of their occurrence.

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.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites, they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes slowly; therefore, for most general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality 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. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years. Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey TWRI publications referred to in the "On-site Measurements and Sample Collection" and the "Laboratory Measurements" sections in this data report. In addition, the TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure 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.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records for each county. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

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

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine readable formats on magnetic tape or 3-1/2 inch floppy disk. 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).

. 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.

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) units on the inside of the back cover.

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.

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 organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

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.

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:

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

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 (μm^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 are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

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:

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

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) concentration value 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 qualitatively identified 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 (<).

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")

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 have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

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.co-ops.nos.noaa.gov/tideglos.html*

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:

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

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")

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. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the LRL was called the nondetection value or NDV—a term that is no longer used.]

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.co-ops.nos.noaa.gov/tideglos.html*

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 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.

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.

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 from bed (bottom) material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion 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")

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 pre-cipitation.

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.

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 the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

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")

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."

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").

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The USGS publishes a series of manuals titled the "Techniques of Water-Resources Investigations" that describe procedures for planning and conducting specialized work in water-resources investigations. The material in these manuals is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. Each chapter then is limited to a narrow field of the section subject matter. This publication format permits flexibility when revision or printing is required.

Manuals in the Techniques of Water-Resources Investigations series, which are listed below, are available online at http://water.usgs.gov/pubs/twri/. Printed copies are available for sale from the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (an authorized agent of the Superintendent of Documents, Government Printing Office). Please telephone "1-888-ASK-USGS" for current prices, and refer to the title, book number, section number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations." Other products can be viewed online at http://www.usgs.gov/sales.html, or ordered by telephone or by FAX to (303)236-4693. Order forms for FAX requests are available online at http://mac.usgs.gov/isb/pubs/forms/. Prepayment by major credit card or by a check or money order payable to the "U.S. Geological Survey" is required.

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J.F. Ficke, and G. F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

2-D1. *Application of surface geophysics to ground-water investigations*, by A.A. R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.

2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.

2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.

3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3. chap. A5. 1967. 29 p.

3-A6. *General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.

3-A7. *Stage measurement at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.

3-A8. *Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.

3-A9. *Measurement of time of travel in streams by dye tracing,* by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.

3-Al0. *Discharge ratings at gaging stations,* by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.

3-A11. *Measurement of discharge by the moving-boat method,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.

3-A12. *Fluorometric procedures for dye tracing,* Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.

3-A13. *Computation of continuous records of streamflow,* by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.

3-A14. *Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.

3-A16. *Measurement of discharge using tracers,* by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.

3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.

3-A18. *Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.

3-A19. *Levels at streamflow gaging stations,* by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.

3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers,* by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.

3-A21 *Stream-gaging cableways,* by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

3-B1. *Aquifer-test design, observation, and data analysis,* by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction,* by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers,* by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.

3-B4. *Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.

3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.

3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction,* by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.

3-B6. *The principle of superposition and its application in ground-water hydraulics,* by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.

3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow,* by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.

3-B8. *System and boundary conceptualization in ground-water flow simulation,* by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

3-C1. *Fluvial sediment concepts,* by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.

3-C2. *Field methods for measurement of fluvial sediment,* by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4-A1. *Some statistical tools in hydrology,* by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.

4-A2. *Frequency curves,* by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.

Section B. Surface Water

4-B1. *Low-flow investigations,* by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.

4-B2. *Storage analyses for water supply,* by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.

4-B3. *Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

4-D1. *Computation of rate and volume of stream depletion by wells,* by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.

5-A2. *Determination of minor elements in water by emission spectroscopy,* by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.

5-A3. *Methods for the determination of organic substances in water and fluvial sediments,* edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

5-C1. *Laboratory theory and methods for sediment analysis,* by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

6-A1. *A modular three-dimensional finite-difference ground-water flow model,* by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.

6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model,* by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.

6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual,* by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.

6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions,* by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.

6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details,* by L.J. Torak: USGS–TWRI book 6, chap. A5, 1993. 243 p.

6-A6. A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A5,1996. 125 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.

7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.

8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.

9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.

9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.

9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.

9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.

9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.

9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.

9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.

9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

WELL DESCRIPTIONS AND GROUND-WATER DATA

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

ALACHUA COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
292838082073701	05-13-02	1050	A-0725 LK LOCHLOOSA AT LOCHLOOSA,FL	51.23
	09-16-02	1005		53.16
293203082200601	05-15-02	1030	CHITTY WELL AT KIRKWOOD	49.93
	09-18-02	1110		50.54
293252082292301	05-14-02	1250	ALTO STRAUGHN-ARCHER WELL	37.12
	09-17-02	1020		36.92
293253082055701	05-13-02	1128	DRISCOLL WELL NR LOCHLOOSA	65.94
	09-16-02	1050		67.64
293539082112601	05-13-02	1250	A-005 OWENS-ILLINOIS NO.1	65.19
	09-16-02	1120		66.76
293556082043401	05-13-02	1205	A-0071 HAWTHORNE TOWER DEEP	71.72
	09-16-02	1105		73.30
293620082362001	05-14-02	1215	USGS WELL NR NEWBERRY,FL	35.31
	09-17-02	0940		34.79
293644082244201	05-14-02	1415	A-0016 RUN MONITOR WELL NO1 AT KANAPAHA	39.26
	09-17-02	1215		39.75
293728082282401	05-14-02	1330	93722801 10S18E14 PARKER RD BAPTIST CHURCH	35.07
	09-17-02	1105		35.51
293857082203901	05-15-02	0830	GEOLOGY DEPT WELL GAINESVILLE	35.10
	09-17-02	1000		36.49
293943082085901	05-14-02	1125	A-0708 ALACHUA COUNTY F-5 NR ORANGE HEIGHTS,FL	70.94
	09-17-02	1108		72.21
294011082260401	05-15-02	1405	A-0713 ALACHUA CO VISA 3 AT GAINESVILLE,FL	38.43
	09-18-02	1500		39.05
294028082245301	05-15-02	1415	A-0712 VISA 2 NR GAINESVILLE,FL	38.56
	09-18-02	1255		38.97
294105082171501	05-15-02	0710	A-063 ALACHUA FAIRGROUNDS CF IN GAINESVILLE,FL	37.39
	09-16-02	1310		39.28
294339082184501	09-18-02	0830	A-0706 ALACHUA COUNTY F-3 IN GAINESVILLE, FL	39.23
294407082262801	05-14-02	0820	DEP SAN FELASCO HAMMOCK NR GAINESVILLE,FL	54.09
	09-18-02	0910		54.07
294530082232001	05-14-02	1000	DEERHAVEN POWER PLT WELL NR GAINESVILLE	37.79
	09-16-02	1330		37.07
294629082181301	05-30-02	1200	A-0704 ALACHUA CO F-1 WELL IN GAINESVILLE,FL	52.33
	09-17-02	1404		52.76
294640082064501	05-13-02	1408	ROD REESE NR KEYSTONE HEIGHTS	71.00
	09-16-02	1215		72.19
294839082230701	05-14-02	1041	CELLON WELL NR LA CROSSE(A-0053)	39.03
	09-17-02	0710		38.86
294928082355301	05-14-02	1130	94923502 08S17E03 CITY HIGH SPRINGS	30.97
	09-17-02	0800		31.07
295130082243001	05-22-02	0815	SRWMD DOF - LACROSSE TOWER NR GAINESVILLE,FL	39.15

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

Index number	Site number	Page number
1	301535082162001	36
2	302251082194901	36
3	302620082173501	37

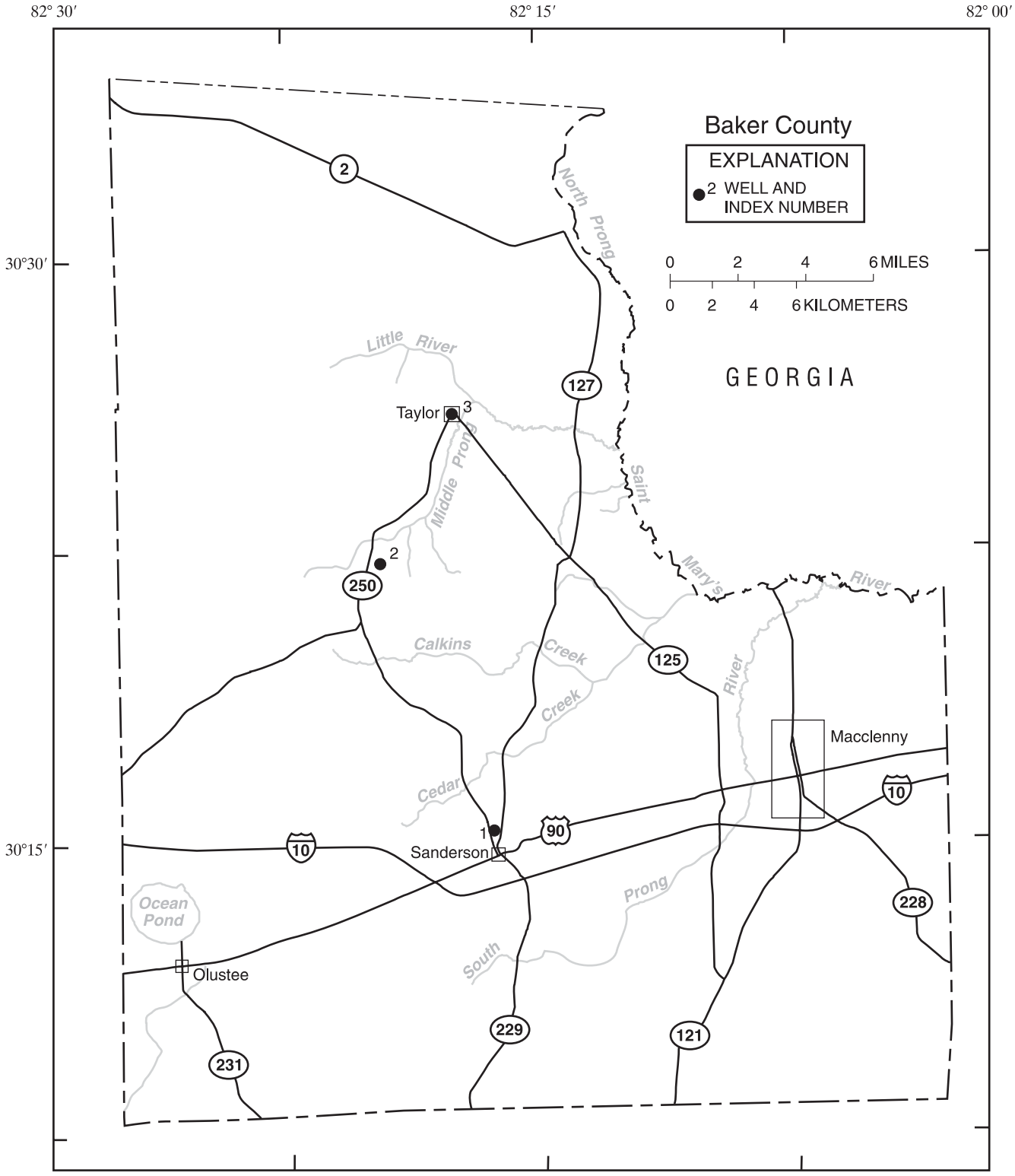

Figure 4.--Location of wells in Baker County.

BAKER COUNTY

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

LOCATION.--Lat 30°15'35", 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	48.80	JAN 29	48.80	APR 23	49.35	JUN 24	46.87	SEP 16	47.23		
NOV 19	48.67	FEB 22	49.00	MAY 14	48.34	JUL 29	46.95				
DEC 17	48.65	MAR 26	49.72	28	47.67	AUG 26	47.09				

WATER YEAR 2002 LOWEST 46.87 JUN 24, 2002 HIGHEST 49.72 MAR 26, 2002

WELL NUMBER.--302251082194901. ONF Number 6 Floridan. USGS Well near Taylor, FL.

LOCATION.--Lat 30°22'51", long 82°19'49", in NE¼SE¼NW¼ sec.29, T.1 S., R.20 E., Hydrologic Unit 03070204, 500 ft south of U.S. Forest Road 232, in Osceola National Forest, 700 ft east of intersection of U.S. Forest Road 232 and State Highway 250, and 5 mi south of Taylor. 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 338 ft, cased to 320 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 127.77 ft above NGVD of 1929 (levels by L.L. Lee and Associates). Measuring point: Top edge of shelter floor, 2.70 ft above land-surface datum.

PERIOD OF RECORD.--August 1976 to September 1983, October 1983 to September 1987, December 2000 to February 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 59.73 ft above NGVD of 1929, Apr. 26, 1984; lowest measured, 45.01 ft above NGVD of 1929, Sept. 16, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	46.67	DEC 17	46.45	FEB 22	46.98	SEP 16	45.01				
NOV 19	46.43	JAN 29	46.69	MAY 14	46.48						

WATER YEAR 2002 LOWEST 45.01 SEP 16, 2002 HIGHEST 46.98 FEB 22, 2002

BAKER COUNTY--Continued

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	46.38	JAN 29	46.26	APR 23	47.06	JUN 24	44.20	SEP 16	44.46		
NOV 19	46.13	FEB 22	46.56	MAY 14	45.95	JUL 29	44.18				
DEC 17	46.18	MAR 26	47.55	28	45.25	AUG 26	44.30				

WATER YEAR 2002 LOWEST 44.18 JUL 29, 2002 HIGHEST 47.55 MAR 26, 2002

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

BAKER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
301022082103301	05-13-02	1105	B-17 (BA0019)MANNING WELL NR MANNING,FL	50.56
	09-16-02	1010		49.91
301245082233001	05-14-02	1105	SRWMD B-6 US FOREST SERV-OLUSTEE TWR	49.30
	09-17-02	1055		48.19
301423082261101	05-14-02	0920	B-15	52.99
	09-16-02	1315		51.41
301618082110901	05-14-02	0830	BA0054	48.51
	09-16-02	1515		47.66
301635082234001	05-13-02	1315	SRWMD B-0004	48.44
	09-17-02	0935		47.19
301702082271401	05-13-02	1335	SRWMD B-0003	48.68
	09-17-02	1020		47.24
302115082232201	05-13-02	1250	SRWMD B-2	46.53
	09-17-02	0910		45.00
303235082203501	05-14-02	1035	BA-0057 EDDY FIRETOWER FLORIDAN	44.63
	09-16-02	1430		43.09

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

Index number	Site number	Page number
1	275508080510701	42
2	275955080434601	42
3	281937080442001	43
4	282945080473901	43

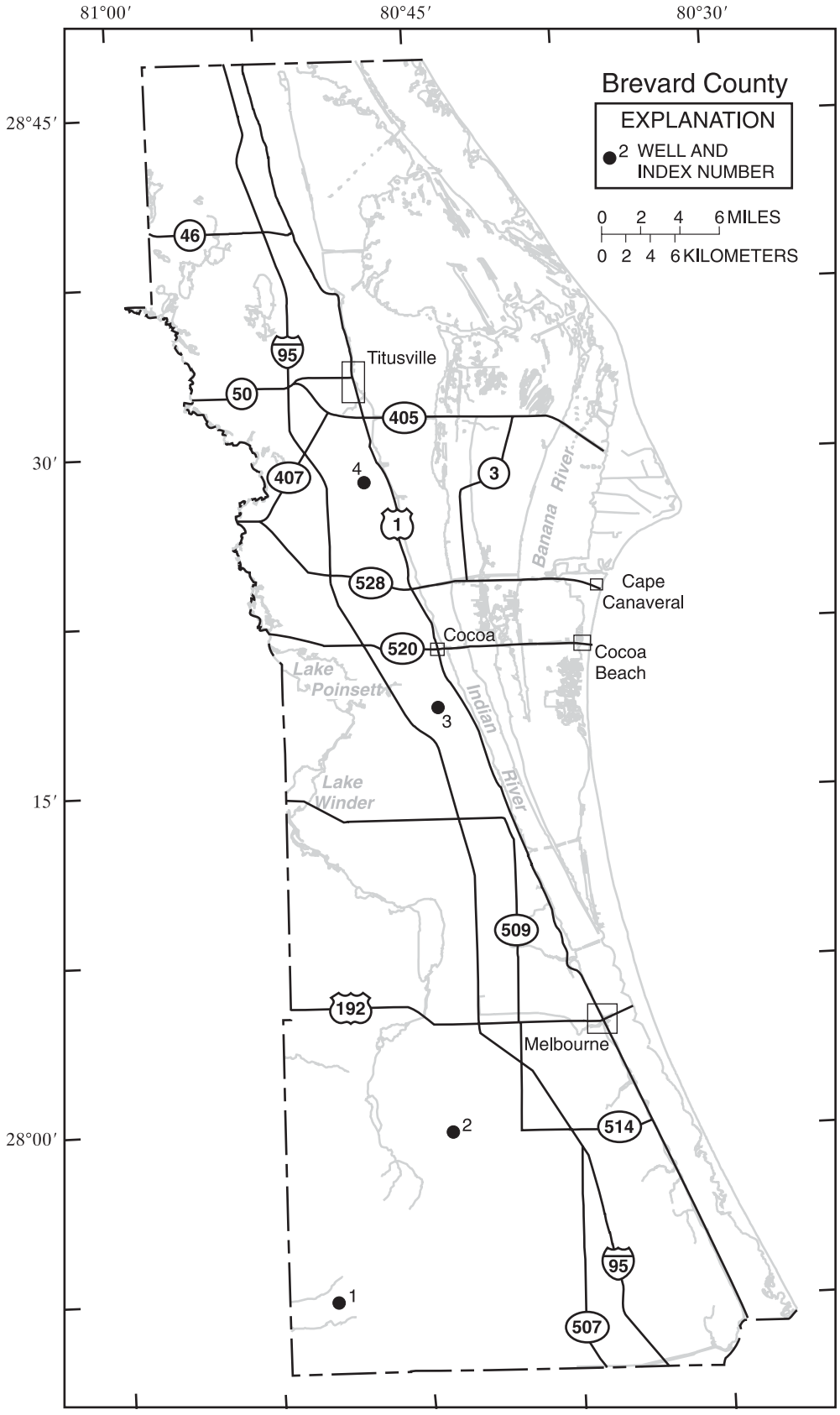

Figure 5.--Location of wells in Brevard County.

BREVARD COUNTY

WELL NUMBER.--275508080510701. Ten-Mile Ranch Well near Kenansville, FL.

LOCATION.--Lat 27°55'08", long 80°51'07", in SW¼SW¼NW¼ sec.32, T.29 S., R.35 E., Hydrologic Unit 03080101, 2,500 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 3 in., depth 272 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Elevation of land-surface datum is 28.07 ft above NGVD of 1929. Measuring point: Top of concrete slab, 0.51 ft above land-surface datum.

PERIOD OF RECORD.--June 1956 (annually); 1957 (semiannually); May 1973 to February 2002 (bimonthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 46.07 ft above NGVD of 1929, July 11, 1957; lowest measured, 36.30 ft above NGVD of 1929, May 30, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	43.08	DEC 18	43.39	FEB 12	41.83

WATER YEAR 2002 LOWEST 41.83 FEB 12, 2002 HIGHEST 43.39 DEC 18, 2001

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 (bimonthly); 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	41.08	JAN 30	39.58	APR 18	38.28	JUN 18	37.56	SEP 17	39.93		
NOV 27	41.46	FEB 26	40.48	MAY 14	35.63	JUL 31	40.51	25	41.11		
DEC 18	40.68	MAR 25	39.28	22	37.18	AUG 27	41.40				

WATER YEAR 2002 LOWEST 35.63 MAY 14, 2002 HIGHEST 41.46 NOV 27, 2001

BREVARD COUNTY--Continued

WELL NUMBER.--281937080442001. BR-1558 at Rockledge, FL.

LOCATION.--Lat 28°19'37", long 80°44'20", in NE¼SE¼NE¼ sec.8, T.25 S., R.36 E., Hydrologic Unit 03080101, 0.2 mi north of Eyster Blvd., 0.2 mi east of Fiske Blvd., and 2.0 mi south of State Highway 520. 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 10 in., depth 180 ft, cased to 140 ft.

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

DATUM.--Land-surface datum is 24.12 ft above NGVD of 1929. Measuring point: Top of 2 in reducer, 2.31 ft above land-surface datum.

PERIOD OF RECORD.--May 2000 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.94 ft above NGVD of 1929, Nov. 26, 2001; lowest measured, 22.78 ft above NGVD of 1929, May 16, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	27.67	DEC 19	27.38	FEB 25	27.01	SEP 16	27.70				
NOV 26	27.94	JAN 28	26.68	MAY 13	23.23						

WATER YEAR 2002 LOWEST 23.23 MAY 13, 2002 HIGHEST 27.94 NOV 26, 2001

WELL NUMBER.--282945080473901. BR-586 Well at Airport near Titusville, FL.

LOCATION.--Lat 28°29'45", long 80°47'39", in Delespine Grant, T.23 S., R.35 E., Hydrologic Unit 03080101, 1.0 mi west of U.S. Highway 1, 0.2 mi north of Kings Highway, and 9.0 mi south of Titusville. 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 4 in., depth 135 ft, casing length unknown.

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

DATUM.--Land-surface datum is 30.67 ft above NGVD of 1929. Measuring point: Top of casing, 0.46 ft above land-surface datum.

PERIOD OF RECORD.--May 1998 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.73 ft above NGVD of 1929, Nov. 26, 2001; lowest measured, 12.41 ft above NGVD of 1929, May 14, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	17.63	DEC 19	17.24	FEB 25	16.80	SEP 16	17.50				
NOV 26	17.73	JAN 28	16.69	MAY 13	13.68						

WATER YEAR 2002 LOWEST 13.68 MAY 13, 2002 HIGHEST 17.73 NOV 26, 2001

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

BREVARD COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
275003080330201	05-14-02	1101	BR-1559 FLEMING GRANT NR FELLSMERE,FL	34.69
	09-17-02	1012		39.09
275138080491801	05-17-02	1451	TUCKER T-6 REPLACEMENT WELL NR KENANSVILLE,FL	37.59
	09-18-02	1437		44.19
275210080272202	05-14-02	1409	DR0625 SEB. INLET TW SHALLOW	29.93
	09-17-02	1323		34.13
275422080374001	05-14-02	1037	BREVARD GROVES DIESEL BR0288 NR FELLEMERE,FL	35.84
	09-17-02	0950		39.04
275425080283101	05-14-02	1350	754028002	29.77
	09-17-02	1308		34.07
275435080311001	05-14-02	1145	754031001 29S38E34 343 04383 GRANT 82	29.07
	09-17-02	1124		34.17
275629080504901	05-14-02	0938	DESERET RANCH WELL NO3 NR KENANSVILLE, FL	35.97
	09-16-02	1253		41.67
275948080393501	05-14-02	1012	759039005 29S37E06 322 37578 FELLSMERE NW TP	33.35
	09-17-02	0852		37.75
280008080342601	05-14-02	1230	800034072 28S37E36 424 08182 MELBOURNE EAST TP	30.60
	09-17-02	1214		32.70
280256080325601	05-14-02	1332	802032002 28S38E17 432 1645 MELBOURNE EAST 49	23.10
	09-17-02	1250		30.30
280532080514501	05-14-02	0715	805051003 27S35E31 331 30139 DEER PARK SE TP	35.82
	09-17-02	0750		41.12
280534080465101	05-14-02	0645	805046002 27S35E36 331 37472 DEER PARK SE TP	34.23
	09-17-02	0717		39.73
280648080422801	05-13-02	1550	DAN PLATT SARNO RD REPLACEMENT WELL	32.45
	09-16-02	1435		36.65
281109080373701	05-14-02	1530	811037014 26S37E33 122 18134 EAU GALLIE 09	24.19
	09-17-02	1416		29.09
281210080473001	05-13-02	1445	DUDA RANCH L-2 (812047001)	33.40
	09-16-02	1345		37.70
281447080392601	05-14-02	1540	814039076 26S36E06 444 37577 EAU GALLIE 79	24.34
	09-17-02	1430		27.94
281905080375001	05-15-02	0821	819037196 25S37E16 212 27337 COCOA 04	19.45
	09-17-02	1522		23.55
282204080514301	05-13-02	1232	822051001 24S35E30 342 00767 LAKE POINSETT	26.98
	09-16-02	1149		31.48
282301080460601	05-13-02	1307	BR-1557 COCOA HIGH SCHOOL AT COCOA,FL	21.29
	09-16-02	1226		24.67
282423080353601	05-15-02	0756	824035001 24S37E11 444 15764 CAPE CANAVERAL TP	17.54
	09-18-02	0647		20.78
282524080422301	05-15-02	0921	MERRITT ISLAND INJECTION WELL	14.86
	09-18-02	0748		18.30
282921080404701	05-15-02	0940	BR0608 NASA UFA NR GATE 2	9.31
	09-18-02	0804		13.14
283028080403501	05-15-02	1002	BR 1748 RANSOM RD REPLACEMENT NR COURTNAY,FL	7.47
	09-18-02	0820		11.39
283627080512001	05-13-02	1028	BR-0001 USGS TEST WELL	13.30
	09-16-02	1000		16.51
283644080574903	05-13-02	0954	BR-1526 SEMINOLE RANCH	14.68
	09-16-02	0845		18.44
283732080510001	05-13-02	1050	BR0585 ASTRONAUT H.S.CF	9.76
	09-16-02	0924		13.76
283835080424501	10-02-01	0942	838042002 21S36E27 MERRITT ISLE WILDLIFE	9.94
	05-15-02	1157		6.14
	09-18-02	0907		10.01

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

Index number	Site number	Page number
1	284330082215401	48
2	284508082174601	48
3	285102082204001	49
4	285121082245401	49
5	285414082284201	50
6	285608082233401	50

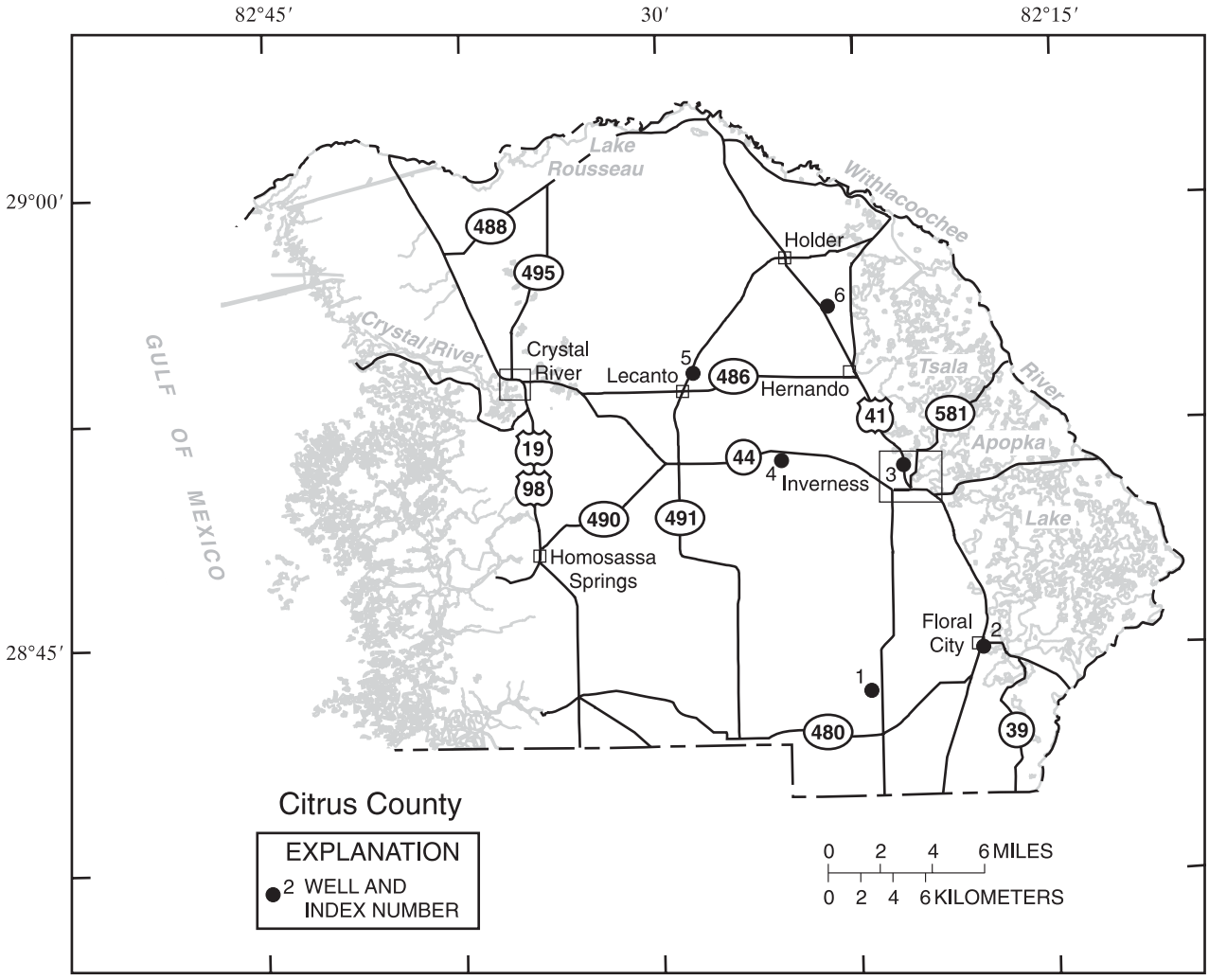

Figure 6.--Location of wells in Citrus County.

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 current year.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.95	16.61	16.26	15.76	15.27	14.87	14.41	13.99	13.42	---	14.51	15.87
10	16.19	16.59	16.18	15.67	15.17	14.82	14.33	13.92	13.38	---	14.84	16.04
15	16.37	16.56	16.07	15.59	15.11	14.74	14.28	13.81	---	---	15.07	16.20
20	16.51	16.50	16.00	15.54	15.03	14.68	14.21	13.72	---	---	15.29	16.35
25	16.58	16.43	15.93	15.45	14.96	14.61	14.14	13.62	---	---	15.49	16.47
EOM	16.63	16.34	15.81	15.36	14.91	14.48	14.07	13.45	---	14.38	15.68	16.55
MAX	16.63	16.63	16.33	15.89	15.34	14.90	14.45	14.06	13.45	14.38	15.68	16.55

CAL YR 2001 MAX 16.63
WTR YR 2002 MAX 16.63

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	32.18	FEB 19	30.32	MAY 14	28.62	AUG 01	30.50				
DEC 12	31.39	APR 18	29.32	JUN 06	27.82	SEP 18	33.31				

WATER YEAR 2002 LOWEST 27.82 JUN 06, 2002 HIGHEST 33.31 SEP 18, 2002

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.92	25.59	25.42	25.17	24.95	24.75	24.56	23.89	23.08	23.60	26.41	27.38
10	25.04	25.53	25.45	25.10	24.98	24.87	24.47	23.78	23.04	23.90	26.49	27.49
15	25.19	25.65	25.36	25.14	24.93	24.84	24.42	23.62	22.98	24.15	26.67	27.65
20	25.30	25.60	---	25.12	24.90	24.80	24.33	23.52	22.86	24.56	26.94	27.92
25	25.38	25.53	---	25.09	24.86	24.76	24.19	23.36	22.96	25.48	27.05	28.10
EOM	25.46	25.52	25.18	25.04	24.79	24.69	24.09	23.27	23.18	26.16	27.14	28.15
MAX	25.46	25.65	25.50	25.28	25.08	24.98	24.68	24.08	23.21	26.16	27.14	28.17

CAL YR 2001 MAX 25.65
WTR YR 2002 MAX 28.17

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 current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 10.80 ft above NGVD of 1929, Apr. 19, 1998; lowest, 4.72 ft above NGVD of 1929, June 22,23, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.02	7.02	6.77	6.50	6.16	5.97	5.62	5.34	5.03	5.46	6.26	6.87
10	7.08	6.99	6.67	6.41	6.10	5.88	5.51	5.24	5.03	5.55	6.34	6.98
15	7.15	6.98	6.62	6.33	6.02	5.83	5.50	5.20	5.02	5.68	6.42	7.03
20	7.17	6.89	6.61	6.32	5.96	5.76	5.46	5.17	5.16	5.79	6.58	7.06
25	7.17	6.86	6.56	6.22	5.94	5.69	5.39	5.02	5.23	5.93	6.66	7.09
EOM	7.05	6.81	6.51	6.23	5.95	5.65	5.36	5.08	5.37	6.14	6.74	7.17
MAX	7.20	7.03	6.81	6.57	6.21	5.97	5.62	5.37	5.37	6.14	6.74	7.18

CAL YR 2001 MAX 7.20
WTR YR 2002 MAX 7.20

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.88	4.60	4.32	4.10	3.83	3.91	3.63	3.44	3.22	3.84	4.54	4.85
10	4.78	4.58	4.30	3.99	3.86	3.74	3.51	3.38	3.24	3.87	4.45	4.83
15	4.99	4.48	4.31	4.13	3.72	3.73	3.55	3.39	3.44	4.10	4.55	4.84
20	4.79	4.43	4.30	4.00	3.77	3.67	3.48	3.34	3.47	4.10	4.65	4.74
25	4.86	4.46	4.23	3.95	3.72	3.58	3.41	3.20	3.67	4.30	4.62	4.82
EOM	4.47	4.43	4.22	4.02	3.83	3.63	3.53	3.35	3.73	4.42	4.75	4.82
MAX	4.99	4.64	4.45	4.19	4.00	3.95	3.67	3.53	3.73	4.42	4.75	4.95

CAL YR 2001 MAX 4.99
WTR YR 2002 MAX 4.99

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 current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	16.49	FEB 12	16.28	MAY 14	14.86	AUG 01	15.82				
DEC 13	16.48	APR 17	16.20	JUN 05	14.31	SEP 17	17.92				

WATER YEAR 2002 LOWEST 14.31 JUN 05, 2002 HIGHEST 17.92 SEP 17, 2002

CITRUS COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
284101082184301	05-14-02	1720	84121801 21S20E04 OAK FOREST SUBMERSIBLE	26.82
	09-18-02	1440		30.94
284439082131401	05-14-02	1430	84421301 TRAILS END FISH CAMP WELL NR FLORAL CITY	36.81
	09-18-02	1025		41.88
284519082150701	05-14-02	1350	84521501 20S21E07 HOMER N FISHER	37.17
	09-18-02	0935		41.56
284609082163001	05-14-02	1325	DUVAL ISLAND WELL NR FLORAL CITY, FL	36.37
	09-18-02	1115		41.25
284752082202501	05-14-02	1835	84722001 19S20E31 HIGHLANDS VFD NR INVERNESS	14.91
	09-18-02	1200		18.64
284805082225701	05-15-02	1240	84822201 19S19E26 WSF-HOLDER MINE REC AREA	9.92
	09-18-02	1325		12.34
284844082282801	05-15-02	1435	84822801 19S18E22 WSF-PERRYMAN TRACT	5.27
	09-17-02	0900		7.07
284958082190401	05-14-02	1040	84921901 19S20E16 CITRUS 8 U S GEOL SURVEY	31.02
	09-17-02	1120		36.49
285026082174101	05-14-02	1110	85021701 19S20E15 CITRUS 9 U S GEOL SURVEY	34.19
	09-17-02	1240		38.52
285037082213801	05-15-02	1120	85022101 19S19E12 INVERNESS VILLAGE EASTW	15.87
	09-17-02	1025		19.83
285056082163001	05-14-02	1130	85021601 19S20E11 CITRUS 10 U S GEOL SURVEY	34.09
	09-17-02	1210		38.35
285105082135802	05-14-02	1155	USGS WELL 0.7MI.W OF WITH.R. ON SR 44.47FT N RD	33.17
	09-17-02	1220		40.27
285248082183201	05-14-02	0935	85221801 18S20E33 ELMER HEATH	33.46
	09-17-02	1310		38.21
285414082284201	05-15-02	0755	85422801NORTH LECANTO DEEP WELL NR LECANTO, FL.	3.34
	09-16-02	1450		4.86
285514082275402	05-13-02	1740	85522704 18S18E14 BEVERLY HILLS WELL 6-T	3.45
	09-16-02	1315		5.04
285612082294201	05-13-02	1815	85622901 18S18E04 PINE RIDGE NO 3	3.44
	09-16-02	1250		5.02
285720082201301	05-13-02	1650	85722001ROMP DEEP WELL 116 NEAR TSALA APOPKA, FL	30.49
	09-17-02	1535		34.73
285812082360901	05-14-02	0800	85823601 17S17E29 CE 7 U S GEOL SURVEY	7.35
	09-16-02	1535		10.67
285833082233301	05-13-02	1320	85822301 17S19E34 CE 16	10.41
	09-17-02	1500		13.45

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

CITRUS COUNTY--Continued

STATION NUMBER	DATE	TIME		STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
285930082283702	05-13-02	0915	85922803	17S18E22 CITRUS SPRINGS RECORDER	5.69
	09-16-02	1215			7.46
285951082350901	05-13-02	1030	85923501	17S17E15 CE 6 U S GEOL SURVEY	14.84
	09-16-02	1555			16.47
290023082393601	05-13-02	1135	90023901	17S16E11 CE 89 U S GEOL SURVEY	6.93
	09-16-02	1700			9.39
290107082400501	05-13-02	1120	90124001	17S16E11 CE 88 U S GEOL SURVEY	.52
	09-16-02	1655			3.57
290132082324201	05-13-02	1230	90123202	17S17E01 EMORY COWART HOUSE WELL	11.56
	09-16-02	1630			13.75
290216082292001	05-13-02	1305	90222901	16S18E33 CE 77 U S GEOL SURVEY	10.10
	09-16-02	1135			11.40

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

Index number	Site number	Page number
1	295733081365505	56
2	300656081463401	56
3	300834081421301	57
4	301018081415101	57

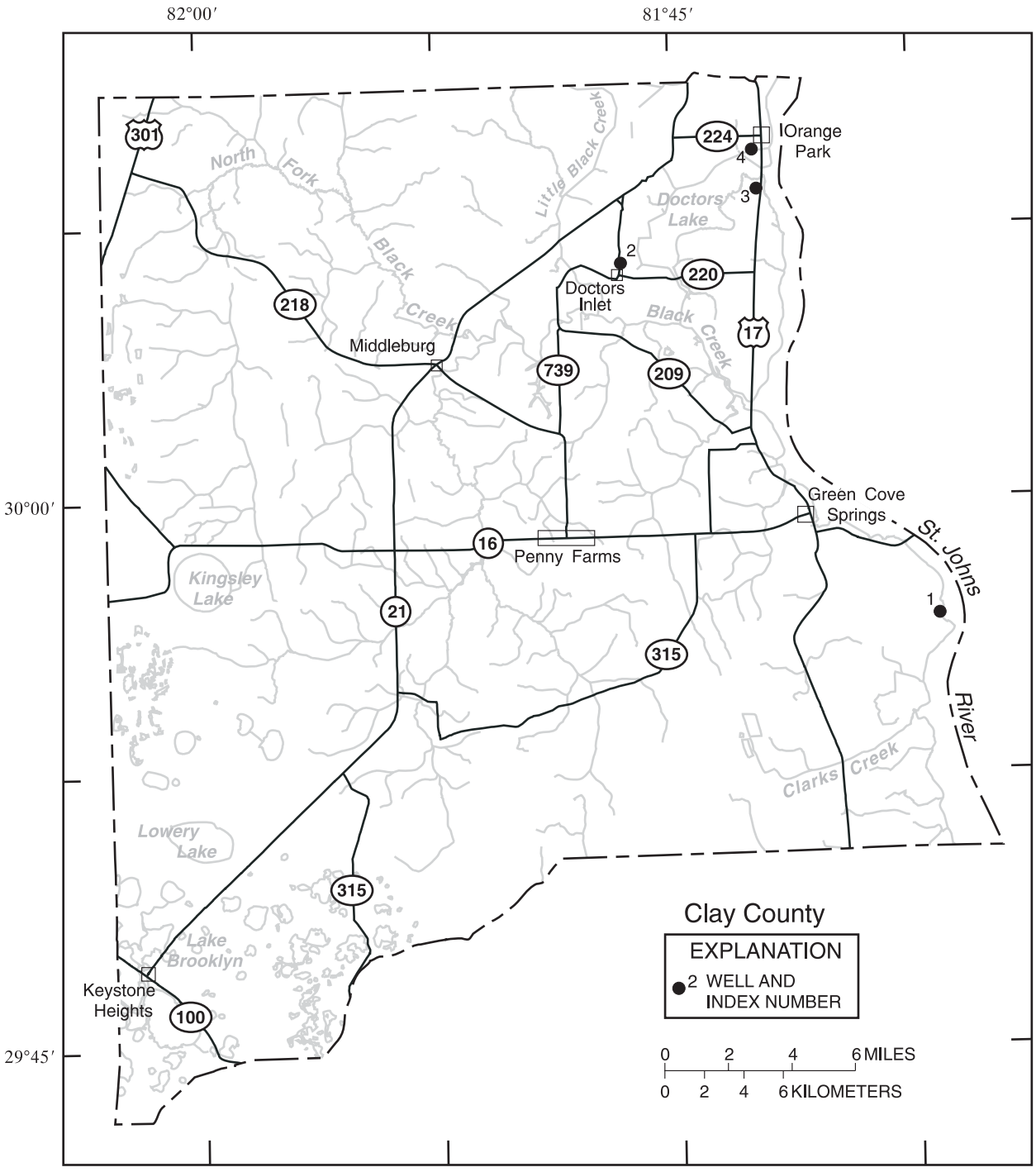

Figure 7.--Location of wells in Clay County.

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, 29.99 ft above NGVD of 1929, Sept. 18, 2002; lowest measured, 17.89 ft, above NGVD of 1929, Apr. 25, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	28.59	JAN 25	29.39	APR 24	19.39	JUN 17	25.39	SEP 18	29.99		
DEC 04	29.19	MAR 13	24.49	MAY 16	20.99	AUG 14	28.99				

WATER YEAR 2002 LOWEST 19.39 APR 24, 2002 HIGHEST 29.99 SEP 18, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	30.51	JAN 29	33.15	APR 23	29.31	JUN 24	26.98	SEP 18	30.59		
NOV 19	31.77	FEB 26	32.79	MAY 14	24.65	JUL 29	27.60				
DEC 17	32.48	MAR 26	31.22	28	26.32	AUG 26	29.21				

WATER YEAR 2002 LOWEST 24.65 MAY 14, 2002 HIGHEST 33.15 JAN 29, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	23.08	DEC 17	26.58	FEB 26	26.88	APR 23	23.18	JUN 24	22.38	AUG 26	22.88
NOV 19	25.88	JAN 29	27.68	MAR 26	25.88	MAY 28	19.88	JUL 29	22.88	SEP 18	24.18

WATER YEAR 2002 LOWEST 19.88 MAY 28, 2002 HIGHEST 27.68 JAN 29, 2002

WELL NUMBER.--301018081415101. Local Number C-4. Hellmuth Well at Orange Park, FL.

LOCATION.--Lat 30°10'18", long 81°41'51", in land grant 41, T.4 S., R.26 E., Hydrologic Unit 03080103, 250 ft west of 1454 River Road, 0.25 mi east of U.S. Highway 17, and 0.7 mi northeast of Orange Park. Owner: Mr. Hellmuth.

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

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 6 in., depth 530 ft, cased to 350 ft.

INSTRUMENTATION.--Bimonthly measurement with pressure gage.

DATUM.--Land-surface datum is 11.78 ft above NGVD of 1929. Measuring point: Top of 4 in. elbow, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1958, June 1971, May 1973 to September 1991 (semiannually) incomplete; April 1992 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.68 ft above NGVD of 1929, Nov. 7, 1958; lowest measured, 20.28 ft above NGVD of 1929, June 27, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	25.78	DEC 17	26.48	FEB 26	28.78	APR 23	24.78	JUN 24	23.78	AUG 26	23.30

WATER YEAR 2002 LOWEST 23.30 AUG 26, 2002 HIGHEST 28.78 FEB 26, 2002

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

CLAY COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
294307082020903	05-15-02	0850	C-0009 COUNTYLINE NR MELROSE,FL	77.19
	09-17-02	1135		78.61
294728082010901	05-15-02	0920	C-0442	73.51
	09-17-02	1325		75.01
294807082020903	05-15-02	0940	9482028 WELL AT KEYSTONE HEIGHTS,FL	74.09
	09-17-02	1340		75.66
294911081572601	05-15-02	1010	C-0453 GOLD HEAD	72.20
	09-17-02	1405		73.91
295016081433501	05-15-02	1410	C-0123 SUNGARDEN TWR OCALA,FL	61.76
	09-18-02	1325		64.89
295238081553701	05-15-02	1035	C-1011 AT CAMP BLANDING NO.1 NR JACKSONVILLE,FL	69.25
	09-17-02	1430		71.08
295835081515001	05-15-02	1105	C-17	63.99
	09-17-02	1500		65.83
295851081555301	05-15-02	1305	C-0128 PENNY FARMS TWR	63.61
	09-17-02	1445		65.37
300048081414301	05-16-02	0910	C-30	20.47
	09-18-02	1440		28.87
300318082015401	05-15-02	1220	C-1017 TRAINING SITE AT CAMP BLANDING NR JAX,FL	54.41
	09-18-02	1140		54.71
300450081482801	05-16-02	0930	C-18 MUIR WELL NEAR DOCTORS INLET,FL	36.70
	09-18-02	0900		40.40
300649081485901	05-14-02	1325	C-5 JOHN HUNTLEY WELL NEAR MIDDLEBURG,FL	30.82
	09-18-02	0920		35.02
300850081552001	05-14-02	1205	C-29	52.80
	09-18-02	1005		52.70
300926081561603	05-14-02	1220	C-0583 YELLOW WATER CR NR HUGH,FL	48.55
	09-18-02	0955		48.57

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	62	21	302022081393501	83
2	300820081354001	63	22	302052081323201	84
3	301422081541201	64	23	302130081411802	84
3	301422081541202	64	24	302159081235601	85
3	301422081541203	65	25	302227081435001	86
4	301522081331303	65	26	302236081401501	87
5	301537081441901	66	27	302301081295001	88
6	301551081415701	67	27	302301081295002	88
7	301604081361501	68	28	302304081383202	89
8	301639081330802	69	27	302307081293801	89
9	301648081431801	70	29	302339081254702	90
10	301710081323601	71	30	302416081522601	91
10	301710081323602	71	30	302416081522602	91
10	301710081323603	72	31	302502081330701	92
11	301725081584501	72	31	302503081332001	93
12	301740081361001	73	31	302505081331001	94
13	301743081304701	74	31	302511081331201	95
12	301743081362301	75	31	302519081331501	96
12	301744081363301	76	32	302538081392501	97
12	301752081360501	77	33	302550081331501	97
14	301844081403801	78	34	302557081253101	98
15	301846081350901	78	35	302608081354901	99
16	301852081234201	79	35	302608081354902	99
17	301957081342301	79	35	302608081354903	100
18	302007081353201	80	36	302724081244801	101
19	302013081353801	81	37	302801081375101	102
20	302015081384501	82			

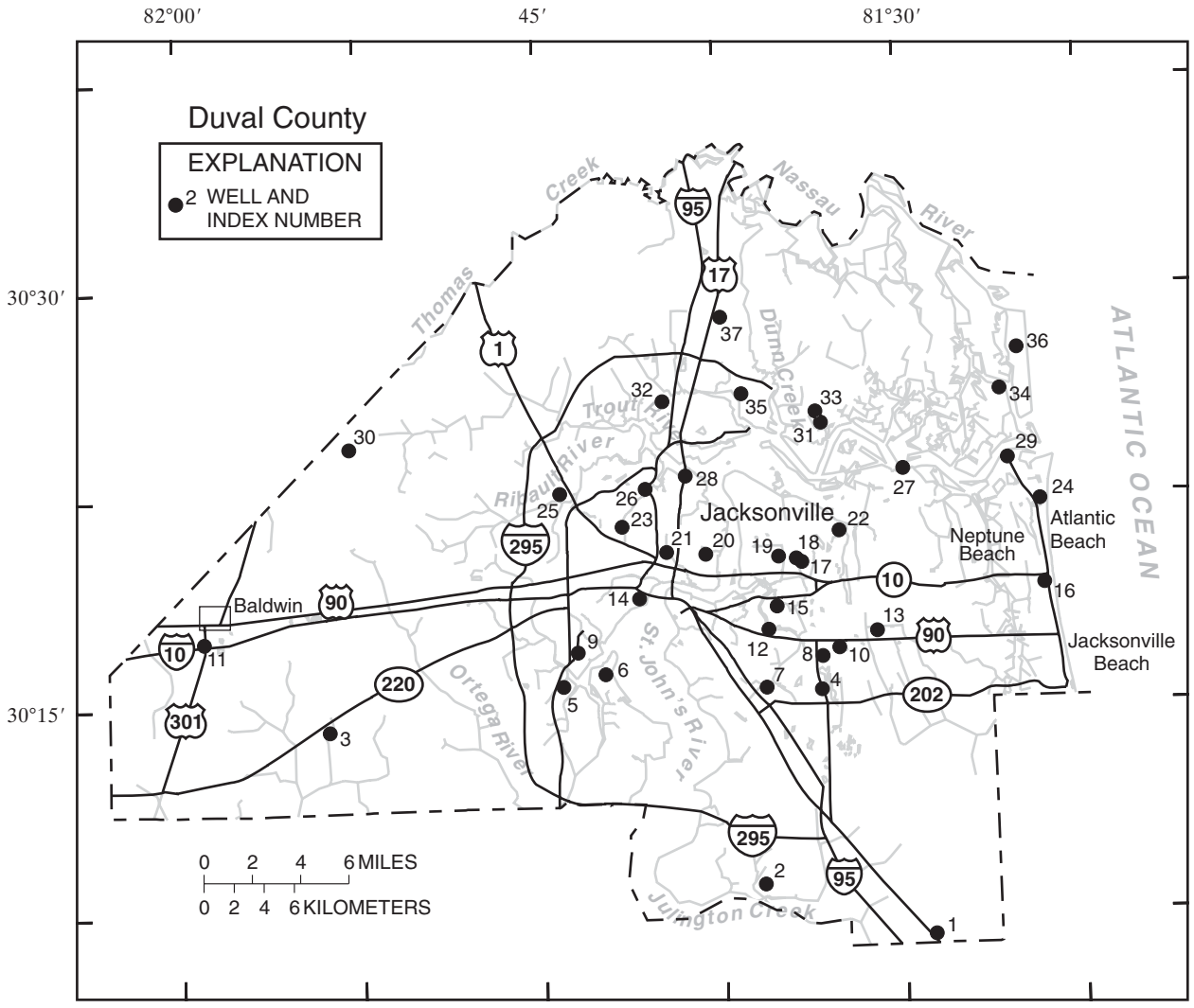

Figure 8.--Location of wells in Duval County.

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.

WATER-QUALITY RECORDS

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

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	37.11	JAN 28	37.71	APR 24	34.71	JUL 24	35.41

WATER YEAR 2002 LOWEST 34.71 APR 24, 2002 HIGHEST 37.71 JAN 28, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT													
25...	1400	776	--	23.5	--	--	--	--	--	--	--	--	19.0
JAN													
28...	1410	773	--	23.0	--	--	--	--	--	--	--	--	19.0
APR													
24...	1245	771	7.1	23.0	<5	380	92.0	34.0	15.0	2.60	133	240	19.0
JUL													
24...	1215	768	--	23.5	--	--	--	--	--	--	--	--	19.0

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
24...	.8	23.0	550	4790

< -- Less than

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 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT													
26...	1220	698	--	23.0	--	--	--	--	--	--	--	--	18.0
JAN													
22...	1140	702	--	22.0	--	--	--	--	--	--	--	--	18.0
APR													
24...	1330	708	7.2	22.0	<5	340	66.0	41.0	14.0	3.10	116	220	18.0
JUL													
24...	1100	705	--	24.0	--	--	--	--	--	--	--	--	19.0

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
24...	.6	19.0	493	5340

< -- Less than

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 80 ft above NGVD of 1929, 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 current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.72 ft below land-surface datum, Aug. 29, 1995; lowest measured, 12.15 ft below land-surface datum, Nov. 29, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	5.31	DEC 17	5.34	FEB 26	5.42	APR 24	5.24	JUN 24	6.88	AUG 26	4.70

WATER YEAR 2002 HIGHEST 4.70 AUG 26, 2002 LOWEST 6.88 JUN 24, 2002

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 80 ft above NGVD of 1929, 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 current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.70 ft below land-surface datum, May 21, 1984; lowest measured, 37.93 ft below land-surface datum, June 27, 2000.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	35.32	DEC 17	34.68	FEB 26	34.18	APR 23	35.10	JUN 24	37.43	AUG 26	36.57

WATER YEAR 2002 HIGHEST 34.18 FEB 26, 2002 LOWEST 37.43 JUN 24, 2002

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 80 ft above NGVD of 1929, 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 current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.57 ft below land-surface datum, Feb. 23, 1998; lowest measured, 9.72 ft below land-surface datum, Nov. 29, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	4.48	DEC 17	4.52	FEB 26	4.59	APR 23	4.32	JUN 24	6.04	AUG 26	3.87

WATER YEAR 2002 HIGHEST 3.87 AUG 26, 2002 LOWEST 6.04 JUN 24, 2002

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 53.06 ft above NGVD of 1929. Measuring point: Top of 6 in. casing, 3.22 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, 35.32 ft above NGVD of 1929, Jan. 25, 2000; lowest measured, 27.74 ft above NGVD of 1929, June 27, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	32.63	DEC 17	34.39	FEB 25	34.34	APR 22	31.35	JUN 24	29.38	AUG 26	31.28
NOV 20	31.78	JAN 28	35.28	MAR 25	33.08	MAY 28	28.95	JUL 30	30.68	SEP 16	32.46

WATER YEAR 2002 LOWEST 28.95 MAY 28, 2002 HIGHEST 35.28 JAN 28, 2002

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 15.3 ft above NGVD of 1929, 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, 27.50 ft above land-surface datum, Mar. 23, 1998; lowest measured, 15.50 ft above land-surface datum, July 21, 2000.

WATER-QUALITY RECORDS

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

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	-19.10	DEC 17	-19.60	FEB 26	-20.20	APR 23	-18.90	JUN 24	-17.00	AUG 26	-18.00
NOV 19	-19.20	JAN 23	-20.10	MAR 26	-21.00	MAY 28	-16.70	JUL 24	-16.80	SEP 25	-17.30

WATER YEAR 2002 HIGHEST -21.00 MAR 26, 2002 LOWEST -16.70 MAY 28, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT													
24...	0800	364	--	24.5	--	--	--	--	--	--	--	--	7.10
JAN													
23...	0830	364	--	24.0	--	--	--	--	--	--	--	--	7.10
APR													
23...	1130	361	7.4	25.0	<5	170	40.0	15.0	6.4	1.90	108	62.0	7.20
JUL													
24...	1015	363	--	25.0	--	--	--	--	--	--	--	--	7.20

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
23...	.4	17.0	233	3190

< -- Less than
Note.--Negative figures indicate water level above land surface.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	24.33	DEC 17	26.53	FEB 22	27.83	APR 23	23.34	JUN 24	22.33	AUG 26	22.33
NOV 19	26.53	JAN 29	28.23	MAR 26	27.33	MAY 28	20.83	JUL 29	23.83	SEP 23	24.13

WATER YEAR 2002 LOWEST 20.83 MAY 28, 2002 HIGHEST 28.23 JAN 29, 2002

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 22 ft above NGVD of 1929, 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, 19.10 ft above land-surface datum, Mar. 24, 1998; lowest measured, 8.10 ft above land-surface datum, July 26, 2000, June 20, 2001.

WATER-QUALITY RECORDS

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

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	-12.00	DEC 17	-13.40	FEB 25	-13.30	APR 25	-11.40	JUN 25	-9.10	AUG 26	-10.40
NOV 20	-12.70	JAN 23	-13.70	MAR 25	-12.70	MAY 28	-9.00	JUL 24	-9.30	SEP 16	-11.40

WATER YEAR 2002 HIGHEST -13.70 JAN 23, 2002 LOWEST -9.00 MAY 28, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT													
24...	1315	655	--	24.5	--	--	--	--	--	--	--	--	29.0
JAN													
23...	1400	658	--	24.0	--	--	--	--	--	--	--	--	30.0
APR													
25...	0915	657	7.0	24.0	<5	300	71.0	28.0	17.0	2.20	144	140	33.0
JUL													
24...	1300	686	--	26.0	--	--	--	--	--	--	--	--	42.0

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
25...	.7	24.0	449	3280

< -- Less than
Note.--Negative figures indicate water level above land surface.

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.

WATER-QUALITY RECORDS

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

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	32.77	DEC 17	34.62	FEB 25	34.57	APR 29	30.79	JUN 24	29.85	AUG 26	31.82
NOV 20	34.10	JAN 24	34.78	MAR 25	33.57	MAY 28	29.44	JUL 26	30.44	SEP 16	32.77

WATER YEAR 2002 LOWEST 29.44 MAY 28, 2002 HIGHEST 34.78 JAN 24, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 26...	1130	998	--	26.5	--	--	--	--	--	--	--	--	120
JAN 24...	1315	988	--	27.5	--	--	--	--	--	--	--	--	120
APR 29...	1330	1050	7.4	28.0	5	440	106	41.0	40.0	2.60	138	180	140

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR 29...	.6	24.0	654	4780

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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
23...	0920	473	--	27.5	--	--	--	--	--	--	--	--	9.70
JAN													
22...	1030	476	--	25.0	--	--	--	--	--	--	--	--	9.00
APR													
23...	1220	470	7.5	27.0	<5	220	49.0	22.0	9.6	2.40	119	100	11.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
23...	.6	19.0	314	3420

< -- Less than

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	44.79	43.59	43.88	43.68	43.46	43.81	43.21	42.22	41.76	42.35	42.59	43.04
10	44.51	43.44	44.66	43.57	43.38	43.88	43.09	42.10	41.70	42.31	42.70	43.03
15	44.28	44.45	44.67	43.72	43.28	43.76	---	42.03	41.66	42.31	42.87	43.05
20	44.07	44.40	44.28	43.77	43.19	43.55	42.54	41.98	41.56	42.26	42.90	43.00
25	43.90	44.04	44.03	43.75	43.14	43.40	42.45	41.97	42.24	42.50	42.81	43.40
EOM	43.68	43.81	43.78	43.64	43.13	43.28	42.35	41.90	42.35	42.55	42.92	43.62
MAX	45.06	44.50	44.76	43.77	43.60	43.88	43.25	42.34	42.35	42.55	42.92	43.62

CAL YR 2001 MAX 46.76
WTR YR 2002 MAX 45.06

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	39.81	38.85	39.26	39.06	39.45	39.37	38.92	37.37	36.69	37.71	37.71	38.40
10	39.59	38.71	39.71	38.95	39.24	39.55	38.72	37.16	36.88	37.51	38.04	38.33
15	39.25	39.39	40.07	39.31	39.15	39.56	38.80	37.10	36.84	37.30	38.19	38.12
20	39.07	39.75	39.95	39.57	38.95	39.15	38.61	37.50	---	37.19	38.12	38.09
25	38.90	39.55	39.70	39.73	39.07	39.09	38.05	37.49	---	37.61	37.92	38.40
EOM	38.71	39.40	39.33	39.63	39.05	38.96	37.91	37.20	37.92	37.65	38.14	38.72
MAX	40.10	39.75	40.07	39.73	39.61	39.57	38.92	37.81	37.92	37.92	38.21	38.72

CAL YR 2001 MAX 40.57
WTR YR 2002 MAX 40.10

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, 12.77 ft above NGVD of 1929, May 29, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.10	22.69	22.88	25.29	24.76	26.07	22.09	14.26	13.50	17.56	19.25	22.60
10	22.39	21.93	24.39	25.45	25.70	25.53	20.14	13.46	14.66	16.81	19.85	21.59
15	22.56	23.88	26.11	25.71	25.56	24.02	22.39	13.47	14.68	17.66	19.70	21.11
20	21.54	24.35	25.47	25.41	24.59	21.91	20.20	---	16.09	15.84	20.19	20.52
25	21.01	23.31	25.35	26.03	25.98	22.50	17.60	16.11	18.22	17.71	19.17	21.34
EOM	21.34	23.01	24.58	25.16	24.95	21.59	17.30	16.05	18.92	18.31	21.45	22.17
MAX	25.03	24.37	26.21	26.29	26.04	26.07	22.51	16.73	18.92	19.13	21.45	22.60

CAL YR 2001 MAX 26.21
WTR YR 2002 MAX 26.29

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	51.38	JAN 29	51.98	APR 23	51.92	JUN 24	49.91	SEP 16	50.53		
NOV 19	51.30	FEB 22	52.10	MAY 15	50.56	JUL 29	49.97				
DEC 17	51.73	MAR 26	52.37	28	50.24	AUG 26	50.04				

WATER YEAR 2002 LOWEST 49.91 JUN 24, 2002 HIGHEST 52.37 MAR 26, 2002

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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
23...	1420	1130	--	28.0	--	--	--	--	--	--	--	--	180
JAN													
24...	0815	1160	--	27.0	--	--	--	--	--	--	--	--	190
FEB													
27...	0920	1020	--	26.0	--	--	--	--	--	--	--	--	120
MAR													
26...	1000	1150	--	27.5	--	--	--	--	--	--	--	--	190
APR													
24...	1040	1180	7.3	28.0	<5	430	104	40.0	65.0	2.50	137	140	200
MAY													
29...	0915	1170	--	28.0	--	--	--	--	--	--	--	--	190
JUN													
25...	0800	1130	--	27.5	--	--	--	--	--	--	--	--	180
JUL													
25...	0830	1080	--	28.0	--	--	--	--	--	--	--	--	170
AUG													
27...	1315	1040	--	30.0	--	--	--	--	--	--	--	--	160
SEP													
18...	0915	1100	--	28.5	--	--	--	--	--	--	--	--	170

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
24...	.6	25.0	733	3840

< -- Less than

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 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT													
24...	1245	1010	--	27.0	--	--	--	--	--	--	--	--	130
JAN													
24...	1205	1000	--	26.0	--	--	--	--	--	--	--	--	160
APR													
24...	1000	880	7.4	25.0	<5	340	82.0	33.0	40.0	2.20	140	150	100
JUL													
23...	1330	960	--	27.0	--	--	--	--	--	--	--	--	140

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
24...	.7	24.0	541	3280

< -- Less than

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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
24...	1350	872	--	29.0	--	--	--	--	--	--	--	--	100
DEC													
04...	1335	843	--	28.0	--	--	--	--	--	--	--	--	92.0
18...	0930	786	--	26.0	--	--	--	--	--	--	--	--	70.0
JAN													
24...	1400	886	--	28.0	--	--	--	--	--	--	--	--	110
FEB													
27...	0910	891	--	24.0	--	--	--	--	--	--	--	--	110
MAR													
26...	0945	841	--	26.5	--	--	--	--	--	--	--	--	88.0
APR													
24...	1115	1090	7.4	27.5	<5	410	99.0	38.0	55.0	2.30	137	140	170
MAY													
29...	0940	1200	--	28.0	--	--	--	--	--	--	--	--	210
JUN													
25...	0910	1000	--	28.0	--	--	--	--	--	--	--	--	150
JUL													
25...	0915	1030	--	28.0	--	--	--	--	--	--	--	--	150
AUG													
28...	0900	1020	--	27.5	--	--	--	--	--	--	--	--	150
SEP													
18...	0940	1050	--	28.0	--	--	--	--	--	--	--	--	160

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
24...	.6	24.0	657	3750

< -- Less than

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", in 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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
24...	1340	838	--	28.5	--	--	--	--	--	--	--	--	94.0
DEC													
04...	1330	865	--	28.0	--	--	--	--	--	--	--	--	99.0
18...	0920	866	--	27.0	--	--	--	--	--	--	--	--	100
JAN													
24...	1345	874	--	28.0	--	--	--	--	--	--	--	--	110
FEB													
27...	0900	878	--	27.0	--	--	--	--	--	--	--	--	110
MAR													
26...	0930	888	--	28.5	--	--	--	--	--	--	--	--	110
APR													
24...	1050	880	7.4	28.0	<5	350	86.0	32.0	37.0	2.20	138	140	110
MAY													
29...	0930	904	--	27.5	--	--	--	--	--	--	--	--	110
JUN													
25...	0855	941	--	28.0	--	--	--	--	--	--	--	--	130
JUL													
25...	0900	915	--	27.5	--	--	--	--	--	--	--	--	120
AUG													
27...	1330	934	--	28.0	--	--	--	--	--	--	--	--	120
SEP													
18...	0930	946	--	27.5	--	--	--	--	--	--	--	--	120

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
24...	.6	24.0	566	3400

< -- Less than

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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC													
04...	1315	680	--	26.0	--	--	--	--	--	--	--	--	34.0
18...	0910	630	--	26.0	--	--	--	--	--	--	--	--	31.0
JAN													
24...	0820	658	--	25.0	--	--	--	--	--	--	--	--	28.0
FEB													
25...	1300	662	--	26.0	--	--	--	--	--	--	--	--	24.0
MAR													
26...	1015	665	--	26.5	--	--	--	--	--	--	--	--	29.0
APR													
23...	1330	660	7.4	27.0	<5	300	74.0	28.0	16.0	2.10	136	160	29.0
MAY													
29...	1000	662	--	27.0	--	--	--	--	--	--	--	--	29.0
JUN													
25...	0815	644	--	27.0	--	--	--	--	--	--	--	--	30.0
JUL													
25...	0845	662	--	26.5	--	--	--	--	--	--	--	--	30.0
AUG													
27...	1300	662	--	30.0	--	--	--	--	--	--	--	--	30.0
SEP													
18...	0845	664	--	27.0	--	--	--	--	--	--	--	--	30.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
23...	.7	23.0	452	3410

< -- Less than

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	27.38	DEC 17	29.58	FEB 22	29.47	APR 23	26.38	JUN 24	24.88	AUG 26	25.38
NOV 19	29.08	JAN 29	31.18	MAR 26	29.38	MAY 28	23.38	JUL 29	25.38	SEP 23	26.18

WATER YEAR 2002 LOWEST 23.38 MAY 28, 2002 HIGHEST 31.18 JAN 29, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	25.93	DEC 18	27.93	FEB 25	28.63	APR 23	25.93	JUN 24	23.23	AUG 26	23.13
NOV 21	27.13	JAN 28	28.83	MAR 25	27.73	MAY 29	23.53	JUL 29	23.53	SEP 18	24.63

WATER YEAR 2002 LOWEST 23.13 AUG 26, 2002 HIGHEST 28.83 JAN 28, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	25.86	DEC 17	29.66	FEB 25	28.86	APR 23	24.06	JUN 24	22.96	AUG 26	25.46
NOV 20	28.16	JAN 29	30.06	MAR 25	28.06	MAY 28	20.66	JUL 30	24.56	SEP 23	27.66

WATER YEAR 2002 LOWEST 20.66 MAY 28, 2002 HIGHEST 30.06 JAN 29, 2002

WELL NUMBER.--301957081342301. Local Number D-313. Jacksonville Suburban Utilities Well at Jacksonville, FL.

LOCATION.--Lat 30°19'57", long 81°34'23", in land grant 52, T.2 S., R.26 E., Hydrologic Unit 03080103, located at Alderman Park pumping station on Carlotta Road North, 1 block east of intersection of Townsend Boulevard and Carlotta Road North, in Alderman Park area of Jacksonville. Owner: United Water of Florida.

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

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 8 in., depth 1,150 ft, cased to 576 ft.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
26...	0900	1010	--	27.0	--	--	--	--	--	--	--	--	150
JAN													
28...	0930	1010	--	27.0	--	--	--	--	--	--	--	--	150
APR													
29...	1415	1000	7.4	28.0	<5	380	93.0	35.0	50.0	2.00	144	120	150
JUL													
26...	1015	1020	--	27.5	--	--	--	--	--	--	--	--	160

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
29...	.6	26.0	627	2610

< -- Less than

DUVAL COUNTY--Continued

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 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT				
23...	1130	976	28.0	140
JAN				
24...	0840	998	28.0	150
JUL				
24...	1330	992	28.0	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 pumphouse 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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
23...	1140	1080	--	28.0	--	--	--	--	--	--	--	--	170
DEC													
04...	1245	1070	--	27.5	--	--	--	--	--	--	--	--	170
18...	0830	1080	--	27.0	--	--	--	--	--	--	--	--	170
MAR													
26...	1035	1060	--	28.0	--	--	--	--	--	--	--	--	170
APR													
24...	0915	1060	7.3	27.5	<5	410	101	37.0	46.0	2.20	143	130	170
MAY													
29...	0900	1100	--	27.5	--	--	--	--	--	--	--	--	180
JUL													
24...	1350	1110	--	30.0	--	--	--	--	--	--	--	--	180
AUG													
27...	1215	1100	--	29.0	--	--	--	--	--	--	--	--	180
SEP													
18...	0800	1110	--	28.0	--	--	--	--	--	--	--	--	180

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
24...	.6	26.0	665	2900

< -- Less than

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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
23...	0945	507	--	28.0	--	--	--	--	--	--	--	--	16.0
JAN													
22...	1000	541	--	27.0	--	--	--	--	--	--	--	--	15.0
APR													
23...	1040	538	6.9	28.0	<5	250	62.0	22.0	12.0	1.80	146	100	16.0
JUL													
23...	0900	499	--	29.0	--	--	--	--	--	--	--	--	16.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
23...	.7	25.0	362	2350

< -- Less than

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 3 ft above NGVD of 1929, 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, 32.70 ft above land-surface datum, Mar. 23, 1998; lowest measured, 17.00 ft above land-surface datum, July 25, 2000.

WATER-QUALITY RECORDS

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

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	-22.40	DEC 17	-25.60	FEB 25	-23.40	APR 23	-23.40	JUN 24	-22.70	AUG 26	-22.30
NOV 19	-25.90	JAN 23	-26.70	MAR 25	-24.00	MAY 28	-21.30	JUL 24	-23.80	SEP 17	-24.70

WATER YEAR 2002 HIGHEST -26.70 JAN 23, 2002 LOWEST -21.30 MAY 28, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT													
24...	0840	630	--	25.0	--	--	--	--	--	--	--	--	12.0
JAN													
23...	0900	626	--	24.0	--	--	--	--	--	--	--	--	12.0
APR													
23...	1000	621	7.0	25.0	5	300	74.0	27.0	10.0	2.10	135	170	13.0
JUL													
24...	0930	620	--	26.0	--	--	--	--	--	--	--	--	13.0

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
23...	.7	21.0	432	3740

Note.--Negative figures indicate water level above land surface.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	20.76	DEC 18	22.07	FEB 25	21.90	APR 22	20.31	JUN 24	18.18	SEP 16	20.75
NOV 20	21.76	JAN 29	22.04	MAR 25	21.25	MAY 28	18.22	AUG 27	20.50		

WATER YEAR 2002 LOWEST 18.18 JUN 24, 2002 HIGHEST 22.07 DEC 18, 2001

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 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT													
23...	1000	542	--	24.5	--	--	--	--	--	--	--	--	13.0
JAN													
22...	0915	540	--	21.0	--	--	--	--	--	--	--	--	13.0
APR													
22...	1015	550	7.1	27.5	<5	260	66.0	22.0	11.0	1.70	138	120	13.0
JUL													
23...	1010	549	--	28.0	--	--	--	--	--	--	--	--	13.0

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
22...	.7	23.0	374	2400

< -- Less than

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	40.20	DEC 17	41.10	FEB 25	35.80	APR 23	31.60	JUN 24	36.50	AUG 26	39.50
NOV 19	41.00	JAN 28	25.70	MAR 25	33.10	MAY 28	36.60	JUL 30	39.60	SEP 25	41.00

WATER YEAR 2002 LOWEST 25.70 JAN 28, 2002 HIGHEST 41.10 DEC 17, 2001

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 10 ft above NGVD of 1929, 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, 33.90 ft above land-surface datum, Mar. 23, 1998; lowest measured, 22.70 ft above land-surface datum, July 25, 2000.

WATER-QUALITY RECORDS

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

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	-26.10	DEC 17	-26.70	FEB 25	-27.00	APR 23	-26.20	JUN 24	-23.40	AUG 26	-24.00
NOV 19	-26.40	JAN 23	-27.00	MAR 25	-26.00	MAY 28	-23.80	JUL 24	-23.70	SEP 16	-25.10

WATER YEAR 2002 HIGHEST -27.00 JAN 23, 2002 FEB 25, 2002 LOWEST -23.40 JUN 24, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
JAN													
23...	0920	620	--	24.0	--	--	--	--	--	--	--	--	11.0
APR													
23...	0830	610	7.3	25.0	5	290	73.0	25.0	10.0	1.70	131	160	12.0
JUL													
24...	0900	610	--	25.5	--	--	--	--	--	--	--	--	12.0

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
APR				
23...	.6	22.0	426	2700

Note.--Negative figures indicate water level above land surface.

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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
23...	1045	488	--	27.0	--	--	--	--	--	--	--	--	14.0
JAN													
22...	0930	485	--	26.0	--	--	--	--	--	--	--	--	13.0
APR													
23...	0930	483	7.4	25.0	<5	220	55.0	20.0	11.0	1.50	147	80.0	14.0
JUL													
23...	1100	480	--	28.0	--	--	--	--	--	--	--	--	14.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
23...	.6	24.0	304	1370

< -- Less than

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.06	9.23	9.19	9.46	9.49	9.86	9.19	8.58	8.04	9.37	8.67	10.25
10	9.86	9.10	9.78	9.35	9.39	9.89	9.08	8.47	7.95	9.18	8.66	9.95
15	9.71	9.57	10.11	9.71	9.30	9.70	9.08	8.35	7.87	9.03	8.74	9.71
20	9.56	9.63	9.91	9.82	9.20	9.49	8.96	8.29	8.25	8.83	8.66	9.58
25	9.46	9.47	9.71	9.73	9.17	9.35	8.84	8.25	9.75	8.73	8.68	10.84
EOM	9.30	9.29	9.52	9.62	9.16	9.26	8.72	8.14	9.67	8.63	9.74	10.91
MAX	10.28	9.63	10.11	9.82	9.61	9.91	9.24	8.69	9.76	9.63	9.74	11.05

CAL YR 2001 MAX 10.79
WTR YR 2002 MAX 11.05

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.87	7.36	7.23	7.29	7.17	7.37	7.17	6.65	6.44	7.09	6.88	7.87
10	7.77	7.24	7.55	7.15	7.14	7.35	7.07	6.57	6.43	7.08	6.90	7.70
15	7.64	7.62	7.75	7.33	7.12	7.28	7.07	6.50	6.33	6.97	6.98	7.59
20	7.60	7.59	7.60	7.32	7.04	---	6.95	6.60	6.59	6.80	6.82	7.48
25	7.49	7.41	7.45	7.29	7.12	7.21	6.89	6.59	7.42	6.77	6.92	8.38
EOM	7.38	7.30	7.35	7.26	7.04	7.18	6.80	6.54	7.32	6.69	7.54	8.44
MAX	8.01	7.66	7.77	7.37	7.26	7.41	7.17	6.75	7.45	7.29	7.54	8.44

CAL YR 2001 MAX 8.13
WTR YR 2002 MAX 8.44

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	33.57	JAN 28	34.87	APR 22	33.87	JUN 24	31.27	SEP 17	32.87		
NOV 19	34.17	FEB 25	34.67	MAY 13	31.27	JUL 29	31.37				
DEC 17	34.57	MAR 25	34.47	28	31.07	AUG 26	31.67				

WATER YEAR 2002 LOWEST 31.07 MAY 28, 2002 HIGHEST 34.87 JAN 28, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	28.35	JAN 30	30.15	MAY 14	23.75	AUG 05	26.15				
DEC 07	28.05	MAR 11	29.45	JUN 17	22.15	SEP 16	28.15				

WATER YEAR 2002 LOWEST 22.15 JUN 17, 2002 HIGHEST 30.15 JAN 30, 2002

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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
23...	1240	577	--	25.0	--	--	--	--	--	--	--	--	14.0
JAN													
22...	1330	577	--	24.0	--	--	--	--	--	--	--	--	14.0
APR													
22...	1420	573	7.3	27.0	<5	270	62.0	28.0	11.0	1.80	132	140	15.0
JUL													
23...	1245	568	--	26.0	--	--	--	--	--	--	--	--	15.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
22...	.7	24.0	376	1560

< -- Less than

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.53	38.51	38.48	38.96	39.27	39.31	39.19	37.51	35.84	36.12	36.52	37.07
10	38.38	38.34	38.78	38.81	39.46	39.51	39.00	36.99	35.71	36.15	36.50	37.15
15	38.57	38.62	38.82	38.99	39.43	39.72	39.06	36.56	35.75	36.18	36.51	37.15
20	38.47	38.70	38.98	39.11	39.43	39.60	38.92	36.44	35.40	36.00	36.72	37.32
25	38.50	38.69	39.12	39.30	39.38	39.50	38.57	36.42	35.81	36.13	36.72	37.49
EOM	38.25	38.64	39.10	39.30	39.25	39.43	38.30	36.24	35.96	36.42	36.78	37.55
MAX	38.65	38.71	39.18	39.30	39.51	39.82	39.42	38.21	36.19	36.42	36.78	37.66

CAL YR 2001 MAX 39.18
WTR YR 2002 MAX 39.82

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	41.23	41.14	41.02	41.42	41.78	41.82	41.68	39.97	38.32	---	39.33	40.01
10	41.07	40.94	41.30	41.29	41.99	42.09	41.46	39.48	38.29	---	39.31	40.05
15	41.22	41.24	41.36	41.46	41.93	42.25	41.53	39.07	38.26	---	39.32	40.10
20	41.12	41.30	41.45	41.62	41.90	42.09	41.36	38.95	37.85	---	39.44	40.27
25	41.10	41.25	41.63	41.88	41.87	42.03	41.02	38.90	38.44	---	39.44	40.42
EOM	40.87	41.17	41.56	41.87	41.67	41.90	40.74	38.75	---	39.09	39.68	40.46
MAX	41.33	41.30	41.68	41.90	42.06	42.35	41.89	40.65	38.66	39.09	39.68	40.57

CAL YR 2001 MAX 41.68
WTR YR 2002 MAX 42.35

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974, 1976, 1979 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	31.63	JAN 23	31.23	APR 25	29.93	JUL 25	29.23

WATER YEAR 2002 LOWEST 29.23 JUL 25, 2002 HIGHEST 31.63 OCT 24, 2001

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 24...	1030	412	25.0	31.0
JAN 23...	1130	547	23.0	33.0
APR 25...	1130	494	25.0	33.0
JUL 25...	1110	452	26.5	33.0

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 ft above NGVD of 1929, from topographic map. Measuring point: Top of 16 in. flange, 1.15 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, 38.35 ft above land-surface datum, Jan. 28, 1999; lowest measured, 17.00 ft above land-surface datum, July 24, 1981.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
JAN					
23...	1120	-32.75	519	28.0	20.0
APR					
25...	1110	-37.75	516	29.0	21.0
JUL					
25...	1100	--	518	29.0	21.0

Note.--Negative figures indicate water level above land surface.

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979 to current year.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
JAN					
23...	1105	45.48	592	27.0	39.0
JUL					
25...	1045	--	592	28.5	40.0

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979 to current year.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT					
24...	1015	43.35	528	26.0	22.0
JAN					
23...	1055	47.15	526	26.5	22.0
APR					
25...	1050	--	537	28.0	25.0
JUL					
25...	1040	--	525	28.5	22.0

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, 50.96 ft above NGVD of 1929, July 22, 1997; lowest measured, 30.26 ft above NGVD of 1929, July 24, 1981.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to current year.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT					
24...	1000	44.36	502	26.5	22.0
JAN					
23...	1045	50.16	488	22.0	23.0
APR					
25...	1035	49.76	528	28.0	23.0
JUL					
25...	1020	--	532	26.0	24.0

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 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
JAN 24...	0915	520	22.0	19.0

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.99	25.39	27.39	26.49	28.29	28.59	25.89	22.89	22.83	---	24.69	27.19
10	25.99	25.39	27.99	25.89	28.29	28.29	25.29	20.49	22.50	---	24.99	26.59
15	23.34	26.19	27.39	26.59	27.69	26.19	25.89	23.34	22.89	---	16.59	24.24
20	25.29	26.39	27.39	28.59	27.39	28.19	27.99	23.64	15.96	---	24.09	25.79
25	25.59	26.19	27.59	27.09	27.79	28.89	24.09	24.39	21.48	---	18.69	25.89
EOM	24.79	27.09	27.09	27.09	26.79	27.59	25.59	23.76	---	22.59	23.79	24.12
MAX	29.59	28.29	27.99	28.59	28.99	31.19	27.99	25.54	23.10	22.59	26.19	27.39

CAL YR 2001 MAX 29.59
WTR YR 2002 MAX 31.19

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 20 ft above NGVD of 1929, 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, 26.00 ft above land-surface datum, Jan. 25,1995; lowest measured, 11.90 ft above land-surface datum, July 26, 2000.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1987, 1990 to current year.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	-16.00	JAN 23	-16.80	APR 25	-15.00	JUL 25	-13.90
WATER YEAR 2002		HIGHEST	-16.80	JAN 23, 2002		LOWEST	-13.90 JUL 25, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
24...	1100	1640	--	24.0	--	--	--	--	--	--	--	--	390
JAN													
23...	1250	1710	--	19.0	--	--	--	--	--	--	--	--	400
APR													
25...	1200	1620	7.1	25.0	5	340	51.0	51.0	170	3.70	51	110	400
JUL													
25...	1350	1580	--	24.0	--	--	--	--	--	--	--	--	400

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
25...	.4	2.50	904	1570

Note.--Negative figures indicate water level above land surface.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	33.62	DEC 17	34.62	FEB 25	34.72	APR 22	33.92	JUN 24	31.32	AUG 26	31.92
NOV 19	34.12	JAN 28	34.82	MAR 25	34.62	MAY 28	31.52	JUL 29	31.62	SEP 16	32.82

WATER YEAR 2002 LOWEST 31.32 JUN 24, 2002 HIGHEST 34.82 JAN 28, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	34.86	DEC 17	35.76	FEB 25	35.76	APR 22	35.06	JUN 24	32.26	AUG 26	33.06
NOV 19	35.36	JAN 28	36.06	MAR 25	35.76	MAY 28	32.26	JUL 29	32.76	SEP 16	34.06

WATER YEAR 2002 LOWEST 32.26 MAY 28, 2002 JUN 24, 2002 HIGHEST 36.06 JAN 28, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	33.67	JAN 28	34.77	APR 22	33.67	JUN 24	31.07	SEP 16	32.87		
NOV 19	33.97	FEB 25	34.57	MAY 13	31.07	JUL 29	31.27				
DEC 17	34.47	MAR 25	34.37	28	31.27	AUG 26	31.67				

WATER YEAR 2002 LOWEST 31.07 MAY 13, 2002 JUN 24, 2002 HIGHEST 34.77 JAN 28, 2002

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.

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-79, 1985 to current year (quarterly).

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	32.17	JAN 23	33.27	APR 25	31.27	MAY 13	30.07	JUL 25	30.67	SEP 16	33.07

WATER YEAR 2002 LOWEST 30.07 MAY 13, 2002 HIGHEST 33.27 JAN 23, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
24...	1130	492	--	24.0	--	--	--	--	--	--	--	--	19.0
JAN													
23...	1200	488	--	24.0	--	--	--	--	--	--	--	--	19.0
APR													
25...	1300	494	7.2	26.0	<5	220	48.0	23.0	16.0	1.90	154	67.0	22.0
JUL													
25...	1315	492	--	25.0	--	--	--	--	--	--	--	--	20.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
25...	.7	28.0	319	410

< -- Less than

DUVAL COUNTY--Continued

WELL NUMBER.--302801081375101. Local Number D-145. Duval County School Board Observation Well at Oceanway, FL.

LOCATION.--Lat 30°28'01", long 81°37'51", in land grant 37, T.1 N., R.27 E., Hydrologic Unit 03080103, at Oceanway School on Oceanway Avenue, and 600 ft east of U.S. Highway 17 in Oceanway. Owner: Duval County School Board.

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

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 2 in., depth unknown, cased to 538 ft.

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

DATUM.--Land-surface datum is 34.79 ft above NGVD of 1929. Measuring point: Top of 1 in. plug, 1.65 ft above land-surface datum.

PERIOD OF RECORD.--July 1940 to September 1978 (semiannually); February 1979 to March 1981 (bimonthly); May 1981 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 58.99 ft above NGVD of 1929, June 3, 1947; lowest measured, 30.74 ft above NGVD of 1929, July 24, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	34.36	DEC 17	35.31	FEB 25	35.57	APR 22	34.51	JUN 24	31.66	AUG 26	32.74
NOV 19	34.83	JAN 28	35.63	MAR 25	35.30	MAY 28	31.85	JUL 29	32.26	SEP 16	33.51

WATER YEAR 2002 LOWEST 31.66 JUN 24, 2002 HIGHEST 35.63 JAN 28, 2002

DUVAL COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
300824081305401	05-14-02	1100	D-0169 POWEL AT BAYARD, FL	32.17
	09-17-02	1200		36.97
300926081343002	05-14-02	1450	D-1313 GREENLAND PINES AT GREENLAND,FL	24.96
	09-16-02	1550		34.30
301157081465201	05-14-02	1530	D-1292 INDIAN TRAILS AT JACKSONVILLE,FL	32.23
	09-16-02	1440		34.64
301333081324101	05-15-02	1315	D-2847 GOLF COURSE AT DEERWOOD, FL	15.67
	09-18-02	1405		25.49
301339081531203	05-16-02	0910	D-0326 J-0391	30.87
	09-18-02	1300		41.71
301434082021401	05-15-02	1130	D-0085 J-0149 OIL TEST SITE,E.FIVETONE RD,JAX FL	48.99
	09-18-02	1230		48.69
301617081421601	05-13-02	1205	D-0115 J-0179	21.65
	09-17-02	1040		25.85
301749081384602	05-16-02	0930	D-1782 J-1819	28.85
	09-18-02	1015		35.15
302330081463001	05-14-02	1605	D-0420 J-0487 WING-LEE FARM; JAX, FL.	35.42
302339081254702	05-15-02	0845	D-464A J-0531 1459 JULIA ST; MAYPORT, FL.	28.18
	09-18-02	1040		30.68
302502081321001	05-13-02	1100	D-0270 J-0335 5186 HECKSHER DR, JAX, FL.	28.85
	09-16-02	1110		31.65
302521081455601	05-13-02	0905	D-1309 DINSMORE ELEM SCHOOL NR DINSMORE,FL	33.90
	09-16-02	0850		34.08
302538081253101	05-13-02	1355	D-164 J-228 GOLF COURSE @ FT. GEORGE ISLAND, FL.	33.01
303209081371801	05-13-02	1000	TISONIA FIRETOWER NR JACKSONVILLE,FL	29.28
	09-16-02	0940		30.68
303216081433301	05-15-02	1020	D-0401 J-0468 DUVAL COUNTY PRISON FARM; JAX, FL.	32.97
	09-16-02	1325		34.47

KEY TO SITE LOCATIONS ON FIGURE 9
FLAGLER COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	291625081092001	106
2	291658081110401	106
3	292604081062401	107
4	292750081152001	107

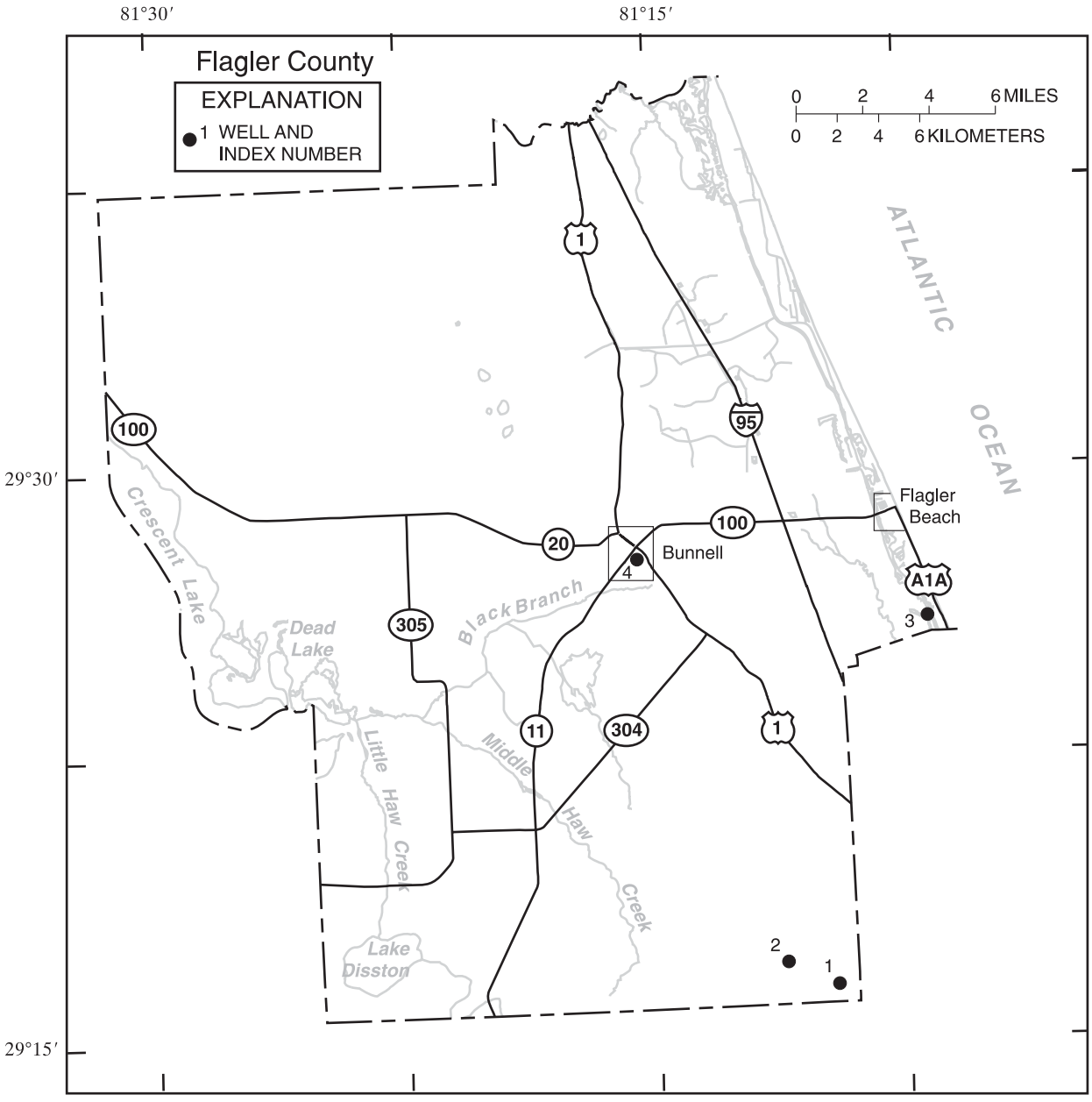

Figure 9.--Location of wells in Flagler County.

FLAGLER COUNTY

WELL NUMBER.--291625081092001. F-0286 Ormond Beach Flagler 2 at Ormond Beach, FL.

LOCATION.--Lat 29°16'25", long 81°09'19", in SE¼SW¼SE¼ sec.22, T.14 S., R.31 E., Hydrologic Unit 03080201, on southside of Airport Road, 1.7 mi west of Timber Creek Road, 1.4 mi north of State Highway 40, 0.8 mi west of I-95. Owner: City of Ormond Beach.

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

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 270 ft, cased to 90 ft.

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

DATUM.--Elevation of land-surface datum is 28.34 ft above NGVD of 1929. Measuring point: Top of threaded flange, 0.23 ft below land-surface datum.

PERIOD OF RECORD.--May 1995 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.44 ft above NGVD of 1929, Oct. 25, 2001; lowest measured, 5.42 ft above NGVD of 1929, May 12, 1997.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	15.44	DEC 19	14.60	FEB 25	11.21	SEP 16	14.75				
NOV 26	14.65	JAN 28	11.67	MAY 13	6.21						

WATER YEAR 2002 LOWEST 6.21 MAY 13, 2002 HIGHEST 15.44 OCT 25, 2001

WELL NUMBER.--291658081110401. F-0285 Ormond Beach Flagler 1 at Ormond Beach, FL.

LOCATION.--Lat 29°16'58", long 81°11'04", in SE¼SE¼SE¼ sec.17, T.14 S., R.31 E., Hydrologic Unit 03080201, approximately 2 mi north of State Highway 40, in the Hull Cypress Swamp, 8.6 mi east of Highway 11. Owner: City of Ormond Beach.

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

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 247 ft, cased to 180 ft.

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

DATUM.--Elevation of land-surface datum is 29.64 ft above NGVD of 1929. Measuring point: Top of threaded flange, 1.24 ft above land-surface datum.

PERIOD OF RECORD.--May 2000 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.44 ft above NGVD of 1929, Nov. 26, 2001; lowest measured, 12.68 ft above NGVD of 1929, May 22, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	17.25	DEC 19	17.19	FEB 25	16.38	SEP 16	16.92				
NOV 26	17.44	JAN 28	16.64	MAY 13	12.80						

WATER YEAR 2002 LOWEST 12.80 MAY 13, 2002 HIGHEST 17.44 NOV 26, 2001

FLAGLER COUNTY--Continued

WELL NUMBER.--292604081062401. F-0174 SJRWMD Shallow Well.

LOCATION.--Lat 29°26'04", long 81°06'24", in SE¼SE¼NE¼ sec.30, T.12 S., R.32 E., Hydrologic Unit 03080201, behind small hill, on the west side of A1A, 3 mi south of Highway 100. Owner: St. Johns River Water Management District.

AQUIFER.--Nonartesian sand and shell of the Surficial Aquifer System, Geologic Unit 112 SDGV.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 2 in., depth 118 ft, cased to 110 ft.

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

DATUM.--Elevation of land-surface datum is 16.64 ft above NGVD of 1929. Measuring point: File marks on top of PVC casing, 1.23 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to September 2002 (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.64 ft above NGVD of 1929, Oct. 2, 1978; lowest measured, 1.72 ft above NGVD of 1929, April 24, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	6.09	DEC 19	6.70	FEB 25	7.49	SEP 16	5.83				
NOV 26	6.02	JAN 28	5.95	MAY 13	2.43						

WATER YEAR 2002 LOWEST 2.43 MAY 13, 2002 HIGHEST 7.49 FEB 25, 2002

WELL NUMBER.--292750081152001. USGS Well Flagler 14 at Bunnell, FL.

LOCATION.--Lat 29°27'50", long 81°15'20", in NE¼ 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 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	15.21	JAN 28	13.85	APR 17	12.27	JUN 21	11.42	SEP 16	13.99		
NOV 27	14.49	FEB 27	13.78	MAY 13	10.70	JUL 31	13.60	25	14.42		
DEC 18	14.35	MAR 18	13.34	23	10.46	AUG 26	14.04				

WATER YEAR 2002 LOWEST 10.46 MAY 23, 2002 HIGHEST 15.21 OCT 23, 2001

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

FLAGLER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
291818081190401	05-13-02	0850	RELAY TOWER DEEP WELL (F0251)	14.12
	09-16-02	1030		17.97
291913081224201	05-15-02	0925	F-0257 STRAWN WELL NR DEANVILLE,FL	13.03
	09-16-02	1135		22.52
291955081200901	05-13-02	0905	91912003 13S29E36	8.62
	09-16-02	1105		12.71
292302081155901	05-13-02	0947	SR304 WELL AT SWEETWATER BRANCH	11.34
	09-16-02	1245		15.31
292603081082502	05-13-02	1115	F-176 BULLOW RUINS	4.84
	09-16-02	1325		8.61
292647081182001	05-13-02	1218	92611803 12S30E19	6.01
	09-17-02	0720		10.09
292757081222801	05-13-02	1238	F-0353 WESTSIDE BAPTIST NR BIMINI,FL	3.14
	09-17-02	0740		12.17
293313081132402	05-14-02	0718	SJ F158 11S31E18 ITTPALMCOASTSTJOEGRADE LW-11	10.58
	09-17-02	1050		14.18
293344081232401	05-13-02	1326	F-0294(REP.F-204)TIGER ISLAND DEEP	11.62
	09-17-02	0820		15.94
293529081191701	05-14-02	1135	SJ F165 10S30E31 PALMCOASTITT-LW-20 WESTBOUNDR	11.78
	09-17-02	1000		15.51
293754081121901	05-14-02	0750	SJ F200 10S31E WASHINGTONOAKSPARKWEATHERSTA	11.66
	09-16-02	1435		16.29

KEY TO SITE LOCATIONS ON FIGURE 10
GLADES COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	265529081185201	112
2	271150081054401	112

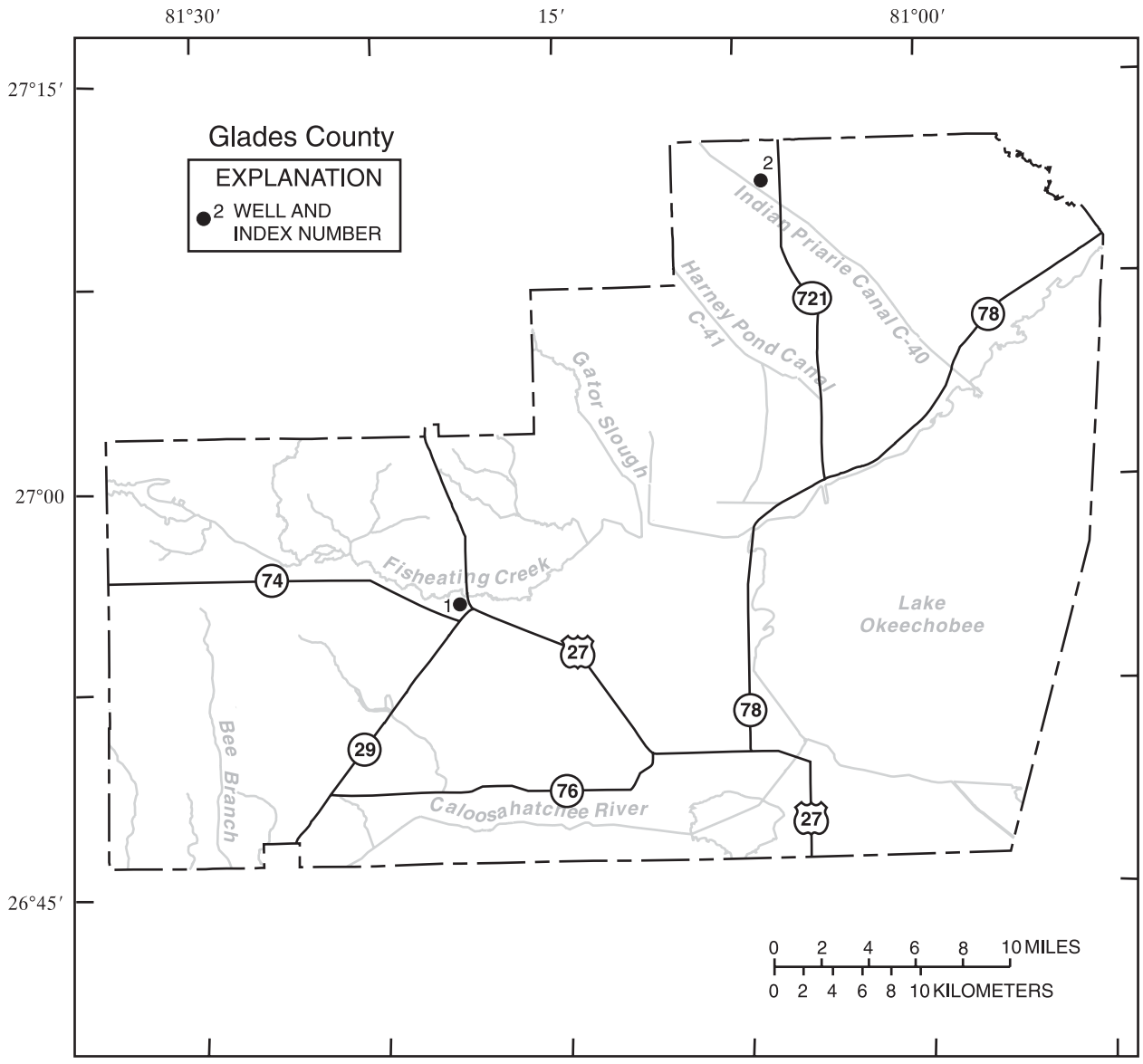

Figure 10.--Location of wells in Glades County.

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 ¾ 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	41.79	MAY 01	38.67	MAY 13	38.42	JUL 03	41.22	AUG 27	41.82	SEP 16	41.73

WATER YEAR 2002 LOWEST 38.42 MAY 13, 2002 HIGHEST 41.82 AUG 27, 2002

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. casing, 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 15	46.95	MAR 11	47.15	MAY 13	43.55	AUG 27	48.25				
JAN 15	46.45	APR 30	44.55	JUL 03	46.65	SEP 16	50.75				

WATER YEAR 2002 LOWEST 43.55 MAY 13, 2002 HIGHEST 50.75 SEP 16, 2002

GLADES COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
265452081165401	05-13-02	1507	65411601 41S30E12 CLEMONS PALMDALE	47.60
	09-16-02	1324		50.80

KEY TO SITE LOCATIONS ON FIGURE 11
HERNANDO COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	283537082151501	116
2	283840082154801	116

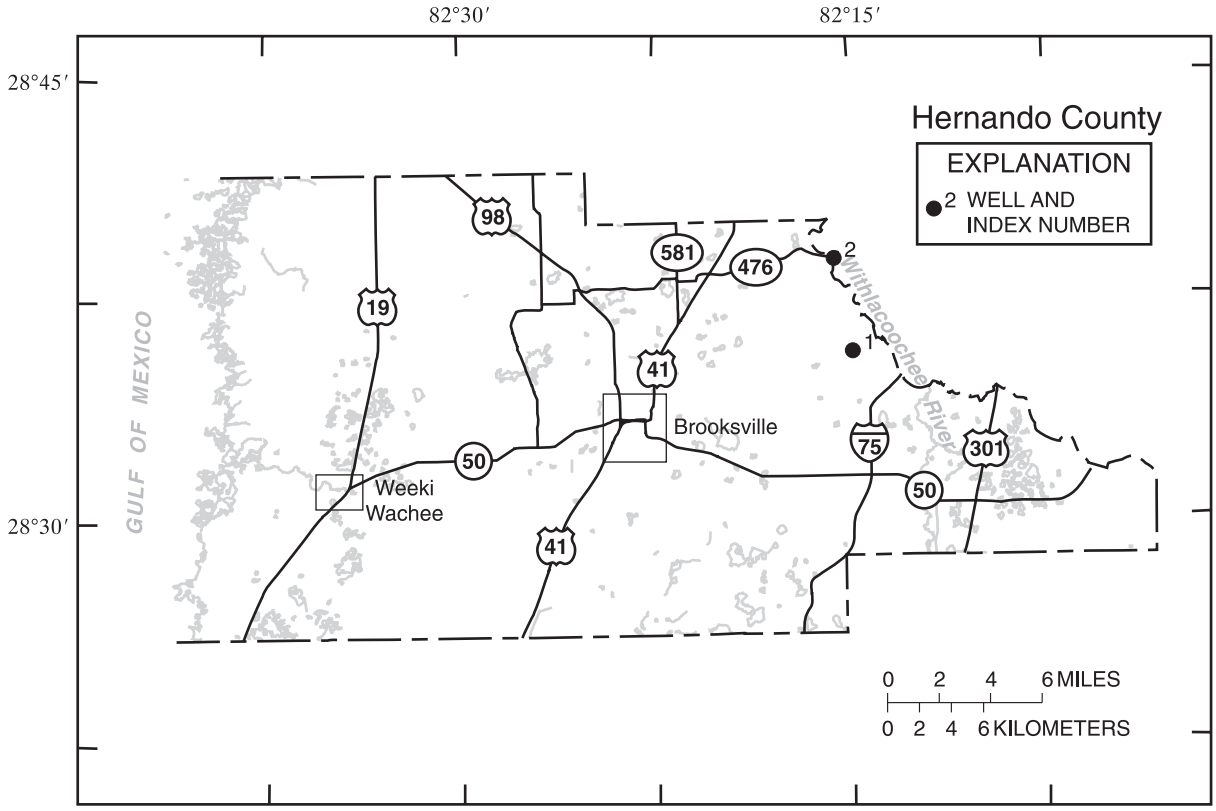

Figure 11.--Location of wells in Hernando County.

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 current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 48.95 ft above NGVD of 1929, Oct. 14, 1982; lowest, 33.80 ft above NGVD of 1929, June 21, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	40.46	JAN 29	38.57	APR 23	37.31	JUN 21	35.93	SEP 18	43.30		
NOV 28	39.75	FEB 26	38.12	MAY 15	36.68	JUL 30	39.97				
DEC 20	39.20	MAR 26	37.84	29	36.32	AUG 27	42.34				

WATER YEAR 2002 LOWEST 35.93 JUN 21, 2002 HIGHEST 43.30 SEP 18, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 15	39.08	MAR 15	37.67	MAY 15	36.12	SEP 05	42.26				
JAN 17	38.25	MAY 07	36.44	JUL 10	38.20	18	42.76				

WATER YEAR 2002 LOWEST 36.12 MAY 15, 2002 HIGHEST 42.76 SEP 18, 2002

HERNANDO COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
282620082193801	05-16-02	1155	82621901	68.12
	09-19-02	0855		72.80
282839082190801	05-16-02	1120	82821901 RUSSELL BLACKETT LAKE NEFF	69.04
	09-19-02	0925		80.43
282851082035301	05-16-02	1355	82820301 23S22E13 E H BOYETTE	80.47
	09-18-02	1800		85.17
283001082064702	05-16-02	1305	83020602 23S22E09 WSF-RICHLOAM FIRE TOWER	69.03
	09-18-02	1740		75.54
283036082105501	05-16-02	1240	83021001 23S21E02 830210133 RIDGE MANOR NO 1	47.82
	09-18-02	1655		56.80
283508082215101	05-16-02	1030	83522101 22S19E12 CLARENCE SMITH	33.75
	09-18-02	1055		38.43
283510082133701	05-15-02	1910	CROOM RR SIDING WELL NR CROOM,FL	38.20
	09-18-02	1640		45.45
283613082184301	05-15-02	1800	83621801 22S20E04 DELMAS C NIX	32.46
	09-18-02	1030		38.14
283806082214801	05-16-02	0850	83822101 21S19E25 EDEN CHRISTIAN SCHOOL	29.94
	09-18-02	1120		33.53
283957082181001	05-15-02	1650	83921801 21S20E16 W A BLIZZARD	29.90
	09-18-02	1215		34.85

KEY TO SITE LOCATIONS ON FIGURE 12
HIGHLANDS COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	270157081203101	120
2	272504081120101	120

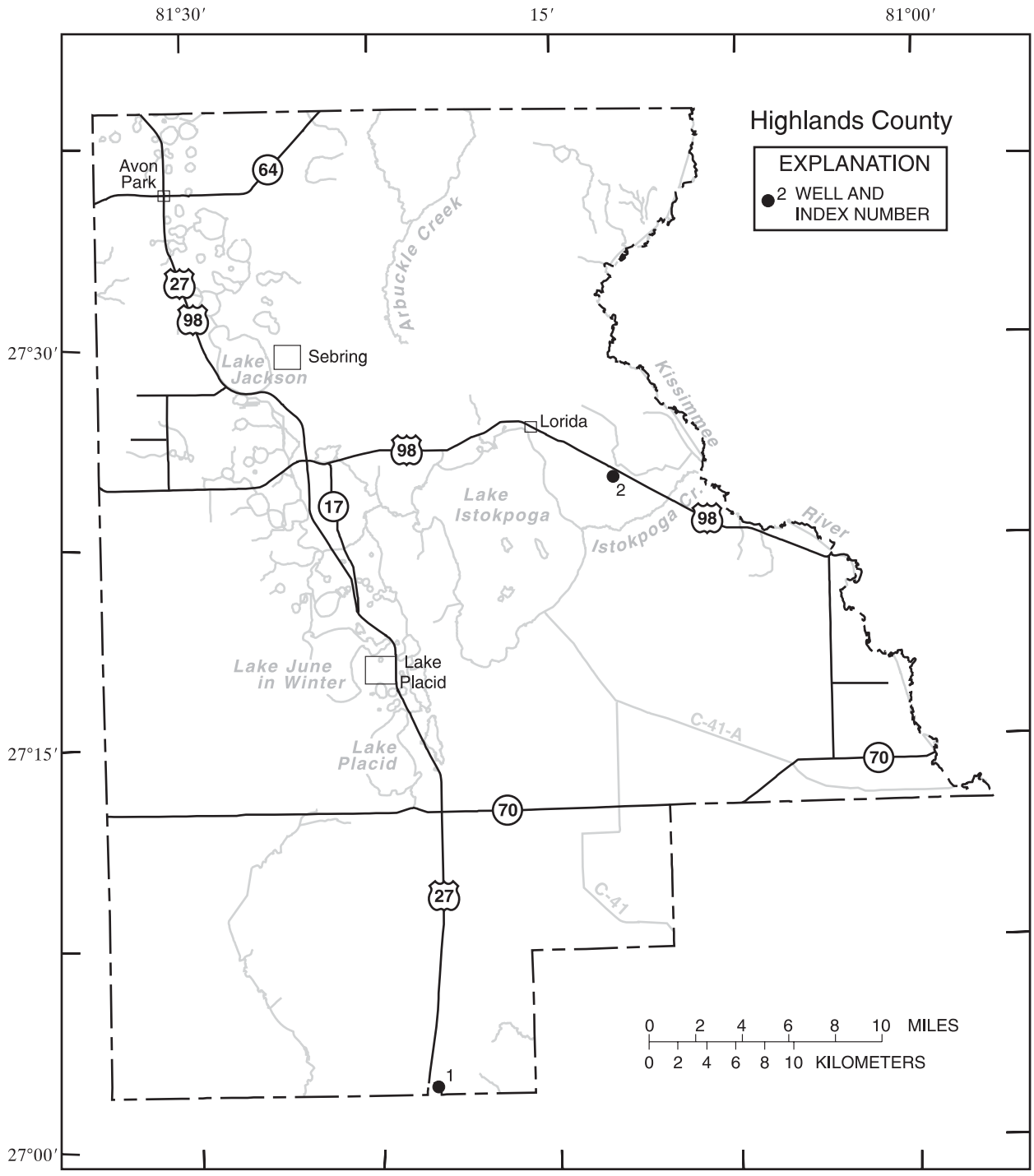

Figure 12.--Location of wells in Highlands County.

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, 60.37 ft above NGVD of 1929, Sept. 27, 1997; lowest, 53.49 ft above NGVD of 1929, June 27, 1956.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	58.04	57.97	57.00	56.82	56.53	56.42	55.82	55.31	55.84	57.91	57.94	58.33
10	57.78	57.59	57.08	56.72	56.73	56.35	55.71	55.16	55.67	58.28	58.12	57.94
15	57.60	57.50	56.93	57.01	56.69	56.27	55.82	55.02	55.74	57.90	57.75	58.11
20	57.48	57.40	56.85	56.93	56.52	56.16	55.83	55.93	56.89	58.04	57.92	58.23
25	58.20	57.24	56.78	56.80	56.66	56.04	55.57	55.95	58.78	58.23	57.60	58.43
EOM	57.73	57.11	56.73	56.64	56.57	55.91	55.43	55.86	58.07	57.89	59.26	57.83
MAX	58.61	57.97	57.09	57.05	56.77	56.53	55.90	56.01	58.78	59.20	59.26	58.73

CAL YR 2001 MAX 60.17
WTR YR 2002 MAX 59.26

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	47.36	47.46	46.20	45.84	45.62	45.63	44.67	44.10	44.09	48.19	47.39	48.31
10	47.93	47.00	46.11	45.69	45.51	45.55	44.48	43.98	44.01	47.98	47.17	47.93
15	47.27	46.85	45.97	46.37	45.52	45.33	44.41	43.83	43.88	48.18	47.41	47.87
20	47.13	46.67	45.83	46.22	45.33	45.14	44.27	44.16	44.90	47.80	47.89	47.33
25	47.68	46.51	45.69	46.05	46.02	44.94	44.10	44.30	48.24	48.07	48.17	47.43
EOM	47.19	46.36	45.62	45.82	45.90	44.79	43.96	44.13	47.96	47.35	48.38	47.44
MAX	47.98	47.46	46.33	46.46	46.02	45.82	44.76	44.31	48.24	48.38	48.38	48.39

CAL YR 2001 MAX 48.49
WTR YR 2002 MAX 48.39

HIGHLANDS COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
270556081204701	05-23-02	1542	HIF-26 J H HENDRIE DAIRY	95.29
270627081313101	05-23-02	1525	HIF-23 GRAHAM CO DAIRY	43.82
271134081234301	05-14-02	1005	HIF-5 CHARLES STIDHAM	42.06
	09-30-02	0859		51.04
271306081284801	05-23-02	1505	HIF-8 BOX RANCH	42.45
	09-30-02	0842		50.18
271330081113401	05-14-02	1410	HIF-37 SUN-RAY FARMS	42.12
	09-30-02	1211		48.34
271456081074701	05-14-02	1520	HIF-6 LYKES BROW 4IN FLOW	42.75
	09-30-02	1310		47.31
271726081163901	05-14-02	1320	HIF-14 P G PHYPERS	44.29
	09-30-02	1142		50.93
272512081122901	05-14-02	1259	HIF-13 PHILLIP METZGER	43.08
	09-30-02	1026		49.75
272906081142001	05-14-02	1146	HIF-4 34S31E28 YUCAN RANCH NR LORIDA,FL	41.93
	09-30-02	1111		47.50
272915081190201	05-14-02	1116	HIF-32 GUILFORD TOMLINSON	47.02
	09-30-02	1001		54.23
273138081154201	05-23-02	1430	HIF-3 73111501 HOWERTON'S WELL NR LORIDA,FL	47.55
273603081270501	05-13-02	1317	73612701 33S29E19 DRESSLERS DIARY NR AVON PK,FL	76.24
	09-16-02	1111		86.05

KEY TO SITE LOCATIONS ON FIGURE 13
INDIAN RIVER COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	273923080471801	124
2	274607080493001	124
3	274916080520701	125

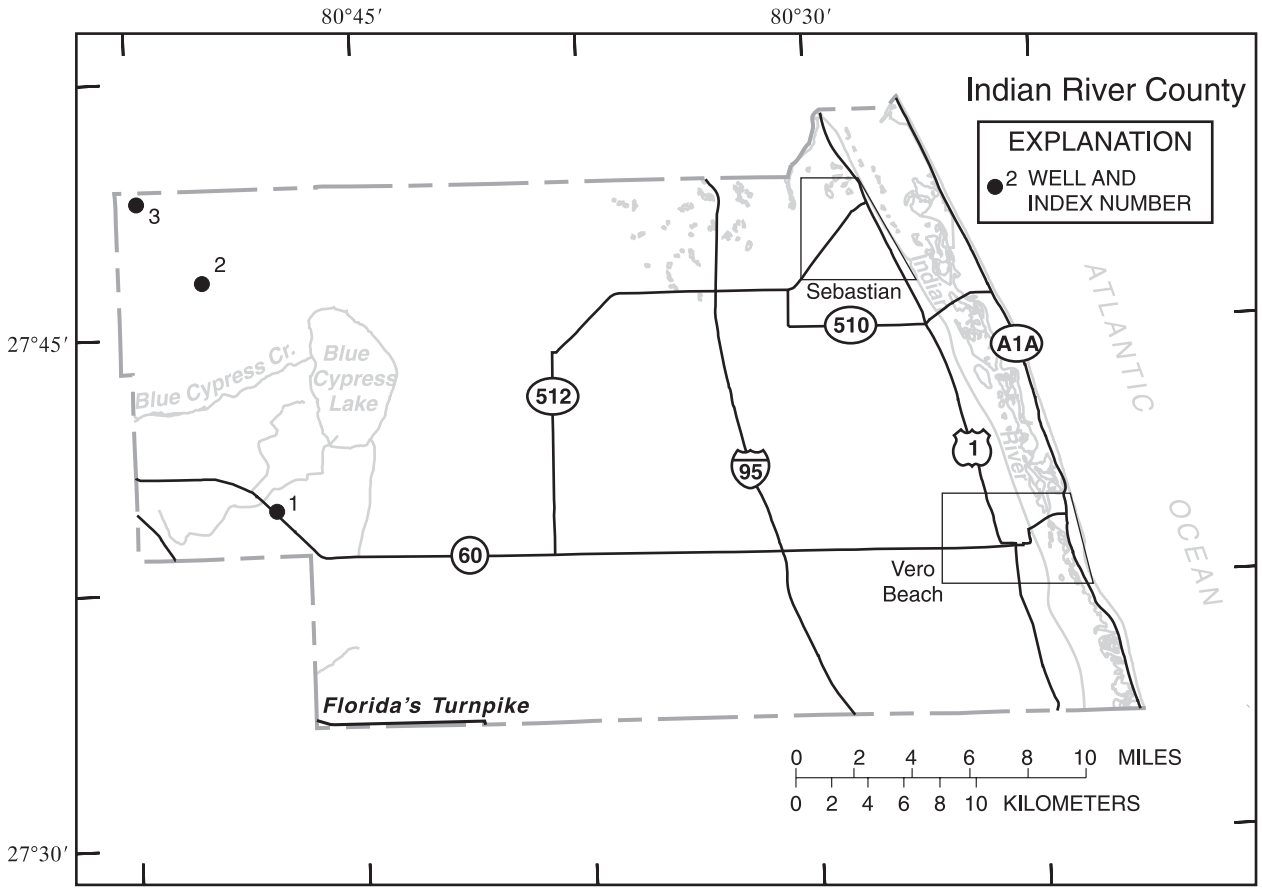

Figure 13.--Location of wells in Indian River County.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	29.16	DEC 20	27.86	FEB 25	28.32	APR 22	26.96	JUN 20	28.45	AUG 27	28.32
NOV 26	28.46	JAN 28	28.08	MAR 25	27.24	MAY 28	25.86	JUL 29	28.98		

WATER YEAR 2002 LOWEST 25.86 MAY 28, 2002 HIGHEST 29.16 OCT 23, 2001

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.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	42.98	DEC 20	42.08	FEB 25	41.78	APR 22	40.56	MAY 29	39.02	JUL 29	42.64
NOV 26	42.78	JAN 28	41.98	MAR 25	41.28	MAY 17	38.48	JUN 20	40.19	AUG 26	43.16

WATER YEAR 2002 LOWEST 38.48 MAY 17, 2002 HIGHEST 43.16 AUG 26, 2002

INDIAN RIVER COUNTY--Continued

WELL NUMBER.--274916080520701. IR-366 at Mace Ranch, FL.

LOCATION.--Lat 27°49'16", long 80°52'07", in NW¼NE¼NE¼ sec.6, T.31 S., R.35 E., Hydrologic Unit 03080101, 300 ft south of Fellsmere Grade Road, 1.75 mi east of County Line, and 8.1 mi southeast of Kenansville. 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 260 ft, cased to 120 ft.

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

DATUM.--Elevation of land-surface datum is 52.81 ft above NGVD of 1929. Measuring point: Top of casing, 1.66 ft above land-surface datum. Prior to September 2001 datum of gage was 2.46 ft lower.

PERIOD OF RECORD.--May 1985 to September 1998, May 2000 to September 2000 (semiannually); December 2000 to February 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.43 ft above NGVD of 1929, datum then in use, May 13, 1997; lowest measured, 44.54 ft above NGVD of 1929, datum then in use, September 18, 1985.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	52.41	DEC 20	51.43	FEB 25	52.51	SEP 18	52.82				
NOV 26	51.97	JAN 28	52.01	MAY 17	50.41						

WATER YEAR 2002 LOWEST 50.41 MAY 17, 2002 HIGHEST 52.82 SEP 18, 2002

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

INDIAN RIVER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
273435080255101	05-15-02	0955	73402501 USDA SOUTH WELL 43RD AVE SW OF OSLO	27.35
	09-18-02	0857		34.45
273515080344303	05-14-02	1502	IR-0954 SJWCD	36.43
	09-17-02	1522		41.33
273536080240201	05-15-02	0932	73502403 REVERSE OSMOSIS MONITOR W OF OSLO	31.34
	09-18-02	0837		37.74
273805080223802	05-15-02	0903	IR-1008 VERO BEACH POWER PLANT IN VERO BEACH,FL	27.07
	09-18-02	0814		35.27
273847080254703	05-17-02	0907	IR-1006 DODGER STADIUM EAST IN DODGERTOWN,FL	28.57
	09-18-02	0923		34.27
273941080375401	05-15-02	1121	IR-0955 DELTA FARMS	37.49
	09-17-02	1447		44.39
274047080513701	05-14-02	1209	IR-0365 USGS AT YEEHAW,FL	49.64
274055080281301	05-17-02	0931	74002801 IR 210 WALTER POOL LINDSEY RD GIFFORD	28.99
	09-18-02	0941		35.99
274126080304803	05-17-02	1007	IR-0963 CORRIGAN RANCH WELL	32.04
	09-18-02	1013		39.04
274217080464201	10-01-01	1808	IR-0968 BLUE CYPRESS WELL	43.45
	05-14-02	1313		39.65
	09-17-02	1349		46.95
274350080364501	05-15-02	1334	74303601 JACK BERRY GROVE BLK 11 S OF FELLSMERE	35.51
	09-18-02	1647		41.31

KEY TO SITE LOCATIONS ON FIGURE 14
LAKE COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	282245081492601	130
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3	283204081544902	132
4	283314081455501	132
5	283608081403001	133
6	284445081462101	133
7	284842081533001	134
8	290950081315501	134

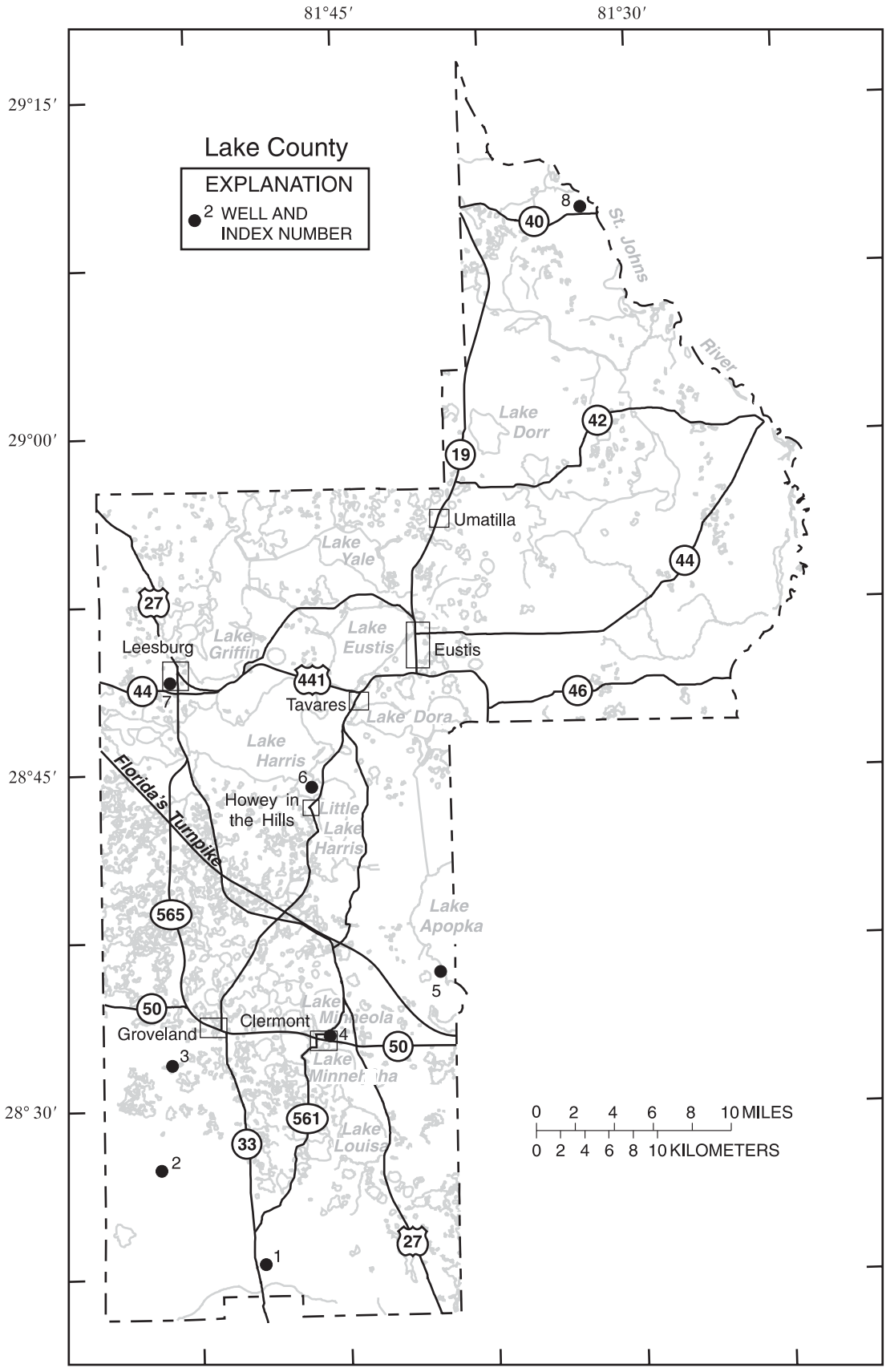

Figure 14.--Location of wells in Lake County.

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, 3.40 ft above land-surface datum.

PERIOD OF RECORD.--January 1959 to December 1962; January 1963 to October 2000 (bimonthly); December 2000 to current year (monthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	109.92	JAN 29	109.17	APR 23	108.52	JUN 21	108.88	SEP 20	111.61		
NOV 27	109.20	FEB 26	109.47	MAY 17	106.98	JUL 30	110.57				
DEC 20	108.91	MAR 25	108.77	29	106.75	AUG 27	111.28				

WATER YEAR 2002 LOWEST 106.75 MAY 29, 2002 HIGHEST 111.61 SEP 20, 2002

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 current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	111.56	FEB 26	110.62	MAY 17	108.26	AUG 27	113.49				
DEC 20	109.86	APR 23	109.92	JUN 21	110.86	SEP 20	113.31				

WATER YEAR 2002 LOWEST 108.26 MAY 17, 2002 HIGHEST 113.49 AUG 27, 2002

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 current year.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	97.98	97.35	96.68	96.89	96.55	97.03	96.16	94.57	93.51	---	98.11	98.42
10	97.80	97.12	96.62	96.80	96.68	96.95	95.84	94.30	94.23	97.30	97.98	98.25
15	97.69	97.42	96.52	97.18	96.55	96.97	95.78	93.99	94.79	97.76	98.33	98.26
20	97.51	97.14	96.42	---	96.44	96.69	95.47	93.88	95.62	97.69	98.42	98.36
25	97.58	96.97	96.37	---	97.25	96.51	95.18	93.64	96.39	97.88	98.15	98.77
EOM	97.34	96.83	96.23	96.74	96.95	96.25	94.89	93.52	96.77	98.00	98.20	98.62
MAX	98.17	97.42	96.78	97.18	97.25	97.10	96.23	94.87	96.77	98.11	98.43	98.78

CAL YR 2001 MAX 98.25
WTR YR 2002 MAX 98.78

WELL NUMBER.--283204081544901. Mascotte Deep Well near Mascotte, FL.

LOCATION.--Lat 28°32'04", long 81°54'49", in SW¼NW¼NE¼ sec.33, T.22 S., R.24 E., Hydrologic Unit 03l00208, on east side of State Highway 565, 75 ft east of Midway Baptist Church, and 3.6 mi south of State Highway 50 in Mascotte. 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 160 ft, cased to 63 ft.

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

DATUM.--Elevation of land-surface datum is 103.51 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 2.35 ft above land-surface datum.

PERIOD OF RECORD.--January 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 102.66 ft above NGVD of 1929, Sept. 10, 1988; lowest, 93.94 ft above NGVD of 1929, June 20,21, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	100.70	99.98	99.28	99.41	99.14	99.56	98.88	97.57	96.28	98.19	99.24	99.76
10	100.50	99.78	99.23	99.33	99.25	99.45	98.59	97.28	96.67	98.66	99.24	99.50
15	100.30	99.83	99.14	99.72	99.12	99.30	98.59	96.98	96.43	99.08	100.35	99.42
20	100.20	99.67	99.09	99.53	99.01	99.10	98.31	96.93	96.88	98.77	100.26	99.30
25	100.30	99.53	99.00	99.41	99.75	99.14	98.05	96.65	97.46	99.02	99.87	99.71
EOM	100.05	99.42	98.88	99.28	99.36	98.94	97.83	96.44	97.85	99.32	99.95	99.50
MAX	100.90	100.01	99.37	99.72	99.77	99.68	98.93	97.84	97.85	99.38	100.41	99.89

CAL YR 2001 MAX 101.40
WTR YR 2002 MAX 100.90

LAKE COUNTY--Continued

WELL NUMBER.--283204081544902. Mascotte Shallow Well near Mascotte, FL.

LOCATION.--Lat 28°32'04", long 81°54'49", in SW¼NW¼NE¼ sec.33, T.22 S., R.24 E., Hydrologic Unit 03100208, on east side of State Highway 565, 75 ft east of Midway Baptist Church, and 3.6 mi south of State Highway 50 in Mascotte. 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 30 ft, cased to l6 ft.

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

DATUM.--Elevation of land-surface datum is 103.51 ft above NGVD of 1929. Measuring point: Top of recorder shelf, 2.49 ft above land-surface datum.

PERIOD OF RECORD.--January 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 103.51 ft above NGVD of 1929, estimated, Sept. 11, 1960; lowest, 94.89 ft above NGVD of 1929, June 23, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	101.14	100.57	100.02	100.52	99.95	100.63	99.75	98.58	97.18	98.98	99.68	100.11
10	101.00	100.42	100.01	100.24	100.09	100.31	99.54	98.34	97.62	99.50	99.74	99.87
15	100.85	100.45	99.91	100.76	99.94	100.17	99.50	98.06	97.36	99.86	101.32	99.78
20	100.70	100.31	99.90	100.37	99.84	99.99	99.28	97.87	97.84	99.41	100.81	99.65
25	100.95	100.22	99.78	100.21	100.82	100.20	99.01	97.64	98.37	99.56	100.31	100.29
EOM	100.63	100.13	99.69	100.08	100.46	99.88	98.82	97.36	98.72	99.89	100.47	99.96
MAX	101.32	100.60	100.10	100.80	100.97	100.71	99.84	98.78	98.72	100.07	101.32	100.34

CAL YR 2001 MAX 103.30
WTR YR 2002 MAX 101.32

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 l20 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic well, diameter 8 in., depth 525 ft, casing length unknown.

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

DATUM.--Elevation of land-surface datum is 150 ft above NGVD of 1929. Measuring point: Top of casing, 1.08 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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	78.48	78.71	78.14	78.00	77.77	77.70	77.14	76.19	75.54	77.05	78.15	79.36
10	78.47	78.45	78.23	77.95	77.76	77.67	76.98	76.04	75.71	77.22	78.29	79.53
15	78.52	78.58	78.07	78.05	77.77	77.61	77.01	75.81	75.74	77.43	78.43	79.74
20	78.44	78.51	78.03	77.97	77.66	77.47	76.87	75.92	75.92	77.48	78.66	79.84
25	78.57	78.43	78.17	77.96	77.82	77.33	76.62	75.74	76.39	77.70	78.73	80.09
EOM	78.57	78.32	78.00	77.82	77.72	77.21	76.56	75.64	76.69	77.97	79.19	80.16
MAX	78.65	78.71	78.26	78.14	77.88	77.79	77.21	76.44	76.69	77.97	79.27	80.19

CAL YR 2001 MAX 78.71
WTR YR 2002 MAX 80.19

LAKE COUNTY--Continued

WELL NUMBER.--283608081403001. L-0658 City of Montverde, FL.

LOCATION.--Lat 28°36'08", long 81°40'30", in SE¼SE¼NW¼ sec.2, T.22 S., R.26 E., Hydrologic Unit 03080102, in pump house about 50 ft north of 8th Street in Montverde. Owner: City of Montverde.

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

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 12 in., depth 291 ft, cased to 164 ft.

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

DATUM.--Elevation of land-surface datum is 77.50 ft above NGVD of 1929. Measuring point: Top of 12 inch casing, 1.43 ft above land-surface datum.

PERIOD OF RECORD.--May 1997 to September 2000 (semiannually); December 2000 to September 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 75.86 ft above NGVD of 1929, May 11, 1998; lowest, 67.51 ft above sea level, May 23, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	71.27	DEC 19	70.78	FEB 25	70.55	SEP 16	72.88				
NOV 27	71.14	JAN 28	70.70	MAY 14	68.54						

WATER YEAR 2002 LOWEST 68.54 MAY 14, 2002 HIGHEST 72.88 SEP 16, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	64.58	JAN 29	63.81	APR 22	62.57	JUN 24	62.70	SEP 17	66.53		
NOV 20	64.44	FEB 27	63.96	MAY 16	61.49	JUL 24	64.66	25	66.39		
DEC 20	63.65	MAR 25	63.13	23	61.37	AUG 26	65.34				

WATER YEAR 2002 LOWEST 61.37 MAY 23, 2002 HIGHEST 66.53 SEP 17, 2002

LAKE COUNTY--Continued

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	65.45	64.93	63.56	63.15	63.00	63.30	62.54	60.55	60.31	64.51	---	68.09
10	65.35	64.43	63.61	63.14	62.69	63.33	62.22	60.78	60.51	64.20	---	68.22
15	65.21	64.40	63.31	63.37	63.01	63.33	62.41	60.52	60.70	64.98	---	67.87
20	65.14	64.26	63.48	63.12	62.81	63.01	62.07	60.71	61.80	---	---	67.82
25	64.91	63.74	63.49	63.12	62.88	62.85	61.33	60.27	63.52	---	67.04	67.31
EOM	64.72	63.86	63.13	63.03	62.76	62.37	61.60	60.22	63.94	---	68.01	67.83
MAX	65.73	64.93	63.90	63.38	63.13	63.52	62.82	61.66	63.94	65.16	68.01	68.43

CAL YR 2001 MAX 65.81
WTR YR 2002 MAX 68.43

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.91	13.71	13.25	12.60	12.67	12.59	12.10	11.29	11.58	13.74	14.40	15.07
10	13.80	13.47	13.28	11.95	12.73	12.76	12.02	11.20	11.56	13.82	14.61	15.02
15	13.75	13.82	13.16	12.50	12.61	12.68	12.03	11.05	11.91	13.89	14.74	14.95
20	13.76	13.82	13.06	12.78	12.55	12.46	11.88	11.01	12.50	13.87	14.77	14.87
25	13.65	13.59	12.99	12.75	12.78	12.41	11.77	11.66	13.28	14.02	14.71	15.00
EOM	13.58	13.39	12.76	12.78	12.71	12.20	11.66	11.65	13.44	14.14	14.83	14.84
MAX	14.03	13.86	13.35	12.90	12.87	12.85	12.18	11.72	13.44	14.14	14.83	15.07

CAL YR 2001 MAX 14.03
WTR YR 2002 MAX 15.07

LAKE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
281837081544101	05-17-02	0941	ROMP 88 DEEP NR ROCKRIDGE,FL	99.03
	09-20-02	1238		105.77
282241081443901	05-17-02	0905	L-0051 SAND MINE RD DP WELL NR CLERMONT	113.13
	09-16-02	1252		118.32
282318081544003	05-17-02	1045	GREEN SWAMP AQUIFER TEST LK751W	99.65
	09-20-02	1055		104.40
282717081553101	03-14-02	1102	82715502ROMP DEEP WELL 101 NEAR BAY LAKE, FL.	96.89
	05-14-02	1155		93.98
	09-16-02	1355		98.24
282729081443301	05-14-02	1055	LK LOUISA STATE PARK (SJRWMD L-0053) NR CLERMONT	89.69
	09-16-02	1225		98.83
283019081455701	05-14-02	1120	LCFD DIST.9 STATION 1	82.77
	09-16-02	1148		89.34
283128081404701	05-14-02	1005	JOHNS LAKE WELL NR CLERMONT (SJ L-0052)	73.78
	09-16-02	1100		79.02
283232081394101	05-14-02	0945	83213902 EDGEWATER BEACH DEEP	72.40
	09-16-02	1030		77.59
283355081411701	05-14-02	0915	L-0199 TURNPIKE	68.02
	09-16-02	1010		71.27
283530081514501	05-14-02	1245	DR PHILLIPS & SONS DP	79.25
	09-16-02	1445		88.36
284122081534401	05-14-02	1310	L-0095 GROVELAND TOWER DEEP	78.15
	09-17-02	1028		83.83
284232081533001	05-14-02	1330	842153142 20S24E34	74.89
	09-17-02	1050		81.83
284233081442801	05-14-02	0840	WEST ASTATULA WELL NR ASTATULA,FL	63.47
	09-16-02	0930		67.85
284528081530201	05-14-02	1355	CHURCH OF GOD OF PROPHECY	62.75
	09-17-02	1116		68.15
284725081361901	05-14-02	0755	WOLF SINK OBSERVATION WELL NR SORRENTO	43.13
	09-17-02	0857		50.75
284757081320701	05-15-02	1547	L KNOWLES DEEP	41.67
	09-17-02	0800		47.54
284929081294901	05-15-02	0800	ABANDONED FREEFLOW SR46A NR SORRENTO	38.15
	09-18-02	0845		43.05
285230081242201	05-15-02	0945	LOWER WEKIWA 2IN FREE NO.2 SOUTH	22.51
	09-18-02	1030		25.61
285257081434201	05-16-02	1155	852143121 18S26E32 J EICHEL BERGER	52.52
	09-17-02	1330		56.96

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

LAKE COUNTY---Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
285357081472801	05-16-02	1235	SJR DEEP NR CABBAGE HAMMOCK L-0620	52.44
	09-17-02	1405		57.08
285504081405901	05-15-02	1545	855140-- 18S26E14 AUSTIN GROVES	47.83
	09-17-02	1450		52.46
285539081262901	05-15-02	0855	PINE LAKES WELL ON SR 44	33.78
	09-18-02	0910		37.66
285810081234101	05-15-02	1045	LOWER WEKIVA R 4"FREEFLO	23.55
	09-18-02	1150		27.63
285827081331401	05-15-02	1210	PAUL SHOKLEY AT PAISLEY	38.69
	09-18-02	1345		41.56
290000081380001	05-15-02	1230	PITTMAN WORK CENTER ABANDONED NR ALTOONA,FL	43.01
	09-18-02	1425		45.95
290052081271201	05-15-02	1145	CENTRAL BAPTIST YOUTH CAMP	42.59
	09-18-02	1305		45.69
290244081302601	05-15-02	1320	OCALA NF4" NR ALEX.SPGS.CR BOAT LANDING	15.13
	09-19-02	1225		17.89
290451081344401	05-15-02	1250	L-0066 OBS WELL ALEXANDER SP NR ASTOR	15.56
	09-19-02	1438		16.33
290633081375201	05-16-02	1120	90613701 16S27E18 CAMP OCALA	38.66
	09-18-02	1455		41.61
290646081314001	05-16-02	0855	L-0441 USFS WELL NR ASTOR,FL	16.36
	09-19-02	1000		19.44
290900081342002	05-16-02	1000	909134 15S27E-- ASTOR PARK	31.55
	09-19-02	1045		35.71
290910081360001	05-16-02	1020	CAMP MCQUARRIE ABANDONED DP AT CROOKED LAKE	43.15
	09-19-02	1110		46.37
291002081330601	05-16-02	0940	L-0455 ASTOR 150 CF	11.76
	09-19-02	1025		17.83
291448081381601	05-16-02	1050	JUNIPER HUNT CLUB SUPPLY	.09
	09-19-02	1145		1.96

KEY TO SITE LOCATIONS ON FIGURE 15
LEVY COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	290112082371101	140
2	290200082432301	140
3	290202082403901	141
4	290230082412501	141
5	290743082341501	142
6	291910082341101	142
7	292430082283001	143

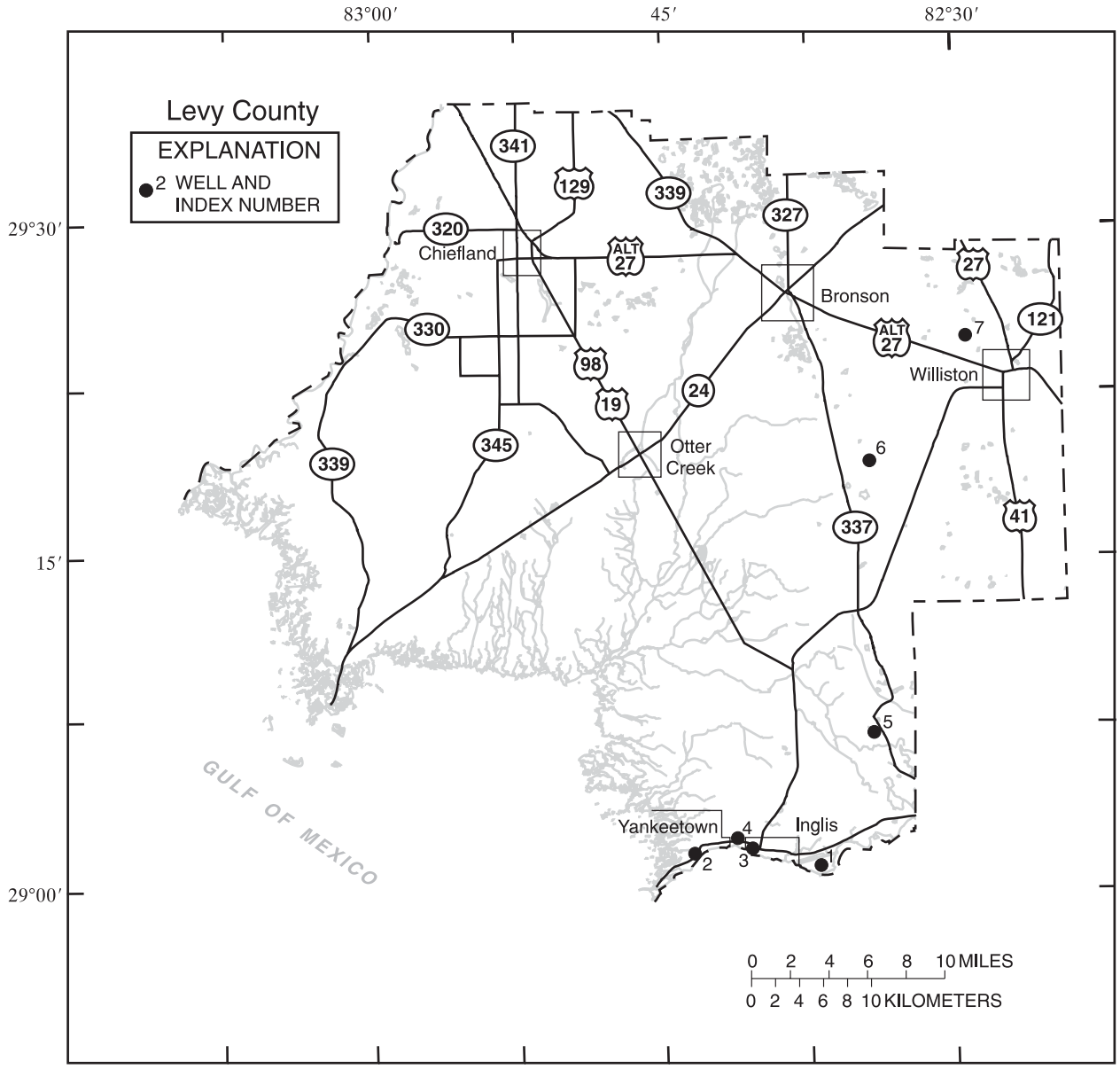

Figure 15.--Location of wells in Levy County.

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, 6.96 ft below NGVD of 1929, Sept. 16, 1966.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.24	5.25	4.98	4.72	4.18	4.03	4.24	4.34	4.56	4.59	5.32	---
10	5.54	5.35	5.37	4.99	4.80	4.63	4.93	5.09	4.94	5.09	5.53	---
15	6.15	5.00	5.63	5.31	4.61	4.85	5.07	4.68	5.10	4.76	---	---
20	5.90	5.32	4.87	4.52	5.29	4.95	4.67	3.94	4.60	5.06	---	---
25	5.72	5.08	4.95	4.83	5.10	5.09	5.08	5.29	5.14	5.43	---	---
EOM	5.30	5.81	5.10	5.11	4.55	5.40	5.21	4.88	4.47	5.08	---	6.35
MAX	6.68	5.81	5.88	5.89	5.63	5.73	5.34	5.30	5.25	5.63	5.95	6.35

CAL YR 2001 MAX 6.74
WTR YR 2002 MAX 6.68

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 current year (monthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 27	2.21	JAN 29	2.63	MAR 25	2.47	MAY 14	2.23	JUN 20	1.83	AUG 26	3.40
DEC 19	2.07	FEB 25	2.39	APR 22	2.11	28	1.83	JUL 29	3.06	SEP 17	3.27

WATER YEAR 2002 LOWEST 1.83 MAY 28, 2002 JUN 20, 2002 HIGHEST 3.40 AUG 26, 2002

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 current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 27	3.51	APR 16	2.98	JUN 03	1.70	AUG 01	4.97

WATER YEAR 2002 LOWEST 1.70 JUN 03, 2002 HIGHEST 4.97 AUG 01, 2002

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.21	2.97	2.19	1.80	3.03	2.89	2.68	1.69	0.84	2.55	4.05	4.21
10	3.81	2.82	2.17	1.70	3.08	3.08	2.54	1.60	0.83	2.68	3.67	3.98
15	3.88	2.70	2.19	1.91	2.86	3.24	2.44	1.35	0.85	3.84	4.05	3.87
20	3.48	2.57	2.02	2.00	2.86	3.19	2.24	1.16	0.96	3.78	4.65	3.71
25	3.38	2.50	1.98	2.25	2.81	3.01	2.08	1.11	1.50	4.18	4.36	3.60
EOM	2.98	2.52	1.96	3.31	2.78	2.88	1.97	1.04	1.59	3.90	4.15	3.48
MAX	4.25	3.05	2.49	3.32	3.29	3.25	2.83	1.94	1.59	4.18	4.67	4.21

CAL YR 2001 MAX 5.75
WTR YR 2002 MAX 4.67

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	53.23	53.02	52.25	51.89	51.96	51.56	51.18	50.28	49.54	50.59	52.20	52.82
10	53.17	52.84	52.31	51.76	51.99	51.70	51.06	50.19	49.50	50.78	52.08	52.80
15	53.19	52.89	52.21	51.82	51.89	51.66	50.99	49.99	49.44	50.90	52.19	52.71
20	53.13	52.72	52.09	52.03	51.81	51.58	50.89	49.87	49.42	51.08	52.51	52.75
25	53.07	52.54	52.09	52.01	51.72	51.48	50.70	49.78	49.94	51.47	52.47	52.69
EOM	53.03	52.46	51.89	52.12	51.61	51.32	50.56	49.71	50.32	52.09	52.55	52.56
MAX	53.28	53.03	52.39	52.14	52.15	51.81	51.31	50.55	50.32	52.09	52.55	52.82

CAL YR 2001 MAX 53.28
WTR YR 2002 MAX 53.28

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 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.

COOPERATION.--Data for the months of April, June and July 2002, was provided by the Suwannee River Water Management District and reviewed by the U.S. Geological Survey.

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 (NGVD1929), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	42.56	FEB 19	40.11	MAY 15	38.30	AUG 08	38.18				
DEC 11	41.65	APR 11	38.90	JUN 12	37.58	SEP 17	39.55				

WATER YEAR 2002 LOWEST 37.58 JUN 12, 2002 HIGHEST 42.56 OCT 26, 2001

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 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 current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 11	42.33	APR 08	40.26	JUN 03	39.26	SEP 17	39.85				
FEB 19	41.08	MAY 15	39.55	AUG 01	39.07						

WATER YEAR 2002 LOWEST 39.07 AUG 01, 2002 HIGHEST 42.33 DEC 11, 2001

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

LEVY COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
290503082323101	05-14-02	1440	90523201 16S17E13 SCE 108 T & J RANCH	67.83
	09-17-02	0730		71.14
290605082372601	05-14-02	1535	90623701 16S17E07 GEOTHE ROAD	25.92
	09-17-02	1450		28.00
291004082382901	05-14-02	1515	91023801 15S16E24 910238433 DIXIE LIME PR	22.09
	09-17-02	0845		25.58
291048083011801	05-21-02	1330	15S13E17 910301212	1.03
291508082432901	09-17-02	1415	GULF HAMMOCK	9.60
291712082351801	05-15-02	0810	SOUTH OF BONSON-RO	46.08
	09-17-02	0930		45.82
291806082545601	05-21-02	1515	918254331 13S14E33 TEST 2 USGS	14.36
292143082282201	05-15-02	1230	92122801 13S18E11 WILLISTON AIRPORT	39.46
	09-17-02	1155		39.98
292310082373701	05-15-02	1000	ERCELL SMITH	49.02
	09-17-02	1330		49.29
292507082560201	05-28-02	1320	A J MIMMS(121420)SR 347 SW OF CHIEFLAND	5.94
292615082272601	05-15-02	1130	ROMP 134 NEAR WILLISTON, FL	39.46
	09-17-02	1115		40.33
292713082493601	05-06-02	0900	H.E.MILLS NR CHIEFLAND,FL	16.50

KEY TO SITE LOCATIONS ON FIGURE 16
MARION COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	285920081490501	148
2	290106082191001	148
3	290133082140901	149
4	290215082152401	149
5	290306082232802	150
6	290312082250801	150
7	290514082270701	151
8	290815082025701	151
9	291059082190801	152
10	291100082010003	152
11	291110082060001	153
12	291115081592501	153
13	291115082102901	154
14	291849081411401	154
15	292200081510001	155
16	292543081513301	155
17	292546081513301	156

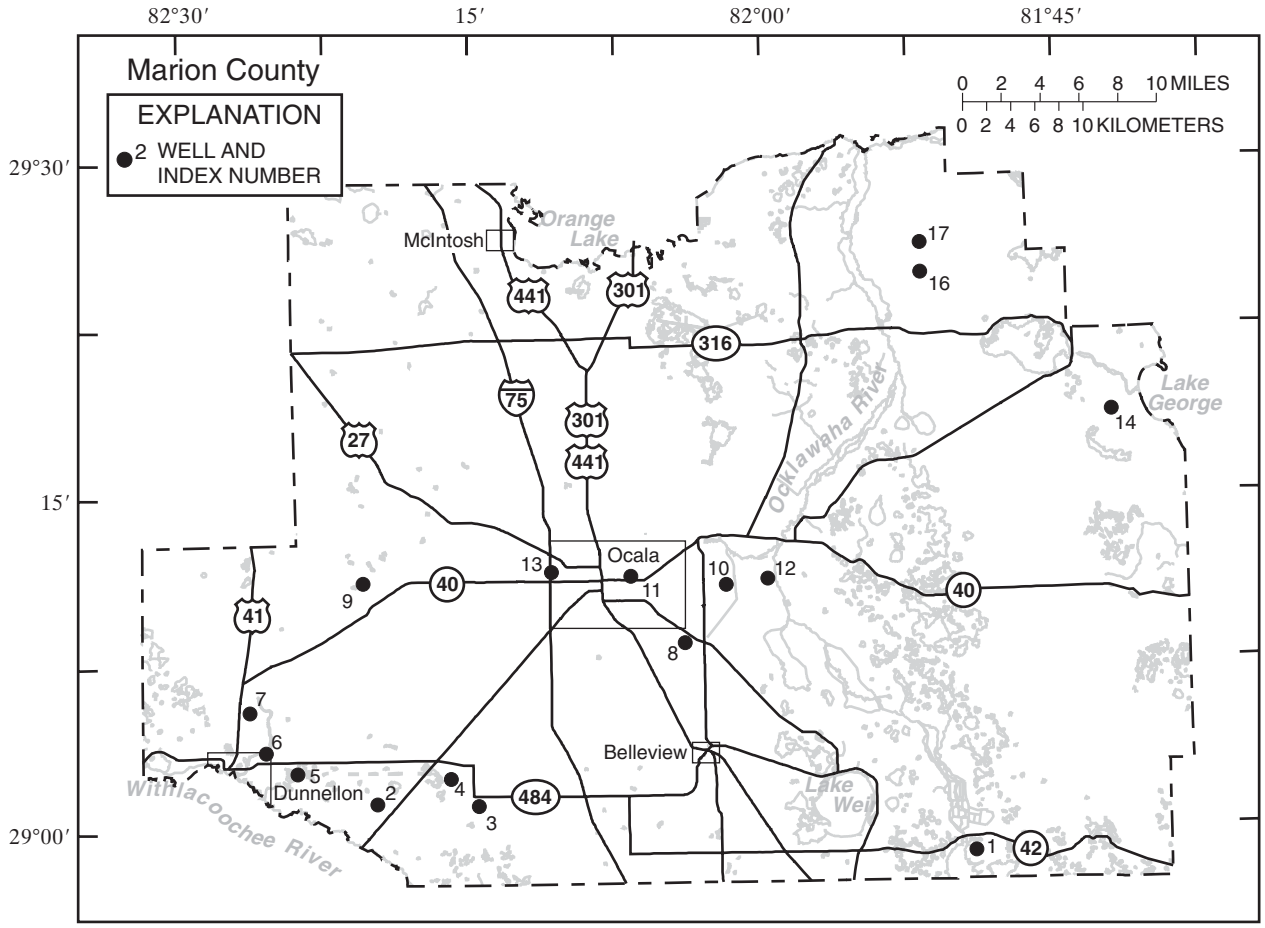

Figure 16.--Location of wells in Marion County.

MARION COUNTY

WELL NUMBER.--285920081490501. USGS Well Mar-48 near Ocklawaha, FL. (Formerly Mar-48 Replacement Well near Ocklawaha, FL.)

LOCATION.--Lat 28°59'20", long 81°49'05", in SE¼SW¼ sec.20, T.17 S., R.25 E., Hydrologic Unit 03080102, at fish camp south of State Highway 42, on east side of Ocklawaha River at Starkes Ferry, and 7 mi southeast of Ocklawaha.

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

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 6 in., depth 152 ft, casing length unknown.

INSTRUMENTATION.--Bimonthly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 61.08 ft above NGVD of 1929. Measuring point: Top of PVC elbow at vent, 2.22 ft above land-surface datum.

REMARKS.--Record is equivalent to that for Mar 48 Replacement (285930081500501), available October 1980 to September 1983.

PERIOD OF RECORD.--March 1936 to December 1949 (monthly); January 1950 to September 1980, October 1983 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 61.28 ft above NGVD of 1929, October 1945; lowest measured, 48.46 ft above NGVD of 1929, May 15, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 16	51.67	JAN 16	50.63	MAR 15	50.07	MAY 15	48.46	JUL 11	49.98	AUG 22	52.45

WATER YEAR 2002 LOWEST 48.46 MAY 15, 2002 HIGHEST 52.45 AUG 22, 2002

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 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 current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	42.26	FEB 12	38.77	MAY 13	37.74	JUL 31	40.87				
DEC 11	40.44	APR 09	38.45	JUN 05	37.12	SEP 16	41.07				

WATER YEAR 2002 LOWEST 37.12 JUN 05, 2002 HIGHEST 42.26 OCT 26, 2001

MARION COUNTY--Continued

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 current year.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	43.40	43.36	42.68	42.11	41.73	41.45	41.25	40.80	40.24	41.48	43.25	43.99
10	43.50	43.23	42.58	42.03	41.68	41.48	41.18	40.71	40.19	41.80	43.34	44.17
15	43.55	43.15	42.47	41.97	41.62	41.45	41.12	40.61	40.14	42.14	43.38	44.31
20	43.55	43.03	42.38	41.92	41.56	41.41	41.07	40.53	40.22	42.39	43.54	44.46
25	43.51	42.91	42.30	41.85	41.51	41.37	40.98	40.43	40.57	42.74	43.66	44.52
EOM	43.42	42.80	42.17	41.79	41.46	41.30	40.90	40.33	41.01	43.00	43.77	44.50
MAX	43.57	43.40	42.77	42.17	41.79	41.49	41.29	40.89	41.01	43.00	43.77	44.54

CAL YR 2001 MAX 43.57
WTR YR 2002 MAX 44.54

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	42.78	FEB 12	40.60	MAY 13	39.67	JUL 31	41.44				
DEC 11	41.69	APR 09	40.14	JUN 05	39.23	SEP 16	42.72				

WATER YEAR 2002 LOWEST 39.23 JUN 05, 2002 HIGHEST 42.78 OCT 26, 2001

MARION COUNTY--Continued

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	53.35	FEB 19	50.85	MAY 14	49.92	AUG 01	54.24				
DEC 17	51.17	APR 15	50.62	JUN 03	49.30	SEP 16	53.39				

WATER YEAR 2002 LOWEST 49.30 JUN 03, 2002 HIGHEST 54.24 AUG 01, 2002

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 current year.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	41.56	40.59	39.42	38.27	37.43	36.97	36.72	36.36	35.72	35.71	39.69	39.77
10	41.47	40.32	39.25	38.12	37.36	36.92	36.68	36.15	35.63	35.97	40.06	39.58
15	41.36	40.16	---	37.99	37.27	36.85	36.63	36.04	35.55	36.45	40.18	39.43
20	41.14	39.96	38.86	37.83	37.18	36.81	36.59	36.03	35.46	37.36	40.22	39.48
25	41.01	39.76	38.70	37.65	37.11	36.79	36.53	---	35.51	38.05	40.10	39.50
EOM	40.76	39.57	38.35	37.55	37.04	36.75	36.45	---	35.54	38.90	39.91	39.44
MAX	41.56	40.73	39.52	38.43	37.53	37.04	36.75	36.44	35.72	38.90	40.23	39.88

CAL YR 2001 MAX 41.56
WTR YR 2002 MAX 41.56

MARION COUNTY--Continued

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--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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.26	31.20	30.94	30.77	30.55	30.43	30.18	29.88	29.72	30.05	30.59	30.75
10	31.32	31.19	30.95	30.73	30.53	30.35	30.11	29.86	29.78	30.08	30.61	30.72
15	31.37	31.19	30.90	30.73	30.51	30.34	30.10	29.82	29.77	30.24	30.62	30.78
20	31.35	31.12	30.86	30.64	30.45	30.28	30.10	29.85	29.79	30.32	30.70	30.79
25	31.32	31.06	30.84	30.60	30.46	30.23	30.00	29.77	29.88	30.42	30.64	30.81
EOM	31.22	31.01	30.76	30.59	30.43	30.18	29.97	29.77	29.90	30.51	30.74	30.82
MAX	31.40	31.21	31.00	30.78	30.58	30.43	30.19	29.95	29.90	30.51	30.74	30.82

CAL YR 2001 MAX 31.40
WTR YR 2002 MAX 31.40

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	42.55	DEC 11	41.88	FEB 19	41.01	APR 08	40.68	JUN 03	39.95	JUL 31	41.26

WATER YEAR 2002 LOWEST 39.95 JUN 03, 2002 HIGHEST 42.55 OCT 26, 2001

MARION COUNTY--Continued

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 current year (monthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	42.76	JAN 28	41.09	APR 22	40.10	JUN 20	38.96	SEP 18	42.12		
NOV 27	42.26	FEB 25	40.75	MAY 14	39.68	JUL 29	40.05				
DEC 19	41.74	MAR 25	40.43	28	39.38	AUG 26	41.31				

WATER YEAR 2002 LOWEST 38.96 JUN 20, 2002 HIGHEST 42.76 OCT 25, 2001

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---30 minute interval. Prior to April 4, 2002, bimonthly measurements with chalked tape.

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 February 2002 (bimonthly), April 2002 to September 2002.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	41.51	DEC 20	41.00	FEB 19	40.65

WATER YEAR 2002 LOWEST 40.65 FEB 19, 2002 HIGHEST 41.51 NOV 06, 2001

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	40.18	39.93	---	40.06	40.82	42.07
10	---	---	---	---	---	---	40.15	---	---	40.12	40.89	42.21
15	---	---	---	---	---	---	40.20	---	39.52	40.20	41.07	42.33
20	---	---	---	---	---	---	40.17	---	39.55	---	41.28	42.47
25	---	---	---	---	---	---	40.07	---	39.84	---	41.36	42.57
EOM	---	---	---	---	---	---	40.04	---	39.96	---	41.74	42.55
MAX	---	---	---	---	---	---	40.20	40.03	39.96	40.25	41.74	42.62

WTR YR 2002 MAX 42.62

MARION COUNTY--Continued

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	41.37	FEB 19	39.56	MAY 14	39.27	JUL 31	40.12				
DEC 11	40.83	APR 08	37.36	JUN 03	39.22	SEP 20	41.89				

WATER YEAR 2002 LOWEST 37.36 APR 08, 2002 HIGHEST 41.89 SEP 20, 2002

WELL NUMBER.--291115081592501. Sharpes Ferry Well, Marion 5 near Ocala, FL.

LOCATION.--Lat 29°11'15", long 81°59'25", in NE¼SE¼ sec.15, T.15 S., R.23 E., Hydrologic Unit 03080102, on north side of County Road 314 (Sharpes Ferry Road), 0.1 mi east of Ocklawaha River, and 7.6 mi east of Ocala. Owner: Florida Department of Transportation.

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

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 135 ft, cased to 135 ft.

INSTRUMENTATION.--Water-stage recorder with data-collection platform--30 minute recording interval.

DATUM.--Land-surface datum is 39.83 ft above NGVD of 1929. Measuring point: Top of reducer, 2.55 ft above land-surface datum.

REMARKS.--Well records used to determine flow of Silver Springs.

PERIOD OF RECORD.--January 1933 to July 1947 (weekly); August 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily mean water level, 55.42 ft above NGVD of 1929, Oct. 14, 1960; lowest, 41.82 ft above NGVD of 1929, June 27, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	44.76	44.93	44.31	43.89	43.64	43.20	43.14	42.61	42.04	42.71	44.13	45.25
10	44.80	44.75	44.34	43.85	43.68	43.39	43.07	42.54	42.03	42.87	44.24	45.42
15	44.88	44.85	44.21	43.90	43.58	43.38	43.12	42.42	42.02	42.98	44.44	45.46
20	44.91	44.70	44.10	43.88	43.53	43.34	43.06	42.39	42.02	43.09	44.71	---
25	44.88	44.56	44.17	43.84	43.44	43.26	42.89	42.28	42.24	43.46	44.82	---
EOM	44.86	44.49	43.99	43.71	43.18	43.18	42.84	42.23	42.46	43.90	44.95	---
MAX	44.96	44.93	44.44	44.10	43.78	43.52	43.19	42.82	42.46	43.90	44.95	45.47

CAL YR 2001 MAX 44.96
WTR YR 2002 MAX 45.47

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	42.22	DEC 11	41.69	FEB 19	40.78	APR 08	40.42	JUN 03	39.72	JUL 31	40.65

WATER YEAR 2002 LOWEST 39.72 JUN 03, 2002 HIGHEST 42.22 OCT 26, 2001

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--30-minute interval. Prior to April 5, 2002, monthly measurements with chalked tape.

DATUM.--Land-surface datum is 18.92 ft above NGVD of 1929. Measuring point: Top of casing, 2.51 ft above land-surface datum.

COOPERATION.--Since October 1985 until March 2002 records provided by St. Johns River Water Management District and reviewed by U.S. Geological Survey.

PERIOD OF RECORD.--January 1983 to September 1985 (bimonthly); October 1985 to March 2002 (monthly); April 2002 to September 2002.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.70 ft above NGVD of 1929, Nov. 28, 1995; lowest measured, 12.99 ft above NGVD of 1929, June 27, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	17.53	DEC 18	16.66	FEB 22	15.74
NOV 27	17.10	JAN 29	15.91	MAR 21	15.49

WATER YEAR 2002 LOWEST 14.32 MAY 17, 2002 HIGHEST 17.53 OCT 24, 2001

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	14.93	14.43	14.21	14.54	15.02	16.09
10	---	---	---	---	---	---	14.87	14.38	14.24	14.65	15.20	16.22
15	---	---	---	---	---	---	14.82	14.26	14.18	14.62	15.28	16.32
20	---	---	---	---	---	---	14.74	14.27	14.22	14.68	15.40	16.45
25	---	---	---	---	---	---	14.72	14.37	14.35	14.75	15.44	16.58
EOM	---	---	---	---	---	---	14.62	14.30	14.39	14.82	15.69	16.55
MAX	---	---	---	---	---	---	14.95	14.60	14.39	14.83	15.69	16.60

WTR YR 2002 MAX 16.60

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	24.05	JAN 28	25.08	APR 19	24.25	JUN 19	23.61	SEP 19	23.66		
NOV 26	24.86	FEB 22	24.88	MAY 17	23.97	JUL 29	23.39	23	23.65		
DEC 17	25.16	MAR 21	24.60	23	23.88	AUG 26	23.38				

WATER YEAR 2002 LOWEST 23.38 AUG 26, 2002 HIGHEST 25.16 DEC 17, 2001

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.

PERIOD OF RECORD.--April 2002 to September 2002 (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.43 ft above NGVD of 1929, Sept. 23, 2002; lowest measured, 19.02 ft above NGVD of 1929, April 19, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 19	19.02	JUN 19	19.49	AUG 26	19.90	SEP 23	20.43				
MAY 23	19.24	JUL 29	19.68	SEP 19	20.40						

WATER YEAR 2002 LOWEST 19.02 APR 19, 2002 HIGHEST 20.43 SEP 23, 2002

MARION COUNTY--Continued

WELL NUMBER.--292546081513301. USGS Well CE-67 near Salt Springs, FL.

LOCATION.--Lat 29°25'46", long 81°51'33", in NE¼SE¼SE¼ 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: 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 340 ft, cased to 307 ft.

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

DATUM.--Land-surface datum is 137.84 ft above NGVD of 1929. Measuring point: Hole in cap, 2.20 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.--September 1964 to November 1967 (monthly); January 1968 to September 1985 (bimonthly); October 1985 to February 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.60 ft above NGVD of 1929, Oct. 29, 1965; lowest measured, 17.33 ft above NGVD of 1929, Sept. 21, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01	18.47	OCT 24	19.02	NOV 26	19.64	DEC 17	19.67	JAN 28	19.45	FEB 22	19.57

WATER YEAR 2002 LOWEST 18.47 OCT 01, 2001 HIGHEST 19.67 DEC 17, 2001

MARION COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
285900082072001	05-13-02	1145	USGS OBSER WELL CE36 AT PEDRO, FL.	42.10
	09-16-02	1255		47.44
285930081430901	05-13-02	1030	SR 42 W OF ALTOONA	48.02
	09-13-02	0933		50.75
285933082192501	05-13-02	1400	85921901 17S20E20 CE 24 U S GEOL SURVEY	35.22
	09-16-02	1445		37.99
285953081590101	05-13-02	1515	M-0467 LAKE WEIR MIDDLE SCHOOL NR LADY LAKE,FL	43.99
	09-16-02	1115		49.59
290130082082001	05-13-02	1200	90120801 USGS OB WELL CE35 NR PEDRO FL	42.18
	09-16-02	1330		47.22
290227082250801	05-14-02	1300	90222501 16S19E31 CE 75 U S GEOL SURVEY	50.62
	09-18-02	1550		52.44
290306082032101	05-13-02	1445	M-0465 BELLEVIEW ELEM SCHOOL AT BELLEVIEW,FL	47.73
	09-16-02	1230		46.79
290312082190601	05-14-02	1350	90321901 16S20E33 CE 22 U S GEOL SURVEY	42.32
	09-16-02	1525		45.14
290327081562001	05-13-02	1600	M-0445 TIGER DEN NR OKLAWAHA,FL	45.13
	09-16-02	1045		49.48
290447082250901	05-14-02	1205	90422501 16S19E20 CE 13 U S GEOL SURVEY	31.29
	09-18-02	1515		32.28
290614082274801	05-16-02	0720	90622701 16S18E11 SCE 170 RAINBOWS END GOLF CRS	31.54
	09-18-02	0800		31.22
290628081425301	06-04-02	0815	LOOKOUT TOWER BOMBING RANGE DEEP, ASTOR PARK	45.61
	09-19-02	0700		48.13
290739082245701	05-14-02	1145	90722401 15S19E32 CE 12 U S GEOL SURVEY	32.66
	09-18-02	1500		33.61
290752082271101	05-16-02	0750	90722701 15S18E35 SCE 116 RAINBOW ACRES	32.43
	09-18-02	0835		33.28
290822082310101	05-16-02	0825	90823101 15S18E32 LAKE BONABLE	39.34
	09-18-02	0900		40.71
290910082315001	05-16-02	0845	90923101 15S18E30 SCE 138 LITTLE LAKE BONABLE	38.15
	09-18-02	0945		39.40
290913082245601	05-16-02	0930	90922401 15S19E29 SCE 118 LAKE TROPICANA	33.58
	09-18-02	1025		34.67
290953082031301	05-14-02	0645	CE79 (M0038) OB WELL NR SILVER SPRINGS, FL	39.67
	09-20-02	0700		42.70

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

MARION COUNTY--Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
291056082263201	05-16-02	1040	91022601 15S18E13 HERSHEL KYPER ROMEO	34.65
	09-18-02	1045		35.81
291117081540501	05-14-02	0815	REDWATER LAKE DEEP WELL NR LYNNE (SJ M-0044)	44.43
	09-20-02	0845		48.63
291140082052701	05-14-02	0745	91120501 USGS OB WELL CE80 AT OCALA FL	40.19
	09-20-02	0745		42.78
291600081550001	05-14-02	0850	91615501 USGS OB WELL CE55 NR SALT SPRINGS, FL	41.25
	09-20-02	0820		43.91
291625082085901	05-14-02	1030	M-0419 MARION CTY SHERRIF NR OCALA,FL	39.91
	09-19-02	1520		42.47
291728081390501	05-17-02	1055	PONDEROSA CLUB FREEFLOW	12.85
	09-19-02	0900		14.75
291751081414301	05-17-02	1040	OCALA NF 4IN SHALLOW WELL(M-0413)	16.37
	09-19-02	0830		18.53
292101082233601	05-16-02	1635	92122301 13S19E15 HOMESTEADER NURSERY	41.08
292146082182501	05-16-02	1610	92121801 13S20E09 SR 316 WELL SRWMD	43.32
	09-18-02	1215		43.17
292204082022801	05-16-02	1545	FT MCCOY DEEP	45.21
	09-19-02	1200		47.54
292310081582201	05-16-02	1520	M-0463 FT MCCOY ELEMENTARY SCHOOL NR FT MCCOY,FL	46.37
	09-19-02	1400		56.07
292554082034501	05-16-02	1315	M-0443 CITRA RANCH NR CITRA,FL	50.44
	09-19-02	1320		52.90
292656082125001	05-16-02	1255	M-0351 SPORTSMAN COVE	45.24
	09-18-02	1330		45.32
292718082202601	05-16-02	1230	92722001 12S20E18 MAHAFFEY WELL	47.30
	09-18-02	1305		47.50
292816082234501	05-16-02	1205	92822301 12S19E03 SMITH BROTHERS WACAHOOTA	47.61
	09-18-02	1245		45.96
292817081483602	05-17-02	0920	OCALA NF 6IN DP WELL(M-0410)NR SALT SPRINGS,FL	18.40
	09-19-02	1115		19.82
292957081573002	05-16-02	1500	M-0441 G&M CATTLE RANCH NR ORANGE SPRINGS,FL	50.01
	09-19-02	1245		52.67

KEY TO SITE LOCATIONS ON FIGURE 17
NASSAU COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	303435081271401	162
2	303518081275002	163
3	303823081273304	163
4	304005081380201	164
5	304213081270801	164
6	304410081592101	165

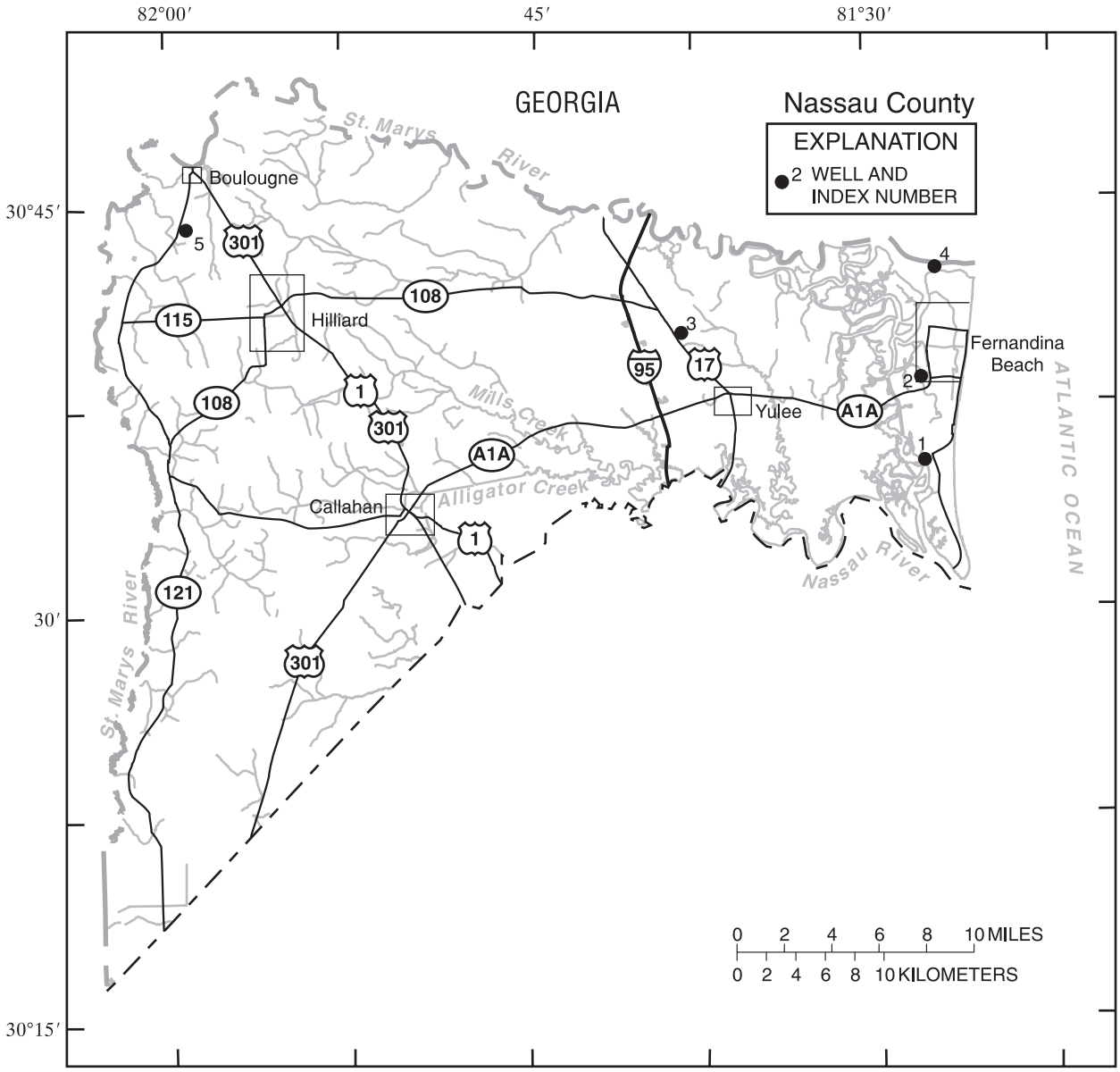

Figure 17.--Location of wells in Nassau County.

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 SE¼SW¼SW¼ 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: Amelia Island 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 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
25...	1100	597	7.1	24.5	<5	270	55.0	31.0	17.0	2.00	E146	130	23.0
JAN													
24...	1000	598	7.0	23.0	<5	270	54.0	32.0	17.0	2.00	150	120	23.0
APR													
25...	1330	595	7.2	24.0	5	260	56.0	30.0	17.0	2.00	149	120	23.0
JUL													
25...	1230	598	7.2	24.0	<5	270	58.0	31.0	18.0	2.00	150	120	23.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT				
25...	.6	30.0	389	540
JAN				
24...	.6	31.0	383	530
APR				
25...	.6	30.0	405	530
JUL				
25...	.7	32.0	385	550

< -- Less than
E -- Estimated value

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: Michael McCranie.

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, 25.76 ft above NGVD of 1929, Feb. 25, 2002; lowest measured, 16.15 ft above NGVD of 1929, May 22, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	18.67	DEC 17	23.96	FEB 25	25.76	APR 22	19.81	JUL 30	17.76	SEP 16	21.76
NOV 19	21.06	JAN 28	23.86	MAR 25	24.26	JUN 24	17.96	AUG 26	17.45		

WATER YEAR 2002 LOWEST 17.45 AUG 26, 2002 HIGHEST 25.76 FEB 25, 2002

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 current year.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-11.84	-12.59	-12.69	-10.00	-9.91	1.39	-10.66	-15.80	-17.14	-15.65	-14.64	-13.07
10	-11.43	-13.38	-10.41	-10.32	-9.36	2.21	-12.10	-16.95	-15.86	-16.83	-14.31	-14.00
15	-13.52	-11.48	-5.71	-9.39	-8.22	-2.46	-10.94	-17.35	-17.59	-15.97	-12.67	-11.36
20	-14.84	-10.44	-13.60	-7.56	5.27	-9.42	-13.99	-16.18	-14.41	-16.54	-14.54	-13.25
25	-14.03	-11.56	-11.83	-7.94	9.71	-9.05	-12.27	-16.10	-12.96	-16.11	-15.41	-12.70
EOM	-14.26	-11.82	-9.71	-10.13	-1.14	-9.59	-14.15	-17.48	-14.45	-16.51	-13.46	-12.03
MAX	-10.48	-10.44	-5.71	-7.46	10.00	3.54	-9.39	-13.85	-12.62	-14.45	-11.43	-10.99

CAL YR 2001 MAX 13.23
WTR YR 2002 MAX 10.00

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 21.87 ft above NGVD of 1929. Measuring point: Top of reducing fitting, 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, 33.82 ft above NGVD of 1929, Apr. 27, 1998; lowest measured, 23.23 ft above NGVD of 1929, July 24, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	27.24	JAN 28	28.06	APR 22	27.83	JUN 24	24.55	SEP 16	26.32		
NOV 19	27.21	FEB 25	28.38	MAY 13	25.82	JUL 30	24.96				
DEC 17	27.71	MAR 25	28.82	28	25.26	AUG 26	25.80				

WATER YEAR 2002 LOWEST 24.55 JUN 24, 2002 HIGHEST 28.82 MAR 25, 2002

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 NE¼SE¼NW¼ 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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-8.95	-8.18	-8.56	-8.76	-6.75	---	-7.54	-9.27	-12.20	-10.40	-9.28	-10.49
10	-9.10	-9.05	-8.06	-8.32	-6.48	8.30	-6.71	-9.86	-11.56	-11.08	-9.17	-10.63
15	-8.96	-10.07	-8.35	-7.92	-5.71	2.19	-5.12	-10.79	-11.71	-10.03	-8.71	-8.98
20	-9.63	-8.41	-8.99	-5.59	-5.22	-2.02	-6.35	-12.01	-11.21	-10.43	-9.27	-10.42
25	-10.12	-9.22	-10.56	-6.91	-1.07	-3.47	-7.28	-11.45	-9.80	-10.97	-9.86	-9.88
EOM	-9.69	-8.80	-7.88	-6.87	2.49	-4.48	-7.27	-14.32	-8.63	-10.65	-10.34	-8.05
MAX	-7.80	-7.59	-7.08	-4.99	2.49	8.84	-4.47	-7.17	-8.63	-9.41	-8.18	-8.05

CAL YR 2001 MAX 9.33
WTR YR 2002 MAX 8.84

Note.--Negative figures indicate water level below NGVD of 1929.

NASSAU COUNTY--Continued

WELL NUMBER.--304410081592101. Local Number N-120. Humphreys Mining No. 2 Well near Boulogne, FL.

LOCATION.--Lat 30°44'22", long 81°59'18", in NE¼NW¼NW¼ sec.26, T.4 N., R. 23 E., Hydrologic Unit 03070204, 200 ft west of State Highway 121, and 2.2 mi southwest of intersection of U.S. Highway 1 and State Highway 121 in Boulogne. Owner: Mrs. Greenwood.

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

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 18 to 12 in., depth 923 ft, cased to 525 ft.

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

DATUM.--Land-surface datum is 96.12 ft above NGVD of 1929. Measuring point: Top of metal base at land-surface datum.

PERIOD OF RECORD.--March 1985 to January 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 46.00 ft above NGVD of 1929, Mar. 26, 1986; lowest measured, 35.12 ft above NGVD of 1929, July 24, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	37.73	NOV 19	37.55	DEC 17	37.78	JAN 28	38.02

WATER YEAR 2002 LOWEST 37.55 NOV 19, 2001 HIGHEST 38.02 JAN 28, 2002

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

NASSAU COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
302409081551603	05-13-02	0800	N-0237 CAREY STATE FORREST	35.55
	09-16-02	0815		35.75
303357081295601	05-13-02	1120	N-119 CHARLES ALLEN WELL N-100 SUB	29.17
	09-16-02	1035		29.67
303541081495001	05-13-02	0835	N-0220 NASSAU COUNTY FAIRGROUNDS	38.45
	09-16-02	0845		39.25
303658081422601	05-13-02	1020	N-50	33.49
	09-16-02	0945		34.99
303939081312601	05-13-02	1100	N-20	2.13
	09-16-02	1020		4.16
304410081592101	10-25-01	0735	N-120 HUMPHREYS MINING NO. 2	37.73
	11-19-01	1015		37.55
	12-17-01	0820		37.78
304410081592101	01-28-02	0920	N-120 HUMPHREYS MINING NO. 2	38.02
304658081571201	05-13-02	0950	N-0221	36.74
	09-16-02	0910		35.42

KEY TO SITE LOCATIONS ON FIGURE 18
OKEECHOBEE COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	273127080481401	170

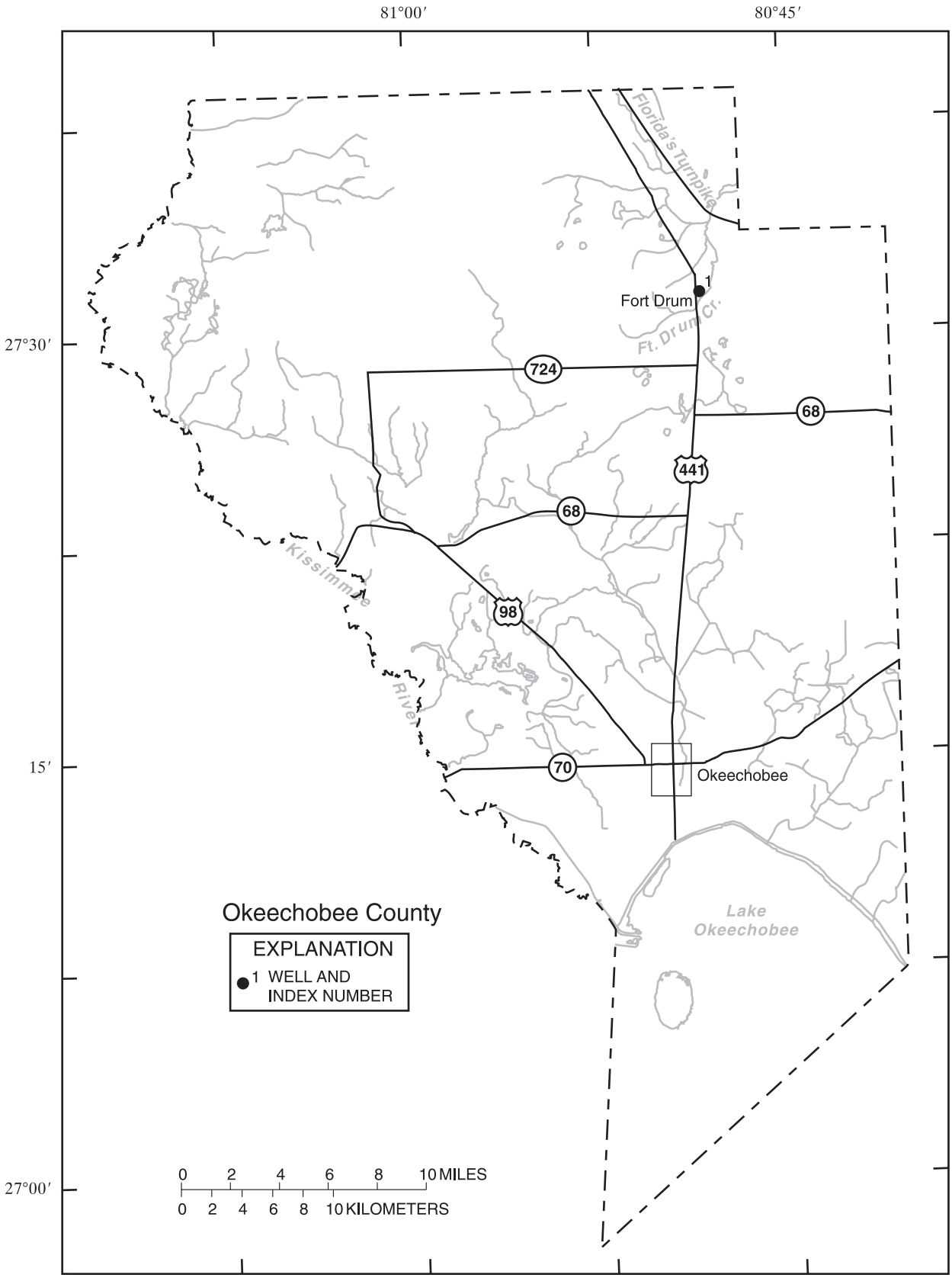

Figure 18.--Location of wells in Okeechobee County.

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 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	45.01	JAN 28	43.85	APR 22	42.20	JUN 20	41.96	SEP 17	45.07		
NOV 26	45.10	FEB 25	43.97	MAY 14	40.06	JUL 29	44.38				
DEC 20	44.05	MAR 25	42.85	28	40.93	AUG 26	44.88				

WATER YEAR 2002 LOWEST 40.06 MAY 14, 2002 HIGHEST 45.10 NOV 26, 2001

OKEECHOBEE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
271340080504001	05-15-02	0847	OKF-31	42.44
	09-26-02	0753		51.67
271514080511601	05-15-02	0925	OKF-23 NR LIVESTOCK MARKET	40.25
	09-26-02	0843		43.97
272010080550801	05-15-02	1022	DIXIE RANCH (OKF-17)	42.79
	09-26-02	0935		47.24
272158080470901	05-23-02	1325	JONES WELL S DARK HAMMOCK RD (OKF-7)	42.42
	09-30-02	1415		46.35
272354080524201	05-14-02	0914	MACARTHUR TRAILER PASTURE 12IN UFA NR BASINGER,FL	36.83
	09-17-02	0949		42.27
272704081053501	05-23-02	1415	727105--	44.56
272726081003901	05-23-02	1405	727100-- 35S33E02 BASS WELL N OF BASSINGER	42.52
273007081114601	05-14-02	1243	OKF-42 EXP WELL S65C	42.13
	09-30-02	1045		47.21
273028080542101	05-14-02	1041	WILLAWAY CATTLE CO 12IN UFA NR FORT DRUM,FL	42.80
	09-17-02	1107		47.85
273217081012601	05-23-02	1340	PEAVINE TRAIL W (OKF-34)	42.41
	09-26-02	0959		46.97
273726080471701	05-17-02	1213	73704701 LATT MAXCY J-1 NE OF FORT DRUM, FL	34.80

KEY TO SITE LOCATIONS ON FIGURE 19
ORANGE COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	282051081183401	174
2	282202081384601	174
2	282202081384602	175
3	282210081352601	175
4	282341081040101	176
5	282348080564701	177
6	282406081093602	178
7	282434081283102	179
8	282510081054501	180
9	282528081340901	181
10	282530081065601	182
10	282530081065602	183
10	282530081065603	185
11	282531081054301	186
12	282531081095701	187
13	282533081082202	188
13	282533081082204	189
13	282533081082205	190
13	282533081082206	191
14	282623081153801	192
15	282738081341401	193
16	282835081305201	193
17	282847081013701	194
18	283249081053201	195
18	283249081053202	196
18	283249081053203	197
19	283253081283401	197
20	283333081233501	198
20	283333081233502	198
21	284634081262001	199
21	284634081262002	199
21	284634081262003	200
21	284634081262004	200

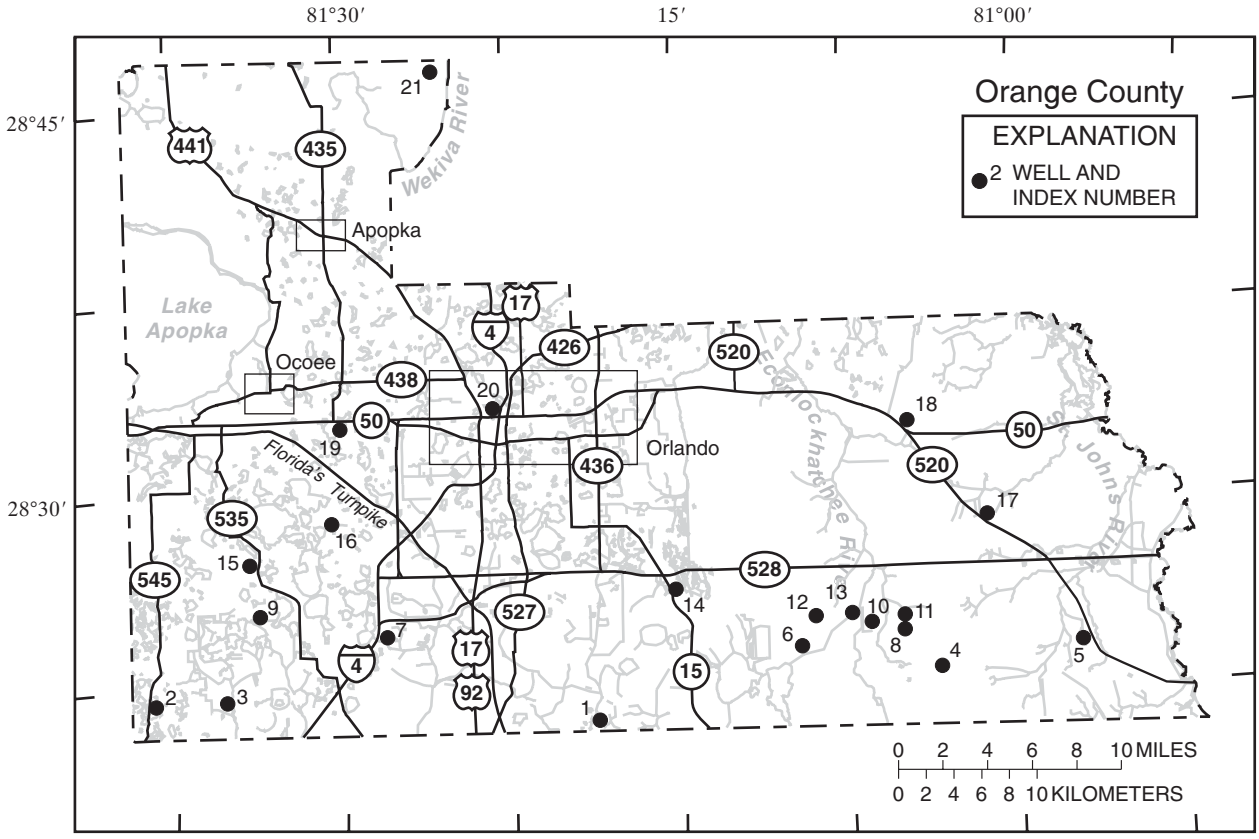

Figure 19.--Location of wells in Orange County.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	47.36	47.55	46.49	46.05	45.51	46.04	43.63	42.27	42.06	46.36	47.51	---
10	46.98	47.12	46.46	46.02	45.72	46.01	43.24	41.60	42.38	46.53	47.77	---
15	46.95	47.33	46.31	46.00	45.87	45.81	43.34	41.00	42.92	46.86	47.87	---
20	46.97	47.30	46.16	46.13	45.75	45.21	43.65	41.09	43.84	46.87	48.18	48.92
25	47.27	47.12	46.11	46.10	46.15	44.54	43.20	41.29	45.04	47.14	48.09	49.02
EOM	47.22	46.87	46.03	45.78	46.25	44.17	42.97	41.68	45.68	47.11	48.65	48.81
MAX	47.51	47.55	46.83	46.17	46.38	46.40	44.11	42.88	45.68	47.14	48.65	49.07

CAL YR 2001 MAX 47.66
WTR YR 2002 MAX 49.07

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	108.22	107.85	107.18	107.03	106.66	107.11	106.57	106.09	105.46	108.21	108.84	110.25
10	108.16	107.66	107.25	106.75	106.78	106.99	106.35	105.90	105.58	108.30	108.89	110.12
15	108.13	107.74	107.15	107.10	106.72	106.77	106.47	105.88	105.74	108.30	109.08	110.11
20	108.03	107.59	106.99	107.03	106.25	106.70	106.44	105.91	106.58	108.21	109.16	110.62
25	107.94	107.50	107.05	106.97	107.20	106.78	106.18	105.75	107.46	108.57	109.22	111.10
EOM	107.77	107.28	106.97	106.83	107.03	106.62	106.44	105.62	108.01	108.66	110.17	110.97
MAX	108.46	107.85	107.36	107.13	107.24	107.18	106.62	106.37	108.01	108.71	110.17	111.18

CAL YR 2001 MAX 108.71
WTR YR 2002 MAX 111.18

WELL NUMBER.--28220208l384602. 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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	110.37	109.91	109.55	109.24	109.00	109.34	108.82	108.51	108.01	110.39	110.86	112.82
10	110.28	109.84	109.50	109.18	108.97	109.26	108.74	108.42	107.95	110.24	110.95	112.62
15	110.20	109.80	109.44	109.20	108.93	109.17	108.69	108.32	108.02	110.22	111.16	112.61
20	110.11	109.74	109.36	109.17	108.88	109.08	108.65	108.28	108.83	110.12	111.26	---
25	110.04	109.70	109.30	109.12	109.41	108.99	108.57	108.22	109.76	110.54	111.38	114.02
EOM	109.95	109.62	109.22	109.06	109.44	108.89	108.64	108.11	110.18	110.73	113.02	113.77
MAX	110.47	109.94	109.60	109.25	109.45	109.43	108.88	108.62	110.18	110.77	113.02	114.03

CAL YR 2001 MAX 110.84
WTR YR 2002 MAX 114.03

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, 99.91 ft above NGVD of 1929, Nov. 3, 1987; well observed dry many days in December 1995.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	97.63	96.06	95.37	95.00	94.57	95.40	94.58	94.36	94.13	98.20	98.13	98.20
10	97.37	95.91	95.28	94.94	94.57	95.27	94.46	94.31	94.16	98.33	98.21	97.52
15	97.41	95.87	95.17	94.90	94.52	95.13	94.56	94.33	94.64	98.17	98.74	---
20	97.15	95.76	95.05	94.93	94.43	94.98	94.62	94.48	95.96	98.22	98.16	---
25	97.12	95.62	94.94	94.81	95.46	94.84	94.49	94.42	97.56	98.98	97.96	---
EOM	96.21	95.50	94.82	94.67	95.49	94.70	94.46	94.24	98.50	97.95	98.34	---
MAX	97.79	96.15	95.47	95.01	95.50	95.48	94.68	94.48	98.50	98.98	98.81	98.24

CAL YR 2001 MAX 99.62
WTR YR 2002 MAX 98.98

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970-72, 1992 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	36.49	36.89	36.25	35.58	35.24	35.39	33.76	32.36	32.01	34.74	35.94	36.90
10	36.34	36.65	36.26	35.33	35.27	35.48	33.43	31.83	32.25	35.08	36.14	37.01
15	36.40	36.97	36.05	35.34	35.52	35.35	33.41	31.42	32.55	35.39	36.22	36.79
20	36.33	36.93	35.92	35.48	35.45	34.96	33.52	31.40	32.95	35.59	36.47	36.78
25	36.50	36.73	35.90	35.56	35.56	34.51	33.30	31.74	33.73	35.71	36.50	36.85
EOM	36.55	36.56	35.76	35.35	35.52	34.04	32.96	31.94	34.19	35.64	36.60	36.72
MAX	36.57	36.97	36.51	35.89	35.77	35.76	34.02	32.86	34.19	35.71	36.60	37.01

CAL YR 2001 MAX 36.97
WTR YR 2002 MAX 37.01

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
MAY													
01...	1500	1130	7.3	23.9	360	118	15.0	93.0	2.90	282	278	62.0	150
SEP													
04...	1123	1170	7.3	23.9	370	119	17.0	100	3.20	282	261	68.0	160

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
MAY				
01...	.4	28.0	675	1770
SEP				
04...	.4	28.0	699	1890

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	40.83	JAN 28	34.98	APR 23	32.88	JUN 20	32.25	SEP 24	35.89		
NOV 26	36.22	FEB 25	35.00	MAY 13	30.81	JUL 29	35.01				
DEC 19	35.64	MAR 25	34.24	28	31.02	AUG 26	35.41				

WATER YEAR 2002 LOWEST 30.81 MAY 13, 2002 HIGHEST 36.22 NOV 26, 2001

ORANGE COUNTY--Continued

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.

WATER LEVEL RECORDS

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 September 2002 (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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1993, 1995, 1999 to current year.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
NOV 14...	1630	32.80	--	--	--	--	--	--	--	--	--	--	--
JAN 31...	1015	31.62	--	--	--	--	--	--	--	--	--	--	--
APR 24...	1050	--	2000	7.8	24.5	340	90.0	18.0	60.0	2.50	105	103	150
JUL 24...	1135	34.28	2520	--	27.1	--	--	--	--	--	--	--	--
SEP 10...	1210	34.74	2330	7.5	27.0	900	245	66.0	190	7.10	141	128	610

Date	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
NOV 14...	360	--	--	--	--
JAN 31...	360	--	--	--	--
APR 24...	110	.2	13.0	637	37100
JUL 24...	370	--	--	--	--
SEP 10...	380	.2	17.0	1740	12400

WELL NUMBER.--282406081093602. Cocoa R near Bithlo, FL.---Continued.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEV-ATION ABOVE NGVD (FEET) (72020)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
DEC													
04...	1340	36.16	2440	--	27.7	--	--	--	--	--	--	--	--
FEB													
25...	1055	35.07	2410	--	27.4	--	--	--	--	--	--	--	--
APR													
29...	1345	32.40	2440	7.3	27.4	870	239	62.0	200	7.30	138	144	590
SEP													
04...	1348	36.80	2430	7.4	27.3	860	236	63.0	210	7.50	143	158	590

Date	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
DEC					
04...	370	--	--	--	--
FEB					
25...	380	--	--	--	--
APR					
29...	390	.2	16.0	1700	12300
SEP					
04...	390	.2	18.0	1670	12700

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	60.03	59.24	58.71	58.40	57.65	59.02	54.93	52.57	52.78	---	---	---
10	58.93	58.93	58.29	58.07	57.92	57.81	54.10	51.76	53.95	60.48	---	---
15	58.28	58.87	57.87	58.51	57.82	57.12	54.55	51.43	54.92	60.51	---	---
20	58.07	58.79	57.87	58.75	57.33	56.65	54.59	51.43	---	---	---	---
25	59.08	58.81	58.15	58.52	58.61	55.52	53.83	51.73	55.89	60.08	---	63.08
EOM	59.36	58.55	57.33	57.93	59.04	55.12	53.90	52.27	---	---	---	62.86
MAX	61.15	59.33	58.71	58.89	59.10	59.15	55.32	53.73	56.69	60.56	---	63.32

CAL YR 2001 MAX 61.37
WTR YR 2002 MAX 63.32

ORANGE COUNTY--Continued

WELL NUMBER.--282510081054501. Cocoa-1 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 (abandoned FEC Railroad grade owned by Magnolia Ranch) and Wewahootee Road, and 9.1 mi south of Bithlo. Owner: City of Cocoa.

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

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 20 in., depth 710 ft, cased to 316 ft.

WATER LEVEL RECORDS

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

DATUM.--Elevation of land-surface datum is 70.26 ft above NGVD of 1929. Measuring point: Hole in cap, 2.30 ft above land-surface datum. Prior August 31, 1988 at elevation 0.23 ft lower; August 31, 1988 to October 1, 2001 at elevation of 0.07 ft higher.

PERIOD OF RECORD.--1966, 1967, 1969 (annually); January 1971 to April 1999 (monthly); May 1999 to September 2000 (bimonthly); November 2000 to March 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.90 ft above NGVD of 1929, Sept. 21, 1994; lowest measured, 29.49 ft above NGVD of 1929, May 15, 2000.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964, 1967, 1968, 1989 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	37.33	DEC 19	37.23	FEB 25	37.48	MAY 13	31.26				
NOV 26	38.07	JAN 28	37.01	MAR 25	36.12	SEP 23	38.37				

WATER YEAR 2002 LOWEST 31.26 MAY 13, 2002 HIGHEST 38.37 SEP 23, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR 30...	1000	927	7.4	24.4	350	120	13.0	64.0	2.10	245	245	83.0	100

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR 30...	.2	23.0	562	1310

ORANGE COUNTY--Continued

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	85.67	85.31	84.85	84.21	84.20	85.10	82.36	81.47	80.31	85.25	86.04	87.46
10	84.84	84.44	84.73	84.88	84.61	84.70	82.34	80.18	80.79	85.50	86.17	87.54
15	84.90	85.01	84.69	85.24	84.48	84.08	82.70	80.40	81.49	85.80	---	87.73
20	84.66	84.88	84.54	85.05	84.35	83.91	82.69	---	82.48	85.25	---	87.99
25	85.14	84.72	84.49	84.73	84.89	83.40	81.34	80.47	84.00	85.65	86.69	88.70
EOM	85.30	84.82	84.35	84.51	85.24	82.44	81.76	80.19	84.77	85.71	---	88.71
MAX	86.21	85.31	85.05	85.32	85.24	85.25	83.00	81.73	84.81	85.81	86.74	88.91

CAL YR 2001 MAX 86.44
WTR YR 2002 MAX 88.91

ORANGE COUNTY--Continued

WELL NUMBER.--282530081065601. OR614 Well near Bithlo, FL.

LOCATION.--Lat 28°25'30", long 81°06'56", in NW¼SW¼SE¼ sec.4, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 200 ft north of Wewahootee Road, and 8.1 mi east of State Highway 15, and 7.0 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 6 in., depth 1,250 ft, cased to 1,170 ft.

WATER LEVEL RECORDS

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

DATUM.--Elevation of land-surface datum is 66.40 ft above NGVD of 1929. Measuring point: Top of casing, 1.95 ft above land-surface datum. Prior to Dec. 23, 1997, measuring point 0.40 ft above land-surface datum.

PERIOD OF RECORD.--March 1995 to April 1999 (monthly); May 1999 to September 2001 (bimonthly); October 2001 to September 2002 (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.96 ft above NGVD of 1929, Feb. 25, 1998; lowest measured, 29.74 ft above NGVD of 1929, May 23, 2000.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1996 to current year.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
DEC													
03...	1232	35.35	2240	--	24.6	--	--	--	--	--	--	--	--
FEB													
25...	1455	34.88	2230	--	25.5	--	--	--	--	--	--	--	--
APR													
30...	1105	32.16	2320	7.3	27.5	720	195	53.0	210	8.10	154	158	440
SEP													
05...	1145	36.12	2230	7.5	28.1	700	192	51.0	210	8.10	154	164	430

Date	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
DEC					
03...	370	--	--	--	--
FEB					
25...	370	--	--	--	--
APR					
30...	400	.2	17.0	1510	12200
SEP					
05...	380	.2	19.0	1450	12600

ORANGE COUNTY--Continued

WELL NUMBER.--282530081065602. OR615 Well near Bithlo, FL.

LOCATION.--Lat 28°25'30", long 81°06'56", in NW¼SW¼SE¼ sec.4, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 200 ft north of Wewahootee Road, and 8.1 mi east of State Highway 15, and 7.0 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 6 in., depth 1,050 ft, cased to 900 ft.

WATER LEVEL RECORDS

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

DATUM.--Elevation of land-surface datum is 66.44 ft above NGVD of 1929. Measuring point: Top of casing, 1.75 ft above land-surface datum. Prior to Dec. 17, 1997, measuring point 0.20 ft above land-surface datum.

PERIOD OF RECORD.--March 1996 to March 1999 (monthly); April 1999 to August 2000 (bimonthly); November 2000 to current year (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.57 ft above NGVD of 1929, Feb. 25, 1998; lowest measured, 29.79 ft above NGVD of 1929, April 23, 2001.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1989, 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
NOV													
14...	1255	31.81	--	--	--	--	--	--	--	--	--	--	--
JAN													
30...	1400	30.84	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	1100	--	573	7.7	27.0	240	63.0	6.80	17.0	1.60	161	171	68.0
JUL													
25...	0950	33.19	583	--	25.3	--	--	--	--	--	--	--	--
SEP													
10...	1540	33.89	570	7.4	27.0	240	65.0	7.30	17.0	1.70	162	172	70.0

Date	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
NOV					
14...	36.0	--	--	--	--
JAN					
30...	36.0	--	--	--	--
APR					
23...	36.0	.5	16.0	396	45000
JUL					
25...	36.0	--	--	--	--
SEP					
10...	36.0	.5	17.0	389	44900

ORANGE COUNTY--Continued

WELL NUMBER.--282530081065602. OR615 Well near Bithlo, FL.---Continued.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
DEC													
03...	1335	35.49	566	--	25.2	--	--	--	--	--	--	--	--
FEB													
25...	1355	34.22	563	--	25.6	--	--	--	--	--	--	--	--
APR													
30...	0922	31.64	570	7.5	26.7	240	65.0	7.10	17.0	1.60	160	160	73.0
SEP													
05...	1512	35.67	580	7.7	26.3	250	69.0	7.30	17.0	1.70	163	156	70.0

Date	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
DEC					
03...	36.0	--	--	--	--
FEB					
25...	36.0	--	--	--	--
APR					
30...	36.0	.5	17.0	377	45000
SEP					
05...	36.0	.5	18.0	383	45600

ORANGE COUNTY--Continued

WELL NUMBER.--282530081065603. Cocoa-S Well near Bithlo, FL.

LOCATION.--Lat 28°25'30", long 81°06'56", in NW¼SW¼SE¼ sec.4, T.24 S., R.32 E., Hydrologic Unit 03080101, in Cocoa well field, 200 ft north of Wewahootee Road, and 8.1 mi east of State Highway 15, and 7.0 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 6 in., depth 1,500 ft, cased to 1,428 ft.

WATER LEVEL RECORDS

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

DATUM.--Elevation of land-surface datum is 66.58 ft above NGVD of 1929. Measuring point: Top of casing, 1.40 ft above land-surface datum.

PERIOD OF RECORD.--March 1996 to April 1999 (monthly); May 1999 to September 2001 (bimonthly); October 2001 to September 2002 (quarterly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.23 ft above NGVD of 1929, Feb. 25, 1998; lowest measured, 20.37 ft above NGVD of 1929, April 23, 2001.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1996 to current year.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
DEC													
03...	1220	25.43	21400	--	24.7	--	--	--	--	--	--	--	--
FEB													
25...	1550	24.86	21300	--	24.9	--	--	--	--	--	--	--	--
APR													
29...	1224	21.94	22000	7.5	26.9	3100	499	440	3860	130	108	113	1620
SEP													
05...	1322	25.81	21600	7.5	28.4	3000	490	436	3880	136	108	115	1750

Date	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
DEC					
03...	7110	--	--	--	--
FEB					
25...	6770	--	--	--	--
APR					
29...	7060	.3	11.0	14500	13900
SEP					
05...	7350	.3	11.9	15000	14100

ORANGE COUNTY--Continued

WELL NUMBER.--282531081054301. Cocoa-O Well near Bithlo, FL.

LOCATION.--Lat 28°25'31", long 81°05'43", in NW¼SW¼SW¼ 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.

WATER LEVEL RECORDS

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 September 2002 (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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 2001 to current year.

ELEVATION AND WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	ELEVATION ABOVE NGVD (FEET) (72020)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
DEC					
04...	0830	10.65	613	23.2	14.0
FEB					
26...	0940	19.84	--	--	--
APR					
30...	0645	22.17	--	--	--
SEP					
05...	1528	23.50	--	--	--

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1968, 1980, 1992 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.53	35.60	35.58	35.23	32.50	35.69	---	30.81	31.75	33.35	33.97	37.27
10	35.25	35.20	34.77	34.15	32.86	34.68	---	30.10	32.20	35.84	35.39	36.51
15	34.11	36.85	35.31	34.57	32.84	34.27	---	31.56	31.45	35.50	36.03	35.13
20	34.48	36.33	34.17	34.28	32.71	34.78	---	32.80	33.95	35.78	36.77	34.87
25	36.78	35.64	35.37	33.55	---	33.17	32.56	32.00	32.79	35.06	35.74	37.24
EOM	36.61	35.74	33.81	33.41	34.46	33.32	31.92	32.37	33.34	34.03	36.96	35.16
MAX	36.97	36.85	35.87	35.24	34.72	35.89	34.20	32.96	34.51	35.86	37.48	37.67

CAL YR 2001 MAX 36.97
WTR YR 2002 MAX 37.67

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
MAY													
02...	0915	625	7.4	23.5	300	116	3.40	20.0	.80	324	334	<.40	11.0
SEP													
05...	1532	630	7.6	23.4	310	117	3.40	20.0	.80	327	314	.20	11.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAY				
02...	.2	31.0	387	480
SEP				
05...	.2	33.0	374	510

< -- Less than

ORANGE COUNTY--Continued

WELL NUMBER.--28253308l082202. 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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 31	30.91	FEB 25	29.94	MAR 18	29.61	APR 29	27.36	SEP 05	31.52

WATER YEAR 2002 LOWEST 27.36 APR 29, 2002 HIGHEST 31.52 SEP 05, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC													
03...	0950	12100	--	23.0	--	--	--	--	--	--	--	--	3380
MAR													
18...	0947	--	--	23.6	--	--	--	--	--	--	--	--	3370
APR													
29...	1114	12100	7.7	23.3	2100	406	250	1820	62.0	110	103	1230	3370
SEP													
05...	0830	11500	7.7	24.1	1900	369	242	1880	65.0	41	38	1220	3340

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
29...	.3	12.0	7840	11200
SEP				
05...	.2	1.50	7160	11000

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 03	37.43	FEB 26	36.59	MAR 18	35.18	APR 29	34.03	APR 30	34.04	SEP 05	37.92

WATER YEAR 2002 LOWEST 34.03 APR 29, 2002 HIGHEST 37.92 SEP 05, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC													
03...	1052	887	--	23.9	--	--	--	--	--	--	--	--	81.0
MAR													
18...	0945	880	--	23.5	--	--	--	--	--	--	--	--	81.0
APR													
30...	0820	877	8.1	23.5	360	112	16.0	46.0	2.40	201	219	140	81.0
SEP													
05...	1030	890	8.2	23.8	360	113	17.0	46.0	2.40	203	221	140	80.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
30...	.2	20.0	568	9920
SEP				
05...	.2	21.0	563	10000

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-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 03	37.44	FEB 25	36.34	APR 29	33.96	APR 30	34.04	SEP 05	37.89

WATER YEAR 2002 LOWEST 33.96 APR 29, 2002 HIGHEST 37.89 SEP 05, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
DEC													
03...	1054	605	--	23.9	--	--	--	--	--	--	--	--	37.0
FEB													
25...	1032	598	--	23.4	--	--	--	--	--	--	--	--	37.0
APR													
30...	1025	607	7.9	23.9	280	81.0	7.00	19.0	1.40	230	225	36.0	37.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
30...	.3	22.0	402	41200

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
SEP 11...	0945	1120	8.2	23.2	380	118	19.0	85.0	3.30	210	213	130	150

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
SEP 11...	.2	19.0	695	4850

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 03	35.09	FEB 25	34.05	APR 29	31.05	APR 30	31.08	SEP 05	35.29

WATER YEAR 2002 LOWEST 31.05 APR 29, 2002 HIGHEST 35.29 SEP 05, 2002

ORANGE COUNTY--Continued

WELL NUMBER.--282533081082206. Cocoa-C (Zone 5) Well near Bithlo, FL.---Continued.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR													
30...	1320	1070	8.0	23.5	360	113	18.0	85.0	3.30	197	192	130	150
SEP													
05...	1332	1230	8.2	23.4	390	119	21.0	100	3.90	189	188	150	180

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
30...	.1	17.0	669	4900
SEP				
05...	.1	17.0	759	5880

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	44.09	44.06	43.11	43.22	42.10	42.89	40.45	---	---	---	45.80	47.70
10	43.70	43.63	43.00	42.99	---	42.48	39.84	---	---	---	45.37	46.90
15	43.45	44.18	42.82	42.81	42.50	42.20	---	---	---	---	45.67	46.03
20	43.52	44.00	42.69	42.74	42.20	41.66	---	---	---	---	45.94	46.74
25	44.08	43.78	42.94	42.67	43.37	40.85	---	---	---	---	45.40	46.84
EOM	43.93	43.47	42.60	42.20	43.38	40.24	---	---	---	44.40	47.38	45.90
MAX	44.83	44.23	43.35	43.29	43.77	43.31	40.46	---	---	44.40	47.38	48.02

CAL YR 2001 MAX 46.40
WTR YR 2002 MAX 48.02

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 shelter floor, 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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	79.88	79.72	79.03	77.67	78.52	79.40	76.94	74.50	74.28	79.53	80.14	82.43
10	78.93	78.27	78.32	78.75	78.39	78.21	75.60	73.61	75.35	79.25	80.50	82.56
15	79.14	79.76	77.97	79.04	78.90	78.40	76.90	73.50	76.05	79.75	81.20	82.49
20	78.23	78.93	78.72	78.96	78.46	77.27	76.09	74.49	77.07	78.74	81.56	83.00
25	79.33	79.27	79.06	79.05	79.24	77.75	74.79	73.81	78.36	79.90	81.73	83.37
EOM	78.81	77.96	78.07	78.69	79.22	75.93	74.68	74.64	78.95	79.82	82.16	82.92
MAX	80.41	79.83	79.10	79.48	79.44	79.43	77.07	75.14	78.95	80.18	82.16	83.45

CAL YR 2001 MAX 80.57
WTR YR 2002 MAX 83.45

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, 76.43 ft above NGVD of 1929, Mar. 1, 1998; lowest, 57.07 ft above NGVD of 1929, June 15, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	66.95	66.98	66.11	---	---	66.97	63.91	61.34	61.02	67.95	68.24	71.48
10	65.98	66.07	65.92	---	---	65.77	62.98	60.47	62.67	67.22	68.82	70.98
15	65.98	67.29	65.53	---	66.44	65.85	63.96	60.73	63.50	67.96	69.93	70.45
20	65.45	66.85	65.97	---	65.61	64.70	63.66	61.11	65.01	66.41	70.49	71.14
25	67.03	66.44	66.47	---	67.29	64.71	62.35	60.80	66.84	67.94	70.09	71.21
EOM	66.68	66.13	65.49	---	67.30	63.45	62.36	61.59	67.35	67.47	70.69	70.33
MAX	68.04	67.39	66.47	66.16	67.60	66.97	64.13	62.13	67.35	68.07	70.72	72.18

CAL YR 2001 MAX 69.53
WTR YR 2002 MAX 72.18

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, 3.00 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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1970-72, 1991 to current year.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	35.22	DEC 19	34.74	FEB 26	34.40	MAY 01	31.67	JUN 20	31.59	SEP 23	35.38
NOV 26	35.36	JAN 28	34.13	MAR 25	33.24	13	30.28	JUL 29	34.26		
DEC 04	35.01	FEB 25	34.20	APR 23	32.17	28	30.53	AUG 26	35.12		

WATER YEAR 2002 LOWEST 30.28 MAY 13, 2002 HIGHEST 35.38 SEP 23, 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
MAY													
01...	0920	842	7.4	24.2	300	73.0	29.0	54.0	2.50	197	205	66.0	100
SEP													
05...	0915	872	7.5	27.6	310	73.0	30.0	57.0	2.60	191	201	75.0	110

Date	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
MAY				
01...	.7	28.0	501	2410
SEP				
05...	.6	26.0	506	2510

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.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960, 1965, 1970-72, 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR													
25...	1140	574	7.7	24.1	200	59.0	13.0	33.0	1.70	160	--	44.0	56.0
SEP													
11...	1240	570	7.6	24.0	210	59.0	14.0	33.0	1.80	158	180	44.0	55.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR				
25...	.2	17.0	350	1190
SEP				
11...	.3	18.0	338	1170

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.77	36.15	35.53	34.95	34.55	34.77	33.21	31.80	31.37	34.17	35.30	36.40
10	35.60	35.88	35.53	34.71	34.68	34.83	32.91	31.30	31.61	34.46	35.48	36.39
15	35.68	36.24	35.37	34.70	34.83	34.71	32.89	30.80	31.90	34.75	35.54	36.13
20	35.64	36.19	35.24	34.80	34.79	34.31	32.96	30.79	32.32	34.87	35.81	36.13
25	35.93	36.03	35.25	34.86	35.01	33.89	32.68	31.10	33.09	35.02	35.80	36.26
EOM	35.90	35.86	35.07	34.68	34.95	33.54	32.38	31.30	33.58	35.00	36.02	36.11
MAX	35.96	36.24	35.81	35.20	35.20	35.12	33.48	32.30	33.58	35.03	36.02	36.40

CAL YR 2001 MAX 36.24
WTR YR 2002 MAX 36.40

ORANGE COUNTY--Continued

WELL NUMBER.--283249081053201. Bithlo-1 Well at Bithlo, FL.---Continued.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
MAY													
01...	0811	566	7.4	24.1	210	62.0	13.0	32.0	1.70	158	172	43.0	54.0
SEP													
05...	0809	--	7.6	--	210	62.0	14.0	32.0	1.90	160	160	43.0	53.0

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAY				
01...	.3	18.0	329	1180
SEP				
05...	.3	19.0	337	1210

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.--Bimonthly 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, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1960 to August 2000 (monthly); October 2000 to current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	48.09	DEC 19	47.80	FEB 25	47.50	MAY 01	45.77	AUG 26	48.04		
NOV 26	48.24	JAN 28	47.18	APR 23	46.13	JUN 20	45.05				

WATER YEAR 2002 LOWEST 45.05 JUN 20, 2002 HIGHEST 48.24 NOV 26, 2001

ORANGE COUNTY--Continued

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.--Bimonthly 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, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1960 to August 2000 (monthly); October 2000 to current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	62.54	DEC 19	59.96	FEB 25	61.43	MAY 01	58.51	AUG 26	61.59		
NOV 26	61.09	JAN 28	59.78	APR 23	58.67	JUN 20	58.60				

WATER YEAR 2002 LOWEST 58.51 MAY 01, 2002 HIGHEST 62.54 OCT 25, 2001

WELL NUMBER.--283253081283401. OR-47 Well at Orlo Vista, FL.

LOCATION.--Lat 28°32'53", long 81°28'34", in SE¼NE¼NE¼ 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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	56.30	55.99	54.91	54.65	53.76	54.28	52.18	50.81	49.74	54.71	56.83	58.84
10	56.02	55.64	54.76	54.45	53.76	53.85	51.78	50.15	49.89	54.69	56.85	58.59
15	55.86	55.83	54.52	54.60	53.87	53.71	52.11	49.74	50.59	55.07	57.17	58.50
20	55.80	55.79	54.46	54.52	53.70	53.27	52.02	49.84	51.58	54.81	57.75	58.99
25	56.09	55.39	54.49	54.22	54.54	52.86	51.28	49.56	53.30	55.60	57.51	59.19
EOM	55.90	55.19	54.15	53.93	54.38	52.22	51.31	49.75	53.94	55.86	58.48	58.78
MAX	56.66	55.99	55.12	54.69	54.66	54.42	52.26	51.40	53.94	55.86	58.48	59.24

CAL YR 2001 MAX 56.66
WTR YR 2002 MAX 59.24

ORANGE COUNTY--Continued

WELL NUMBER.--283333081233501. Lake Adair 9 Deep 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, 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	46.01	DEC 19	44.62	FEB 25	45.76	APR 22	41.67	JUN 24	45.11	AUG 26	47.45
NOV 26	45.32	JAN 28	44.26	MAR 25	42.65	MAY 28	39.38	JUL 29	46.55	SEP 24	50.05

WATER YEAR 2002 LOWEST 39.38 MAY 28, 2002 HIGHEST 50.05 SEP 24, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	46.80	DEC 19	45.07	FEB 25	46.93	APR 22	42.30	JUN 24	45.49	AUG 26	48.33
NOV 26	45.80	JAN 28	44.62	MAR 25	43.09	MAY 28	39.65	JUL 29	47.72	SEP 24	51.82

WATER YEAR 2002 LOWEST 39.65 MAY 28, 2002 HIGHEST 51.82 SEP 24, 2002

ORANGE COUNTY--Continued

WELL NUMBER.--284634081262001. OR650 Well near Mt. Plymouth, FL.

LOCATION.--Lat 28°46'34", long 81°26'20", in SE¼NW¼SW¼ sec.5, T.20 S., R.29 E., Hydrologic Unit 03080101, at Rock Springs Run State Reserve ranger station, south of Spear Rd., 2.8 mi from park entrance south of State Highway 46 and 5 mi east of Mt. Plymouth. Owner: St. Johns River Water Management District.

AQUIFER.--Nonartesian sand of the Surficial Aquifer System, Geologic Unit 112 NRSD.

WELL CHARACTERISTICS.--Drilled, unused, observation, diameter 4 in., depth 15 ft, cased to 5 ft.

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

DATUM.--Elevation of land-surface datum is 34.03 ft above NGVD of 1929. Measuring point: floor of shelter, 2.11 ft above land-surface datum.

PERIOD OF RECORD.--November 1997 to September 2002 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 33.95 ft above NGVD of 1929, June 30, 2002; lowest, 28.03 ft above NGVD of 1929, June 27, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.60	---	---	---	---	---	31.27	30.05	29.13	32.77	32.88	33.74
10	31.46	---	---	---	---	---	30.75	29.78	28.91	33.70	32.83	32.40
15	31.94	---	---	---	---	---	31.74	29.51	28.81	33.41	33.85	32.99
20	31.50	---	---	---	---	31.22	31.33	29.31	31.22	32.87	32.59	32.55
25	---	---	---	---	---	31.07	30.67	29.14	33.17	32.77	31.95	33.73
EOM	---	---	---	---	---	30.71	30.34	28.95	33.95	33.16	33.78	32.64
MAX	31.94	---	---	---	---	31.45	32.06	30.29	33.95	33.93	33.88	33.91

CAL YR 2001 MAX 32.21
WTR YR 2002 MAX 33.95

WELL NUMBER.--284634081262002. OR651 Well near Mt. Plymouth, FL.

LOCATION.--Lat 28°46'34", long 81°26'20", in SE¼NW¼SW¼ sec.5, T.20 S., R.29 E., Hydrologic Unit 03080101, at Rock Springs Run State Reserve ranger station, south of Spear Rd., 2.8 mi from park entrance south of State Highway 46 and 5 mi east of Mt. Plymouth. Owner: St. Johns River Water Management District.

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

WELL CHARACTERISTICS.--Drilled, unused, observation, diameter 4 in., depth 73 ft, cased to 63 ft.

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

DATUM.--Elevation of land-surface datum is 33.84 ft above NGVD of 1929. Measuring point: floor of shelter, 2.26 ft above land-surface datum.

PERIOD OF RECORD.--November 1997 to September 2002 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 33.55 ft above NGVD of 1929, Mar. 20, 1998; lowest, 27.30 ft above NGVD of 1929, June 21,22, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.75	31.90	31.08	31.49	---	---	30.64	29.55	28.42	32.22	32.62	33.20
10	31.63	31.56	31.06	31.40	---	---	30.34	29.24	28.28	32.62	---	32.79
15	31.78	31.87	30.91	---	---	31.26	30.86	28.92	28.28	32.68	---	32.92
20	31.62	31.70	30.82	---	---	30.98	30.65	28.73	29.60	32.18	---	32.79
25	31.77	31.45	30.68	---	---	30.77	30.14	28.52	31.60	32.49	---	33.18
EOM	31.54	31.28	30.54	---	---	30.42	29.86	28.38	32.41	32.66	33.16	32.74
MAX	32.00	31.90	31.24	31.54	---	31.26	30.88	29.82	32.41	32.84	33.16	33.31

CAL YR 2001 MAX 32.22
WTR YR 2002 MAX 33.31

ORANGE COUNTY--Continued

WELL NUMBER.--284634081262003. OR652 Well near Mt. Plymouth, FL.

LOCATION.--Lat 28°46'34", long 81°26'20", in SE¼NW¼SW¼ sec.5, T.20 S., R.29 E., Hydrologic Unit 03080101, at Rock Springs Run State Reserve ranger station, south of Spear Rd., 2.8 mi from park entrance south of State Highway 46 and 5 mi east of Mt. Plymouth. Owner: St. Johns River Water Management District.

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

WELL CHARACTERISTICS.--Drilled, unused, observation, diameter 10 in., depth 506 ft, cased to 450 ft.

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

DATUM.--Elevation of land-surface datum is 33.69 ft above NGVD of 1929. Measuring point: floor of shelter, 2.59 ft above land-surface datum.

PERIOD OF RECORD.--November 1997 to September 2002 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 33.45 ft above NGVD of 1929, Mar. 21, 1998; lowest, 24.48 ft above NGVD of 1929, June 10, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.04	30.14	29.34	29.13	---	---	27.72	26.63	26.04	28.81	29.93	31.21
10	29.92	29.80	29.28	28.93	---	---	27.51	26.19	26.07	29.04	30.05	31.24
15	29.90	30.07	29.19	---	---	28.55	27.65	25.93	26.57	29.22	30.26	31.09
20	29.91	29.99	29.07	---	---	28.29	27.63	25.98	27.02	29.01	30.52	31.16
25	29.99	29.73	29.14	---	---	27.95	27.06	25.88	27.92	29.39	30.39	31.39
EOM	29.95	29.59	28.90	---	---	27.64	26.95	25.92	28.37	29.62	30.92	31.01
MAX	30.23	30.14	29.56	29.23	---	28.55	27.79	27.00	28.37	29.62	30.92	31.45

CAL YR 2001 MAX 30.30
WTR YR 2002 MAX 31.45

WELL NUMBER.--284634081262004. OR662 Well near Mt. Plymouth, FL.

LOCATION.--Lat 28°46'34", long 81°26'20", in SE¼NW¼SW¼ sec.5, T.20 S., R.29 E., Hydrologic Unit 03080101, at Rock Springs Run State Reserve ranger station, south of Spear Rd., 2.8 mi from park entrance south of State Highway 46 and 5 mi east of Mt. Plymouth. Owner: St. Johns River Water Management District.

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

WELL CHARACTERISTICS.--Drilled, unused, observation, diameter 6 in., depth 180 ft, cased to 150 ft.

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

DATUM.--Elevation of land-surface datum is 34.07 ft above NGVD of 1929. Measuring point: floor of shelter, 2.36 ft above land-surface datum.

PERIOD OF RECORD.--November 1997 to September 2002 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 33.33 ft above NGVD of 1929, Mar. 21, 1998; lowest 24.54 ft above NGVD of 1929, June 11, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.01	30.10	29.30	29.10	---	---	27.62	26.57	25.95	28.60	29.79	31.10
10	29.89	29.77	29.23	28.92	---	---	27.42	26.11	25.98	28.83	29.91	31.13
15	29.87	30.04	29.14	---	---	28.45	27.55	25.89	26.47	29.01	30.14	30.99
20	29.87	29.96	29.04	---	---	28.20	27.57	25.91	26.87	28.85	30.42	31.05
25	29.96	29.71	29.11	---	---	27.87	27.01	25.82	27.73	29.21	30.36	31.27
EOM	29.92	29.56	28.87	---	---	27.55	26.88	25.86	28.17	29.46	30.83	31.01
MAX	30.17	30.10	29.53	29.18	---	28.45	27.68	26.94	28.17	29.46	30.83	31.34

CAL YR 2001 MAX 30.24
WTR YR 2002 MAX 31.34

ORANGE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
282141081241701	05-14-02	1300	82112401 24S29E34 TELY	34.92
	09-24-02	1325		48.57
282241081112801	05-13-02	1408	82211103 24S31E23 MOSS PARK	36.66
	09-23-02	1423		42.05
282241081112802	05-13-02	1410	82211104 24S31E23 MOSS PARK SHALLOW	58.74
	09-23-02	1425		61.05
282331081370801	05-14-02	1000	82313702 27416 E USGS WELL HARTZOG RD	97.87
	09-24-02	0930		104.48
282339081010001	05-13-02	1315	OR-0669 COCOA 13T NR BITHLO,FL	31.55
	09-23-02	1345		36.67
282341081040101	05-13-02	1305	82310401USGS OBSER W. COCOA A NR BITHLO. FL.	31.49
	09-23-02	1335		36.66
282532081075601	02-25-02	1340	12510704USGS OBSER W. COCOA B NR. BITHLO, FL.	34.02
	04-29-02	1520		31.60
282354081313001	09-24-02	1130	82313104 24S28E17 RCID OBSER. WELL NO. 1	83.85
282510081054502	02-26-02	1230	82510506USGS OBSER W. COCOA M NR BITHLO, FL.	67.31
	04-30-02	1001		64.73
282510081054503	02-26-02	1220	82510507USGS OBSER W. COCOA 1-T NR. BITHLO, FL.	57.01
	04-30-02	0930		54.89
282532081075601	02-25-02	1340	12510704USGS OBSER W. COCOA B NR. BITHLO, FL.	34.02
	04-29-02	1520		31.60
282543081385801	05-14-02	0915	82513801	91.68
	09-24-02	0910		99.27
282718081215101	05-15-02	0835	PINECASTLE POST OFFICE AT PINECASTLE	39.60
	09-25-02	0915		51.27
282739081054501	02-26-02	0920	82710502USGS OBSER W. COCOA F NR. BITHLO, FL	34.89
	05-01-02	1055		31.94
282847081013702	02-26-02	0850	82810102USGS OBSER W. COCOA K NR BITHLO, FL.	58.60
	05-01-02	0921		57.24
282848080544501	05-13-02	1145	TOSOHATCHEE GAME PRESERVE NR CHRISTMAS,FL	27.20
	09-23-02	1135		32.80
282923081282801	05-15-02	0918	82912802	55.02
	09-24-02	1215		66.48
282936081340201	05-14-02	1108	82913405 23S27E12 ROSS WELL ON LK BUTLER	72.16
	09-24-02	1150		81.85

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

ORANGE COUNTY---Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
283007081122705	05-13-02	0930	OR-0678 UFA EASTERN WWTP NR UNION PARK,FL	32.80
	09-23-02	0917		40.00
283144081254201	05-14-02	1400	83112504 LK MANN DRAIN WELL O-174,ORLANDO	43.10
	09-25-02	0845		54.52
283157081180401	05-15-02	0755	OR-0563 ENGLEWOOD S/D DRAIN WELL NR MAITLAND,FL	39.72
	09-25-02	0950		50.62
283307081300801	05-14-02	1340	83313001 22S28E22 W-5110 LK SHERWOOD D WL	52.85
	09-25-02	0820		61.51
283340081222803	05-14-02	1600	LAKE IVANHOE UPPER FLORIDAN WELL AT ORLANDO,FL	39.84
	09-24-02	1425		50.36
284230081345301	05-14-02	0830	OR0106 UPPER FL NR APOPKA,FL	46.91
	09-30-02	0830		53.54
284238081275803	05-14-02	0755	OR-0548	18.85
	09-24-02	0800		21.91

282127081053901 -- COCOA 44 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	1345	7.4	1620	25.4	450	143	23.0	4.80	160	238	245	280	.2
SEP 04...	1425	7.4	1350	25.4	410	132	19.0	4.10	120	249	245	210	.3

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	21.0	140	955	2350
SEP 04...	23.0	110	819	1970

282145081053801 -- COCOA 43 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	1325	7.3	1460	25.2	420	131	22.0	4.30	130	248	265	240	.3

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	24.0	120	849	1700

282208081053801 -- COCOA 42 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY 01...	0705	7.4	927	24.3	350	122	11.0	2.00	64.0	274	267	97.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY 01...	27.0	54.0	561	1020

282238081053801 -- COCOA 41 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	0740	7.3	900	24.3	280	73.0	24.0	2.20	73.0	200	192	130	.6

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	33.0	54.0	551	830

282250081053801 -- COCOA 40 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	0801	7.3	1080	24.6	330	88.0	27.0	2.70	94.0	193	192	170	.6

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	31.0	85.0	644	1620

282300081092401 -- COCOA 25 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	0835	7.3	588	24.9	250	84.0	9.10	1.80	23.0	230	237	35.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	21.0	25.0	360	630

282304081053901 -- COCOA 39 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	0820	7.3	1330	24.8	390	119	21.0	3.60	120	211	229	220	.3

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	23.0	110	782	1930

282315081053801 -- COCOA 38 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	0845	7.3	1210	25.1	360	110	21.0	3.40	110	210	217	190	.3
SEP													
04...	1350	7.5	1130	25.3	340	105	19.0	3.40	95.0	213	205	170	.3

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	21.0	97.0	703	1970
SEP				
04...	22.0	90.0	666	1930

282315081093601 -- COCOA 24 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	0800	7.4	660	25.1	310	103	13.0	2.10	28.0	233	253	43.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	21.0	71.0	444	1010

282337081021101 -- COCOA 11T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	0910	7.1	649	23.0	310	120	2.70	.80	18.0	310	318	23.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	17.0	<.40	391	560

282337081031801 -- COCOA 9T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	0805	7.2	700	22.5	340	128	3.90	.60	23.0	340	324	25.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	38.0	<.20	427	590

282337081035501 -- COCOA 8T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 29...	1405	7.1	646	22.1	330	126	3.30	.80	14.0	314	312	21.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 29...	18.0	<.20	381	550

< -- Less than

282338081024501 -- COCOA 10T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	0848	7.1	660	22.8	330	128	3.30	.80	17.0	324	306	21.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	25.0	<.20	396	590

282339080595201 -- COCOA 15T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	1100	7.1	668	23.3	310	119	3.60	1.50	23.0	313	300	29.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	26.0	<.20	394	610

282339081002501 -- COCOA 14T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	1045	7.2	623	22.9	290	111	3.50	1.30	21.0	289	271	27.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	27.0	<.20	368	550

< -- Less than

282339081010001 -- OR-0669 COCOA 13T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	1025	7.2	636	23.4	300	114	3.30	1.00	22.0	303	298	23.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	29.0	<.40	381	560

282339081012701 -- COCOA 12T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	0925	7.2	623	23.1	300	115	3.20	.90	18.0	299	280	22.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	26.0	<.20	378	570

282344081054201 -- 82310501 COCOA 11 NR BITHLO, FL

Date	Time	ELEV-ATION ABOVE NGVD (FEET)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAY 02...	0945	--	7.5	1590	25.3	450	136	26.0	4.60	150	204	205	280
SEP 04...	1112	35.85	7.5	1400	24.0	390	117	23.0	4.60	130	202	192	240

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY 02...	.2	20.0	160	935	3740
SEP 04...	.2	21.0	140	845	3170

< -- Less than

282352081040201 -- COCOA 6T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
29...	1340	7.1	667	22.1	340	125	5.50	.80	14.0	320	304	25.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
29...	16.0	<.20	403	590

282356081091901 -- COCOA 22 16IN WELL NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	0930	7.3	597	25.1	250	84.0	9.00	1.70	25.0	228	229	38.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	22.0	26.0	359	630

282405081051701 -- COCOA 3T NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
29...	1235	7.2	622	23.2	310	121	2.70	.80	14.0	312	302	16.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
29...	24.0	<.20	371	600

< -- Less than

282405081053002 -- 82410506 COCOA 4A1 NR BITHLO, FL

Date	Time	ELEV-ATION ABOVE NGVD (FEET)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR													
30...	1027	--	7.4	1640	25.7	470	143	26.0	4.70	160	204	215	300
SEP													
11...	0915	31.14	7.4	1620	25.5	450	136	25.0	4.90	150	203	205	290

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR					
30...	.2	20.0	160	971	5600
SEP					
11...	.2	21.0	150	967	4450

282406081093601 -- COCOA 21 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
29...	1300	7.3	1120	25.0	450	142	22.0	2.60	65.0	189	205	120	.2
AUG													
05...	0930	7.3	1120	25.1	430	136	21.0	2.60	61.0	194	246	110	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
29...	19.0	230	728	1720
AUG				
05...	20.0	220	761	1710

282412081041701 -- COCOA 5T NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
29...	1310	7.1	660	23.0	320	123	2.70	.60	17.0	322	318	22.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
29...	31.0	<.20	399	620

< -- Less than

282412081044702 -- COCOA 2T NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 30...	0740	7.1	671	22.9	340	129	3.10	.70	17.0	325	338	19.0	.1

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 30...	29.0	<.20	416	590

282416081054101 -- 82410502 COCOA 4 NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 29...	1155	7.4	886	24.7	340	111	14.0	2.20	52.0	215	225	89.0	.2
SEP 04...	1054	7.7	824	27.0	340	116	11.0	1.90	48.0	267	245	81.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR 29...	21.0	98.0	544	1330
SEP 04...	23.0	49.0	521	1660

282424081093601 -- COCOA 20 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY 02...	1020	7.6	924	25.0	390	127	18.0	2.10	44.0	205	225	76.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY 02...	20.0	160	597	1440

< -- Less than

282451081054501 -- 82410503 COCOA 5

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
30...	1514	7.4	939	24.6	330	111	13.0	2.00	63.0	271	280	100	.3

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
30...	24.0	57.0	586	2140

282529081073201 -- 82510702 COCOA 7A NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
AUG													
07...	0745	7.3	1430	25.1	480	160	18.0	3.30	120	241	232	230	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
AUG				
07...	21.0	170	942	3510

282530081054201 -- 82510503 COCOA 7 NR BITHLO, FL

Date	Time	ELEV-ATION ABOVE NGVD (FEET)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAY													
01...	1045	16.88	7.4	1280	24.1	420	151	11.0	2.40	110	293	294	190
SEP													
04...	1024	--	7.4	1300	24.1	430	150	12.0	2.60	110	290	282	200

Date	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY					
01...	.2	25.0	79.0	784	1310
SEP					
04...	.2	25.0	85.0	807	1370

282530081054204 -- 82510521 COCOA 7T1 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	1115	7.2	611	23.0	310	117	3.60	1.00	16.0	308	310	17.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	20.0	<.40	367	580

282530081085401 -- 82510802 COCOA 15 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
AUG													
10...	1230	7.3	1620	25.1	--	--	--	<.10	<.1	189	174	260	.2
SEP													
04...	1252	7.4	1530	25.1	490	150	27.0	4.30	130	187	184	250	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
AUG				
10...	--	230	999	--
SEP				
04...	21.0	230	996	4940

282530081091701 -- 82510902 COCOA 16 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
02...	1055	7.3	1050	24.6	350	111	18.0	2.70	80.0	184	196	150	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
02...	19.0	110	638	1570

< -- Less than

282530081094001 -- 82510903 COCOA 17 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
02...	1020	7.4	685	24.7	260	79.0	14.0	1.80	37.0	176	184	63.0	.2
SEP													
04...	1224	7.5	676	27.8	270	84.0	14.0	1.90	38.0	176	178	64.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
02...	19.0	70.0	414	1180
SEP				
04...	20.0	72.0	408	1220

282531081075602 -- COCOA 13R NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
30...	1440	7.4	962	24.2	350	123	10.0	2.00	72.0	258	241	110	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
30...	25.0	74.0	589	900

282531081082201 -- 82510801 COCOA 14 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
SEP													
04...	1327	7.6	644	27.1	270	88.0	13.0	2.00	32.0	194	194	51.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
SEP				
04...	19.0	69.0	396	1100

282548081054201 -- 82510504 COCOA 3 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
02...	0901	7.4	793	24.1	320	119	5.80	1.10	43.0	300	310	63.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
02...	25.0	19.0	472	890

282556081094001 -- COCOA 18 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
29...	1510	7.4	968	24.6	360	112	19.0	2.60	58.0	187	176	110	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
29...	20.0	150	606	1760

282612081054201 -- 82610502 COCOA 2 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
02...	0843	7.4	1080	24.1	380	137	9.30	1.80	88.0	279	278	140	.2
SEP													
04...	0956	7.5	1080	24.2	390	138	10.0	2.00	81.0	280	300	140	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
02...	24.0	69.0	653	3770
SEP				
04...	25.0	74.0	682	3910

282624081090401 -- COCOA 19 NR BITHLO

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
AUG													
05...	1030	7.4	901	24.7	350	112	17.0	2.30	46.0	192	182	79.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
AUG				
05...	21.0	160	602	1600

282632081054502 -- COCOA 8 REPLACEMENT WELL NR BITHLO,FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
02...	0815	7.3	--	24.3	330	119	7.10	1.30	48.0	293	290	76.0	.2
SEP													
04...	0932	7.3	877	24.4	340	124	7.80	1.60	58.0	293	271	91.0	.2

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
02...	24.0	29.0	496	1060
SEP				
04...	25.0	39.0	543	1210

282650081054201 -- 82610504 COCOA 9 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAY													
01...	1111	7.4	1260	24.0	400	138	14.0	2.70	110	261	259	190	.3
SEP													
04...	0854	7.6	1010	27.3	360	125	11.0	2.20	77.0	274	273	130	.4

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
MAY				
01...	24.0	100	744	1610
SEP				
04...	28.0	61.0	639	1210

282716081054501 -- 82710501 COCOA 10 NR BITHLO, FL

Date	Time	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR													
29...	1130	7.4	945	24.0	340	119	9.60	1.60	71.0	269	267	110	.4
SEP													
04...	0816	7.4	919	24.0	340	119	10.0	1.80	68.0	271	241	110	.4

Date	SILICA, DIS-SOLVED (MG/L AS SIO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)
APR				
29...	29.0	53.0	569	890
SEP				
04...	30.0	54.0	568	940

KEY TO SITE LOCATIONS ON FIGURE 20
OSCEOLA COUNTY, GROUND-WATER LEVELS

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9	280619080542601	224
10	280826081031801	224
11	280829080574001	225
12	280905081270101	225
13	281006081162601	226
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15	281429081290501	227
16	281443081140501	227
17	281559081260701	228
18	281630080591001	228
19	281630081024401	229
20	281714081093001	229
21	281719081134001	230
22	281722080543001	230

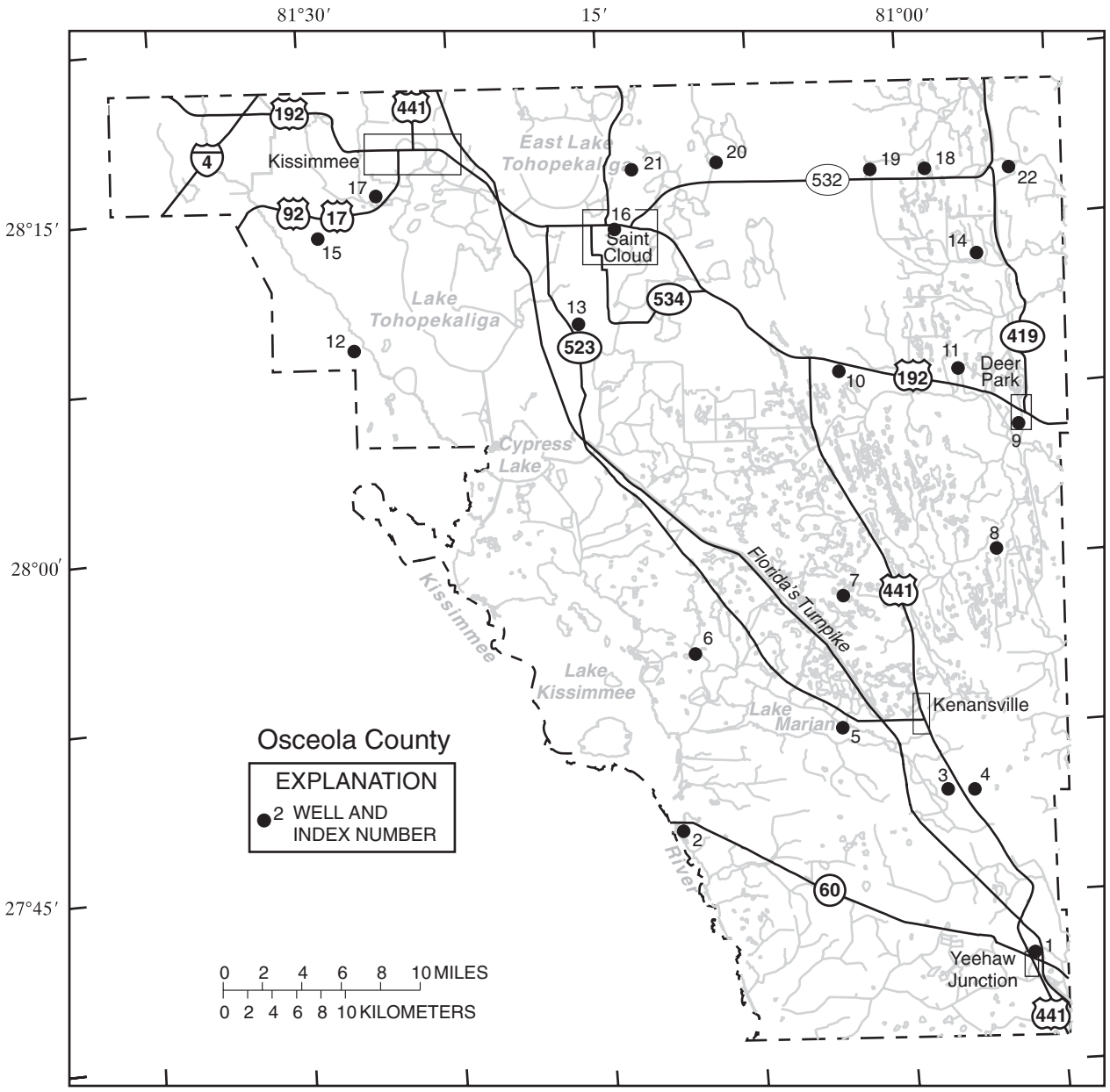

Figure 20.--Location of wells in Osceola County.

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, domestic, 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, 43.35 ft above NGVD of 1929, Sept. 13, 1995; lowest measured, 36.28 ft above NGVD of 1929, May 16, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	41.92	JAN 28	40.63	APR 22	38.96	JUN 20	38.61	SEP 17	42.06		
NOV 26	42.01	FEB 25	40.81	MAY 14	36.93	JUL 29	41.25				
DEC 20	40.88	MAR 25	39.66	28	37.63	AUG 26	41.81				

WATER YEAR 2002 LOWEST 36.93 MAY 14, 2002 HIGHEST 42.06 SEP 17, 2002

WELL NUMBER.--274807081115501. S65 Well near Kenansville, FL.

LOCATION.--Lat 27°48'07", long 81°11'55", in NW¼NW¼NW¼ sec.11, T.31 S., R.31 E., Hydrologic Unit 03080101, on the right bank of the Kissimmee River lock structure S-65, 8 mi east of Indian Lake Estates, 21 mi west of Yeehaw Junction, FL. 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, cased to unknown depth.

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

DATUM.--Land-surface datum is 55.05 ft above NGVD of 1929. Measuring point: Top of PVC casing, at 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	46.14	JAN 28	44.55	APR 22	42.99	JUN 20	42.58	SEP 17	46.19		
NOV 26	46.09	FEB 25	45.03	MAY 14	40.95	JUL 29	45.30				
DEC 20	45.13	MAR 25	43.75	28	41.52	AUG 26	45.87				

WATER YEAR 2002 LOWEST 40.95 MAY 14, 2002 HIGHEST 46.19 SEP 17, 2002

OSCEOLA COUNTY--Continued

WELL NUMBER.-274944080573302. OS0231 Campbell Ranch near Kenansville, FL.

LOCATION.--Lat 27°49'44", long 80°57'33", in NW¼SE¼SE¼ sec.31, T.30 S., R.34 E., Hydrologic Unit 03090101, on Campbell Ranch, 3.8 mi south of Kenansville on U.S. Highway 441 on ranch, approximately 0.1 mi east of U.S. Highway 441 near Kenansville. Owner: St. Johns River Water Management District.

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

WELL CHARACTERISTICS.--Drilled, artesian well, diameter 6 in., depth 420 ft, cased to 360 ft.

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

DATUM.--Land-surface datum is 73.58 ft above NGVD of 1929. Measuring point: Mark on top of casing, 3.36 ft above land-surface datum.

PERIOD OF RECORD.--May 2000 to September 2000 (semiannually); May 2001 to September 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.14 ft above NGVD of 1929, Sept. 17, 2002; lowest measured, 38.94 ft above NGVD of 1929, May 22, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	44.99	JAN 28	43.88	APR 22	41.94	JUN 20	41.56	SEP 17	45.14		
NOV 26	45.09	FEB 25	43.89	MAY 14	39.86	JUL 29	44.29				
DEC 20	44.11	MAR 25	42.74	28	40.54	AUG 26	44.92				

WATER YEAR 2002 LOWEST 39.86 MAY 14, 2002 HIGHEST 45.14 SEP 17, 2002

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 current year (bimonthly), incomplete.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	71.73	FEB 12	70.10	JUN 03	66.48	SEP 23	69.98				
DEC 17	70.11	APR 09	68.78	JUL 18	72.10						

WATER YEAR 2002 LOWEST 66.48 JUN 03, 2002 HIGHEST 72.10 JUL 18, 2002

OSCEOLA COUNTY--Continued

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 casing, 0.69 ft above land-surface datum.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	54.55	FEB 12	53.60	JUN 03	51.33	SEP 17	54.55				
DEC 17	54.25	APR 09	52.86	JUL 18	53.68						

WATER YEAR 2002 LOWEST 51.33 JUN 03, 2002 HIGHEST 54.55 OCT 24, 2001 SEP 17, 2002

WELL NUMBER.--275609081132001. Joe Overstreet Well (OS-319) 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: South Florida Water Management District.

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 287.83 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	48.80	JAN 28	47.60	APR 22	45.38	JUN 20	45.15	SEP 17	49.01		
NOV 26	48.89	FEB 25	47.65	MAY 15	43.39	JUL 29	48.14				
DEC 21	47.95	MAR 25	46.64	28	43.47	AUG 26	48.59				

WATER YEAR 2002 LOWEST 43.39 MAY 15, 2002 HIGHEST 49.01 SEP 17, 2002

OSCEOLA COUNTY--Continued

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. 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	43.95	JAN 29	42.86	APR 23	40.54	JUN 21	40.60	SEP 16	44.15		
NOV 27	44.10	FEB 26	42.93	MAY 14	38.86	JUL 30	43.20				
DEC 20	43.16	MAR 26	41.66	29	39.44	AUG 27	43.87				

WATER YEAR 2002 LOWEST 38.86 MAY 14, 2002 HIGHEST 44.15 SEP 16, 2002

WELL NUMBER.--280036080563801. OS-019 Bull Creek Loop Road Well near Deer Park, FL.

LOCATION.--Lat 28°00'36", long 80°56'38", in NE¼NE¼NW¼ sec.32, T.28 S., R.34 E., Hydrologic Unit 03090101, in Bull Creek Wildlife Management area, 12.4 mi south of U.S. 192 and 7.3 mi west of Deer Park. 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 4 in., depth 400 ft, cased to 240 ft.

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

DATUM.--Elevation of land-surface datum is 62.0 ft above NGVD of 1929. Measuring point: Top of casing, 3.19 ft above land-surface datum.

PERIOD OF RECORD.--May 2000 to September 2000 (semiannually); December 2000 to February 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.15 ft above NGVD of 1929, Nov. 21, 2001; lowest measured, 37.15 ft above NGVD of 1929, May 17, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	42.88	DEC 19	42.37	FEB 26	42.03	SEP 18	43.08				
NOV 21	43.15	JAN 29	42.12	MAY 23	38.00						

WATER YEAR 2002 LOWEST 38.00 MAY 23, 2002 HIGHEST 43.15 NOV 21, 2001

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.

PERIOD OF RECORD.--April 1949 to current year.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	46.43	47.07	45.62	45.06	44.86	45.66	44.62	43.81	42.95	47.76	47.60	48.08
10	46.31	46.31	45.67	44.97	45.06	45.42	44.47	43.60	42.84	47.66	47.51	47.35
15	46.19	46.56	45.48	45.49	45.18	45.22	44.39	43.43	42.72	47.40	47.81	47.30
20	45.95	46.18	45.37	45.44	44.93	45.04	44.27	43.40	44.51	47.26	46.97	46.60
25	47.13	45.90	45.24	45.26	46.14	44.84	44.11	43.21	47.07	46.70	46.60	47.34
EOM	46.26	45.76	45.13	45.02	45.95	44.73	44.06	43.06	47.40	46.65	47.73	46.54
MAX	47.13	47.07	45.74	45.51	46.14	45.88	44.72	43.92	47.40	48.01	47.84	48.23

CAL YR 2001 MAX 48.28
WTR YR 2002 MAX 48.23

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	43.19	JAN 29	42.01	APR 23	39.90	JUN 22	39.91	SEP 18	43.35		
NOV 27	43.37	FEB 26	42.31	MAY 16	37.72	JUL 30	42.41				
DEC 20	42.59	MAR 25	40.90	29	38.49	AUG 27	43.19				

WATER YEAR 2002 LOWEST 37.72 MAY 16, 2002 HIGHEST 43.37 NOV 27, 2001

OSCEOLA COUNTY--Continued

WELL NUMBER.--280829080574001. TH-6 near Holopaw, FL.

LOCATION.--Lat 28°08'29", long 80°57'40", in SW¼NW¼NW¼ sec.18, T.27 S., R.34 E., Hydrologic Unit 03090101, in pasture of Deseret Ranch, 3.6 mi west of State Highway 419 and 5.7 mi northwest of Deer Park. 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 425 ft, cased to 220 ft.

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

DATUM.--Elevation of land-surface datum is 59.46 ft above NGVD of 1929. Measuring point: Top of 4 inch male adaptor 0.9 ft above land-surface datum.

PERIOD OF RECORD.--January 1980 to September 2000 (semiannually); December 2000 to September 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.63 ft above NGVD of 1929, Sept. 15, 1995; lowest measured, 36.62 ft above NGVD of 1929, May 14, 1981.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	42.85	DEC 19	42.38	FEB 26	41.96	SEP 17	43.16				
NOV 21	43.20	JAN 29	41.73	MAY 17	37.49						

WATER YEAR 2002 LOWEST 37.49 MAY 17, 2002 HIGHEST 43.20 NOV 21, 2001

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 ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	63.04	JAN 29	61.46	APR 23	57.03	JUN 21	59.20	SEP 16	63.54		
NOV 26	62.30	FEB 25	61.59	MAY 13	56.75	JUL 30	62.62				
DEC 20	61.72	MAR 25	59.40	30	55.06	AUG 26	63.10				

WATER YEAR 2002 LOWEST 55.06 MAY 30, 2002 HIGHEST 63.54 SEP 16, 2002

OSCEOLA COUNTY--Continued

WELL NUMBER.--281006081162601. Canoe Creek Campground Well near St. Cloud, FL.

LOCATION.--Lat 28°10'06", long 81°16'26", in NE¼ 4SW¼ 4NW¼ 4 sec.1, T.27 S., R.30 E., Hydrologic Unit 03090101, well is 71 ft east of County Road 523 and 5.3 mi south of the intersection of U.S. Highway 441 and 192, and 5.6 mi southeast of St. Cloud. Owner: Mr. T. Scheidi.

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

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

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

DATUM.--Elevation of land-surface datum is 72.86 ft above NGVD of 1929. Measuring point: Hole in sanitary seal 1.8 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 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, 52.51 ft above NGVD of 1929, Sept. 17, 1986; lowest measured, 43.18 ft above NGVD of 1929, May 15, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	49.29	JAN 28	48.48	APR 22	46.07	JUN 20	45.66	SEP 17	49.78		
NOV 26	49.21	FEB 25	48.43	MAY 15	43.18	JUL 29	48.73				
DEC 21	48.57	MAR 25	46.77	28	44.20	AUG 26	49.52				

WATER YEAR 2002 LOWEST 43.18 MAY 15, 2002 HIGHEST 49.78 SEP 17, 2002

WELL NUMBER.--281354080563301. TH-4 near Deer Park, FL.

LOCATION.--Lat 28°13'54", long 80°56'33", in NE¼ 4NW¼ 4SW¼ 4 sec.8, T.26 S., R.34 E., Hydrologic Unit 03090101, in pasture of Deseret Ranch, 1.6 mi west of State Highway 419 and 11.5 mi northwest of Deer Park, FL. Owner: Deseret Ranch.

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

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 4 in., depth 373 ft, cased to 173 ft.

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

DATUM.--Elevation of land-surface datum is 53.35 ft above NGVD of 1929. Measuring point: Top of 4 in. casing 0.03 ft below land-surface datum. Prior to September 2001, at elevation 0.25 ft higher.

PERIOD OF RECORD.--January 1980 to September 2000 (semiannually); December 2000 to February 2002 (monthly), May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.70 ft above NGVD of 1929, Sept. 15, 1995; lowest measured, 34.55 ft above NGVD of 1929, May 19, 1981.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	40.76	DEC 19	40.25	FEB 26	40.00	SEP 17	40.92				
NOV 21	41.07	JAN 29	39.73	MAY 15	35.49						

WATER YEAR 2002 LOWEST 35.49 MAY 15, 2002 HIGHEST 41.07 NOV 21, 2001

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.265 S., R.28 E., Hydrologic Unit 03080101, 600 ft east of South Poinciana Blvd., .9 mi south of U.S. Highway 17-92 and 6.2 mi southwest of Kissimmee. Owner: Mr. 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	63.57	JAN 29	62.30	APR 23	59.06	JUN 21	60.36	SEP 16	64.85		
NOV 26	63.23	FEB 25	62.38	MAY 13	57.68	JUL 30	61.88				
DEC 20	62.10	MAR 25	61.19	30	57.79	AUG 26	64.25				

WATER YEAR 2002 LOWEST 57.68 MAY 13, 2002 HIGHEST 64.85 SEP 16, 2002

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, .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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	46.82	JAN 29	45.73	APR 23	42.20	JUN 22	43.57	SEP 16	46.98		
NOV 27	46.80	FEB 26	46.08	MAY 13	39.75	JUL 30	46.07				
DEC 19	46.04	MAR 26	43.66	29	40.67	AUG 27	46.89				

WATER YEAR 2002 LOWEST 39.75 MAY 13, 2002 HIGHEST 46.98 SEP 16, 2002

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), .4 mi north of U.S. Highway 17-92 and 2.2 mi southwest of Kissimmee. Owner: U.S. Geological Survey, WRD.

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, .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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	57.85	JAN 29	56.39	APR 23	52.96	JUN 21	54.53	SEP 16	59.54		
NOV 26	57.66	FEB 25	56.54	MAY 13	50.79	JUL 30	58.02				
DEC 20	56.39	MAR 25	54.95	30	50.85	AUG 26	58.71				

WATER YEAR 2002 LOWEST 50.79 MAY 13, 2002 HIGHEST 59.54 SEP 16, 2002

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: Land-surface datum.

PERIOD OF RECORD.--December 1979 to September 1982 (semiannually); 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	38.16	JAN 29	37.05	APR 23	34.95	JUN 22	34.86	SEP 17	38.27		
NOV 27	38.28	FEB 26	37.11	MAY 15	32.98	JUL 30	37.10				
DEC 19	37.40	MAR 26	35.84	29	33.47	AUG 27	37.84				

WATER YEAR 2002 LOWEST 32.98 MAY 15, 2002 HIGHEST 38.28 NOV 27, 2001

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, 42.99 ft above NGVD of 1929, Sept. 11, 1995; lowest measured, 35.43 ft above NGVD of 1929, May 13, 1981.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	41.37	JAN 29	40.48	APR 23	38.10	JUN 22	38.08	SEP 17	41.45		
NOV 27	41.45	FEB 26	40.66	MAY 15	36.12	JUL 30	40.40				
DEC 19	40.73	MAR 26	39.06	29	36.69	AUG 27	41.17				

WATER YEAR 2002 LOWEST 36.12 MAY 15, 2002 HIGHEST 41.45 NOV 27, 2001 SEP 17, 2002

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	44.03	44.35	---	42.94	42.53	42.87	41.12	39.52	39.38	42.18	43.30	44.52
10	43.85	44.07	---	42.73	42.69	42.97	40.76	38.91	39.67	42.52	43.56	44.53
15	43.88	44.26	---	42.80	42.83	42.78	40.83	38.46	39.94	42.87	43.74	44.37
20	43.77	44.27	43.33	42.89	42.81	42.35	40.86	38.55	40.45	43.12	44.03	44.25
25	44.01	44.15	43.29	43.00	42.94	41.88	40.51	38.91	41.12	43.21	44.13	44.27
EOM	44.09	---	43.27	42.71	42.91	41.57	40.13	39.10	41.67	43.15	44.17	44.24
MAX	44.09	44.35	43.36	43.38	43.12	43.15	41.54	40.05	41.67	43.21	44.17	44.53

CAL YR 2001 MAX 44.35
WTR YR 2002 MAX 44.53

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 .1 mi southwest of South Eagle Road, in Norcoossee. 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	45.23	DEC 19	44.42	FEB 26	44.42	JUN 22	41.29	AUG 27	46.08		
NOV 27	45.17	JAN 29	43.78	MAY 29	39.19	JUL 30	44.51				

WATER YEAR 2002 LOWEST 39.19 MAY 29, 2002 HIGHEST 46.08 AUG 27, 2002

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.10	31.41	31.14	31.01	30.89	31.16	29.87	28.43	27.77	32.12	31.67	31.73
10	30.96	31.19	31.13	30.91	31.28	31.08	29.30	28.25	27.60	31.64	31.45	31.32
15	31.17	31.47	31.03	31.40	31.16	30.88	30.21	28.04	30.58	31.58	31.78	31.50
20	30.92	31.34	30.90	31.26	31.00	30.65	29.51	28.23	31.80	31.64	32.30	31.41
25	31.67	---	31.00	31.16	31.54	30.23	28.97	27.87	31.62	31.43	31.31	31.77
EOM	31.21	---	30.80	31.07	31.29	30.34	28.69	27.98	31.99	31.51	31.55	31.29
MAX	31.67	31.47	31.21	31.40	31.78	31.27	30.25	28.66	31.99	32.15	32.30	31.77

CAL YR 2001 MAX 33.02
WTR YR 2002 MAX 32.30

OSCEOLA COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
280141081112701	05-16-02	0654	OSF-66 TEST WELL	40.65
	09-17-02	0617		49.28
280418081160401	05-15-02	0731	OSF-64 TEST	46.55
	09-17-02	1028		52.11
280823081210301	05-13-02	0942	OSF-53 S-61 WELL NR ALCOMA	46.32
	09-16-02	0804		52.89
281023081075401	05-13-02	1358	OSF-68 TEST WELL	38.06
	09-16-02	1110		43.74
281105080541401	05-15-02	1324	811054-- 26S34E34 RODEO FIELD DEER PARK NW	35.51
	09-17-02	1327		39.80
281146081211701	05-13-02	1201	CECIL WHALEY WELL	44.51
	09-16-02	0942		52.36
281456081171701	05-13-02	1250	ST.CLOUD POWER PLANT WELL	37.28
	09-16-02	1009		43.77
281506081194601	05-13-02	1100	OSF-70 TEST WELL	41.16
	09-16-02	0916		49.96
281536081324801	10-24-01	1315	FLORIDA POWER WELL(SRK01)	75.44
	11-26-01	1228		75.09
	12-20-01	1105		74.78
	01-29-02	0912		74.80
	02-25-02	1420		75.21
281632080515001	05-17-02	1254	DSR-38 LAKE POINSETT NR ROCKLEDGE,FL	33.30
	09-18-02	0922		38.92
281937081245901	05-13-02	0708	81912401 25S29E09 OS U.L	35.19
	09-16-02	0641		47.33

KEY TO SITE LOCATIONS ON FIGURE 21
PASCO COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	281654082065901	234
2	282259082104101	234

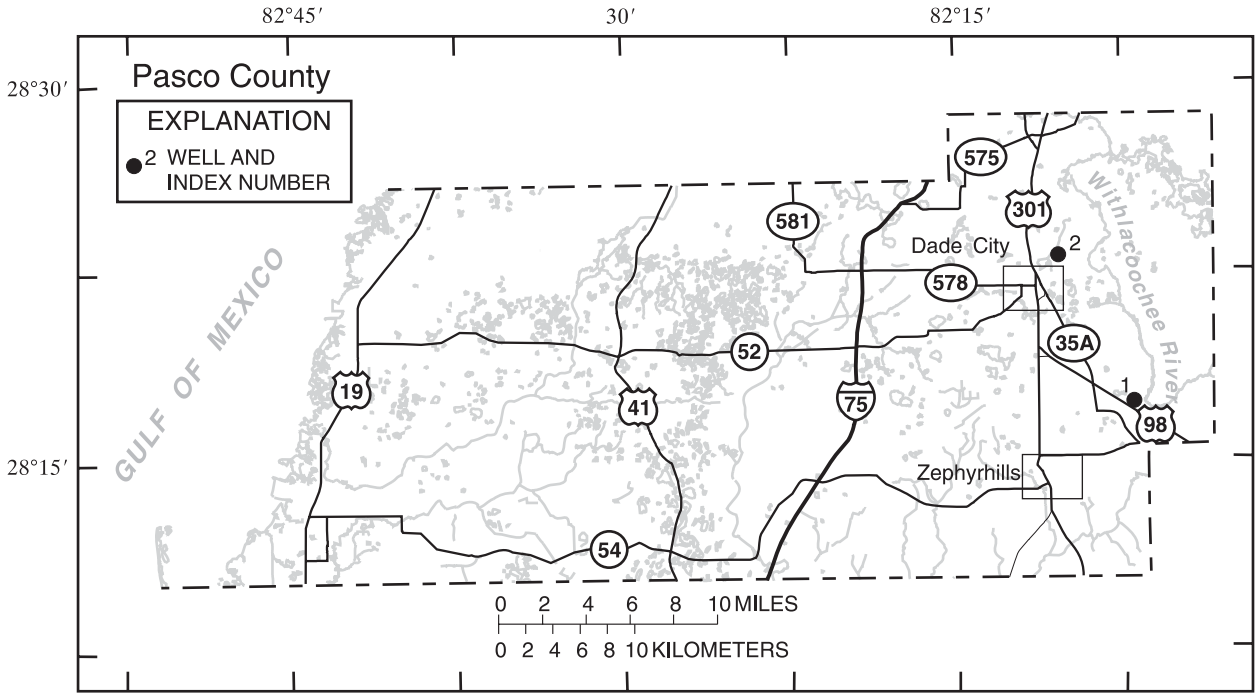

Figure 21.--Location of wells in Pasco County.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 14	77.30	MAR 13	75.79	MAY 14	73.38	AUG 29	77.45				
JAN 22	76.13	MAY 06	73.82	JUL 09	76.30	SEP 16	78.61				

WATER YEAR 2002 LOWEST 73.38 MAY 14, 2002 HIGHEST 78.61 SEP 16, 2002

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.--Monthly measurement with chalked or electric tape.

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 current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 75.19 ft above NGVD of 1929, Mar. 23, 1998; lowest measured, 57.38 ft above NGVD of 1929, June 21, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	66.38	DEC 20	64.46	FEB 26	63.43	APR 23	62.15	JUN 21	60.65	AUG 27	67.47
NOV 28	65.10	JAN 29	63.77	MAR 26	62.91	MAY 29	60.79	JUL 30	65.54	SEP 16	71.53

WATER YEAR 2002 LOWEST 60.65 JUN 21, 2002 HIGHEST 71.53 SEP 16, 2002

PASCO COUNTY

STATION NUMBER	DATE	TIME		STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
282121082071101	05-14-02	1100	82120702	24S22E32 CUMMER OFFICE WELL	69.07
	09-16-02	1210			75.55
282154082142401	05-14-02	1012	82121401	24S21E30 HAYCRAFT WELL	60.35
	09-16-02	1105			69.52
282221082103001	09-16-02	1148	82221001	24S21E26 COLLURA WELL NO. 1	68.77
282428082134501	05-14-02	0955	82421301	24S21E08 LEE WELL	58.75
	09-16-02	1023			67.89
282430082112101	05-14-02	0930	82421102	24S21E10 SELF WELL	58.28
	09-16-02	0912			67.24
282717082142001	05-14-02	0911	82721401	23S21E30 ROSSINI WELL WEST OF TRILBY	50.40
	09-16-02	0848			58.79
282816082123701	05-14-02	0858	82821201	23S21E21 TOMKOW HAY BARN WELL	47.18
	09-16-02	0832			55.98

KEY TO SITE LOCATIONS ON FIGURE 22
POLK COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	273929081080601	238
2	274812081190301	238
3	274815081130301	239
4	274846081262001	239
5	280503081552801	240
6	280531081431601	240
7	280556081532601	241
8	280715081543501	241
8	280719081543301	242
9	281008081441801	242
9	281008081441802	243
10	281057081495002	243
11	281202081391701	244
12	281312082011601	244

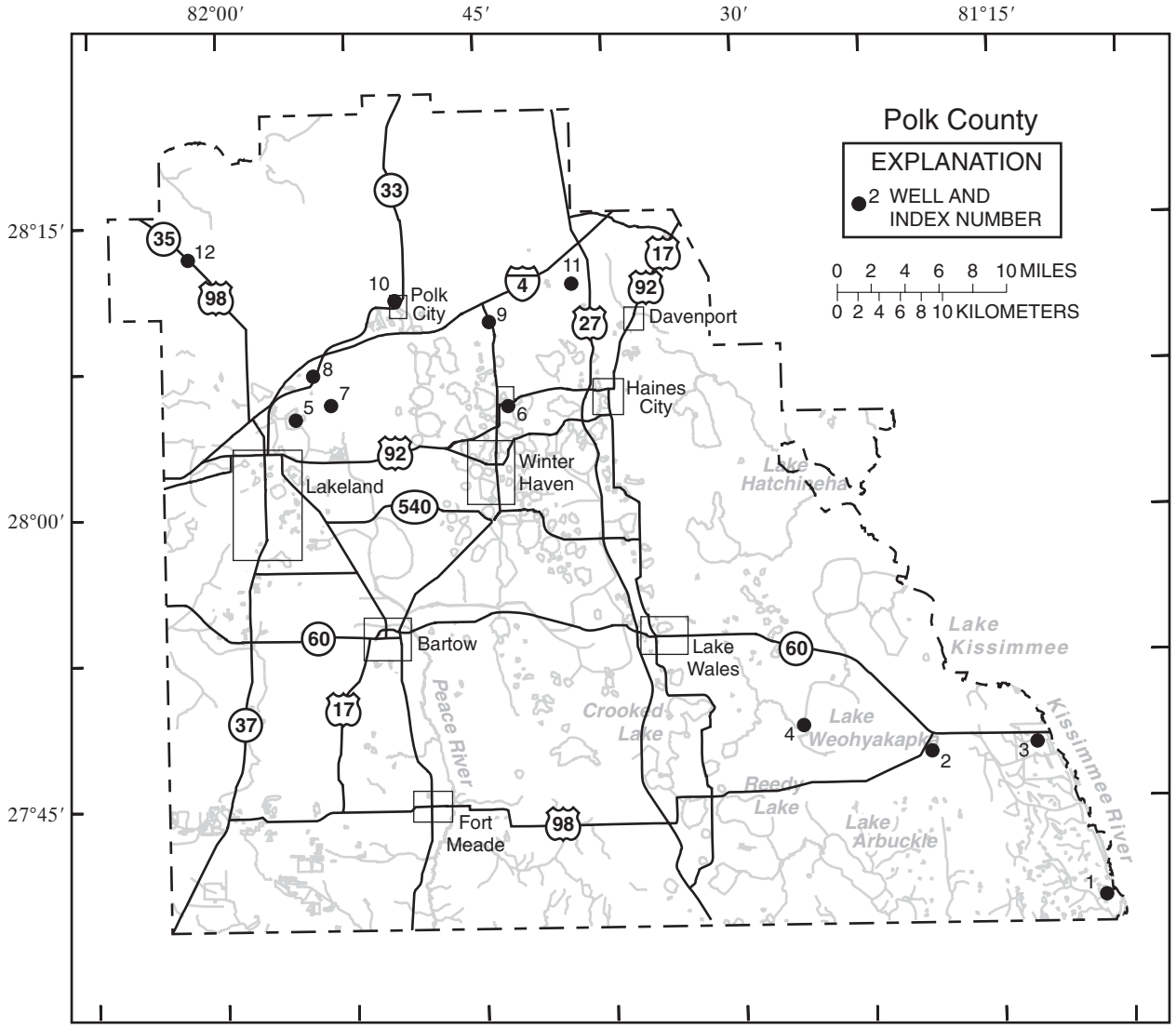

Figure 22.--Location of wells in Polk County.

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 50.80 ft above NGVD of 1929. Measuring point: Top of casing, 3.50 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 September 2002 (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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	47.64	JAN 28	46.50	APR 22	44.69	JUN 20	43.99	SEP 17	47.41		
NOV 26	47.37	FEB 25	46.65	MAY 14	42.81	JUL 29	46.57				
DEC 20	46.67	MAR 25	45.43	28	43.36	AUG 26	47.15				

WATER YEAR 2002 LOWEST 42.81 MAY 14, 2002 HIGHEST 47.64 OCT 25, 2001

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, 105.38 ft above NGVD of 1929, June 18, 1982; lowest, 98.61 ft above NGVD of 1929, June 5, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	101.67	100.90	100.18	101.34	100.79	101.57	100.26	99.63	---	104.10	104.49	104.14
10	101.35	100.74	102.33	101.09	100.91	101.29	100.11	99.51	---	104.10	103.97	103.68
15	101.11	100.62	101.87	101.57	100.77	101.05	99.97	---	---	104.00	104.41	104.47
20	100.95	100.52	101.58	101.54	100.60	100.84	99.92	---	---	104.20	103.92	104.31
25	101.25	100.40	101.33	101.23	102.14	100.62	99.80	---	---	103.70	103.64	104.28
EOM	101.12	100.29	101.11	100.96	101.95	100.41	99.67	---	---	103.36	104.89	103.71
MAX	102.25	101.06	102.34	101.67	102.14	101.85	100.38	99.75	---	104.40	105.04	104.51

CAL YR 2001 MAX 102.44
WTR YR 2002 MAX 105.04

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 (bimonthly); 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	47.31	MAR 14	45.68	MAY 16	42.52	AUG 29	46.89				
JAN 17	45.67	MAY 03	43.83	JUL 01	45.07	SEP 17	47.26				

WATER YEAR 2002 LOWEST 42.52 MAY 16, 2002 HIGHEST 47.31 NOV 20, 2001

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	81.20	MAR 14	79.50	MAY 16	75.40	AUG 29	82.00				
JAN 17	80.50	MAY 03	75.70	JUL 01	81.50	SEP 17	83.00				

WATER YEAR 2002 LOWEST 75.40 MAY 16, 2002 HIGHEST 83.00 SEP 17, 2002

POLK COUNTY--Continued

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 136.83 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	111.85	MAR 13	111.04	MAY 15	104.42	AUG 30	113.09				
JAN 22	110.27	MAY 06	104.40	JUL 11	111.43	SEP 18	114.19				

WATER YEAR 2002 LOWEST 104.40 MAY 06, 2002 HIGHEST 114.19 SEP 18, 2002

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, 126.51 ft above NGVD of 1929, July 10, 1974; lowest daily maximum water level, 109.13 ft above NGVD of 1929, May 15, 1981.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	122.69	JAN 28	120.02	APR 23	115.84	JUN 21	119.24	SEP 18	122.29		
NOV 26	119.83	FEB 25	120.56	MAY 14	112.87	JUL 30	121.40				
DEC 19	119.25	MAR 25	118.07	30	114.10	AUG 26	120.72				

WATER YEAR 2002 LOWEST 112.87 MAY 14, 2002 HIGHEST 122.69 OCT 25, 2001

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	118.90	MAR 13	118.21	MAY 15	113.49	AUG 30	120.61				
JAN 22	117.89	MAY 06	114.47	JUL 11	118.44	SEP 18	121.54				

WATER YEAR 2002 LOWEST 113.49 MAY 15, 2002 HIGHEST 121.54 SEP 18, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	132.45	MAR 13	132.58	MAY 15	131.14	AUG 30	134.81				
JAN 22	132.02	MAY 06	131.46	JUL 11	133.66	SEP 18	134.65				

WATER YEAR 2002 LOWEST 131.14 MAY 15, 2002 HIGHEST 134.81 AUG 30, 2002

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 current year (bimonthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	132.76	MAR 13	132.82	MAY 15	131.48	AUG 30	135.98				
JAN 22	132.26	MAY 06	131.79	JUL 11	134.53	SEP 18	135.84				

WATER YEAR 2002 LOWEST 131.48 MAY 15, 2002 HIGHEST 135.98 AUG 30, 2002

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--60-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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	128.00	127.73	126.12	125.66	125.68	126.49	125.20	123.46	123.31	127.99	128.26	128.96
10	127.89	127.12	126.28	124.91	126.36	126.74	124.73	122.97	124.06	128.02	128.29	128.94
15	127.88	127.09	126.16	126.38	126.49	126.37	125.13	122.57	124.88	128.20	128.33	129.08
20	127.77	126.86	126.27	126.71	126.16	125.77	125.22	123.51	125.95	128.00	128.42	129.04
25	127.91	126.79	126.48	126.64	126.88	125.79	124.23	123.70	126.99	128.09	128.18	129.07
EOM	127.58	126.21	126.57	126.08	126.55	125.23	123.98	123.28	127.53	128.23	128.51	128.99
MAX	128.37	127.73	126.59	126.74	127.04	126.76	125.41	123.80	127.53	128.27	128.51	129.15

CAL YR 2001 MAX 128.41
WTR YR 2002 MAX 129.15

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	131.74	NOV 26	130.74	JUL 30	132.38	AUG 26	132.09	SEP 18	135.27

WATER YEAR 2002 LOWEST 130.74 NOV 26, 2001 HIGHEST 135.27 SEP 18, 2002

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 current year (monthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	129.16	JAN 28	127.36	APR 23	125.30	JUN 21	126.48	SEP 18	130.27		
NOV 26	127.70	FEB 25	127.60	MAY 15	122.81	JUL 30	129.62				
DEC 19	127.14	MAR 25	126.35	30	123.71	AUG 26	129.38				

WATER YEAR 2002 LOWEST 122.81 MAY 15, 2002 HIGHEST 130.27 SEP 18, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	124.90	JAN 29	123.32	APR 23	121.71	JUN 21	122.71	SEP 18	125.86		
NOV 26	124.02	FEB 25	123.32	MAY 15	120.38	JUL 30	124.72				
DEC 20	123.17	MAR 25	122.46	30	120.54	AUG 26	124.79				

WATER YEAR 2002 LOWEST 120.38 MAY 15, 2002 HIGHEST 125.86 SEP 18, 2002

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 current year (monthly).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	102.53	JAN 29	100.64	APR 23	98.85	JUN 21	99.25	SEP 16	104.05		
NOV 28	101.19	FEB 26	101.10	MAY 14	96.92	JUL 30	103.09				
DEC 20	100.38	MAR 26	100.42	29	96.39	AUG 27	103.23				

WATER YEAR 2002 LOWEST 96.39 MAY 29, 2002 HIGHEST 104.05 SEP 16, 2002

POLK COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
273903081185201	05-17-02	1110	73911801 33S30E06 USAF AVON PARK #1	66.29
	09-17-02	0930		73.29
274552081115201	05-16-02	1140	RIVER RANCH REPLACEMENT WELL	38.92
	09-17-02	1211		44.53
274746081202201	05-16-02	1055	747120-- 31S30E08 INDIAN LK ESTATES GOLF COURS	57.02
	09-17-02	1121		64.32
275137081252501	05-16-02	1001	751125-- 30S29E21 E. LK. WALES UTILITY	74.08
	09-17-02	1030		81.78
275622081252301	05-17-02	1233	756125 29S29E28 L. ROSALIE NW	52.50
	09-17-02	1258		60.55
275634081211801	05-16-02	1234	756121-- 29S30E19 KISS STPK NR LK KISSIMMEE	52.15
	09-17-02	1324		57.80
280153081274101	05-16-02	1347	801127-- 28S29E19 LK HATCHI NR HAINES CITY	63.69
	09-17-02	0930		69.49
280558081314801	05-16-02	1415	805131-- 27S28E29 KIMBELL WELL NR LK MARION	67.30
	09-17-02	1456		72.45
281058081495002	05-15-02	1040	USGS 1.75" DRILL PIPE INNER MONITOR AT POLK CITY	122.50
	09-18-02	0935		130.47
281058081495003	05-15-02	1045	USGS 4" ANNULAR MONITOR AT POLK CITY	121.60
	09-18-02	0936		129.52
281058081495004	05-15-02	1037	USGS CORE HOLE 2 AT POLK CITY	120.41
	09-18-02	0933		126.23
281317081491301	05-15-02	1100	813149423 26S25E16	121.81
	09-18-02	0945		128.27
281440081431701	05-15-02	1149	814143232 26S26E04	122.42
	09-18-02	1037		128.51
281532081345001	05-15-02	1215	815134134 26S27E02 LOUGHMAN DP WELL NR LOUGHMAN	86.81
	09-18-02	1115		89.78
281532081493001	05-15-02	1117	815149233 25S25E32	120.70
	09-18-02	1015		126.33
281837081544101	05-17-02	0941	ROMP 88 DEEP NR ROCKRIDGE,FL	99.03
	09-20-02	1238		105.77

KEY TO SITE LOCATIONS ON FIGURE 23
PUTNAM COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	292824081443301	248
2	292948081503001	248
3	293633081594601	249
4	294243081555901	249

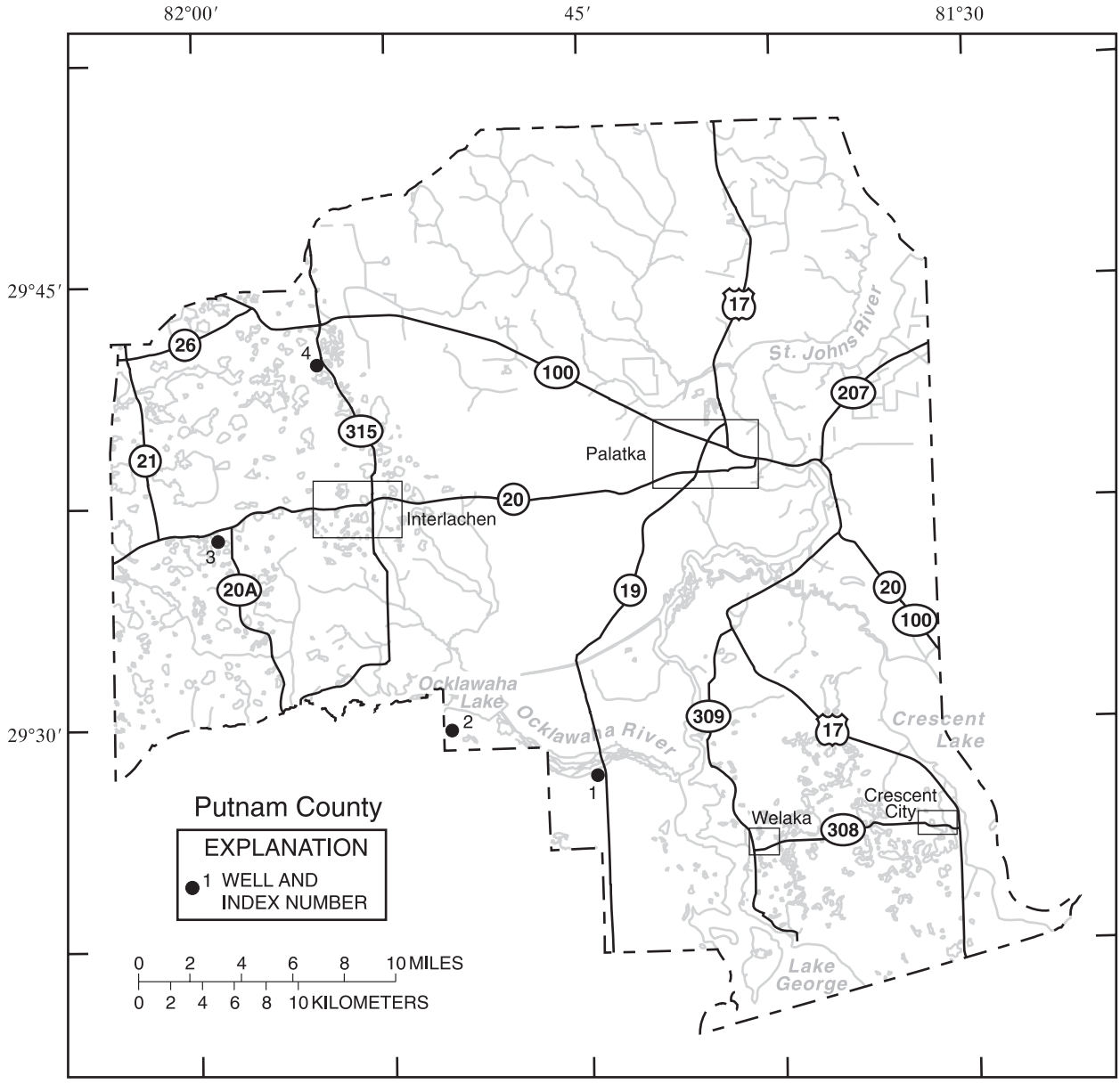

Figure 23.--Location of wells in Putnam County.

PUTNAM COUNTY

WELL NUMBER.--292824081443301. Local Number P-0472 Well. Johnson's Field Well near Welaka, FL.

LOCATION.--Lat 29°28'24", long 81°44'33", in land grant 37, T.12 S., R.25 E., Hydrologic Unit 03080102, 140 ft north of Forest Road 77 in the Ocala National Forest, 0.2 mi west of State Highway 19, and 13.5 mi south of intersection of State Highways 19 and 20 in Palatka. Owner: St. Johns River Water Management District.

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

WELL CHARACTERISTICS.--Drilled, unused, observation, artesian well, diameter 4 in., depth 240 ft, cased to 96 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 13.51 ft above NGVD of 1929. Measuring point: Top of 4 in. casing, 0.49 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.67 ft above NGVD of 1929, Sept. 13, 1983; lowest measured, 2.72 ft above NGVD of 1929, May 16, 1989.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	8.62	DEC 17	8.14	FEB 25	7.10	SEP 19	8.26				
NOV 20	8.86	JAN 28	7.26	MAY 13	6.34						

WATER YEAR 2002 LOWEST 6.34 MAY 13, 2002 HIGHEST 8.86 NOV 20, 2001

WELL NUMBER.--292948081503001. Well RD-77-G near Orange Springs, FL.

LOCATION.--Lat 29°29'48", long 81°50'30", in $NW^{1}/_{4}SW^{1}/_{4}NW^{1}/_{4}$ 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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	20.43	DEC 17	19.16	FEB 22	17.20	APR 19	18.15	JUN 19	19.11	AUG 26	19.43
NOV 26	20.42	JAN 28	17.61	MAR 21	17.27	MAY 23	18.71	JUL 29	19.19	SEP 23	20.08

WATER YEAR 2002 LOWEST 17.20 FEB 22, 2002 HIGHEST 20.43 OCT 24, 2001

PUTNAM COUNTY--Continued

WELL NUMBER.--293633081594601. Local Number P-0464 Well. Cowpen Lake Drainage Well near Johnson, FL.

LOCATION.--Lat 29°36'33", long 81°59'46", in SE¼SE¼NE¼, sec. 21 T.10 S., R.25 E., Hydrologic Unit 03080102, 30 ft south of State Highway 20, 1.9 mi east of intersection of State Highway 20 and 21, and 2.1 mi northwest of Johnson. Owner: Florida Department of Transportation.

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

WELL CHARACTERISTICS.--Drilled, unused, lake overflow, artesian well, diameter 10 in., depth 250 ft, cased to 193 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 91.33 ft above NGVD of 1929. Measuring point: High point of re-bar cover, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1985 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannaually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 83.65 ft above NGVD of 1929, May 8, 1998; lowest measured, 73.48 ft above NGVD of 1929, May 13, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	76.55	DEC 17	75.72	FEB 25	74.97	SEP 17	74.89				
NOV 20	76.11	JAN 28	75.43	MAY 13	73.48						

WATER YEAR 2002 LOWEST 73.48 MAY 13, 2002 HIGHEST 76.55 OCT 25, 2001

WELL NUMBER.--294243081555901. Local Number P-0822 Well. Florida Rock Well near Grandin, FL.

LOCATION.--Lat 29°42'43", long 81°55'59", in SW¼SE¼NE¼, sec. 18 T.9 S., R.24 E., Hydrologic Unit 03080102, 15 ft east of Woods Road, 1.0 mi southeast of Florida Rock sand mine entrance on State Highway 100, and 1.4 mi southwest of Grandin. Owner: Florida Rock.

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

WELL CHARACTERISTICS.--Drilled, unused, observation, artesian well, diameter 4 in., depth 255 ft, cased to 151.75 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Land-surface datum is 104.23 ft above NGVD of 1929. Measuring point: Shelter floor, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1996 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 87.03 ft above NGVD of 1929, May 8, 1998; lowest measured, 75.54 ft above NGVD of 1929, May 13, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	78.66	DEC 17	77.40	FEB 25	76.68	SEP 17	77.67				
NOV 20	77.67	JAN 28	77.27	MAY 13	75.54						

WATER YEAR 2002 LOWEST 75.54 MAY 13, 2002 HIGHEST 78.66 OCT 25, 2001

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

PUTNAM COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
292124081345202	05-14-02	0945	P-0736 MIDDLE RD UPPER DEEP	6.28
	09-19-02	1145		8.72
292218081333101	05-14-02	0910	P-0410 POTMAP WELL NR GEORGETOWN,FL	23.02
	09-19-02	1230		25.81
292239081282401	09-19-02	1345	P-0255	13.70
292239081313702	09-23-02	1015	P-0696	28.14
292254081382101	05-14-02	0815	SJ P421 13S27E39 DRAYTONISLAND EASTSHORELANDIN	9.55
	09-26-02	1220		12.44
292435081441301	05-13-02	1140	NR FRONTIER D H NR SALT SPGS	9.08
	09-19-02	0835		11.42
292555081305003	05-14-02	1120	P-2037 REPLACEMENT WELL AT LAKE STELLA	20.11
	09-19-02	1420		23.84
292628081385501	05-14-02	0745	SJ P396 12S26E23 WELAKAFISHHATCHERYFRUITLAND	10.67
	09-20-02	1115		12.53
292824081341501	05-14-02	1155	P-0246 COL. SAULS	28.78
	09-20-02	1230		31.92
292859081375701	05-14-02	0715	P-408 HWAY 308B	16.05
	09-20-02	1300		18.13
293113081370301	05-14-02	1230	SJ P382 11S27E19 MAINROAD OFFSISCORDPOMONAPARK	26.08
	09-23-02	1130		28.80
293206081351701	05-14-02	1330	P-0817	22.70
	09-23-02	1140		26.01
293300081523901	05-13-02	1020	933152 11S24E11 CE 60 U S A CORPS ENG.	57.76
	09-19-02	0910		58.83
293554081342601	05-14-02	1415	SAN MATEO TOWERSITE DEEP	11.99
	09-17-02	1550		16.20
293733081474801	05-13-02	0910	HOLLISTER WORKCTR CF (P-510)	45.76
	09-19-02	0935		48.59
293755081412903	05-13-02	1225	P-0891 EH MILLER SCHOOL	23.26
	09-19-02	0955		27.74
293933081342801	05-13-02	1325	93913411 10S27E04 P-172 CRACKER SWAMP	9.16
	09-17-02	1525		18.56
293951081413901	05-13-02	1245	P-0123 DHQ DEEP WELL	23.33
	09-19-02	1030		28.86
294255081323501	09-17-02	1315	P-0076 A.J.ROBERTS	22.44
294553081344301	05-13-02	1455	94513401 08S27E-- RIVERDALE NO 61	18.66
	09-19-02	1240		24.48

KEY TO SITE LOCATIONS ON FIGURE 24
ST. JOHNS COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	295357081294301	254
2	295713081203401	254
3	300717081381001	255
4	300758081230501	255
5	301132081225801	256

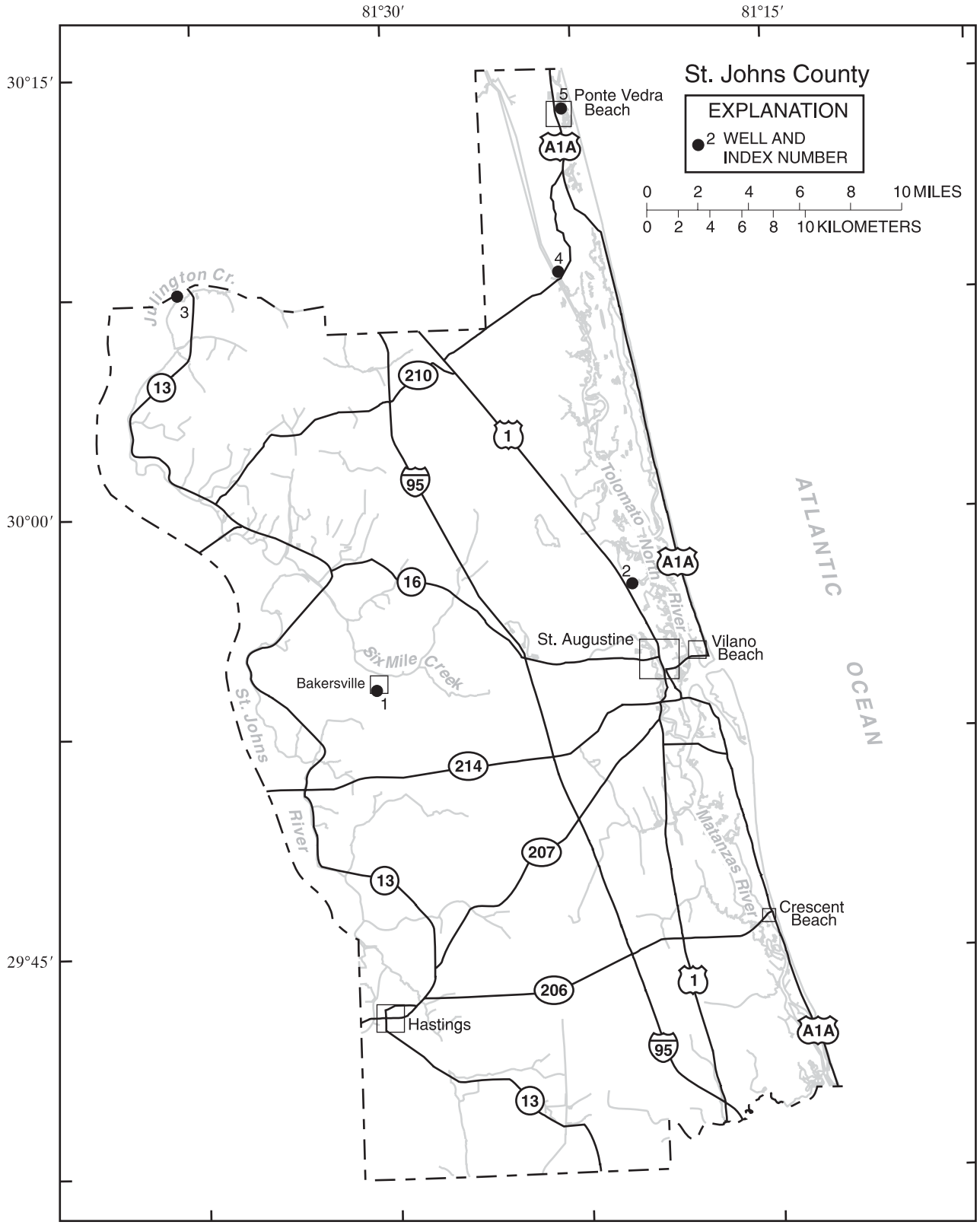

Figure 24.--Location of wells in St. Johns County.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09	29.72	NOV 29	31.82	FEB 26	30.22	AUG 02	30.22

WATER YEAR 2002 LOWEST 29.72 OCT 09, 2001 HIGHEST 31.82 NOV 29, 2001

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.

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, 23.28 ft above NGVD of 1929, May 23, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	28.88	DEC 17	30.08	FEB 25	29.08	APR 23	25.38	JUN 24	26.08	AUG 27	28.18
NOV 20	29.68	JAN 28	30.18	MAR 25	27.98	MAY 28	24.58	JUL 30	26.48	SEP 23	29.08

WATER YEAR 2002 LOWEST 24.58 MAY 28, 2002 HIGHEST 30.18 JAN 28, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	24.92	DEC 18	28.72	FEB 26	28.82	APR 23	22.92	JUN 24	24.62	AUG 27	25.42
NOV 20	27.42	JAN 29	29.82	MAR 25	26.32	MAY 28	22.02	JUL 30	26.32	SEP 23	26.02

WATER YEAR 2002 LOWEST 22.02 MAY 28, 2002 HIGHEST 29.82 JAN 29, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	29.11	DEC 18	31.91	FEB 26	32.11	AUG 02	26.99	SEP 23	30.59		
NOV 20	31.21	JAN 29	32.51	MAR 25	30.71	27	27.79				

WATER YEAR 2002 LOWEST 26.99 AUG 02, 2002 HIGHEST 32.51 JAN 29, 2002

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	-2.49	DEC 18	-1.46	FEB 25	-2.41	APR 23	-3.81	JUN 24	-5.00	AUG 27	-2.34
NOV 20	-1.50	JAN 29	-1.47	MAR 25	-3.28	MAY 28	-5.44	JUL 30	-3.29	SEP 23	-1.34

WATER YEAR 2002 LOWEST -5.44 MAY 28, 2002 HIGHEST -1.34 SEP 23, 2002

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	05-14-02	1135	SJ-104 MEADOWBRICK WELL	11.38
	09-17-02	1200		16.39
294128081291301	05-14-02	1115	SJ-263 D.REID	3.79
	09-17-02	1330		15.47
294213081194401	05-14-02	1155	SJ-0602 DOT I95 SOUTH	12.67
	09-17-02	1140		16.37
294519081184502	05-14-02	1205	SJ-516 DUPONT CTR FIRE TOWER NR YELVINGTON,FL	12.63
	09-17-02	1125		15.62
294701081263301	05-14-02	0830	SJ-317 SIKES WELL NR ELKTON,FL	-3.50
	09-17-02	1255		22.63
295000081212702	05-14-02	1300	SJ0824 TREATY PARK WELL AT ST AUGUSTINE,FL	19.81
	09-17-02	1105		24.89
295039081325401	05-14-02	0810	SJ-133 WILSON	17.00
	09-17-02	0950		25.50
295132081164801	09-17-02	1050	SJ-92 ST.JOHNS CO.PARKS-REC OFFICE	19.31
295427081293101	05-14-02	0755	SJ-0027 BAKERSVILLE TOWER	25.33
295903081334301	05-16-02	1030	SJ-119 (SUB FOR SJ-11)	20.73
	09-17-02	1330		30.93
300340081383901	05-15-02	1123	SJ0508 GREENBRIER RD MIDDLE SCH NR SWITZERLAND,FL	23.23
	09-17-02	1255		31.51
300341081395401	05-14-02	1000	SJ-12	25.27
	09-17-02	1310		31.57
300507081272701	05-14-02	0850	SJ-163 SJRWMD DURBIN OBSERVATION WELL	32.70
	09-17-02	1215		37.81
301037081243901	05-15-02	0950	SJ-10	20.29
	09-24-02	1000		26.29
301212081252401	05-15-02	0930	SJ-63 DEE DOT RANCH AT BULL PEN	34.08
	09-24-02	0940		39.38
301408081253101	05-15-02	0900	SJ-60 DEE DOT RANCH AT CRACKER LODGE	12.94
	09-24-02	0915		20.54

KEY TO SITE LOCATIONS ON FIGURE 25
SEMINOLE COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	284147081220201	260
2	284217081023001	260

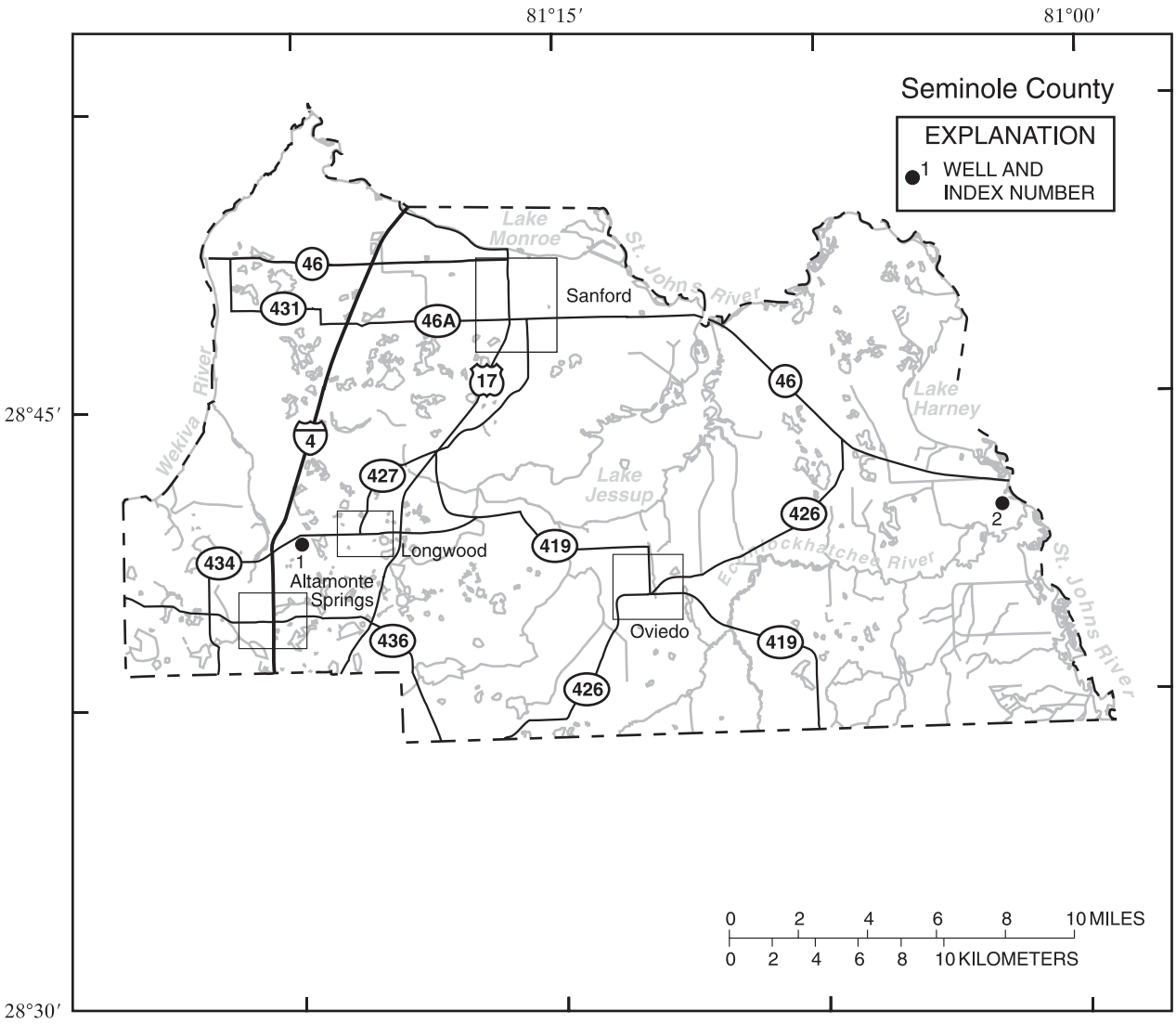

Figure 25.--Location of wells in Seminole County.

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 (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	41.89	42.03	40.50	40.49	39.96	40.36	38.93	36.18	33.65	40.75	42.59	44.12
10	39.08	38.49	40.16	39.96	36.87	39.49	37.28	35.95	36.12	40.72	42.49	43.82
15	42.08	38.67	37.39	40.34	37.04	39.62	38.87	35.27	37.73	41.04	42.77	43.62
20	41.67	41.50	40.02	40.42	39.79	38.94	38.46	36.21	38.55	40.43	43.18	43.78
25	41.72	40.82	37.55	40.19	40.67	38.08	37.11	35.92	39.89	41.17	42.28	44.10
EOM	41.38	40.95	39.47	39.52	40.30	37.49	34.88	36.80	40.28	41.54	43.85	43.20
MAX	42.52	42.11	40.85	40.65	40.85	40.38	39.07	37.15	40.28	41.74	43.85	44.42

CAL YR 2001 MAX 42.71
WTR YR 2002 MAX 44.42

WELL NUMBER.--284217081023001. Kilbee Number 3 Test Well near Geneva, FL.

LOCATION.--Lat 28°42'17", long 81°02'30", in SE¼NE¼SW¼ sec.32, T.20 S., R.33 E., Hydrologic Unit 03080101, near mouth of Econlockhatchee River, 0.5 mi west of St. Johns River, 0.7 mi south of State Road 46, and 5.0 mi southeast of Geneva. 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 4 in., depth 154 ft, cased to 58 ft.

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

DATUM.--Elevation of land-surface datum is 11.76 ft above NGVD of 1929. Measuring point: Top of casing, 1.33 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to September 1995 (semiannually); January 1996 to September 1997 (monthly); May 1998 to September 2000 (semiannually); December 2000 to September 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.88 ft above NGVD of 1929, Oct. 11, 1982; lowest, 5.85 ft above sea level, May 15, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	10.85	DEC 19	9.28	FEB 25	8.78	SEP 16	11.13				
NOV 26	10.40	JAN 28	8.43	MAY 13	6.18						

WATER YEAR 2002 LOWEST 6.18 MAY 13, 2002 HIGHEST 11.13 SEP 16, 2002

SEMINOLE COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
283933081123103	05-13-02	1135	S-1193 AT OVIEDO WTP	29.29
	09-16-02	0731		36.96
284052081212601	05-13-02	1450	S-1014 CHARLOTTE STREET	38.10
	09-16-02	1140		45.84
284133081105701	05-13-02	1108	FLORIDA AVE WELL NR OVIEDO	16.19
	09-16-02	0750		23.69
284247081070801	05-13-02	1040	GENEVA WELL S-0001 NR GENEVA,FL	16.67
	09-16-02	0805		21.56
284412081071102	05-13-02	1010	OLD GENEVA FIRE STATION S-1253	14.22
	09-16-02	0815		19.14
284533081204801	05-13-02	1400	84512005 20S30E08	28.85
	09-16-02	1052		35.01
284715081051802	05-13-02	1234	S-0086 OSCEOLA LANDFILL	8.11
	09-16-02	0920		14.30
284923081234802	05-13-02	1328	S-1230 YANKEE LAKE	17.63
	09-16-02	1017		21.16

KEY TO SITE LOCATIONS ON FIGURE 26
SUMTER COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	282741081585701	264
2	283638082025702	264
3	284619082035101	265
4	285121082112201	266
5	285119082120601	265
6	285207082014501	266

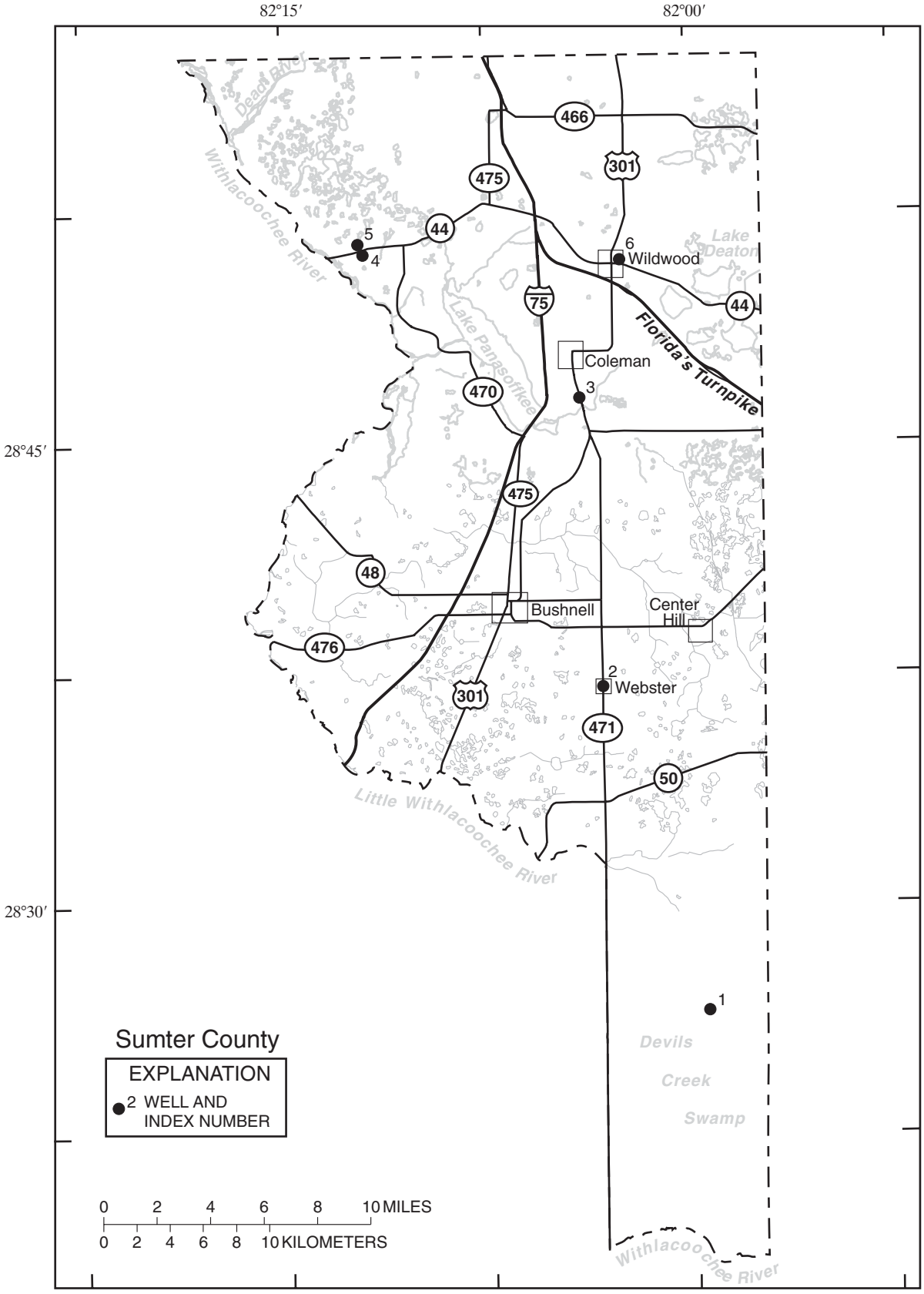

Figure 26.--Location of wells in Sumter County.

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	94.61	MAR 11	94.76	MAY 13	91.24	AUG 29	95.17				
JAN 15	95.19	MAY 07	91.86	JUL 09	93.99	SEP 16	95.83				

WATER YEAR 2002 LOWEST 91.24 MAY 13, 2002 HIGHEST 95.83 SEP 16, 2002

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, 88.50 ft above NGVD of 1929, Mar. 23, 1998; lowest daily maximum water level, 74.45 ft above NGVD of 1929, July 20, 1981.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	81.87	JAN 28	79.80	APR 22	78.91	JUN 20	79.31	SEP 16	86.82		
NOV 27	80.84	FEB 25	79.54	MAY 13	77.87	JUL 29	86.33				
DEC 19	80.14	MAR 25	79.80	28	77.62	AUG 26	86.13				

WATER YEAR 2002 LOWEST 77.62 MAY 28, 2002 HIGHEST 86.82 SEP 16, 2002

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 current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 53.09 ft above NGVD of 1929, Mar. 31, 1987; lowest, 44.23 ft above NGVD of 1929, July 30, 1992.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	50.13	JAN 28	48.80	APR 22	48.30	JUN 20	47.90	SEP 17	50.70		
NOV 27	49.18	FEB 25	48.72	MAY 14	47.65	JUL 29	52.43				
DEC 19	48.81	MAR 25	48.78	28	47.36	AUG 26	51.11				

WATER YEAR 2002 LOWEST 47.36 MAY 28, 2002 HIGHEST 52.43 JUL 29, 2002

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 September 2002.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 44.66 ft above NGVD of 1929, Sept. 17, 2002; lowest water level measured, 43.80 ft above NGVD of 1929, August 26, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 26	43.80	SEP 17	44.66

WATER YEAR 2002 LOWEST 43.80 AUG 26, 2002 HIGHEST 44.66 SEP 17, 2002

SUMTER COUNTY--Continued

WELL NUMBER.--285121082112201. Sumter 13 Well near Wildwood, FL.

LOCATION.--Lat 28°51'21", long 82°11'22", in NW¼NE¼NE¼ sec.10, T.19 S., R.21 E., Hydrologic Unit 03100208, on south side of State Highway 44, 2.0 mi east of Withlacoochee River, and 9.1 mi west of Wildwood. 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 31 ft, cased to 26 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 50.80 ft above NGVD of 1929. Measuring point: Top of 6 in. coupling, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--December 1964 to July 1973 (bimonthly); August 1973 to September 1992; October 1992 to June 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 47.16 ft above NGVD of 1929, Oct. 6, 1982; lowest water level measured, 36.37 ft above NGVD of 1929, June 20, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	40.71	DEC 19	38.74	FEB 25	38.91	APR 22	38.37	MAY 28	36.97		
NOV 27	39.37	JAN 28	38.81	MAR 25	39.32	MAY 14	37.42	JUN 20	36.37		

WATER YEAR 2002 LOWEST 36.37 JUN 20, 2002 HIGHEST 40.71 OCT 25, 2001

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).

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	47.08	MAR 11	45.20	MAY 14	44.09	AUG 28	51.04				
JAN 14	45.64	MAY 07	43.34	JUL 01	45.76	SEP 17	50.46				

WATER YEAR 2002 LOWEST 43.34 MAY 07, 2002 HIGHEST 51.04 AUG 28, 2002

SUMTER COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
281951082012001	05-13-02	0807	81920101GREEN SWAMP L11MD NR DADE CITY, FL	84.85
	09-16-02	0902		91.18
281951082012002	05-13-02	0815	81920102GREEN SWAMP L11MM NR DADE CITY, FL	84.99
	09-16-02	0905		91.35
281951082012003	05-13-02	0805	81920103 GREEN SWAMP L11MS NR DADE CITY, FL	85.50
	09-16-02	0900		91.46
282740082012101	05-13-02	0915	82720101GREEN SWAMP L12BD NR BAY LAKE, FL	86.39
	09-16-02	0812		92.42
282740082012102	05-13-02	0917	82720102GREEN SWAMP L12BS NR BAY LAKE, FL	86.66
	09-16-02	0810		92.44
283432081592401	05-13-02	0705	83415901 22S23E15 JC 51 HUGH ILEY	86.39
	09-16-02	0658		92.24
283539082000301	05-13-02	0948	83520001 25S23E10 JC 67 FLA ROCK IND NO 2	82.70
	09-16-02	1104		88.66
283637082081501	05-13-02	1017	83620801 21S22E32 SCL RR USED 155	60.94
	09-16-02	1140		66.64
283829082123701	05-13-02	1036	83821202 21S21E21 JC 47 N R DOKE	40.19
	09-16-02	1205		46.77
283904082001601	05-13-02	1229	83920001 21S23E22 JC 65 U S GEOL SURVEY	78.47
	09-17-02	0645		83.44
283952082022001	05-14-02	0703	83920201 21S23E18 JC 42 PARROT RANCH	71.94
	09-16-02	1328		83.42
283953082051401	05-13-02	1202	83920501 21S22E14 JC 36	70.82
	09-16-02	1310		76.75
284105081594301	05-13-02	1250	STUART RANCH REPLACEMENT NR CENTER HILL	82.34
	09-16-02	1401		88.59
284115082062601	05-14-02	0738	84120601 21S22E04 JC 27A	56.53
	09-17-02	0754		61.44
284146082061401	05-14-02	0750	84120604 21S22E03 JC 32	56.62
	09-17-02	0825		59.88
284147082052801	05-14-02	0808	84120506 21S22E03 JC 34	63.61
	09-17-02	0737		66.74
284212082071701	05-14-02	0840	84220702 20S22E32 JC 63 U S GEOL SURVEY	53.18
	09-17-02	0807		55.98
284317082142601	05-13-02	1120	84321401 20S21E30 TRAILER PARK NW OF WAHOO	37.58
	09-16-02	1242		42.02
284435082011701	05-14-02	1002	BRENTWOOD WELL NR SUMTERVILLE,FL	57.03
	09-17-02	0844		63.33

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

SUMTER COUNTY-Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
284449082055201	05-14-02	1027	84420502 20S22E15 WOODWARD RESIDENCE	39.36
284449082055201	09-17-02	0935	84420502 20S22E15 WOODWARD RESIDENCE	44.37
284703082001701	09-17-02	0920	LOWES BURNED HOUSE WELL NR ADAMSVILLE, FL	56.18
284809082080701	05-14-02	1050	84820801 19S22E30 HOWARD KENT	37.19
	09-17-02	0955		39.77
284955081595801	05-14-02	1220	BYRD TRAILER WELL NR ORANGE HOME,FL	61.06
	09-17-02	1135		67.54
285112082124001	05-14-02	1110	85121201 19S21E09 JC 60 U S GEOL SURVEY	33.68
285150082044001	05-14-02	1139	85120401 19S22E02 JC 58 U S GEOL SURVEY	43.53
	09-17-02	1055		48.33
285420081571901	05-14-02	1310	SMITH WELL NO.2 NR CHERRY LAKE,FL	46.47
	09-17-02	1355		52.78
285422082001901	05-14-02	1253	HATCHER WELL AT LAKE MIONA NR OXFORD,FL	41.72
	09-17-02	1336		47.46
285536082044001	05-14-02	1155	85520401 18S22E14 G N SMITH	42.47
	09-17-02	1110		48.21

KEY TO SITE LOCATIONS ON FIGURE 27
VOLUSIA COUNTY, GROUND-WATER LEVELS

Index number	Site number	Page number
1	285745081054001	272
2	285934081041801	272
3	290138081203202	273
4	290230081123401	273
5	290806081013901	274
6	291508081302801	274
7	291523081095001	275
8	291905081251001	275

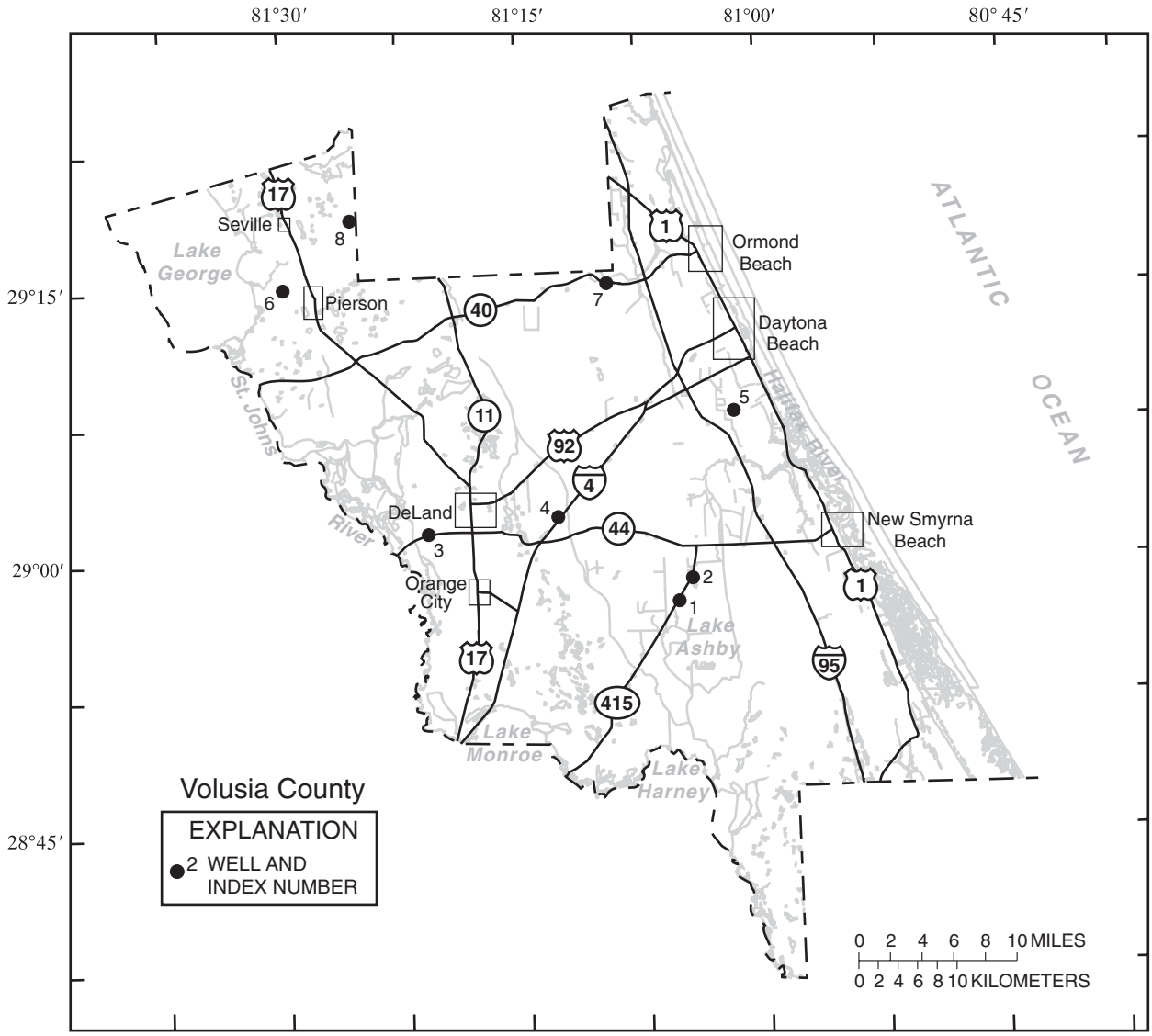

Figure 27.--Location of wells in Volusia County.

VOLUSIA COUNTY

WELL NUMBER.--285745081054001. USGS Well at Alamana, FL.

LOCATION.--Lat 28°57'05", long 81°05'40", in SW¼SW¼SE¼ sec.2, T.18 S., R.32 E., Hydrologic Unit 03080101, on west side of Lake Ashby Road, 0.2 mi southeast of the intersection with State Highway 415, and 0.8 mi north of Alamana. 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 121 ft, cased to 113 ft.

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

DATUM.--Elevation of land-surface datum is 35.90 ft above NGVD of 1929. Measuring point: Top of shelter floor, 2.99 ft above land-surface datum.

PERIOD OF RECORD.--May 1936 to September 1950 (monthly); October 1950 to September 1999; October 1999 to September 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 32.10 ft above NGVD of 1929, September 1945; lowest, 24.31 ft above NGVD of 1929, July 3, 1998.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	30.07	DEC 19	29.69	FEB 25	29.34	APR 22	28.09	JUN 24	28.59	AUG 26	29.75
NOV 26	30.25	JAN 28	29.79	MAR 25	28.41	MAY 28	25.53	JUL 29	29.52	SEP 17	29.07

WATER YEAR 2002 LOWEST 25.53 MAY 28, 2002 HIGHEST 30.25 NOV 26, 2001

WELL NUMBER.--285934081041801. USGS Test Well Number 10 near Samsula, FL.

LOCATION.--Lat 28°59'34", long 81°04'18", in SE¼NW¼SW¼ sec.26, T.17 S., R.32 E., Hydrologic Unit 03080101, 45 ft east of State Highway 415 and 1.3 mi south of State Highway 44. Owner: U.S. Geological Survey.

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

WELL CHARACTERISTICS.--Drilled, observation, diameter 3 in., depth 442.5 ft, cased to 105 ft.

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

DATUM.--Elevation of land-surface datum is 34.53 ft above NGVD of 1929. Measuring point: Top of casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.28 ft above NGVD of 1929, September 25, 2001; lowest measured, 22.12 ft above NGVD of 1929, May 17, 1990.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	28.86	DEC 19	28.67	FEB 25	28.24	SEP 17	27.95				
NOV 26	29.00	JAN 28	28.41	MAY 14	23.33						

WATER YEAR 2002 LOWEST 23.33 MAY 14, 2002 HIGHEST 29.00 NOV 26, 2001

VOLUSIA COUNTY--Continued

WELL NUMBER.--290138081203202. V-115 USGS Test Well J-2 west of DeLand, FL.

LOCATION.--Lat 29°01'38", long 81°20'32", in NE¼NE¼NE¼ sec.13, T.17 S., R. 29 E., Hydrologic Unit 03080101, 100 ft south of State Highway 44, 1.1 mi west of the intersection of State Highway 44 and State Highway 15A. Owner: U.S. Geological Survey.

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

WELL CHARACTERISTICS.--Drilled, observation well, diameter 4 in., depth 500 ft, cased to 252 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape.

DATUM.--Elevation of land-surface datum is 41.65 ft above NGVD of 1929. Measuring point: Top of casing 3.00 ft above land-surface datum.

PERIOD OF RECORD.-- January 1967 to November 1968 (quarterly); May 1969 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.61 ft above NGVD of 1929, Nov. 4, Sept. 3, 1969; lowest measured, 5.61 ft above NGVD of 1929, Jan. 25, 2001.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	13.76	DEC 19	13.38	FEB 25	11.71	SEP 18	13.26				
NOV 26	13.79	JAN 28	12.56	MAY 15	9.18						

WATER YEAR 2002 LOWEST 9.18 MAY 15, 2002 HIGHEST 13.79 NOV 26, 2001

WELL NUMBER.--290230081123401. V-118 USGS Test Well Number 5, east of Deland, FL.

LOCATION.--Lat 29°02'30", long 81°12'34", in NE¼NE¼NE¼ sec.8, T.17 S., R.31 E., Hydrologic Unit 03080101, 2.1 mi northeast of State Highway 44, 100 ft west of Interstate 4. 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 241 ft, cased to 72 ft.

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

DATUM.--Elevation of land-surface datum is 39.30 ft above NGVD of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum. Prior to October 1, 2001, elevation of land-surface datum was 37.03 ft above NGVD of 1929.

PERIOD OF RECORD.-- May 1976 to November 1997 (semiannually); January 1998 to December 1998 (bimonthly); May 1999 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.87 ft above NGVD of 1929, Nov. 26, 2001; lowest measured, 28.41 ft above NGVD of 1929, Sept. 20, 1977.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	37.59	DEC 19	37.60	FEB 25	36.77	SEP 16	37.84				
NOV 26	37.87	JAN 28	37.27	MAY 13	34.58						

WATER YEAR 2002 LOWEST 34.58 MAY 13, 2002 HIGHEST 37.87 NOV 26, 2001

VOLUSIA COUNTY--Continued

WELL NUMBER.--290806081013901. V-162 City Observation Well Number 2 at Port Orange, FL.

LOCATION.--Lat 29°08'06", long 81°01'39", in NE¼NE¼NE¼ sec.7, T.6 S., R.33 E., Hydrologic Unit 03080101, located .25 mi north of water plant entrance off of Clyde Morris Blvd., northwest of intersection Herbert Street and Clyde Morris Blvd. Owner: City of Port Orange.

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

WELL CHARACTERISTICS.--Drilled, observation well, diameter 3 in., depth 223.5 ft, cased to 103 ft.

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

DATUM.--Elevation of land-surface datum is 26.37 ft above NGVD of 1929. Measuring point: Top of coupling at land-surface datum. Prior to October 1, 2001, elevation of land-surface datum was 30.00 ft above NGVD of 1929.

PERIOD OF RECORD.-- May 1981 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.61 ft above NGVD of 1929, Sept. 25, 2001; lowest measured, 4.86 ft below land-surface datum, May 15, 1985.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	4.20	DEC 19	3.37	FEB 25	4.50	SEP 17	3.71				
NOV 26	5.75	JAN 28	3.99	MAY 14	-4.31						

WATER YEAR 2002 LOWEST -4.31 MAY 14, 2002 HIGHEST 5.75 NOV 26, 2001

WELL NUMBER.--291508081302801. V-065 SJRWMD Well 2-M west of Pierson, FL.

LOCATION.--Lat 29°15'08", long 81°30'28", in SW¼SW¼NE¼ sec.30, T.14 S., R. 28 E., Hydrologic Unit 03080101, 20 ft east of Old Bubbly Trail, 1.75 mi north of Shell Harbor Road, 2.0 mi west of Pierson. Owner: St. Johns River Water Management District.

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

WELL CHARACTERISTICS.--Drilled, observation well, diameter 4 in., depth 180 ft, casing length unknown.

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

DATUM.--Elevation of land-surface datum is 10.85 ft above NGVD of 1929. Measuring point: Top of casing 4.23 ft above land-surface datum. Prior to May 2002 casing was 2.35 ft above land-surface datum.

PERIOD OF RECORD.-- February 1979 to September 2000 (semiannually); December 2000 to May 2002 (monthly) discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.26 ft above NGVD of 1929, Sept. 27, 1979; lowest measured, 2.58 ft above NGVD of 1929, Dec. 21, 2000.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	14.59	NOV 26	14.35	DEC 19	14.22	JAN 28	13.85	FEB 25	14.21	MAY 13	11.33

WATER YEAR 2002 LOWEST 11.33 MAY 13, 2002 HIGHEST 14.59 OCT 25, 2001

Note.--Negative figures indicate water level below NGVD of 1929.

VOLUSIA COUNTY--Continued

WELL NUMBER.--291523081095001. V-130 USGS Well Number 1 near Ormond Beach, FL.

LOCATION.--Lat 29°15'23", long 81°09'50", in NE¼NW¼SW¼ sec.27, T.14 S., R. 31 E., Hydrologic Unit 03080101, 20 ft north of State Highway 40 and 3 mi west of I-95. Owner: U.S. Geological Survey.

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

WELL CHARACTERISTICS.--Drilled, observation well, diameter 3 in., depth 242 ft, cased to 82 ft.

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

DATUM.--Elevation of land-surface datum is 22.49 ft above NGVD of 1929. Measuring point: Casing at land-surface datum.

PERIOD OF RECORD.-- May 1976 to September 2000 (semiannually); December 2000 to February 2002 (monthly); May 2002 to current year (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.61 ft above NGVD of 1929, May 17, 1994; lowest measured, 11.44 ft above NGVD of 1929, May 13, 2002.

ELEVATION (IN FEET ABOVE NGVD), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	17.00	DEC 19	16.74	FEB 25	15.79	SEP 16	16.85				
NOV 26	16.95	JAN 28	16.16	MAY 13	11.44						

WATER YEAR 2002 LOWEST 11.44 MAY 13, 2002 HIGHEST 17.00 OCT 25, 2001

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), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	20.63	JAN 29	20.20	MAY 13	15.82	JUL 29	20.25	SEP 25	20.78		
NOV 26	20.99	FEB 25	20.32	29	17.09	AUG 27	20.41				
DEC 17	20.61	MAR 26	18.44	JUN 20	18.26	SEP 16	20.66				

WATER YEAR 2002 LOWEST 15.82 MAY 13, 2002 HIGHEST 20.99 NOV 26, 2001

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 2001 TO SEPTEMBER 2002

VOLUSIA COUNTY

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
284840081115701	05-14-02	0830	V-0818 OSTEEN RANCH	14.28
	09-17-02	0915		19.01
284859080501002	05-14-02	1005	V-0840 MIGOR SHILOH RD NR OAK HILL,FL	.66
	09-17-02	1050		4.12
285143080521401	05-14-02	0945	85105202 LOOMIS NURSERY WELL W OF OAK HILL	6.04
	09-17-02	1030		9.47
285221081095002	05-14-02	0800	85210902 USGS TEST WELL G-2, N. OF OSTEEN, FL	21.24
	09-17-02	0930		26.85
285419081041001	05-14-02	0850	V-0198 LAKE ASHBY TWR DEEP	10.43
	09-17-02	0955		18.59
285442081181401	05-14-02	1340	V-0196 ORANGE CITY TWR DEEP	15.91
	09-18-02	1235		21.17
285524081132403	05-15-02	1610	V-0772 GALAXY MIDDLE SCHOOL	8.73
	09-17-02	1235		14.55
285813081142402	05-15-02	1045	V-0777 LAKE HELEN UPPER	15.90
	09-16-02	1525		21.27
285921080541001	05-14-02	1040	85905402 MOORE WELL RIVERSIDE DR EDGEWATER	4.14
	09-17-02	1110		7.37
290103080551902	05-14-02	1150	V-0508 NEW SMYRNA BEACH	-.04
	09-17-02	1120		4.22
290225081040301	05-14-02	1235	90210402 17S32E11 USGS TEST WELL 9,N.SAMSULA	16.91
	09-17-02	1145		21.58
290541081132902	05-13-02	1505	90511304 USGS 04 DP TEST W. NR. DELAND,FL.6"CSG	34.81
	09-17-02	1545		37.79
290550081162601	05-15-02	0830	V-0808 WL LAWRENCE 4IN NR LK DAUGHARTY	37.42
	09-18-02	1010		41.39
290614081183301	05-15-02	0910	V-0742	31.24
	09-18-02	1035		35.77
290737081220301	05-15-02	1500	90712201 HAGSTROM IRRIG WELL, W OF DELEON SPGS	8.22
	09-18-02	1120		9.92
290828081215103	05-15-02	0945	1030 WELL AT DELEON SPRINGS,FL	17.06
	09-18-02	1130		20.23

Note.--Negative figures indicate water level below NGVD of 1929.

VOLUSIA COUNTY---Continued

STATION NUMBER	DATE	TIME	STATION NAME	ELEV-ATION ABOVE NGVD (FEET)
290834081073802	05-13-02	1410	V-0188	13.20
	09-17-02	1525		17.44
291031080590103	05-14-02	1130	V-0200 DAYTONA BEACH SHORES 4INUFA DAYTONA BCH,FL	-2.17
	09-17-02	1450		1.32
291040081143701	05-13-02	1440	V-0700 ORMOND BEACH DAN FORD	30.62
	09-18-02	0910		33.63
291150081282501	05-13-02	1315	91112806 15S28E14 HARPERS WELL E OF MURPHY RD	24.69
	09-16-02	1330		28.87
291258081313701	05-13-02	1255	91213103 4" SUPPLY WELL,SE L.GEORGE,NR EMPORIA	5.28
	09-16-02	1210		8.23
291448081274905	05-13-02	0945	V-0531 PIERSON UPPER	19.49
	09-16-02	1140		24.36
291835081324201	05-13-02	1100	91813201 USED 426 PINE ISLAND, W.OF SEVILLE	4.77
	09-16-02	1000		7.63
292038081315302	05-13-02	1030	V-0567	28.84
	09-16-02	1020		31.47

Note.--Negative figures indicate water level below NGVD of 1929.

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